

# **United Equipment Co. Ltd. (UNEC)**

## **Deployment and operation of Temporary Emergency Plant at Delimara Power Station: Application for Variation of IPPC permit IP0002/21**



Version	Version History
1.0	Draft for client
1.1	Updated with client comments
1.2	Minor amendments

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Cover image from Google Earth (2017)

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# Introduction & Non-Technical Summary

(Attachment 07 in Form C)

1. On the 24<sup>th</sup> of January 2024, Enemalta plc issued tender GN/DPS/T/4036/PC3/2023 for the *Lease and Operation of a 60MW Power Plant*. This tender was awarded to the United Equipment Co. Ltd. (UNEC), to deploy and operate a temporary emergency plant at Delimara Power Station (DPS). This is expected to involve the provision of electrical power to Enemalta as per tender provisions, for dispatch *'as backup in the event that the Contracting Authority experiences a shortfall in its sources of supply to the National Electricity Grid to meet demand, i.e. the Power Plant shall be the last to be started and the first to be stopped in a shortfall situation.'*
2. The timeframe for provision of the services of a temporary emergency plant is stipulated within the tender document:
  - a. *thirteen (13) weeks for the erection and commissioning from effective start of the contract (the Contract Erection Term), followed by*
  - b. *twenty-seven (27) months operations from Commissioning Date (the Contract Operation Term), followed by*
  - c. *four (4) weeks for the decommissioning and dismantling of the plant following termination of the Contract Operation Term.'*
3. In January 2024, the Environment & Resources Authority (ERA) reviewed the proposal for the installation of temporary plant made by Enemalta, as detailed within the Project Description Statement (PDS) titled *'Temporary Emergency Plant at the Delimara Power Station'* (Attached as Annex B). This PDS provides details regarding the proposed facility, the surrounding context, and its proposed operations *'to supply an additional 60 MW of power should one of the country's principal electricity supplies sustains an unplanned outage during seasonal peak demand periods.'*

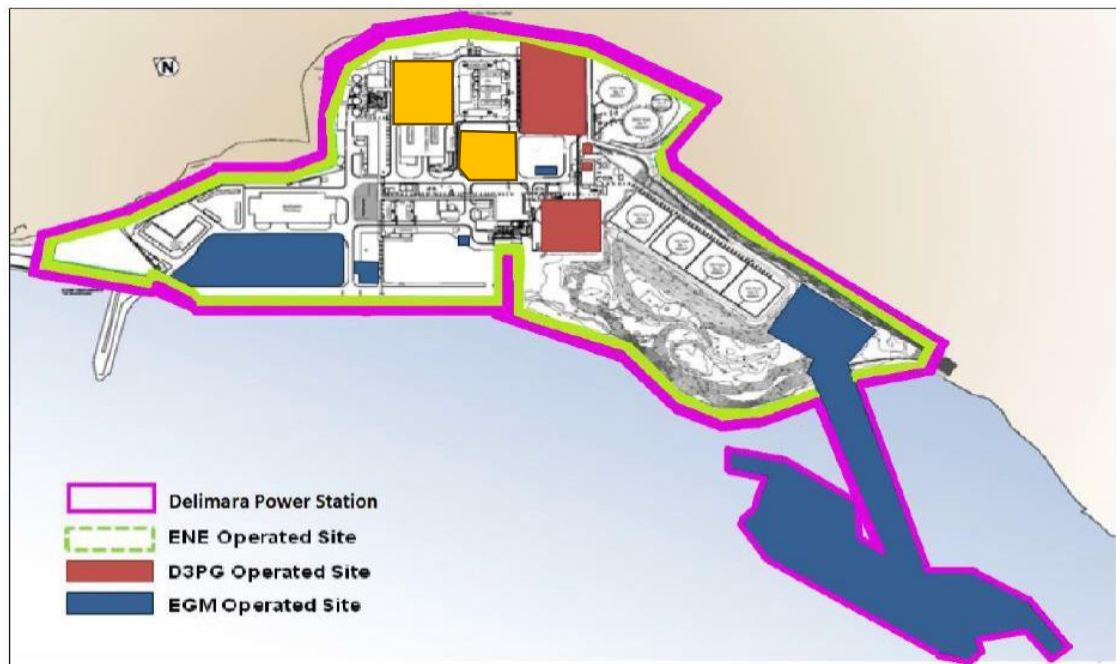
4. The ERA review of the PDS concluded that:

*'In view of the urgency of the proposed development, the applicant requested the Authority to apply the exemption under Regulation 5 of the Environmental Impact Assessment Regulations (S.L. 549.46). The nature of the proposal was assessed in line with the same Regulations and it was concluded that the proposal can be favourably considered under said exemption.*

*Furthermore, based on the information provided in the PDS and on the assessment carried out in Section 5 (above) the proposal is not likely to have a significant impact on the environment and therefore the submission of an EIA is not required.'*

5. Operations at DPS are regulated through a permit IP 0002/21 issued by the Environment & Resources Authority (ERA), under the provisions of the Industrial Emissions (Framework) Regulations (S.L. 549.76), and the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L.549.77). Overall management of the site is regulated through a framework document that applies to the entire installation, while three sub-permits apply to the three operators active within the DPS: Enemalta pls, ElectroGas Malta Ltd. And D3 Power Generation Ltd.
6. The scope of this application is to vary IP 0002/21 to allow the deployment and operation of the temporary emergency plant as required by the Enemalta tender. The approval of this application would introduce a new operator on site within DPS (see Figure 1 below), and set standards of environmental performance for these operations.

**Figure 1:** location of proposed activities marked in yellow, superimposed on site boundaries indicated by IPPC permit IP 0002/21



7. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity. The tender stipulates that Enemalta *'does not envisage that this Plant shall be dispatched for more than 500 hours per year'*.
8. The location selected for the temporary plant is intended to facilitate integration of activities with existing operations and infrastructure, such as the internal road network, fuel supply, connections for electrical supply and 33kV connections, and the firefighting network. The areas allocated as follows:
  - Site 1 measures 61m x 60m, and was originally occupied by the D1 power plant boilers and associated chimney stack. Although the boilers and the stack have been dismantled and removed from site (as approved through DN 01054/14 – Attachment 03), the foundations of these structures are still in place.
  - Site 2 measures 70m x 50m, and consist of a disturbed area in the centre of the power plant, formerly used as a laydown area for equipment and materials, for other infrastructural projects carried out at DPS.
9. Although the scale of the proposed plant does not fall within scope of the Industrial Emissions Directive (S.L. 549.76), the presence of such plant within the DPS installation requires that a permit application be submitted to introduce a new operator on site, and ensure that operations conform to the requirements of the IPPC permit. Consequently, this application includes the following documentation:
  - Application forms A & C, as required by the IPPC permit application process;
  - Site plans and specifications of plant
  - Copies of relevant Permit Documents
  - Details on environmental aspects of the project and the consequent environmental mitigations required to manage such issues.
10. Mitigation measures proposed to address the risks to the various environmental aspects; these include ground and water contamination, as well as emissions to noise and air. The use of containerised plant and certified sealed pipework serve as the principal forms of mitigation for such environmental aspects. Affects on other sites by noise and emissions to air are deemed low, given the limited use of the emergency plant, which will be for a total of 500 hours, or the equivalent of 21 days over three years in the worst-case scenario.

11. **Safety studies:** the tender document – as does the IPPC permit – requires that operations at DPS conform to the requirements of the approved safety studies as required by the Control of Major Accident Hazards Regulations L.N. 179/2015 [S.L. 424.19]. Procedures and risk assessment for the management of risk have been developed in coordination with this IPPC permit, to ensure that standards of operations conform to the required standards.
12. **Environmental Management System (EMS):** the tender document – as does the IPPC permit – requires that operations at DPS be certified to ISO 14001:2015. The process for attaining certification is currently under way.

## **Annex A: Application forms A & C**

# Application for an Environmental Permit – FORM A



## Section 1: Applicant Details and Contact Information

### 1.1. Type of Applicant

Tick the correct option from the below:

Individual	<input type="checkbox"/>	Go To Section <b>1.2</b>
Registered Company	<input checked="" type="checkbox"/>	Go To Section <b>1.3</b>
Organisation	<input type="checkbox"/>	Go To Section <b>1.4</b>
Partnership	<input type="checkbox"/>	Go To Section <b>1.5</b>

### 1.2. Details of Applicant

Provide the below information: [Not applicable](#)

Name	
Surname	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
ID Card Number / Passport Number	
VAT Number (If Applicable)	
Contact Number	
Email Address	

Proceed to Section **1.6**.

### 1.3. Company Details

Provide the below information:

Company Registration Number	C 10827
Company Name	United Equipment Co. (UNEC) Ltd.
Address (Line 1)	BONNICI HOUSE, SARDINE STREET
Address (Line 2)	BURMARRAD,
Locality	SAN PAWL IL-BAHAR
Post Code	SPB 6073
Telephone Number	(+356) 23596000
VAT Number	MT 10159615
Date of formation of Company	19-07-1989

Additionally, provide the below information for the Legal Representative of the company:

Name	Gilbert
Surname	Bonnici
ID Card Number / Passport Number	
Telephone Number	
Mobile Number	
Email Address	

Proceed to Section **1.6.**

## 1.4. Organisation Details

Provide the below information: [Not applicable](#)

Name of Organisation	
Type of Organisation	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
Telephone Number	
VAT Number (If Applicable)	

Additionally, provide the below information for the legal representative for your organisation:

Name	
Surname	
ID Card Number / Passport Number	
Telephone Number	
Mobile Number	
Email Address	

Proceed to Section **1.6**.

## 1.5. Partnership Details

Provide the below information the partnership: [Not applicable](#)

Partnership Registration Number	
Name of Partnership	
Principal Place of Business	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
Contact Number	
VAT Number	
Email Address	

Provide the below information for each person in the partnership:

Name	
Surname	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
ID Card Number / Passport Number	
Contact Number	
Email Address	

Name	
Surname	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
ID Card Number / Passport Number	
Contact Number	
Email Address	

Name	
Surname	
Address (Line 1)	
Address (Line 2)	
Locality	
Post Code	
ID Card Number / Passport Number	
Contact Number	
Email Address	

*Add more if applicable*

## 1.6. Technical Competent Persons for the Operation of the Proposed Activity

Provide details for the Technical Competent Person in the table below:

Name	Lee
Surname	Connell
Telephone Number	
Mobile Number	
Email Address	

If the applicant is a company, organisation or partnership, indicate the designation of the Technically Competent Person.

Project Manager

A Curriculum Vitae (CV) for the Technically Competent Person showing all relevant education and work experience is to be submitted to the Authority. This is to be attached with the application and clearly labelled as **Attachment 1**.

Will any other persons be assigned to assist the Technically Competent Person in his duties or in his/her absence be delegated the role of the Technically Competent Person? Yes

If **Yes**, provide details of the persons being assigned.

Name	Jonathan
Surname	Scerri
Telephone Number	
Mobile Number	
Email Address	

Name	
Surname	
Telephone Number	
Mobile Number	
Email Address	

Name	
Surname	
Telephone Number	
Mobile Number	
Email Address	

*Add more if applicable*

## Section 2: Details and Location of Proposed Activities

### 2.1. Proposal

Briefly describe the proposal which you are applying for (Maximum: 200 characters).

Deployment and operation of Temporary Emergency Plant at Delimara Power Station

### 2.2. Details of Proposed Activities

List and describe all the main and associated activities that will be carried out on site. The NACE code for each activity is to be provided.

Description of Activity
35.11 Production of electricity

Add more rows as required.

## 2.3. Name and Address of Site

Are any of the proposed activities you are applying for bound within a site area? Choose an item.

If **Yes**, provide the name and address for the site:

Name of Site	DELIMARA POWER STATION
Address (Line 1)	TRIQ IL-POWER STATION
Address (Line 2)	
Locality	MARSAXLOKK
Post Code	MXK1220

Proceed to Section 2.4.

If **No**, proceed to Section 2.5.

## 2.4. Site Location Plan

Provide a site location plan showing the site area and boundaries according to the below specifications. This is to be attached with the application and clearly labelled as **Attachment 2**.

The site plan should:

- Be an A4 or A3 sized plan;
- Be of a scale of 1: 10,000 or 1: 2,500 as appropriate;
- Show all existing development within 250 metres of the boundary site including all roads and buildings;
- Indicate in red the outline of the proposed site including all necessary infrastructure (existing and/or proposed), such as site access roads.
- Coordinates of the Site are to be included. This is to include latitude and longitude (co-ordinates for the approximate centre of the installation) expressed with reference to the WGS 1984 coordinate reference system, to a precision of 5 decimal degrees, in decimal degree format.

## 2.5. Permit History

List all permits (e.g. environmental permits, development permits, sewer discharge permits and any pending applications, concession agreements, licences) on site quoting permit/application number including its status (e.g. pending, valid, expired etc.). If the site activities are covered by other concessions, agreements or particular licence, a copy of such documentation is to be provided and clearly labelled as **Attachment 3**.

Application/Permit Number	Status
IP 0002/2021 – permit G	Approved on 18 <sup>th</sup> February 2022
PA/03152/05 Proposed local generating capacity at Delimara Power Station	Granted on 28 January 2010
DN/00166/17 - Demolishing of chimney and two (2) boilers at Delimara power-station.	Approved on 06 March 2017

*Add more rows as required.*

# Application for an Integrated Pollution Prevention and Control (IPPC) Permit – FORM C



## Section 3: Installation Details

### 3.1. Detailed Description of Activities within scope of S.L. 549.77

Fill in the following table:

Brief Description of Activity	Classification from Schedule 1 of S.L. 549.77
Generation of electrical energy through the combustion gasoil, utilising Medium Combustion Plant (MCP)	Generation capacity not within scope of IED

*Add more rows as required.*

Provide a document with a detailed technical description of all the activities that have been listed in Section 2.1 of Form A. If the site is operated by multiple operators, the relevant operator for each activity is to be specified. This is to be attached with this application and clearly labelled as **Attachment 4**.

### 3.2. Directly Associated Activities

Fill in the following table:

Brief Description of Activity
Handling of gasoil, received from Enemalta storage, and temporary storage in integrated tanks of MCP.
Maintenance activity carried out on site is minimal (See section 14.9)
Firefighting systems

*Add more rows as required.*

Provide a document with a technical description of all activities which are directly associated with the activities listed in Section 3.1. These should have a technical connection with the activities described in Section 3.1 and are also activities that could have an effect on pollution. If the site is operated by multiple operators, the relevant operator for each activity is to be specified. This is to be attached with this application and clearly labelled as **Attachment 5**.

### 3.3. Ancillary Activities

Fill in the following table:

Brief Description of Activity
Not applicable

Add more rows as required.

Provide a document with a technical description of all other activities carried out on site. If the site is operated by multiple operators, the relevant operator for each activity is to be specified. This is to be attached with this application and clearly labelled as **Attachment 6**.

### 3.4. Non-Technical Summary

Provide a document with a non-technical summary of the documents submitted in Sections **3.1**, **3.2** and **3.3**. This is to be attached with this application and clearly labelled as **Attachment 7**.

### 3.5. Declaration on European Pollutant Release and Transfer Register (E-PRTR)

Do any of the activities or processes described above fall within the scope of Regulation (EC) No 166/2006 as specified in Annex I of the same Regulation? [Yes](#)

### 3.6. Reason for Application

Tick one of the below options:

Reason	Tick where applicable
New Installation	<input type="checkbox"/>
Existing Installation undergoing substantial change	<input type="checkbox"/>
Existing Installation with new requirement for permit	<input checked="" type="checkbox"/>
Existing Installation applying for compliance with legislation	<input type="checkbox"/>

### 3.7. Site Report

A baseline report following the stages identified in the [European Commission Guidance concerning baseline reports under Article 22\(2\) of Directive 2010/75/EU on industrial emissions](#) is to be provided and attached with this application and clearly labelled as **Attachment 8**.

If the risk assessment carried out for the production of the baseline report concludes that a site investigation is required, a method statement, in line with the above commission guidance and TORs provided by the ERA, is to be submitted.

A site investigation method statement assessing the state of the groundwater and land may still be required by the Authority following review of the application.

### 3.8. Local Council

Provide the following information for the local council which is responsible for the area where the site is located.

Local Council	Contact Person	Contact Number
Marsaxlokk	marsaxlokk.lc@gov.mt	21652525

Is the site located on a boundary with other local councils? **No**

If **No**, proceed to **Section 3.9**.

If **Yes**, list the local councils responsible for the adjacent areas:

Local Council	Contact Person	Contact Number

*Add more rows as required.*

## Section 4: Materials and Equipment

### 4.1. Materials and Chemicals used on site

Are any materials and/or chemicals (excluding fuels) intended to be used in any of the proposed activities listed in Form A? [Yes](#)

If **No**, proceed to **Section 4.3**.

If **Yes**, list below all materials (excluding fuels) used on site and provide details in the table below:

Material Code	Name of Material/ Chemical	CAS Number/s	Maximum Storage Capacity on Site	Annual Consumption	Storage Arrangements	Containment and/or Measures
M1	Diesel Engine oil	EC numbers: 457-320-2 & 298-577-9	300L	on demand	Bunded container under cover	Bunded container under cover
M2	Coolant	CAS: 107-21-1, 19766-89-3, 10102-40-6, 7632-00-0	300L	on demand	Bunded container under cover	Bunded container under cover
M3						
M4						
M5						
M6						
M7						

*Add more rows as required.*

An MSDS sheet is required for each material and/or chemical listed above. Each MSDS is to be labelled as **Attachment 24/XXX** where **XXX** is the material code from the above table.

## 4.2. Toxic Materials used on site

Do any of the materials listed in Section 4.1 above have any of the below listed Hazard Codes? **Yes**

If **No**, proceed to **Section 4.3**.

If **Yes**, tick the appropriate Hazard Codes in the below table and provide the corresponding material code/s.

Hazard Codes	Tick	Material Code / s	Hazard Codes	Tick	Material Code / s
H310	<input type="checkbox"/>		H361d	<input checked="" type="checkbox"/>	M2
H318	<input checked="" type="checkbox"/>	M1	H370	<input type="checkbox"/>	
H330	<input type="checkbox"/>		H372	<input type="checkbox"/>	
H331	<input type="checkbox"/>		H400	<input type="checkbox"/>	M2
H332	<input type="checkbox"/>		H401	<input checked="" type="checkbox"/>	M1
H340	<input type="checkbox"/>		H402	<input checked="" type="checkbox"/>	M1
H341	<input type="checkbox"/>		H410	<input type="checkbox"/>	
H350	<input type="checkbox"/>		H411	<input checked="" type="checkbox"/>	M1
H351	<input type="checkbox"/>		H412	<input checked="" type="checkbox"/>	M1
H360F	<input type="checkbox"/>		H413	<input type="checkbox"/>	
H360D	<input type="checkbox"/>		H420	<input type="checkbox"/>	
H361f	<input type="checkbox"/>				

### 4.3. Fuels

Are any fuels proposed to be stored on site? **Yes**

If **No**, proceed to **Section 4.4**.

If **Yes**, fill in the table below and indicate each fuel storage compartment/tank in the site layout plan requested in Section 12 together with its associated Fill Point Code\*:

Fuel Tank Code	Fuel Type	Maximum Tank Capacity (litres)	Annual Consumption (litres)	Storage Tank Arrangements Containment Measures	Use	Fill Point Code
F1-F48	Diesel EN590	4731L per tank	Dependent on dispatch	Integrated tanks in containerised MCP	Combustion Plants	FB1
F2					Choose an item.	FB2
F3					Choose an item.	FB3
F4					Choose an item.	FB4
F5					Choose an item.	FB5

*Add more rows as required.*

*\*point of filling of the storage tank as it exists on site*

#### 4.4. Equipment on Site

Is any equipment having a charge of 3kg or more of Ozone Depleting Substances present on site? [Yes](#)

If **No**, proceed to **Section 4.5**.

If **Yes**, list below:

Equipment Code	Type of Equipment	Use	Charge (kg)	Substance in use
EQ1-16	SF6 in identical hermetically sealed circuit breakers	Insultation for high-voltage equipment	7.14kg per set, with a total of 114.24kg of SF6 on site	SF6
EQ2				
EQ3				
EQ4				
EQ5				

*Add more rows as required.*

#### 4.5. Declaration on COMAH

Do any of the materials, chemicals or fuels used and/or stored on site, as listed in Section 2, fall within the scope of Control of Major Accident Hazard Regulations, S.L. 424.19? **No**

## Section 5: Energy and Water Consumption

### 5.1. Energy Consumption

Provide a document with a breakdown of the proposed annual energy consumption, highlighting the main energy-consuming equipment, and generation by source and end-use (including information on energy generated on site, if applicable). This is to be attached with this application and clearly labelled as **Attachment 25**.

### 5.2. Energy Efficiency

Provide a document describing the proposed basic measures for improvement of energy efficiency. This is to be attached with this application and clearly labelled as **Attachment 26**.

### 5.3. Water Consumption

Provide a document with a breakdown of the proposed annual water consumption by source and end-use. This is to be attached with this application and clearly labelled as **Attachment 27**.

### 5.4. Rainwater Management

A drainage layout plan indicating rainwater capture and discharge is to be attached with the application and clearly labelled as **Attachment 28**.

## 5.5. Water Abstraction

Is it being proposed that any water is abstracted on site? [No](#)

If **No**, proceed to **Section 6.1**.

If **Yes**, fill in the following table:

Water Abstraction Code	Use for Abstracted Water	Water Body used for Abstraction	Maximum Quantity of Water Abstracted Daily (m <sup>3</sup> )	Geo-referenced coordinates using the WGS 1984 coordinate system in decimal degrees i.e. XX.XXXXX (N) XX.XXXXX (E)
AP1				
AP2				
AP3				

*Add more rows as required.*

Does the abstracted water undergo treatment? [Choose an item.](#)

If **No**, proceed to **Section 6.1**.

If **Yes**, provide a document with a method statement of the treatment abstracted water undergoes. This is to be attached with this application and clearly labelled as **Attachment 29**.

## Section 6: Waste Management

### 6.1. Waste produced on site

List all waste proposed to be produced on site and all information as requested below:

Waste Code	Type of Waste	EWC Code							Maximum Amount Stored on site at any one time	Storage and Containment Arrangements	Permit Number for the facility accepting waste (IP/EP XXX/YY)
WM1	Oil filters, contaminated rags uniforms, and PPE	1	5	0	2	0	2	*	Storage bin	Lidded bin under cover	To be contracted
WM2	Waste Oil	1	3	0	2	0	5	*	drum	Bunded under cover	To be contracted
WM3	Mixed metals	1	7	0	4	0	5		skip	Skip brought on demand – mainly deployment and decommissioning	To be contracted
WM4	Wood	1	5	0	1	0	3			Skip brought on demand – mainly deployment and decommissioning	To be contracted
WM5	Mixed recyclables	1	5	0	1	0	6		50 L bin	Bin under cover	To be contracted
WM6											
WM7											
WM8											
WM9											
WM10											

Add more rows as required.

6.2. Waste Acceptance on site

Is any waste proposed to be accepted on site? [No](#)

If **No**, proceed to Section 6.3.

If **Yes**, compile the table below.

Waste Code	Type of Waste	EWC Code								Maximum Amount Stored on site at any one time	Storage and Containment Arrangements	Recovery / Disposal Code (from S.L. 549.63)
WA1	Not applicable											
WA2												
WA3												
WA4												
WA5												

Add more rows as required.

6.3. Waste Treatment on site

Is any waste proposed to be treated on site? [No](#)

If **No**, proceed to **Section 6.4**.

If **Yes**, compile the table below and provide a method statement and process flow diagram for each waste treatment process. These are to be attached with the application and clearly labelled as **Attachment 30/XXX** where **XXX** is the waste code from the Section 8.1 or 8.2 above.

Waste Code (WM or WA) being treated	Type of Treatment	Maximum Quantity of waste treated per day (tonnes)	Waste Produced (WM)	Product Produced (if applicable)
	Not applicable			

Add more rows as required.

Is any waste treatment equipment proposed to be used on site? [No](#)

If **No**, proceed to **Section 6.4**.

If **Yes**, list any waste treatment equipment in the table below:

Waste Treatment Equipment Code	Type of Equipment	Waste Code (WM or WA) being treated
WT1	<a href="#">Not applicable</a>	
WT2		
WT3		

*Add more rows as required.*

Documentation showing the basic specifications is to be provided for each equipment listed above. Each waste treatment equipment is to be labelled as **Attachment 31/XXX** where **XXX** is the waste treatment equipment code from the above table.

**6.4. Techniques to Prevent and Reduce Waste**

Provide a document showing the techniques that are being proposed to prevent and reduce waste production on site. This is to be attached with the application and clearly labelled as **Attachment 32**.

## 6.5. Extended Producer Responsibility

Does the operator import or manufacture (or intend to as part of the proposal) any products for the local market?

[No](#)

If **No**, proceed to Section 7.

If **Yes**, proceed to Section 6.5.1.

### 6.5.1. Packaging and Packaging Waste

Does the total packaging material for products put onto the local market exceed 100kg per annum? [No](#)

If **No**, proceed to Section 6.5.2.

If **Yes**, is the applicant already registered? Choose an item.

If **Yes**, provide the WMP number: [Click or tap here to enter text.](#)

If **No**, register by filling the form in the following hyperlink ([Form](#)) and submit the filled in application form as **Attachment 33**.

### 6.5.2. Waste Electrical and Electronic Equipment

Does the operator place any electrical or electronic equipment on the local market? [No](#)

If **No**, proceed to Section 6.5.3.

If **Yes**, is the applicant already registered? Choose an item.

If **Yes**, provide the WME number: [Click or tap here to enter text.](#)

If **No**, register by filling the form in the following hyperlink ([Form](#)) and submit the filled in application form as **Attachment 34**.

### 6.5.3. Batteries and Accumulators

Does the operator place any batteries and accumulators on the local market? [No](#)

If **No**, proceed to Section 7.

If **Yes**, is the applicant already registered? Choose an item.

If **Yes**, provide the WMB number: [Click or tap here to enter text.](#)

If **No**, register by filling the form in the following hyperlink ([Form](#)) and submit the filled in application form as **Attachment 35**.

## Section 7: Effluent Management

### 7.1. Effluent Discharges

Is any effluent (excluding domestic sewage discharged to sewer and storm water) proposed to be discharged from the site? [No](#)

If **No**, proceed to **Section 7.3**.

If **Yes**, provide the below information for all effluent discharge points:

Effluent Discharge Code	Source (Area/Equipment)	Content of Effluent	Maximum Volume Generated Daily (m <sup>3</sup> )	Treatment prior to Discharge	Discharge to	Geo-referenced coordinates using the WGS 1984 coordinate system in decimal degrees i.e. XX.XXXXX (N) XX.XXXXX (E) (for discharge to <b>sea, land &amp; groundwater</b> only)
ED1	<a href="#">Not applicable</a>				Choose an item.	
ED2					Choose an item.	
ED3					Choose an item.	
ED4					Choose an item.	
ED5					Choose an item.	

*Add more rows as required.*

Provide a document in which the below items are provided. This is to be attached with the application and clearly labelled as **Attachment 36**.

1. In the case of any discharge to **sewer** or **cesspit**, a copy of the Sewer Discharge Permit or of the submitted application (if permit has not yet been issued)
2. In the case of any discharge to **sewer**, details as to whether the proposed activities may involve the release into sewer of any Schedule A or Schedule B substance (S.L. 545.08)
3. In the case of any discharge to **cesspit**, certification by an independent, warranted engineer showing that the cesspit is in line with the requirements the Waste Management Activity (Registration) Regulations (S.L. 549.45)
4. In the case of discharge to **groundwater**, explanation how the requirements of the Protection of Groundwater against Pollution and Deterioration Regulations (S.L. 549.53)
5. In the case of a discharge to the **marine environment**, explanation of how the requirements of the Pollution caused by Certain Dangerous Substances discharged into the Aquatic Environment Regulations (S.L. 549.10) and the Water Policy Framework Regulations (S.L. 549.100) have been addressed

## 7.2. Techniques to Prevent and Reduce Effluent Emissions

Provide a document showing the techniques that are being proposed to prevent and reduce effluent emission production on site. This is to be attached with the application and clearly labelled as **Attachment 38**.

## 7.3. Discharge into Ports

Could the installation involve the release of any substance into a harbour managed by a port authority? [No](#)

If **No**, proceed to **Section 8.1**.

If **Yes**, provide the name of the port: [Click or tap here to enter text.](#)

Provide the name of the port authority: [Click or tap here to enter text.](#)

## Section 8: Air and Noise Emissions

### 8.1. Point Emission Sources

Are any point source emissions to air proposed to be present on site? **Yes**

If **No**, proceed to **Section 8.2**.

If **Yes**, provide the below information for all point source emissions:

Emission Code	Source	Content of emission	Abatement Measures	Vent / Stack Height (m)
PS1-48	Medium combustion plant	NO <sub>x</sub> , SO <sub>x</sub> , PM, CO	Regular maintenance and burner calibration	2m each
PS2				
PS3				
PS4				
PS5				

Add more rows as required.

### 8.2. Non-Point Emission Sources

Are there any non-point emission sources proposed to be on site? **No**

If **No**, proceed to **Section 8.3**.

If **Yes**, provide the below information for all non-point emissions:

Source	Content of emission	Abatement Measures
Not applicable		

Add more rows as required.

### 8.3. Odour Emissions

Could any of the listed activities listed in Section 2.1 lead to any odour emissions? **Yes**

If **No**, proceed to **Section 8.4**.

If **Yes**, provide the below information for the odour emissions:

Source	Abatement Measures
Use of diesel fuel	Fuel storage is limited to the integrated tanks of the MCPs; all pipework is certified as being leak free.

*Add more rows as required.*

### 8.4. Noise Emissions

Provide the below information for the noise emissions:

Source	Abatement Measures
48 MCPs	The low profile of the noise containers serves to limit direct transmission of noise to sensitive receptors (see Attachment 40)

*Add more rows as required.*

Identify sensitive receptors which may be impacted from the noise emissions from the installation and list them in the below table:

Receptor	Shortest Distance from the installation
Nearby residences identified in latest DPS EIS and monitoring programme	200m
Marsaxlokk – as per latest DPS EIS and monitoring programme	Circa 1km

*Add more rows as required.*

Provide a map showing the location of the sensitive receptors identified above, labelled with the shortest distance from the installation. This is to be attached with the application and clearly labelled as **Attachment 40**.

## 8.5. Techniques to Prevent and Reduce Emissions

Provide a document showing the techniques that are being proposed to prevent and reduce air, odour and noise emission production on site. This is to be attached with the application and clearly labelled as **Attachment 41**.

## Section 9: Combustion Plants

### 9.1. General information on Equipment on Site

Are there any combustion plants proposed to be on site? **Yes**

If **No**, proceed to **Section 10**.

If **Yes**, tick below as appropriate:

Generators	<input checked="" type="checkbox"/>	Fill in Section 9.2
Boilers	<input type="checkbox"/>	Fill in Section 9.3
Laundry Machines / Tumble Dryers	<input type="checkbox"/>	Fill in Section 9.4
Fire Pumps	<input type="checkbox"/>	Fill in Section 9.5
Others	<input type="checkbox"/>	Fill in Section 9.6

If any of the equipment listed in Sections **9.2**, **9.3**, **9.4** and **9.5** has a Rated Thermal Input greater than or equal to 1000 kW<sub>Th</sub>, follow instructions in Section **9.6**.

### 9.2. Generators on Site

Provide the below information for all generators on site:

Generator Code	Rated Thermal Input (kW <sub>Th</sub> )	Fuel Type	Annual average hours of operation	Related Point Source Location Code (Section 8.1)	Year of Installation on site
G1-48	4002KW	Diesel EN590	500 hours over 3 years	See site plans	2024
G2					
G3					

Add more rows as required.

### 9.3. Boilers on Site

Provide the below information for all boilers on site:

Boiler Code	Rated Thermal Input (kW <sub>Th</sub> )	Fuel Type	Annual average hours of operation	Related Emission Code (Section 8.1)	Year of Installation on site
B1	n/a				
B2					
B3					

Add more rows as required.

### 9.4. Fire Pumps on Site

Provide the below information for all fire pumps on site:

Fire Pump Code	Rated Thermal Input (kW <sub>Th</sub> )	Fuel Type	Annual average hours of operation	Related Emission Code (Section 8.1)	Year of Installation on site
FP1	n/a				
FP2					
FP3					

Add more rows as required.

### 9.5. Other Combustion Plants on Site

In case of any combustion pumps on site which do not fall under any of the above sections, provide the below information:

Location Code	Type of Equipment	Rated Thermal Input (kW <sub>Th</sub> )	Fuel Type	Annual average hours of operation	Related Emission Code (Section 8.1)	Year of Installation on site
CP1	n/a					
CP2						
CP3						

Add more rows as required.

## 9.6. Medium Combustion Plants (MCP)

In case of any combustion plant listed in **Sections 9.2, 9.3, 9.4 and 9.5** with have a rated thermal input greater than or equal to 1000 kW<sub>Th</sub>, Annex 7 is to be filled in for **each** of the combustion plants exceeding the threshold.

Annex 7 for each MCP is to be attached with the application and clearly labelled. Follow the labelling instructions in the Annex for correct submission.

## Section 10: Proposed Techniques

### 10.1. Applicable Best Available Techniques (BAT)

Provide a list of BAT reference documents or their conclusions (where available) which are applicable for the installation.

Reference Document Name	Reference Document Code
Given that no Large Combustion Plant (LCP) are in use in this proposal, the LCP BREF is not applicable here.	

Add more rows as required.

### 10.2. Comparison with Best Available Techniques (BAT)

Provide a document with a comparison of the proposed techniques with the BAT reference documents or their conclusions (where available) listed in Section 5.1 above. This is to be attached with this application and clearly labelled as **Attachment 42**.

### 10.3. Alternative Techniques

Provide a document with an outline of the main alternatives considered to the proposed technology, techniques and measures. This is to be attached with this application and clearly labelled as **Attachment 43**.

### 10.4. Multi Operator Installations

Is the installation operated by more than one operator? [Yes](#)

If **No**, proceed to **Section 11**.

If **Yes**, provide a document to describe the proposed techniques and measures, both those to be undertaken jointly or separately, which will ensure satisfactory operation of the whole installation according to BAT. This is to be attached with this application and clearly labelled as **Attachment 44**.

# Section 11: Monitoring

## 11.1. Current Effluent and Emission Monitoring

Is any monitoring on emissions or effluents discharged from the site currently being performed? [No](#)

If **No**, proceed to **Section 11.2**. [Not applicable – area that is the subject of this application is currently used only for storage.](#)

If **Yes**, provide the below information for the monitoring:

Emission / Effluent Discharge Code (from Sections 7.1 / 8.1)	Pollutants being monitored	Emission limit value currently applied	Frequency
<a href="#">Not applicable</a>			

*Add more rows as required.*

The latest monitoring results for each of the effluents and/or emissions listed in the above table are to be provided. These are to be attached with the application and clearly labelled as **Attachment 45**. In case of multiple effluents and/or emissions being monitored, each monitoring result is to be labelled as **Attachment 45/XXX** where **XXX** is the effluent or emission code from the above table.

## 11.2. Proposed Effluent and Emission Monitoring

Is any monitoring on emissions or effluents discharged from the site currently being proposed? [Yes](#)

If **No**, proceed to Section **11.3**.

If **Yes**, provide the below information for the monitoring:

Emission / Effluent Discharge Code (from Sections 7.1 / 8.1)	Pollutants being proposed to be monitored	Proposed Emission limit value	Proposed Frequency
<a href="#">Not applicable</a>			

*Add more rows as required.*

A document with a method statement for the monitoring of each of the items listed in the above table is to be provided. This is to be accompanied by a site layout plan showing the location from where the monitoring will be done. These are to be attached with the application and clearly labelled as **Attachment 46**.

## 11.3. Noise Monitoring

Provide a document with a method statement as to how environmental noise measurement surveys will be undertaken. This is to be accompanied by a site layout plan showing the location from where the monitoring will be done. These are to be attached with the application and clearly labelled as **Attachment 47**.

## Section 12: Site Layout Plans

Provide **six** site layout plans of a scale of not less than 1:500, each with a different set of location codes as specified below as applicable:

1. Site Layout Plan showing the entirety of the site. This is to be attached with the application and clearly labelled as **Attachment 46. Included with attachment 2.**
2. Site Layout Plan clearly showing the storage location of all materials on site using the material codes (M) provided in Section 4 above. This is to be attached with the application and clearly labelled as **Attachment 47.**

**Not applicable: material will be brought on site only when required for use, as per maintenance requirements. No permanent storage of materials on site will be maintained, as plant requiring repairs will be removed off site.**

3. Site Layout Plan clearly showing:
  - a. Storage location of waste produced on site
  - b. Storage location of waste accepted on site
  - c. Location of waste treatment equipment on site

The above are to be marked using the location codes provided in Section 6 above, namely wastes (W), accepted wastes (WA) and waste treatment equipment (WT) accordingly. This is to be attached with the application and clearly labelled as **Attachment 48. Not applicable – no permanent storage of waste will be kept on site, as this will be generated only during deployment, maintenance and removal. In all of these cases, containers will be brought on site, and the materials removed immediately to permitted facilities.**

4. Site Layout Plan clearly showing the location of all effluent discharge points and point source air emissions, using the location codes provided in Sections 7 and 8 below, namely effluents (ED) and air emissions (PS). This is to be attached with the application and clearly labelled as **Attachment 49. Kindly refer to Annex 2 & 46 – each genset is numbered, and includes an emission point (2 metre stack). No effluent discharge points are present on site.**
5. Site Layout Plan clearly showing the water abstraction points on site using the water abstraction codes (AP) provided in Section 5 above. This is to be attached with the application and clearly labelled as **Attachment 50. Not applicable.**
6. Site Layout Plan clearly showing the location of all fuels, fuel fill points and combustion plants on site using the location codes provided in the Sections 4 and 9 above, namely fuels (F), fill points (FB) and combustion plants (B, G, FP and CP). This is to be attached with the application and clearly labelled as **Attachment 51. Kindly refer to Annex 2 & 46 – each genset is numbered, and includes an integrated tank and fill point.**

## For Multi Operator Installations

1. Site Layout Plan delineating which areas are managed by each applicant. This is to be attached with the application and clearly labelled as **Attachment 52**.
2. Site Layout Plan indicating the specific points of connection between the part of the installation that you are operating and those operated by the other operators. This is to be attached with the application and clearly labelled as **Attachment 53**.

## Section 13: Mass Flow Diagram

Provide a mass flow diagram illustrating the major process steps for all activities taking place on site. This is to include:

1. Input of materials
2. Abstraction of water
3. Processes
4. Treatments
5. Output of products
6. Generation of emissions
7. Generation of effluents
8. Generation of waste

Location codes from Sections 4, 6, 7, 8 and 9 and any annexes as applicable are to be included.

This is to be attached with the application and clearly labelled as **Attachment 54**.

## Section 14: Site History, Management and Training

### 14.1. Environmental Impact Assessment

Has this proposal required an EIA Report under the Environmental Impact Assessment Regulations S.L. 549.46? [No](#)

If **No**, proceed to **Section 14.2**.

If **Yes**, provide a copy of the EIA report submitted and details of any decision made. This is to be attached with this application and clearly labelled as **Attachment 55**.



## 14.2. Planning Status

Tick one of the below options:

Reason	Tick where applicable
There is development consent for the proposal	<input type="checkbox"/>
A compliance certificate for the development is available	<input type="checkbox"/>
There is no requirement for development consent	<input checked="" type="checkbox"/>
There is a development application which is pending decision	<input type="checkbox"/>
No development application has been submitted	<input type="checkbox"/>

Provide a document in which the below items are provided. This is to be attached with the application and clearly labelled as **Attachment 56**.

1. In the case where development consent is available, the decision notice and approved plans are to be provided.
2. In the case where a compliance certificate is available, this is to be provided.
3. In the case where there is no requirement for development consent, written confirmation from the Planning Authority is to be provided.
4. In the case where a development application is pending decision, the latest layout plans and a copy of the application are to be provided.

## 14.3. Relevant Offences

Has the applicant or any of the persons identified in Section 1.6 (including the Technical Competent Person) ever been convicted of any relevant offences? [No](#)

Provide the Police Conduct of the applicant and of the persons identified in Section 1.6 (including the Technical Competent Person). Police conducts are not to be dated more than 6 months prior to the submission. These are to be attached with the application and clearly labelled as **Attachment 57**.

## 14.4. Management of other Installations

Are any of the persons identified in Section 1.6 (including the Technical Competent Person) already identified as technical competent persons for other installations covered by an IPPC Permit? [No](#)

If **No**, proceed to **Section 14.5**.

If **Yes**, fill in the table below:

Name and Surname	Permit Number/s of other Installation/s

*Add more rows as required.*

## 14.5. Employees on Site

Tick the below as applicable:

Number of Employees	Tick as applicable
Up to 10	<input checked="" type="checkbox"/>
11 – 50	<input type="checkbox"/>
51 – 100	<input type="checkbox"/>
100 - 249	<input type="checkbox"/>
250 or more	<input type="checkbox"/>

## 14.6. Environmental Management System

Is an Environmental Management System (EMS) currently in place for the operations? [Yes](#)

If **No**, proceed to **Section 14.7**. Applicant is to note that the setting up of an EMS is a requirement for this proposal.

If **Yes**, indicate the standard to which the current EMS was set up.

Type of EMS	Tick where applicable
EMAS	<input type="checkbox"/>
ISO 14001	<input checked="" type="checkbox"/>
In-house	<input type="checkbox"/>

Provide a copy of the EMS policy and accreditation certification (if applicable). These are to be attached with the application and clearly labelled as **Attachment 58**.

## 14.7. Certificate of Incorporation

Is the applicant a company? [Yes](#)

If **No**, proceed to **Section 14.8**.

If **Yes**, a copy of the certificate of incorporation is to be attached with this application and clearly labelled as **Attachment 59**.

## 14.8. Training

Provide a proposal for a training programme and a proposed template for keeping training records. This is to be attached with this application and clearly labelled as **Attachment 60**.

## 14.9. Maintenance

Provide a proposed maintenance programme for the installation, and a template for keeping records of maintenance. This is to be attached with this application and clearly labelled as **Attachment 61**.

## 14.10. Financial Capacity

Provide a document showing how the applicant has financial capacity to comply with all obligations and liabilities that will or may arise from the activities proposed in Section 2.1 or how financial security may be offered. This is to be attached with this application and clearly labelled as **Attachment 62**.

## 14.11. Cessation of Operations

Provide a decommissioning plan describing the draft proposed measures to be done upon definitive cessation of activities, to avoid any pollution risk and return the site of the installation to a satisfactory state (including relevant measures for the design and construction of the installation). This is to be attached with this application and clearly labelled as **Attachment 63**.

## 14.12. Emergency Risk: Assessment, Management and Procedures

Provide a document which:

- Identifies environmental and fire risks, hazards and their consequences
- Identifies measures to be put in place to minimize the risks
- Identifies plans and procedures to be followed in the case of an accident

This document is to be accompanied by certification from a warranted engineer that the relevant fire safety procedures and equipment are in place. Certification and fire plans shall include the presence of emergency firefighting water supplies for use by the Civil Protection Department.

The above are to be attached with this application and clearly labelled as **Attachment 64**.

## 14.13. Assessment of Transboundary Effects

Provide a document with an assessment of the potential significant environmental transboundary effects of the foreseeable emissions. This is to be attached with this application and clearly labelled as **Attachment 65**.

14.14.Assessment of Effects on other Sites

Provide a list of sites which are found in the surrounding area of the installation in the table below:


Add more rows as required.

Provide a document which includes an assessment of the potential impacts of operations on these sites and whether the impacts are significant. In the case where impacts are likely to be significant, the assessment is to include the implications for the site in question. This is to be attached with this application and clearly labelled as **Attachment 66**.

Provide a list of sites on which impacts are likely to be significant in the table below:


Add more rows as required.

## Section 15: Variation Report

Is this application intended to be a variation of a current environmental permit? [Yes](#)

If **Yes**, briefly describe the proposal of the variation which you are applying for (Maximum: 200 characters).

Deployment and operation of Temporary Emergency Plant at Delimara Power Station

If **Yes**, provide a report explaining in detail the changes being proposed in this application. This is to be provided as **Attachment 67**. [Kindly refer to Introduction and non-Technical-Summary](#)

## **Annex B: Project Description Statement**

# PROJECT DESCRIPTION STATEMENT

## TEMPORARY EMERGENCY PLANT AT DELIMARA POWER STATION

1	Second Issue	RS	JF	SC	December 2023
0	First Issue	RS	JF	SC	December 2023
<b>Rev.</b>	<b>Description</b>	<b>Prepared</b>	<b>Checked</b>	<b>Approved</b>	<b>Date</b>



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## 1.0 General Introduction

This document is being compiled by Enemalta plc (the Applicant) the main provider of electricity services in the Maltese Islands. It coordinates the dispatch of a number of grid-connected sources of electrical energy, including power plants, renewable energy installations and an Interconnector to Italy. It also manages, operates and maintains the national electricity grid and related distribution installations, whilst providing several electricity supply services to its residential and business customers in Malta and Gozo.

This Project Description Statement (PDS) is a detailed document requested by the Environmental Resources Authority (ERA) to provide the necessary information for screening in the Environmental Impact Assessment (EIA) process and is aimed at describing the Scheme, the site of the development and its surroundings and planned activities during the construction and operational phases of the development. It also indicates the main expected environmental impacts.

This PDS has been prepared and structured in accordance with the criteria laid down in Schedule II of the EIA Regulations (S.L. 549.46).

### 1.1 Definitions and Abbreviations

CCGT	Combined Cycle Gas Turbine
DPS	Delimara Power Station
DSO	Distribution System Operator
EU	European Union
ENE	Enemalta plc
GoM	Government of Malta
GWh	Gigawatt-hour
MCP	Medium Combustion Plant
MW	Megawatt
MWh	Megawatt-hour
OCGT	Open Cycle Gas Turbine
RES	Renewable Energy Sources
SL	Subsidiary Legislation

## **1.2 Contents of the Project Description Statement**

This Project Description Statement is being compiled in line with Regulation 12 and Schedule II of the Environmental Impact Assessment Regulations (S.L.549.46). The document describes the applicant putting forward the proposed development, the proposed Scheme, the objectives of the Scheme, the site characteristics and its surroundings, potential impacts and mitigation measures being proposed, indicative lifetime of the project, indicative duration for the implementation of the Scheme, alternatives considered in terms of technology and locations, and indication of the existing services on site.

## **1.3 Details of the Applicant Proposing Scheme**

The proposed Scheme is being presented by Enemalta plc. Established in 1977 as Enemalta Corporation, Enemalta plc is the leading energy services provider in the Maltese Islands, entrusted with the distribution of electricity, and, as the sole Distribution System Operator (DSO), with the development of the national electricity distribution network.

The Company aims to offer reliable services to its customers, whilst developing efficient electricity infrastructure to provide for the nation's energy requirements.

In recent years, the Company launched unprecedented investments to transform its electricity generation infrastructure, reinforce the distribution network, consolidate the quality of its services and achieve long-term financial sustainability.

As a result of this transformation, Enemalta is now supplying electricity generated by an efficient and environment-friendly mix comprising new gas-fired plants, imported electricity through the existing Malta-Italy Interconnector (between Magtab terminal station and Ragusa SSE), and grid-connected renewable energy sources.

The Company is also engaged in an ongoing investment in the maintenance and reinforcement of the national electricity distribution network, to increase grid redundancy and flexibility across the Maltese Islands. The Company adopts continued improvement programmes at all technical and administrative levels to constantly augment the quality of its services, to increase the efficiency of its operations as well as to consolidate the skills and capabilities of its employees.

Through these efforts, Enemalta seeks to achieve its strategic objectives whilst fulfilling its main mission statement: to provide cleaner, safer and sustainable energy solutions, whilst striving to meet and exceed customers' expectations by empowering its employees and providing them with development opportunities.

## **1.4 Funding**

In order to implement this project, Enemalta is expected to invest approximately forty-six (46) million euros from local funds over a period of 27 months in order to temporarily install the

emergency power plant within the site limits of the existing Delimara Power Station, which would have the capacity to supply an additional 60 MW of power should one of the country's principal electricity supplies sustains an unplanned outage during seasonal peak demand periods.

## 2.0 Description of the Project and its General Objectives

Malta, an EU member since 2004, is an island state in the Mediterranean Sea and lies 93km south of Sicily, 288km east of Tunisia and 300km north of Libya. Malta derives its supply of electricity from local generating plant, from local renewable energy sources and from a 200MW electrical submarine interconnection with the Terna grid in Sicily, Italy, operated by the applicant.

Local conventional generating plant in Malta is almost entirely based in Delimara Power Station, a complex at Marsaxlokk which includes the four main electricity generation plants, two of which are dispatched on a daily basis to provide the baseload electrical energy required in the Maltese Islands. The two base generating plant offer a maximum output of approximately 357MW is fuelled by natural gas while the emergency units have an output of approximately 180MW and operate with diesel fuel. Hence, the total combined nominal installed capacity amounts to approximately 537MW, as described in **Table 1** below.

Units	Fuel Type	Phase	Generation Capacity	Operator
OCGT power plant	Gasoil	Phase 2A	70MW	Enemalta plc
CCGT power plant		Phase 2B	110MW	
Diesel Engine power plant		Natural Gas	Phase 3	152MW
CCGT power plant	Phase 4		205MW	Electrogas Malta
Total generation capacity at Delimara Power Station			537MW	

**Table 1:** Generation capacity at Delimara Power Station, in MW

Further to the generation capacity installed at Delimara Power Station and listed in Table 1, an additional 35MW OCGT is installed at the Marsa Power Station. The renewable sector is based almost entirely on PV systems where the current installed capacity has reached 234MW<sub>p</sub>. Currently, there is only one electrical interconnection with another country (Italy) and the nominal capacity is 200MW. In 2017, Malta has also introduced natural gas as the main fuel for electricity generation through an LNG Floating Storage Unit and an onshore regasification unit. The introduction of natural gas in Malta in 2017 and the interconnection in 2015 have contributed to a significant lowering in emissions, and the interconnector has facilitated the integration of high proportions of RES generation and provided continuous supply in case of local generating plant failure.

Malta is experiencing a high increase in electricity demand, meaning that a new source of power is needed. The Government of Malta (GoM) is working to implement a second electrical interconnection with Sicily in order to cater for the expected increased electrical demand due to economic progress as well as the electrification of road transport and to pave the way for the ingress of more renewables. This will also provide additional energy from Europe and improve security of supply to the Maltese islands.

This second interconnection will also provide a means for Malta to attract more renewable energy by improving the connection to a large stable grid, and thus, offsetting the instability caused by the intermittencies of large amounts of renewable electricity generated from solar or wind farms.

In tandem with the interconnection project and in order to strengthen and widen the electricity distribution network, enhance the resilience of the grid, reduce grid bottlenecks and handle wider intermittence associated with renewable energy generation, Malta is looking at Battery Energy Storage Systems ('BESS') in order to accelerate the penetration of more RES. Currently, there are plans to develop two BESS systems within Enemalta owned sites, one within the existing Delimara Power Station and another within the underground tunnels of the former 'A' Station in Marsa.

In the year 2022, the electricity supplied by Enemalta to the Maltese Islands amounted to 2,880.9 GWh – this value represents an increase of 7.8% over the electricity supplied in the previous year. These amounts were supplied from the various energy sources and can be classified as follows:

Source	Percentage, %
Net generation from power plants	67.5%
Supply from net imports	22.2%
Renewable sources	10.3%

**Table 2:** Percentage of energy sources supplying electricity in 2022.

The months of July and August always have the highest electricity demand when compared with the remaining months of the year, with a total of 318.8GWh and 317.2GWh supplied in July and August 2022 respectively, as indicated in **Table 3** below.

Month	2018	2019	2020	2021	2022 <sup>p</sup>
January	201,163	224,757	218,442	211,928	233,510
February	190,135	199,537	195,224	186,036	204,972
March	193,511	199,279	196,317	198,358	229,304
April	183,642	186,043	168,431	179,073	197,046
May	195,962	189,430	173,347	187,183	207,655
June	211,873	231,398	189,708	230,524	259,352
July	258,326	278,548	250,910	287,728	318,845
August	266,015	283,842	277,633	308,643	317,191
September	240,447	238,350	235,752	255,590	273,011
October	207,512	215,510	204,114	209,980	225,886
November	189,387	192,023	186,570	198,588	206,396
December	195,041	198,795	199,955	218,018	207,776

<b>Total</b>	<b>2,533,014</b>	<b>2,637,511</b>	<b>2,496,403</b>	<b>2,671,647</b>	<b>2,880,945</b>
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**Table 3:** Electricity supply by month and year, in MWh<sup>1</sup>

Furthermore, at any one time across the entire network system, the highest electricity demand registered in these same months amounted to 581MW and 575MW respectively during the year 2022, as indicated in **Table 4** below.

Month	2018	2019	2020	2021	2022	2023
January	371	443	435	419	503	494
February	410	427	406	426	472	538
March	360	389	397	399	462	422
April	331	357	346	335	374	372
May	344	334	321	319	415	367
June	378	449	389	541	544	460
July	452	504	456	529	581	663
August	465	485	482	565	575	561
September	460	432	448	476	531	483
October	366	390	437	420	411	442
November	348	370	346	399	411	407
December	366	392	376	433	404	
<b>Maximum</b>	<b>465</b>	<b>504</b>	<b>482</b>	<b>565</b>	<b>581</b>	<b>663</b>

**Table 4:** Electricity maximum demand by month and year, in MW

Between 2011 and 2022, in Malta during periods of high temperatures, the electricity peak demand increased by a year-on-year median of 3.5%. However, in 2023, the year-on-year electricity peak demand increased dramatically by 14.1%.

## 2.1 General Objectives and Justification for the Development

The overall objectives and purpose of the Temporary Emergency Plant at Delimara Power Station is to cater for the following:

- to have access to an extra 60 MWe of electricity supply when the electricity demand surges during the seasonal peaks in winter (mainly in January and February) and in summer (mainly between June and September).
- to be dispatched and used in emergency situations when one of the country's principal electricity supplies fails during peak demand, effectively eliminating the redundancy to

<sup>1</sup> National Statistics Office (available at: <https://nso.gov.mt/electricity-supply-2022/>)

the energy generation potential. These circumstances may be the results of one of the following instances:

- i. when the Maltese Islands are in island mode due to a sudden disconnection from the European electricity grid following faults or damages to the existing electrical interconnection.
- ii. alternatively, in instances of severe weather conditions affecting the port of Delimara, and in particular affecting the floating LNG storage vessel for extended periods.

This installation aims at providing redundancy to ensure sufficient generation capacity in the unlikely event of a main generation component failure during periods of seasonal peak electricity demand. Such redundant component shall not be dispatched during normal operation, and hence, this temporary plant shall be the last to be started and the first to be stopped in a shortfall situation. This installation falls within the definition of a Medium Combustion Plant, in accordance with S.L. 549.122. The Competent Authority may exempt this new Medium Combustion Plant (MCP), which shall not exceed 500 operating hours per year (as a rolling average over a period of three years), from compliance with the emission limit value (ELV).

The temporary emergency generation plant is expected to be in place until such time that a more permanent electricity generation plant and, or import facility has been installed, commissioned and becomes operational thus not requiring such temporary emergency plant to cover electricity generation shortfalls.

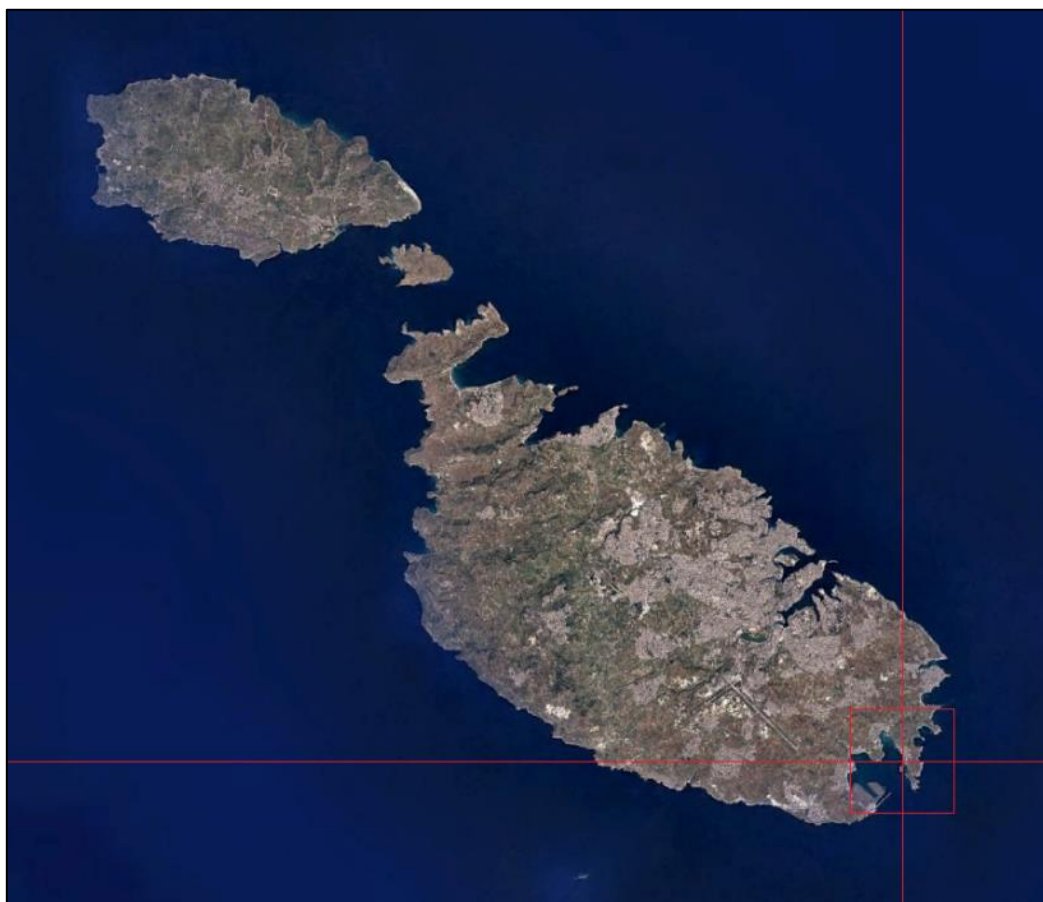
## 3.0 The Site of the Project Scheme and Surroundings

### 3.1 Scheme Location and Characteristics of the site

The proposed development is sited within the boundary of the Delimara Power Station (DPS). The DPS is situated in close proximity to agricultural land at Marsaxlokk Harbour in the south-eastern corner of Malta. It is located between Marsaxlokk Bay and Ħofra ż-Żgħira. Ħofra ż-Żgħira Bay is a sensitive location due to the presence of protected species of marine life.

The towns of Marsaxlokk and Birżebbuġa are situated in close proximity to the power station, with Marsaxlokk, a traditional fishing village, located at the head of Marsaxlokk Bay to the north of the Delimara Power Station at a distance of approximately 0.80 km while Birżebbuġa is located to the West of the power station at a distance of approximately 2.00 km across the harbour. Both localities are tourist and recreational destinations with the local beaches being utilised for swimming and water sports.

Marsaxlokk Bay is also home to the Malta Freeport, Malta's main and international strategic transshipment hub in the Mediterranean Sea located on the west shore of the bay adjacent to Birżebbuġa.



**Figure 1:** Map of the Maltese Islands showing the south-eastern location of the Delimara Power Station (DPS)

Delimara Power Station is located within an area that was excavated into the cliff face on the west side of the Delimara Peninsula (**Figure 2**), with the excavated material being utilised to reclaim land from the bay in a non-engineered manner and provide an even surface on which to situate the construction and operation of the power station facility in 1992.



**Figure 2:** Delimara peninsula, location of the proposed Scheme within Delimara Power Station

Delimara Power Station was commissioned in three phases between 1992 (**Figure 4**) and 1999 (Phase 1, 2A and 2B). A third extension to the power station was completed in 2012 to increase the power output into the electrical network – this extension is known as Phase 3. In 2017, Phase 3 power plant's diesel engines were converted to run on natural gas with heavy fuel oil being phased out completely. Concurrently, a 205 MW natural gas-fired CCGT system was also commissioned in 2017, together with a floating LNG storage unit (**Figure 3**) and an onshore regasification unit.



**Figure 3:** Floating LNG storage unit (source: Enemalta plc)



**Figure 4:** Delimara Power Station during the initial phases still under construction.

The site comprises operational plant in the centre and south of site, and a workshop, administration buildings. Enemalta plc and various other operators operate the facility which consists of the following units shown in **Table 5** below:

Units	Phase	Commissioned	Operator
2x37.5MW JBE (GE) MS6001B Open Cycle Gas turbines, generating at 11 kV, stepped up to 33 kV.	Phase 2A	1994	Enemalta plc
1x110MW Combined-Cycle plant consisting of 2x38.5MW NP (GE) MS6001B gas turbines and 1x 38MW GE steam turbine, generating at 13.8 kV, stepped up to 132 kV.	Phase 2B	1999	Enemalta plc
DECC power plant consisting of 4xWartsila 18V50SG and 4xWartsila 18V50DF, 4 stroke medium speed diesel engines, 8x HRSGs, 1x12.5MW steam turbine, generating at 15 kV stepped up to 132 kV.	Phase 3	2012	Delimara 3 Power Generation Ltd
CCGT power plant, an LNG floating storage unit and an onshore regasification unit.  Electric generators: Three gas-turbine driven generators. 50.5 MWe Siemens SGT-800, 64.97 MVA Siemens generators, generating at 11 kV and stepped up to 132 kV. Steam turbine: 66.0 MWe Siemens SST-900, 88.1 MVA Siemens generator, generating at 11 kV, stepped up to 132 kV.	Phase 4	2017	Electrogas Malta

**Table 5:** Existing generation plants and operators within DPS

The Scheme will not require any land reclamation and will not alter the land use of the site itself since the proposed development is within an existing part of the Delimara Power Station. The geographical location of the Scheme is located within two unused parcels of land within the site extents of Delimara Power Station, indicated by the co-ordinates provided below:

- Site 01: 35°50'01.9"N 14°33'24.0"E
- Site 02: 35°49'58.7"N 14°33'23.0"E

Both Site 01 and Site 02 are accessed directly from Triq il-Power Station from the locality of Marsaxlokk, and located beneath Triq Delimara, within the area known as *L-Inġinier* and *Ras ic-Cagħaq*.

### 3.2 Site Planning History

The table below shows the site history pertaining to the land within Delimara Power Station. The referred planning applications mentioned in this table were extracted from the Planning Authority's mapserver or the authority's available archive.

Item	Application Ref No	Description	Decision
1	PA/05547/23	Installation, commissioning and operation of a Battery Energy Storage System (BESS) within the Delimara Power Station	Processing
2	PA 00084/22	Photovoltaic installation over existing roof	Approved
3	PA 04297/18	To sanction retention of cabins approved by construction management plan, with minor modifications, and proposed installation of mezzanine floor in an approved building within the approved power station.	Approved
4	PA 04118/18	Installation of cabins in the re-gasification area together with storage containers in approved power station	Approved
5	PA 08757/17	Construction of Melita TransGas pipeline EU Project of Common Interest. The proposal includes a terminal station at Delimara Power station to be constructed partially on reclaimed land with revetment, a Micro-tunnel route through Delimara Peninsula, and the laying of an offshore pipeline up to the median line between Delimara, Malta and Gela, Sicily	Approved
6	PA 09335/17	Proposed landscaping works at the Delimara Power Station to address the requirements of condition number 5 of development permission PA 4854/09	Approved
7	PA/04253/17	Construction of a desalination plant at the Delimara Power Station	Approved
8	DN 00166/17	Demolishing of chimney and two (2) boilers at Delimara power-station	Approved
9	PA/00144/16	Excavation of basement cable flat and construction of distribution centre at Delimara	Approved
10	PA 00022/14	Construction of jetty and ancillary facilities	Approved

Item	Application Ref No	Description	Decision
11	PA 00021/14	Combined cycle gas turbine and liquified natural gas receiving storage, and re-gasification facilities	Approved
12	PA 02298/14	Demolition and re-location of fire station and laboratory facilities	Approved
13	DN 01054/14	Demolishing of chimney at Delimara power station	Approved
14	DN 00146/14	Relocation of cesspit	Approved
15	PA 02053/10	Boiler conversion for emission reduction at Delimara Power Station	Approved
16	PA 04854/09	To erect new electrical power generating station	Appealed
17	PA 02933/09	Soil investigation at Delimara Power Station Block 4 (through removal of a layer of material).	Approved
18	PA 03154/08	Boiler conversion for emission reduction	Approved
19	PA 03152/05	Proposed local generating capacity at Delimara Power Station	Approved
20	PA 05166/93	Phase IIA Phase IIB Fuel Tanks	Withdrawn
21	PA 01446/90	N/A	N/A

**Table 6:** Planning applications history on site [extracted from PA mapserver, 01 December 2023]

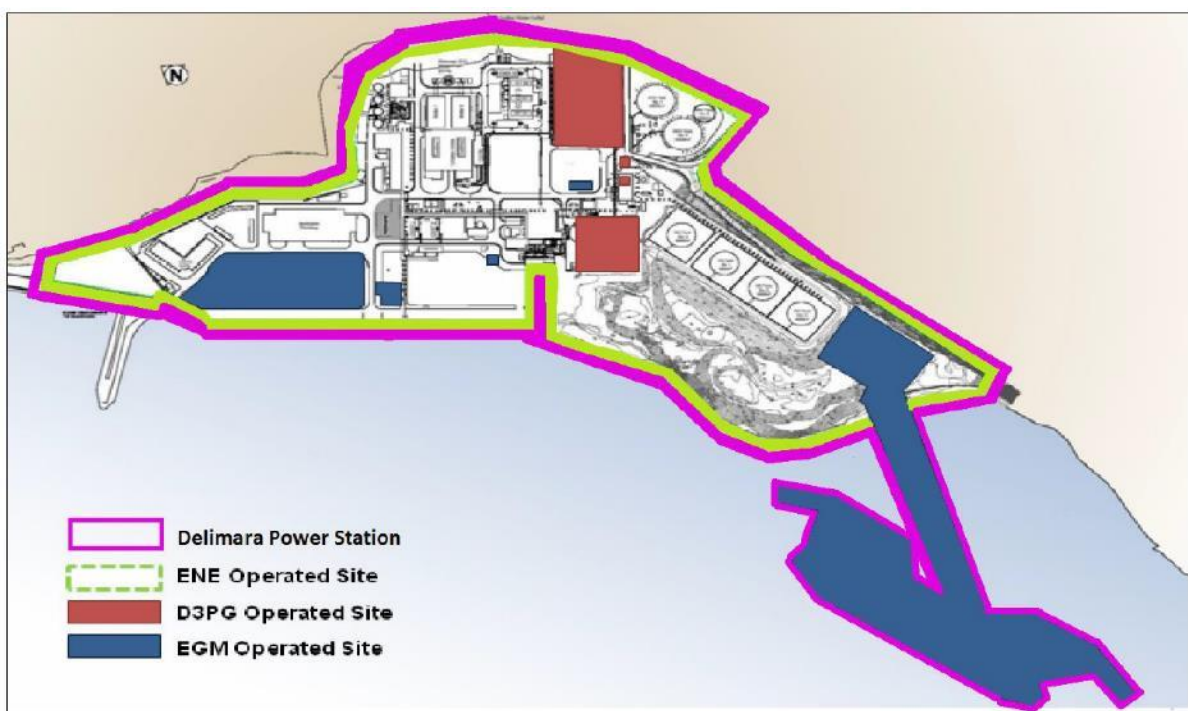
Apart from the planning perspective, the site is also covered by an Integrated Pollution Prevention and Control (IPPC) permit, as per below:

Application Number	Name	Activity	Location	Status
IP 0002/21	Delimara Power Station	Large Combustion Plant	Delimara	Granted

The latest version of permit IP 0002/21 can be accessed from the following link: [https://era.org.mt/era\\_ippc\\_installations/delimara-powerstation/](https://era.org.mt/era_ippc_installations/delimara-powerstation/). The permit holders of this IPPC permit are ElectroGas Malta Ltd. (IP 0002/21/i), D3 Power Generation Ltd. (IP 0002/21/ii) and Enemalta plc (IP 0002/21/iii).

This permit is valid until the expiry of the permit which is 4 year/s from the 'permit granted' date (10/05/2022).

In accordance with section 1.6 of the IPPC permit, ERA shall be officially informed of this operational change as defined by S.L. 549.77 and its amendments. In this regard, Enemalta will inform ERA of this proposed installation and submit any relevant supporting assessments and drawings, as well as the intended proposed implementation date. A variation to the IPPC permit is required and will be submitted accordingly.



**Figure 5:** Site Boundary and operators, IPPC permit number IP 0002/21

### 3.3 Land Uses

Access to the site is through *Triq il-Power Station*, which leads directly into the Delimara Power Station complex. The station has an internal road network itself, intended to support the proper and safe operation of the plant.

Since the proposed development is situated at Delimara Power Station, an area that is already serving as part of the power generation of the Maltese islands, the land use of the area is not expected to change.

Direction	Description	Distance
To the North	Agricultural land and agricultural-type properties	Immediately north
To the South	Agricultural land and agricultural-type properties	Immediately south
To the East	Agricultural land	Adjacent to site
	Residential house	40m south-east
To the West	Marsaxlokk Bay	Immediately west

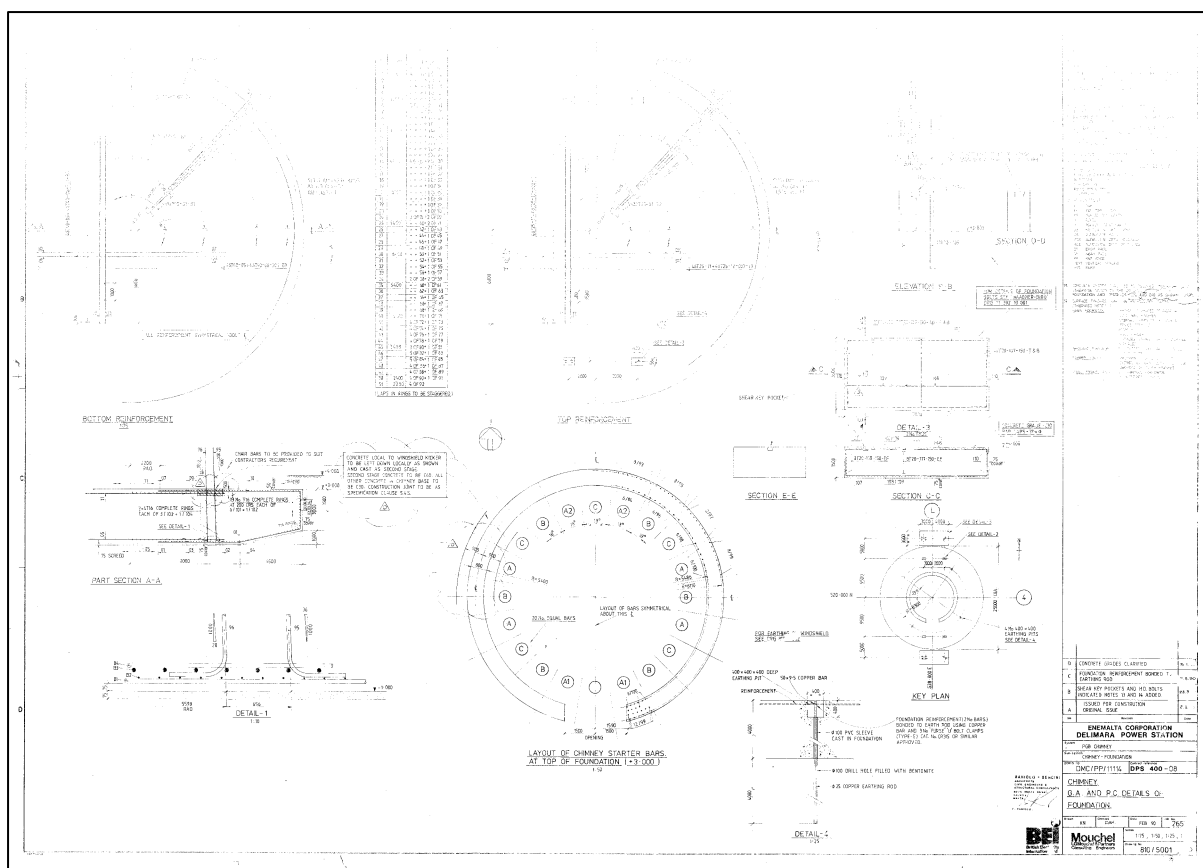
**Table 7:** Surrounding Land Uses

**Site 01** measures approximately 61m x 60m for a total area of circa 3,660m<sup>2</sup> and is located on the former Phase D1 power plant which consisted of the two (2) steam power plants operated using heavy fuel oil, each having an electrical output of 60MW, including the ancillary equipment and structures (boilers, chimney stack, etc.). This site is accessible by two roads within the internal road network, one on each side of the site.



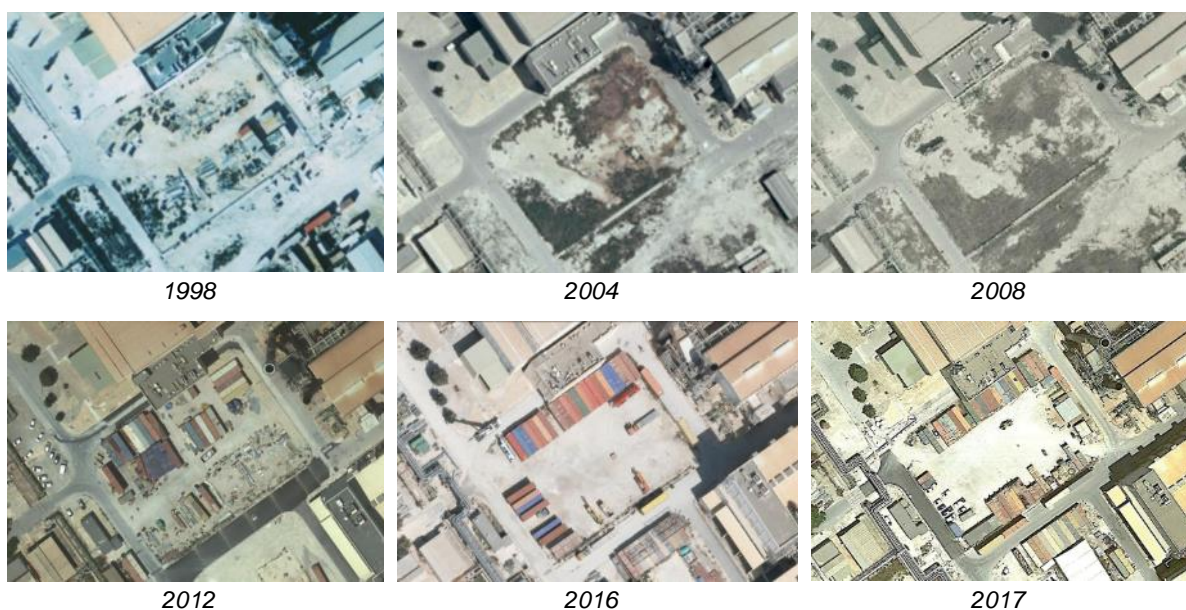
**Figure 6:** Site 01 superimposed over 1968 survey sheets, in relation to original shoreline (source: PA MapServer)

The Phase D1 power plant was switched off in 2017 and eventually decommissioned and dismantled in the following year. The plant's chimney structure consisted of a cylindrical concrete shield rising up to 150m in height, with a base diameter of 12 metres and concrete wall thickness varying from 80 centimetres at the bottom and 30 centimetres on top. Inside the concrete structure there were two 2.3 metre steel exhaust pipes that emitted the exhaust gases produced by the oil-fired boilers. The general arrangement drawing, and details of the original reinforced concrete chimney stack foundation is indicated in **Figure 77** below – the foundations are still on site underneath the finished level of the site, in view that these were not removed during the dismantling and demolition works.



**Figure 7:** General Arrangement drawing and details of original reinforced concrete chimney stack foundation.

**Site 02** measures approximately 70m x 45m for a total area of circa 3,150m<sup>2</sup> and is located southwest of Phase 2B power plant, northwest of Phase 3 and south of the Delimara power station central control room. The area is a portion of land which has not yet been developed and has been intermittently used as a temporary storage area of material and equipment – refer to **Figure 88** below. It is bound on all four sides by the DPS internal road network.





**Figure 8:** History of Aerial Photos of Site 02 (source: PA MapServer and Google Maps)

Site 02 is a portion of land within the Delimara Power Station on the Delimara peninsula which is partly on reclaimed land and partly on natural rock. This can be seen from the 1968 survey sheets included in **Figure 99** below.



**Figure 9:** Site 02 superimposed over 1968 survey sheets, in relation to original shoreline (source: PA MapServer)

Delimara Power Station is also accessible by sea. The station has integrated a quay where heavy equipment can be unloaded directly by moored vessels. The draft available for vessels\barges is 9.0m. The said quay is linked to the two sites by the station's internal road network.

The development will not require sea water for cooling purposes, and hence, it will not influence the quality of the sea water on either side of the peninsula since the existing sea water cooling inlet and outfall shall not be affected.



**Figure 10:** Location of proposed Scheme on Site 01 in 2023



**Figure 11:** Location of proposed Scheme on Site 02 in 2023.

### 3.4 Ambient Conditions

	Minimum	Average	Summer Conditions	Maximum
<b>Shade Air Temperature</b>	2°C	24°C	36°C	45°C
<b>Sea Temperature</b>	15°C	21°C	29°C	32°C
<b>Humidity</b>	30%	65%	70%	95%
<b>Wind speed</b>	0km/hr	18km/hr	12km/hr	73km/hr (gust speed=150km/hr)

**Table 8:** Ambient Conditions

The Delimara Power Station site is situated at 4.0m above mean sea level (msl) and is considered as a humid semi-tropical climate and is subject to periods where the atmosphere is laden with dust and/or sea spray under certain wind conditions.

Annual rainfall is approximately 625mm per annum, with possible heavy rainfall during autumn.

Direct solar radiation is at a maximum of 1000W/m<sup>2</sup>.

### 3.5 Environmental Characteristics

The area is predominantly industrial in nature. No particular environmental characteristics are present on site.

### 3.6 Cultural Heritage Features

No known cultural heritage features are located within the Scheme site or in the immediate surrounding area, particularly in view that the site is an industrial site used for power generation and distribution. Additionally, there are no archaeological remains or historical features documented within the footprint of the proposed site.

In a wider context, in the immediate vicinity of the Delimara Power Station and within a distance of 600m from the Scheme site, the SCH GIS interface shows the presence of the following Cultural Heritage discoveries:

Site Code	Locality	Type	Feature	Co-ordinates
FHVL29	Marsaxlokk	Military	Pillbox	35°50'06.6"N 14°33'24.4"E
FHVL72	Marsaxlokk	Military	Wolseley Battery	35°50'07.9"N 14°33'28.0"E
FHVL67	Marsaxlokk	Military	Wilga Battery	35°50'10.2"N,14°33'7.8"E

**Table 9:** Cultural Heritage discoveries, as listed in the Superintendence of Cultural Heritage GIS interface, accessed on 02 December 2023

Therefore, it can be safely said that the proposed Scheme will have no effect on any Cultural Heritage features or interests.

### 3.7 Geology and Geomorphology

The information provided in this section is extracted from the Digital Geological Map of the Maltese Islands published at a scale of 1:25,000 by the Oil Exploration Directorate (OPM) in 1993. This map depicts the bedrock geology of the Maltese Islands including lithological and structural information. This map was accessed from the Continental Shelf Department at the Ministry for Finance and Employment.

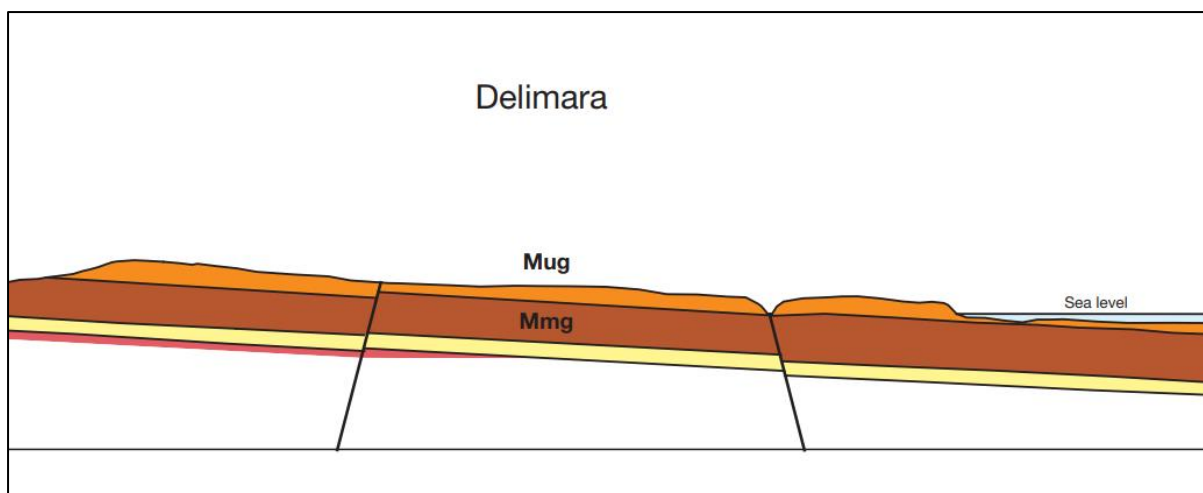
According to the Digital Geological Map, the Delimara Peninsula is mainly formed from the following different geological formations, as follows:

- A. Part of the western and central portions of the site located closest to the coastline, on which several of the existing operational power plants are situated, is constructed on a man-made platform reclaimed from the sea by cut and fill activities.
- B. The eastern portion of the site is formed from Upper Globigerina Limestone Member (*Mug*), the thickness of which ranges from circa 8m to 26m. This layer overlies a Middle Globigerina Limestone Member (*Mmg*), which is described in (C) below.

Upper Globigerina Limestone Member: A tripartite, fine grained planktonic foraminiferal limestone sequence comprised of a lower cream coloured wackestone, a central pale grey marl and an upper pale cream coloured wackestone. Pectinid bivalves and occasional echinoids are present. A ubiquitous phosphorite conglomerate bed containing fish teeth and diverse macrofossils occurs at the base of the member (**Mc2** Upper Main Phosphorite Conglomerate Bed). It is conformable in eastern outcrops but lies above a hardground and erosion surface in western areas. Thickness 8-26m. (**Mug** MIOCENE, BURDIGALIAN TO EARLY LANGHIAN).

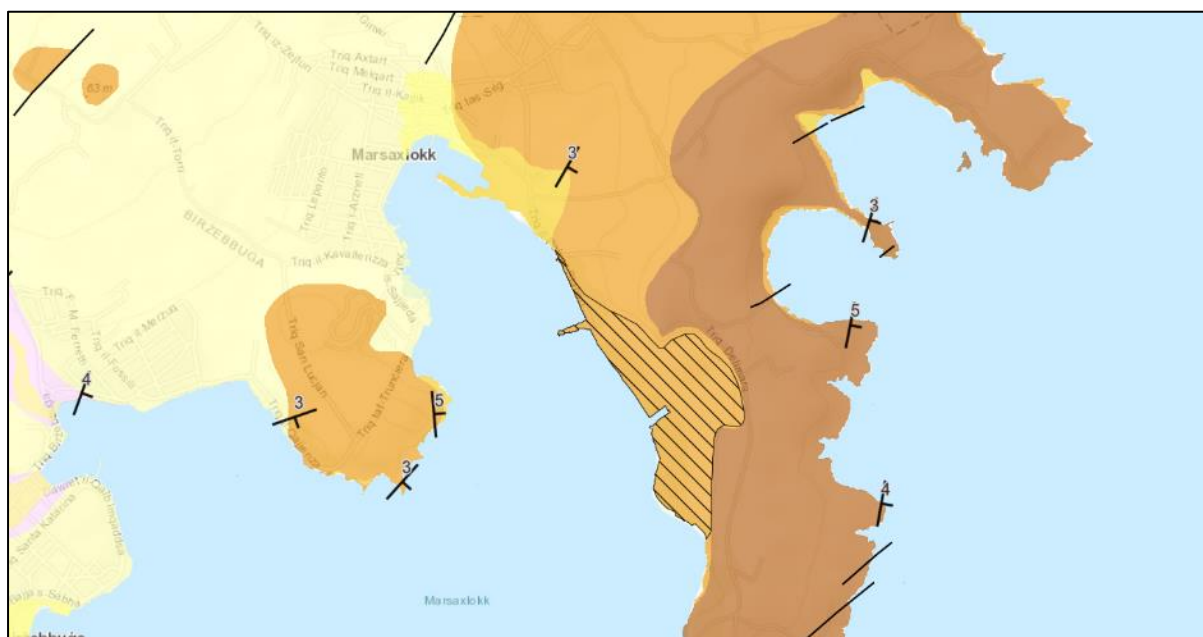
- C. The northern portion is underlain by solid geology of Middle Globigerina Limestone Member (*Mmg*), the thickness of which ranges from 15m to 38m, having the following description:

Middle Globigerina Limestone Member: A planktonic foraminifera-rich sequence of massive, white, soft carbonate mudstones locally passing into pale-grey marly mudstones. Fine bed laminae are frequent otherwise burrowing is ubiquitous. Thin-shelled pectinid bivalves and Schizaster echinoids are typical and coccoliths are abundant. The base of the formation is unconformable upon Lower Globigerina Limestone Member. Other minor breaks in the sequence are indicated in western outcrops by phosphorite clast beds. The sequence is thickest near Delimara. Thickness 15-38m. (**Mmg** MIOCENE, AQUITANIAN TO BURDIGALIAN).



**Figure 12:** Part of N-S profile section of East Malta, showing the geology layers at Delimara Peninsula, extracted from the Geological Map of the Maltese Islands available at the Continental Shelf Department website

According to the Digital Geological Map, Site 01 is located completely within an area comprising of Middle Globigerina Limestone Member, while Site 02 partly lies on a man-made platform reclaimed from the sea by cut and fill activities in a non-engineering manner.



**Figure 13:** extracted from the Geological Map of the Maltese Islands available at the Continental Shelf Department website (accessed on 02/12/2023)

In terms of impact on geology and geomorphology, and in terms of loss of rock strata and replacement of rock strata with a built development, these are both considered as being of insignificant impact due to the fact that previous excavation and land reclamation has altered the geomorphology of the area.

	Bedrock Geology
Formation	Globigerina Limestone Formation
Member	Middle Globigerina Limestone Member
Geological Age (maximum)	Chattian
Geological Age (minimum)	Burdiglian
Description	Very weak, pale grey to dark green-grey marly biomicrites, mudstones and marly mudstones. Parallel-lamination, cross-lamination and bioturbation is common. The fossil assemblage is dominated by planktonic foraminifera, particularly globigerinids, and coccoliths. Thickness 15 - 40 m. 0 - 20 m on Gozo.

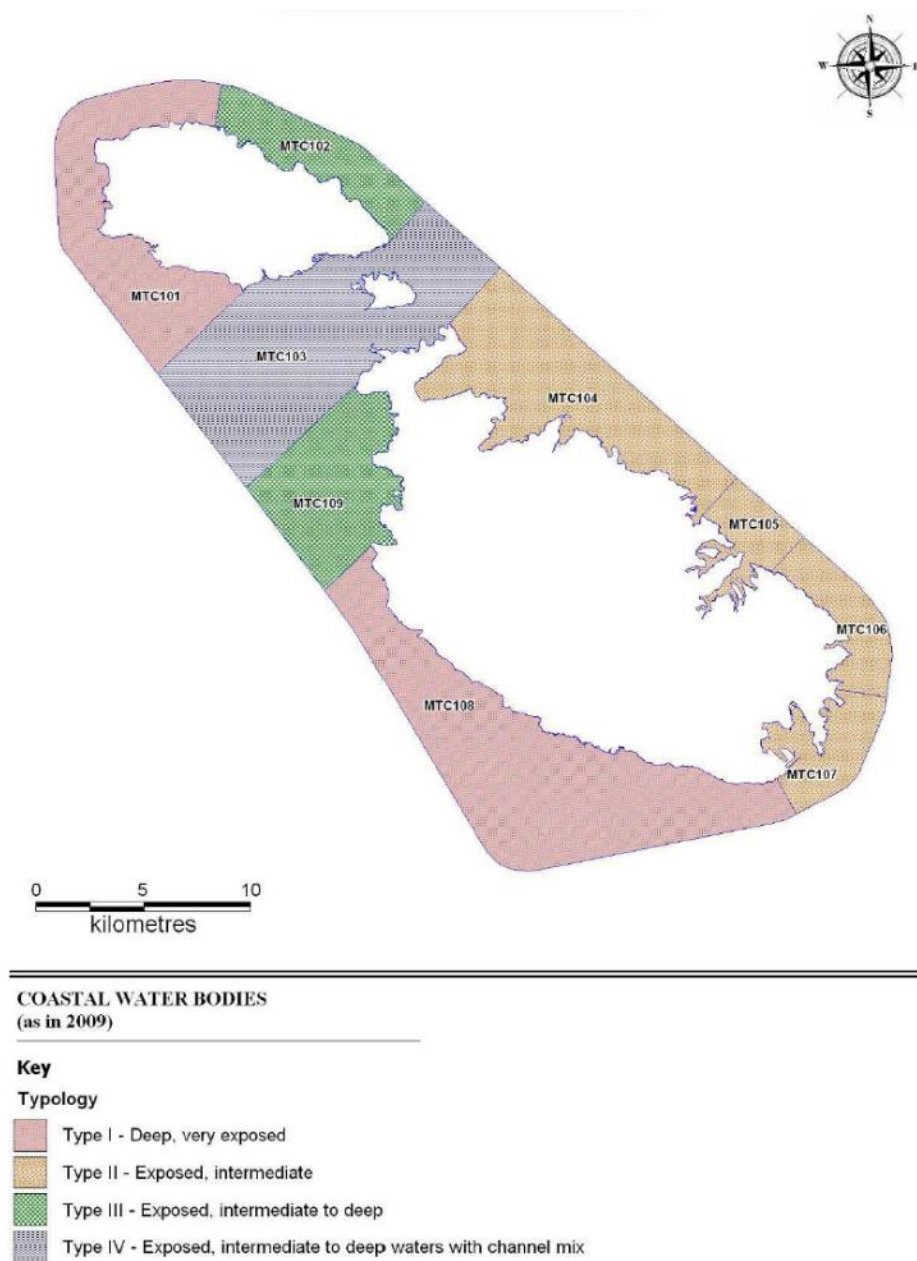
**Table 10:** Bedrock geology, extracted from the Geological Map of the Maltese Islands available at the Continental Shelf Department website (accessed on 02/12/2023)

### 3.8 Hydrogeology

According to *The 2<sup>nd</sup> Water Catchment Management Plan*, the sea surrounding the Delimara peninsula lies within the MTC107 marine water body which is classed as being exposed and of intermediate depth, as shown in **Figure 14** below. MTC 107 is the reference code for the *Il-Port ta' Marsaxlokk (including Birżebbuġa and Freeport)* Water Body, covering a total area of 15.7km<sup>2</sup>. In the 2<sup>nd</sup> Water Catchment Management Plan, this water body was designated as Heavily Modified Water Bodies (HMWB) in view of the hydromorphological alterations of the area – however, the Biological Quality Elements were still achieved as 'Good'.<sup>2</sup>

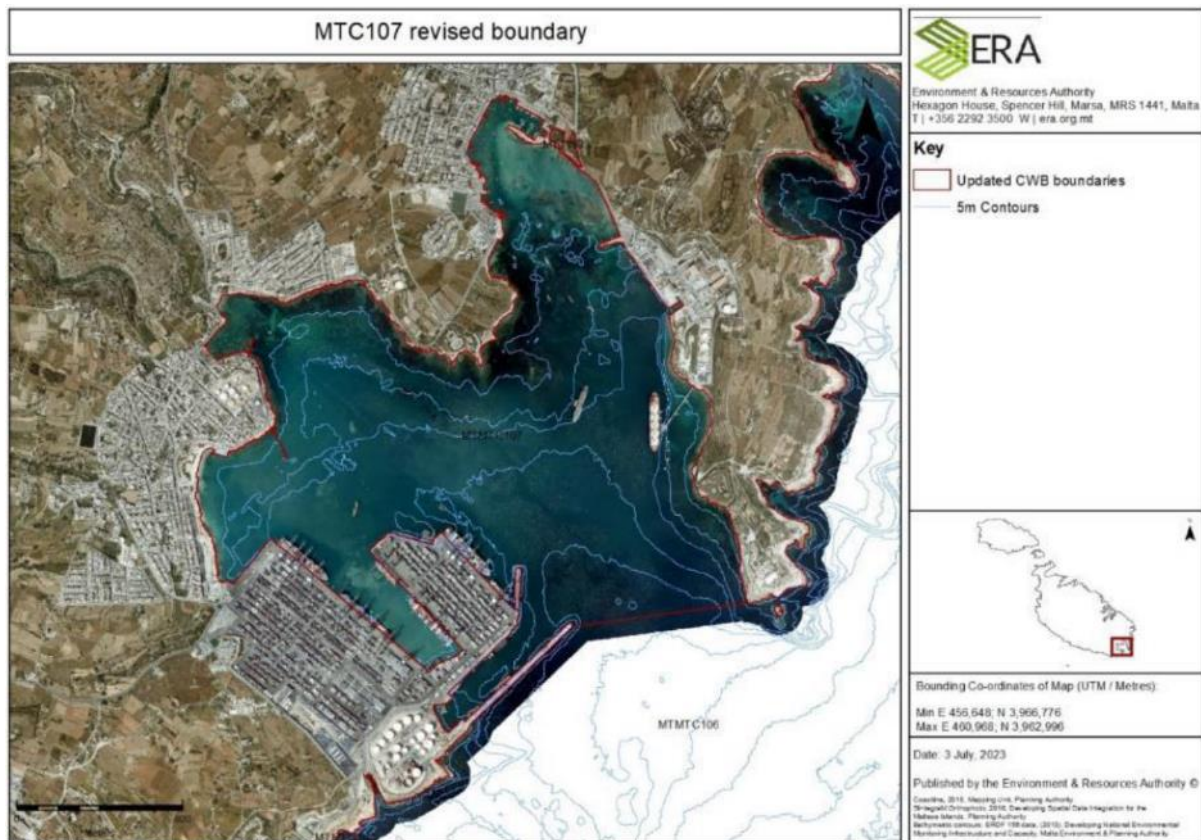
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<sup>2</sup> The 2nd Water Catchment Management Plan



**Figure 14:** Typology of Maltese Coastal Waters, extracted from The 2<sup>nd</sup> Water Catchment Management Plan.

In view of the above Good Ecological Status, as part of the upcoming third WFD implementation cycle, the boundaries of MTC107 will be revised as shown in **Figure 15**.



**Figure 15:** MTC107 revised boundary<sup>3</sup>

Additionally, according to the Malta Resources Authority (2004), the Globigerina Limestone functions as an aquifer where it is highly fractured.

The groundwater body underlying the site is classified as Malta Mean Sea Level Aquifer (MSLA) Groundwater Body (groundwater body code defined as MT001). By far, the Malta MSLA groundwater body is the largest msl groundwater body in the Maltese Islands. The groundwater body occurs within the Lower Coralline Limestone formation, except in the northeast and east where the less permeable Globigerina Limestone occurs locally at sea level. Because of its extent, the Malta mean sea level groundwater body is subject to the highest heterogeneity in terms of aquifer land cover and pressures.

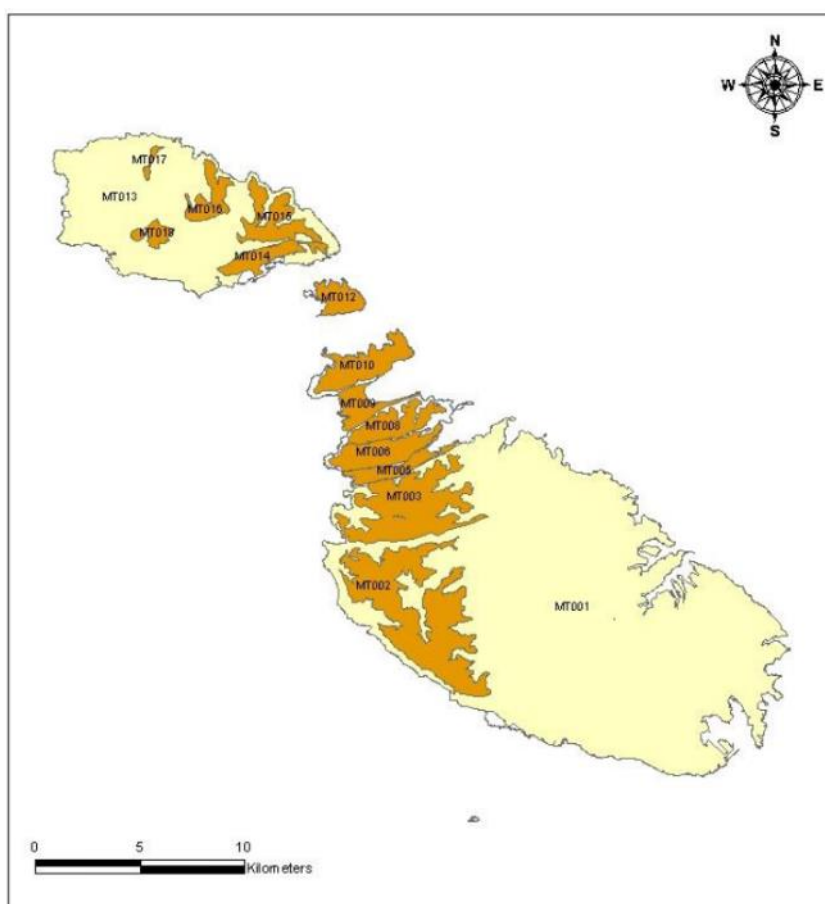
This aquifer is in free contact with seawater and is described as ‘a lens-shaped body of freshwater floating on more saline water, with a thickness of freshwater below sea level approximately thirty-six times its piezometric height above sea level’. The Malta Main Mean Sea Level Groundwater Body is classed as ‘waters used for the abstraction of drinking water’.

<sup>3</sup> ERA 3rd River Basin Management Plan: Malta, Chapter 2: Characterisation of water resources in the Maltese Islands, September 2023. Draft for Public Consultation

Where the land has been reclaimed from the sea, the groundwater is likely to exist as a sea level aquifer.

Groundwater Body Code	Groundwater Body Name	Groundwater Body Typology
MT001	Malta Mean Sea Level	Mean Sea Level

According to the PA's report *Establishing Drinking Water Protection Areas under the Water Policy Framework Regulations 2004*, the site is not located in a Groundwater Protected Zone. Groundwater Protection Zones have a radii of approximately 300m from a potable abstraction point in order to preserve the quality of the drinking water obtained from the Lower Coralline Limestone aquifer.



**Figure 16:** Ground Water Bodies in the Maltese River Basin District with the Scheme site lying within the Lower Coralline Limestone Aquifer MT001 (Sourced from ERA)<sup>4</sup>

### 3.9 Infrastructure and Utilities

Delimara Power Station is already committed to the generation of electricity. Additionally, the site already benefits from the required utilities and infrastructure including:

<sup>4</sup> State of the Environment Report, 2018 – Chapter 5: Marine and Fresh Waters, available at [https://era.org.mt/wp-content/uploads/2019/05/Chapter5\\_MarineFreshWaters\\_26Nov2018.pdf](https://era.org.mt/wp-content/uploads/2019/05/Chapter5_MarineFreshWaters_26Nov2018.pdf)

- i. potable water
- ii. cooling water
- iii. foul water drainage systems
- iv. stormwater system
- v. oil water collection system and oil separators
- vi. street lighting
- vii. firefighting system<sup>5</sup>
- viii. culverts for cables
- ix. adequate internal road network

The current infrastructure and utilities are deemed sufficient to sustain the proposed development without the need to upgrade the existing systems. The proposed Scheme requires the installation to connect with the following:

1. 33kV electrical connection – existing gas-insulated switchgear controlling the electricity distribution system on the 33kV level can cater for the proposed installation by allocating two (2) spare switchgear bays. 33kV cable can be laid either within the existing service culverts connecting the sites with the 33kV switchroom or by laying the cable on protected cable trays/ladders.
2. Fuel distribution system – both Site 01 and Site 02 are in very close proximity to the existing Gasoil pipework, and a connection point can be set up with minor extensions or modifications in order to extend or make available a connection point to both of the two proposed sites.
3. Earthing system – a earth connection point has been identified for each of the sites.

### **3.10 Surface Water Run-off**

Currently, upon reaching the ground at the project site, rainwater is partly led to the stormwater catchment gutter through surface drainage. Part of the rainwater percolates into the ground and goes to recharge the mean sea level aquifer, whilst a proportion of the water is returned to the atmosphere by evaporation. Owing to the long, hot and dry season of the Maltese Islands, this process is very high and is taken as an average of 60% evaporation. However, as the site overlies a layer of Middle Globigerina Limestone, an impermeable rock, it is likely most of the rainfall will end up as surface run-off which will be directed towards the stormwater catchments.

It will be ensured that the site remains adequately clean, thus no contaminants will be taken up by the rainwater and transported into the sea.

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<sup>5</sup> To note the presence of a Civil Protection Department stationed just outside of the Delimara Power Station, located at 35°50'08.6"N 14°33'07.8"E

Period	Annual total rainfall (mm)
1961-1990 Climate Normal	553.1
1991-2020	543.4

**Table 11:** Malta's Climate Normal total annual rainfall compared with that for the period of 1991-2020<sup>6</sup>

The following table provides a calculation of average surface water run-off expected to be produced by the proposed development, based on the runoff calculation methodology presented in the *Green Stormwater Infrastructure Guidance Manual*<sup>7</sup>:

$$\text{Runoff Volume (cubic meters)} = [\text{Runoff Coefficient}] \times [\text{precipitation, in metres}] \times [\text{catchment area, in metres squared}]$$

Based on the above equation and adopting the runoff coefficients provided in the *Green Stormwater Infrastructure Guidance Manual*, the expected average surface water run-off is indicated in **Table 12** below.

	Site 01	Site 02
Average annual rainfall	550mm	
Area of the proposed development site	3,660m <sup>2</sup>	3,150 m <sup>2</sup>
Cover Type	Paved area	Beaten earth
Runoff Coefficient	0.9	0.7
Average Annual Run-off	1,812 m <sup>3</sup>	1,213 m <sup>3</sup>

**Table 12:** Average surface water run-off expected.

Gensets, being Diesel Engine based which are enclosed in standard ISO containers, are protected from the natural elements and environment. It is not envisaged that there shall be changes in the present surface water run-off and storm water drainage systems due to this project.

Run off from this development will not impact the existing adjacent DPS facilities.

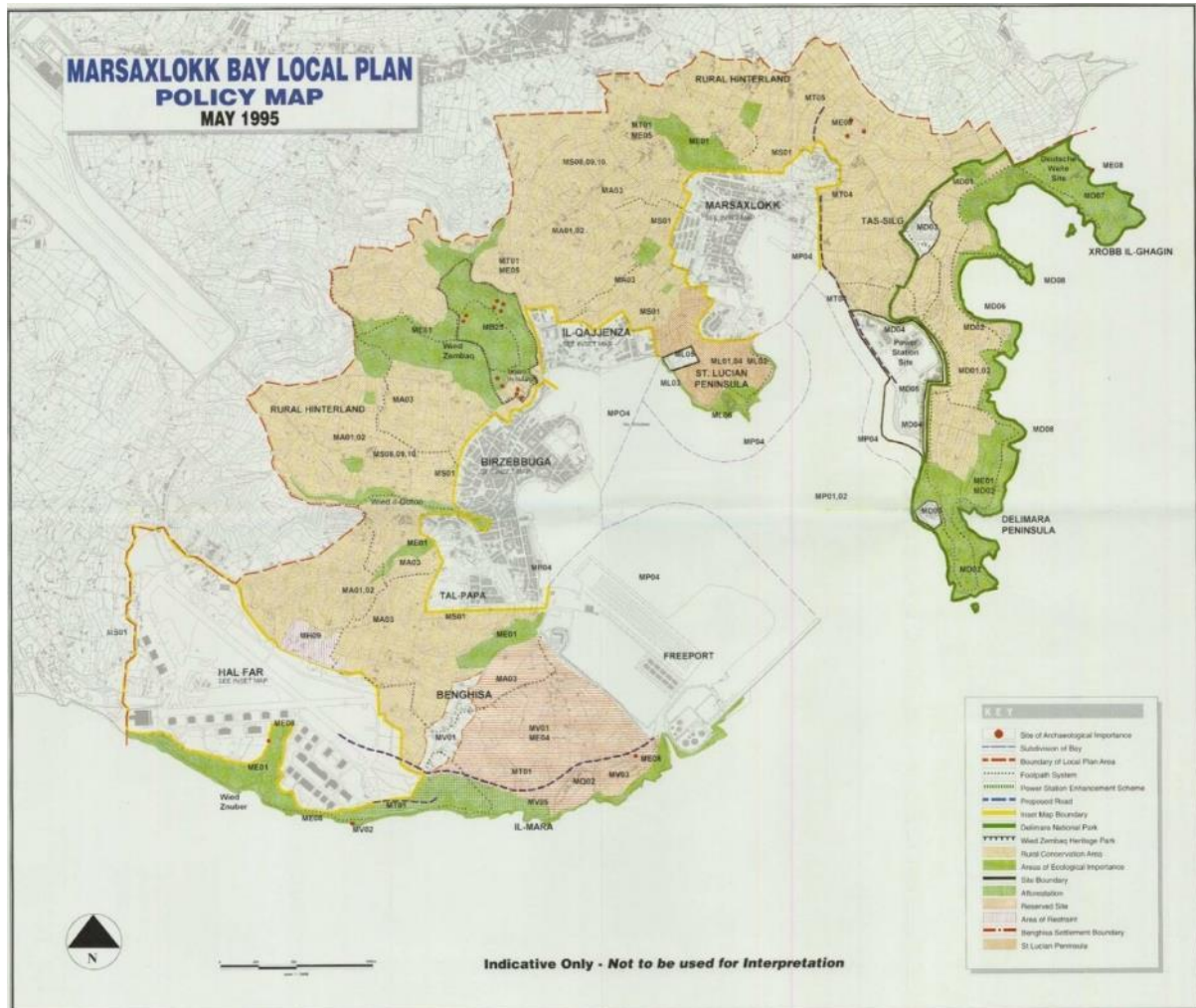
<sup>6</sup> The State of the Climate 2022 – A Multidecadal Report & Assessment Of Malta's Climate [accessed on 12 December 2023 at: <https://nso.gov.mt/wp-content/uploads/Climate-publication-2022.pdf>]

<sup>7</sup> Ministry for Public Works and Planning, June 2022

## 4.0 Regulatory Framework: Legislative, Planning and Strategy Context

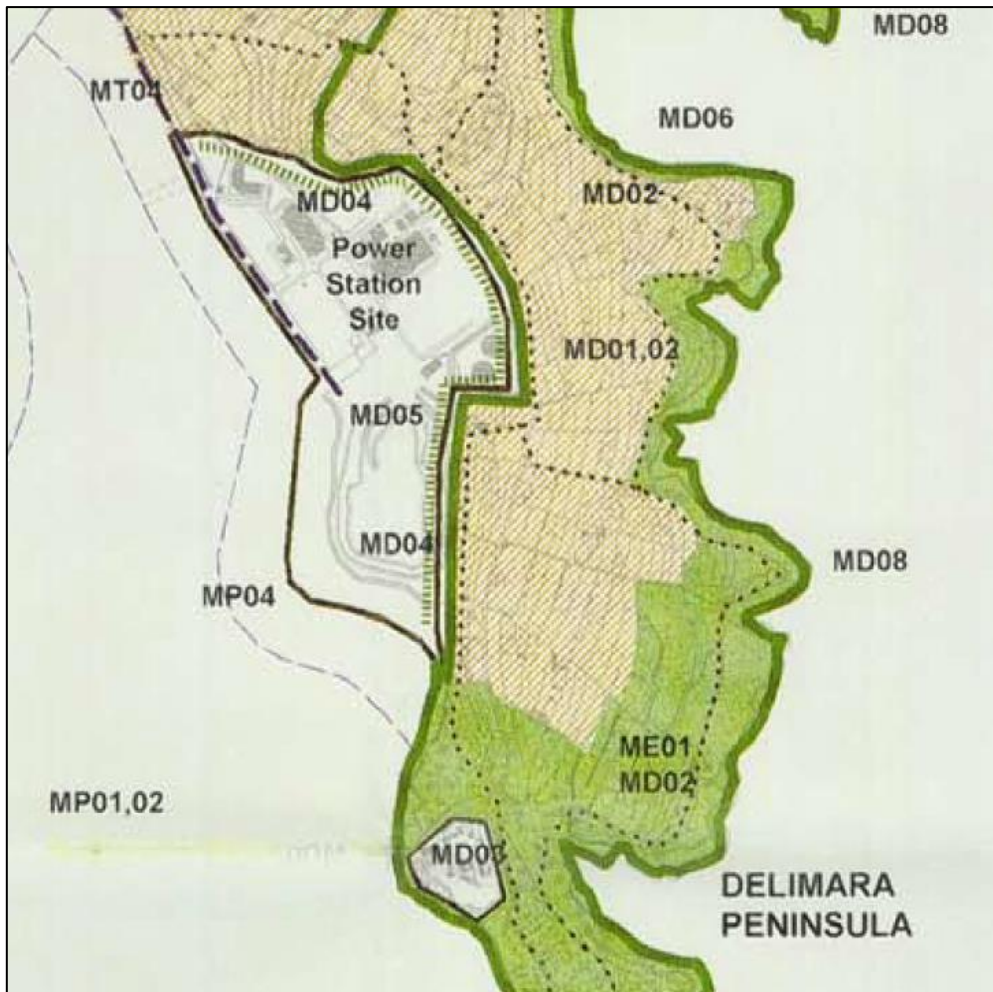
### 4.1 Policy and Planning Context

The development site lies within the Delimara Power Station which falls within the Marsaxlokk Bay Local Plan. The site is located within an area already dedicated for industrial use and features other plants related to electrical generation and distribution systems.



**Figure 17:** Marsaxlokk Bay Local Plan - Policy Map

The original Structure Plan for the Maltese Islands adopts an area-based approach. **Figure 18** shows the Policy Map of Delimara Peninsula.



**Figure 18:** Policy Map of Delimara Peninsula, Marsaxlokk Bay Local Plan, Policy Map

Policy MD04 of the Marsaxlokk Bay Local Plan, which refers to the Scheme site and “Power Station Industrial Site”, specifies that any proposed new buildings or structures within the site must take into account, in their design and layout, the need to reduce their visual impact from the western shore of the Bay.

Policy MP01 states that further industrial development of the Port itself, and the areas around it, will not be granted development permission beyond what is committed, and the specific provision made in the area policies. Industrial development will therefore be limited to Delimara Peninsula on the Power Station site, and in the Freeport area.

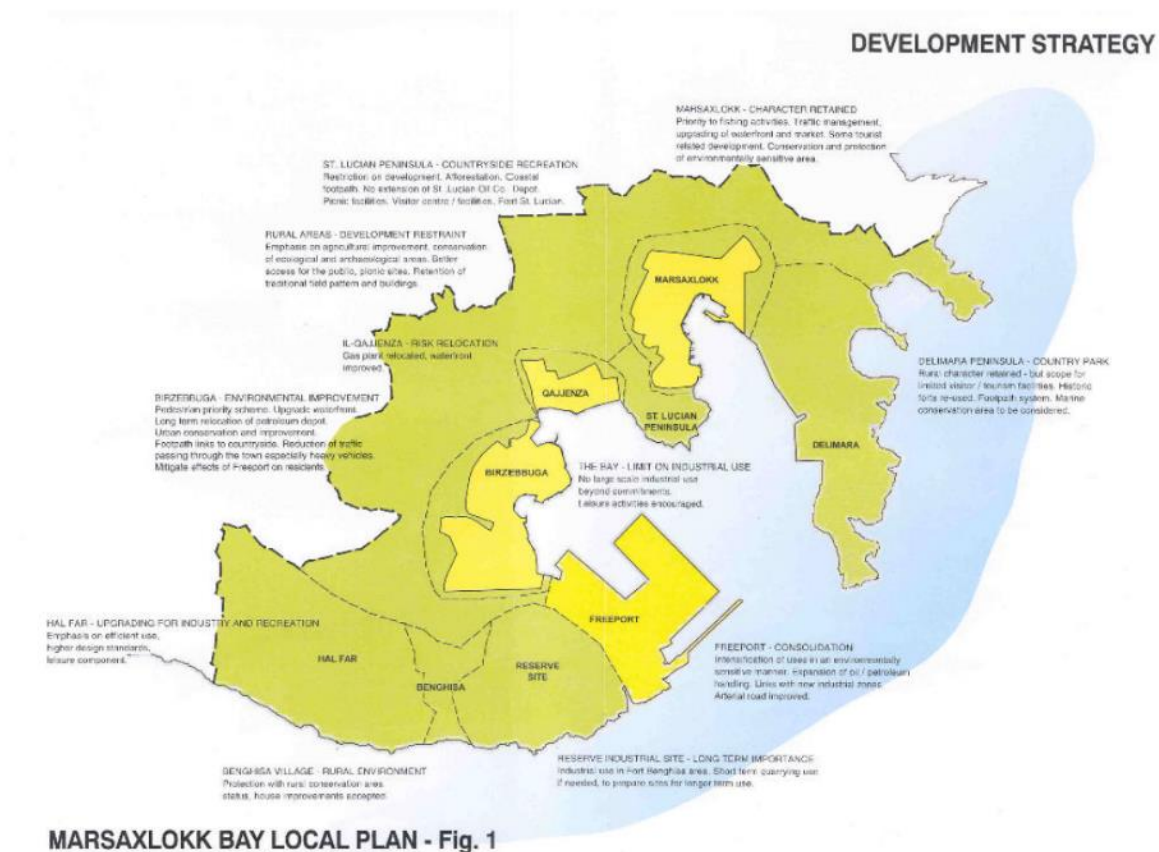


Figure 19: Marsaxlokk Bay Development Strategy

## 4.2 Strategic Plan for Environment and Planning

All new developments must complement the goals and objectives outlined in the *Strategic Plan for Environment and Development* (SPED). The SPED, which replaced the Structure Plan of the Maltese Islands adopted in 1992, provides guidelines to decision takers and developers on planning applications, therefore safeguarding land and sea resources of the Maltese Islands, whilst ensuring that the environment is protected and enhanced. The SPED thematic objectives which are relevant to the proposed Scheme are listed below.

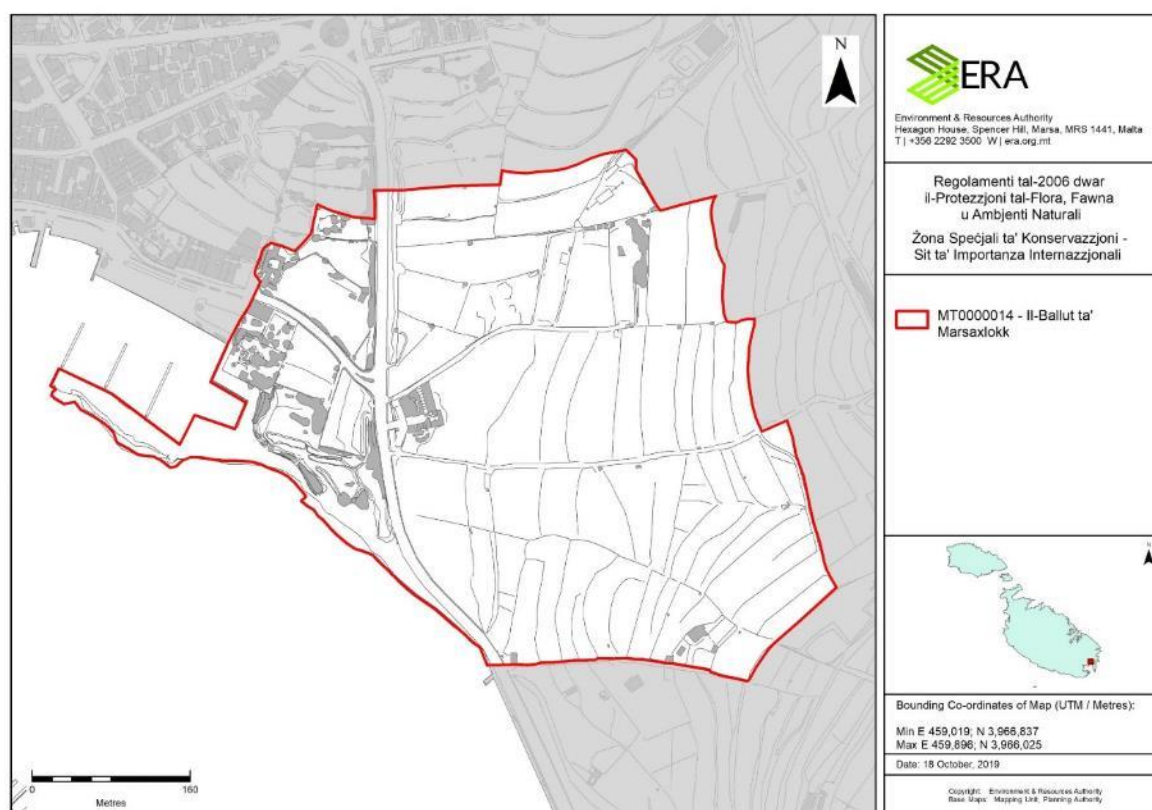
<p>Socio-Economic Development Thematic Objective 4</p>	<p>To seek to ensure that existing strategic infrastructure is safeguarded, and that provision is made for infrastructure (water, electricity, sewers, fuel storage, telecommunications) to sustain socio-economic development needs whilst encouraging the Best Available Technology and protecting the environment by:</p> <p>3. Facilitating the improvement of the quality and quantity of location and distribution of utilities infrastructure.</p>
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	4. Facilitating the Interconnector cables, Natural Gas infrastructure and the extension of the Delimara Power Station including the supporting infrastructure.
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### 4.3 Special Area of Conservation and Nature 2000 sites

There are no Special Areas of Conservation directly within the Delimara Power Station site or within the immediate vicinity. The closest Special Areas of Conservation is MT 0000014 *Il-Ballut ta' Marsaxlokk*, located at a distance of approximately 600m. Refer to table and Figure 20 below for details about this SAC.

Country	Malta (MT0000014)
Type	Protected under the Habitats Directive
Area	23.34 ha
Established date	April 2004
EU protected species	0
EU protected habitats	4



**Figure 20:** Special Area of Conservation MT0000014 *Il-Ballut ta' Marsaxlokk*

Furthermore, the proposed Scheme site is not located within any areas designated as Natura 2000 site. The closest Natura 2000 sites to the project's Scheme are two marine Special

Protection Areas: MT0000111 (*Żona fil-Baħar fil-Lbiċ*) and MT0000108 (*Zona fil-Baħar fil-Lvant*) protected by the Flora, Fauna and Natural Habitats Protection Regulations, 2006 (S.L.549.44), located at a distance exceeding 2km from the project site. The Scheme is not expected to impact any of these SPAs.

#### **4.4 Development Planning (Procedure for Applications and their Determination) Regulations (Subsidiary Legislation 552.13)**

The scope of these regulations is to include clarity in legal provisions to ensure that the results of consultations and information gathered during the Environment Impact Assessment Process shall be duly taken into account in the development consent procedure. Additionally, these regulations describe the procedure adopted by the Planning Authority to the various development application types submitted for evaluation by developers to the Authority.

Schedule 1 of these regulations list the instances where a project is classified as a “Major Application” and hence, would or may require an Environmental Impact Assessment, and Appropriate Assessment or a Traffic Impact Assessment.

The proposed Scheme has an area of approximately 3,660 meters squared and 3,150 meters squared, for a total area of 6,810 meters squared, and hence, if considered under one application, may be considered to fall within the definition of a major application in accordance with Schedule 1(a) and (d)(v).

However, recently, the Planning Authority has issued an Amendment to Development Notification Order for Public Consultation which would cater for the processing of developments similar to the proposed Scheme. Refer to section 4.55 below.

#### **4.5 Development Notification Order (Subsidiary Legislation 552.08)**

The Development Notification Order considers a number of developments as permitted developments without the need of a fully-fledged permit other than a notification submission to the Planning Authority. These permitted developments are classified under twenty-four (24) different Classes whereby a Development Notification may be submitted to the Planning Authority for verification and subsequent letter of consent generally valid for a minimum of one year.

In December 2023, the Planning Authority (PA) issued a proposal to amend the Development Notification Order (DNO) specifically for the class of Public Utility Services in order to streamline processes related to these services.

While Class 5 of the DNO already regulates efforts related to critical infrastructural works such as the water distribution network, sewerage, as well as electricity and telecommunications works, a public consultation initiated by the PA is proposing to include a number of other

permitted developments under the DNO regime (subject to certain limiting conditions), including:

- i. the construction, alteration, maintenance or repair of an electric power distribution centres;
- ii. the construction, alteration, maintenance or repair of electric power substations; and
- iii. the temporary installation of any equipment and any associated structure, required for emergency generation of electrical power that is installed as ancillary to existing infrastructure use provided that the equipment and the associated structure may be retained for a period not exceeding five (5) years, subject to the clearance of the Environment and Resources Authority (ERA).

Such amendment to the DNO legislation would expedite projects related to the upgrading and maintenance of the electricity distributing network.

#### **4.6 Construction Site Management Regulations (Subsidiary Legislation 623.08)**

The scope of these regulations is to limit environmental degradation through appropriate construction management practices that cause the least nuisance to neighbours, to minimise the risk of injury to the public, to protect the property belonging to the Government and the local councils, and as much as possible to reduce the harm to the environment. These regulations shall have no bearing on the responsibilities related to construction sites emanating from other legislative instruments.

#### **4.7 Assessment and Management of Environment Noise Regulations (Subsidiary Legislation 549.37)**

These regulations provide the framework for the avoidance, prevention, or reduction of the adverse effects and annoyance resulting from exposure to environmental noise. These regulations transpose into Maltese Law the Environmental Noise Directive (END) (Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise).

#### **4.8 Flora, Fauna and Natural Habitats Protection Regulations (Subsidiary Legislation 549.44)**

These regulations contribute towards ensuring biodiversity in the territory of the Member States of the European Community through the conservation of natural habitats and of wild fauna and flora in the Maltese Island. Measures taken pursuant to these regulations shall be designed to maintain or restore, at favourable conservation status, natural habitats and

species of wild fauna and flora of Community interest, and shall take account of economic, social and cultural requirements and regional and local characteristics.

These regulations transpose the EU Nature Directives. S.L. 549.44 also provides for the implementation of, among others:

- Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora
- 2009/147/EC of 30 November 2009 on the Conservation of Wild Birds
- the Convention on Biological Diversity
- the Convention on the Conservation of European Wildlife and Natural Habitats
- the Convention on the Conservation of Migratory Species of Wild Animals
- the Protocol for Specially Protected Areas and Biological Diversity in the Mediterranean

#### **4.9 Environmental Impact Assessment Regulations (Subsidiary Legislation 549.46)**

These regulations transpose into Maltese Law:

- (i) the EIA Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification), as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014;
- (ii) the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) of the United Nations Economic Commission for Europe, and its First and Second Amendments; and
- (iii) provisions of Regulation (EU) No. 347/2013 of the European Parliament and the Council on guidelines for trans-European energy infrastructure, with regard to the co-ordination of environmental assessment procedures arising from the requirements of Council Directives 2014/52/EU, 92/43/EEC and other related Union legislation.

Section 3 of Schedule I of these regulations describes projects related to Energy Infrastructure which are deemed as requiring an Environmental Impact Assessment. A review of this Schedule does not show that the proposed Scheme falls within the remit of either Category I or II of this Schedule. Nonetheless, it is clarified that projects shall not be exempt from the provisions of these regulations on the premise that they are not explicitly or precisely specified, or that their title or description is different from that contained in this Schedule. Thus, in this instance and to avoid any doubt as to whether a project is covered by this Schedule, the precautionary principle shall be adopted and consultation with the competent Authority will be sought as clarification.

#### **4.10 Ambient Air Quality Regulations (Subsidiary Legislation 549.59)**

These regulations provide the framework, among other things, for the assessment of air quality, the ensuring of the accuracy of measurements, and the analysis of assessment

methods. They transpose into Maltese Law Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air and the Air Quality Directive (Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe).

#### **4.11 Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (Subsidiary Legislation 549.77)**

These regulations provide for the implementation in part of Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on Industrial Emissions (Integrated Pollution Prevention and Control). They also provide for the implementation of the Industrial Emissions (Framework) Regulations (S.L.549.76).

The proposed Scheme site is covered by an Integrated Pollution Prevention and Control (IPPC) permit. Refer to section 3.2 above. A Variation to the current IPPC permit shall be submitted to ERA to cater for these additional temporary generating plants.

#### **4.12 The Limitation of Emissions of Certain Pollutants into the Air from Medium Combustion Plants Regulations (SL 549.122)**

The purpose of these regulations is to limit the emissions to atmosphere from boilers and other stationary combustion plants with a rated thermal input (RTI) between 1-50 MW<sub>TH</sub> and covers all type of fuels. In effect, these regulations transpose the Medium Combustion Plant (MCP) Directive (EU 2015/2193) which was adopted in 2015. In view that the rated thermal input of each individual diesel engine-based unit is at 3.5MW, and since various such units shall be deployed resulting in a total thermal input of 150MW without the possibility of the stacks being aggregated, these regulations shall apply to the proposed Scheme.

It is to be noted that this regulation specifies that *“the competent authority may exempt new medium combustion plants which do not operate more than 500 operating hours per year (as a rolling average over a period of three years), from compliance with the emission limit value (ELV).”*

#### **4.13 Control of Major Accident Hazards Regulations (SL 424.19)**

This piece of legislation transposes the Directive 2012/18/EU of the European Parliament and of the Council dated 4 July 2012 on the control of major-accident hazards involving dangerous substances (also known as the Seveso III Directive). The objective of these regulations is aimed at preventing major accidents involving large quantities of dangerous substances while limiting the consequences of such accidents for human health and the environment.

In Malta, the COMAH competent authority is made up of the OHSA, the CPD and the ERA and it is entrusted with the implementation and enforcement of these regulations.

The Delimara Power Station is classified as an 'Upper Tier' Control of Major Accident Hazards (COMAH) site. Thus, the proposed Scheme shall be compliant with the 'Upper Tier' classification as defined in these regulations.

#### **4.14 Machinery Regulations (SL 427.36)**

These regulations provide the framework to ensure that all machinery, including sub-components and ancillary equipment are safe to operate and use and do not pose a risk to the person using\operating them. These regulations transpose into Maltese Law the Machinery Directive (Directive 2006/42/EC of the European Parliament and of the Council of 17<sup>th</sup> May 2006 relating to machinery).

#### **4.15 Assessment and Management of Environment Noise Regulations (SL 549.37)**

These regulations provide the framework for the avoidance, prevention, or reduction of the adverse effects and annoyance resulting from exposure to environmental noise. These regulations transpose into Maltese Law the Environmental Noise Directive (END) (Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise).

#### **4.16 Noise (Occupational)**

Noise: S.L. 424.28 Workplace (Minimum Health and Safety Requirements for the Protection of Workers from Risks resulting from Exposure to Noise) Regulations (OHSA).

#### **4.17 Workplace (Minimum Requirements for Work) (Confined Spaces and Spaces Having Explosive Atmospheres) Regulations (SL 424.27)**

These regulations establish the requirements for the protection of workers in confined spaces or in spaces having explosive atmospheres. They transpose into Maltese Law the ATEX 137 Directive (Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres).

#### **4.18 Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations (SL 427.39)**

These regulations are applicable to equipment and protective systems for use in potentially explosive atmospheres. The ATEX 95 Directive (Directive 2014/34/EU of the European

Parliament and the Council of 26 February 2014 harmonisation of the laws of the Member States relating to the equipment and protective systems intended for use in potentially explosive atmospheres) is transposed into Maltese Law through this legislation.

## 5.0 Alternative Technologies and Locations for the Project

### 5.1 Alternative Technologies Considered

For the purposes of this Scheme, Enemalta considered two (2) different technologies that can be easily implemented in a short period of time while making use of the available fuel types already in use by other power plants within the Delimara Power Station.

To this end, Enemalta carried out an assessment on Diesel Engine Based plants and Gas Turbine Based plants, with these two being the most viable types of prime movers for the proposed 60MW temporary emergency plant generators. An assessment was carried out by comparing a number of essential parameters of these two with each other in order to obtain a rank by order of priority of the most ideal technology that addresses the requirements of the proposed Scheme.

Item	Parameter	Diesel Engine Based	Gas Turbine Based
1	60MW Power Output	Can be achieved with multiple small gensets. Individual Gensets typically rated 0.8MW to 1.4MW.  Quantity of gensets required: 75 x 0.8MW units or 43 x 1.4MW units	Exact figure may not be achieved as individual gensets available are rated 25MW or 35MW.  Quantity required: 2 to 3 units
2	60MW Maintained in Summer	Normally genset output is maintained in summer conditions; alternatively, more gensets may be added to cover shortfall.	GT's output falls as ambient temperature increases. Will derate at high ambient temperatures. Part recovery by water injection for power augmentation.
3	Availability of gensets for power block	May be problematic having the number of gensets required for 60MW readily available and transported to site.	May be less problematic if contractor has 2 or 3 gensets not committed elsewhere.
4	Power Density	Needs a large area due to deployment of multiple small gensets.  Space may be limited within DPS for a setup based of 0.8MW units.	Needs a smaller area as 60MW is covered by 3 (25MW units) or 2 (35MW units). Should fit easily in space available at DPS.
5	Energy Conversion Efficiency	Typically, around 38% efficient.	Typically, 34% efficient, and efficiency lowers at high ambient temperatures.

Item	Parameter	Diesel Engine Based	Gas Turbine Based
6	Exhaust Gas emissions	High NOx and Dust emissions from the gensets.	Low NOx and very low dust emissions. NOx emissions can also be further reduced by DM water injection.
7	Noise	Individual gensets will be silenced to industrial standards to typically 74dB at 15m. Grouping them together will increase noise proportionally. For 20 gensets, increase in noise level may be up to 26dB i.e. reaching 100dB at 15m from site. With 2 sites operating simultaneously noise levels will increase even more.	GT enclosure will provide noise attenuation to typically 85dB at 1.0m from enclosure.
8	Connection to Grid	Requires multiple connection points as gensets deliver at 400V, and step-up transformers required to transmit at 33kV. Requires also 33kV switchboard to group gensets to the 2 Enemalta 33kV connections available.	Should require direct connections via step-up transformers to the 2 Enemalta 33kV connections. Will require 33kV CBs on power block side.
9	Redundancy	If 1 or a number of gensets fail to start, loss of capacity will be low.	Failure of start/trip of 1 genset will result in up to 50% loss of availability.
10	Onboard Fuel Storage	System will consist of a number of 'small' fuel tanks set adjacent to a group of gensets.	Having an onboard fuel storage tank(s) will entail an 400T storage tank for 1 days.
11	Startup Time	Fast startup time, typically 30sec from start command to FSNL (Full Speed No-Load).	Startup time typically 5 min to FSNL (Full Speed No-Load) if aeroderivative GTs are employed (normally the case).
12	Ground Preparation	Will require simple ground preparation to support the 20ft/40ft containers.	May require more complex ground preparation given that Genset package is made up of a number of enclosures that need to be aligned and kept aligned together
13	Overload capability	May allow 10% overload for 1hr every 12hrs on each genset.	Does not allow overload operation.
14	Rental Cost	Rental cost of diesel engines compared to gas turbines is	Rental cost may be high depending on genset availability on the market.

Item	Parameter	Diesel Engine Based	Gas Turbine Based
		estimated at 1.0:1.5, but depends on number available on the market.	

## 5.2 Alternative Locations Considered

Enemalta has explored and analysed alternative locations around the Maltese Islands that have the potential to allow for the installation of temporary emergency plants in the short term. For the purposes of having a total of 60MW generation capacity, Enemalta considered splitting this capacity into 3 x 20MW or 2 x 30MW in order to be in a position to site such emergency plants in more than one location, with a view of enhancing the choice of sites and eliminate potential risks and delays in the timely implementation and commissioning of such generation facilities.

Risks identified include:

- i. Sites not close to major electrical infrastructure nodes – this would require extensive additional civil works in order to lay cable from the generation point to the connecting point with the electricity grid.
- ii. Sites not yet committed for industrial use thus compromising further land.
- iii. Procurement and implementation delays.
- iv. Unavailability of genset equipment and ancillary material readily available on the market.
- v. Delays in securing rights and/or titles over potential sites.
- vi. Delays in obtaining necessary planning and operational permits for the project's deployment, installation, and operation.

For the purposes of site analysis, the following criteria were deemed to be relevant:

- Accessibility to the electrical infrastructure and transmission facilities
- Site extents and size
- Zoning of the area – site should be away from residential and touristic areas, and free from archaeological deposits, agricultural activity and sensitive ecological areas
- Local Plan policies
- Location vis-à-vis other site installations
- Site Limitations
- Visual Impact
- Known structural capabilities and/or limitations
- Ease of accessibility
- Technical limitations and restrictions
- Adequate circulation space
- Interference with known existing infrastructure

To this end, a minimum of four (4) potential sites were identified and assessed, whereby Enemalta analysed and compared these sites against a set of criteria and listed the advantages and disadvantages of each site separately.

Site	Location	Advantages	Disadvantages
1	Marsa Power Station	<p>Site already owned by Enemalta.</p> <p>Site is immediately adjacent to Marsa North Distribution Centre.</p> <p>Space is available to deploy the required amounts of genset equipment.</p> <p>Foundations of the decommissioned and demolished former 'B' station are still in place and can sustain the expected imposed loads.</p>	<p>Site has a potential for redevelopment.</p> <p>Site is located within the Grand Harbour, which is Scheduled as an <i>Area of High Landscape Value of the Harbour Fortifications</i>.</p> <p>May be objectionable from a visual and social point of view.</p> <p>May have adverse impacts on the community close by.</p>
2	Hal Far	<p>Site is immediately adjacent to Hal Far Distribution Centre.</p> <p>Medium strong to weak geology, suitable for the expected imposed loads.</p> <p>Industrial Area.</p>	<p>Site is located Outside Development Zone (ODZ).</p> <p>Site is located in a Natura 2000 Site (Wied Znuber), Special Protection Area MT0000033.</p> <p>Avifauna – site is in proximity to nesting ground for vulnerable seabirds (Yelkouan Shearwater and Scopoli's Shearwater).</p> <p>Development Permit Application deemed to be objectionable from an environmental point of view.</p> <p>Hal Far DC is normally unmanned.</p>
3	Maghtab	<p>Site already owned by Enemalta.</p> <p>Located immediately adjacent to Maghtab Terminal Station.</p>	<p>Site is located Outside Development Zone (ODZ).</p> <p>Development Permit Application deemed to be objectionable from an environmental point of view.</p> <p>Sensitive receptors may be in close proximity.</p> <p>Area may be reserved for alternative future use.</p> <p>Requires the storage of fuel on site and transportation of fuel volumes required by plant .</p>

Site	Location	Advantages	Disadvantages
			Maghtab Terminal Station is normally unmanned.
4	Delimara Power Station	<p>Site already owned by Enemalta.</p> <p>Site has a history for generation of electricity.</p> <p>Can be immediately connected with network grid without much civil works.</p> <p>Fuel is available on site for other permitted generation plants.</p> <p>Already covered by an IPPC</p> <p>Space is readily available.</p> <p>Delimara Power Station is an operation power station with personnel available on-site 24/7.</p>	<p>Site used for temporary plant will take up space for permanent installations.</p> <p>Part of the site is located on reclaimed land – may need reinforcement or stabilisation to sustain imposed loads.</p>

The proposed Scheme site was deemed as the most suitable site and selected for this project in view that it fulfils the main criteria outlined above, and provides a number of advantages, mainly the following:

- **Size:** the size of some of the alternative sites did not have adequate space for the installation of the numerous components needed
- **Ownership:** Enemalta, as the local DSO, already has a title over this site
- **Nature of Site:** being within the Delimara Power Station, the site is already committed for industrial use, particularly energy related.
- **Layout:** the layout of the site being considered is adequate for the installation of modular components
- **Permitting:** it is contemplated that the Competent Authorities would consider any development applications or other permitting applications as favourable in view of the sites being within the Delimara Power Station.
- **Network:** Being one of the main hubs within the electricity network, it is deemed that connecting with the electricity network would require minimal disruption to existing roads in the form of trenching.

Considering the environmental, social, economic and technical issues, the proposed Scheme site(s) within Delimara power station is deemed to satisfy the abovementioned criteria and an adequate location for the development of the proposed temporary project.

## 6.0 Technical Description of the Project

### 6.1 Technology Adopted

Two (2) technologies were considered for the development of this emergency plant, as detailed in Section 5.1 above. Considering the purpose and the nature of the development, that is:

- temporary in nature
- to be used for limited durations in case of emergencies only
- immediate need for implementation of the project
- ease of deployment of such technology
- increased redundancy in case of unit malfunction
- rapid start-up time in emergency situations

the developer opted to use the diesel-based generator sets. In summary, a diesel-based generator set consists of a diesel engine and an alternator which is used to convert chemical energy into heat energy through a combustion engine; into mechanical energy that spins the alternator, converting the mechanical energy into electrical energy through the phenomenon of electromagnetic induction.



**Figure 21:** Energy conversion in Diesel Engine based Gensets

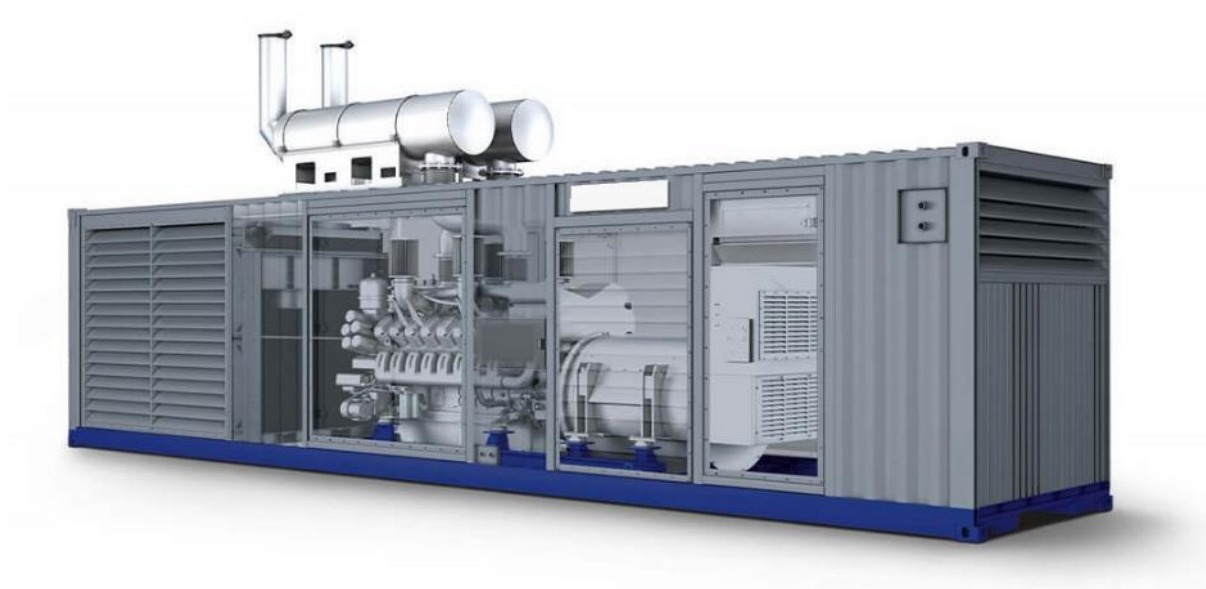
### 6.2 Size, Scale and Design of the Project

The installation of the temporary emergency plant will be located in two sites in close proximity to each other. Each site will be capable of generating a total of 30MW in electricity at any instance, provided that all the gensets are brought online and operational.

#### 6.2.1 Typical system components

Each 30MWe system will be composed of generators including their prime movers and excitation systems, local fuel storage, step-up power transformers, gas or air-insulated switchgear, high voltage cables connecting the various components with each other, control and protection systems, data management systems, and any other item of plant deemed necessary for the proper and safe control and operation of the complete power plant.

For the purposes of this installation, the developer is proposing the use of modular components made up of portable equipment to ease the installation, reduce site works, reduce environmental impact, ease deployment, expedite the commissioning of such a system, allow site reinstatement once decommissioned, and cut operating costs. In this regard, 40-foot mobile containerized generators are deemed to be as the ideal solution for this purpose.



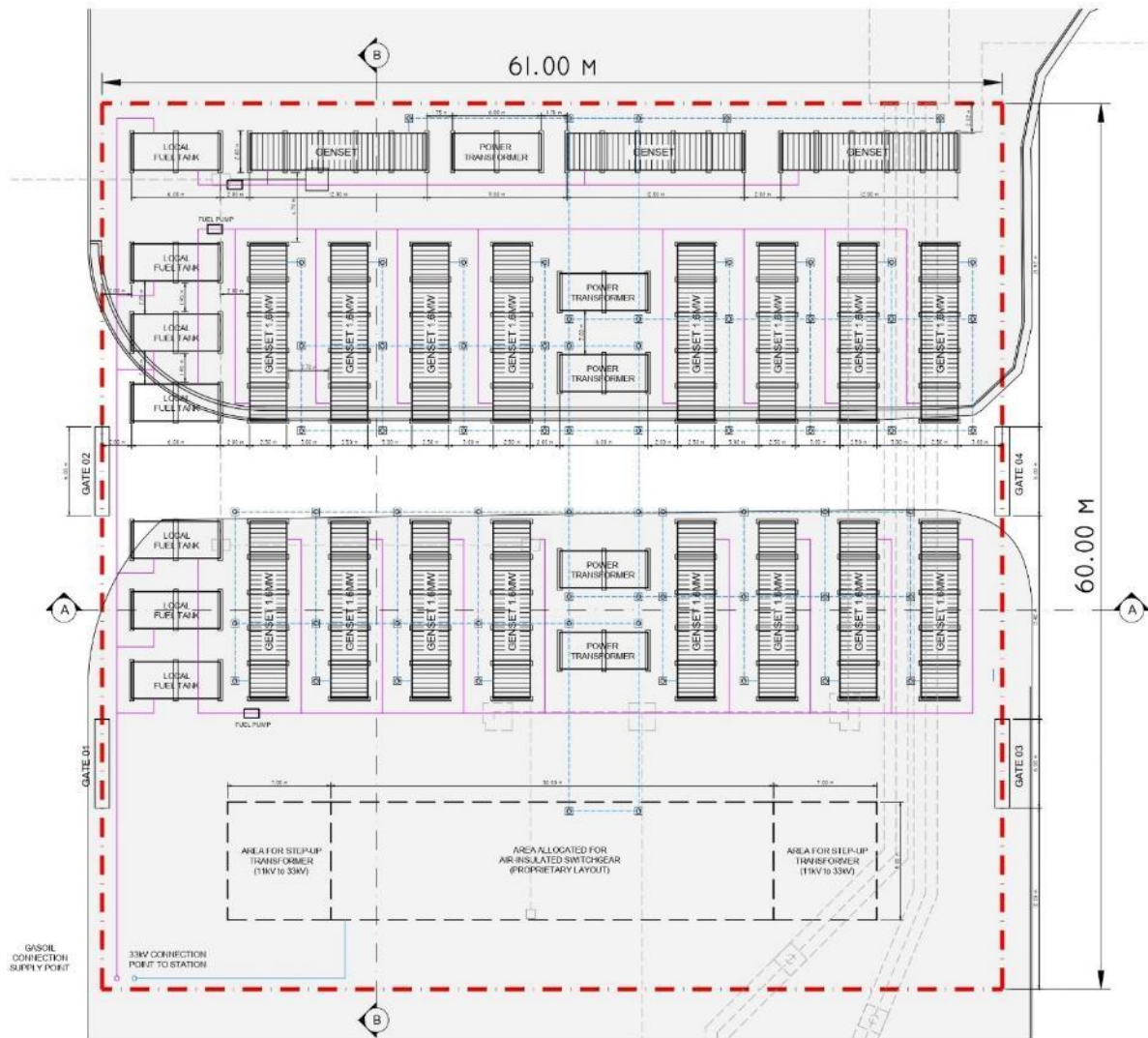
**Figure 22:** Typical 40ft containerised genset solution

A typical containerised solution for a diesel based containerised generator is shown in **Figure 22** above. These standard ISO containers include sound attenuated enclosures to reduce generated noise to the surrounding areas. These enclosures are usually made up of steel, with the cabin equipped with corrosion protection and mounted on anti-vibrating systems.

#### 6.2.2 General Arrangement layouts

Indicative general arrangement layouts for Site 01 and Site 02 are shown in **Figure 23** and **Figure 24** respectively.

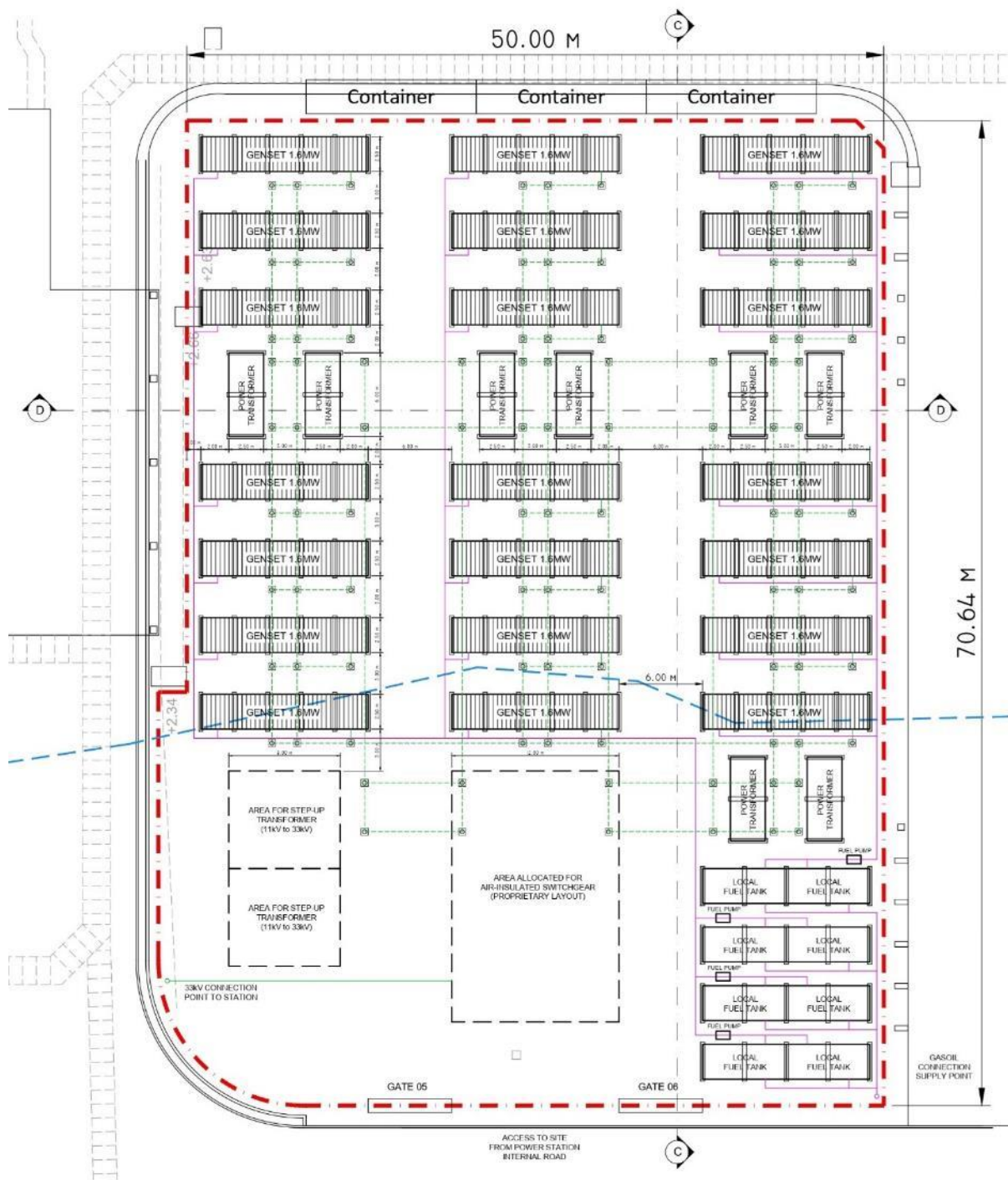
The final solution for the design and general arrangement layouts of the plant will be determined in due course, once the detailed analysis and design of the facility are concluded following the completion selection of the EPC contractor engaged through an open procedure. Additionally, more detailed surveys and field investigations may need to be undertaken in order to provide necessary design data.



**Figure 23:** Indicative general arrangement layout of Scheme within Site 01

Reviewing the existing typical gensets in the industry, it is expected that the output of one particular genset is capable of generating 1.6MW electric power. Considering the need to scale up to 30MWe, a minimum of nineteen (19) units are deemed as a minimum requirement for each of Site 01 and Site 02, with the associated ancillary equipment.

Once electricity is generated by the genset, power generated at 400V is transferred to the step-up transformers such that the voltage can be converted to higher voltages – in this proposed Scheme, the emergency generation power plant will be connected to the Enemalta electricity grid at 33kV level via two 33kV connections.



**Figure 24:** Indicative general arrangement layout of Scheme within Site 02

### 6.2.3 Fuel

The power plant will be fuelled by gasoil which will be made available at the sites.

The liquid fuel that shall be made available to the power plant shall be gasoil (No. 2 Diesel) complying with the EN590 specification. This type of fuel is already available on site; however,

minor extensions or modifications will be required to the existing fuel pipelines in order to extend or make available a connection point to both of the two proposed sites earmarked for this Scheme.

Local fuel tanks will be made available and connected with fuel pumps with the gensets. Fuel in the tanks will be directed towards the generators in the event that this temporary emergency power plant is dispatched as a last resort. The technical specifications of the tanks are not known at this time.

For security of having sufficient fuel supply for continued operation in cases of emergency and/or in the event that supply is not immediately available from the station's fuel tanks, the Scheme will be equipped with a minimum of one (1) day storage of fuel on site.

All fuel tanks shall have appropriate bunds to contain any fuel that leaks out of these tanks.

#### *6.2.4 Connection Voltage and Operating Frequency*

The proposed emergency power plant will be connected to the Delimara Power Station electricity grid by two (2) connections operating at 33kV.

#### *6.2.5 Connection Cables*

Two (2) cables shall be used to connect the new temporary emergency plant with the existing 33kV GIS switchgear rooms within the station, one for Site 01 and one for Site 02. Each cable will be terminated in a separate circuit breaker such that in the event of a failure of a cable, the other trefoil assembly can be used to export half the power of the power plant.

#### *6.2.6 Security Fence*

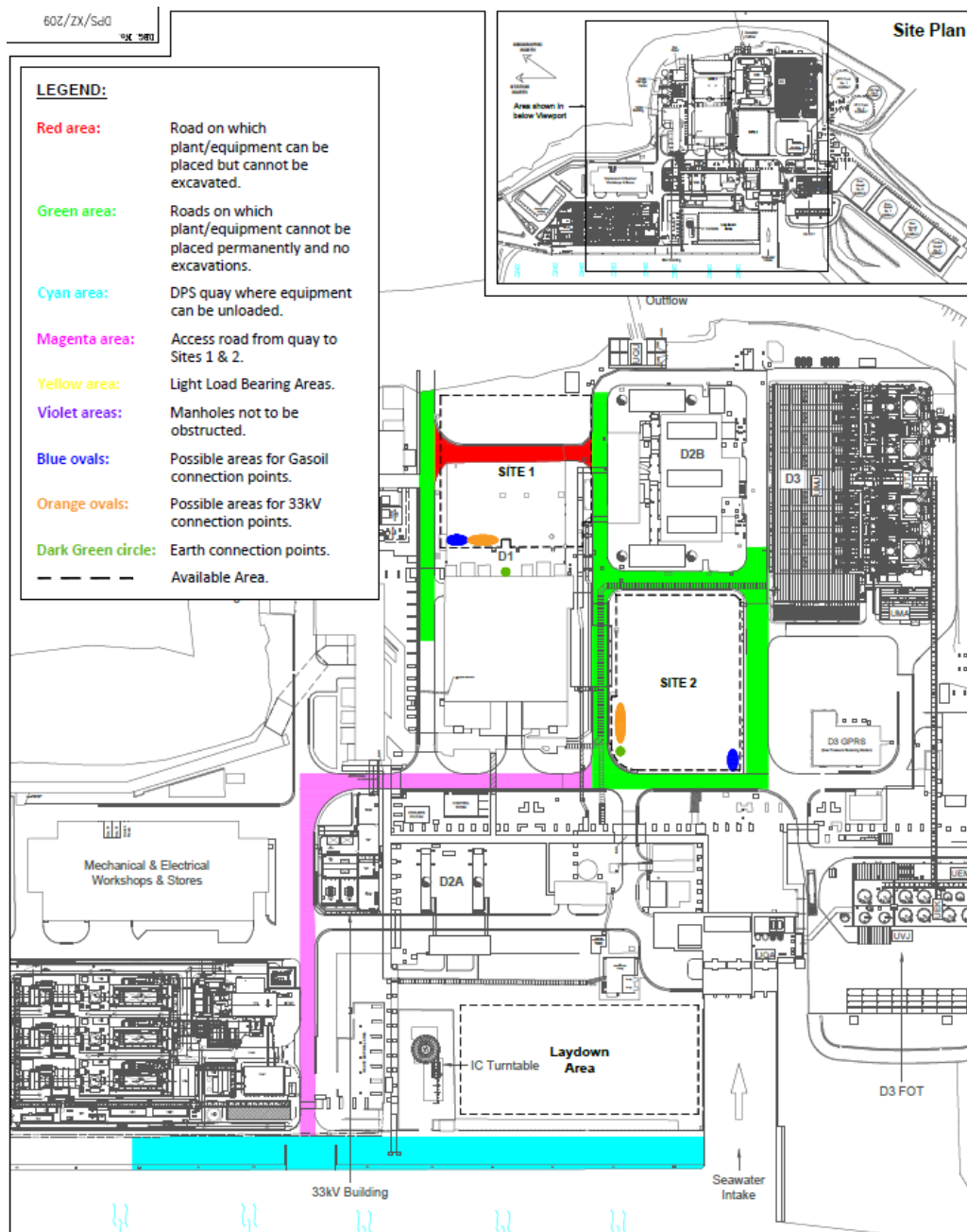
For the purpose of keeping the plant and equipment in a secure manner, security fencing will be erected around the perimeter of each of the sites, with access gates of adequate size and located at appropriate locations to enable the delivery of equipment and machinery, to allow access for operation and maintenance purposes.

#### *6.2.1 Temporary site storage and ancillary facilities*

During the erection, installation and dismantling phase, parts of the unused areas of the Delimara Power Station may be allocated to the prospective Contractor for storage of his plant and equipment. However, once the plants are commissioned and operational/stand-by mode, the temporary storage sites will be cleared from any redundant machinery and material and returned to the original *ante-operam* conditions.

For the duration of the construction and installation phase, the appointed Contractor will erect the necessary temporary structures for site office accommodation and ablution facilities for

the site workers and staff. These will be temporary, demountable and removable structures which shall serve the purpose of providing an adequate working environment for the project execution phase only and will be removed from the site once the project is commissioned.



**Figure 25:** Proposed Scheme sites in relation to station's internal road network, quay and other plant.

### 6.3 Duration of the Project

The temporary emergency generation plant is expected to be in place until such time that a more permanent electricity generation plant and, or import facility has been installed, commissioned and becomes operational to make such temporary emergency plant redundant.

It is expected that the project will not exceed the duration of five (5) years from commissioning date.

## **6.4 Interaction with other Plant**

No cumulation, interaction or interference with other projects is envisaged by this project.

## **6.5 Safety and Risk**

### *6.5.1 Risk Assessment and Safety Report*

The current Safety Report as required by COMAH regulations will be updated to refer to the generating plant.

Risks with potential for major Accident to be considered are generally conventional and similar to existing site risks i.e. principally Fire and Fuel spillage,

The specific Risk assessments will be carried out together with operator responsible.

### *6.5.2 Safety measures*

Safety measures envisaged will be aimed at reducing risk to personnel and third parties as well as the environment. Detail of control measures depend on the exact type of plant selected which is currently open.

Apart from compliance with all applicable regulations, measures will be implemented to reduce the risk also to existing plant such as fire separation, fire detection and appropriate fire-fighting installations.

### *6.5.3 Environmental and Safety procedures*

Delimara Power Station is certified to ISO 14001. As such comprehensive procedures for Safety and Environmental compliance are in place and regularly reviewed and audited. This also applies to suppliers and service providers inside the plant.

## 7.0 Indicative Timing of the Project

A project timeline is presented in **Table 13** below. The timeframes provided are indicative only and are based on a number of assumptions including the duration of regulatory planning process, the approval of the application and procurement procedures. These may change in accordance with specific processing of particular permit applications and availability of equipment and material to be procured for the setting up of the Temporary Emergency Plant.

Description	Indicative Timeline
Screening by ERA	Q4 2023
Preliminary Design and Configuration Layout	
Publication of EPC Tender	
Application and approval of Development Permit with Planning Authority	Q1 2024
Application with REWS	
Application with ERA (IPPC Permit Update)	
Award of EPC tender	Q2 2024
Detailed Engineering by Contractor	
Delivery of material	
Civil Works	
Erection of Power Block DPS	
Install Fuel Supply System	
Lay 33kV cables & Terminate DPS	Q3 2024
Testing and Commissioning	

**Table 13:** Indicative Project Timeline

## **8.0 Number of employees in Each Phase of Development**

### *8.1.1 Installation Phase*

At this early stage, it is not possible to give details of the number of contractor employees who shall be engaged during the construction and testing phases of the project. This shall be determined at a later stage.

### *8.1.2 Operational Phase*

At this early stage, it is not possible to give details of the number of contractor employees who shall be engaged during the operational phase of the project. This shall be determined at a later stage.

## 9.0 Waste Management and Emissions during the Installation and Operation Phases

### 9.1 Waste Management

Excavation is expected to be minimal, if any, in order to reduce the excavation waste generated by this project. Furthermore, civil works are expected to be marginal, with any inert waste considered as negligible.

Given that the various units will be manufactured off-site and only brought to the site in a finished or semi-finished manner, it is expected that on-site procedures will only involve assembly and interconnection. Thus, it is expected that waste generated on-site during the installation phase will be limited in quantity. However, the project might give rise to wastes generated by the plant during its installation and operational phase. Such waste can be solid wastes or waste oils.

Any solid wastes which can be generated will be disposed of during both installation and operation phase. However, if the solid waste to be disposed of contains material or substances which are classified as hazardous waste (according to Directive 2008/98/EC), such substances and quantities will be highlighted, appropriate measures identified, and handling will be carried out in accordance with relevant legislative procedures.

If waste oils are produced by the plant installed, all the necessary arrangements will be put in place to ensure the proper disposal of such waste oils. Such arrangements, handling and disposal of waste oils will be done in agreement with the Competent Authority. Details of the physical properties, composition and quantities of any such waste oils will be submitted once these are known (if any).

### 9.2 Odour emissions

The project is similar to exiting plant already operating at the Delimara Power Station, so no specific odour emissions are expected.

### 9.3 Noise emissions

The level of significance is determined in relation to the magnitude of possible impact together with the sensitivity of the noise sensitive receptor. There are different sensitivities for Noise Sensitive Receptors, and these can be grouped within three (3) different levels: high, medium and low, as described in **Table 14** below.

Sensitivity	Description of NSRs
High	Receptors where people or operations are vulnerable to noise, such as: Residential, Recreational Areas,

	Educational Institutions, Hospitals, Homes for the elderly, Places of worship.
Medium	Receptors are moderately sensitive to noise, if it causes some distraction or disturbance, such as: Offices, Bars/Cafes/Restaurant.
Low	Receptors where distraction or disturbance from noise is minimal, such as: Night Clubs, Sports Ground, Factories.

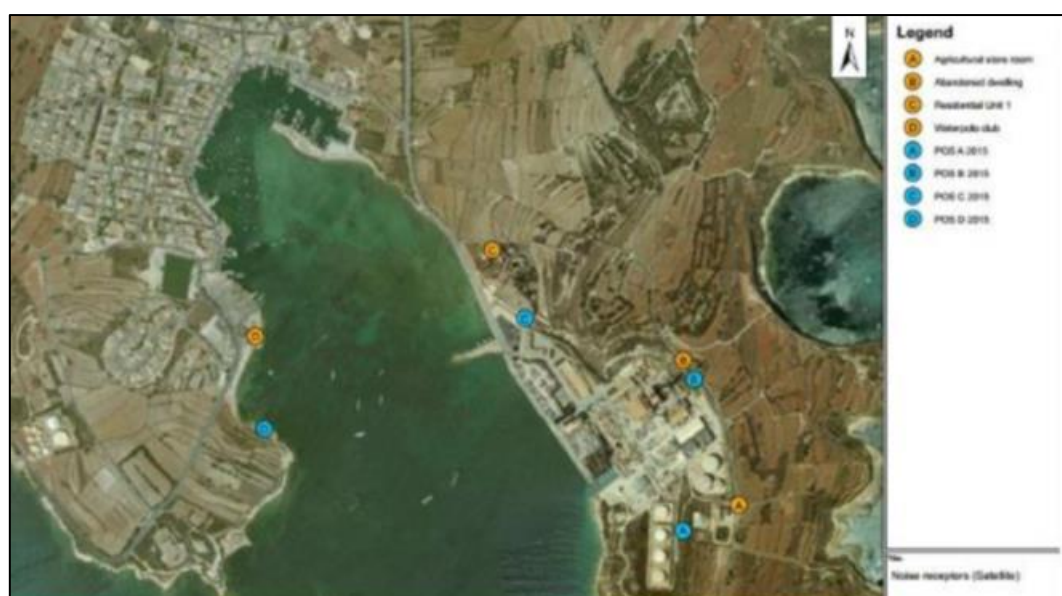
**Table 14:** Level of Sensitivity Associated with Various Noise Sensitive Receptors (NSRs)

In turn, the noise generated by the operation of the installed plant can be classified in accordance with the magnitude level when compared with the background noise level, which can be classified from negligible to major adverse impact magnitude.

The noise sensitive receptors identified in previous studies in close proximity to Delimara Power Station, as provided by the Competent Authority, are detailed in the **Table 15** below and marked on **Figure 26**.

Noise Sensitive Receptor	Use	Eastings	Northings
NSR01	Agricultural	14°33'32.0"E	35°49'52.8"N
NSR02	Agricultural Dwelling	14°33'27.7"E	35°50'04.2"N
NSR03	Residential Unit 1	14°33'08.3"E	35°50'11.5"N
NSR04	Waterpolo Club	14°32'44.4"E	35°50'06.1"N
NSR05	Position A	14°33'26.4"E	35°49'50.3"N
NSR06	Position B	14°33'28.4"E	35°50'02.7"N
NSR07	Position C	14°33'10.1"E	35°50'07.5"N
NSR08	Position D	14°32'45.3"E	35°49'58.8"N

**Table 15:** Noise Sensitive Receptors (NCRs) as identified by the Competent Authority



**Figure 26:** Map showing location of noise sensitive receptors from previous studies

Any noise generated during the construction and installation phase are deemed to be temporary, short-term and low in amplitude. To mitigate these impacts, the works during the construction phase will be required to abide with the Environmental Management Construction Site Regulations.

During the operation stage, the diesel engines are expected to generate noise. However, each individual diesel generator unit will be individually placed in noise suppression enclosures to reduce generated noise to the surrounding areas.

It is expected that the combined noise emitted by the gensets when in full operation will be around 100dB at 15m from each site.

## **10.0 Access and Parking Requirements**

### **10.1 Access**

Access to site shall be attained through the main gate at Delimara Power Station using the internal road network and quay within the station.

As per IPPC 0002/21 conditions for the Delimara Power Station, site security systems are implemented at all times to prevent access which is not authorised either by the Permit Holder(s) or under legal powers of entry.

During the construction phase, access shall be required for the construction, installation, testing and operational phases.

Following the construction and installation of the project, access to the emergency generation plant station within Delimara Power Station shall be limited to authorised personnel for maintenance, inspection and operation purposes only. It is expected that the personnel operating the plant will be on stand-by mode and operate the plant only in emergency situations for a limited amounts of hours in any one year.

The proposal does not warrant alternative arrangements in terms of transport.

Furthermore, no visitors are expected to visit the site except for Enemalta authorised personnel. The existing access arrangements will remain unchanged.

### **10.2 Parking**

Parking provisions are already provided for:

- i. within the Delimara Power Station;
- ii. in the car park just outside of the main entry gate;
- iii. as on-street parking in Triq il-Power Station.

No additional parking requirements are considered necessary for the duration of the installation, commissioning and operational phases of this facility. The abovementioned parking facilities are deemed sufficient for all phases of this project.

### **10.3 Effect on Road Network**

The existing infrastructure can adequately accommodate the construction vehicles and the delivery or equipment on site.

No significant additional traffic is being anticipated to and from the site. Thus, the Scheme will not cause capacity issues or any noticeable impact on the existing road network leading to the site.

## 11.0 List of major environmental impacts and mitigation measures

Notwithstanding the fact that the proposal is deemed to be an acceptable use, the proposal would only be considered favourably if it does not give rise to overriding adverse impacts.

The potential for adverse environmental impacts associated with similar diesel generator power plants are being identified in this report. Adequate mitigation measures to address such impacts will also be listed.

The potential impacts also provided a basis for comparison between the existing conditions and the new conditions established during the operation of the Scheme.

### 11.1 Impact Assessment Criteria

Different criteria were used for the different impact identified at this stage of the project. The criteria used to assess the impacts are the following:

- Project phase
  - **Construction Phase** – occurs during the construction/installation phase only.
  - **Operational Phase** – occurs during the operational phase only.
- Extent of effect
  - **Widespread** – Impact is expected to affect in the entire area of study and/or may extend beyond the boundaries of direct intervention into adjacent areas.
  - **Localised** – Impact is expected to affect receptors in the immediate vicinity of its source.
- Duration
  - **Permanent** – Impact would still be detectable following decommissioning of project.
  - **Temporary** – Impact would persist throughout the phase of project under consideration only.
- Type of Impact
  - **Beneficial** – A positive effect on the sustainability of the resource under consideration, which are distinguishable from background fluctuations.
  - **Adverse** – A negative effect on the sustainability of the resource under consideration, which are distinguishable from background fluctuations.
- Reversibility
  - **Reversible** – The state of the resource is expected to return to baseline state following cessation of the source of impact.

- **Irreversible** – The state of the resource is not expected to return to baseline state following cessation of the source of impact.
- Probability of occurrence
  - **Inevitable** – Impact will occur irrespective of any mitigation measures taken.
  - **Likely** – Impact may occur despite the implementation of mitigation measures.
  - **Unlikely** – Impact would only occur in cases of major mitigation failure.
  - **Remote** – Impact would only occur in exceptional circumstances.
  - **Uncertain** – Probability of impact cannot be predicted reliably due to missing information or unknown factors.
- Impact Significance
  - **Significant** – Will affect keystone and/or protected species and/or habitats
  - **Non-significant** – Will not affect any keystone and/or protected species and/or habitats.

## 11.2 Impacts and Mitigation Measures

A preliminary list of the potential environmental impacts arising from the project is shown in table below.

Features Potentially Impacted	Description of Potential Impact	Mitigation Measures
Land cover and land use	Existing land use with the power station site extents is not expected to be heavily impacted. Heavy construction practices are not envisaged in this Scheme. Additionally, the type of installation allows ease of reversibility once Scheme is decommissioned.  Thus, impacts on land use are deemed to be localised, temporary, reversible and non-significant.	None required.
Sea use	No sea use impacts are expected to be generated with the proposed project.  Thus, impacts on sea use are deemed to be non-existing.	None required.
Marine Environment	No impact to the marine environment is foreseen given that works will be carried out on a terrestrial site already earmarked for electrical infrastructure	Coverage of stockpiles to reduce dust emissions.  Dust suppression techniques should be implemented

Features Potentially Impacted	Description of Potential Impact	Mitigation Measures
	<p>and no offshore activities will be carried out.</p> <p>Thus, impacts on sea use are deemed to be non-existing.</p>	during dust generating activities.
Terrestrial Ecology	<p>No impact to terrestrial ecology expected since all works shall be carried out within an area allocated for industrial uses.</p> <p>The light generated from the Temporary Generation Power Plant during the installation and operational phases are expected to be negligible, even more when compared to the current situation at Delimara Power Station. Therefore, it is not expected to impact the respective Noise Sensitive Receptors.</p> <p>Thus, impacts on terrestrial ecology due to artificial lighting are deemed to be localised, short-term, temporary, reversible and non-significant.</p>	<p>Limiting nighttime construction and installation activities and reducing light pollution (if possible).</p> <p>Additionally, downward facing luminaires should be installed within the facility to reduce light pollution during the operational phase and shall be limited to the safe operation of the facility. Avoiding floodlights, where possible.</p> <p>If deemed feasible, intelligent lighting solutions may be considered.</p>
Agriculture	No impact on agriculture from the proposed development.	<p>Dust suppression techniques should be implemented during dust generating activities (if any) and all stockpiles should be kept covered when not in use to avoid spread of dust to sensitive receptors.</p> <p>ERA to be informed of the project.</p>
Cultural Heritage	No impact to known onshore cultural heritage objects is expected from the proposed development.	<p>None expected.</p> <p>Superintendent of Cultural Heritage (SCH) to be informed of the project.</p>
Geology, Geomorphology,	The proposed development will not be having any significant impact on the	Spillages from equipment, machinery and installation

Features Potentially Impacted	Description of Potential Impact	Mitigation Measures
Hydrology, Hydrogeology	<p>geo-environment of the area, since no heavy construction and excavation works are required.</p> <p>The project involves the use of circa 3,660m<sup>2</sup> and 3,150 m<sup>2</sup> for Site 01 and 02 respectively. Site 01 has already been used in the past for power generation with the foundations of the decommissioned plant still in place.</p> <p>No contamination of groundwater is expected as a result of the operation of the proposed installation.</p> <p>However, any impacts due to spillages during both the construction and operational phase are deemed to be localised, long-term, permanent, and adverse although probability of occurrence is deemed as remote.</p>	<p>components should be avoided by storing wastes, chemicals, fuels and hazardous consumables in adequate and bunded areas within the construction site or in specified area within the extents of Delimara Power Station.</p> <p>All machinery and equipment should be contained to reduce the likelihood of leakages occurring. Spill kits should be provided onsite to deal with any accidental spillages promptly.</p>
Landscape character and visual amenity	<p>Slight increase in the industrial elements within the Delimara peninsula, caused by the placement of diesel genets and ancillary equipment within the proposed sites.</p> <p>No significant impacts on the landscape and visual amenity of the area are expected. All works will be carried out within an already industrial site dedicated to energy generation and distribution.</p>	None expected.
Air quality	During the construction phase, the numerous activities will inevitably result in the generation of dust.	Environmentally sound construction practices should be applied throughout the construction phase as in line with S.L. 435.79. Dust suppression techniques should be implemented during dust generating activities.

Features Potentially Impacted	Description of Potential Impact	Mitigation Measures
	<p>The emission of NOx resulting from the combustion of diesel will be released in the air from the genset's individual stacks.</p> <p>The impact from this during the operational phase is deemed to be adverse, localised and temporary for the duration of operation of the plant.</p>	Limit the operational hours of the plant to not more than 500 operating hours per year.
Noise	Temporary and short-term noise may be generated during construction phase of the Scheme. However, the adverse impact is deemed to be of minor significance in view of the industrial nature of the surrounding area.	Good construction practices should be applied through the construction phase as in line with S.L. 552.09. Specific measures include restricting working hours to designated hours and switching off machinery when not in use.
	During the operation phase, being grouped together in both sites, the gensets are expected to increase noise proportionally. Albeit localised, this adverse impact is expected to be significant and inevitable, particularly in view of the close proximity to NSR02, NSR06 and personnel within the power station control room.	<p>Consideration should be given to noise emissions when selecting plant and equipment.</p> <p>Ensure noise suppression systems are incorporated in the individual gensets.</p>
Waste Management	During the construction phase, the transport of material to and from the site may be a nuisance to local residents and businesses. However, this impact during the construction phase is deemed non-significant and temporary.	<p>Good construction practices (S.L. 552.09) should be implemented to ensure that waste is stored and managed on site in an appropriate manner before being transported to a registered waste disposal site.</p> <p>Compliance with all relevant waste management regulations and the adoption of best practice in relation to both construction and operational waste management.</p>

Features Potentially Impacted	Description of Potential Impact	Mitigation Measures
		Where possible any waste material will be re-used on site to limit the volumes of waste that needs to be disposed of.
Transport	<p>Additional trips on the local transportation network during construction and commissioning phase.</p> <p>This adverse impact is deemed to be temporary and non-significant particularly in view of the short period of time expected for the installation phase.</p>	None required.

## **Annex C: Attachments to permit application**

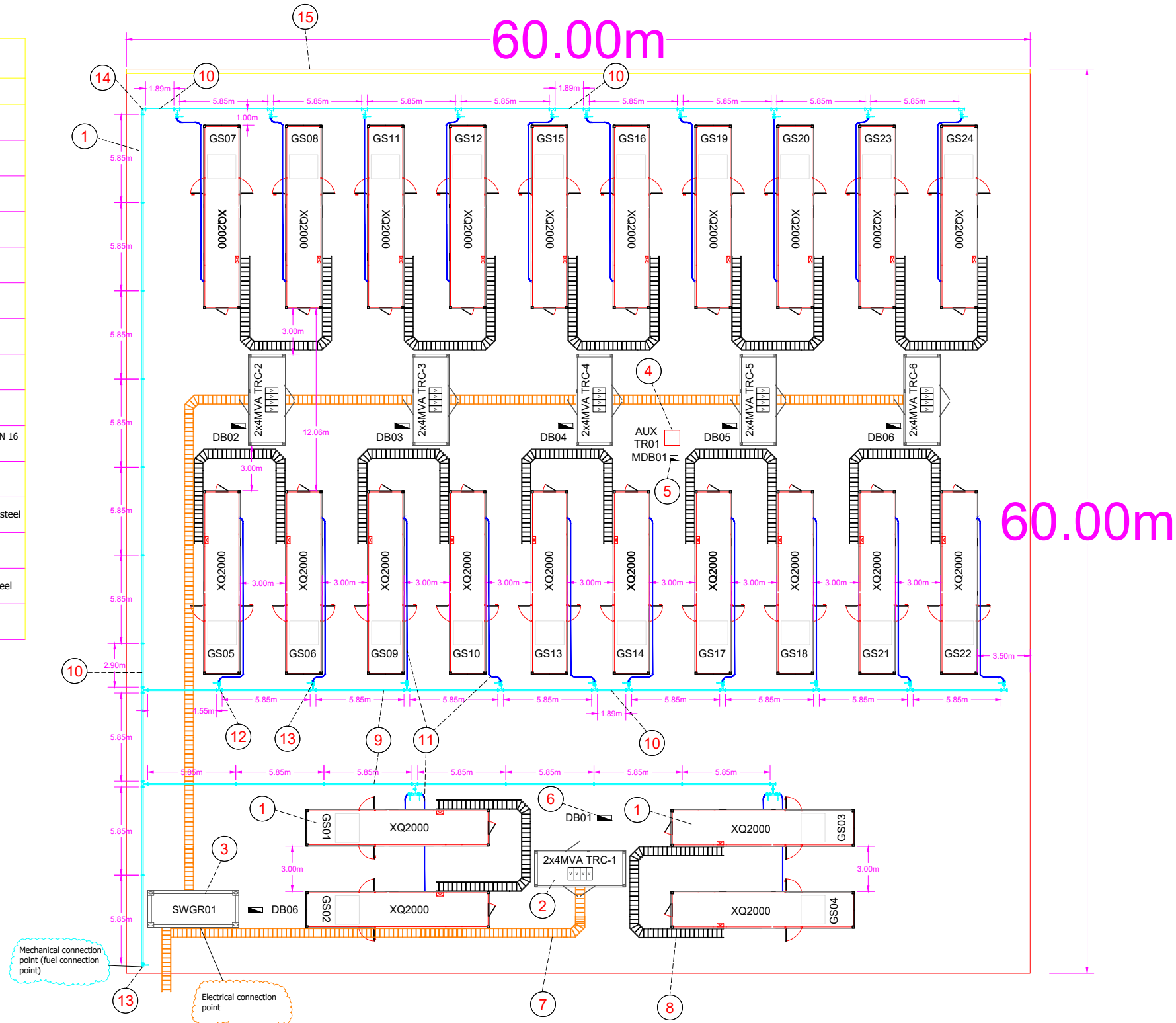
## **Attachment 01 & 57 – Technically Competent Person**

## **Attachment 02 & 46: Plans & Plant Specifications**



# SITE 1

LEGEND	
Nm	DESCRIPTION
1	GS01-GS24 - Diesel Generator Set XQ2000
2	TRC1-TRC7 - Transformer Container Set 2x4MVA, 0.4/33kV, 50Hz + MV RMU
3	SWGR01 - MV Switchgear, 33kV, 2500A
4	AUXTR01 - Auxiliary Transformer 0.4/0.4 kV
5	MDB01 - LV AUX Main Distribution Board
6	DB01-DB06 - LV AUX Distribution Boards
7	MV Cable Ladders
8	LV Cable Ladders
9	Fuel Pipe 3" x 5.85m with DN80 PN 16 flanges - Carbon steel
10	Fuel Pipe 3" x VARIABLE lengths with DN80 PN 16 flanges - Flexible (Rubber) or Carbon steel
11	Flexible armed xx" fuel hoses 15m
12	3" to 3" T Piece with PN 16 flanges - Carbon steel
13	3" Ball Valve with PN 16 flanges
14	3" 90° elbow with PN 16 flanges - Carbon steel
15	Barrier (landslide protection)



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## NOTE:

**SITE 1 - 30MW@33kV,50Hz**  
**DIESEL GENERATOR SETS:**

- 24 x XQ2000; 0.4kV; 50Hz; 1.4MW; 0.8PF

**TRANSFORMER CONTAINERS with MV RMU:**

- 6 x (2 x 4 MVA); connected and tap changer adjusted for 33kV@50Hz operating voltage.

**SWITCHGEAR CONTAINERS:**

- 1 x (2500A, 36kV used 33kV@50Hz)

**SITE 2 - 30MW@33kV,50Hz**  
**DIESEL GENERATOR SETS:**

- 24 x XQ2000; 0.4kV; 50Hz; 1.4MW; 0.8PF

**TRANSFORMER CONTAINERS with MV RMU:**

- 6 x (2 x 4 MVA); connected and tap changer adjusted for 33kV@50Hz operating voltage.

**SWITCHGEAR CONTAINERS:**

- 1 x (2500A, 36kV used 33kV@50Hz)

## REVISION HISTORY

REV.	DESCRIPTION	DATE
A	Preliminary	09-02-2024
B	Response on ENEMALTA letter dated 25-03-2024	27-03-2024
C	Mobilization	17-04-2024
D		
E		

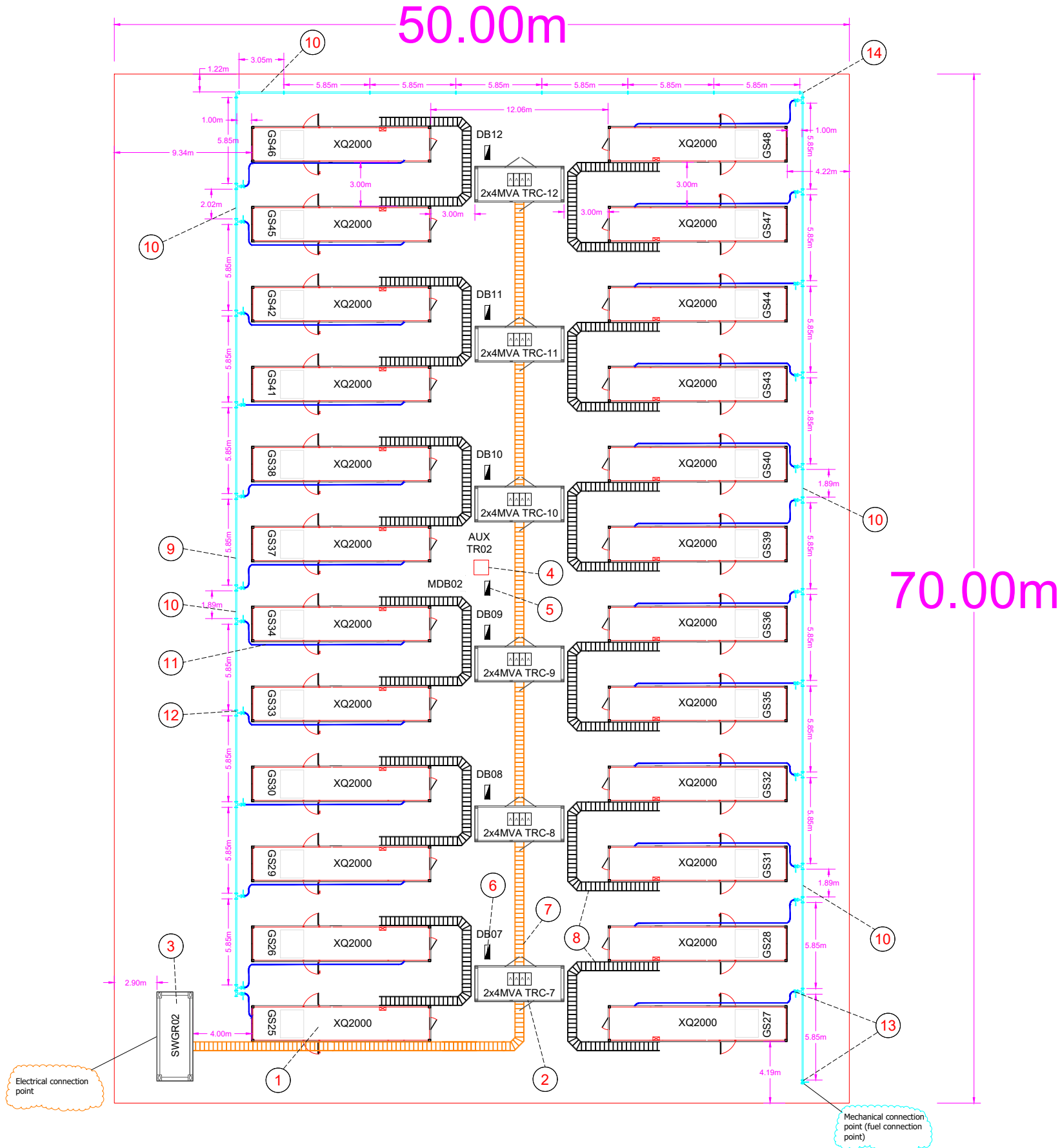
DRAWN BY:	DATE:	PLOT SCALE:
Raju Jacob	09-02-2024	1:1
CHECKED BY:	DATE:	DWG. SCALE:
Francisco Mateos	09-02-2024	NTS
APPROVED BY:	DATE:	PAPER SIZE:
Dragan Milic	09-02-2024	A3

PROJECT LOCATION:	Delimara Power Station, Malta	
DRAWING TITLE:	60 MW/33 kV @50Hz - SITE 1/2	
DRAWING TYPE:	SLO	
CLIENT'S NAME:	ENEMALTA PLC	

DRAWING NUMBER:	SHEET	REVISION
OP00867-SLO	1 OF 2	C

# SITE 2

LEGEND	
Nm	DESCRIPTION
1	GS25-GS48 - Diesel Generator Set XQ2000
2	TRC7-TRC12 - Transformer Container Set 2x4MVA, 0.4/33kV, 50Hz + MV RMU
3	SWGR02 - MV Switchgear, 33kV, 2500A
4	AUXTR02 - Auxiliary Transformer 0.4/0.4 kV
5	MDB02 - LV AUX Main Distribution Board
6	DB07-DB12 - LV AUX Distribution Boards
7	MV Cable Ladders
8	LV Cable Ladders
9	Fuel Pipe 3" x 5.85m with DN80 PN 16 flanges - Carbon steel
10	Fuel Pipe 3" x VARIABLE lengths with DN80 PN 16 flanges - Flexible (Rubber) or Carbon steel
11	Flexible armed xx" fuel hoses 15m
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## NOTE:

**SITE 1 - 30MW@33kV,50Hz**  
**DIESEL GENERATOR SETS:**

- 24 x XQ2000; 0.4kV; 50Hz; 1.4MW; 0.8PF

**TRANSFORMER CONTAINERS with MV RMU:**

- 6 x (2 x 4 MVA); connected and tap changer adjusted for 33kV@50Hz operating voltage.

**SWITCHGEAR CONTAINERS:**

- 1 x (2500A, 36kV used 33kV@50Hz)

**SITE 2 - 30MW@33kV,50Hz**  
**DIESEL GENERATOR SETS:**

- 24 x XQ2000; 0.4kV; 50Hz; 1.4MW; 0.8PF

**TRANSFORMER CONTAINERS with MV RMU:**

- 6 x (2 x 4 MVA); connected and tap changer adjusted for 33kV@50Hz operating voltage.

**SWITCHGEAR CONTAINERS:**

- 1 x (2500A, 36kV used 33kV@50Hz)

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DRAWN BY:	DATE:	PLOT SCALE:
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Francisco Mateos	09-02-2024	NTS
APPROVED BY:	DATE:	PAPER SIZE:
Dragan Milic	09-02-2024	A3

PROJECT LOCATION: <b>Delimara Power Station, Malta</b>		
DRAWING TITLE: <b>60 MW/33 kV @50Hz - SITE 2/2</b>		
DRAWING TYPE: <b>SLO</b>		
CLIENT'S NAME: <b>ENEMALTA PLC</b>		
DRAWING NUMBER:	SHEET	REVISION
OP00867-SLO	2 OF 2	C



## POWER MODULE PRIME 1825 kW CONTINUOUS 1640 kW 50/60 Hz Switchable

Frequency (Hz)	Voltage (V)	Prime kW (kVA)	Continuous kW (kVA)
60	480/277	1825 (2281)	1640 (2050)
50	400/240	1600 (2000)	1400 (1750)

### FEATURES

#### SINGLE SOURCE SUPPLIER

- Generator set manufactured in ISO 9001:2000 compliant facility
- Package factory designed and production tested
- Generator set and components meet or exceed the following specifications: AS1359, AS2789, BS4999, DIN6271, DIN6280, EGSA101P, JEM1359, IEC 34/1, ISO3046/1, ISO8528, NEMA MG1-22

#### WORLDWIDE PRODUCT SUPPORT

- Cat® dealers provide extensive post sale support including maintenance and repair agreements
- Supported 100% by your Cat dealer with warranty on parts and labor

#### RELIABLE, FUEL EFFICIENT DIESEL ENGINE

- The compact, four-stroke-cycle Cat 3516B turbocharged-aftercooled diesel engine combines durability while providing dependability and economy; fuel system operates on a variety of fuels

#### CAT GENERATOR

- Cat SR4B 826 frame generator designed to match the performance and output characteristics of the Cat diesel engine
- Double bearing, wye-connected, static regulated, brushless, permanent magnet excited

#### ENVIRONMENTALLY FRIENDLY

- 110% spill containment of onboard engine fluids
- Positive crankcase fumes ventilation

### DEIF CONTROLLER

#### CAT COOLING SYSTEM

- Horizontally mounted radiator with vertical discharge
- Sized compatible to rating with energy efficient fan and variable frequency fan drive
- Provides 43C (110F) ambient capability
- Variable frequency drive fan controls improve partial load fuel consumption

#### ON-PACKAGE PARALLELING CONTROL SYSTEM

- Provides auto paralleling using package mounted controls
- EMCP 4.2 offers engine and generator monitoring and protection
- AGC-4 provides paralleling, load sharing, VFD control, and primary generator protection

#### CAT DIGITAL VOLTAGE REGULATOR (Cat DVR)

- Three-phase sensing and adjustable volts-per-hertz regulation
- Provides precise control, excellent block loading, and constant voltage in the normal operating range

#### SOUND ATTENUATED CONTAINER

- Provides 9-high stack CSC rated enclosure for ease of transportation and protection
- Meets 77 dB(A) at 15 meters or below per SAE J1074 measurement procedure at prime rating

## FACTORY INSTALLED STANDARD EQUIPMENT

SYSTEM	STANDARD EQUIPMENT
<b>Engine</b>	<p>Cat 3516B heavy duty diesel engine</p> <p>Heavy duty, single element canister type air cleaner with service indicator</p> <p>Charging alternator, 60-Amp</p> <p>Fuel filters – primary and duplex secondary with integral water separator and change-over valve</p> <p>Spin on, full flow oil filters with water cooled oil cooler. Requires API CF-4 lube oil</p> <p>Oil drain lines routed to engine rail</p> <p>Jacket water heater, 9kW, 400/480V, 50/60 Hz, 3-phase w/isolation valves</p> <p>Fuel cooler and priming pump</p> <p>Electronic ADEM™ A3 controls</p> <p>Dual 24V electric starting motors</p>
<b>Generator</b>	<p>Double bearing SR-4B brushless, form wound, permanent magnet excited, three-phase with Cat digital voltage regulator (Cat DVR), space heater, 6-lead design, Class H insulation operating at Class F temperature for extended life, winding temperature detectors and anti-condensation space heaters (120/240V 1.2 kW).</p> <p>Generator equipped with System 4 insulation protection.</p>
<b>Containerized Module</b>	<p>40' ISO high cube container, 9-High stack CSC certified</p> <p>Four (4) sound attenuated air intake louvers and 3 lockable personnel doors with panic release</p> <p>Interior walls and ceilings insulated with 100 mm of acoustic paneling</p> <p>Floor of container insulated with acoustic glass and covered with galvanized steel</p> <p>Side bus bar access door, external access load connection bus bars</p> <p>Shore power connection via distribution block connections for jacket water heater, battery charger, space heaters, and generator condensate heaters</p> <p>Six (6) DC lights</p> <p>1,250 gal fuel tank, UL listed, double wall, 10 hr runtime @ Continuous rating</p> <p>Solenoid fuel fill control valve</p> <p>External lockable connections for fuel</p> <p>Lube oil level regulator with makeup tank</p> <p>Sound attenuated 77 dB(A) @ 15 m (50 ft)</p> <p>Four (4) oversized maintenance-free batteries, battery rack and 20-Amp battery charger</p> <p>Critical grade exhaust silencer with dual 2 m (6.5 ft.) exhaust stacks for increased site power density</p> <p>Vibration isolators, stainless steel fastening hardware and hinges</p> <p>External drain access to standard fluids</p> <p>One 4.5 kg (10lb) carbon dioxide fire extinguisher</p> <p>Standard Cat rental decals and painted standard Cat power module white</p> <p>110% spill containment system for on-board engine fluids</p>
<b>Cooling</b>	<p>Standard cooling provides 43C (110F) ambient capability at 100% Prime</p> <p>Horizontally mounted radiator with vertical air discharge</p> <p>Variable frequency fan drive (VFD) for optimal partial load fuel consumption</p>
<b>Generator Controls and Protection</b>	<p>Controls provide auto paralleling AGC-4 controller, voltage and frequency adjust, base load / PF / load sharing / synchronizer, auto start / stop control &amp; generator CB control, SCADA Interface (Ethernet), fuel level indications &amp; alarms, fuel tank fuel transfer control</p> <p>EMCP 4.2 genset mounted controller</p> <p>Automatic start/stop with cool down timer</p> <p>Generator Protection features: 25, 32, 40, 50/51, 27/59, 81 O/U</p> <p>Reverse compatibility for interface to legacy power modules</p> <p>3000A UL rated generator circuit breaker with LSIG trip unit w/ammeter</p> <p>Multi-mode operation (island, multi-island and utility parallel), load sharing (multi-unit only)</p> <p>Manual and automatic paralleling capability</p> <p>Metering display: voltage, current, frequency, power factor, kW, WHM, kVAR, and synchroscope</p>
<b>Quality</b>	<p>Factory testing of standard generator set and complete power module</p> <p>UL, NEMA, ISO and IEEE standards</p> <p>O&amp;M manuals</p>

## SPECIFICATIONS

### GENERATOR

Frame Size	826
Pitch	0.6667
No. of poles	4
Excitation	Static regulated brushless PM excited
Constructions	Double bearing, close coupled
Insulation	Class H
Enclosure	Drip proof IP22
Alignment	Pilot shaft
Overspeed capability – % of rated	125% of rated
Voltage regulator	3 phase sensing with Volts-per-Hertz
Voltage regulation	Less than $\pm 0.5\%$ voltage gain
Adjustable to compensate for engine speed droop and line loss	
Wave form deviation	Less than 5% deviation
Telephone Influence Factor (TIF)	Less than 50
Harmonic Distortion (THD)	Less than 5%

### CAT 3516B DIESEL ENGINE

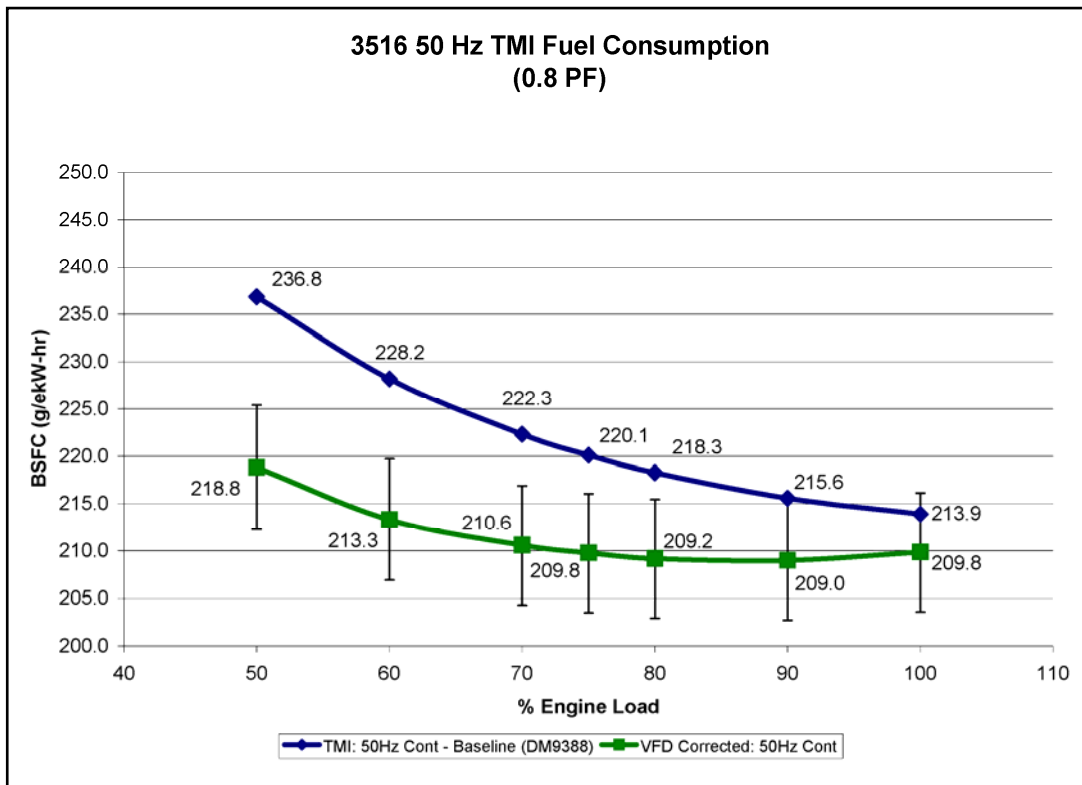
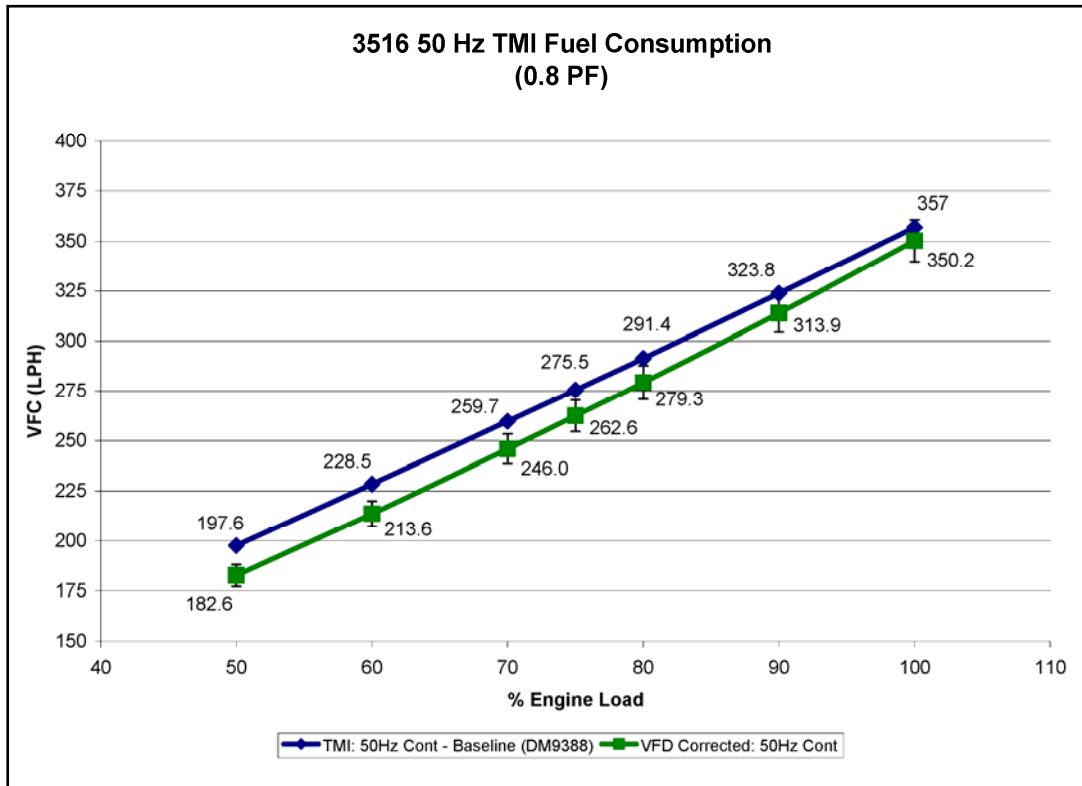
3516B, 4-Stroke diesel	
Bore – mm (in)	170 (6.7)
Stroke – mm (in)	190 (7.5)
Displacement – L (cu in)	69 (4,210)
Compression ratio	15:1
Aspiration	TA
Fuel system	EUI
Governor type	Cat ADEM A3 Control System

## TECHNICAL DATA\*

\*Materials and specifications are subject to change without notice  
 \*\*Data represented is at standard conditions

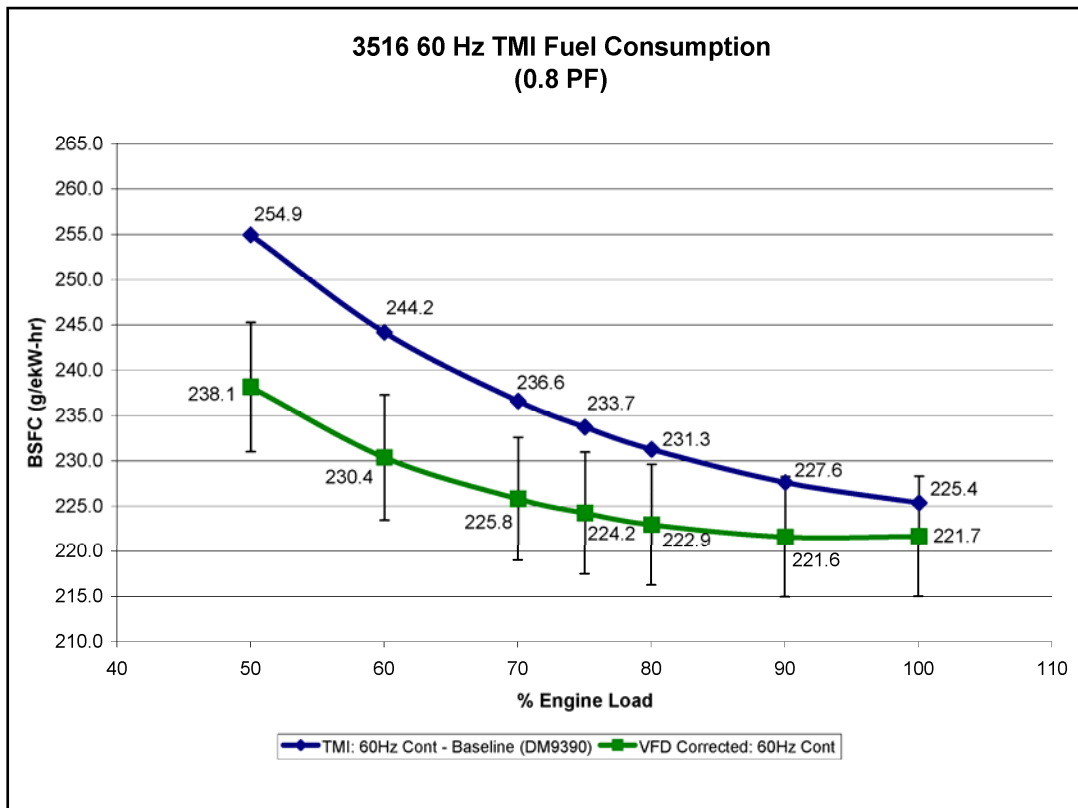
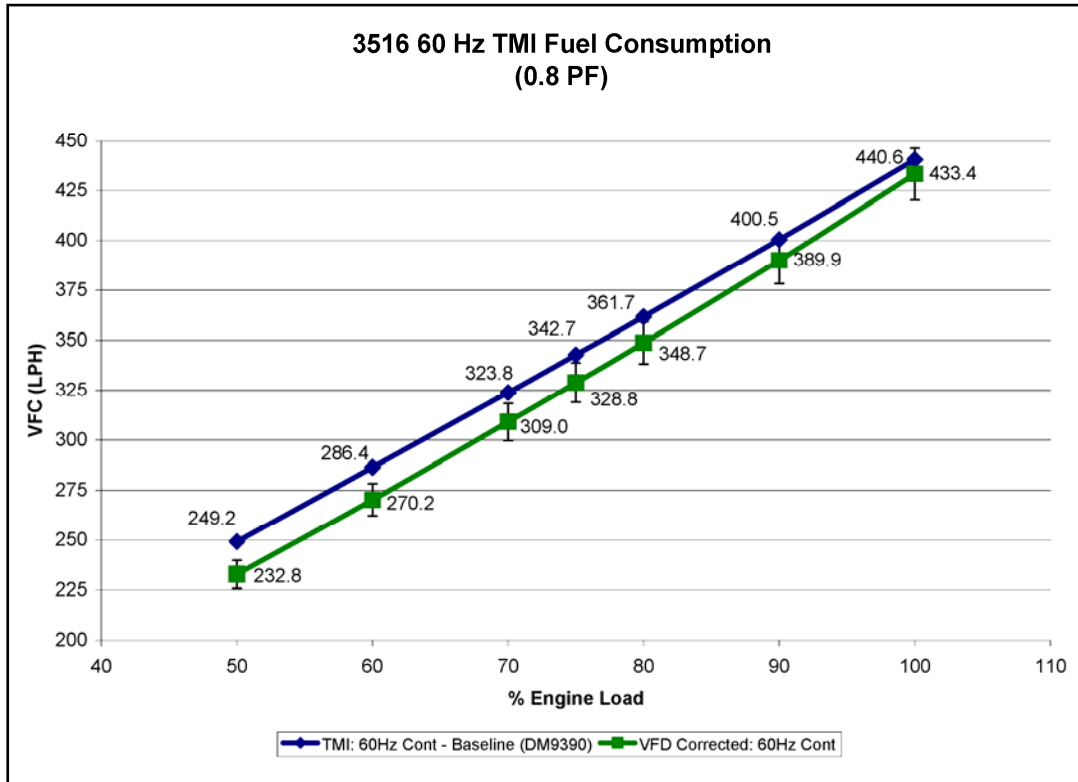
Generator Set Technical Data	Units	50 Hz		60 Hz	
		Prime	Continuous	Prime	Continuous
Power Rating	kW	1600	1400	1825	1640
	(kVA)	(2000)	(1750)	(2281)	(2050)
Lubricating System	L	401.3			
Total oil pan capacity	(US gal)	(106.0)			
Fuel System					
Generator set fuel consumption**					
100% Load	L/hr	397.9	350.2	482.9	433.4
	(gal/hr)	(105.1)	(92.5)	(127.6)	(114.5)
75% Load	L/hr	296.7	262.6	361.4	328.8
	(gal/hr)	(78.4)	(69.4)	(95.5)	(86.9)
50% Load	L/hr	204.9	182.6	253.8	232.8
	(gal/hr)	(54.1)	(48.2)	(67.0)	(61.5)
Fuel Tank Capacity	L	4,731			
	(gal)	(1,250)			
Max Rated Running Time	hours	>11	>13	>9	>10
Cooling System					
Radiator Capacity	L (U.S. gal)	770 (203)			
Air Requirements					
Combustion air flow	m3/min	133.2	119.4	167.8	162.2
	(cfm)	(4,703.9)	(4,216.6)	(5,925.8)	(5,728.0)
Maximum air cleaner restriction	kPa	6.2			
	(in H2O)	(24.9)			
Exhaust System					
Exhaust Flow	m3/min	326.4	290.9	418.2	386.1
	(cfm)	(11,526.7)	(10,273.0)	(14,768.6)	(13,635.0)
Package Noise Rating @ 15m (50 ft.)	dBA	74	74	77	77

## TECHNICAL DATA (CONT.)



VFD Corrected data shows 3% error bars at each data point

## TECHNICAL DATA (CONT.)



VFD Corrected data shows 3% error bars at each data point

## STANDARD FEATURES

### EMCP 4.2 LOCAL CONTROL PANEL

- Generator mounted EMCP 4.2 provides power metering, protective relaying and engine and generator control and monitoring.
- Convenient service access for Cat service tools (not included).
- Integration with the Cat DVR provides enhanced system monitoring.
- Ability to view and reset diagnostics of all controls networked on J1939 datalink eliminates need for separate service tools for troubleshooting.
- Real-time clock allows for date and time-stamping of diagnostics and events.
- True RMS AC metering, 3 phase: L-L volts, L-N volts, Phase, Amps, Hz, ekW, kVA, kVAR, kWhr, % kW, PF

### EMCP 4.2 ENGINE OPERATOR INTERFACE

- Graphical display with positive image, transfective LCD, adjustable white backlight/contrast.
- Digital indication for
  - RPM
  - DC Volts
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - Oil Temperature
- Two LED status indicators (1 red, 1 amber)
- Engine cool-down timer
- Engine cycle crank
- Three engine control keys and status indicators (Run/Auto/Stop).
- Lamp test and Alarm acknowledgement keys
- Warnings/shutdowns with indicating text for:
  - Low oil pressure
  - Overspeed
  - High Oil Temperature
  - Overcrank
  - Emergency stop
  - AGC-4
- Emergency stop pushbutton
- Display navigation keys including two shortcut keys for Engine Parameters or Generator Parameters

### AGC-4/EMCP 4.2 PROTECTIVE RELAYING

- Generator protective features
  - 25 sync-check ( AGC-4)
  - 32 rev. power (EMCP 4.2 and AGC-4)
  - 40 loss of excitation (Cat DVR and AGC-4 impedance based)
  - 50/51 Inst. and time overcurrent (GCB trip unit and AGC-4)
  - 47 Negative Voltage Sequence (AGC-4)
  - 46 Negative Sequence Current (AGC-4)
  - 27/59 phase under/over voltage (EMCP 4.2 and AGC-4)
  - 81O/U under/over frequency (EMCP 4.2 and AGC-4)
- Package mounted AGC-4 controls provides auto paralleling, CAN-bus, Ethernet communications, PWM and Analog outputs, and legacy analog load sharing (real and reactive)
- AGC-4 main display/ AOP secondary display

### VOLTAGE REGULATION AND POWER FACTOR CONTROL CIRCUITRY

- Generator mounted automatic voltage regulator, microprocessor based.
- Manual raise/lower voltage adjust capability and VAR/power factor control circuitry, all via AGC-4, for maintaining constant generator power factor while paralleled with utility
- Includes RFI suppression, exciter limiter and exciter diode monitoring.

### CURRENT TRANSFORMERS

- CT's rated 3000:5 with secondaries wired to shorting terminal strips.

### POTENTIAL TRANSFORMERS

- 4:1 ratio with primary and secondary fuse protection.

## CONTAINER

- 40' ISO high cube container, CSC 9-High Stack Certified
- Painted standard Cat Power Module White per Caterpillar Specifications
- Standard air intake louvers
- Three (3) lockable personnel doors with panic release
- Fire extinguisher
- 110% spill containment system for on-board engine fluids

## INTERNAL LIGHTING

- Six (6) internal DC lights with timers located at each personnel door
- One (1) duplex service receptacle

## BATTERY CHARGER AND BATTERIES

- 24 VDC/20A battery charger with float/equalize modes and charging ammeter
- Four oversized maintenance free batteries

## EMERGENCY STOP PUSHBUTTON

- Single emergency stop pushbuttons (ESP) located on rear face of generator set controls area

## EXHAUST SILENCER

- Critical grade, internally mounted, dual cylindrical exhaust silencers
- 2 m high vertical discharging exhaust stack located in radiator discharge area

## FUEL TANK

- UL Listed 1250 gallon double walled tank
- Fuel solenoid valve system
- Triple fuel/water separators

## CIRCUIT BREAKER

- 3000A fixed type, 3 poles, genset mounted, electrically operated, insulated UL489 CB.
- Solid state trip unit for overload (time overcurrent) and fault (instantaneous) overcurrent protection. LSIG is standard.
- Includes DC shunt trip coil activated on any monitored engine or electrical fault, 100 KA-interrupting capacity at 480 VAC.
- Ground fault sensing/trip (needs optional ground CT)

## BUS BARS

- Three phase, plus full rated neutral, bus bars are tin-plated copper with NEMA standard hole pattern for connection of customer load cables and generator cables.
- Bus bars are sized for full load capacity of the generator set at 0.8 power factor.
- Includes ground bus, tin-plated copper, for connection to the generator frame ground and field ground cable.

## AC DISTRIBUTION

- 50/60 Hz Transformer distributes utility voltage or customer supplied line voltage, which is selectable via onboard switch, for the Power Module AC auxiliaries .
- Provides 240/120 VAC for all module accessories except Jacket water heater (400V). Includes controls to de-energize jacket water heaters and generator space heater when the engine is running

## LUBE OIL MAKE-UP SYSTEM

- Includes oil pan-mounted oil level regulator and 114 L (30 gal) oil tank for maintaining oil pan levels in extended run applications. Oil tank can be remotely filled without shutting down the engine.

## TRAILER (optional)

- Three axle with Anti-lock brake system
- Goodyear G314 295/75R225 Load Range G

## MODES OF OPERATION

- Provides for single unit stand-alone operation, island mode paralleling and load sharing with other power modules, and single unit-to-utility mode paralleling for base load control (with open transition between paralleling modes)\*
- Island mode paralleling features:
  - AGC-4 control allows single unit to connect to a dead bus
  - Auto synchronization (voltage & phase matching)
  - Load sharing (kW) analog signal (like units & legacy compatible)
  - Load sharing (kVAR) analog signal (like units only)
- Utility mode paralleling features:
  - Auto synchronization (voltage & phase matching)
  - Base-load control (selectable: programmable set-point or potentiometer adjust)
  - Soft load/unload (programmable, shared set-point)
  - Power Factor control (programmable set-point)

## RATING DEFINITIONS

**Prime** – Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand of 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO8258. Fuel stop power in accordance with ISO3046.

**Continuous** – Output available without varying load for an unlimited time. Average power output is 70 – 100% of the continuous power Rating. Typical peak demand is 100% of continuous rated ekW for 100% of the operating hours. Continuous power is in accordance with ISO8528. Fuel stop power is in accordance with ISO3036.

## WEIGHTS AND DIMENSIONS

Model	Length in (mm)	Width in (mm)	Height in (mm)	Weight with Lube oil and Coolant lb (kg)	Weight with fuel, lube oil and coolant (kg)
XQ2000 w/o chassis	480 (12,192)	97.5 (2,438)	114 (2,896)	64,000 (29,021)	73,000 (33,106)
XQ2000 w/ chassis	480 (12,192)	97.5 (2,438)	168 (4,267)	74,000 (33,638)	83,000 (37,641)
Center of gravity	x = +4,913 +/- 300 mm (from rear of container); y = +788 mm +/- 300 mm (from container floor); z = 0 +/- 150 mm (centerline)				

[illegible]

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## **Attachment 03 – Permit Documents**

## Regulatory Framework Permit with introductory note

Environment Protection Act (CAP. 549)  
Industrial Emissions (Framework) Regulations (S.L. 549.76).  
Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L. 549.77).  
Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Installation:

**Delimara Power Station**

Permit Holders:

**Enemalta plc (C65836)**  
**Triq Belt il-Hazna**  
**Marsa MRS 1571**  
**MRS 1571**

**ElectroGas Malta Ltd. (C60775)**  
**Block D,**  
**Ta' Monita Residence**  
**Piazza off St. Joseph Street,**  
**Marsaskala, MSK 1050**

**D3 Power Generation Ltd. (C66510)**  
**Enemalta Building**  
**Triq Belt il-Hazna**  
**Marsa MRS 1571**

Approved Documents:

Permit number  
IP 0002/21 – framework document

Sub-permit numbers

IP 0002/21/i – ElectroGas Malta Ltd.  
IP 0002/21/ii – D3 Power Generation Ltd.  
IP 0002/21/iii – Enemalta plc.

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## Introductory note

The following Permit is issued under Regulation 7 of the Industrial Emissions (Framework) Regulations, (S.L. 549.76) (“the Industrial Emissions (Framework) Regulations”) to operate an installation carrying out activities covered by the description in Section 1.1 in Schedule 1 of the Industrial Emissions (IPPC) Regulations (S.L. 549.77), to the extent authorised by the Permit, i.e.

**“Combustion of fuels in installations with a total rated thermal input of 50 MW or more”.**

Aspects of the operation of the installation which are not specifically regulated by conditions in the Permit may also be subject to the condition implied by Regulation 8 of the Industrial Emissions (IPPC) Regulations, which require the Permit Holder/s to use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Conditions marked with a “∞” shall be construed as conditions which are to be enforced by the Authority responsible for such an issue.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, managed, operated and decommissioned.

In some sections, the Permit conditions require the Permit Holder to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. These conditions do not explain what is BAT.

A non-technical description of the installation is given in the application, but the main activity of the installation is as follows:

- **Generation of electrical energy through the combustion of natural gas, and gasoil**

Note that the Permit requires the submission of certain information to the Competent Authority as per subsequent specific conditions. In addition, the Competent Authority has the power to seek further information at any time under Regulation 11 of the Industrial Emissions (Framework) Regulations, provided that it acts reasonably.

Other IPPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
<i>Not applicable</i>		
Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
<i>Enemalta Corporation</i>	IP 0002/07/A	29 March 2010
<i>Enemalta Corporation</i>	IP 0002/07/B	6 December 2011
<i>Enemalta Corporation</i>	IP 0002/07/C	23 July 2012
<i>Enemalta Corporation</i>	IP 0002/07/D	17 September 2013
<i>Enemalta plc</i>	IP 0002/07/E	01 April 2014
<i>Enemalta plc</i>		
<i>ElectroGas Malta Ltd.</i>	IP 0002/07/F	11 January 2017
<i>D3 Power Generation Ltd</i>		
<i>ElectroGas Malta Ltd</i>	IP 0002/07/Fi	11 January 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Fii	12 January 2017
<i>Enemalta plc</i>	IP 0002/07/Fiii	11 January 2017
<i>Enemalta plc</i>		
<i>ElectroGas Malta Ltd.</i>	IP 0002/07/G	22 September 2017
<i>D3 Power Generation Ltd</i>		

<i>ElectroGas Malta Ltd</i>	IP 0002/07/Gi	22 September 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Gii	22 September 2017
<i>Enemalta plc</i>	IP 0002/07/Giii	22 September 2017

## Multiple Operator installations

As indicated in Regulation 6(3) of S.L. 549.76, a permit may regulate several parts of an installation operated by different Permit Holders. The importance of integrating the operations of each technical unit stems from the definition of “installation” in the provisions of S.L. 549.76, where this is defined as “a stationary technical unit within which one or more activities listed in the regulations concerning integrated prevention and control or in the regulations concerning organic solvents are carried out, and any other directly associated activities on the same site which have a technical connection with these activities and which could have an effect on emissions and pollution”.

In accordance to guidance provided by the Commission, an activity is considered to be a directly associated activity with a Schedule 1 activity if it shares common features, for example: it is part of the same industrial complex; it operates in the same or a related sector; or operates with some collective aspects such as site security.

This installation is therefore being regarded as a multi-Operator installation.

## Functions of the permit

This Permit consists of four main parts which have been structured so as to include:

- **The Regulatory Framework Permit** addressing the obligation of all Permit Holders and coordinating these obligations due to the nature of the facility as a multi-operator installation (IP 0002/21).
- **Subsidiary Permit 1** addressing the operation carried out by ElectroGas Malta Ltd (IP 0002/21/i);
- **Subsidiary Permit 2** addressing the operations carried out by D3 Power Generation Ltd. (IP 0002/21/ii).
- **Subsidiary Permit 3** addressing the operations carried out by Enemalta plc. (IP 0002/21/iii)

## Variations to the Permit

This Permit may be varied at any time in the future. If any of the Permit Holders wants any of the Conditions of either the regulatory framework or to the Permit Holder specific Subsidiary Permit to be changed, a formal application must be submitted to the Competent Authority. When such an application is submitted to the Authority for its consideration, the decision shall be carried out in consultation with the other Permit Holders within this multi operator installation

The **Status Log** within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Any change in operations shall only be implemented following the granting of a variation of the permit by the Authority.

## Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application for the surrender of the Permit has to be made to the Competent Authority by any of the Permit Holders. For the application to be successful, the Permit Holder(s) requesting this surrender must

be able to demonstrate to the Competent Authority that there is no pollution and/or public health risk and that no further steps are required to return the site to a satisfactory state.

The Permit Holder(s) shall retain all responsibility for management and activities within the site until the Authority officially approves the permit surrender in writing.

### Transfer of the Permit or part of the Permit

Upon the joint application of a Permit Holder and a proposed transferee, the Permit Holder(s) may request to transfer an environmental permit. The permit shall not be transferred from the Permit Holder without prior approval from the Authority. Upon the Authority's decision to transfer the permit to the transferee, all rights, obligations, liabilities shall subsist onto the transferee.

### Public Registers

This IPPC Permit and application are available to the public through the Competent Authority in accordance with the requirements of the Industrial Emissions (IPPC) Regulations. The applicant has made a request for certain information of a commercial nature to be withheld from the public. ERA has been supplied with all this information and has accepted the request of the applicant, because it was deemed to be commercially confidential. Alternative text which provides relevant information but does not include the confidential information has however been included in the application.

### Status Log

Detail	Date	Comment
<i>Application IP 0002/07</i>	Received 05 February 2007	Not 'duly made'
<i>Response to request for information</i>	Request dated 16 June 2007	Response dated July 2007
<i>Report on boiler conversion for emission reduction</i>	PDS submitted 24 April 2008	Request for further information dated 14 July 2008. Further information submitted 24 September 2008
<i>Noise survey</i>	Report submitted 25 July 2008	
<i>Application 'duly made'</i>	27 April 2009	
<i>Response to request for information</i>	Request dated 27 April 2009	Response received 18 May 2009 Consolidated version received 18 May 2009
<i>Public consultation</i>	Commenced on 21 May 2009	Concluded on 20 June 2009
<i>Re-classification of the phase 1 boilers (from 380 to 332 MW<sub>TH</sub>)</i>	Official letter dated 28 September 2009 plus supporting documents.	
<i>Permit A determined</i>	01 October 2009	
<i>Permit A issued</i>	29 March 2010	
<i>Application for variation of permit to include diesel engines</i>	Application received on 11 February 2010	

Detail	Date	Comment
<i>Response to request for information</i>	Request dated 19 April 2010	Response received 31 May 2010, 17 June 2010 and 26 July 2010
<i>Response to request for information</i>	Request dated 17 September 2010	Response received 12 May and 2 June 2011
<i>Response to request for information regarding NOx emissions</i>	Request dated 24 June 2011	Response received 4 July 2011
<i>Response to request for information regarding socio-economic assessment</i>	Requests dated 24 June, 4 July and 18 July 2011	Response received on 4 August 2011
<i>Response to request for information</i>	Request dated 5 July 2011	Response received on 22 July, 27 July 2011.
<i>Correspondence regarding flue gas volume calculations</i>	Information submitted by Enemalta on 30 June, 8 and 29 July 2011 and 29 August 2011	Request accepted on 4 August 2011
<i>Request for variations to existing permit</i>	Received on 29 July 2011	
<i>Request for consolidated application</i>	Request made on 26 July 2011	Consolidated application received on 17 August (draft) and 23 August 2011 (final)
<i>Air dispersion model</i>	Report submitted on 24 August 2011	
<i>Updated cooling water dispersion modelling study</i>	Received on 7 September 2011	
<i>Public consultation</i>	Started on 24 August 2011	Concluded on 7 October 2011
<i>Renewal and variation B determined</i>	5 December 2011	
<i>Permit B issued</i>	6 December 2011	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension to condition 2.2.1.7.9 from September 2012 to June 2013</i>	Started on 17 May 2012	Concluded on 18 June 2012
<i>Variation C determined</i>	12 July 2012	
<i>Permit C issued</i>	23 July 2012	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension for HFO use from June 2013 to March 2014</i>	Started on 28 June 2013	Concluded on 28 July 2013
<i>Variation D determined</i>	5 September 2013	
<i>Permit D Issued</i>	17 September 2013	Permit expires on 6 December 2015 A consolidated permit is being issued

Detail	Date	Comment
<i>Public consultation on the determination of the choice of fuel for DPS6</i>	Started on 11 February 2014	Concluded on 12 March 2014
<i>Variation E determined</i>	27 March 2014	
<i>Permit E issued</i>	1 April 2104	Permit expires on 6 December 2015. A consolidated permit is being issued.
<i>Permit extended</i>	1 December 2015	From 06 December 2015 to 06 June 2016
	30 May 2016	From 06 June 2016 to 6 December 2016
	02 December 2016	From 06 December 2016 to 06 June 2017
<i>Request for variations to existing permit by Electrogas Malta Ltd.</i>	13 November 2014	
<i>Request for variations to existing permit by D3 Power Generation Ltd.</i>	20 February 2015	
<i>Request for renewal and variations to existing permit by Enemalta plc.</i>	4 June 2015	
<i>Responses to request for information</i>	Electrogas Malta Ltd	From 13 November 2014 to 17 October 2016
	D3 Power Generation Ltd	From 20 February 2015 to 17 October 2016
	Enemalta plc	From 4 June 2015 to 17 October 2016
<i>Application Duly made</i>	Electrogas Malta Ltd	18 October 2016
	D3 Power Generation Ltd	18 October 2016
	Enemalta plc	18 October 2016
<i>Public Consultation</i>	Between 19 October 2016 and 27 November 2016	Public consultation extended by 10 days from the original end date of 17 November 2016.
<i>Permit F Determined</i>	19 December 2016	
<i>Permit F Issued</i>	11 January 2017	Permit Expires: 19 December 2020
<i>Request for partial surrender to existing permit by Enemalta plc.</i>	12 April 2017	
<i>Responses to request for information</i>	11 May 2017	
<i>Application Duly made</i>	5 July 2017	
<i>Public Consultation</i>	Between 10 July 2017	Concluded 24 July 2017
<i>Permit G Determined</i>	25 August 2017	

<b>Detail</b>	<b>Date</b>	<b>Comment</b>
<i>Permit G Issued</i>	22 September 2017	Permit expires: 25 August 2021
Permit G extension	9 July 2021	Validity expires: 25 February 2022
<i>Application IP 0002/21</i>	12 February 2021 26 February 2021 25 February 2021 and 9 December 2021	<i>EGM; variation and renewal</i>  D3PG; renewal  <i>ENE; renewal and variation</i>
<i>Regulatory consultation</i>	<i>between 23rd April 2021 – 7th May 2021 and between 1st June 2021 – 8th June 2021 and 25th October 2021 – 8th November 2021</i>	
<i>Public Consultation</i>	<i>Commenced on 17 December 2021</i>	<i>Concluded on 02 January 2022</i>
<i>Application Determined</i>	18 February 2022	

**End of Introductory Note**

## Permit

Industrial Emissions (Framework) Regulations, S.L.549.76;  
 Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77;  
 Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Permit number

**IP 0002/21**

### Approved Documents:

**IP 0002/21/DOC1**

**IP 0002/21/DOC2**

**IP 0002/21/DOC 3**

The Environment and Resources Authority (hereinafter the Authority; the Competent Authority or ERA) in exercise of its powers under Regulation 7 of the Industrial Emissions (Framework) Regulations, 2013 (S.L. 549.76) ("the Industrial Emissions (Framework) Regulations"), hereby authorises:

**Ing. Jonathan Scerri & Ing. Trustin Farrugia Cann obo Enemalta plc. (C65836)** (hereinafter "the Permit Holder" and/or "the Permit Coordinator" unless specifically mentioned) Of / Whose Registered Office (or principal place of business) is at **Triq Belt il-Hazna, Marsa, MRS1571, Malta**

**Stephen Burton obo ElectroGas Malta Ltd. (C60775)** (hereinafter "the Permit Holder" unless specifically mentioned) Of / Whose Registered Office (or principal place of business) is at **Block D, Ta' Monita Residence, Piazza off St. Joseph Street, Marsascala, MSK 1050**

**Xun Cheng obo D3 Power Generation Ltd (C66510)** (hereinafter "the Permit Holder" unless specifically mentioned) Of / Whose Registered Office (or principal place of business) is at **Enemalta Building, Triq Belt il-Hazna, Marsa MRS 1571, Malta**

to operate specified plant described in the Framework Permit and Subsidiary Permits 1, 2 and 3 of this Permit at the installation at:

**Delimara Power Station, Delimara, Marsaxlokk, MXK 1220**

to the extent authorised by and subject to the conditions of this Regulatory Framework Permit and in the Permit Holder specific Subsidiary Permits included in this Permit.

This permit is valid until the expiry of the permit which is **4 year/s** from the 'permit granted' date below. An application for renewal is to be submitted at least **nine (9) months** prior to expiry of the permit.

Environment and Resources Authority		Permit Granted:  10/05/2022
<b>APPROVAL</b>		
Board No.154	Held on 18/02/22	
Chairman_____	Secretary_____	

**Authorised to sign on behalf of the Competent Authority**

## Conditions

### 1 General

The Permitted Installation shall, subject to the conditions of this Permit, be managed, controlled and operated as described in the IPPC Application, or as otherwise previously agreed in writing by the Authority. This Permit shall be interpreted in accordance with Section 7 or as otherwise defined in S.L. 549.76 and S.L. 549.77.

#### 1.1 Permitted Activities

1.1.1 The Permit Holder/s is authorised to carry out the activities and the associated activities specified in Table 1.1.1. This table covers the extent of permitted activities for each Permit Holder and any directly associated activities sharing common infrastructure between the Permit Holders.

1.1.2 Permitted activities specific to each Permit Holder are included in each Permit Holder/s respective Subsidiary Permit.

<b>Table 1.1.1</b>			
<b>Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>	<b>Extent of responsibility</b>
Section 1.1: Combustion installations with a rated thermal input exceeding 50 MW	Generation of electrical energy through the combustion gasoil.  Installation consists of two open cycle gas turbines (DPS2 and DPS3), two combined cycle gas turbines (DPS4 and DPS5)	From receipt of fuel to delivery of utility.	Enemalta plc.
	Generation of electrical energy through the combustion of Natural Gas  Installation consists of three Combined cycle gas turbines (DPS 7)	From receipt of fuel to delivery of utility.	Electrogas Malta Ltd.(EGM)

	<p>Generation of electrical energy through the combustion of Natural Gas and gasoil</p> <p>Installation consists of four medium-speed combined cycle dual fuel (natural gas and gasoil) diesel engines (DPS6 – diesel engines 5 to 8).</p> <p>Installation consists of four medium-speed combined cycle single fuel (natural gas) diesel engines (DPS6 – diesel engines 1 to 4).</p>	From receipt of fuel to delivery of utility.	D3 Power Generation Ltd. (D3PG)
Associated activity of fuel handling and storage	Handling and storage of Natural Gas	<p>a) From receipt of fuel to storage within the Floating Storage Unit to delivery to the Regasification Plant.</p> <p>b) From storage within the Floating Storage Unit to offshore liquefied natural gas bunkering to third parties.</p>	ElectroGas Malta Ltd.
	Handling and storage of heavy fuel oil	From receipt of the fuel and storage in tank farm and from tanks to tanker barge/third parties	Enemalta plc.
	Handling and storage of gasoil	From receipt of the fuel and storage in tank farm from Enemalta plc. at	D3 Power Generation Ltd.

		tie-in point TP4.D3 to combustion in the diesel engines 5 to 8 and the 3.85MW <sub>th</sub> auxiliary boiler of D3PG	
		From receipt of fuel and storage in tank farm to combustion in DPS 2 to 5, 4.15MW <sub>th</sub> auxiliary boiler of Enemalta and delivery of utility to D3PG at tie in point TP4.D3 Transfer from tanks to tanker barge/third parties	Enemalta plc
Associated activity of regasification and gas pressure reduction	Operation of a regasification plant and a gas reducing station	From receipt of liquefied natural gas from the floating storage unit to delivery to D3PG (DPS6) and DPS 7	ElectroGas Malta Ltd.
Associated activity of utilities	Sea water pre-treatment plant.	From intake of sea water from Marsaxlokk Bay to dosing and delivery of utility.	Enemalta plc
	Sea water discharge into Hofra Iz-Zghira	From receipt of waste water from own operations, D3PG and Electrogas operated plant to the discharge of the water.	Enemalta plc
	Provision of evaporated and demineralised water	From the generation of utility to distribution through metered tie-in point to D3PG, EGM and own use.	Enemalta plc.
	Provision of fire-fighting water	External system: From intake of seawater from Marsaxlokk Bay to delivery and distribution through metered tie-in point to	Enemalta plc.

		D3PG, EGM and own use.  Internal system: From water reservoirs to delivery and distribution through metered tie-in point to D3PG, EGM and own use	
	Provision of potable water	From receipt of potable water from mains system to distribution through metered tie-in point to D3PG, EGM and own use.	Enemalta plc.
	Foul water management	From receipt of own foul water and from D3PG's cesspits to on-site storage and connection to main sewerage network.	Enemalta plc.
	Oily-water management	From receipt of own oily-water and treated oily water from D3PG to further polishing and discharge.	Enemalta plc.
	Rainwater management	From receipt of rainwater from own operational area, EGM and D3PG to final discharge points to sea.	Enemalta plc
	Auxiliary steam	From generation of auxiliary steam by D3PG to delivery to Enemalta for HFO tanks space heating and for fresh water production	D3 Power Generation Ltd.
		From generation of auxiliary steam by Enemalta for HFO tanks space	Enemalta plc

		heating and for fresh water production	
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## 1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the installation site boundary, as outlined in purple on the Site Plan in Schedule 1A to this Permit.
- 1.2.2 The activities authorised under condition 1.1.1 addressing specific Permit Holders shall not extend beyond the operational boundaries as outlined in the Site Plan in Schedule 1B to this Permit.

### Site Security

- 1.2.3 Site security systems shall be implemented at all times during the subsistence of this Permit, the objective of which shall be to prevent access which is not authorised either by the Permit Holder(s) or under legal powers of entry. These shall be installed, operated and maintained, and shall be fully documented and recorded.
- 1.2.4 Where any updates to the port security documents of each of Enemalta plc. and ElectroGas Malta Ltd. requested by Transport Malta result in changes to standard operating procedures adopted, Enemalta plc and ElectroGas Malta Ltd. shall ensure that these are implemented within the timeframes requested by Transport Malta.
- 1.2.5 Condition 1.2.4 is without prejudice to obligations on the Permit Coordinator in his dual role as Permit Holder arising from the relevant Subsidiary Permit.

## 1.3 Information to the public

- 1.3.1 Where relevant and as described by condition 1.3.1. in the respective subsidiary permit, the Permit Holders shall make emission data (most recent hourly, daily, diurnal and monthly average values and/or results of the most recent discontinuous measurement) publicly available via the Internet not later than 24 hours after the production of such data or unless otherwise agreed upon in writing with the Authority.
- 1.3.2 The Local Councils most affected by emissions from the installation, including Birżebbuġa, Marsaxlokk and Żejtun, may jointly and in agreement with both the Authority and the Permit Holder establish independent ambient air monitoring systems to monitor for levels of particulate matter, nitrogen oxides, sulphur dioxide, carbon monoxide, as well as any other parameters that may be agreed with the Authority at the expense of the Permit Holder.
- 1.3.3 The Local Councils most affected by emissions from the Delimara Power Station including Birżebbuġa, Marsaxlokk and Żejtun may jointly and in agreement with the Authority, jointly appoint an independent expert to assist in the interpretation of the emission data made publicly available pursuant to condition 1.3.1.

## 1.4 Overarching Management Conditions

- 1.4.1 The Permit Holders shall implement and maintain the approved Environmental Management System (EMS) ISO 14001:2015, and an organisational structure, and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

- 1.4.2 Each Permit Holder shall submit (including as part of the EMS) the following reports annually as part of the Annual Environmental Report of the site, according to the timeframe specified in condition 3.2 of the respective subsidiary permit.
- i. Environmental Policy containing the installation's environmental objectives and targets;
  - ii. Environmental Management Programme report (for the reporting year);
  - iii. Environmental Management Programme proposal (for the following year).
- 1.4.3 All plant, equipment and technical means used in operating the Permitted Installation shall be maintained in good operating condition and without causing polluting emissions, potentially polluting leaks and spillages. The Permit Holder shall keep maintenance records as per section 2.13.
- 1.4.4 Each Permit Holder shall ensure that the EMS applicable to plant regulated through each Subsidiary Permit is coordinated with those established by the other Permit Holders within the installation.
- 1.4.5 As part of the EMS, each Permit Holder shall ensure that auditing procedures are inclusive of all other Permit Holders within the installation. Any corrective actions arising from such audits shall be discussed with other Permit Holders and the Authority, especially where these have an effect on any other Permit Holder at the installation
- 1.4.6 Each Permit Holder shall ensure that no development and/or consequent operation of the plant would impede further development for use of natural gas, both supplied through pipeline or in liquid form, as major fuel for use in electricity generation.
- 1.4.7 The Permit Holders shall carry out mutual audits on an annual basis on standard operating procedures adopted by each of the Permit Holders which are emplaced to ensure adherence with the conditions of this Permit and each of the Subsidiary Permits applicable. The mutual audit shall be carried out in line with the approved document IP 0002/21/DOC1. Such mutual audits shall be aimed at:
- i. Ensuring that the operations of any other Permit Holder within the installation are either compatible with those of the auditing Permit Holder
  - ii. Identifying any amendments to such procedures which are required in order to ensure that procedures adopted by one Permit Holder do not impede the operations of the other Permit Holders within the installation
- 1.4.8 Further to condition 1.4.7, the mutual audits shall be carried out in line with procedures and environment management systems as per ISO 14001.
- 1.4.9 In order to fulfil the obligations stipulated in condition 1.4.7, all Permit Holders within the installation shall provide all the necessary information requested by the Permit Coordinator as may be required. Any follow up actions as agreed between all Permit Holders and the Authority following such Audits shall be disclosed to the Authority by the Permit Coordinator and followed up by the Permit Holders within the timeframe approved by the Authority.

## **1.5 Improvement Programme**

- 1.5.1 The Permit Holders, acting through the Permit Coordinator, shall complete the improvements specified in Table 1.5.1 by the date specified in that table, and the

Permit Coordinator shall send written notification of the date of completion of each requirement to the Authority on [ced.coast@era.org.mt](mailto:ced.coast@era.org.mt) within 10 working days of the completion of each such requirement.

<b>Table 1.5.1: Improvement programme</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
5	a) Submission of a revised monitoring methodology proposal for Land and Groundwater monitoring, based on the results of Site Report 2018-2021 for approval by the Authority including timeframes for implementation b) Submission of the monitoring report	a) Within 12 months from the granting of the permit b) As agreed by the Authority
6	Submission of a Coordinated Outline Decommissioning Plan.	Within 22 months from the granting of the permit
7	Submission of Air dispersion model	Within 3 months from the granting of the permit
8	Submission of marine ecological monitoring method statement	Within 5 months from the deadline for submission of the report as per condition 2.5.31

## 1.6 Operational Changes

- 1.6.1 Permit Holders shall seek the Authority's written agreement to any operational change as defined by S.L. 549.77 and its amendments, by sending to the Authority: written notice of the details of the proposed change, including an assessment of its possible effects (including changes in emissions and waste production) on risks to the environment and public health from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.
- 1.6.2 Any such change shall not be implemented until agreed to in writing by the Authority. As from the agreed implementation date, the Permit Holders shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.
- 1.6.3 In reviewing the request and taking its decision, the Authority may discuss any such operational changes with the other Permit Holders of the facility if it deems that any of these changes may impact on the operations of any of the other Permit Holders.
- 1.6.4 In case any further modification in the piping and instrumentation of the facilities is deemed necessary which could have significant consequences for major-accident hazards in relation to the information provided in the Coordinated Safety Report it should be notified in detail to the COMAH Authority in advance of that modification (according to regulation 9 of the COMAH Regulations S.L. 424.19).<sup>∞</sup>
- 1.6.5 The Director of Environment and Resources and any officials to whom this role is delegated are hereby authorized to make decisions on variations to this permit that do not constitute a substantial change in the operations, permit or approved

documents. No variations may be undertaken under this clause should these require any statutory consultation or further studies.

## **1.7 Off-site conditions**

- 1.7.1 The Permit Holder(s) shall ensure that no chemicals or waste escape to the environment especially when transporting such materials offsite or onsite.

## **1.8 Role of Co-ordinator**

### **General Provisions**

- 1.8.1 Section 1.8. regulates the role of the Permit Coordinator. The provisions of section 1.8, and the role of the Permit Coordinator, shall apply only in relation to any infrastructure which is held in common between the Permit Holders unless specifically stated otherwise.
- 1.8.2 The Permit Coordinator shall be responsible for the maintenance, monitoring, record keeping and reporting on issues related to any common infrastructure with the other Permit Holders up to the tie-in points detailed in Schedules 2A, 2B and 2C and obligations detailed in the relevant sections below, as may be required by the Authority from time to time and as required in terms of this Framework Permit. These shall be submitted to the other Permit Holders on a monthly basis.
- 1.8.3 The Permit Coordinator shall adopt the notification record keeping procedures detailed in each of the subsequent sections of this Framework Permit and as detailed in the AER in Schedule 4 of this Framework Permit.
- 1.8.4 The Permit Holders shall be jointly responsible to ensure that the Permit Coordinator is provided with all the necessary information and assistance to carry out as detailed herein, and any lack of adherence by the Permit Coordinator to the terms and provisions of this Permit where these result from the lack of cooperation by any of the Permit Holders within the installation, shall be considered to be a lack of adherence to this Permit by the respective Permit Holder in default and **not** by the Permit Coordinator;
- 1.8.5 Each Permit Holder shall undertake to provide any information, data, and satisfy any request reasonably put forward by the Permit Coordinator, as may be required in order for the Permit Coordinator to satisfy the Operators' and the Permit Coordinator's obligations towards the Authority. In the event that any Permit Holder does not satisfy any reasonable request put forward to it by the Permit Coordinator, the Permit Coordinator is to bring this to attention of the Authority (in writing).
- 1.8.6 Any incidents or exceedances taking place in the common infrastructure shall be at the responsibility of the Permit Holder giving rise to such incident or exceedance.
- 1.8.7 In the event of there being any incident or exceedance of any emission limit value stipulated in the Permit in the common infrastructure, the Authority retains the right to request any further information from the Permit Holders and/ or from the Permit Coordinator in order to determine which Permit Holder may be responsible for any such matters, and this as may be required or determined by the Authority. In such an event the procedure established in Schedule 6 shall be adopted.

### **Coordination of monitoring**

- 1.8.8 As detailed in the subsequent sections the Permit Coordinator shall be responsible for the coordination and monitoring of specific activities at the installation related to any common infrastructure with the other Permit Holders.
- 1.8.9 All Permit Holders making use of the common infrastructure operated and monitored by the Permit Coordinator as listed in Table 1.1.1 shall provide all the necessary information to the Permit Coordinator as may be required and requested in order to ensure full compliance with the permit conditions.
- 1.8.10 Prior to connection to any common discharge point to the environment which is monitored and coordinated by the Permit Coordinator, all Permit Holders shall carry out independent monitoring of any parameters stipulated in the relevant part of this permit or of the subsidiary permits issued to the specific Permit Holders.
- 1.8.11 Any independent monitoring data collected as per the requirements of condition 1.8.10 shall be reported to the Authority on an annual basis or within the timeframe stipulated by the Authority as part of the Annual Environment Report of each subsidiary permit.

## **2 Operating Conditions**

### **2.1 General Conditions**

- 2.1.1 The conditions and obligations of this Permit including the subsidiary permits are without prejudice to any other regulation, code of practice, conditions or requirements requested by other Authorities or entities, including but not limited to, the Planning Authority, the Occupational Health and Safety Authority, Transport Malta, the Regulator for Energy and Water Services (REWS) and the Environmental Health Directorate.
- 2.1.2 This Permit including the subsidiary permits is granted saving third party rights. The Permit Holder/s is not excused from obtaining any other permission required by law.
- 2.1.3 In these conditions and their interpretation, all terms shall have the same meaning as that assigned to them in CAP549 Environment Protection Act and its subsidiary legislation.
- 2.1.4 A copy of this Permit and the subsidiary permits shall be available at all times at the site office, including any variation notices of amendments to it.
- 2.1.5 The Permitted Installation shall be managed, controlled, supervised and operated by staff that are aware of the importance of environmental protection and suitably trained on the requirements of this Permit and the subsidiary permit. All staff shall be provided with adequate training and written operating instructions to enable them to effectively carry out their duties. Such training shall be recorded and maintained in line with Section 2.14.
- 2.1.6 The Permit Holder(s) have the sole responsibility to ascertain compliance with legal obligations, permit conditions and to undertake activities on and off site in line with good environmental practices at all times.
- 2.1.7 The Permit Holder(s) are to be fully liable and responsible for managing the site in all its various aspects and to supervise the full adherence with all the conditions of this permit.
- 2.1.8 All persons have a duty of care to protect the environment. The Permit Holder(s) shall become familiar with their legal obligations and good environmental practice.

- 2.1.9 The Permit Coordinator shall maintain a register of third party complaints. The register shall record the details of the complainant(s) if available, the date, source and nature of the complaint and the corrective action undertaken, where such action proves necessary.
- 2.1.10 The Authority may carry out regular pre-set or unannounced compliance or monitoring checks that vary in frequency according to the site's compliance with the permit conditions and safeguarding of natural assets. Any checks or audits carried out by the Authority shall be made at the Permit Holder/s financial expense at rate and arrangement communicated by ERA's Compliance and Enforcement Directorate.
- 2.1.11 The Authority's representatives may inspect and photograph any part of the site and ask for any closed or locked areas to be opened and may demand to be provided with any proof, documentation, plans, receipts or any other records. The Permit Holder/s shall also provide all the necessary assistance to enable the Authority to take samples if necessary.
- 2.1.12 The Authority may request additional monitoring and/or review of operational practices and any commission audits/reports as deemed necessary to address any circumstances that may affect the quality of the surrounding environment at the expense of the Permit Holder(s).
- 2.1.13 In case of any monitoring requirements specified in this permit, there shall be provided safe means of access to enable sampling/monitoring to be carried out by the Authority or by a third party if deemed necessary.
- 2.1.14 The Authority may suspend or revoke this environmental permit in line with the provisions of CAP549.
- 2.1.15 The Authority may add, amend, delete or substitute any of the conditions of this permit and the subsidiary permit/s after notifying the Permit Holder/s of its intention and after describing the changes to the Permit Holder/s. This is without prejudice to any prevailing circumstances that would preclude the Authority from following such a procedure.
- 2.1.16 The validity of this permit is for four (4) years from the date of the permit granting. The Permit Holder is able to renew the permit upon application with the Authority expressing his/her intention at least nine months prior to the expiry of the permit. The permit will be considered renewed once the official renewed permit is granted by the Authority.
- 2.1.17 The Bank Guarantee listed in condition 2.1.1 in the respective subsidiary permit and in condition 2.1.18 of this Permit shall remain in place for the duration of validity of this permit and shall only be released upon confirmation of full compliance with the permit conditions by the Authority.
- 2.1.18 This Permit is issued against a Bank Guarantee of € 1,150,000 by Enemalta plc. This guarantee will have to be maintained throughout the validity of the permit. Following renewal and/or variations to this permit, the Authority may require amendments to the Bank Guarantee.
- 2.1.19 The Authority may take part or all of the bank guarantee if the Permit Holder/s fails to take the necessary action, or fails to fulfil his legal obligations under the Act or its subsidiary legislation thereof, in cases of non-compliance with these permit conditions, or in cases where environmental integrity is threatened. This bank guarantee is without prejudice to any environmental liabilities incurred by the Permit Holder through failure to adhere with permit conditions or any other works/activity carried out on site. Should the Authority forfeit the Bank Guarantee either in part or in full, the Permit Holder shall ensure that this is replenished

without undue delay, in any case not exceeding 2 months from the date of forfeiture.

- 2.1.20 In cases where the bank guarantee does not cover the expenses incurred by the Authority to take any remedial action on the Permit Holder's behalf, the Permit Holder is to financially reimburse the Authority of all the expenses incurred within.
- 2.1.21 Without prejudice to condition 2.1.20, the Authority may take any action deemed necessary including but not limited to the suspension of any activity/operation until investigations are concluded.
- 2.1.22 The site shall be maintained in a tidy condition, free from litter and waste (whether arising from own activities or external sources).
- 2.1.23 The Permit Holders shall undertake all necessary measures and precautions to prevent spillage of raw materials, intermediates, products, waste and any other materials.
- 2.1.24 Any incident including accidental release of liquid, solid or gaseous materials from the site shall be reported not later than within 24 hours to ERA, without prejudice to the emergency plan of the installation and Health and Safety Procedures

## **2.2 Emissions to air**

### **General conditions**

- 2.2.1 Waste gases from the combustion plants within the Delimara Power Station shall be discharged in a controlled manner by means of a stack.
- 2.2.2 In order to ensure compliance with S.L. 549. 59 the Authority reserves the right to impose any additional conditions it deems necessary on the Permit Holders.
- 2.2.3 The Authority and the Permit Coordinator shall be notified by the Permit Holder of substantial changes in the type of fuel used or in the mode of operation of the installation. The Authority shall then determine whether the monitoring requirements laid down in section 2.2 of the respective Subsidiary Permits are still adequate or require adaptation.
- 2.2.4 The Permit Holders shall ensure that all operations on-site shall be carried out in a manner such that air emissions do not result in significant impairment of, or significant interference with amenities or the environment or in a public health risk beyond the site boundary.
- 2.2.5 The Permit Holders shall monitor continuously the speed and the direction of the wind at the site. The results of this monitoring shall be presented in the form of a wind rose as part of the AER. In addition, any meteorological data collected by the operator shall be made available to the Authority upon request.
- 2.2.6 Should the Permit Holder intend to install additional equipment or carry out significant changes to existing plant or equipment which could contribute to the existing emissions to air (e.g. boiler, etc.) from the installation, the Authority's Authorisation shall be sought prior to installation and operation of this equipment.
- 2.2.7 The addition of an additional combustion plant within the installation may require air dispersion modelling studies to be carried out by the Authority at the expense of the operator to ensure that the overall emissions from the installation do not exceed 3% of the limit values in annex 7 of S.L.549.59.

## **Air Dispersion Modelling**

- 2.2.8 The Permit Coordinator, in collaboration with the Permit Holders of the installation shall submit the dispersion modelling study in line with Approved DOC IP0002/21/DOC2 as agreed by the Authority, using the data from the plant's air emissions monitoring systems, and ambient air monitoring data from Żejtun and Marsaxlokk (including the data collected as required by 2.2.9). The updated studies shall assess the dispersion of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and shall estimate the likelihood of there being any exceedances of the relevant limits laid down by S.L. 549.59 especially but not limited to the most sensitive receptor(s) in the prevailing wind direction within a 15 km radius.
- 2.2.9 The Authority may request the Permit Coordinator to coordinate the assessment of air quality in Marsaxlokk by coordinating the daily monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> at a location in Marsaxlokk to be agreed with the Authority, in accordance with the standards specified in S.L. 549.59. Monitoring shall be carried out under representative conditions. Any meteorological data utilised by the consultant shall be generated in situ. The results of such monitoring shall be submitted as part of the Monthly and Annual Environmental Reports, in the formats specified in Schedule 4.
- 2.2.10 The Authority may waive the obligation to carry out ambient air monitoring referred to in conditions 2.2.9 depending on the outcome of results of the air dispersion model referred to in improvement programme item 7 in Table 1.5.1
- 2.2.11 The following conditions shall apply over and above any other condition in the permit:
- i. Upon request by the Authority, a Monitoring Committee shall be set up, which shall be chaired by the Authority, one representative of Enemalta plc, and one representative and technical advisor from each of the local councils of Birżebbuġa and Marsaxlokk. Each member, including the Chairman, shall have one vote.
  - ii. The Committee shall meet at least once every month. Any member of the Committee may request the Chairman to convene any other meetings of the Committee and the Chairman shall convene such a meeting within 7 days from such a request.
  - iii. The air quality data referred to in condition 2.2.8- 2.2.9 shall be supplied to the Authority from the consultant every two weeks (by not later than two weeks after the last sampling date for each monthly period) and published on the Permit Coordinator's website.

## **Emissions to Air from Specified Points: Emergency Considerations**

- 2.2.12 In the case of an interruption in the supply of low sulphur fuel due to a serious shortage, the Director of Environment Protection may allow a suspension for a maximum of six (6) months from the obligation to comply with the emission limit values for sulphur dioxide.
- 2.2.13 The Director of Environment Protection and Delimara 3 Power Generation Ltd. shall be immediately notified about any interruptions in the supply of low-sulphur LNG and gasoil.
- 2.2.14 Notwithstanding condition 2.2.12 in case of emergency the Permit Holder is obliged to use the fuel having the lowest sulphur content available at the time so as to ensure to the fullest extent possible that the ambient levels specified in S.L. 549.59 and subsequent amendments are not exceeded.

- 2.2.15 The use of reagents for abatement of emissions is strictly prohibited unless otherwise approved in writing by the Authority.
- 2.2.16 Under no circumstance shall the cumulative unabated operation in any twelve-month period exceed 120 hours-
- 2.2.17 The Director of Environment Protection shall be notified about any malfunction or breakdown of the abatement equipment within 24 hours as per Section 7 of this Permit.
- 2.2.18 The Director of Environment and Resources may allow exceptions to the 24 hours and 120 hours in 2.2.17 and 2.2.16 respectively in cases where in the Director's judgement:
- i. there is an overriding need to maintain energy supplies.
  - ii. the plant with the breakdown would be replaced for a limited period by another plant which would cause an overall increase in emissions.
- 2.2.19 The Operator shall keep together in a log book all notifications compiled after.
- i. the occurrence of any malfunction to the abatement equipment,
  - ii. an interruption in the supply of low-sulphur fuel

The log book shall be made available for inspection upon request

### **Emission Ceilings for atmospheric pollutants**

- 2.2.20 This section applies to all combustion plants operated by the Permit Holders and regulated through the subsidiary permits.
- 2.2.21 The Permit Holders shall provide all the necessary data to the permit coordinator in order to ensure fulfilment of the obligations highlighted in conditions 2.2.25 - 2.2.26.
- 2.2.22 The Permit Holders shall ensure that any data requested by the Permit Coordinator is provided within the timeframes agreed upon between both parties to ensure that no submission deadlines elapse.
- 2.2.23 The Competent Authority reserves the right to reduce these ceilings further particularly but not solely:
- i. In the event of there being a new entrant on the power production market in Malta;
  - ii. If it transpires that due to unforeseen circumstances the contributions of other sectors to the National Ceilings as per S.L 549.32 have been underestimated or if it transpires that sectors which also contribute to the total annual loads of these pollutants have been ignored;
  - iii. In the event of further reductions to Malta's ceilings.
  - iv. If it is decided that such a decision is in the national interest
- 2.2.24 The ceilings listed in Table 2.2.25 shall expire on the 31 December 2029.

## Monitoring activities assigned responsibility to the Permit Coordinator

- 2.2.25 Enemalta plc., as the Permit Coordinator and the entity responsible for dispatch of operations of the different plants within this installation and as the Permit Holder of another power plant located on a separate site, shall ensure that the total annual loads of sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub> as NO<sub>2</sub>), dust (PM<sub>2.5</sub>) and ammonia (NH<sub>3</sub>) from the Marsa Power Station and Delimara Power Station together shall not exceed the ceilings specified in Table 2.2.25 or any other annual ceilings as may be amended by the Authority from time to time.

<b>Table 2.2.25 - Emission Ceiling for Delimara Power Station and Marsa Power Station together.</b>	
<b>Pollutant</b>	<b>Total Annual Load in kilo tonnes</b>
Sulphur Dioxide (SO <sub>2</sub> )	1.23
Nitrogen Oxides (NO <sub>x</sub> )	1.85
Dust (PM <sub>2.5</sub> )	0.2
Ammonia ( NH <sub>3</sub> )	0.33

- 2.2.26 Enemalta plc. is to forward to the Authority:

- i. By not later than end of September of each year, a detailed plan indicating how the installation will be operated in the following year in order to comply with the ceilings in Table 2.2.25. The measures communicated in this plan shall be to the satisfaction of the Authority.
- ii. By not later June for each reporting year each permit holder shall provide a report in the format specified in Schedule 4 on the actual loads of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> and NH<sub>3</sub> emitted from the respective plant at Delimara during the previous year

- 2.2.27 The measures to be included in the plan as per Condition 2.2.26 shall also take into account that Enemalta plc, in its dual role as Operator of specified plants within this installation and as the entity responsible for dispatch of operations of the different plants within this installation, currently also operates another power plant which is located on a separate site and which is also covered by the requirements of the Industrial Emissions (IPPC) Regulations.

## 2.3 Discharges to sewers<sup>∞</sup>

- 2.3.1 The Permit Holders shall abide by the conditions of any Sewer Discharge Permit from the Water Services Corporation (WSC). The Permit Holder shall also abide by the provisions of the Sewer Discharge Control Regulations (S.L. 545.08).
- 2.3.2 The Permit Holders shall ensure that monitoring exercises are carried out at locations stipulated by the WSC.
- 2.3.3 Where any of the parameters stipulated by the WSC are exceeded, the Permit Holder shall ensure that any follow up actions requested by the WSC are implemented.
- 2.3.4 Further to condition 2.3.3, the Authority shall be notified of any such instances and all actions carried out included in the AER of the installation in the format specified in AER as per the respective subsidiary permit.

2.3.5 Cesspits shall be well maintained and certified by an independent warranted engineer every 4 years to ensure that these are:

- i. maintained in such a manner so as not to allow any leakages or spillages to the surrounding environment, and safely contain the type of waste that they are designated to store.
- ii. Underground pipe work linking all cesspits is also maintained in such a way so as not to allow any leakages
- iii. Appropriately ventilated to avoid the accumulation of explosive, toxic or corrosive gasses.
- iv. The area surrounding the cesspit is impervious and laid to fall towards the cesspit.

2.3.6 With the exception of sanitary waters, the Permit Holder/s shall not discharge any waste waters into the sewers or cesspits unless explicitly permitted by the Water Services Corporation.

### **Coordination of Discharge to Sewer**

2.3.7 Conditions 2.3.8 – 2.3.11 apply to discharges into the sewer as a result of connections to the sewer discharges from Enemalta plc. and D3 Power Generation Ltd.

2.3.8 The Permit Coordinator shall ensure that all discharges to the sewer abide by the conditions of any Sewer Discharge Permit from the Water Services Corporation (WSC).

2.3.9 In implementation of condition 2.3.8, the Permit Coordinator shall ensure that during monitoring exercises carried out by Enemalta plc, D3 Power Generation Ltd. shall also carry out a coordinated monitoring exercise at the tie in point TP 11 as per drawing in Schedule 2B.

2.3.10 Where any of the parameters stipulated by the WSC are exceeded, the Permit Coordinator shall ensure that any follow up actions requested by the WSC are implemented by both Enemalta plc. and D3 Power Generation Ltd..

2.3.11 With the exception of sanitary waters, Enemalta plc. and D3 Power Generation Limited shall ensure that no process wastewaters are discharged to the sewer through common discharge locations.

## **2.4 Discharges to groundwater**

2.4.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance as per requirements of Protection of Groundwater against Pollution and Deterioration Regulations (S.L.549.53)

2.4.2 The operations of the installation shall not hinder the achievement of good chemical and quantitative status of groundwater as prescribed under the Water Policy Framework Regulations (S.L. 549.100).

## **2.5 Emissions to Marine Water**

### **Emissions to Marine Water from Specified Points: General Considerations**

2.5.1 Waste waters shall not be discharged into marine water unless from the sources, for those release points specified by the Table 2.4.1 of the respective subsidiary permit.

2.5.2 Dry outlets and release points whose sources are unidentified shall be securely and permanently disconnected from the discharge pipe-work. Furthermore, the Permit Holders shall not discharge any waste waters through these outlets.

2.5.3 The Permit Holder/s shall monitor and analyse each substance according to the frequencies specified in Table 2.5.3 of this Permit and in accordance with condition 2.4.2 in the subsidiary permit unless stated otherwise.

<b>Table 2.5.3 - Emission limits and monitoring for emissions to marine water</b>				
<b>No.</b>	<b>Parameter</b>	<b>Emission limit value (annual average)</b>	<b>Measurement methodology</b>	<b>Monitoring frequency</b>
1	Flow	-	Flow meter	Continuous or calculated
2	pH	6-10	pH meter	Continuous
3	Temperature	8 °C above marine water	Digital thermometer	Continuous
4	Biological oxygen demand (BOD5)	25 mg/L	EN ISO 5815-1:2019	Annual
5	Total Nitrogen	10 mg/L	EN ISO 20236:2021	Quarterly
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681	1 mg/L	EN ISO 15681:2005	Annual
8	Chlorine dioxide and oxidants (given as chlorine)	0.3 mg/L	DIN 38408-5	Quarterly
9	Arsenic	5 µg/L	ISO 17294-2: 2016	Quarterly
10	Cadmium <sup>1</sup>	0.2 µg/L	ISO 17294-2:2016	Quarterly
11	Chromium (Total)	0.5 mg/L	ISO 17294-2: 2016	Every six months
12	Copper	0.5 mg/L	ISO 17294-2016	Quarterly
13	Lead	1.3 µg/L	ISO 17294-2:2016	Quarterly
14	Mercury	0.05 µg/L	EN ISO 17852: 2008	Every six months
15	Nickel	8.6 µg/L	ISO 17294-2: 2016	Quarterly

<sup>1</sup> Tests from the cooling water outfall for cadmium, chromium, copper, nickel, lead and zinc shall be carried out on composite samples consisting of samples of equal size taken at monthly intervals and blended prior to analysis, in accordance with ISO 5667-3:2003 or equivalent.

16	Tin	1.0 mg/L	ISO 17294-2: 2016	Annual
17	Vanadium	4 mg/L	ISO 17294-2: 2016	Annual
18	Zinc	0.5 mg/L	Method 3125B, AWWA/APHA, 20 <sup>th</sup> Ed, 1999	Every six months
19	Total petroleum hydrocarbons	5 mg/L	ISO 9377-2: 2000	Every six months
20	Tributyl tin compounds (tributyltin cation; CAS number 36643-28-4)	0.0002 µg/L	EN ISO 17353: 2005	Quarterly
21	Total Suspended Solids	35 mg/L	EN 872:2005	Annual
22	Benzene (CAS number 71-43-2)	8 µg/L	EN ISO 15680:2003	Quarterly
23	PAHs as follows:			
	Benzo(a)pyrene	1.7 X 10 <sup>-4</sup> µg/L	EN ISO 17993:2003	Annual
	Benzo(b)fluoranthene, Benzo(k)fluoranthene	Sum of 2 PAHs: 0.03 µg/L	EN ISO 17993:2003	Annual
	Benzo(g,h,i)perylene, Indeno(1,2,3-cd)-pyrene	Sum of 2 PAHs: 0.002 µg/L	EN ISO 17993:2003	Annual
24	C10-C13 chloroalkanes (CAS number 85535-84-8)	0.4 µg/L	EPA 8270D:2007	Annual
25	Polychlorinated biphenyls (CAS number 1336-36-3)	3 µg/L	USEPA method 8082, EA method 174 and 5109631	Annual

2.5.4 The Permit Holder/s shall ensure that monitoring for discharges to the marine environment prior to connection to the tie-in points specified in Table 2.5.19 of this Permit and Table 2.4.1 of the respective Subsidiary Permit shall be carried out in the locations agreed upon with the Authority and on the dates and times specified by the Permit Coordinator.

2.5.5 The methodology employed shall be as specified in the Table 2.5.3 or equivalent. Should an alternative standard be used by the Permit Holders the Authority is to be duly notified before sampling and analysis is carried out. All Limits of Detection (LOD) and Limits of Quantification (LOQ) per standard method used must be listed in the AER. The results shall be submitted as part of the AER.

- i. Where a method with a detection limit appropriate for the emission limit value in Table 2.5.3 is not available, the Authority may allow a method with a higher detection limit to be used instead. Samples taken shall be

representative. This shall be communicated by the Permit Coordinator to the Authority and approved by ERA prior to application of the method.

- ii. The Permit Holder/s should use standard methodologies which would achieve the required LoQs, subject to agreement on such methodologies with ERA prior to their application. The Authority may also communicate alternative methodologies once these are available-

2.5.6 The Permit Holders shall follow the procedure outlined in condition 2.5.25.

2.5.7 In case of any exceedances of the emission limit values in Table 2.5.3, either through the individual monitoring carried out in the location agreed upon with the competent authority or as highlighted by the Permit Coordinator through the procedure laid down in condition 2.5.26 of this Permit, the Permit Holders shall as part of the AER submit an action programme to the Authority aimed at achieving these emission limits. This plan shall be coordinated through the Permit Coordinator.

2.5.8 The source of any exceedance reported in the template as part of the AER of the respective subsidiary permit and/or as per procedure outlined in Schedule 6 of the Regulatory Framework Permit shall be substantiated by any investigations carried out to identify the source and any corrective action taken to mitigate such an exceedance. Upon implementation of the corrective action there shall be additional monitoring exercise so as to verify that emissions are returned to the permitted ELVs following the implementation of the action programme specified in condition 2.5.7 of this Permit.

2.5.9 Further to condition 2.5.8, the Permit Holder/s within the installation may be requested by the Authority to assess the possibility of designating a mixing zone in the vicinity of the discharge points in line with the procedures specified in Schedule IX(3) "Mixing Zones" in S.L. 549.100.

2.5.10 No substance shall be discharged in a manner, or at a concentration which following initial dilution, causes tainting of fish or shellfish.

2.5.11 The Permit Holders shall maintain a logbook in which all substances within the facility are listed. The Permit Holder shall retain Safety Data Sheets of such substances. These shall be submitted to the Authority upon request.

2.5.12 The Authority may change monitoring parameters and frequencies as it considers appropriate, depending on the monitoring results submitted by the Permit Holders and on the information provided by the Permit Holders on the type of chemicals which may be utilised for the operation of the installation. The Authority may require monitoring for absorbable organic halogens (AOX) should the Permit Holders start using organic halogenated compounds.

2.5.13 The use of micro biocides is strictly prohibited unless approved in writing by the Authority. This shall not apply to the use of hydrogen peroxide or ozone.

2.5.14 The Permit Holders shall not use any of the priority substances in the field of water policy listed in Schedule 7 at the Permitted Installation.

2.5.15 For the following priority hazardous substances;

- i. Benzo(a)pyrene
- ii. Benzo(b)fluor-anthene
- iii. Benzo(k)fluor-anthene
- iv. Benzo(g,h,i)-perylene
- v. Indeno(1,2,3-cd)-pyrene

- vi. C10-C13 chloroalkanes
- vii. Cadmium
- viii. Mercury
- ix. Tributyltin compounds
- x. Dioxin and dioxin-like compounds (including PCDDs, PCDFs and PCB-DL)

The Permit Holder shall ensure that there is no detection of these substances in the effluent discharge. In case any of these priority hazardous substances are detected, the permit holder shall take appropriate measures to ensure that the discharge does not contain any of these substances.

- 2.5.16 The operations of the installation shall not hinder the achievement of good status for surface water as required under the Water Policy Framework Regulations, S.L.549.100 and the Permit Holders shall implement all the necessary mitigation measures should deterioration in the ecological and chemical status of the water bodies as monitored by the Competent Authorities is attributed to the operation of the installation.

### **Discharges to Marine Water: General Monitoring Conditions**

- 2.5.17 All sampling carried out by the Permit Holder/s with the scope of monitoring compliance with the conditions listed in this Permit and the respective subsidiary permit shall be carried out according to the standards listed in Table 2.5.17 or equivalent.

<b>Table 2.5.17 Sampling</b>	
Standard	Description
ISO 5667-1:2020	Water quality -- Sampling -- Part 1: Guidance on the design of sampling programmes and sampling techniques
ISO 5667-3:2018	Water quality -- Sampling -- Part 3: Guidance on the preservation and handling of water samples
ISO 5667-7: 1993	Water quality -- Sampling -- Part 7: Guidance on sampling of water and steam in boiler plants
ISO 5667-10:2020	Water quality -- Sampling -- Part 10: Guidance on sampling of waste waters
ISO 5667-14:2014	Water quality -- Sampling -- Part 14: Guidance on quality assurance of environmental water sampling and handling

- 2.5.18 The Permit Holder shall make sure that any sampling and chemical analysis is carried out by a laboratory accredited (or in the process of accreditation, as confirmed by the National Accreditation Body (NAB-Malta) or equivalent) to at least EN ISO 17025:2017 and preferably for each and every test listed in Table 2.5.3. The Permit Holder shall include a copy of the laboratory's accreditation certification in the AER of the respective subsidiary permit.

### **Coordination of emission to Marine Water**

- 2.5.19 Conditions 2.5.19 – 2.5.32 of this Permit shall only apply to discharges of waste waters from the sources specified in Table 2.5.19 and only from the sources for those release points specified by the Table 2.5.19.

<b>Table 2.5.19 - Emissions to Marine Water from common tie-in points.</b>				
<b>Outlet Number (as per Schedule 5)</b>	<b>External tie-in point reference</b>	<b>Details</b>	<b>UTM Co-ordinates<sup>2</sup></b>	
			<b>x-coordinate</b>	<b>y-coordinate</b>
<b>Point 1</b>	<b>TP21.D4</b>	Existing storm water overflow from Enemalta EGM treated interceptor discharge receiving floor washings and rainwater from CCGT area and runoff from waste management area.	459,647	3,965,869
<b>Point 2</b>	<b>TP13.D3</b>	Existing storm water overflow from Enemalta D3PG storm water from FOT area	459, 903	3,965,595
<b>Point 3</b>	<b>TP14.D3</b>	Enemalta oil interceptor (from HFO and gasoil tank area), water from fuel centrifugation and run-off from access road (near gasoil tank farm)  D3PG oil interceptor from fuel tank area and other plant run-off.	459,860	3,965,516
<b>Point 4</b>	<b>TP 18 D4 TP 18 D3</b>	Main outfall including water treatment, cooling systems, waste water from steam generation, waste water from boiler wash down/ blow down from Enemalta, D3PG and ElectroGas.	460,154	3,965,839

2.5.20 The Permit Coordinator shall be responsible for the monitoring of discharge points indicated in Table 2.5.19. All the Permit Holders shall provide the necessary information to the Permit Coordinator as required.

2.5.21 In accordance with condition 1.8.11, all Permit Holders covered by the relevant Subsidiary Permit shall ensure that monitoring for discharges to the marine environment prior to connection to the tie-in points specified in Table 2.5.19 shall be carried out in the locations agreed upon with the Authority and on the dates and times specified by the Permit Coordinator.

2.5.22 Monitoring of parameters 1 and 4-25 in Table 2.5.3 from points 1- 3 is required prior to discharge of waste water **only** in case of a spillage of fuel from any tank. Testing of total petroleum hydrocarbons shall however be carried out continuously whenever water from fuel centrifugation (or other forms of water removal) is being discharged. In the case of Point 4 monitoring shall take place as specified by 2.5.3

<sup>2</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

- 2.5.23 No specified emission to water shall exceed the emission limit values set out in Table 2.5.3. The emission limits shall apply to the waste water at the point of discharge into the sea. There shall be no other emissions to water of environmental significance.
- 2.5.24 In case of any exceedances of the emission limit values in Table 2.5.3 during monitoring exercises or a request for investigation by the Authority, the Permit Coordinator shall apply the procedure outlined in Schedule 6.
- 2.5.25 The source of any exceedance reported in the template in Schedule 4 (AER) and as per procedure outlined in Schedule 6 shall be substantiated by any investigations carried out to identify the source and any corrective action taken to mitigate such an exceedance. Upon implementation of the corrective action there shall be additional monitoring exercise so as to verify that emissions are within the stipulated thresholds.
- 2.5.26 In case of any exceedances of the emission limit values in Table 2.5.3 and following the adoption of the procedure referred to in condition 2.5.25, the Permit Coordinator in collaboration with the Permit Holder(s) shall as part of the AER submit an action programme to the Authority aimed at achieving the stipulated emission limits.
- 2.5.27 An annual report summarising emissions to water from the discharge points listed in Table 2.5.19 shall be submitted to the Authority as part of the AER. The information contained in this report shall be prepared in accordance with format specified in Schedule 4 (AER).
- 2.5.28 Further to the requirement in condition 2.5.27, the Permit Holders shall follow the procedure outlined in condition 1.8.11.

### **Sediment Monitoring**

- 2.5.29 The Permit Coordinator in collaboration with the other Permit Holders shall carry out a monitoring survey of the sediments around the cooling water inlet and outlet in 2023 and every 3 years thereafter, in order to determine the impact of the installation on the marine environment.
- 2.5.30 The parameters to be analysed in the vicinity of the discharge point at il-Hofra z-Zghira (Discharge point 4) are as detailed in Table 2.5.30. The Permit Coordinator on behalf of the Permit Holders shall submit the monitoring methodology for ERA's approval prior to implementation. The methodology shall specify the monitoring station/s, the standard methods to be employed and the Limits of Quantification/Limits of Detection that will be used for the analysis of the contaminants:

<b>Table 2.5.30 Sediment Monitoring</b>		
<b>Parameter</b>		<b>Limit (mg/kg dw)<sup>3</sup></b>
1	Arsenic	–
2	Cadmium	0.3
3	Chromium	50
4	Copper	–
5	Lead	30
6	Mercury	0.3
7	Nickel	30

<sup>3</sup> For those contaminants where a threshold is not stipulated, comparison should be made to existing thresholds in other countries, ideally ones used in the Mediterranean region.  
<https://mcc.jrc.ec.europa.eu/documents/201909061143.pdf>

8	Zinc	-
9	Total Petroleum Hydrocarbons	-
10	Tributyltin compounds	0.005
11	C10-C13 chloroalkanes	-
12	Polychlorinated biphenyls	-

### Ecological Monitoring

- 2.5.31 The Permit Holders, acting through the Permit Coordinator shall carry out marine ecological surveys using the methodology agreed with the Authority as per improvement programme item 8 listed in Table 1.5.1 every three years. The monitoring for each assessment year shall be carried out during the summer months, preferably the same month, to assess the impact of the cooling water outfall on the habitat types and species listed in the Schedules of the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44); including *Pinna nobilis*, and *Posidonia oceanica* beds and *Cymodocea nodosa* meadows, in the surrounding waters.
- 2.5.32 Any decline in the conservation status of the habitat types and species in the area, especially those listed in the Schedules of S.L 549.44, shall be immediately reported to the Authority, and followed up with proposals for mitigation measures, which shall be reviewed and agreed to by the Authority prior to their implementation. This information shall be included with the Annual Environmental Reports, in the format indicated in Schedule 4.

### Discharges to Marine Water: Requirements for Waste Water arising from Non-process Water

- 2.5.33 The Permit Holder/s shall carry out a visual examination of the surface water discharge daily and shall maintain a log of such inspections. The Permit Holder/s shall ensure that no visible oil layer is present in surface water prior to discharge either directly or through specified external tie in points. Surface water that appears contaminated shall be treated prior to discharge to seawater.
- 2.5.34 Surface run-off (rainwater) that might be contaminated by any spillage of fuel from fuel storage and handling shall be collected and treated prior to discharge.
- 2.5.35 In the event that any analyses or observations made on the quality or appearance of waste water from surface runoff should indicate that a contamination has taken place, the Permit Holder/s shall:
- Carry out an immediate investigation to identify and isolate the source of the contamination;
  - Put in place measures to prevent further contamination and to minimise the effects of any contamination on the environment; and
  - Notify the Authority as soon as is possible as per Section 7 of this Permit.

### Coordinated Discharges to Marine Water: Requirements for Waste Water arising from Non-process Water (from points 1, 2 and 3)

- 2.5.36 Each Permit Holder shall ensure that upon detection of spillages of fuel which will affect the discharge of effluent from points 1-3, the Permit Coordinator is immediately to be notified in order to carry out its obligations under 1.8.2, where applicable.
- 2.5.37 Each Permit Holder shall carry out a visual examination of the discharge prior to connection with the respective tie-in point as specified in Table 2.5.19. The Permit Coordinator shall also carry out daily visual examination of the final

discharge to surface water discharge and shall maintain a log of such inspections. Each Permit Holder as well as the Permit Coordinator shall ensure that no visible oil layer is present in surface water prior to discharge. Surface water that appears contaminated shall be treated prior to discharge to seawater.

- 2.5.38 All oily water separator system having a direct discharge point to a water body shall have a continuous hydrocarbon detector with alarm. For points 1-3, no discharge of wastewater is allowed if the emission limit value is exceeded. Detection of oily water from points 1-3 above the emission limit value shall be followed by immediate investigation and appropriate mitigation measures as per the procedure outlined in Schedule 6.
- 2.5.39 Each Permit Holder shall ensure that surface run-off (rainwater) that might be contaminated by any spillage of fuel from fuel storage and handling shall be collected and treated prior to discharge
- 2.5.40 In the event that any analyses or observations made on the quality or appearance of waste water from surface runoff should indicate that a contamination has taken place, each Permit Holder shall:
- i. Carry out an immediate investigation to identify and isolate the source of the contamination;
  - ii. Put in place measures to prevent further contamination and to minimise the effects of any contamination on the environment;
  - iii. Notify the Authority and the Permit Coordinator as soon as is possible as per Section 7 of this Permit.

## **2.6 Storage**

- 2.6.1 All storage areas (including for fuel, waste, chemicals, etc.) shall be rendered impervious to the materials stored therein. In addition, areas for storage of liquid hazardous materials shall be bunded, either locally or remotely, to a volume not less than the greater of the following
- i. 110% of the capacity of the largest tank or container within the bunded area.
  - ii. 25% of the total volume of substance which could be stored within the bunded area.
- Areas for storage of solid hazardous materials shall also have appropriate vehicle access control measures.
- 2.6.2 Drainage from bunded areas shall be diverted for collection and safe disposal, or appropriate treatment prior to discharge.
- 2.6.3 The integrity testing of any bunds for tanks/containers as required by condition 2.6.1 up to 25 m<sup>3</sup> must be carried out at least once every three years according to CIRIA 163, Construction Industry Research and Information Association Report 163 – Construction of Bunds for Oil Storage Tanks. The test must be carried out by an approved auditor and the inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2 of the respective subsidiary permit. Testing of bunds for wastes is not required if hazardous liquid wastes are stored on drip trays or prefabricated bunds.
- 2.6.4 For bunds of tanks as required by condition 2.6.1 greater than 25 m<sup>3</sup>, visual inspections shall be carried out at least weekly by a warranted engineer, who shall as a minimum examine the following elements:

- i. Identification of any cracks or faults in the bund walls or floors;
- ii. Whether the bund is holding rainwater during/after episodes of rain;
- iii. Whether drain holes are present in the bund which could lead to emissions (if this is the case, these would need to be sealed with waterproof cement or a material of at least equivalent impermeability);
- iv. The presence of any damp patches which could indicate cracks.

Any faults identified during the inspection must be followed by immediate action to remedy the situation. Such inspections must be recorded, together with any faults and remedial actions taken.

Such bunds shall also be certified annually by a warranted civil engineer.

- 2.6.5 The unloading of gasoil shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.6.6 The pipes, pumps, valves and flanges forming part of the system which transfers gasoil from the delivery point to the tanks on site shall be certified to be leak-proof by an approved auditor at least once every three years. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2 of the respective subsidiary permit.
- 2.6.7 All personnel involved in the transfer of gasoil from vehicles to storage or from storage to the generating stations shall be trained in the oil spillage response plan. Records of such training shall be maintained and made available for inspection by Authority personnel.
- 2.6.8 The loading and unloading of other materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 2.6.9 All gasoil tanks shall be fitted with a high level alarm and, for fuel tanks used for internal gasoil transfer, a high-high liquid level alarm with automatic stoppage of pumps and automatic closure of valves in the event of a high-high level alarm, where this is operationally feasible.
- 2.6.10 All flanges and valves on over-ground pipes used to transport materials other than uncontaminated water, where no permanent provision for containment of leaks is provided, shall be subject to weekly visual inspection or otherwise monitored for leaks to the satisfaction of the Authority. All such inspections shall be recorded in a log which shall be available for inspection by the Authority.
- 2.6.11 All the flanges, valves and over-ground pipes listed in condition 2.6.10 shall be certified by an accredited auditor to be completely leak-proof at least once every three years or as per Permit Holder's standard operating procedures relating to maintenance, whichever comes first. Any ensuing inspection report shall be included in the AER in the format specified in Schedule 2 of the respective subsidiary permit.
- 2.6.12 Valves on bunds shall be maintained in closed position except during bund drainage. Drainage of water collecting in bunds shall be carried out under constant supervision. No discharges shall be undertaken from bunds where there is a visible film of oil on the bund water.
- 2.6.13 All the oil interceptors shall be monitored on a monthly basis and maintained to ensure efficient operation. A log of monitoring and interceptor waste removal shall be maintained on site for inspection.
- 2.6.14 All the oil interceptors shall be inspected by an accredited auditor at least once every three years. The accredited auditor shall amongst other things inspect the

interceptor for efficiency of operation. Any ensuing certification shall be included in the AER (Schedule 2) of the respective subsidiary permit.

## **2.7 Fugitive emissions of substances to air**

2.7.1 The Permit Holders shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation, in particular from the:

- i. process areas
- ii. storage areas, including solvent storage, raw materials (including fuel) storage and waste storage
- iii. buildings
- iv. pipes, valves and other transfer systems
- v. open surfaces

Provided always that the techniques used by the Permit Holder/s shall be no less effective than those described in the Application, where relevant

## **2.8 Fugitive emissions of substances to water and sewer**

2.8.1 The Permit Holders shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than groundwater) and sewer from the Permitted Installation, in particular from:

- All structures under or over ground
- Surfacing
- Storage areas
- Bunded areas.

2.8.2 The Permit Holders shall undertake all necessary measures and precautions to prevent spillage of raw materials, intermediates, products, waste and any other materials.

2.8.3 Connection points for fuel unloading must be appropriately contained. Any accidental release of substances shall be duly treated prior to discharge or disposed/recovered appropriately. Records shall be kept of such discharges, including the volume discharged.

2.8.4 Rainwater shall be segregated from all areas (including areas for fuel storage and raw materials) that are potentially contaminated.

2.8.5 Rainwater shall not be discharged into the sewer or cesspits.

2.8.6 The rate of flow into treatment chambers (e.g. interceptors) shall not exceed design capacity.

## **2.9 Waste recovery or disposal**

### **General considerations**

2.9.1 The Permit Holder shall use BAT in the design, maintenance and operation of all facilities for the storage and handling of waste on site such that there are no releases to water or land during normal operation and that emissions to air and risk of accidental release to water or land are minimised.

2.9.2 All operations concerning the management of waste are subject to the Waste Management Regulations (S.L.549.63) and the Waste Management (Activity Registration) Regulations (S.L. 549.45).

- 2.9.3 The Permit Holders shall be committed to reduce waste generation where possible
- 2.9.4 The Permit Holders are to prevent litter or other wastes escaping from the site boundaries, particularly during loading/unloading. Any such escape of waste shall be collected immediately upon detection.
- 2.9.5 All waste shall be stored within a designated and controlled storage area(s) prior to ultimate disposal. Waste to be recycled shall be stored in a designated container or area and shall not be mixed with other wastes.
- 2.9.6 Liquid and hazardous wastes shall be stored in a labelled, closed container(s) within a designated and controlled storage area(s) prior to ultimate disposal. Wastes of different natures and having different European Waste Catalogue codes as established by Commission Decision 2000/532/EC and any subsequent amendments should not be mixed in the same container.
- 2.9.7 Packaging and containers containing significant residual quantities of chemicals shall be regarded as hazardous waste and shall be disposed of in an appropriate manner.
- 2.9.8 On-site disposal of wastes by any means including burning, disposal to drain or surface water, burying or deposition on land is prohibited.
- 2.9.9 No storage of waste, equipment or materials is permitted on property outside the site premises.
- 2.9.10 No storage of waste destined for disposal is permitted for a period exceeding 12 months. No storage of waste destined for recovery is permitted for a period exceeding 3 years.
- 2.9.11 Off-site disposal or recovery of wastes may only take place at a facility licensed for that purpose

### **Transport**

- 2.9.12 Transboundary movement of waste shall be carried out in accordance with the following regulations, as amended from time to time:
- i. Regulation (EC) N° 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste.
  - ii. Commission Regulation (EC) N° 1418/2007 of 29 November 2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) N° 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of transboundary movements of waste does not apply; and
  - iii. Any other applicable legislation.
- 2.9.13 The Permit Holder shall make use of the services of a registered waste carrier for the transport of waste from the site in accordance with activity 38 of schedule 1 of S.L. 549.45, the Waste Management (Activity Registration) Regulations. Where the company removes wastes using its own transport the vehicle(s) must also be registered as a waste carrier in accordance with S.L. 549.45 or any statutory provisions or regulations amending or replacing them.
- 2.9.14 Movement of hazardous waste to authorised facilities shall be covered by a valid consignment permit obtainable from the Competent Authority. Each movement shall also be covered by a consignment note obtainable from the Authority.

- 2.9.15 Should the Permit Holder require the services of a waste broker, it shall be ensured that any such broker is a duly registered waste broker in accordance with S.L. 549.45.

### **Records**

- 2.9.16 The Permit Holder shall ensure to keep records for every consignment of wastes removed from the Site indicating the EWC Code, description, quantities, date of removal, contractor name (including for transport), consignment note number (where applicable) and manner and place of final disposal/recovery.
- 2.9.17 Disposal certificates shall be kept on record and made available for inspection for a period of at least 3 years from date of their issue.
- 2.9.18 In the case of waste that is sent for treatment or recovery to another facility locally or abroad, the audit trail shall cover all waste from the point of generation or collection to the end recovery or disposal facility.
- 2.9.19 A summary record of the waste quantities removed from the site shall be made for each quarter of the reporting year (January-March, April-June, July-September and October-December) and shall be submitted to the Authority in the format specified in Schedule 3 of the Respective Subsidiary Permit within 1 month following the end of the quarter.
- 2.9.20 As part of the Annual Environmental Report for the installation, the Permit Holder shall produce a report on the off-site transfers of waste from the Permitted Installation over the previous calendar year, by end of June of each year, providing the information listed in the format specified in Schedule 2 of the respective subsidiary permit

## **2.10 Odour**

- 2.10.1 The Permit Holders shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:
- i. limiting the use of odorous materials;
  - ii. restricting odorous activities;
  - iii. controlling the storage conditions of odorous materials;
  - iv. controlling processing parameters to minimise the generation of odour;
  - v. optimising the performance of abatement systems;
  - vi. timely monitoring, inspection and maintenance;
  - vii. employing, where appropriate, an approved odour management plan.
- 2.10.2 There shall be no significant offensive odour, as perceived by an Authorised Officer of the Competent Authority, at sensitive locations.
- 2.10.3 In case of complaints from sensitive receptors regarding odours from the installation, the Authority may require the Permit Coordinator to assist with the investigation being carried out by the Authority to assess the potential source of such a complaint. The Authority may require the Permit Coordinator or the respective Permit Holder (where these are identified as the source of the complaint), to submit an odour management plan, which would include recommendations for abatement of the odour and timeframes for implementation.
- 2.10.4 In order to ensure compliance with condition 2.10.3 each respective Permit Holder within the installation shall provide the Permit Coordinator with any operational details which may be necessary for the Permit Coordinator to conduct the required investigations.

## **2.11 Emissions to Land**

- 2.11.1 There are no permitted discharges to land.
- 2.11.2 In the event of accidental contamination of land, the Permit Holders shall notify the Authority immediately, forward a decontamination plan and execute it within 1 week of the event.

## **2.12 Noise and Vibration**

- 2.12.1 The Permit Holders shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:
- i. equipment maintenance, e.g. circulating pumps, extraction fans, compressors, silencers.
  - ii. use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
  - iii. appropriate timing and location of noisy activities and vehicle movements;
  - iv. periodic checking of noise emissions, either qualitatively or quantitatively; and
  - v. maintenance of building fabric
- 2.12.2 Emergency generators/alarms/sirens/release valves shall only be tested between the hours of 7.00 and 19.00 Monday to Friday and not on any Public Holiday.
- 2.12.3 The level of noise emitted from the installation at all operational times shall not exceed the background noise level by 5dB at the noise sensitive receptors, excluding during the use of emergency sirens and alarms and start-ups.

### **Noise Monitoring**

- 2.12.4 This section shall apply to:
- i. The assessment of complaints at noise sensitive receptors resulting from noise emissions generated by the Permit Holder.
  - ii. The annual noise monitoring exercise required by subsequent conditions in this Permit.
- 2.12.5 Noise monitoring is to be carried out annually (or as otherwise agreed with the Authority), to ensure that the limits in condition 2.12.3 are not exceeded. Noise monitoring shall also be carried out upon commissioning of any new equipment which in the opinion of the Authority has the potential to significantly increase noise emissions from the installation. The Permit Holder/s shall submit to the Authority a method statement for carrying out a Noise Monitoring Survey in line with the Terms of Reference provided in Schedule 8. Once the method statement is approved by the Authority, the noise monitoring survey shall be initiated.
- 2.12.6 Such investigations and monitoring shall be carried out in collaboration with the other Permit Holders and where necessary led by the Permit Coordinator.
- 2.12.7 Records of noise monitoring resulting from investigations carried out shall be submitted to the Competent Authority in the format specified in Schedule 4. A detailed report shall also accompany such results. The report and accompanying results shall also be submitted as part of the AER.

- 2.12.8 Based on the results of the noise monitoring, the Permit Holder/s may be requested to submit a proposal for an action plan aimed at reducing noise from those sources which have resulted in significantly high noise levels.
- 2.12.9 The proposal for an action plan is to be submitted and approved by the Authority, which reserves the right to request any additional measures as deemed necessary.
- 2.12.10 As part of the AER, records of noise monitoring of the previous year shall be submitted to the Competent Authority by not later than end of June after the end of each reporting year, in the format specified in Schedule 4. A detailed report shall also accompany such results.
- 2.12.11 Further to conditions 2.12.6 to 2.12.10, the results of investigations which have identified a specific Permit Holder as the source of exceedances, together with the corrective actions taken by the Permit Holder shall be submitted as part of the AER in Schedule 4 of this permit

### **Coordination of Noise monitoring**

- 2.12.12 Following receipt of any complaints related to noise emissions or a request by the Competent Authority or a notification from any of the Permit Holders within the installation, the Permit Coordinator shall ensure that such complaints are investigated and where necessary accompanied by the necessary noise monitoring in accordance with the Approved Doc IP 0002/21/DOC 3. Such investigations and monitoring shall be carried out in collaboration with the other Permit Holders and where necessary led by the permit Coordinator.
- 2.12.13 In order to ensure compliance with condition 2.12.8, all Permit Holders within the installation shall provide the Permit Coordinator with any operational details which may be necessary for the Coordinator to conduct the required investigations.
- 2.12.14 The Permit Coordinator shall coordinate annual noise monitoring to ensure that emission limit values stipulated in the subsidiary permits are not exceeded.

### **2.13 Maintenance**

- 2.13.1 All plant and equipment used in operating the Permitted Installation shall be maintained in good operating condition.
- 2.13.2 The Permit Holder shall maintain a record of plant and equipment covered by condition 2.13.1, and for such plant and equipment:
- i. a written or electronic maintenance programme; and
  - ii. records of its maintenance.

### **2.14 Management and Technically Competent Person**

- 2.14.1 A copy of this Permit shall be available at the place of work, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

#### **Training**

- 2.14.2 The Permit Holder shall ensure that the part of the permitted Installation falling within the responsibility of each respective Permit Holder shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

- 2.14.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to effectively carry out their duties.
- 2.14.4 The Permit Holder/s shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.
- 2.14.5 Incidents and Complaints**
- 2.14.6 The Permit Holder/s shall maintain and implement written procedures for:
- i. Taking prompt remedial action, investigating and reporting to the Competent Authority actual or potential non-compliance with operating procedures or emission limits and if such events occur;
  - ii. Investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short-term and long-term remedial measures and near-misses) and prompt implementation of appropriate actions; and
  - iii. Ensuring that detailed records are made of all such actions and investigations.
- 2.14.7 Without prejudice to section 7, the Authority may request that within one month of the incident occurring or as otherwise agreed by the Authority, the Permit Holder shall submit a proposal to the Authority:
- i. Identify and put in place measures to avoid recurrence of the incident; and
  - ii. Identify and put in place any other appropriate remedial actions
- 2.14.8 The Permit Holder/s shall record and investigate complaints concerning the specific permitted plant's effects or alleged effects on the environment and public health. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.
- 2.14.9 As part of the AER of the Subsidiary Permit, the Permit Holder shall provide report on incidents and complaints in the format specified in Schedule 2. This shall also include incidents and complaints which were addressed collectively with the other Permit Holders or on an individual basis. These records shall also be made available upon request during any inspection on site
- 2.14.10 Details of incidents and complaints shall also be divulged to the other Permit Holders of the permitted installation.

### **Incidents and Complaints coordination**

- 2.14.11 The Permit Coordinator shall maintain and implement written procedures for:
- i. Coordinating prompt remedial action, investigating as per the procedure detailed in Schedule 6, collating of the necessary data from all the Permit Holders and reporting to the Competent Authority actual or potential non-compliance with operating procedures or emission limits resulting from the installation as a whole;
  - ii. Coordinating the investigation of incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any

short-term and long-term remedial measures and near-misses) and prompt implementation of appropriate actions where these are identified as resulting from the operations of the installation as a whole and ensuring that detailed records are made of all such actions and investigations.

- 2.14.12 The Permit Coordinator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment and public health. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken
- 2.14.13 As part of the AER of the Permitted Installation, the Permit Holder/s acting through the Permit Coordinator shall provide report on incidents and complaints in the format specified in Schedule 4.
- 2.14.14 In carrying out coordinated investigations as required by this Permit, the Permit Coordinator shall follow the investigation procedure as detailed in Schedule 6 of this Framework Permit.
- 2.14.15 All Permit Holders shall jointly establish procedures for the collection of information and data necessary for investigations under 2.14.11-2.14.12 and ensure that, once established, fully comply and collaborate with requests from the Permit Coordinator for information and data necessary for the investigation.

#### **Attendance of Technically Competent Person(s)**

- 2.14.16 The Permit Holder or one member of the staff shall be nominated as the Technically Competent Person (TCP) of the site. The TCP is responsible for the implementation of all the obligations stipulated in this permit including during inspections, must supervise the rest of the staff on site. In cases where the TCP is not the Permit Holder, the TCP shall be the Permit Holder's technical focal point for the implementation of the conditions of this permit.
- 2.14.17 Another member of staff shall be nominated as the delegate Technically Competent Person (delegate TCP). The TCP or delegate is to physically represent the Permit Holder during the times when the Permit Holder will not be available.
- 2.14.18 Attendance of the TCP(s) and delegate TCP at the Site shall be recorded in the Site diary on arrival and departure.
- 2.14.19 For the whole operational hours permitted for the Site under this Permit, the Technically Competent Person/s or his/their delegate shall be physically in attendance at the Site. The Technically competent Person/s or their delegate/s has/ve to be permanently present on site during generation of electrical energy. The Permit Holder is to provide details as to how he intends to provide this coverage in order to take into account unavoidable absences due to continuous operation, vacation or sick leave.
- 2.14.20 In the event of any short or long periods of leave of absence taken by the TCP or the delegate for a period exceeding 10 days, the Permit Holder is obliged to find a replacement for that member of staff without delay.
- 2.14.21 Where the Site has been notified to the Authority as being either non-operational or closed, the Technically Competent Person shall be capable of attending the Site within one hour.

#### **Changes in Technically competent Person(s) delegate(s)**

2.14.22 Where there are any changes/additions in technically competent management (person/s), including delegates, the name of any incoming person together with evidence that such person has the required technical competence and 24-hour contact details shall be submitted to the Authority in writing within 5 working days of the change in management.

2.14.23 In the event of the death, dismissal, resignation, leave, or of extended sick leave of the Technically Competent Management of the Site, the Permit Holder shall immediately inform the Authority, and prove to the Authority that the Permit Holder is actively seeking a replacement.

## **2.15 Coordination on safety<sup>∞</sup>**

2.15.1 The Permit Coordinator shall carry out any necessary updates to the Coordinated Safety Studies as requested and within the timeframes agreed upon with the COMAH Competent Authority.

2.15.2 Further to the provisions of Regulation 14 of S.L. 424.19 and without prejudice to the Permit Holder's responsibilities, the COMAH Competent Authority shall, if necessary, appoint individuals or set-up bodies to assist the competent authority at technical level at the expense of the Permit Holders.

## **2.16 Coordination of accident prevention and control<sup>∞</sup>**

2.16.1 In the case of an accident, each Permit Holder will be responsible for notifying the other Permit Holders and the Permit Coordinator of such an incident and each Permit Holder shall follow the procedures stipulated in the Internal Emergency Plan submitted by each Permit Holder.

2.16.2 If the case of an emergency situation within an individual operator plant or in an emergency escalated to a site level), the procedures and coordinated actions stipulated within the Coordinated Emergency Plan (CERP) shall apply. The operator shall ensure communication and coordination with the other operators and stakeholders together with the local area emergency response organisations and Authorities.

2.16.3 The level of application of the CERP shall be at least the communication of the emergency situation, with a possible escalation of the full activation of the CERP as detailed in the documentation.

2.16.4 The CERP shall be reviewed at least every three years or as soon as practicable after an accident, whichever is the earlier, and the Authority notified of the results of the review within 2 months of its completion.

2.16.5 The Permit Coordinator together with the Permit Holders covered by the respective Subsidiary Permits shall maintain and implement all health and safety measures in compliance with Act XXVII of 2000; Occupational Health and Safety Authority Chapter 424 and all relevant subsidiary legislation, in particular but not limited to implementation of the risk assessment which covers the operation of the whole installation.

2.16.6 The Permit Coordinator together with the Permit Holders covered by the respective Subsidiary Permits shall comply with the relevant provisions of the Control of Major Accident Hazards Regulations, (S.L. 424.19).

2.16.7 The Permit Coordinator together with the Permit Holders covered by the respective Subsidiary Permits is to keep the Authority updated on any major changes in operations that may impact on the health and safety of the employees.

- 2.16.8 All Permit Holders are to ensure that all Health and Safety documentation is freely available and provided upon request by either the Competent Authority or by the Occupational Health and Safety Authority.

<b>Table 2.17.1 – Infrastructure related to fire-fighting system</b>		
<b>Tie in point</b>	<b>Name</b>	<b>Description</b>
TP7.D3 TP7A.D4 TP7B.D4	Internal fire-fighting system	Freshwater stored within Enemalta's 330m <sup>3</sup> tank which is supplied from evaporated water tanks and distributed through metered tie-in point for own use, D3PG and EGM.
TP8.D3 TP8.D4	External fire-fighting system	Seawater taken from the intake of seawater from Marsaxlokk Bay to delivery and distribution through metered tie-in point to D3PG, EGM and own use.

## **2.17 Coordination of firefighting systems ∞**

- 2.17.1 Part 2.17 of this Permit shall only apply to firefighting infrastructure common to all Permit Holders as listed in Table 2.17.1.
- 2.17.2 The pipes, pumps, valves and flanges forming part of the fire-fighting system which transfers fire-fighting water from point of generation to distribution to the respective Permit Holder shall be certified by an approved auditor at least once every three years unless otherwise specified in the procedure to be adopted following the COMAH review carried out as part of this IPPC application. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 4.

## **2.18 Energy Efficiency**

- 2.18.1 As part of the AER, the Permit Holders shall produce a report on the energy and fuel consumed at the plant permitted through this permit over the previous calendar year, providing the information listed in Schedule 2 of the respective subsidiary permit.
- 2.18.2 The Permit Holder shall maintain and operate the plant permitted through this permit so as to secure energy efficiency, in particular by;
- ensuring that the appropriate operating and maintenance systems are in place;
  - ensuring that all plant permitted through this permit is adequately insulated to minimise energy loss or gain;
  - ensuring that the type of lighting used is energy-efficient;
  - ensuring that all appropriate containment methods (e.g. seals) are employed and maintained to minimise energy loss;
  - maintaining and implementing an energy management system which shall include the monitoring of main energy flows for each generating unit

- 2.18.3 The Authority may request the submission of an energy efficiency plan which targets areas for improving energy efficiency and identifies energy-saving techniques that are applicable to the activities and their associated environmental benefit, and prioritises them. The energy efficiency plan shall be submitted as part of the AER (Schedule 2) of the respective subsidiary permit.

## **2.19 Transport**

- 2.19.1 Independent of any Environment Management System, the Permit Holder shall be responsible for making use of the services of an ADR (The European Agreement concerning the International Carriage of Dangerous Goods by Road) certified carrier for transport of hazardous chemicals and hazardous wastes on land. ∞
- 2.19.2 The Permit Holder shall make use of the services of a registered waste carrier for the transport of waste from the site in accordance with S.L. 549.45

## **2.20 Ozone Depleting Substances and Fluorinated Greenhouse Gases**

- 2.20.1 No new equipment or components containing substances falling within the scope of EC Regulation No. 1005/2009 on substances that deplete the Ozone Layer & S.L. 549.58 on Substances that Deplete the Ozone Layer, shall be installed within the site.
- 2.20.2 All installation, maintenance and servicing of equipment containing Fluorinated Greenhouse Gases shall abide by the requirements of Regulation (EU) No 517/2014 on fluorinated greenhouse gases and repealing Regulation (EC) No. 842/2006, Commission Implementing Regulation (EU) 2015/2066, Commission Regulation (EC) Nos 1516/2007, 304/2008, 306/2008 and S.L.427.94, Fluorinated Greenhouse Gases (implementing) Regulations.
- 2.20.3 The use of HCFCs in the maintenance and servicing, in particular refilling of such gases is prohibited. Installation of products and equipment whose function relies on such substances shall be prohibited.
- 2.20.4 Maintenance and servicing of equipment containing ozone depleting substances and fluorinated greenhouse gases shall be carried out in accordance with the legal provisions of Regulation (EU) No 517/2014 on fluorinated greenhouse gases and repealing Regulation (EC) No. 842/2006 and its implementing acts and Regulation (EC) No. 1005/2009 on substances that deplete the Ozone Layer. All maintenance and servicing shall be reported in the format specified in Schedule 2 of the relevant subsidiary permit.
- 2.20.5 For all equipment installed on site utilising Ozone Depleting Substances or Fluorinated Greenhouse Gases, information pertaining to installation, maintenance and servicing shall be provided as prescribed in Schedule 2 of each respective subsidiary permit. When any equipment is replaced by new equipment, the Authority shall be notified in this regard and details provided on the new equipment installed.
- 2.20.6 Upon decommissioning of all equipment containing foam and insulation panels containing substances falling within the scope of EC Regulation No. 1005/09 on substances that deplete the Ozone Layer & S.L. 549.58 together with Regulation (EU) No. 517/2014 on fluorinated greenhouse gases and repealing Regulation (EC) No.842/2006, the waste gas should be treated as hazardous waste and any foam containing components need to be disposed of at specialised facilities where possible ODS/F gas can be extracted prior to disposal.

2.20.7 Where required, leak detection systems as per the legal provisions of Regulation (EU) No 517/2014 on fluorinated greenhouse gases and repealing Regulation (EC) No. 842/2006 shall be installed and well maintained.

2.20.8 Any fixed or mobile refrigeration equipment (including refrigerated containers leased from third parties which are located on site for a period exceeding 6 months), shall also be included in the Ozone Depleting Substances Reporting required in the Schedule 2 (Annual Environmental Report).

## **2.21 Land and groundwater investigations, Closure and Decommissioning**

2.21.1 The Permit Holder/s shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by;

- i. Attention to the design of new plant or equipment;
- ii. The maintenance of records of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and
- iii. The maintenance of a decommissioning plan to demonstrate that the installation can be decommissioned avoiding any pollution and public health risk and returning the site of operation to a satisfactory state

2.21.2 The Permit Holder/s shall maintain an Outline Decommissioning Plan for the installation. This Outline Decommissioning Plan shall at least include the following information.

a) A draft waste management strategy which shall include:

- i. The identification and characterisation of sources, types of wastes (including equipment, tanks, fuels and by-products);
- ii. Criteria for segregation of wastes;
- iii. Proposed treatment, conditioning, transport, storage and disposal/recovery methods;
- iv. Potential reuse/recycling of such wastes.

b) A qualitative assessment of the potential for contamination of land and groundwater pollution which might arise from the historical and current processes carried out at the installation.

c) The identification of potential sources of emissions to the atmosphere, land and water (both seawater and groundwater) pollution which might arise from the decontamination process and corresponding

2.21.3 The Permit Holder/s shall carry out a full review of the outline Decommissioning Plan at least every 4 years.

- 2.21.4 The Permit Holder/s shall maintain an Outline Decommissioning Plan for the installation. This Outline Decommissioning Plan shall at least include the following information:
- 2.21.5 The Authority may request the Permit Holder/s to carry out additional land and groundwater monitoring.
- 2.21.6 The Permit Holder shall notify the Authority immediately upon a decision being taken to decommission all or part of the site, or planned cessation for a period greater than 6 months, of all or part of the permitted activities. The Authority may impose further requirements in the case of planned cessation for a period greater than 6 months.
- 2.21.7 The Permit Holder shall notify the Authority prior to ceasing operations permanently in part or full, whereby an application for cessation of operations shall be made to the Authority and shall include a decommissioning plan.

#### **Coordinated Land & Groundwater Monitoring**

- 2.21.8 All Permit Holders within the installation shall provide the Permit Coordinator or his appointed consultant with all the necessary information including existing testing results, studies and investigations carried out to date to ensure a coherent assessment addressing the entire installation.
- 2.21.9 With respect to the routine land and groundwater monitoring strategy as part of improvement programme Condition 1.5.1 item 5 in Table 1.5.1;
- i. The monitoring shall be carried out individually by each Permit Holder on monitoring points within their responsibility but submitted to the Authority through the Permit Coordinator.
  - ii. Prior to execution of the Coordinated Land & Groundwater Monitoring Report each Permit Holder shall submit for approval by the Authority a sampling strategy for its review. Each Permit Holder shall subsequently carry out any land and groundwater investigations as agreed with the Authority which will be utilised to produce a Coordinated Land & Groundwater Monitoring Report.
- 2.21.10 The land and groundwater monitoring strategy referred to in 2.21.8 shall fulfil these requirements:
- i. The list of the pollutants to be monitored.
  - ii. The location of the points for the sampling, the sampling methods, the handling of the samples, the pre-treatment/extraction of the analytes (where applicable) and the methods used in order to analyse the samples are clearly detailed.
  - iii. Samples will be analysed to the relevant EN or EN ISO standards or equivalent.
  - iv. Samples shall be managed by a lab accredited (or in the process of accreditation, as confirmed by the National Accreditation Body (NAB-Malta) or equivalent) to at least EN ISO 17025:2017 and preferably accredited for each and every analysis

2.21.11 Such a Coordinated Land & Groundwater Monitoring Report shall be composed of:

- i. The separate investigations and monitoring strategies carried out by the individual Permit Holders
- ii. An additional section consolidating and coordinating these three submissions together with an overall assessment of the installation as a whole.

#### **Coordinated Outline Decommissioning Plan**

2.21.12 As part of the improvement programme of the installation, the Permit Coordinator shall submit to the Authority a Coordinated Outline Decommissioning Plan addressing the entire installation within the timeframe specified in Condition 1.5.1. Table 1.5.1 Item 6 This Decommissioning Plan shall also address together any follow up actions arising from the land and groundwater risk assessment, baseline reports and monitoring strategy.

2.21.13 The Outline Decommissioning Plan shall at least include the information detailed below:

- i. The results of the coordinated baseline site report
- ii. Criteria identified in condition 2.21.2

2.21.14 The Coordinated baseline reports and routine monitoring reports referred to in condition 2.21.8 shall be utilised to formulate subsequent amendments to Coordinated Outline Decommissioning Plan required by 2.21.7.

2.21.15 Two years before the planned decommissioning of the whole installation the Permit Coordinator, in consultation with all the Permit Holders within the installation covered by the respective Subsidiary Permits shall submit to the Authority a full Decommissioning Plan which shall at least include all the following information:

- i. The results of any land and groundwater monitoring carried out to date as per the baseline report submitted from any subsequent routine land and groundwater monitoring.
- ii. A detailed monitoring programme which will illustrate how the Permit Holders will measure the current levels of various pollutant in the land in line with the monitoring requirements of the baseline report submitted as per condition 2.21.9 as per European Commission Guidance concerning baseline reports under article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C 136/03).
- iii. A comparison between the monitoring submitted as part of the baseline report and the monitoring carried out as per condition 2.21.17(i), to assess whether significant pollution of land and groundwater by relevant hazardous substances has been caused by the installation.
- iv. The levels to which the site and any affected land and groundwater will have to be decontaminated to ensure that the site is returned to the state in the first monitoring carried out as part of the baseline report.
- v. Where the contamination of land and groundwater at the site poses a significant risk to human health or the environment as a result of the activities carried out by the Permit Holder, the Permit Holder shall submit a report indicating the actions to be taken for removal, control, containment or

reduction of relevant hazardous substances so that the site, taking into account its current or approved future use, ceases to pose such a risk.

- vi. The methods which will be used in order to decontaminate the land. Such methods may also include isolation
  - vii. A detailed waste management strategy which shall include:
    - a) The identification and characterisation of sources, types and quantities of waste (including equipment, fuels, by-products such as ash, etc.);
    - b) Criteria for segregation of wastes;
    - c) Proposed treatment, conditioning, transport, storage and disposal/recovery methods;
    - d) Potential reuse/recycling of such wastes.
  - viii. The identification of potential sources of emissions to the atmosphere, land and water (both seawater and groundwater) pollution which might arise from the decontamination process and corresponding mitigation measures to minimise the likelihood of such emissions.
- 2.21.16 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the installation in the permitted activity, the Permit Holders shall to the satisfaction of the Authority, decommission, render safe or remove for disposal/recovery, any land, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution and that may pose a public health risk
- 2.21.17 Notwithstanding condition 2.21.18 of this Permit, the Permit Coordinator together with the other Permit Holders shall carry out a review of the Coordinated Outline Decommissioning Plan at least every 4 years.
- 2.21.18 The Permit Coordinator shall notify the Authority immediately upon a decision being taken to decommission the site of the installation.
- 2.21.19 The Permit Holders covered by the respective Subsidiary Permits shall inform the Permit Coordinator and the other Permit Holders of any decision being taken to decommission any plant falling within their responsibility in part or as a whole.
- 2.21.20 As part of the obligations arising from condition 2.21.18 a finalised version of the Site Closure Plan shall be submitted to the Authority for approval not later than 10 days after the Authority is notified of the intention to decommission the site.
- 2.21.21 The approved Decommissioning Plan shall be implemented within 18 months of final cessation or decommissioning of the Permitted activities or part thereof, or according to a timeframe as may be agreed with the Authority.

### **3 Records**

- 3.1 The Permit Holders shall ensure that all records required to be made by the Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
- i. be made available for inspection by the Authority at any reasonable time;
  - ii. be supplied to the Authority on demand and without charge and in the format requested;
  - iii. be legible;

- iv. be made as soon as reasonably practicable;
- v. indicate any amendments which have been made and shall include the original record wherever possible; and
- vi. be retained by the Permit Holder at the site office, or any other location agreed to with the Authority in writing, for a minimum period of 5 years from the date when the records were made., unless otherwise agreed in writing with the Authority.

#### **4 Coordination of reporting**

- 4.1 All reports and written and/or oral notifications required by this Framework Permit and notifications required by Regulation 7 of the Industrial Emissions (IPPC) Regulations shall be made and sent to the Authority using the contact details notified in writing to the Permit Holder by the Authority.
- 4.2 The Permit Coordinator shall submit to the Authority an AER of the previous year by not later than end of June of each year, providing the information listed in Schedule 4 of this Permit and in the format specified therein. The AER shall be forwarded to the Authority in electronic format.

#### **5 Greenhouse Gas Emissions Permit**

- 5.1 The conditions in this Framework Permit and in each Subsidiary Permit are without prejudice to any condition in the Greenhouse Gas Emissions Permit pursuant to S.L. 423.50 – European Union Greenhouse Gas Emissions Trading Scheme for Stationary Installations, Regulations, 2013.

#### **6 Audit & Inspection Fees**

- 6.1 As per provisions of Regulation 24 of S.L. 549.77, all inspection costs, whether for scheduled or additional inspections, shall be paid by the Permit Holder to the Competent Authority at a standard rate as communicated to the Permit Holder by the Authority.
- 6.2 The Competent Authority may engage consultancy services to obtain specialised expertise to obtain assistance in carrying out compliance audits (including monitoring and, or analysis of samples) and to carry out enforcement action. The cost of the consultancy services will be communicated to the Permit Holder(s) prior to the consultancy services being engaged and will be borne by the Permit Holder(s).
- 6.3 The COMAH Competent Authority reserves the right to request a fee to the Permit Holders<sup>4</sup> for any costs reasonably incurred in performing the functions referred to in sub-regulation (1) of regulation 14 of the COMAH regulations S.L. 424.19 in relation to the establishment concerned.
- 6.4 When requiring payment, the COMAH Competent Authority shall send or give to the Permit Holder a detailed statement of the work done and costs incurred including the dates of any visits to the establishment and the period to which the statement relates; and the fee, which shall be recoverable only as a civil debt, shall become payable one month after the statement has been sent or given.
- 6.5 The COMAH Competent Authority may also charge the Permit Holder other fees as specified in sub-regulations (6) and (7) of Regulation 14 of the COMAH regulations, S.L.424.19 for performing any other functions under these regulations. This may include, but shall not be limited to, any costs reasonably

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<sup>4</sup> Applicable to Enemalta plc.and ElectroGas Malta Ltd.

incurred by the competent authority in arranging for any emergency services to participate in the testing of the off-site emergency plan.

## **7 Notifications**

This section is without prejudice to any other notification requirement in this Permit.

- 7.1 The Permit Holders, acting through the Permit Coordinator, shall notify the Authority without delay of:-
- i. the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
  - ii. the detection of any fugitive emission which has caused, is causing or may cause significant pollution and/or a public health risk unless the quantity emitted is so trivial that it would be incapable of causing significant pollution and/or a public health risk or incapable of being detected;
  - iii. the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution and /or a public health risk; and
  - iv. any accident which has caused, is causing or has the potential to cause significant pollution and /or a public health risk.
  - v. the results of any investigation carried out in accordance with the procedure outlined in Schedule 6, so as to identify the source and/or the Permit Holder responsible for such exceedance.
- 7.2 The Permit Holders acting through the Permit Coordinator shall submit written confirmation to the Authority of any notification under condition 7.1, by sending.
- i the information listed in Schedule 3 to this Permit within 24 hours of such notification; and
  - iii the information listed regarding non-compliance incidents in Schedule 4 according to the timeframe specified in Condition 4.2;
- 7.3 The Permit Holders acting through the Permit Coordinator shall give written notification as soon as practicable prior to any of the following:
- i permanent cessation of the operation of part or all of the Permitted Installation;
  - ii cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and
  - iii resumption of the operation of part or all of the Permitted Installation after a cessation notified under 7.3 (ii).
- 7.4 The Permit Holders acting through the Permit Coordinator shall notify the Authority, as soon as practicable, of any information concerning the state of the site which affects or updates that provided to the Authority as part of the Site Report submitted with the application for this Permit.
- 7.5 The Permit Coordinator shall notify the following matters to the Authority in writing within 10 working days of their occurrence. The holders of the respective

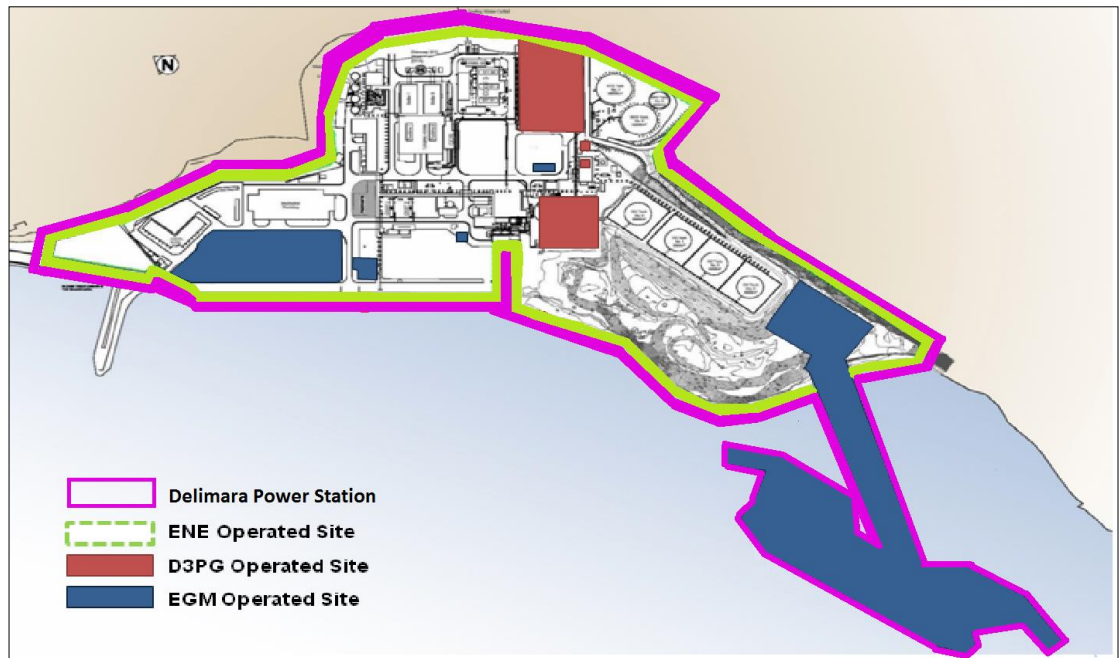
Subsidiary Permits shall notify the Permit Coordinator immediately on the following.

- i. Any change in the Permit Holder's trading name, registered name or registered office address;
- ii. Any change to particulars of the Permit Holder's ultimate holding company (including details of an ultimate holding company where a Permit Holder has become a subsidiary); and
- iii. Any steps taken with a view to the Permit Holder going into administration, entering into a company voluntary arrangement or being wound up.

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**Schedule 1A**  
**Installation Site Boundary**  
**(outlined in purple)**

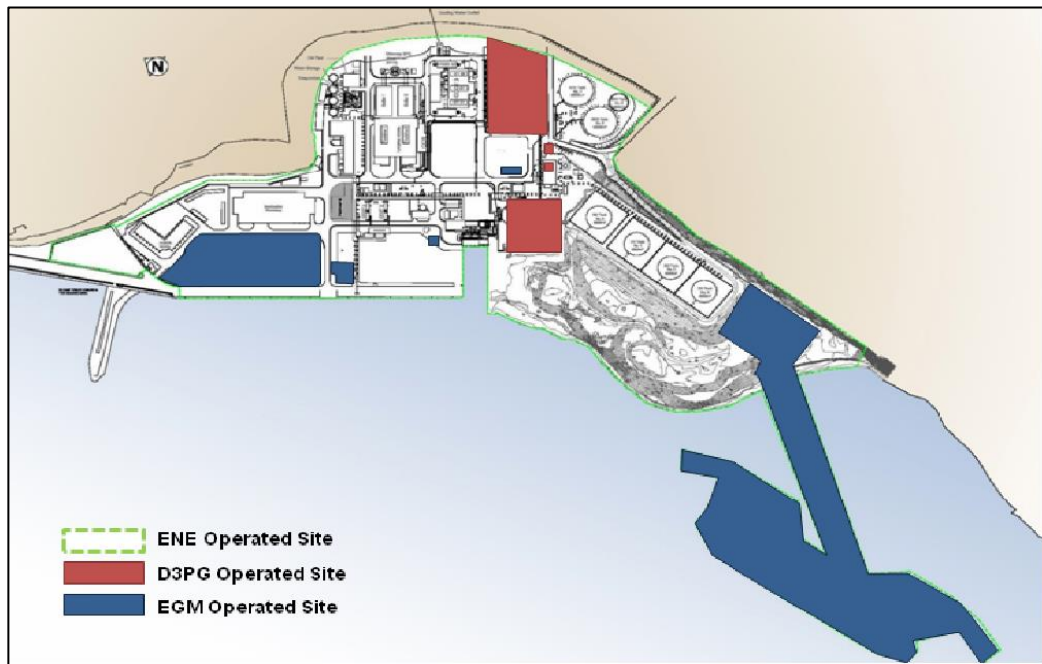
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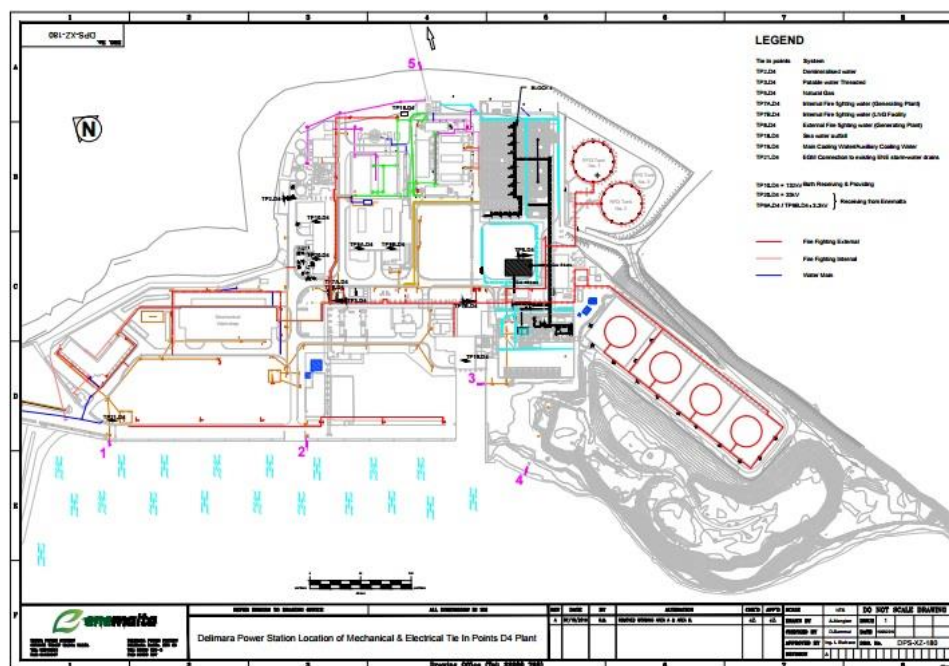
**Schedule 1B**  
**Operational boundaries for individual Permit Holders**

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### **Tie-in points between Enemalta plc. and Electrogas Malta Ltd.**

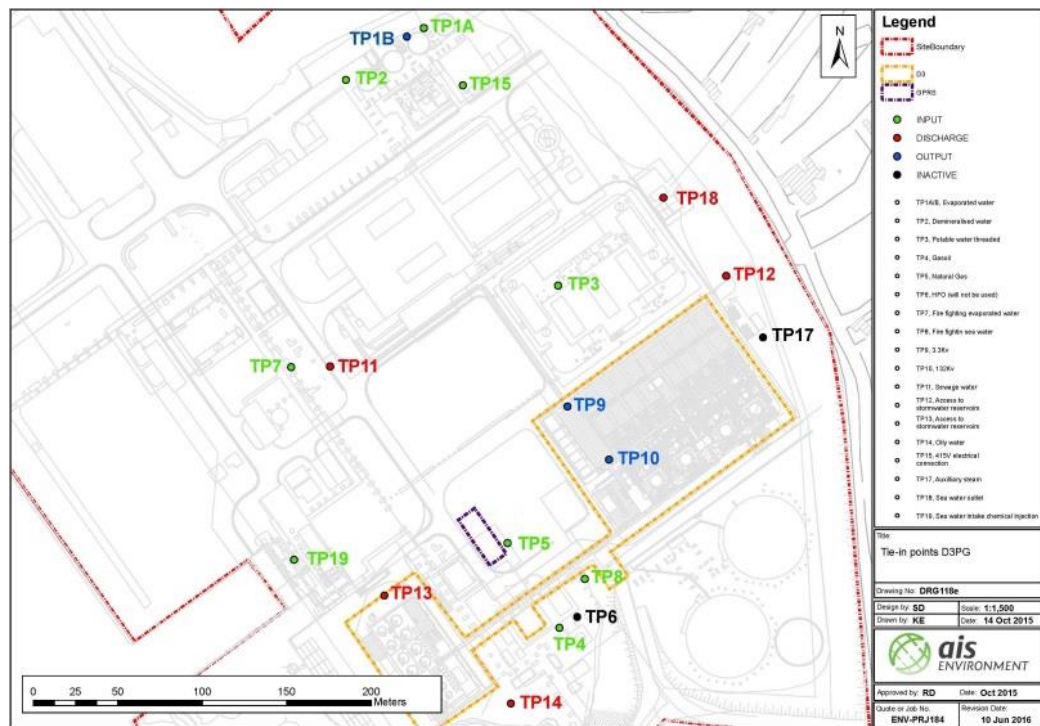


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## Schedule 2C

### Tie-in points between D3 Power Generation Ltd. And Electrogas Malta Ltd – TP 5 only.



### Schedule 3

#### Notification of abnormal emissions

This page outlines the information that the Permit Holder must provide to satisfy conditions 7.1 and 7.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the Industrial Emissions (IPPC) Regulations.

#### Part A

Permit Number	
Name of Permit Holder	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media (e.g. air, groundwater)	Best estimate of the quantity or the rate of emission (include units)	Time between which the emission took place

Measures taken, or intended to be taken, to stop the emission	
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#### Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment and any public health risk or harm which has been or may be caused by the emission.	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name <sup>5</sup>	
I.D. Card No./Passport No.	
Post	
Signature	
Date	

<sup>5</sup> authorised to sign on behalf of Operator

## Schedule 4

### Annual Environmental Report

**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Annual Environment Report to be made available on the Authority's public website.

**S4.1 Introduction**

IPPC Permit Number	
Reporting Year	
Name and location of Site	
Brief description of activities at the site	

**S4.2 Environment Management System & Reporting**

Please attach a supporting document with the following:

- |   |                          |
|---|--------------------------|
| 1. Environmental Policy containing the installation's environmental objectives and targets; | Tick (✓)                 |
| 2. Environmental Management Programme report (for the reporting year);                      | <input type="checkbox"/> |
| 3. Environmental Management Programme proposal (for the following year);                    | <input type="checkbox"/> |

**S4.3: Ambient Air Quality Monitoring**

Sampling location	
Number of PM <sub>10</sub> daily samples taken during reporting year	
Number of PM <sub>2.5</sub> daily samples taken during reporting year	
Number of samples analysed for arsenic, cadmium, nickel, lead and vanadium during reporting year	

	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
Annual limit value (in accordance with S.L. 549.59)	40	25
Annual average measurement		
Highest recorded measurement during reporting year		
Daily limit value (in accordance with S.L. 549.59)	50	n/a
Number of exceedances of daily limit value		n/a

Sampling dates	Monitoring result ( <i>specify units</i> )				
	Arsenic	Cadmium	Nickel	Lead	Vanadium
<b>Average</b>					

*Note: In the table above, underline values which exceed the target/limit values specified in S.L 549.59*

Name of laboratory carrying out sampling and measurement	
--	--

Additional documentation to be submitted:

	Tick (✓)
Accreditation certificate(s) of laboratory	<input type="checkbox"/>

#### S4.4 Emissions to Marine Water for common Discharge Points (as per table 2.5.19)

##### S4.4.1 Emissions to Marine Water: Physical and Chemical Monitoring

*ONE REPORT PER OUTLET TO BE SUBMITTED*

Name of outlet and reference number: \_\_\_\_\_

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>1</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
1	Flow			-	-	-			
2	pH								
3	Temperature								
4	Biological oxygen demand (BOD5)								
5	Total Nitrogen								
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681								
8	Chlorine dioxide and oxidants (given as chlorine)								
9	Arsenic								
10	Cadmium								
11	Chromium (Total)								
12	Copper								
13	Lead								
14	Mercury								
15	Nickel								
16	Tin								
17	Vanadium								
18	Zinc								
19	Total petroleum hydrocarbons								

<sup>1</sup> Exceedances are to be clearly highlighted in red.

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>1</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
20	Tributyl tin compounds (tributyltin cation; CAS number 36643-28-4)								
21	Total Suspended Solids								
22	Benzene (CAS number 71-43-2)								
23	PAHs as follows:								
	Benzo(a)pyrene								
	Benzo(b)fluor-anthene, Benzo(k)fluor-anthene								
	Benzo(g,h,i)-perylene, Indeno(1,2,3-cd)-pyrene								
24	C10-C13 chloroalkanes (CAS number 85535-84-8)								
25	Polychlorinated biphenyls (CAS number 1336-36-3)								

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓)

Were there any exceedances in the present reporting year?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If yes, one of the following is also to be submitted:

Action programme aimed at achieving emission limits  
Document designating a mixing zone following the procedures specified in Schedule IX(3) "Mixing Zones" in S.L.549.100.

Tick (✓)


**S4.4.2 Emissions to Marine Water: Ecological Monitoring**

<b>Date on which survey was carried out:</b>	
Did the survey reveal a decline in the conservation status of any of the habitat types and species in the area, especially those listed in the Schedules S.L 549.44?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Additional documentation to be submitted:

Ecological survey for reporting year

Proposals for mitigation measures (only required if the survey revealed a decline in the conservation status)

Tick (✓)


**S4.5 Co-ordinated Noise monitoring<sup>i</sup>**

Monitoring point <sup>ii</sup>	Date sampled	Time sampled	Operating conditions	Noise measurement	Units	Other comments (if any)

Additional documentation to be submitted:

Map showing monitoring points	Tick (✓)
Detailed noise report <sup>iii</sup>	

<sup>i</sup> Noise monitoring shall be carried out according to BS 4142:1997.

<sup>ii</sup> Monitoring points should be labelled using a unique code, and should be suitably sited. A corresponding labelled map showing the location of each monitoring points shall be submitted.

<sup>iii</sup> The detailed noise report should include information about the various monitoring points chosen, an analysis of the results and suggestions for improvement (if applicable).

**S4.6 Incidents and Complaints****S4.6.1 Non-Compliance Incidents during Reporting Year**

Date of incident	Brief description of Incident	Cause	Corrective action

Total number of non-compliance incidents for previous year:

Total number of non-compliance incidents for current reporting year:

**S4.6.2 Complaints made by the public**

Date of complaint	Description of complaint	Actions taken

Total number of complaints for previous year:

Total number of complaints for current reporting year:

**S4.7 Co-ordinated Land monitoring**

Land monitoring carried out in (year):

Land monitoring due in (year)

*If land monitoring was due in current reporting year:*

Sampling date/s	
-----------------	--

Additional documentation to be submitted:

Tick (✓)

Land monitoring programme

Land monitoring results

Accreditation certificates of laboratory



**S4.9 Air emissions****Reporting of SO<sub>2</sub> and NO<sub>x</sub> loads****SO<sub>2</sub> load**

<b>Period</b>	<b>Projected load <sup>i</sup></b>	<b>Actual load</b>	<b>Revised projected load</b>
	<b>tonnes</b>	<b>tonnes</b>	<b>tonnes</b>
January – March			
April – June			
July – September			
October – December			
<b>Total annual load</b>			

**NO<sub>x</sub> load**

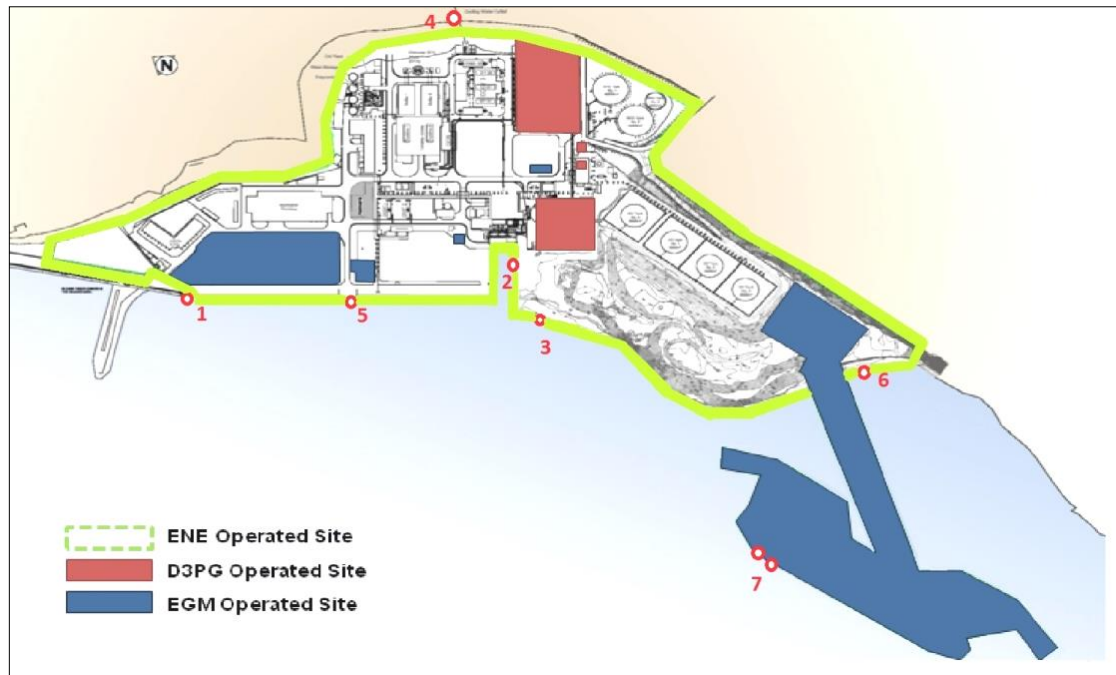
<b>Period</b>	<b>Projected load</b>	<b>Actual load</b>	<b>Revised projected load</b>
	<b>tonnes</b>	<b>tonnes</b>	<b>tonnes</b>
January – March			
April – June			
July – September			
October – December			
<b>Total annual load</b>			

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<sup>i</sup> As submitted to the Authority in September of previous year

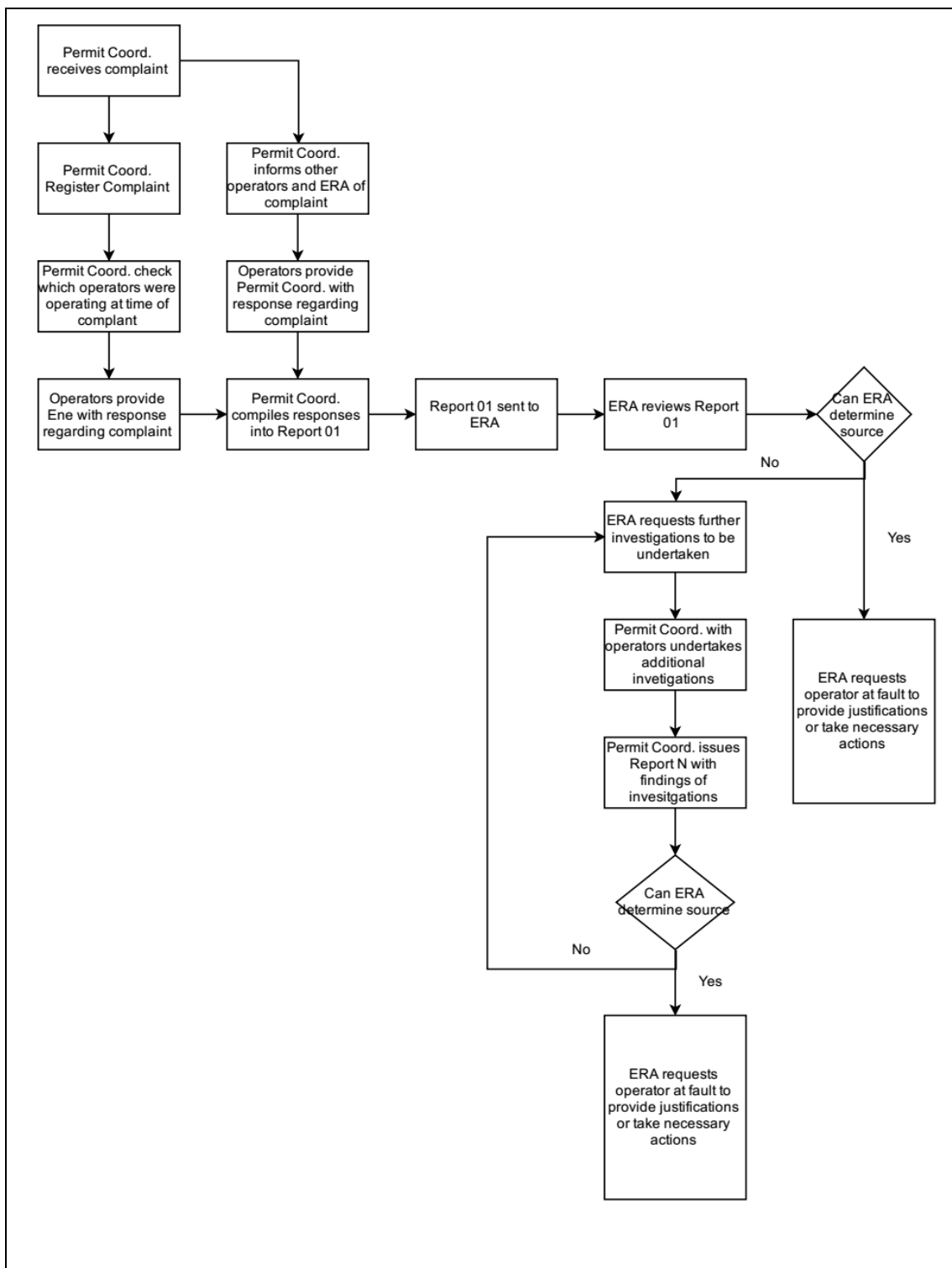
**Schedule 5****Emission points to sea from the Installation**

*(Outlet points refer to Specified Points in Table 2.5.19 and other points as per relevant section in the Subsidiary Permits)*



## Schedule 6

## Procedure for reporting complaints and exceedances



### Schedule 7

#### List of Priority Substances and Certain Other Pollutants in the field of Water Quality

Alachlor	Hexachloro-cyclohexane
Anthracene	Isoproturon
Atrazine	Naphtalene
Brominated diphenylether	Nonylphenol
Carbon tetrachloride	Octylphenol
Chlorpyrifos	Pentachloro-benzene
Chlorfenvinphos	Pentachloro-phenol
Aldrin	Simazine
Dieldrin	Tetrachloroethylene
Endrin	Trichloroethylene
Isodrin	Trichloro-benzenes
DDT	Trichloro-methane
1,2-Dichloroethane	Trifluralin
Dichloromethane	Dicofol
Di(2-ethylhexyl)-phthalate	Perfluorooctane sulfonic acid and its derivatives
Diuron	Quinoxifen
Endosulfan	Aclonifen
Fluoranthene	Bifenox
Hexachloro-benzene	Cybutryne
Dichlorovos	Cypermethrin
Heptachlor and heptachlor epoxide	Hexabromo-cyclododecane
	Terbutryn

## **Schedule 8**

### **Terms of Reference for Noise Monitoring**

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#### **1. Introduction**

The noise monitoring shall be carried out by the Operator. A consultant that is either an accredited Acoustic expert or qualified professional Engineer and is approved by ERA according to the following criteria shall be commissioned who will propose a monitoring procedure for measuring noise levels within and around the installation as described in section 2 below.

The person(s) undertaking the “on field monitoring” shall be in possession of a certification for the collection of data.

The noise monitoring and impact study report shall be compiled and reviewed by a person who is in possession of a:

- (a) Bachelors degree in Acoustics, **or**
- (b) Bachelors degree in any of the following: Physics, Architecture, Civil Engineering or Engineering, Environmental Health, Environmental Science/Management, Occupational Health and Safety, **and** an MQF Level 7 specialisation in Acoustics, **or**
- (c) Bachelors degree in any of the following: Physics, Architecture, Civil Engineering or Engineering, Environmental Health, Environmental Science/Management, Occupational Health and Safety **and** in addition the consultant must be at least an associate member of the Institute of Acoustics or be employed by an organization who are members of the Association of Noise Consultants or equivalent grade of Membership of a professional body for those working in acoustics and noise in any one of the EU member states or any other reputable professional body to the satisfaction of ERA, **or**
- (d) Certification for the collection of data, such as “Certificate of Competence in Environmental Noise Measurement” issued by the Institute of Acoustics (IoA) or any other equivalent qualification issued by a comparable Professional Association dealing with acoustics in any one of the EU and EEA Member States or any qualifications issued by an educational institution to the satisfaction of ERA **and** five (5) years experience in noise measurements and assessments.

Copies of such qualifications and certification shall be submitted to ERA prior to the monitoring proposal.

The consultant, in collaboration with ERA, may, where applicable need to consult and seek advice from the Local Council during the selection of the sensitive receptors.

#### **2. Content of monitoring study**

The monitoring study should address the following issues:

- 1. A description of the installation – this shall include a description of all processes carried out on site and related equipment and infrastructures.
- 2. A description of the surrounding areas – this shall include identification of the types of activities, whether residential or commercial, roads and other amenities. These shall be location-specific taking into account their location with respect to the site.

3. Identification of the main sources of noise and vibration – this shall include all processes on site, including aspects such as transport noise on site, plant equipment, mechanical operations, etc (amongst others) and their times of operation.
4. Identification of the closest noise sensitive receptors – this shall be carried out after assessing the noise levels in the plant's perimeter and in the other locations identified in point 2 above under normal operating conditions of the plant. The various monitoring points shall be identified with a unique code and an analyses of the ambient noise to which each monitoring point is subjected to.
5. Environmental Noise Study – this shall include details of the standards used for measurements, equipment used including calibration details and certificates, resultant measurement data, assessment methods and complaints significance scale. The study is to be carried out according to the latest revisions of ISO1996 and the rating of industrial noise affecting residential areas shall be according to the latest revisions of BS4142. The study should include perimeter noise levels, baseline noise study of sensitive receptor sites, noise impact on site sensitive receipts including day and night background levels.

The data compiled for both day and night is a typical representation of the current situation at all receptor points and the measurement time interval is sufficient enough to obtain representative value of a typical background when the specific noise source will be operating. For facilities that operate continuously for 24 hours, it may be appropriate to measure at a time when all other noises have subsided. If it is possible 'specific noise' is estimated by measuring the noise level with and without the facility running.

6. The monitoring shall be performed exclusively using a calibrated type 1 sound level meter conforming to BS 6698/IEC 61672 Class 1. The use of type 2 sound level meters or less is not considered acceptable and will not be considered. The sound level meter, calibrator and microphone must hold a valid current calibration certificate from an accredited laboratory (ex. UKAS)
7. Prior to the initial data collection and at the end of the monitoring day, all acoustic instrumentation system such as the sound level meters are calibrated, and checked immediately before and after each series of monitoring readings. Results must be within  $\pm 1.0\text{dB}$ , otherwise discarded and read again.
8. As a basis for the collection of background data, monitoring shall be carried out during a period when there are no operations at the facility. If this is not possible, operations are to be temporarily suppressed during readings. If this is still not possible, a measurement at an alternative location where the residual sound is comparable to the assessment location(s) with justifications shall be provided.

In case that operating conditions of the site are significantly different during the day, evening or night periods, the measurement procedure will be repeated for those periods of day/evening or night. Therefore, information from the operator is requested prior to the commencement of the measurements. If the information requested is not provided in time, the Consultants will assume that the site operates uniformly during the day, evening and night periods and measure during the daytime only. However, baseline noise levels would still need to be measured at the nearest noise sensitive locations at night in order to determine the impact.

9. The background noise measurements shall be accompanied by a critical listening of all the other noise sources present in the background. Due to certain acoustic features such as tonality, impulsivity and intermittency the inclusion of specific noise level plus any adjustment for the different noise characteristic features, the rating level,  $L_{Ar,Tr}$

should be reported in accordance with BS 4142:2014, and any revision thereof, depending on the subjective assessment made while taking the readings.

10. Monitoring shall consider seasonal variations including but not limited to the occurrence of the fireworks and any other similar typical seasonal predominant noise sources. The recommended time periods over a twenty-four hour period are categorized in terms of daytime, from 0700-2300 hrs (LAeq,[16hrs]) and night-time period from 2300 – 0700 hrs (LAeq[8hrs]).
  11. For the propagation of noise from the power plant, the use of ISO 9613, ISO 8297: 1994, ISO 3744:2010 and ISO 3746:2010; and any revision thereof (as per the interim methods of the Environmental Noise Directive 2002/49/EC) is strongly recommended.
  12. In the case of multi-operator installations where the evaluation and monitoring needs to distinguish between the impact caused by different or interconnected operators within the same installation, the application of the following standards is deemed necessary: standard ISO8297: 1994 and any revision thereof, and ISO37XX series or specifically ISO 9614-2:1996.
  13. Impact assessment of noise events on noise sensitive receptor site – this shall include an assessment according to the guidelines BS 4142:2014, ISO1996 and ISO9613 or any other standard and any other standard methodology stipulated by the Authority. A summary of the data obtained after the study has been carried out in relation to the noise sensitive receptors identified above shall be submitted.
  14. Conclusions and Mitigation measures – this shall include a summary report of findings from the noise monitoring study including the impact assessment of noise events on noise receptors sites and any remedial action and/or mitigation measures to be implemented by the operator in order to reduce impacts resulting from the site of operation.
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## Schedule 9

### Interpretation

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In this Permit, the following expressions shall have the following meanings assigned to them, except where the context otherwise requires. All other terms shall have the same meaning as that assigned to them in the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L. 549.77), or any statutory provisions or regulations amending or replacing them:

In this Permit, the following expressions shall have the following meanings:-

- 1        "*AER*" means the Annual Environmental Report.
- 2        "*Application*" means the application for this Permit, together with any response to a notice served under Regulation 5 to the Industrial Emissions (IPPC) Regulations and any operational change agreed under the conditions of this Permit.
- 3        "*Authorised Officer*" means any officer of the Authority authorised in writing pursuant to the Environment Protection Act 2016 to exercise any of the powers specified therein.
- 4        "*Background concentration*" means such concentration of that substance as is present in:

Where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation onto the site water supplied to the site where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; the precipitation onto the site.

- 5        "*BAT*" means best available techniques, which means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced in Malta, as long as they are reasonably accessible to the operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned."
- 6        "*Bi-annual*" means twice per year with at least five months between tests.
- 7        "*BREF*" means the latest version of the BAT reference document published by the European Commission.

- 8        "*Combustion plant*" or "*plant*" means any technical apparatus in which fuels are oxidised in order to use the heat thus generated. Where two or more separate plants are installed in such a way that their waste gases are *de facto* discharged through a common stack, the combination formed by such plants shall be regarded as a single unit;
- 9        "*Composite sample*" shall refer to a sample which is taken continuously over a given period, or a sample consisting of several samples taken either continuously or discontinuously over a given period;
- 10       "*CEM*" means continuous emission monitor
- 11       "*CEN*" means Comité Européen de Normalisation
- 12       "*Certification*" means a procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements. Certification can apply to instruments, equipment and/or personnel.
- 13       "*Continuous measurement*" means measurement using an automated measuring system permanently installed on site.
- 14       "*Conditions*" means the Conditions of the Framework Permit and the Subsidiary Permits.
- 15       "*COMAH Competent Authority*" means the Authorities and prescribed in the COMAH Regulations.
- 16       "*Decommissioning*" means ceasing the use of the Permitted Installation, or part thereof, including decontaminating and dismantling the equipment to such an extent that it can no longer be used.
- 17       "*Direct discharge*" shall refer to the introduction into marine waters and internal coastal water of any effluent;
- 18       "*Diesel engine*" shall mean an internal combustion engine which operates according to the diesel cycle and uses compression ignition to burn fuel;
- 19       "*Effluent*" shall refer to any discharge of water or waste water that can no longer be used as it is for the application it was originally intended;
- 20       "*Engineer*" for engineering works specified in these conditions, means a person who works in the relevant branch of engineering and possesses a warrant to carry out the profession of an engineer in Malta.
- 21       "Emission limit value"
- a) for discharges to air: means the permissible quantity of a substance contained in the waste gases from the combustion plant which may be discharged into the air during a given period; it shall be calculated in terms of mass per volume of the waste gases expressed in mg/Nm<sup>3</sup>, assuming an oxygen content by volume in the waste gas of 3 % in the case of liquid fuels used in boilers and 15 % in the case of gas turbines;
- b) for discharges to marine waters: shall refer to the limit value given in Schedule I to these permit conditions;

- 22        “*Flue*” means a compartment or division of a stack for conveying waste gases from the combustion plant to the outer air.
- 23        “*Flue-gas*” means a mixture of combustion products and air leaving a combustion chamber and being directed up a stack to be emitted.
- 24        “*Fugitive emission*” means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.7, 2.8 of this Permit.
- 25        “*Fuel*” means any solid, liquid or gaseous combustible material used to fire the combustion plant with the exception of waste;
- 26        “*Gas oil*” means any petroleum-derived liquid fuel falling within CN code 2710 00 67 or 2710 00 68, or any petroleum-derived liquid fuel which, by reason of its distillation limits, falls within the category of middle distillates intended for use as fuel and of which at least 85 % by volume (including losses) distils at 350°C by the ASTM D86 method;
- 27        “*Gas turbine*” means any rotating machine which converts thermal energy into mechanical work, consisting mainly of a compressor, a thermal device in which fuel is oxidised in order to heat the working fluid, and a turbine;
- 28        “*Groundwater*” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
- 29        “*GJ . Mg<sup>-1</sup>*” means gigajoule per megagramme;
- 30        “*Industrial Emissions (IPPC) Regulations*” means the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L.549.77) and words and expressions defined in the Industrial Emissions (IPPC) Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit. It shall include any future amendments or superseding legislation.
- 31        “*Installation*” means the stationary technical unit (composed of one or more plants) where combustion of fuels (the main activity) is taking place, and any other directly associated activities on the same site which have a technical connection with the main activity and which could have an effect on emissions and pollution;
- 32        “*ISO*” means International Standards Organisation
- 33        “*Marine waters*” shall refer to the waters which are outside the limit defined by coastal waters up to the limit delineated by the limit of territorial waters;
- 34        “*mg.Nm<sup>-3</sup>*” means milligramme per normal metre cubed;
- 35        “*Mg.month<sup>-1</sup>*” means megagramme per month;
- 36        “*Monitoring*” includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

- 37        "*Nominal capacity*" has the same meaning as in the Industrial Emissions (Framework) Regulations (549.76).
- 38        "OTNOC" means operation other than normal operating conditions, excluding start-up and shut-down and periods of abnormal operation.
- 39        "*Permit*" means this Framework Permit (IP0002/21/) together with the Subsidiary Permits (IP0002/21/i, IP0002/21/ii, IP0002/21/iii), and the terms "Framework Permit" and "Subsidiary Permit" shall be defined accordingly.
- 40        "*Permitted Installation*" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.
- 41        "*Periodic measurement*" means measurement at specified time intervals using manual or automated methods.
- 42        "*Periodic sampling*" means discrete / individual / separate / discontinuous / grab / spot sampling - individual samples taken in batches or that are time or effluent-volume dependent.
- Three formats can be identified:
- periodic time-dependent sampling – discrete samples of equal volume are taken at equal time intervals;
  - periodic flow-proportional sampling – discrete samples of variable volumes are taken at equal time intervals;
  - periodic samples taken at fixed flow intervals – discrete samples of equal volume are taken after the passage of a constant volume
- 43        "*Qualified random sample*" shall refer to a composite sample of at least five random samples taken over a maximum period of two hours at intervals of no less than two minutes and blended;
- 46        "*Random sample*" shall refer to a single sample from a waste water flow;
- 47        "*Shut -down period*" means the period of time taken to shut down;
- 48        "*Sewer*" means "*Public sewerage system*" means the sewerage system owned by the Water Services Corporation.
- 50        "*Sensitive receptor*" means an area which needs special protection, such as residential areas; areas where human activities are carried out
- 51        "*Staff*" includes employees, directors or other officers of the Permit Holder, and any other person under the Permit Holder's direct or indirect control, including contractors.
- 52        "*Surface water*" means inland waters, except groundwater; transitional waters and coastal waters.
- 53        "*Technically Competent Person*" means a person possessing the qualifications, experience and technical competence to abide by the conditions of the Permit.

- 54      “*Technically Competent Management*” means the Technically Competent Person or Persons in control of the day-to-day activities authorised by the Permit and carried on at the Site.
- 55      “*The Authority*” or “*the Competent Authority*” or “*ERA*” means the Environment and Resources Authority or such other body or person as the Minister responsible for the environment may by order in the Gazette prescribe.
- 56      “*Permit Coordinator*” means Enemalta plc. or any other Permit Holder as may be determined jointly by the Permit Holders and the Authority from time to time.
- 57      “*The Permit Holder*” means:  
- in relation to the Framework Permit each of Enemalta plc, Electrogas Malta Limited, and D3 Power Generation Limited acting jointly unless otherwise specified;  
- in relation to any Subsidiary Permits as follows:  
    For IP 0002/21/i – ElectroGas Malta Ltd.  
    For IP 0002/21/ii – D3 Power Generation Ltd.  
    For IP 0002/21/iii – Enemalta plc.
- 58      “*The Regulations*” means the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L. 549.77) and any regulations amending or replacing them.
- 59      “*The Site*” means the land, structures, combustion plants and equipment situated at the Delimara Power Station and in relation to which this Permit relates and as further detailed in Condition 1.2 of this Framework Permit and the relevant section in the Subsidiary Permits to which the permit relates.
- 60      “*Total nitrogen*” shall refer to the sum of total Kjeldahl nitrogen (organic N + NH<sub>3</sub>), nitrate V (NO<sub>3</sub><sup>-</sup>) – nitrogen and nitrate III (NO<sub>2</sub><sup>-</sup>) – nitrogen;
- 61      “*TSP*” means Total Suspended Particulates;
- 62      “*Valid half-hourly average*” means a half-hourly average is considered valid when there is no maintenance or malfunction of the automated measuring system.
- 63      “*Waste*” has the same meaning as in regulation 4 the Waste Regulations (549.63).
- 64      “*Waste gases*” means gaseous discharges containing solid, liquid or gaseous emissions; their volumetric flow rates shall be expressed in cubic metres per hour at standard temperature (273 K) and pressure (101,3 kPa) after correction for the water vapour content, hereinafter referred to as (Nm<sup>3</sup>/h);
- 65      “*Year*” or “*reporting year*” means calendar year ending 31 December.
- 66      “*% w/w*” means percentage weight by weight

Where a minimum limit is set for pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-

- i. In relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or.
- ii. In relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such.

**END OF PERMIT**

## Subsidiary Permit 1 with introductory note

Environment Protection Act (CAP. 549)  
Industrial Emissions (Framework) Regulations, S.L.549.76;  
Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77; Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Installation	<b>Delimara Power Station</b>
Permit Holder	<b>ElectroGas Malta Ltd. Block D, Ta' Monita Residence Piazza off St. Joseph Street, Marsascala,</b>

Approved Documents:	Permit number IP 0002/21 – framework document
	Sub-permit numbers IP 0002/21/i – ElectroGas Malta Ltd. IP 0002/21/ii – D3 Power Generation Ltd. IP 0002/21/iii – Enemalta plc.

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## Introductory note

The following Permit is issued under Regulation 7 of the Industrial Emissions (Framework) Regulations, (SL 549.76) ("the Industrial Emissions (Framework) Regulations") to operate an installation carrying out activities covered by the description in Section 1.1 in Schedule 1 of the Industrial Emissions (IPPC) Regulations (S.L.549.77), to the extent authorised by the Permit, i.e

**"Combustion of fuels in installations with a rated thermal input of 50 MW or more".**

Aspects of the operation of the installation which are not specifically regulated by conditions in the Permit may also be subject to the condition implied by Regulation 8 of the Industrial Emissions (IPPC) Regulations, which require the Operator to use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Conditions marked with a "∞" shall be construed as conditions which are to be enforced by the Authority responsible for such an issue.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, managed, operated and decommissioned.

In some sections, the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. These conditions do not explain what is BAT.

A non-technical description of the installation is given in the application, but the main activity of the installation is as follows:

- **Generation of electrical energy through the combustion of natural gas.**

Note that the Permit requires the submission of certain information to the Competent Authority as per subsequent specific conditions. In addition, the Competent Authority has the power to seek further information at any time under regulation 11 of the Industrial Emissions (Framework) Regulations, provided that it acts reasonably.

Other IPPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
<i>Not applicable</i>		
Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
<i>Enemalta Corporation</i>	IP 0002/07/A	29 March 2010
<i>Enemalta Corporation</i>	IP 0002/07/B	6 December 2011
<i>Enemalta Corporation</i>	IP 0002/07/C	23 July 2012
<i>Enemalta Corporation</i>	IP 0002/07/D	17 September 2013
<i>Enemalta plc</i>	IP 0002/07/E	01 April 2014
<i>Enemalta plc</i>	IP 0002/07/F	11 January 2017
<i>ElectroGas Malta Ltd.</i>		
<i>D3 Power Generation Ltd</i>		
<i>ElectroGas Malta Ltd</i>	IP 0002/07/Fi	11 January 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Fi	12 January 2017
<i>Enemalta plc</i>	IP 0002/07/Fi	11 January 2017
<i>Enemalta plc</i>		
<i>ElectroGas Malta Ltd.</i>	IP 0002/07/G	22 September 2017
<i>D3 Power Generation Ltd</i>		

<i>ElectroGas Malta Ltd</i>	IP 0002/07/Gi	22 September 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Gii	22 September 2017
<i>Enemalta plc</i>	IP 0002/07/Giii	22 September 2017

## Multiple Operator installations

As indicated in Regulation 6(3) of S.L. 549.76<sup>1</sup>, a permit may regulate several parts of an installation operated by different Operators. The importance of integrating the operations of each technical unit stems from the definition of “installation” in the provisions of S.L. 549.76, where this is defined as “a stationary technical unit within which one of more activities listed in the regulations concerning integrated prevention and control or in the regulations concerning organic solvents are carried out, and any other directly associated activities on the same site which have a technical connection with these activities and which could have an effect on emissions and pollution”.

In accordance to guidance provided by the Commission, an activity is considered to be a directly associated activity with a Schedule 1 activity if it shares common features, for example: it is part of the same industrial complex; it operates in the same or a related sector; or operates with some collective aspects such as site security.

This installation is therefore being regarded as a multi operator installation.

## Functions of the permit

This **Subsidiary Permit 1** (IP0002/21/i) which addresses the operations carried out by ElectroGas Malta Ltd, shall be regarded as part of the Permit IP00002/21 which consists of four main parts structured as follows:

- **The Regulatory Framework Permit** addressing the obligation of all Operators and coordinating these obligations due to the nature of the facility as a multi-operator installation (IP 0002/21).
- **Subsidiary Permit 1** addressing the operation carried out by ElectroGas Malta Ltd. (IP 0002/21/i).
- **Subsidiary Permit 2** addressing the operations carried out by D3 Power Generation Ltd. (IP 0002/21/ii).
- **Subsidiary Permit 3** addressing the operations carried out by Enemalta plc. (IP 0002/21/iii).

## Variations to the Permit

This Permit may be varied at any time in the future. If the Operator himself wants any of the Conditions of the Permit to be changed, a formal application must be submitted to the Competent Authority. When such an application is submitted to the Authority for its consideration, the decision shall be carried out in consultation with the other Operators within this multi operator installation

The **Status Log** within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Any change in operations shall only be implemented following the granting of a variation of the permit by the Authority.

## Surrender of the Permit

<sup>1</sup> L.N. S.L 549.76 – Industrial Emissions (Framework) Regulations, 2013

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made to the Competent Authority by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Competent Authority that there is no pollution and/or public health risk and that no further steps are required to return the site to a satisfactory state.

The Operator shall notify the Permit Coordinator and the other Operators within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit or the Operator specific Subsidiary Permits.

### Transfer of the Permit or part of the Permit

Upon the joint application of a Permit Holder and a proposed transferee, the Permit Holder may request to transfer an environmental permit. The permit shall not be transferred from the Permit Holder without prior approval from the Authority. Upon the Authority's decision to transfer the permit to the transferee, all rights, obligations, liabilities shall subsist onto the transferee.

The Operator shall notify the Permit Coordinator and the other operators within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit or the Operator specific Subsidiary Permits.

### Public Registers

This IPPC Permit and application is available to the public through the Competent Authority in accordance with the requirements of the Industrial Emissions (IPPC) Regulations. The applicant has made a request for certain information of a commercial nature to be withheld from the public. ERA has been supplied with all this information and has accepted the request of the applicant, because it was deemed to be commercially confidential. Alternative text which provides relevant information but does not include the confidential information, has however been included in the application.

### Status Log

Detail	Date	Comment
<i>Application IP 0002/07</i>	Received 05 February 2007	Not 'duly made'
<i>Response to request for information</i>	Request dated 16 June 2007	Response dated July 2007
<i>Report on boiler conversion for emission reduction</i>	PDS submitted 24 April 2008	Request for further information dated 14 July 2008. Further information submitted 24 September 2008
<i>Noise survey</i>	Report submitted 25 July 2008	
<i>Application 'duly made'</i>	27 April 2009	
<i>Response to request for information</i>	Request dated 27 April 2009	Response received 18 May 2009 Consolidated version received 18 May 2009
<i>Public consultation</i>	Commenced on 21 May 2009	Concluded on 20 June 2009

Detail	Date	Comment
<i>Re-classification of the phase 1 boilers (from 380 to 332 MW<sub>TH</sub>)</i>	Official letter dated 28 September 2009 plus supporting documents.	
<i>Permit determined A</i>	01 October 2009	
<i>Permit issued A</i>	29 March 2010	
<i>Application for variation of permit to include diesel engines</i>	Application received on 11 February 2010	
<i>Response to request for information</i>	Request dated 19 April 2010	Response received 31 May 2010, 17 June 2010 and 26 July 2010
<i>Response to request for information</i>	Request dated 17 September 2010	Response received 12 May and 2 June 2011
<i>Response to request for information regarding NOx emissions</i>	Request dated 24 June 2011	Response received 4 July 2011
<i>Response to request for information regarding socio-economic assessment</i>	Requests dated 24 June, 4 July and 18 July 2011	Response received on 4 August 2011
<i>Response to request for information</i>	Request dated 5 July 2011	Response received on 22 July, 27 July 2011.
<i>Correspondence regarding flue gas volume calculations</i>	Information submitted by Enemalta on 30 June, 8 and 29 July 2011 and 29 August 2011	Request accepted on 4 August 2011
<i>Request for variations to existing permit</i>	Received on 29 July 2011	
<i>Request for consolidated application</i>	Request made on 26 July 2011	Consolidated application received on 17 August (draft) and 23 August 2011 (final)
<i>Air dispersion model</i>	Report submitted on 24 August 2011	
<i>Updated cooling water dispersion modelling study</i>	Received on 7 September 2011	
<i>Public consultation</i>	Started on 24 August 2011	Concluded on 7 October 2011
<i>Renewal and variation B determined</i>	5 December 2011	
<i>Permit B issued</i>	6 December 2011	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension to condition 2.2.1.7.9 from September 2012 to June 2013</i>	Started on 17 May 2012	Concluded on 18 June 2012
<i>Variation C determined</i>	12 July 2012	
<i>Permit C issued</i>	23 July 2012	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension for HFO use from June 2013 to March 2014</i>	Started on 28 June 2013	Concluded on 28 July 2013

Detail	Date	Comment
<i>Variation D determined</i>	5 September 2013	
<i>Permit D Issued</i>	17 September 2013	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on the determination of the choice of fuel for DPS6</i>	Started on 11 February 2014	Concluded on 12 March 2014
<i>Variation determined</i>	27 March 2014	
<i>Permit E issued</i>	1 April 2104	Permit expires on 6 December 2015. A consolidated permit is being issued.
<i>Permit E extended</i>	1 December 2015	From 06 December 2015 to 06 June 2016
	30 May 2016	From 06 June 2016 to 6 December 2016
	02 December 2016	From 06 December 2016 to 06 June 2017
<i>Request for variations to existing permit by Electrogas Malta Ltd.</i>	13 November 2014	
<i>Request for variations to existing permit by Delimara 3 Power Generation Ltd.</i>	20 February 2015	
<i>Request for renewal and variations to existing permit by Enemalta plc.</i>	4 June 2015	
<i>Responses to request for information</i>	Electrogas Malta Ltd	From 13 November 2014 to 17 October 2016
	D3 Power Generation Ltd	From 20 February 2015 to 17 October 2016
	Enemalta plc	From 4 June 2015 to 17 October 2016
<i>Application Duly made</i>	Electrogas Malta Ltd	18 October 2016
	D3 Power Generation Ltd	18 October 2016
	Enemalta plc	18 October 2016
<i>Public Consultation</i>	Between 19 October 2016 and 27 November 2016	Public consultation extended by 10 days from the original end date of 17 November 2016.
<i>Permit F Determined</i>	19 December 2016	
<i>.Permit F Issued</i>	11 January 2017	Permit Expires:  19 December 2020

<b>Detail</b>	<b>Date</b>	<b>Comment</b>
<i>Request for partial surrender to existing permit by Enemalta plc</i>	12 April 2017	
<i>Responses to request for information</i>	11 May 2017	
<i>Application Duly made</i>	5 July 2017	
<i>Public Consultation</i>	Between 10 July 2017	Concluded 24 July 2017
<i>Permit G Determined</i>	25 August 2017	
<i>Permit G Issued</i>	22 September 2017	Permit expires: 25 August 2021
<i>Permit G extended</i>	9 July 2021	Permit expires: 25 February 2022
<i>Application IP 0002/21</i>	12 February 2021	<i>EGM; variation and renewal</i>
	26 February 2021	D3PG; renewal
	25 February 2021	<i>ENE; renewal and variation</i>
<i>Regulatory consultation</i>	between 23rd April 2021 – 7th May 2021 and between 1st June 2021 – 8th June 2021 and 25th October 2021 – 8th November 2021	
<i>Public Consultation</i>	Commenced on 17 December 2021	<i>Concluded on 02 January 2022</i>
<i>Application Determined</i>	18 February 2022	

**End of Introductory Note**

## Permit

Industrial Emissions (Framework) Regulations, S.L.549.76;  
 Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77;  
 Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Permit number

**IP 0002/21/i**

### Approved Documents:

IP 0002/21/i/DOC1

The Environment and Resources Authority (hereinafter the Authority; the Competent Authority or ERA) in exercise of its powers under Regulation 7 of the Industrial Emissions (Framework) Regulations, 2013 (SL 549.76) ("the Industrial Emissions (Framework) Regulations"), hereby authorises:

**Stephen Burton obo ElectroGas Malta Ltd. (C60775)** (hereinafter "the Permit Holder" unless specifically mentioned)

Of / Whose Registered Office (or principal place of business) is at

**Block D,  
 Ta' Monita Residence  
 Piazza off St. Joseph Street,  
 Marsascala,  
 MSK 1050**

to operate specified plant described in the framework permit and in this Subsidiary Permit 1 at the installation at:

**Delimara Power Station, Delimara, Marsaxlokk, MXK 1320**

to the extent authorised by and subject to the conditions of this Subsidiary Permit and applicable conditions in the Regulatory Framework Permit.

This permit is valid until the expiry of the permit which is **4 year/s** from the 'permit granted' date below. An application for renewal is to be submitted at least **nine (9) months** prior to expiry of the permit.

Environment and Resources Authority		Permit Granted:  10/05/2022
<b>APPROVAL</b>		
Board No.154	Held on 18/02/22	
Chairman_____ Secretary_____		

**Authorised to sign on behalf of the Competent Authority**

## Conditions

### 1 General

This permit shall be read in conjunction with the Regulatory framework Permit and the Subsidiary Permits issued to Enemalta plc. and D3 Power Generation Ltd., together with the Regulatory Framework Permit which together comprise permit IP 0002/21.

#### 1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

<b>Table 1.1.1</b>		
<b>Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 1.1: Combustion installations with a rated thermal input exceeding 50 MW	Generation of electrical energy through the combustion of Natural Gas  Installation consists of three Combined cycle gas turbines (DPS7)	From receipt of fuel to delivery of utility.
Associated activity of fuel handling and storage	Handling and storage of Liquefied Natural Gas	a) From receipt of fuel to storage within the Floating Storage Unit to delivery to the Regasification Plant. b) From storage within the Floating Storage Unit to offshore liquefied natural gas bunkering to third parties.
	Handling of Natural Gas	From the regasification of liquid natural gas at the regasification plant to combustion in own plant or delivery to D3PG through the Gas receiving station.
	Handling and storage of gasoil	From receipt of fuel and storage in dedicated tanks to combustion in specified plant.
Associated activity of regasification and gas pressure reduction	Operation of a Regasification Compound;  a) including IFV technology	From receipt of liquefied natural gas and boil-off gas ("BOG") from the floating storage unit to delivery to D3PG (DPS6) and DPS 7

	<ul style="list-style-type: none"> <li>b) gas compressors, Nitrogen generating plant</li> <li>c) non-visible combustion chamber (NVCC) and a gas receiving station</li> </ul>	through the gas receiving station.
Associated activity of other combustion plant	<p>Operation of:</p> <ul style="list-style-type: none"> <li>a) Two FSU main Boilers (58.5MW<sup>th</sup> each operating at 4.3MW<sup>th</sup>)<sup>2</sup></li> <li>b) (CP1) CCGT emergency diesel gen-set (2.191 MW<sup>th</sup>)</li> <li>c) (CP2 &amp; CP3) Two FSU Auxiliary boilers (16.25MW<sup>th</sup> each)</li> <li>d) (CP4) FSU auxiliary diesel gen-set 1 (Yanmar) (3.4 MW<sup>th</sup>)</li> <li>e) (CP5) FSU auxiliary diesel gen-set 2 (Caterpillar) (4.5 MW<sup>th</sup>)</li> <li>f) (CP6) FSU Inert Gas Generator (14.33 MW<sup>th</sup>)</li> <li>g) FSU emergency diesel gen-set (Detroit) (0.45MW<sup>th</sup>)</li> <li>h) Two gas heating boilers at the gas receiving station (0.42MW<sup>th</sup> each)</li> <li>i) Regas emergency diesel</li> </ul>	<p>From receipt of natural gas or gasoil to combustion in the specified plant.</p> <ul style="list-style-type: none"> <li>a) Operating on gas oil</li> <li>b) Operating on gas oil</li> <li>c) Operating on natural gas</li> <li>d) Operating on gas oil</li> <li>e) Operating on gas oil</li> <li>f) Operating on gas oil</li> <li>g) Operating on gas oil</li> <li>h) Operating on natural gas</li> <li>i) Operating on gas oil</li> </ul>

<sup>2</sup> The two FSU main Boilers (58.5MW<sup>th</sup> each operating at 4.3MW<sup>th</sup>) shall only operate while the LNG FSU is mobilised

	gen-set (0.54 MW <sup>th</sup> )  j) Jetty firefighting pump (0.9 MW <sup>th</sup> )	j) Operation on gas oil
Associated activity of demineralised water polishing	Polishing of demineralised water	From receipt of demineralised water from Enemalta plc. to delivery of utility.
Associated activity of storage, treatment and disposal/recycling of waste materials	Handling, storage, treatment and disposal/recovery of wastes from installation.	From generation of waste to disposal or recycling onsite or offsite.
Associated activity of maintenance	Maintenance carried out in any workshop in the installation.	From maintenance activity to appropriate recovery/disposal of any wastes created.

## 1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, as highlighted in blue on the Site Plan in Schedule 1A to this Permit.
- 1.2.2 The Operator shall also be responsible for any additional activities (any relevant extent) as authorised in condition 1.1.1 of the Regulatory Framework Permit.

## 1.3 Information to the public

- 1.3.1 The Permit Holder shall make emission data (most recent hourly, daily, diurnal and monthly average values and results of the most recent discontinuous measurement) publicly available via the Internet not later than 30 days after the production of such data. Nonetheless such data shall be made available to the Authority upon request within 24 hours. Such data shall be uploaded on the Electrogas Malta Ltd.'s website.

## 1.4 Overarching Management Conditions

- 1.4.1 The Permit Holder shall ensure that the EMS is coordinated with those established by the other operators within the installation.
- 1.4.2 So as to enable the Permit Coordinator to fulfil the obligations pertaining to mutual audits as stipulated in condition 1.4.7 of the Regulatory Framework Permit, the Permit Holder shall provide all the necessary information requested by the Permit Coordinator as may be required.

## 1.5 Improvement Programme

- 1.5.1 The Permit Holder shall complete the improvements specified in Table 1.5.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Authority on [ced.coast@era.org.mt](mailto:ced.coast@era.org.mt) within 10 working days of the completion of each such requirement.

Table 1.5.1: Improvement programme		
Reference	Requirement	Date

1.	a) Submission of a method statement showing how the monitoring requirements for CP6 will be sampled and tested.	a) Within 2 months of the granting of the permit
	b) First measurement for the air monitoring as approved by 1(a) above.	b) Within 4 months of the granting of the permit

## 1.6 Derogation from BAT

- 1.6.1 This derogation applies to the Integrated Pollution Prevention and Control Reference Document on Best Available Techniques on Emissions from storage (published in July 2006).
- 1.6.2 The Authority has hereby granted a derogation from section 3.1.18 of the BREF for emissions from storage in line with Regulation 8 (4) of SL 549.77.
- 1.6.3 The justification for the application of the provisions of Regulation 8(4) of SL 549.77 is documented in Schedule 6 of this Permit.
- 1.6.4 Subsequent applicable conditions in this Permit address the operations of the floating storage unit with the aim of ensuring that no significant pollution is caused and that a high level of protection of the environment as a whole is achieved.

## 1.7 Fuel supply points

- 1.7.1 The Operator shall only supply natural gas through the external tie in point connections with D3 Power Generation Ltd. and to visiting maritime vessels, as identified in schedule 2C of the Regulatory Framework Permit and as detailed in Table 1.7.1 below

Table 1.7.1 – infrastructure related to receipt of fuel		
Tie in point	Type of Fuel	Description
TP 05 D3	Natural Gas	Gas connection at ElectroGas Malta Ltd. Gas reducing Station
TP 201-4	Natural Gas	Gas connection on the jetty
TP 301 A-E	Natural Gas	FSU to visiting vessel

- 1.7.2 The supply of liquid natural gas for combustion in the plant specified in Table 1.1.1 of Subsidiary Permit IP 0002/21/ii shall be without prejudice to the subsequent conditions of this Permit.

## 2 Operating Conditions

### 2.1 General Conditions

- 2.1.1 The permit is issued against a Bank Guarantee of € 3,000,000 covering aspects of this permit and operator specific conditions in the Regulatory Framework Permit. This guarantee will have to be maintained throughout the validity of the permit. Following renewal and/or variations to this permit, the Authority may require amendments to the Bank Guarantee.

- 2.1.2 The Permit Holder shall submit a fixed annual fee of €1,463 and a variable addition reflecting ERA's cost for inspections. The latter variable component depends on the actual number of site inspections, which is determined by the performance of the Permit Holder. The total annual contribution has to be paid annually.

## 2.2 Emissions to Air

### Emissions to Air from Specified Points: General Considerations

- 2.2.1 Releases from the authorised process into the atmosphere shall arise only from a release point specified in Table 2.2.1.

Table 2.2.1 Emission points to air and associated authorised fuel usage					
Release point	Source	Fuel	Total Thermal Rating	UTM Co-ordinates <sup>3</sup>	
			MW <sup>TH</sup>	x-coordinates	y-coordinates
D7A	CCGT 1 (main stack)	Natural Gas	144	459763.81	3965808.50
D7B	CCGT 1 (By-pass stack)			459753.82	3965823.29
D7C	CCGT 2 (main stack)		144	459750.96	3965798.51
D7D	CCGT 2 (By-pass stack)			459739.98	3965813.33
D7E	CCGT 3 (main stack)		144	459737.29	3965788.49
D7F	CCGT 3 (By-pass stack)			459726.41	3965803.37
D7G	Gas receiving station gas boiler 1		0.42	460017.00	3965650.59
D7H	Gas receiving station gas boiler 2		0.42	460015.24	3965649.32
D7I	FSU Main Boiler 1	Gas oil	58.5 <sup>4</sup> (operating at 4.3)	459771.98	3965155.31
	FSU Main Boiler 2		58.5 <sup>5</sup> (operating at 4.3)		

<sup>3</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

<sup>4</sup> the 2 X FSU main Boilers (58.5MWth each operating at 4.3MWth) shall only operate when the LNG FSU is mobilised under conditions stipulated by the COMAH competent Authority, Transport Malta and ERA.

	FSU Aux Boiler 1 (CP2)	Natural Gas	16.25 <sup>5</sup>		
	FSU Aux Boiler 2 (CP3)		16.25 <sup>6</sup>		
D7J	FSU auxiliary diesel gen-set 1 (Yanmar) (CP4)	Gas oil	3.4	459767.92	3965159.89
D7K	FSU emergency diesel gen-set (Detroit)		0.45	459756.48	3965156.77
	FSU auxiliary diesel gen-set 2 (Caterpillar) (CP5)		4.5		
D7L	CCGT emergency Gen Set (CP1)		2.19	459697.65	3965817.67
D7M	Re-gas emergency Gen Set		0.54	459991.14	3965291.35
D7N	Non Visible Combustion Chamber (NVCC)	Natural Gas	226	459965.48	3965248.89
D7O	Inert Gas Generator (CP6)	Gas oil	14.33	459771.98	3965155.31
D7P	Jetty firefighting pump	Gas oil	0.9	459867	3964941

### Emissions to Air: Fuel Source and quality

- 2.2.2 The combustion plants listed in Table 2.2.1 shall only utilise the fuel listed in the same table.
- 2.2.3 The gasoil used by the sources as indicated in Table 2.2.1, shall comply with the standards laid down by the Quality of Fuels Regulations (S.L. 545.18) i.e. the sulphur content of the gas oil shall in no case exceed 1 kg for every tonne of gas oil.<sup>∞</sup>
- 2.2.4 The sulphur content of natural gas fired by the sources as indicated in Table 2.2.1 shall not exceed 30mg/Nm<sup>3</sup>. The sulphur content of the natural gas shall

<sup>5</sup> The 2 X FSU Aux. boilers (16.25MWth each) shall only operate while the LNG FSU is immobilised.

however not prejudice the achievement of the emission limit values as stipulated in Table 2.2.20.

- 2.2.5 The co-incineration of any material or additional fuel including engine or other waste oil is strictly prohibited unless otherwise approved in writing by the Authority. Any change in fuel type shall require the notification and approval of the Authority prior to commencement of its utilisation.
- 2.2.6 If under exceptional circumstances, FSU Auxiliary boilers 1 and 2 constituting D7I shall fire gas oil as per the legal requirements of SL 545.18, the Permit Holder shall submit a proposal to the Authority for review prior to implementation.
- 2.2.7 The Permit Holder shall determine the mass of each fuel fired in the Authorised Process for each Reporting Year and report this as part of the AER (Schedule 2).
- 2.2.8 The Permit Holder shall ensure that a quality assurance/quality control programmes for fuel utilised on site is in line with BAT 9 in the Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council for large combustion plants. The Permit Holder shall determine the mass of fuel fired in the Authorised Process for each reporting year and report this as part of the Annual Environmental Report.
- 2.2.9 The Permit Holder shall obtain certificates of analysis for one representative composite sample of gasoil and liquefied natural gas per delivery for the parameters listed in Table 2.2.9.

<b>Table 2.2.9 Standards for the analysis of physical and chemical parameters</b>		
<b>Physical Parameters</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Standard</b>
Flash point	°C	EN ISO 2719:2016 or equivalent
Heat Value (Upper and Lower)	MJ.kg <sup>-1</sup>	ASTM D4868-00 (2005) or equivalent
<b>Chemical Parameters</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Standard</b>
Sulphur Content	mg S.kg <sup>-1</sup>	EN ISO 8754:2003 (for gas oil) or equivalent  ISO 19739 (for natural gas) or equivalent

- 2.2.10 For the gasoil composite sampling, if the flue gas volume is calculated rather than measured, the parameters listed in Table 2.2.10 shall be measured in one representative composite sample of each fuel delivery intended for use in the Permit Holder's plant. For the natural gas composite sampling, if the flue gas volume from gas turbines CCGT1, 2 or 3 or any other plant firing natural gas is calculated rather than measured, the parameters listed in Table 2.2.10 shall be measured in one representative composite sample of each fuel delivery intended for use in the plant regulated through this Permit.

- 2.2.11 The chemical parameters in Table 2.2.9 shall be analysed to the relevant standards (or equivalent) as specified therein. The methods for analysis of the parameters in Table 2.2.10 shall have a precision suitable for the accurate calculation of flue gas volume. If a suitable method for analysis of any of the parameters in Table 2.2.9 is not available, calculation of flue gas volume is not authorised; in such cases, flue gas volume shall be measured.

<b>Table 2.2.10 Standards for the analysis of chemical parameters for flow rate calculation</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Standard</b>
Sulphur Content	mg S.kg <sup>-1</sup>	EN ISO 8754:2003 or equivalent
Carbon content	% by weight	ASTM D5291 or equivalent EN or ISO
Hydrogen content	% by weight	ASTM D5291 or equivalent EN or ISO
Nitrogen content	% by weight	ASTM D3228 or equivalent EN or ISO
Oxygen content	% by weight	EN, ISO or equivalent

- 2.2.12 The analyses shall be carried out by a lab accredited to at least EN ISO 17025:2017 and preferably for each and every test listed in Table 2.2.9.
- 2.2.13 Physical parameters in Table 2.2.9 shall be measured using EN, EN ISO or ISO standard methods or equivalent.
- 2.2.14 At the end of every year, the Permit Holder shall forward to the Authority a copy of all the certificates of analysis for every representative composite sample throughout the year as part of the AER.

#### **Determination of start-up and shut-down - CCGT 1, CCGT2, CCGT3.**

- 2.2.15 The determination of periods of start-up and shut-down as defined in the following conditions shall be maintained in accordance with the provisions of Commission Implementing Decision 2012/249/EU.
- 2.2.16 The Permit Holder shall immediately inform the Authority should there be any changes in any aspects relating to each plant that affect start-up and shut-down periods, including the installed equipment, fuel type, plant role in the system and installed abatement technology.
- 2.2.17 The Operator shall make sure that the frequency of start-up and shut down periods are minimised as far as practicable.
- 2.2.18 The Operator shall ensure that all abatement equipment is brought into operation as soon as is technically practicable.
- 2.2.19 Start-up and shut-down of the respective units is defined in the Table 2.2.19.

<b>Table 2.2.19 – Determination of start-up and shut-down for CCGT 1, CCGT 2 and CCGT 3</b>		
<b>Mode</b>	<b>Open Cycle</b>	<b>Combined cycle</b>
End of Start-up period	16.6 % of the rated electrical output.	16.6 % of the rated electrical output.

Start of Shut-down period	23.9% of the rated electrical output	23.9% of the rated electrical output
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### Emissions to Air from D7 A to F (CCGT 1, CCGT 2 and CCGT 3)

2.2.20 The emission limit values specified in Table 2.2.20 shall not be exceeded. All concentrations shall be corrected to 273.15 K, 101.3 kPa, dry gas volume and to an oxygen (O<sub>2</sub>) content of 15%. These concentrations relate to volume flows without dilution.

Table 2.2.20 - Emission Limit values applicable to D7 A to F ( CCGT 1, CCGT 2 and CCGT 3)					
Parameter	Monitoring frequency	Monitoring method	Emission value* limit		Maximum allowable factor subtracted by validation, in accordance with SL 549.78
Dust (TSP)	Continuous	EN 15267-3, EN 14181	5 mg/ Nm <sup>3</sup>		-
SO <sub>2</sub>	Continuous	EN 14181, EN 15267-3, EN ISO 14956	10 mg/Nm <sup>3</sup>		-
NO <sub>x</sub> (measured as NO <sub>2</sub> )	Continuous	EN 14181, EN 15267-3, EN ISO 14956	50 mg/Nm <sup>3</sup> (daily average)	50 mg/Nm <sup>3</sup> (yearly average)	20%
CO	Continuous	EN 14181, EN 15267-3, EN ISO 14956	30 mg/Nm <sup>3</sup> (yearly average)		10%

\*ELVs are deemed as being complied with if none of the validated hourly average values exceed 200% of respective Emission Limit Values

2.2.21 The Permit Holder shall carry out monitoring from D7 A to F of the parameters listed in Table 2.2.20, according to the frequency and method specified in the table.

2.2.22 Measurements of parameters within Table 2.2.20 shall be carried out by means of a Continuous Emission Monitoring System.

2.2.23 In order to validate the hourly readings, the Operator shall subtract a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed the percentages of the measured valid hourly average value indicated in Table 2.2.20.

2.2.24 Continuous measurements shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume, as per Condition 2.2.25 provided that where the sampled exhaust gas is dried prior to emission analyses, the Permit Holder shall not be required to measure the water vapour content of the exhaust gas.

2.2.25 The Permit Holder shall monitor continuously for the parameters listed in Table 2.2.25 using the methods listed in the same table or their equivalent as may be agreed with the Authority.

<b>Table 2.2.25 Monitoring of additional parameters</b>	
<b>Parameter</b>	<b>Standard Number /Instrument</b>
Oxygen	ISO 12039:2019 or equivalent
Water Content	EN 14181 EN 15267-3
Velocity	ISO 10780:1994 or equivalent
Flue gas volume	ISO 14164:1999 or equivalent
Flue gas temperature (prior to discharge into the atmosphere)	Temperature Sensor
Flue gas pressure (prior to discharge into the atmosphere)	Pressure Sensor

### **Emissions to Air from Large Combustion Plants (rated thermal input >50MW<sub>th</sub>): Total Annual Emissions and Other Reporting**

2.2.26 The Permit Holder shall keep an inventory of the following from all combustion plants at the Delimara Power Station with a rated thermal input of 50 MW<sub>th</sub> or more, including the FSU main boilers;

- i. The total annual emissions of SO<sub>2</sub>, NO<sub>x</sub> and dust (as total suspended particles)
- ii. The total fuel burn per plant, the fuel type and the average heat value of the fuel fired.

The inventory shall be submitted as part of the AER (Schedule 2).

2.2.27 For all Large Combustion Plants, the Operator shall keep record of the following:

- i. The validated hourly concentration values of TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO for each combustion plant per day (in the format specified in the Monthly Reports [Schedule 4]) and clearly indicating any exceedances).
- ii. 24-hourly mean values for the concentration of carbon monoxide (CO) (in the format specified in the Monthly Reports [Schedule 4] and clearly indicating any exceedances).
- iii. For TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO, calendar monthly mean concentrations (in the format specified in the Monthly Reports [Schedule 4]) and monthly loads for TSP, SO<sub>2</sub> and NO<sub>x</sub> (in the format specified in the AER [Schedule 2], and clearly indicating any exceedances).
- iv. The total annual load of TSP, SO<sub>2</sub> and NO<sub>x</sub>, which shall be calculated by adding the total mass of pollutant emitted per year, on the basis of the volumetric flow rates of waste gases (in the format specified in the AER [Schedule 2]).

### **Emissions to Air from Large Combustion Plants (rated thermal input >50MW<sub>th</sub>): Performance and Calibration of Automated Measuring Systems**

- 2.2.28 The operation of all automated measuring systems at the Delimara Power station shall follow EN 14181:2004 – Stationary Source Emissions – Quality Assurance of automated measurement systems.
- 2.2.29 Measuring systems shall be subject to control by means of parallel measurements with the reference methods listed in Table 2.2.29 at least every year. The calibrations shall be performed by a lab accredited (or in the process of accreditation, as confirmed by the National Accreditation Body (NAB-Malta) or equivalent) to at least EN ISO 17025:2017 and preferably accredited for each and every calibration.

<b>Table 2.2.29 Calibration of Automated Measuring Systems</b>	
<b>Standard Number</b>	<b>Title</b>
EN 14791:2005	Stationary source emissions - Determination of mass concentration of sulphur dioxide - Reference method.
EN 14792 :2005	Stationary source emissions - Determination of mass concentration of nitrogen oxides (NO <sub>x</sub> ) - Reference method: Chemiluminescence.
EN 13284-1:2001	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method.

- 2.2.30 For the parameters measured continuously, the data for 1 day shall be invalidated if on that day three or more hourly average concentration of dust (TSP), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) or carbon monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.31 If more than 10 days in a year are invalidated for such situations, the Permit Holder must take adequate measures to improve the continuous monitoring system.
- 2.2.32 In the event that the gas turbines are operated under open cycle conditions, thus resulting in the use of the by-pass stacks, the air emissions from such stacks shall be monitoring using both the CEMS and a calculated method. The calculation method shall be pre-approved by the Authority following the submission of a method statement.
- 2.2.33 In the event that the Gas turbines are operated under open cycle conditions for a period longer than 1,500 hours per stack, the CEMS shall be calibrated as per conditions 2.2.28 to 2.2.31. The Authority shall be informed immediately once the operating period in open-cycle reaches 1,000 hours per stack and submit a plan (including timeframes) in preparation for calibration of the CEMS.

### **Emissions to Air: Combustion plants (rated thermal input < 50MW<sup>TH</sup>)**

- 2.2.34 Industrial combustion plants (e.g. boilers, generators, etc.) shall be compliant with the provisions of the Limitation of Emissions of Certain Pollutants into the air from Medium Combustion Plant Regulations (S.L. 549.122) and any other applicable subsidiary legislation.
- 2.2.35 The Permit Holder shall keep the periods of start-up and shut-down of the combustion plants listed in Table 2.2.36 as short as possible.
- 2.2.36 The limits for emissions to air for the parameters and emission points set out in Table 2.2.36 shall not be exceeded. The limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases and at a standardised O<sub>2</sub> content of 15%.

<b>Table 2.2.36 Emission limit Values for combustion plants (rated thermal input &lt; 50MWTH)</b>				
<b>Emission Point Reference</b>	<b>Source</b>	<b>Parameters (mg/Nm<sup>3</sup>)</b>		<b>Monitoring Frequency</b>
		NO <sub>x</sub>	CO	
D7G	Gas receiving station gas boiler 1	-	-	-
D7H	Gas receiving station gas boiler 2	-	-	-
D7I	FSU Aux Boiler 1 (CP2)	200	-	Every three years
	FSU Aux Boiler 2 (CP3)	200	-	Every three years
D7J	FSU auxiliary diesel gen-set 1 (Yanmar) (CP4)	1850	-	Every three years
D7K	FSU emergency diesel generator (Detroit)	-	-	-
	FSU auxiliary diesel gen-set 2 (Caterpillar) (CP5)	250	-	Every three years
D7L	CCGT emergency Gen Set (CP1)	250	-	Every three years
D7M	Re-gas emergency Gen Set	-	-	-
D7N	Non Visible Combustion Chamber (NVCC)	-	-	-
D7O	Inert Gas Generator (CP6)	200	-	Every three years
D7P	Jetty firefighting pump	-	-	-

2.2.37 Monitoring shall be carried out according with the frequency stated in Table 2.2.36. During each measurement, the plant shall be operating under stable conditions at a representative even load. In this context, start-up and shutdown periods shall be excluded. The Authority reserves the right to require an increase in the frequency of such measurements. The monitoring results shall be submitted as part of the Annual Environmental Report (AER) of the year in which the monitoring has been carried out. The data shall at the least be kept for a period of six years.

2.2.38 The Permit Holder shall maintain a record of the operating hours for each combustion plant.

2.2.39 Following submission of the AER for the previous reporting year, should the amount of operating hours of the combustion plant be less than 500 hours, as a rolling average over five years, the Permit Holder may apply with the Authority for an exemption from the emission limit values set out in Table 2.2.36, by submitting the information in Schedule 5.

2.2.40 The granting of such exemption described in Condition 2.2.39 shall be at the discretion of the Authority and shall be valid until such time that the rolling average of the operating hours over five years exceeds 500 hours, or until such time as prescribed by the Authority. The Authority shall communicate the expiry of the exemption in writing.

- 2.2.41 The exemption described in Condition 2.2.39 shall only exempt the Permit Holder from compliance with the emission limit values set out in Table 2.2.34. Monitoring is still to be carried out with the frequency indicated in the same table.
- 2.2.42 Should the emission limit values in Table 2.2.36 be exceeded, as part of the AER, the Permit Holder is to propose measures that will be taken to ensure compliance with the emission limit values.
- 2.2.43 Without prejudice to condition 2.2.42, should secondary abatement equipment be installed in order to meet the emission limit values indicated in S.L.549.122, the Permit Holder is to keep a record proving the effective continuous operation of that equipment.
- 2.2.44 The Permit Holder shall submit certification for D7G, D7H, D7K and D7M referred to in Table 2.2.36, by an independent warranted engineer showing that the combustion plant/equipment is in good working condition every four years. The certifications shall be submitted as part of the Annual Environmental Report (AER).

#### **Monitoring Provisions and Emergency considerations**

- 2.2.45 In the event of non-compliance causing immediate danger to human health, operation of the activity must be suspended and the Competent Authorities informed within 24 hours.<sup>∞</sup>
- 2.2.46 For D7I (FSU Auxiliary Boiler 1 &2), D7K (FSU auxiliary diesel genset 2), D7L, D7J, D7O in the event of, malfunction or breakdown leading to abnormal emissions, the Permit Holder must
- i. Investigate immediately and undertake corrective action to ensure compliance is restored without undue delay, and
  - ii. Adjust the process or activity to minimise those emissions, and
  - iii. Record the events and actions taken.
- 2.2.47 With respect to emissions emanating from combustion plants, and in furtherance to condition 2.2.46 the Permit Holder shall, at the written request of ERA and within 10 working days, identify the specific cause of the abnormal emission and examine means for its elimination or minimisation including:
- i. Relocating / redesigning/ extending the stack(s) or vent(s) to a point where nuisance is minimised
  - ii. Replacement of fuel
  - iii. Preventative measures such as replacement of process materials by substances which are less detrimental to the environment
  - iv. Improved storage of materials
  - v. Use of additional abatement measures in line with condition 2.2.43
- 2.2.48 All abatement equipment and ducting shall be cleaned and maintained on a regular basis (as per manufacturer specifications).
- 2.2.49 The operator shall submit a certification for the CP1 – CP6 referred to in Tables 2.2.1 and 2.2.36 from an independent warranted engineer every 3 years or one year before the expiry of the Permit, whichever comes first. The Authority reserves the right to require an increase in the frequency of such measurements. The certification for CP6 shall be submitted as part of the Annual Environmental Report (AER) with the first measurement taken within four months of issue of the Permit-as per condition 1.5

2.2.50 The FSU auxiliary boilers shall vent through a stack extending at least 44 metres above sea level.

2.2.51 The gas receiving station boilers 1 and 2 shall vent through stacks extending at least 10 metres.

### **Non Visible Combustion Chamber (NVCC)**

2.2.52 The Permit holder shall carry out monitoring during the use of NVCC in line with the method statement in IP 0002/21/i/DOC1

2.2.53 The Permit holder shall keep a record of the number of hours during which the NVCC is put into operation. Such records shall be submitted as part of the AER. The Authority reserves the right to impose an emission limit value on the emissions to air from the NVCC.

2.2.54 The operator shall ensure that the use of the NVCC is kept to a minimum.

## **2.3 Discharges to sewers**

2.3.1 Collection and transportation of Foul water generated on board the Floating Storage Unit shall be in line with applicable provisions of condition 2.8 of the framework permit.

## **2.4 Emissions to Marine Water**

### **Emissions to Marine Water from Specified Points: General Considerations**

2.4.1 Waste waters shall not be discharged into marine water unless from the sources specified in Table 2.4.1, and only from the sources for those release points specified by the table in question.

<b>Table 2.4.1 Emissions to Marine Water</b>				
<b>Outlet Number (as per Schedule 5) of the Framework permit</b>	<b>External Tie in point reference</b>	<b>Details</b>	<b>UTM Co-ordinates<sup>6</sup></b>	
			<b>x-coordinate</b>	<b>y-coordinate</b>
Point 1	TP 21 D4	Existing storm water overflow from Enemalta	459,647	3,965,869
		EGM treated interceptor discharge receiving floor washings and rainwater from CCGT area and runoff from waste management area.		

<sup>6</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

Point 4	TP 18 D4	Main outfall including water treatment, cooling systems, waste water from steam generation, waste water from boiler washdown/ blowdown from Enemalta, D3PG and ElectroGas.	460,154	3,965,839
Point 6	-	Uncontaminated water from Regasification plant	459977.72	3965199.33
Point 7	-	FSU cooling water from auxiliary boilers during STS	459751.26	3965136.67
		Ballast water from FSU		
Point 8	-	FSU IGG water discharge	459934.871	3964341.850

2.4.2 The monitoring specified in condition 2.5.3 of the framework permit shall apply to emission points Point 1 and Point 4.

2.4.3 No specified emission to water shall exceed the emission limit values set out in Table 2.5.3 of the framework permit, without prejudice to condition 2.5.16 of the framework permit. The emission limits shall apply to the waste water at the point of discharge into the sea. There shall be no other emissions to water of environmental significance.

2.4.4 In case of any exceedances of the emission limit values in Table 2.5.3 of the Regulatory Framework Permit, either through the individual monitoring carried out in the location agreed upon with the competent authority or as highlighted by the Permit Coordinator through the procedure laid down in condition 2.5.26 of the Regulatory Framework Permit, the Permit Holder shall as part of the AER submit an action programme to the Authority aimed at achieving these emission limits. This plan shall be coordinated through the Permit Coordinator.

### **Discharges to Marine Water: Requirements for Waste Water arising from Non-process Water**

2.4.5 These requirements apply to discharges from points 1 (through tie in point TP18 D4), 6 and 7. Conditions 2.5.36 – 2.5.40 in the framework permit shall also apply to these points.

2.4.6 The oily water separator system shall have a continuous hydrocarbon detector with alarm. No discharge of wastewater is allowed if the emission limit value is exceeded. Detection of oily water at external tie in point TP18 D4, 6 or 7 above the emission limit value or following a notification from the Permit Coordinator regarding detection of oily water at discharge point 1 shall be followed by immediate investigation and appropriate mitigation measures.

2.4.7 Detection of oily water at external tie in points TP 18 D4 and TP 21 D4 shall also be followed by an immediate notification to the Permit Coordinator.

2.4.8 Discharge of ballast water from the Floating storage unit shall also follow the ballast water management plan approved by Transport Malta. ∞

## **2.5 Storage**

- 2.5.1 The unloading of gasoil shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.5.2 The pipes, pumps, valves and flanges forming part of the system which transfers gasoil from the delivery point to the tanks on site shall be certified to be leak-proof by an approved auditor at least once every three years. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2.
- 2.5.3 All gasoil transfers shall be undertaken in accordance with applicable procedures. The oil spillage response plan shall be implemented in cases where spillages occur during fuel transfers.
- 2.5.4 All personnel involved in the transfer of gasoil from vehicles to storage, or from storage to the generating stations shall be trained in the oil spillage response plan. Records of such training shall be maintained and made available for inspection by Authority personnel.
- 2.5.5 All gasoil tanks shall be fitted with a high level alarm.
- 2.5.6 The Permit Holder shall have in storage an adequate supply of containment booms skimmers and suitable absorbent material to absorb any spillage either on land or into the marine environment.

## **2.6 Waste**

- 2.6.1 All waste barges utilised for the transport of waste off the vessel shall be registered with the Authority as per Activity 38 of Schedule 1 of S.L.549.45. The waste shall be transported only from the site of generation to the site of recovery/disposal in a manner which shall not adversely affect the environment and in accordance with all relevant National and European legislation.
- 2.6.2 Further to conditions 2.6.1 and 2.6.3 the transfer of waste from the registered barge to the registered waste carrier shall be supervised at all times to ensure that no spillages occur to land or the aquatic environment.
- 2.6.3 All waste produced during the hull cleaning and maintenance of the Floating Storage Unit shall be treated as hazardous waste, unless proven otherwise by the Operator (e.g. marine fouling removed from unpainted parts namely the propeller).
- 2.6.4 No marine fouling removed during the underwater cleaning operation shall be released into the sea.
- 2.6.5 No antifouling paint chips accidentally removed during cleaning or maintenance shall be released into the sea.

## **2.7 Energy Efficiency**

- 2.7.1 The energy efficiency of the CCGT shall attain a net electrical efficiency of 46 – 54%, which shall be determined through a performance test carried out at full load. Such documentation shall be made available on request.
- 2.7.2 The energy efficiency of the OCGT shall attain a net electrical efficiency of 33– 41.54 %, which shall be determined through a performance test carried out at full load. The associated energy efficiency levels shall not apply to units operated < 1 500 h/yr. Such documentation shall be made available on request.

## **2.8 Maintenance operations on the Floating Storage Unit**

- 2.8.1 Only hull cleaning operators registered with ERA shall be allowed to carry out in-water vessel cleaning and maintenance.
- 2.8.2 Maintenance work that is to be carried out on the FSU must be covered by relevant permit from Transport Malta. These permits do not exempt the operator from obtaining any other licence, permit or authorisation required by law, and, or from complying with any other applicable legislation in force.
- 2.8.3 The operator shall inform the Authority one week before the hull cleaning operation is to take place by means of a notification procedure to be agreed upon with the Authority.
- 2.8.4 Any cleaning agents used must have approval from ERA prior to notification.
- 2.8.5 Any application of antifouling and/or protective coatings to the hull of the FSU during maintenance operations shall be preceded by an authorisation from ERA and Transport Malta.

## **2.9 Accident prevention and control ∞**

- 2.9.1 In the case of an accident, the Permit Holder will be responsible for notifying the other operators and the Permit Coordinator of such an incident and each operator shall follow the procedures stipulated in the Internal Emergency Plan submitted by each Permit Holder.
- 2.9.2 If the case of an emergency situation within an individual operator plant or in an emergency escalated to a site level), the procedures and coordinated actions stipulated within the Coordinated Emergency Plan (CERP) shall apply. The operator shall ensure communication and coordination with the other operators and stakeholders together with the local area emergency response organisations and Authorities.
- 2.9.3 The level of application of the CERP shall be at least the communication of the emergency situation, with a possible escalation of the full activation of the CERP as detailed in the documentation submitted as part of the IPPC application or subsequently revised and approved.
- 2.9.4 The CERP shall be reviewed at least every three years or as soon as practicable after an accident, whichever is the earlier, and the Authority notified of the results of the review within 2 months of its completion.
- 2.9.5 The Permit Holder shall, in collaboration with the other Permit Holders at the installation maintain and implement all health and safety measures in compliance with Act XXVII of 2000; Occupational Health and Safety Authority Chapter 424 and all relevant subsidiary legislation, in particular but no limited to implementation a risk assessment which covers the operation of the whole installation.
- 2.9.6 The Permit Holder is to keep the Authority updated on any major changes in operations that may impact on the health and safety of the employees and the other Permit Holder's at the installation.
- 2.9.7 The Permit Holder is to ensure that all Health and Safety documentation is freely available and provided upon request to either the Competent Authority or to the Occupational Health and Safety Authority.

## **Safety Considerations<sup>∞</sup>**

- 2.9.8 The Permit Holder shall comply with the relevant provisions of the Control of Major Accident Hazards Regulations, 2015 (Legal Notice 179 of 2015). Any actions deemed necessary during the operational phase as identified in the COMAH competent Authority's review of the safety studies submitted by the Permit Holder shall be addressed within the timeframes stipulated by the COMAH competent Authority.
- 2.9.9 The COMAH Competent Authority may carry out inspections so as to ensure that the details provided by the Permit Holders in the safety studies submitted to the Authorities as part of the obligations arising from S.L. 424.19 are implemented. Additional Audits may be conducted by the COMAH Competent Authority during the operational phase of the plant.
- 2.9.10 Such inspections shall also address the review of the safety studies submitted by Enemalta, the HAZID and HAZOP submitted by D3PG in cases where amendments need to be carried out as a result of any changes identified during inspections.
- 2.9.11 Further to the provisions of Regulation 14 of S.L. 424.19 and without prejudice to the Permit Holder's responsibilities, the COMAH Competent Authority shall, if necessary, appoint individuals or set-up bodies to assist the COMAH competent authority at technical level at the expense of the Permit Holders.
- 2.9.12 Further to conditions 2.9.9 and 2.9.10 the Permit Holder shall ensure that any instructions provided and any follow up actions requested by the COMAH competent authority shall be carried out without undue delay and within the timeframes stipulated by the COMAH competent Authority.
- 2.9.13 Any actions required as a result of the COMAH Competent Authority's review of the safety studies submitted during this IPPC application specific to the Permit Holder are to be carried out and reviewed during the operational phase shall be followed up in subsequent COMAH inspections.
- 2.9.14 In carrying out its inspections, the COMAH Competent Authority reserves the right to issue a prohibition of use in cases where deficiencies are identified.
- 2.9.15 Where instructed by the COMAH Competent Authority, the safety studies submitted by the Permit Holder shall be amended to address the COMAH competent Authority's Audit and any resulting changes which may be required.
- 2.9.16 Without prejudice to regulation 9 of the COMAH Regulations, the Permit Holder shall ensure that any information requested by the Permit Coordinator for the scope of the periodic review and where necessary update the Safety report, MAPP and Internal Emergency Plan (IEP), at least every five years. The updated documentation shall be sent to the COMAH competent authority without delay.

#### **Fire fighting considerations<sup>∞</sup>**

- 2.9.17 The Permit Holder shall be responsible for the maintenance and certification of all internal (freshwater) and external (seawater) fire-fighting systems from the tie in point connection with Enemalta as identified in schedule 2A of the Regulatory Framework Permit and as detailed in table 2.9.17 below.

<b>Table 2.9.17 – infrastructure related to shared fire fighting system</b>		
<b>Tie in point</b>	<b>Name</b>	<b>Description</b>

TP7A.D4 TP7B. Regas	Internal (freshwater) fire-fighting system	Freshwater stored within Enemalta's 330m <sup>3</sup> tank which is supplied from evaporated water tanks and distributed through tie-in point for own use, D3PG and EGM.
TP8.D4	External (seawater) fire-fighting system	Seawater taken from the intake of seawater from Marsaxlokk Bay to delivery and distribution through tie-in point to D3PG, EGM and own use.

- 2.9.18 Further to condition 2.9.17, the Permit Holder shall also be responsible for the maintenance and certification of all internal (freshwater) and external (seawater) fire-fighting systems operated independently from the other Permit Holders.
- 2.9.19 The pipes, pumps, valves and flanges forming part of the fire-fighting system which transfers fire-fighting water from external tie in point connection to distribution to the Permit Holder shall be certified by an approved auditor at least once every three years or as otherwise identified in applicable studies and procedures submitted as part of the IPPC application and as per requirements of S.L. 424.19. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2.
- 2.9.20 The Permit Holder shall be responsible for the maintenance and certification of all gas pipelines up to the tie in point connection with Delimara 3 Power Generation Ltd. as identified in schedule 2C of the Regulatory framework permit and as detailed in Table 1.7.1 of this permit.
- 2.9.21 Unless otherwise specified in this permit, emergency shutdown procedures shall be implemented as described in the IPPC application and as agreed upon with the other Permit Holders.
- 2.9.22 The Permit Holder shall ensure that the installation is fitted with natural gas detection systems capable of detecting gas at concentrations as identified during the compilation of the safety studies submitted to the COMAH Competent Authority and as certified according to industry standards.
- 2.9.23 The activation of any gas detector within the part of the installation shall trigger the automatic shutdown of the gas pumps and lines and communicated to the Permit Holder's control room.
- 2.9.24 The procedure detailed in condition 2.9.23 shall not apply in the event that the gas detection is the result of the activation of the pressure release valves installed throughout the pipeline.
- 2.9.25 Condition 2.9.24 shall not apply in the event that the overpressure in the pipe work resulting in the release of natural gas from the pressure release valves is the result of any malfunction in the natural gas conveyance system.
- 2.9.26 Upon execution of procedure detailed in condition 2.9.23, the Permit Holder shall immediately notify the other Permit Holder's within the installation and the Competent Authority.
- 2.9.27 Further to condition 2.9.26, the Permit Holder shall ensure that any leak or malfunction in the gas distribution system is rectified within the shortest time possible and recertified prior to recommencement of operations.

- 2.9.28 Further to condition 2.9.27, certification shall be submitted to the Competent Authority and the COMAH Competent Authority for review.
- 2.9.29 Further to 2.9.28 operations shall commence unless otherwise specified by the Competent Authority, the Permit Holder shall also notify the other Permit Holders within the installation accordingly.
- 2.9.30 The Permit Holder shall abide by the instructions as may be provided by the CPD, should any type or amount of firefighting agents be requested by the CPD to be maintained on site.
- 2.9.31 It shall be the responsibility of the Permit Holder to ensure that such fire fighting agents and systems are well maintained and certified periodically as per supplier's specifications.
- 2.9.32 In case of any modifications related to the mobilisation of the FSU, relevant updates shall be provided and notified in detail to the COMAH Competent Authority in advance of that modification (according to regulation 9 of the COMAH Regulations S.L. 424.19), highlighting those modifications related to the major accident hazards and consequences.

#### **Port security ∞**

- 2.9.33 The Permit Holder shall maintain port security documentation as requested by Transport Malta as per legal provisions of Port Security Regulations (SL 499.36).
- 2.9.34 Where any updates to the port security document requested by Transport Malta result in changes to standard operating procedures adopted, the Permit Holder shall ensure that these are implemented within the timeframes requested by Transport Malta.

### **3 Reporting**

- 3.1 All reports and written and/or oral notifications required by this Subsidiary Permit and notifications required by Regulation 7 of the Industrial Emissions (IPPC) Regulations shall be made and sent to the Authority using the contact details notified in writing to the Permit Holder by the Authority.
- 3.2 The Permit Holder shall submit to the Authority an AER of the previous year by not later than end of June of each year, providing the information listed in Schedule 2 of this Permit and in the format specified therein. The AER shall be forwarded to the Authority in electronic format.
- 3.3 The Permit Holder shall submit to the Authority the information listed in Schedule 3 Quarterly Reporting and in the format specified therein within two months after the end of each quarter. This information shall be forwarded to the Authority in electronic format.
- 3.4 The Permit Holder shall submit to the Authority the information listed in Schedule 4 Monthly Reporting and in the format specified therein within two weeks after the end of each month. This information shall be forwarded to the Authority in electronic format.
- 3.5 The European Pollutant Release and Transfer Register (E-PRTR) report for the installation shall be submitted by end of March of each year, or as required by Legislation. All quantities shall be reported, even when these do not exceed the thresholds mentioned in EC Regulation 166/2006., The format used for reporting

shall be that established by Legislation, notably S.L. 549.47 and Government Notice 138 of 2017 or as subsequently amended.

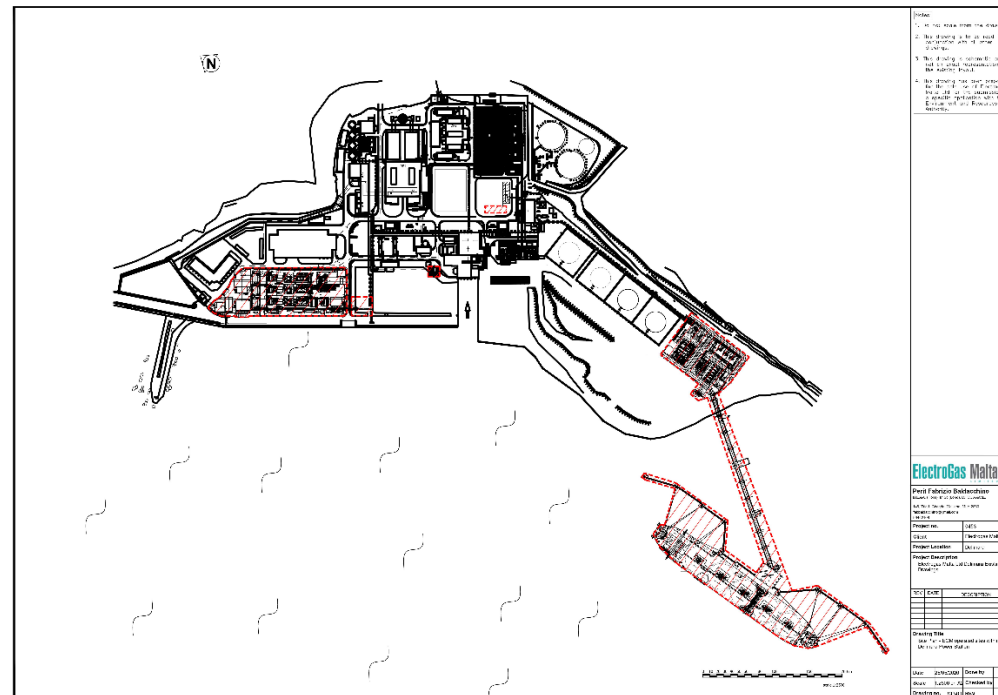
- 3.6 Where the submissions required under condition 3.5 are related to coordinated release points, the Permit Holder shall submit the information to the Permit Coordinator to allow submission of information related to the entire installation to be submitted in the AER for the Regulatory Framework Permit.
- 3.7 The Permit Holder shall, within 6 months of receipt of written notice from the Authority, submit to the Authority a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation unless a derogation has been granted by the Authority. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Permit Holder, that may provide environmental improvement.

## **4 Interpretation**

- 4.1 The interpretation and relevant expressions as defined in Condition 4 of the Regulatory Framework Permit (IP0002/21) shall also apply to this Subsidiary Permit.
-

## Schedule 1A

### Operational Boundary for ElectroGas Malta Ltd



Site of installation, showing the extent of area authorised for activity for the carrying out of the activities specified in Condition 1.1.1 (shown in red). The extent of the site boundary is indicative and shall not be used for interpretation purposes.

## Schedule 1B

### Air emissions layouts for the medium combustion plants

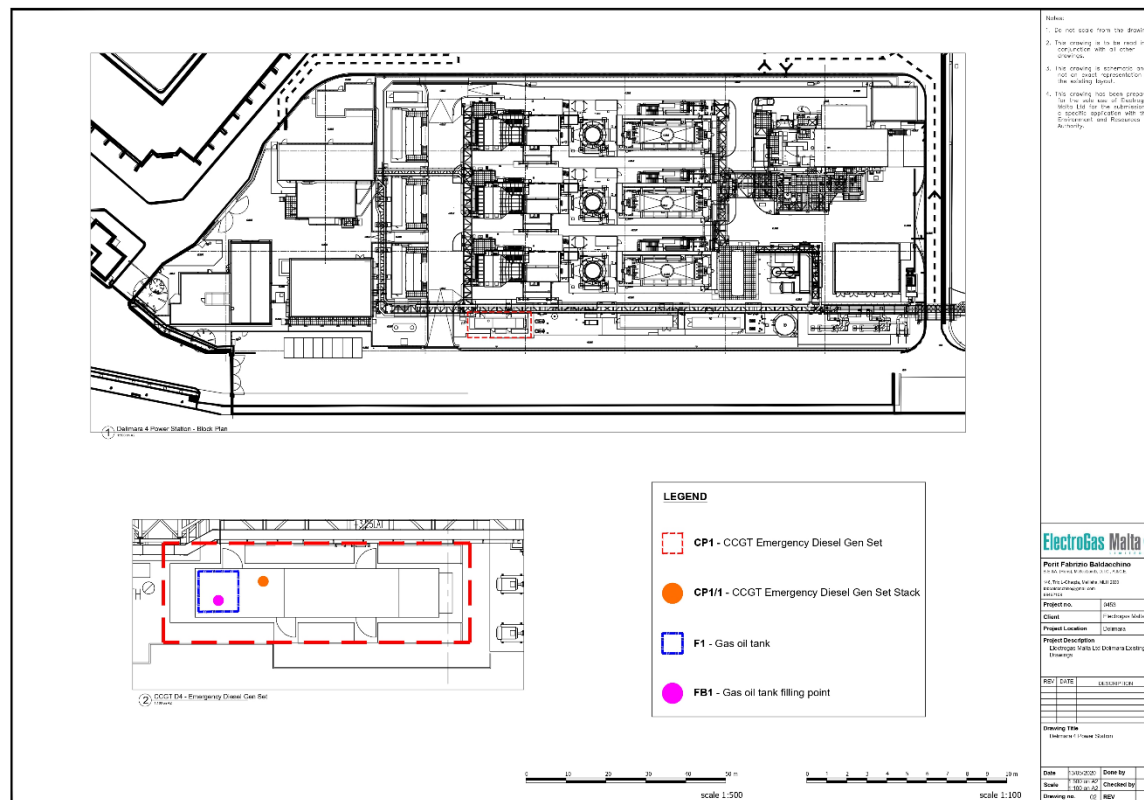


Figure 1: Site plan indicating locations of CP1, F1 & FB1

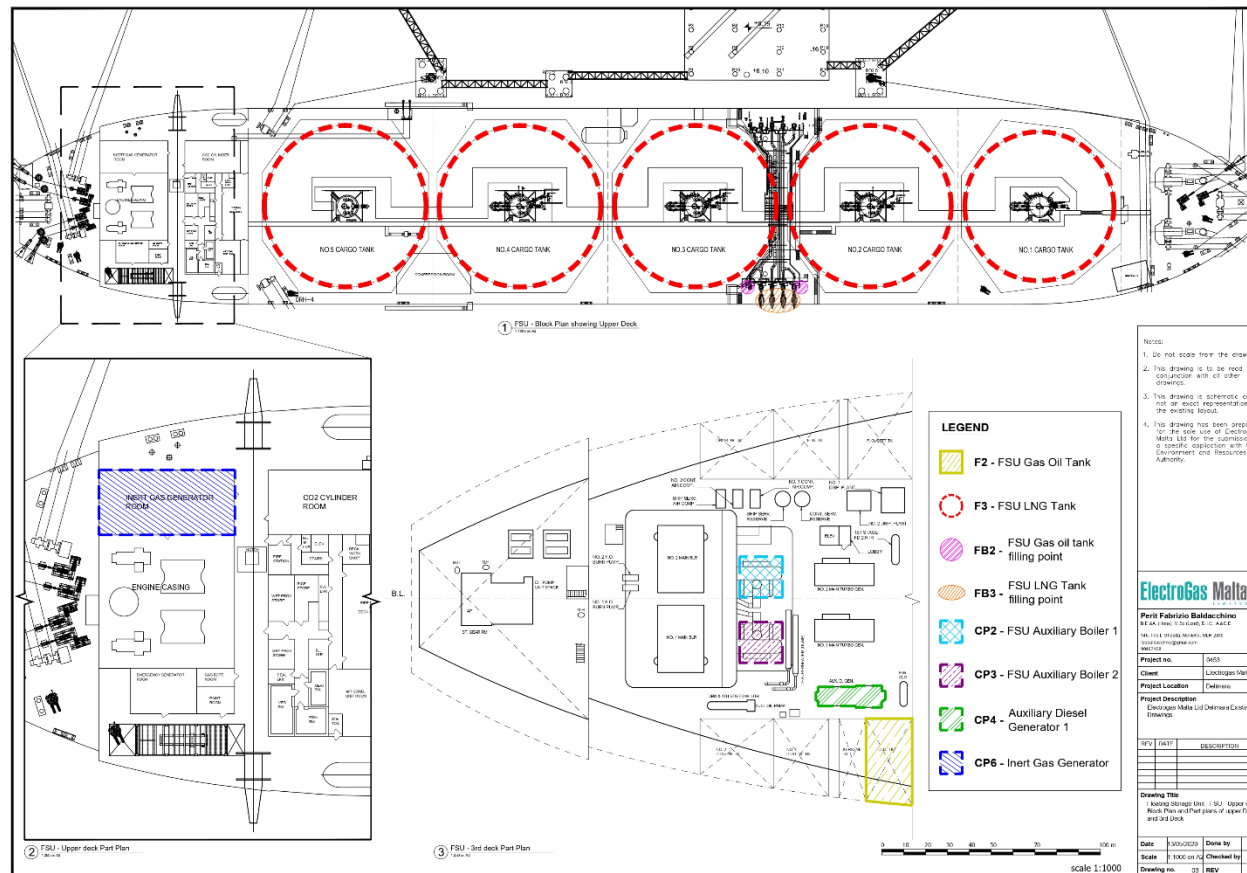


Figure 2: Site plan indicating locations of CP2, CP3, CP4 and CP6

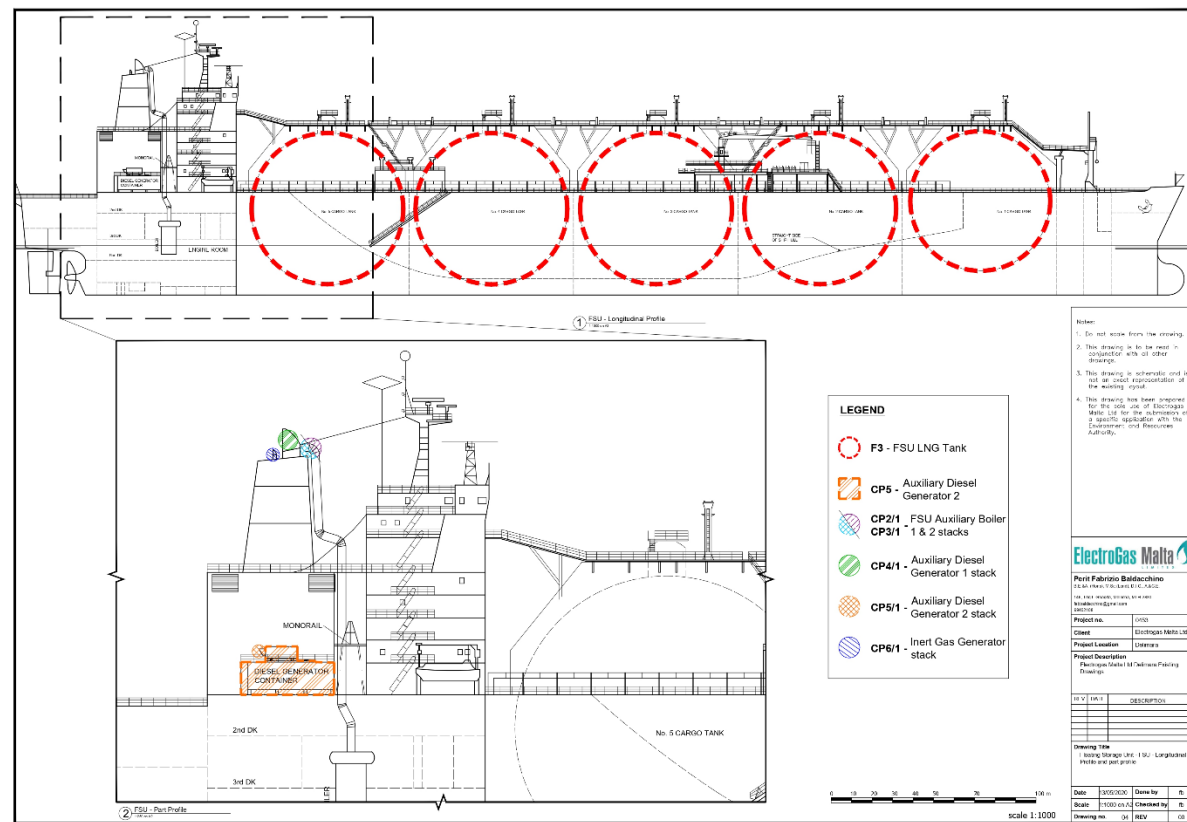


Figure 3: Site plan indicating locations of CP5,CP2,CP3,CP4 and CP6

## Schedule 2

### Annual Environmental Report

#### Important note

By this submission, you confirm that you give your explicit consent for the entire contents of this Annual Environment Report to be made available on the Authority's public website.

#### S2.1 Introduction

IPPC Permit Number	
Reporting Year	
Name and location of Site	
Brief description of activities at the site	

#### S2.2 Environment Management System & Reporting

Please attach a supporting document with the following:

1. Environmental Policy containing the installation's environmental objectives and targets;
2. Environmental Management Programme report (for the reporting year);
3. Environmental Management Programme proposal (for the following year);
4. European Pollutant Release and Transfer Register Report (as per Condition 3.5)<sup>7</sup>.

Tick (✓)


#### S2.3 Process Data

##### S2.3.1 Annual Summary

	Units	Previous reporting year <sup>8</sup>	Current reporting year
Quantity of energy produced	MWh		
Total Annual Energy Consumption (from electricity and other sources)	MWh		
Energy consumption per unit product	MWh consumed/ MWh produced		
Annual water consumption	m <sup>3</sup>		
Water consumption per unit product	m <sup>3</sup> /MWh		
Annual quantity of waste produced	tonnes		
Waste produced per unit product	tonne waste/ MWh		
Flue Gas Volume for combustion plants with a rated thermal input >50 MWth	Nm <sup>3</sup>		
Yearly operating hours per combustion plant with a rated thermal input >50 MWth	hours		

<sup>7</sup> The format used for reporting shall be that published in the Government Gazette (<http://www.doi.gov.mt/EN/gazetteonline/2007/07/gazts/GG%2013.7.pdf>)

<sup>8</sup> In this Annual Environmental Report, "previous reporting year" is not applicable for the first reporting year (2012) for the diesel engines (DPS6) only

**S2.3.2 Fuel consumption**

	Units	Sulphur Content <sup>9</sup>	Consumption	
			Previous Year	Current Year
Natural Gas	m <sup>3</sup>			
Gas Oil	m <sup>3</sup>			

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<sup>9</sup> Specify units (e.g. as percentage, or mg/kg)

## S2.4 Monitoring Data of Emissions to Air

### Summary of emissions to air (concentrations)

#### S2.4.1. Emissions of Dust (TSP), Nitrogen Oxides (NO<sub>x</sub>) and Sulphur Dioxide (SO<sub>2</sub>)

Parameter	Emission point reference	Standard methodology used	Annual average pollutant concentration	Total annual number of exceedances of Emission Limit Values after validation	
			mg.Nm <sup>-3</sup>	Previous year	Present year
Total Suspended Particulates	CCGT 1				
Oxides of Nitrogen	CCGT 1				
Sulphur Dioxide	CCGT 1				
Total Suspended Particulates	CCGT 2				
Oxides of Nitrogen	CCGT 2				
Sulphur Dioxide	CCGT 2				
Total Suspended Particulates	CCGT 3				
Oxides of Nitrogen	CCGT 3				
Sulphur Dioxide	CCGT 3				

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory ☐ Tick (✓)

**S2.4.2 Emissions of Carbon monoxide (CO)**

Emission point reference	Standard methodology used	Annual average pollutant concentration	Total annual number of exceedances of monthly mean value after validation	
		mg.Nm <sup>-3</sup>	Previous year	Present year
CCGT 1				
CCGT 2				
CCGT 3				

### S2.4.3 Monitoring Data from Medium Combustion Plants

Table 2.4.3.1: Emissions to Air													
Medium Combustion Plant reference Point	Parameter	Limit Value (mg/Nm <sup>3</sup> )	Standard methodology used	Type of monitoring (in-situ / at an accredited lab)	Measurement Error	Total annual number of exceedances <sup>10</sup>		Concentration (Annual Average)			Total Annual Load		
						Previous year <sup>11</sup>	Present year	Unit	Previous year	Present year	Unit	Previous year	Present year
CP1	CO	-						mg/m <sup>3</sup>			kg		
	NOx	250						mg/m <sup>3</sup>			kg		
CP2	CO	-						mg/m <sup>3</sup>			kg		
	NOx	200						mg/m <sup>3</sup>			kg		
CP3	CO	-						mg/m <sup>3</sup>			kg		
	NOx	200						mg/m <sup>3</sup>			kg		
CP4	CO	-						mg/m <sup>3</sup>			kg		
	NOx	1850						mg/m <sup>3</sup>			kg		

<sup>10</sup> If the total number of exceedances exceeds 0, the value of each of these exceedances (for the reporting year) must be submitted in a separate report, together with action taken to regularise the situation.

<sup>11</sup> “Previous year” is not applicable for the first reporting year (2021).

CP5	CO	-						mg/m <sup>3</sup>			kg		
	NOx	250						mg/m <sup>3</sup>			kg		
CP6	CO	-						mg/m <sup>3</sup>			kg		
	NOx	200						mg/m <sup>3</sup>			kg		

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Additional documentation to be submitted:	Tick (✓)
Accreditation certificate(s) of laboratory	

Table 2.4.3.2: Annual Operating hours for		
Point Sources	Operating Hours during previous reporting year	Operating Hours during reporting year
CP1		
CP2		
CP3		
CP4		
CP5		
CP6		

Table 2.4.3.3: Corrective Action (to be compiled if emission limit values in S2.4.3.1 above are exceeded)	
Emission Point Reference	Proposed Action (may include reference to additional documentation)
CP1	
CP2	
CP3	
CP4	
CP5	
CP6	

**S2.4.3 Monthly Loads of Particulates, SO<sub>2</sub> and NO<sub>x</sub>***ONE PAGE PER PLANT TO BE SUBMITTED*

Permit Holder : ElectroGas Malta Ltd	Plant no. CCGT ____
Location: Delimara.	Heat Value of Fuel fired: _____GJ.Mg <sup>-1</sup>
Reporting year: _____	

Month	Fuel Burn During this period  Mg. month <sup>-1</sup>	Monthly SO <sub>2</sub> Load  Mg	Monthly NO <sub>x</sub> Load  Mg	Monthly Dust Load  Mg
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
TOTAL				

Pollutant Load (Mg) = Pollutant concentration (µg.Nm<sup>-3</sup>) × 1×10<sup>-9</sup> × WGF (m<sup>3</sup>.month<sup>-1</sup>)  
(WGF = waste gas flow rate).

## S2.4.4 Annual Data

### Annual Load of Particulates, CO, SO<sub>2</sub> and NO<sub>x</sub>

Units	Rated Thermal Input	Type	Fuel	Fuel Burn	Heat Value	Annual Emissions* SO <sub>2</sub>	Annual Emissions* NO <sub>x</sub>	Annual Emissions* dust	Annual Emissions* CO
	MW <sub>TH</sub>			Mg.yr <sup>-1</sup>	GJ.Mg <sup>-1</sup>	Mg.yr <sup>-1</sup>	Mg.yr <sup>-1</sup>	Mg.yr <sup>-1</sup>	
CCGT 1, 2, 3	308	CCGT							

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\* Sum of the total emissions during normal operations + total emissions during start-up/shut down periods.

### S2.4.5: Certificates of Analysis for physical and chemical parameters of fuels

Documentation to be submitted:

Certificates of analysis for physical and chemical parameters of fuels  
for reporting year (indicate number of certificates submitted)  
Accreditation certificate(s) of laboratory

Tick (✓)


### S2.4.6: Wind Rose

Documentation to be submitted:

Wind rose for the reporting year showing wind speed and direction at the site

Tick (✓)

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## S2.5 Emissions to Marine Water

### Emissions to Marine Water: Physical and Chemical Monitoring

ONE REPORT PER OUTLET TO BE SUBMITTED

Name of outlet and reference number: \_\_\_\_\_

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>1</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
1	Flow			-	-	-			
2	pH								
3	Temperature								
4	Biological oxygen demand (BOD5)								
5	Total Nitrogen								
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681								
8	Chlorine dioxide and oxidants (given as chlorine)								
9	Arsenic								
10	Cadmium								
11	Chromium (Total)								
12	Copper								

<sup>1</sup> Exceedances are to be clearly highlighted in red.

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
13	Lead								
14	Mercury								
15	Nickel								
16	Tin								
17	Vanadium								
18	Zinc								
19	Total petroleum hydrocarbons								
20	Tributyl tin compounds (tributyltin cation; CAS number 36643-28-4)								
21	Total Suspended Solids								
22	Benzene (CAS number 71-43-2)								
23	PAHs as follows:								
	Benzo(a)pyrene								
	Benzo(b)fluor-anthene, Benzo(k)fluor-anthene								
	Benzo(g,h,i)-perylene, Indeno(1,2,3-cd)-pyrene								

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
24	C10-C13 chloroalkanes (CAS number 85535-84-8)								
25	Polychlorinated biphenyls (CAS number 1336-36-3)								

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓)

Were there any exceedances in the present reporting year?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If yes, one of the following is also to be submitted:

Action programme aimed at achieving emission limits  
 Document designating a mixing zone following the procedures specified in Schedule IX(3) "mixing Zones" in S.L. 549.100

Tick (✓)


## S2.6 Off-site transfers of waste

[illegible]

<sup>i</sup> European Waste Catalogue Code (Reference: Decision 2000/532/EC)

<sup>ii</sup> For hazardous waste only. If waste is not hazardous, please write "n/a".

## S2.7 Testing of bunds, pipes, pumps, valves, flanges, over-ground pipes and tanks

Number of bunds on site for tanks/containers $\leq 25 \text{ m}^3$ requiring testing in accordance with condition 2.6.3 of the regulatory framework permit	
Number of oil interceptors on site	
Number of tanks on site	
Date of last test for bunds for tanks/containers $\leq 25 \text{ m}^3$	
Testing for bunds for tanks/containers $< 25 \text{ m}^3$ due on (date)	
Number of existing fuel tanks on site	
Number of fuel tanks on site for DPS7	
Date of last test for pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm	
Testing of pipes, pumps, valves and flanges for fuel delivery from delivery to fuel storage due on (date)	
Date of last test for other flanges, valves and over-ground pipes on site	
Testing of other flanges, valves and over-ground pipes on site due on (date)	
Date of last test for oil interceptors	
Testing for oil interceptors due on (date)	

Additional documentation to be submitted if test was carried out during previous reporting year:

Tick (✓)

Inspection report and certification by approved auditor for bunds for tanks/containers  $\leq 25 \text{ m}^3$  on site

Inspection report and certification by approved auditor for pipes, pumps, valves and flanges for fuel delivery from delivery to storage tank

Inspection report and certification by approved auditor for other flanges, valves and over-ground pipes on site

Inspection report and certification by approved auditor for oil interceptors


*Bunds for tanks/containers  $> 25 \text{ m}^3$ :*

Number of bunds on site for tanks $> 25 \text{ m}^3$	
Number of visual inspections carried out during reporting year on each bund	
Total number of faults identified during reporting year	
Total number of faults rectified during reporting year	

Additional documentation to be submitted for bunds for tanks/containers  $> 25 \text{ m}^3$ :

Tick (✓)

Bund certification by warranted civil engineer

Summary report by warranted engineer on the visual inspections undertaken during the reporting year (including reports on faults and remedial actions taken)


## S2.8 Incidents and Complaints

### S2.8.1 Non-Compliance Incidents during Reporting Year

Date of incident	Brief description of Incident	Cause	Corrective action

Total number of non-compliance incidents for previous year:

Total number of non-compliance incidents for current reporting year:

### S2.8.2 Complaints made by the public

Date of complaint	Description of complaint	Actions taken

Total number of complaints for previous year:

Total number of complaints for current reporting year:

## S2.9 Transport

Name of registered waste carrier used during reporting year	Waste type(s) transported

## S2.10 Data on Ozone depleting substances and Fluorinated greenhouse gases

### S2.10.1 Registration of equipment<sup>i</sup>

Equipment code	Type of equipment	Use	Charge		Type of substance
			Kg	CO <sub>2</sub> (eq)	
EQ 1					
EQ 2					
EQ 3					
EQ 4					
Continue as required					

### S2.10.2 Maintenance Schedule<sup>ii</sup>

<sup>i</sup> This table should only include information on any equipment commissioned or decommissioned during the reporting year, where relevant.

<sup>ii</sup> (a) for equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO<sub>2</sub> equivalent or more, but of less than 50 tonnes of CO<sub>2</sub> equivalent: at least every 12 months; or where a leakage detection system is installed, at least every 24 months; (b) for equipment that contains fluorinated greenhouse gases in quantities of 50 tonnes of CO<sub>2</sub> equivalent or more, but of less than 500 tonnes of CO<sub>2</sub> equivalent: at least every six months or, where a leakage detection system is installed, at least every 12 months; (c) for equipment that contains fluorinated

Data Submitted for each scheduled inspection <sup>i</sup>	Equipment Code							
	EQ 1	EQ 2	EQ 3	EQ 4	EQ 5	EQ 6	EQ 7	Continue as required
Date of inspection								
All amounts of leakages detected (in Kg/ CO <sub>2</sub> equiv <sup>ii</sup> )								
Actions taken to eliminate such leakages								
Quantity and nature of the substances involved								
Serial number of the personnel involved								
Quantities added <sup>iii</sup> and/or recovered (in Kg/ CO <sub>2</sub> equiv).								

greenhouse gases in quantities of 500 tonnes of CO<sub>2</sub> equivalent or more: at least every three months or, where a leakage detection system is installed, at least every six months

<sup>i</sup> Table to be repeated for every scheduled inspection as per 'footnote 1' above.

<sup>ii</sup> Carbon Dioxide equivalent – use Annex 1 and Annex IV of EC517/2014 for calculation.

<sup>iii</sup> The quantities of added fluorinated greenhouse gases are from recycled or reclaimed stocks, please include the name and address of the recycling or reclamation facility and, where applicable, the certificate number

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### Schedule 3

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### Quarterly Reporting

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**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Quarterly Report to be made available on the Authority's public website.

Period covered by this report: \_\_\_\_\_

**S3.1 Waste**

Waste removed from site (EWC code & description)	Quantity	Units

## Schedule 4

### Monthly reporting

**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Monthly Report to be made available on the Authority's public website.

**S4.1 Daily Statistical Analysis of Continuous Monitoring****S4.1.1 Data for Particulates**

ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(CCGT 1- 3)

Permit Holder : ElectroGas Malta Ltd.	Emission Limit Value: ____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: ____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of particulates</b>	<b>mg . Nm<sup>-3</sup></b>
---	-----------------------------

Notes:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 30% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages

\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.

**S4.1.2 Data for Sulphur Dioxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(CCGT 1-3)**

Permit Holder : ElectroGas Malta Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of sulphur dioxide</b>	<b>mg . Nm<sup>-3</sup></b>
--	-----------------------------

Notes:

- (a) *The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.*
- (b) *Validated mean daily concentration average is calculated from the validated hourly averages.*

*\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.*

**S4.1.3 Data for Nitrogen Oxides**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(CCGT 1-3)**

Permit Holder : ElectroGas Malta Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of nitrogen oxides</b>	<b>mg . Nm<sup>-3</sup></b>
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Note:

- (a) *The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.*
- (b) *Validated mean daily concentration average is calculated from the validated hourly averages*

*\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.*

**S4.1.4 Data for Carbon Monoxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(CCGT 1-3)**

Permit Holder : ElectroGas Malta Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara.	Plant no.: _____
Date: ____/____/____	

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of carbon monoxide</b>	<b>mg . Nm<sup>-3</sup></b>
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Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 10% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages.

\*In this column mark valid data entries with a ✓ and invalid data entries with a ✗.

### S4.3 Daily Statistical Analysis of Continuous Monitoring

#### S4.3.1 Daily Data for Carbon Monoxide

*TWO PAGES PER MONTH TO BE SUBMITTED FOR EACH PLANT  
(CCGT 1-3)*

Permit Holder : ElectroGas Malta Ltd. Location: Delimara.	Emission Limit Value: _____ mg . Nm <sup>-3</sup> 110% of all mean validated daily values must not exceed _____ mg . Nm <sup>-3</sup> Plant no.: _____
--	---

Period	24 Hourly average (validated) (mg . Nm <sup>-3</sup> )
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	

Period	24 Hourly average (validated) (mg . Nm <sup>-3</sup> )
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs Ends on: ____/____/____ at ____ hrs	

Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	
Starts on: ____/____/____ at ____ hrs	
Ends on: ____/____/____ at ____ hrs	

Note:

*In the table above underline daily averages which exceed the daily emission limit values.*

#### S4.4 Monthly Statistical Analysis of Continuous Monitoring

##### S4.4.4 Monthly Concentration Data for Particulates, SO<sub>2</sub>, NO<sub>x</sub> and CO

ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT

Reporting year	
Month	
Plant	

	Particulates	SO <sub>2</sub>	NO <sub>x</sub>	CO
Monthly average concentration for the period (mg . Nm <sup>-3</sup> )				
No of exceedances of 24 hr limit in period	-	-	-	
Highest individual 24 hr average in period (mg . Nm <sup>-3</sup> )				
Mean daily average, in period (mg . Nm <sup>-3</sup> )				
Highest individual 1 hr average in period (mg . Nm <sup>-3</sup> )				
Mean 1 hr average in period (mg . Nm <sup>-3</sup> )				
Percentage of boiler operating time that continuous monitors available during reporting period				

### Schedule 5

#### Template for Exemption from Emission Limit Values

In view of the operating hours of combustion plant CP1-CP6 as described in IP 0002/21/i, I [INSERT NAME AND SURNAME], as the Permit Holder responsible for the combustion plant at [ADDRESS], submit my request to Authority to be exempt from the Emission Limit Values set out in Table 2.2.36 of the above-mentioned permit for the year [INSERT YEAR].

Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Rolling Average over 5 Years	

**I declare that, to the best of my knowledge, all the above information is correct and substantiated.**

\_\_\_\_\_  
**Name**  
*(in block letters)*

\_\_\_\_\_  
**ID Card Number**

\_\_\_\_\_  
**On behalf of / in my own  
name**  
*(in block letters)*

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## Schedule 6

### Derogation from BAT

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Floating storage was selected as the preferred LNG storage technology for this project during pre-conceptual design at development stage. The decision for choosing the FSU was based on safety and was analysed in the Quantitative Risk Assessment (QRA) prepared for this project.

The QRA assessed three different options:

- 1 Onshore LNG tanks and regasification plant and a jetty designed for mooring the LNG visitor cargo and transferring the LNG to the LNG tanks.
- 2 A floating storage unit with an onshore regasification plant and a jetty as in option 1 but with higher capacity, designed for mooring the FSU and the visitor cargo.
- 3 A floating storage unit with regasification plant installed in the FSU and a jetty as in option 2.

The QRA conclusions are included below. The QRA study is included in an appendix. Gas cloud extension drawings and individual risk curves for each option can be found within this study for the different options.

The Quantitative Risk Assessment (QRA) included in the EIS indicated that the offshore LNG terminal (FSU) was preferable to an on-shore LNG terminal because the offshore facility would be located further from the CCGT power plant and the heavy fuel oil (HFO) storage tanks. In the event of a major gas leak the ignition points in the CCGT could trigger a fire, which would damage the CCGT and possibly DPS 3. Although the track record of LNG storage facilities indicates that such accidents are highly unlikely (see Section 4.3 of the EIS), it is advisable for the distance between the power plant and the storage facility to be 'safe', especially in cases where room for multiple power stations is unavailable. The 'safe distance' would allow the re-gas system to be used to contribute to the cooling requirements of the power plant, whilst at the same time prevent serious accidents, no matter how unlikely their occurrence may be.

On the basis of the risk assessment exercise, the QRA identified an area offshore within which the unloading hoses connecting the supply carrier with the LNG storage facility could be located. Following discussions with the Ports and Yachting Directorate (PYD) of Transport Malta, a suitable location for the offshore LNG terminal and jetty was identified.

The conclusions of the QRA, with regard to the safety of the LNG terminal, are summarised below:

- 1 Individual risk curve: The QRA identified that no incompatibility was identified between the projected terminal and the LNG terminal (or consequences which may affect people, the environment and neighbouring facilities), however the offshore LNG terminal would provide the softest in terms of impacts. In the event of liquid or gas release, effects would be: fire (pool, jet or flash fire); gas cloud generation or unconfined vapour cloud explosion (UVCE), however these scenarios can be isolated in the event of an accident, through the closure of emergency shut-down valves;
- 2 Gas cloud extension: the QRA studied the spread of a gas cloud in case of a major gas leak at the CCGT and HFO tanks. On the basis of this assessment the QRA identified the location of potential leak points within the development, namely the loading hoses and the re-gas unit, as well as where these should be located should a leak occur. The QRA identified a location wherein the flammable part of the gas cloud would not encounter any ignition points which would be located in the new CCGT and/or the existing DPS 3, 2A and 2B. The QRA indicates that a gas release would not cause a domino effect on the HFO tank. The QRA also identified that as natural gas is lighter than air, when the LNG transforms to NG it would diffuse and rise progressively, therefore avoiding the inlets located on the eastern side of the peninsula, and avoiding potential human health risks.

The conclusions of this QRA assessment indicated that the offshore LNG floating-storage option was considered, on balance, the safer option with reference to both human life and security of supply, and was therefore seen as the preferred option.

**END OF PERMIT**

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## Subsidiary Permit 2 with introductory note

Environment Protection Act (CAP. 549)  
Industrial Emissions (Framework) Regulations, S.L. 549.76;  
Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77;  
Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Installation: **Delimara Power Station**

Permit Holder: **D3 Power Generation Ltd. (C66510)**  
**Enemalta Building**  
**Triq Belt il-Hazna**  
**Marsa MRS 1571**

Approved Documents:

Permit number  
IP 0002/21 – framework document

Sub-permit numbers  
IP 0002/21/i – ElectroGas Malta Ltd.  
IP 0002/21/ii – D3 Power Generation Ltd.  
IP 0002/21/iii – Enemalta plc.

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## Introductory note

The following Permit is issued under Regulation 7 of the Industrial Emissions (Framework) Regulations, (SL 549.76) ("the Industrial Emissions (Framework) Regulations") to operate an installation carrying out activities covered by the description in Section 1.1 in Schedule 1 of the Industrial Emissions (IPPC) Regulations (SL 549.77), to the extent authorised by the Permit, i.e.

**"Combustion of fuels in installations with a rated thermal input of 50 MW or more".**

Aspects of the operation of the installation which are not specifically regulated by conditions in the Permit may also be subject to the condition implied by Regulation 8 of the Industrial Emissions (IPPC) Regulations, which require the Permit Holder to use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Conditions marked with a "∞" shall be construed as conditions which are to be enforced by the Authority responsible for such an issue

Techniques include both the technology used and the way in which the installation is designed, built, maintained, managed, operated and decommissioned.

In some sections, the Permit conditions require the Permit Holder to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. These conditions do not explain what is BAT.

A non-technical description of the installation is given in the application, but the main activity of the installation is as follows:

- **Generation of electrical energy through the combustion of natural gas and gasoil.**

Note that the Permit requires the submission of certain information to the Competent Authority as per subsequent specific conditions. In addition, the Competent Authority has the power to seek further information at any time under regulation 11 of the Industrial Emissions (Framework) Regulations, provided that it acts reasonably.

Other IPPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
<i>Not applicable</i>		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
<i>Enemalta Corporation</i>	IP 0002/07/A	29 March 2010
<i>Enemalta Corporation</i>	IP 0002/07/B	6 December 2011
<i>Enemalta Corporation</i>	IP 0002/07/C	23 July 2012
<i>Enemalta Corporation</i>	IP 0002/07/D	17 September 2013
<i>Enemalta plc</i>	IP 0002/07/E	01 April 2014
<i>Enemalta plc</i> <i>ElectroGas Malta Ltd.</i> <i>D3 Power Generation Ltd</i>	IP 0002/07/F	11 January 2017
<i>ElectroGas Malta Ltd</i>	IP 0002/07/Fi	11 January 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Fii	12 January 2017
<i>Enemalta plc</i>	IP 0002/07/Fiii	11 January 2017

<i>Enemalta plc</i> <i>ElectroGas Malta Ltd.</i> <i>D3 Power Generation Ltd</i>	IP 0002/07/G	22 September 2017
<i>ElectroGas Malta Ltd</i> <i>D3 Power Generation Ltd</i>	IP 0002/07/Gi	22 September 2017
<i>Enemalta plc</i>	IP 0002/07/Gii	22 September 2017
<i>Enemalta plc</i>	IP 0002/07/Giii	22 September 2017

## Multiple Operator installations

As indicated in Regulation 6(3) of S.L. 549.76<sup>1</sup>, a permit may regulate several parts of an installation operated by different Permit Holders. The importance of integrating the operations of each technical unit stems from the definition of “installation” in the provisions of S.L. 549.76, where this is defined as “a stationary technical unit within which one of more activities listed in the regulations concerning integrated prevention and control or in the regulations concerning organic solvents are carried out, and any other directly associated activities on the same site which have a technical connection with these activities and which could have an effect on emissions and pollution”.

In accordance to guidance provided by the Commission, an activity is considered to be a directly associated activity with a Schedule 1 activity if it shares common features, for example: it is part of the same industrial complex; it operates in the same or a related sector; or operates with some collective aspects such as site security.

This installation is therefore being regarded as a multi operator installation.

## Functions of the permit

This **Subsidiary Permit 2** (IP0002/21/ii) which addresses the operations carried out by D3 Power Generation Ltd, shall be regarded as part of the Permit IP00002/07/G which consists of four main parts structured as follows:

- **The Regulatory Framework Permit** addressing the obligation of all Permit Holders and coordinating these obligations due to the nature of the facility as a multi-operator installation (IP 0002/21/).
- **Subsidiary permit 1** addressing the operation carried out by ElectroGas Malta Ltd (IP 0002/21/i);
- **Subsidiary permit 2** addressing the operations carried out by D3 Power Generation Ltd.(IP 0002/21/ii).
- **Subsidiary permit 3** addressing the operations carried out by Enemalta plc. (IP 0002/21/iii)

## Variations to the Permit

This Permit may be varied at any time in the future. If the Permit Holder wants any of the conditions of either the regulatory framework or this specific permit subsidiary to be changed, a formal application must be submitted to the Competent Authority. When such an application is submitted to the Authority for its consideration, the decision shall be carried out in consultation with the other Permit Holders within this multi operator installation

<sup>1</sup> SL 549.76 – Industrial Emissions (Framework) Regulations, 2013

The **Status Log** within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Any change in operations shall only be implemented following the granting of a variation of the permit by the Authority.

## Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made to the Competent Authority by the Permit Holder. For the application to be successful, the Permit Holder must be able to demonstrate to the Competent Authority that there is no pollution and/or public health risk and that no further steps are required to return the site to a satisfactory state.

The Permit Holder shall notify the Permit Coordinator and the other Permit Holders within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit or the Permit Holder specific subsidiary permits.

## Transfer of the Permit or part of the Permit

Upon the joint application of a Permit Holder and a proposed transferee, the Permit Holder may request to transfer an environmental permit. The permit shall not be transferred from the Permit Holder without prior approval from the Authority. Upon the Authority's decision to transfer the permit to the transferee, all rights, obligations, liabilities shall subsist onto the transferee.

The Permit Holder shall notify the Permit Coordinator and the other Permit Holders within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit or the Permit Holder specific subsidiary permits.

## Public Registers

This IPPC Permit and application are available to the public through the Competent Authority in accordance with the requirements of the Industrial Emissions (IPPC) Regulations. The applicant has made a request for certain information of a commercial nature to be withheld from the public. ERA has been supplied with all this information and has accepted the request of the applicant, because it was deemed to be commercially confidential. Alternative text which provides relevant information but does not include the confidential information, has however been included in the application.

## Status Log

Detail	Date	Comment
<i>Application IP 0002/07</i>	<i>Received 05 February 2007</i>	Not 'duly made'
<i>Response to request for information</i>	<i>Request dated 16 June 2007</i>	<i>Response dated July 2007</i>
<i>Report on boiler conversion for emission reduction</i>	<i>PDS submitted 24 April 2008</i>	<i>Request for further information dated 14 July 2008. Further information submitted 24 September 2008</i>

<b>Detail</b>	<b>Date</b>	<b>Comment</b>
Noise survey	Report submitted 25 July 2008	
Application 'duly made'	27 April 2009	
Response to request for information	Request dated 27 April 2009	Response received 18 May 2009 Consolidated version received 18 May 2009
Public consultation	Commenced on 21 May 2009	Concluded on 20 June 2009
Re-classification of the phase 1 boilers (from 380 to 332 MW <sub>TH</sub> )	Official letter dated 28 September 2009 plus supporting documents.	
Permit A determined	01 October 2009	
Permit A issued	29 March 2010	
Application for variation of permit to include diesel engines	Application received on 11 February 2010	
Response to request for information	Request dated 19 April 2010	Response received 31 May 2010, 17 June 2010 and 26 July 2010
Response to request for information	Request dated 17 September 2010	Response received 12 May and 2 June 2011
Response to request for information regarding Nox emissions	Request dated 24 June 2011	Response received 4 July 2011
Response to request for information regarding socio-economic assessment	Requests dated 24 June, 4 July and 18 July 2011	Response received on 4 August 2011
Response to request for information	Request dated 5 July 2011	Response received on 22 July, 27 July 2011.
Correspondence regarding flue gas volume calculations	Information submitted by Enemalta on 30 June, 8 and 29 July 2011 and 29 August 2011	Request accepted on 4 August 2011
Request for variations to existing permit	Received on 29 July 2011	
Request for consolidated application	Request made on 26 July 2011	Consolidated application received on 17 August (draft) and 23 August 2011 (final)
Air dispersion model	Report submitted on 24 August 2011	
Updated cooling water dispersion modelling study	Received on 7 September 2011	
Public consultation	Started on 24 August 2011	Concluded on 7 October 2011
Renewal and variation B determined	5 December 2011	
Permit B issued	6 December 2011	Permit expires on 6 December 2015 A consolidated permit is being issued

Detail	Date	Comment
<i>Public consultation on proposed extension to condition 2.2.1.7.9 from September 2012 to June 2013</i>	Started on 17 May 2012	Concluded on 18 June 2012
<i>Variation C determined</i>	12 July 2012	
<i>Permit C issued</i>	23 July 2012	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension for HFO use from June 2013 to March 2014</i>	Started on 28 June 2013	Concluded on 28 July 2013
<i>Variation D determined</i>	5 September 2013	
<i>Permit D Issued</i>	17 September 2013	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on the determination of the choice of fuel for DPS6</i>	Started on 11 February 2014	Concluded on 12 March 2014
<i>Variation E determined</i>	27 March 2014	
<i>Permit E issued</i>	1 April 2014	Permit expires on 6 December 2015. A consolidated permit is being issued.
<i>Permit extended</i>	1 December 2015	From 06 December 2015 to 06 June 2016
	30 May 2016	From 06 June 2016 to 6 December 2016
	02 December 2016	From 06 December 2016 to 06 June 2017
<i>Request for variations to existing permit by Electrogas Malta Ltd.</i>	13 November 2014	
<i>Request for variations to existing permit by D3 Power Generation Ltd.</i>	20 February 2015	
<i>Request for renewal and variations to existing permit by Enemalta plc.</i>	4 June 2015	
<i>Responses to request for information</i>	Electrogas Malta Ltd	From 13 November 2014 to 17 October 2016
	D3 Power Generation Ltd	From 20 February 2015 to 17 October 2016
	Enemalta plc	From 4 June 2015 to 17 October 2016
<i>Application Duly made</i>	Electrogas Malta Ltd	18 October 2016

Detail	Date	Comment
	D3 Power Generation Ltd	18 October 2016
	Enemalta plc	18 October 2016
<i>Public Consultation</i>	Between 19 October 2016 and 27 November 2016	Public consultation extended by 10 days from the original end date of 17 November 2016.
<i>Permit F Determined</i>	19 December 2016	
<i>Permit F Issued</i>	12 January 2017	Permit expires: 19 December 2020
<i>Request for partial surrender to existing permit by Enemalta plc.</i>	12 April 2017	
<i>Responses to request for information</i>	11 May 2017	
<i>Application Duly made</i>	5 July 2017	
<i>Public Consultation</i>	Between 10 July 2017	Concluded 24 July 2017
<i>Permit G Determined</i>	25 August 2017	
<i>Permit G Issued</i>	22 September 2017	Permit expires: 25 August 2017
<i>Application IP 0002/21</i>	12 February 2021	EGM; variation and renewal
	26 February 2021	D3PG; renewal
	25 February 2021	ENE; renewal and variation
<i>Regulatory consultation</i>	between 23rd April 2021 – 7th May 2021 and between 1st June 2021 – 8th June 2021 and 25th October 2021 – 8th November 2021	
<i>Public Consultation</i>	Commenced on 17 December 2021	Concluded on 02 January 2022
<i>Application Determined</i>	18 February 2022	

**End of Introductory Note**

## Permit

Industrial Emissions (Framework) Regulations, S.L.549.76; Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77; Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Permit number

**IP 0002/21/ii**

The Environment and Resources Authority (hereinafter the Authority; the Competent Authority or ERA) in exercise of its powers under Regulation 7 of the Industrial Emissions (Framework) Regulations, 2013 (S.L. 549.76) ("the Industrial Emissions (Framework) Regulations"), hereby authorises:

***Xun Cheng X obo D3 Power Generation Ltd (C66510)*** (hereinafter "the Permit Holder" unless specifically mentioned)

Of / Whose Registered Office (or principal place of business) is at

**Enemalta Building,  
Triq Belt il-Hazna,  
Marsa  
MRS 1571,  
Malta**

to operate specified plant described in the regulatory framework permit and in this subsidiary permit 2 an the installation at:

**Delimara Power Station, Delimara, Marsaxlokk, MXK 1320**

to the extent authorised by and subject to the conditions of this subsidiary permit and applicable conditions in the regulatory framework permit.

This permit is valid until the expiry of the permit which is 4 year/s from the 'permit granted' date below. An application for renewal is to be submitted at least nine (9) months prior to expiry of the permit.

Environment and Resources Authority		Permit Granted:    10/05/2022
<b>APPROVAL</b>		
Board No.154	Held on 18/02/22	
Chairman_____ Secretary_____		

**Authorised to sign on behalf of the Competent Authority**

## Conditions

### 1 General

This permit shall be read in conjunction with the regulatory framework Permit and the subsidiary permits issued to Enemalta plc, and ElectroGas Malta Ltd, which together comprise permit IP 0002/21

#### 1.1 Permitted Activities

- 1.1.1 The Permit Holder is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

<b>Table 1.1.1</b>		
<b>Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 1.1: Combustion installations with a rated thermal input exceeding 50 MW	<p>Generation of electrical energy through the combustion of natural gas and gasoil.</p> <p>Installation consists of four medium-speed combined cycle dual fuel (natural gas and gasoil) diesel engines (DPS6 – diesel engines 5 to 8).</p> <p>Installation consists of four medium-speed combined cycle single fuel (natural gas) diesel engines (DPS6 – diesel engines 1 to 4).</p>	From receipt of fuel for combustion in diesel engines 1 to 8.
Associated activity of use of abatement equipment	Usage of urea	In the operation whilst utilising natural gas and whilst using gas oil in the specified diesel engines
Associated activity of fuel handling and storage	Handling and storage of gas oil.	From receipt of the fuel from Enemalta to storage in day tanks and combustion in diesel engines 5 to 8 and 3.85MW <sub>th</sub> auxiliary boiler.
	Handling of Natural Gas	From receipt of the fuel from the Electrogas Malta Ltd gas receiving station to combustion in diesel engines 1 to 8.

Associated activity of storage, treatment and disposal/recycling of waste materials	Handling, storage, treatment and disposal/recovery of wastes from installation.	From generation of waste to disposal or recycling onsite or offsite.
Associated activity of maintenance	Maintenance carried out in any workshop in the installation.	From maintenance activity to appropriate recovery/disposal of any wastes created.

## 1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, as highlighted in red on the Site Plan in Schedule 1 to this Permit.
- 1.2.2 The Permit Holder shall also be responsible for any additional activities (any relevant extent) as authorised in condition 1.1.1 of the Regulatory Framework Permit.

## 1.3 Information to the public

- 1.3.1 The Permit Holder shall make emission data (most recent hourly, daily, diurnal and monthly average values and/or results of the most recent discontinuous measurement) publicly available via the Internet not later than 30 days after the production of such data. Nonetheless such data shall be made available to the Authority upon request within 24 hours. Such data shall be also provided to the permit coordinator for upload on the D3PG's website.<sup>2</sup>

## 1.4 Overarching Management Conditions

- 1.4.1 The Permit Holder shall ensure that the EMS is coordinated with those established by the other Permit Holders within the installation.
- 1.4.2 So as to enable the permit coordinator to fulfil the obligations pertaining to mutual audits as stipulated in condition 1.4.10 of the Regulatory Framework Permit, the Permit Holder shall provide all the necessary information requested by the permit coordinator as may be required.

## 1.5 Improvement Programme

- 1.5.1 The Permit Holder shall complete the improvements specified in Table 1.5.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Authority on [ced.coast@era.org.mt](mailto:ced.coast@era.org.mt) within 10 working days of the completion of each such requirement.

Table 1.5.1: Improvement programme		
Reference	Requirement	Date
4	Submission of an outline decommissioning plan	Within 12 months of the granting of the permit.

<sup>2</sup> <http://sep-malta.com/a/English/Information/2021/1117/215.html>

## 1.6 Fuel reception points and supply

- 1.6.1 The Permit Holder shall only receive fuel for combustion in the installation regulated through this permit from the external tie in point connection with Enemalta plc. for gasoil and with ElectroGas Malta Ltd. for natural gas as identified in schedules 2B and 2C of the regulatory framework permit respectively and as detailed in Table 1.6.1 below.

<b>Table 1.6.1 – infrastructure related to receipt of fuel</b>		
<b>Tie in point</b>	<b>Type of Fuel</b>	<b>Description</b>
TP 04 D3	Gasoil	Gasoil connection from Enemalta gasoil tank farm to D3PG diesel day tanks.
TP 05 D3	Natural Gas	Gas connection at ElectroGas Malta Ltd Gas reducing Station

- 1.6.2 The Permit Holder shall only receive gasoil for combustion in the specified plant permitted in Table 1.6.1 and without prejudice to the subsequent conditions of this permit.
- 1.6.3 The Permit Holder shall only receive natural gas for combustion in the specified plant permitted in table 1.6.1 and without prejudice to the subsequent conditions of this permit.
- 1.6.4 Ambient pressure and volumes of natural gas and gasoil shall be as described in the IPPC application and as per applicable industrial standards.

## 2 Operating Conditions

### 2.1 General Conditions

- 2.1.1 The permit is issued against a Bank Guarantee of € 1,000,000 covering aspects of this permit and operator specific conditions in the Regulatory Framework Permit. This guarantee will have to be maintained throughout the validity of the permit. Following renewal and/or variations to this permit, the Authority may require amendments to the Bank Guarantee.
- 2.1.2 The Permit Holder shall submit a fixed annual fee of € 1,182.50 and a variable addition reflecting ERA's cost for inspections. The latter variable component depends on the actual number of site inspections, which is determined by the performance of the Permit Holder. The total annual contribution has to be paid annually.

### 2.2 Emissions to Air

#### Emissions to Air from Specified Points: General Considerations

- 2.2.1 A release from the Authorised Process into the atmosphere shall arise only from a release point specified in Table 2.2.1, which shall arise only from the source for that release specified in that Table.

<b>Table 2.2.1 Emission points to air</b>					
<b>Release Point</b>	<b>Source</b>	<b>Fuel</b>	<b>Total Thermal Rating</b>	<b>UTM Co-ordinates<sup>3</sup></b>	
			<b>MW<sub>TH</sub></b>	<b>x-coordinates</b>	<b>y-coordinates</b>
Chimney D6A	DPS6 (Diesel engines 1 & 2)	Natural Gas	86	460,137	3,965,687
Chimney D6B	DPS6 (Diesel engines 3 & 4)		86	460,134	3,965,685
Chimney D6C	DPS6 (Diesel engines 5 & 6)	Natural Gas or gasoil	79	460,104	3,965,663
Chimney D6D	DPS6 (Diesel engines 7 & 8)		79	460,101	3,965,661
Chimney D6E	Auxiliary steam boiler	Gas oil	3.85	460,009	3,965,425

#### **Emissions to Air: Fuel Source and quality**

2.2.2 Gasoil shall only be utilised as fuel in diesel engines constituting DPS6C and 6D in the following emergency situations:

- i. There is shortage in supply of Natural Gas.
- ii. Natural Gas engine system or D3 plant is malfunctioning or being repaired.
- iii. Natural Gas supplied is not to specification.
- iv. Any other dispatch requirements as the Permit Holder may be requested

and in line with provisions of regulation 13 of S.L. 549.78 describing emergency situations and subsequent applicable conditions:

2.2.3 When gasoil is used, the sulphur content shall comply with the standards laid down by the Quality of fuels Regulations (S.L. 545.18 as may be amended from time to time), i.e. the sulphur content of the gasoil fired by diesel engines DPS6 (Diesel engines 5 to 8) shall in no case exceed 1 kg for every tonne of gasoil.

2.2.4 If the Permit Holder opts to use gasoil in DPS 6C and 6D for a period longer than that established through Regulation 13 of S.L. 549.78, ERA shall be provided with a plan of how:

- The bag filters towers will be refitted and reintroduced on these engines,
- The flue gas desulfurization plant (FGD), will be reconnected to these engines,

<sup>3</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

- 2.2.5 Sulphur content of natural gas fired in DPS6A to DPS6D shall not exceed 30mg/Nm<sup>3</sup>. The sulphur content of the natural gas shall however not prejudice the achievement of the emission limit values as stipulated in Table 2.2.14.
- 2.2.6 The Permit Holder shall determine the mass of each fuel fired in the Authorised Process for each Reporting Year and report this as part of the AER.
- 2.2.7 The Permit Holder shall ensure that a quality assurance/quality control programmes for fuel utilised on site is in line with BAT 9 in the Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council for large combustion plants. The Permit Holder shall determine the mass of fuel fired in the Authorised Process for each reporting year and report this as part of the Annual Environmental Report.

#### **Determination of start-up and shut-down**

- 2.2.8 The determination of periods of start-up and shut-down as defined in the following conditions shall be maintained in accordance with the provisions of Commission Implementing Decision 2012/249/EU.
- 2.2.9 The Permit Holder shall immediately inform the Authority should there be any changes in any aspects relating to each plant that affect start-up and shut-down periods, including the installed equipment, fuel type, plant role in the system and installed abatement technology,
- 2.2.10 The Permit Holder shall make sure that the frequency of start-up and shut down periods are minimised as far as practicable.
- 2.2.11 The Permit Holder shall ensure that all abatement equipment is brought into operation as soon as is technically practicable.
- 2.2.12 Start-up and shut-down of the respective units is defined in the Table 2.2.12:

<b>Table 2.2.12 – Determination of start-up and shut-down for DPS 6 (Diesel Engines 1 to 8)</b>		
	Diesel Engine	Use of more than 1 diesel engine (used in the start up of the second diesel engine)
End of Start-up period	Upstream and downstream temperature of the SCR is >330°C	Upstream and downstream temperatures of the SCR of both engine 1 and engine 2 in each exhaust stream is >330 °C
Start of Shut-down period	Engine load ≤13% of the rated DE Electrical output	all engines ≤13% of the rated DE Electrical output

#### **Emissions to Air from DPS6 (diesel engines)**

- 2.2.13 The emission limit values specified in Table 2.2.14 shall not be exceeded. All concentrations shall be corrected to 273.15 K, 101.3 kPa, dry gas volume and to an oxygen (O<sub>2</sub>) content of 15%. These concentrations relate to volume flows without dilution.

- 2.2.14 Emission limit values in part A of Table 2.2.14 are applicable to diesel engines 1 to 4 when operating on natural gas and for diesel 5 to 8 when operating on natural gas together with 18L/h of gasoil for pilot ignition, whereas Emission limit values in part B of Table 2.2.14 are applicable to diesel engines 5 to 8 when operating under the provisions of condition 2.2.2.

<b>Table 2.2.14 Monitoring and emission limits for DPS6</b>					
<b>A - Emission Limit values applicable to Diesel engines 1 to 8 while firing natural gas</b>					
<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring method</b>	<b>Emission limit value*</b>		<b>Maximum allowable factor subtracted by validation, in accordance with SL 549.78</b>
Dust (TSP)	Continuous	EN 15267-3, EN 14181	5 mg/ Nm <sup>3</sup>		-
SO <sub>2</sub>	Continuous	EN 14181, EN 15267-3, EN ISO 14956	10 mg/Nm <sup>3</sup>		-
NO <sub>x</sub> (measured as NO <sub>2</sub> )	Continuous	EN 14181, EN 15267-3, EN ISO 14956	55 mg/Nm <sup>3</sup> (daily average)	50 mg/Nm <sup>3</sup> (annual average)	20%
CO	Continuous	EN 14181, EN 15267-3, EN ISO 14956	80 mg/Nm <sup>3</sup> 110% of all 24 hourly mean values)	70 mg/Nm <sup>3</sup> (100% calendar monthly mean value)	10%
Ammonia	Continuous		2.6 mg/Nm <sup>3</sup>		-
SO <sub>3</sub>	On an annual basis		—		
Formaldehyde	On an annual basis		—		
CH <sub>4</sub>	On an annual basis		—		

\*ELVs are deemed as being complied with if none of the validated hourly average values exceed 200% of respective ELVs

<b>B - Emission Limit values applicable to Diesel engines 5 to 8 while firing gasoil</b>					
<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring method</b>	<b>Emission limit value*</b>		<b>Maximum allowable factor subtracted by validation, in accordance with SL 549.78</b>
Dust (TSP)	Continuous	EN 15267-3, EN 14181	20 mg/Nm <sup>3</sup> (daily average)	20 mg/Nm <sup>3</sup> (yearly average)	30%
SO <sub>2</sub>	Continuous	EN 14181, EN 15267-3, EN ISO 14956	110 mg/Nm <sup>3</sup> (daily average)	110 mg/Nm <sup>3</sup> (yearly average)	20%
NO <sub>x</sub> (measured as NO <sub>2</sub> )	Continuous	EN 14181, EN 15267-3, EN ISO 14956	150mg/Nm <sup>3</sup> (daily average)	125 mg/Nm <sup>3</sup> (yearly average)	20%
CO	Continuous	EN 14181, EN 15267-3, EN ISO 14956	100 mg/Nm <sup>3</sup>		10%
Ammonia	Continuous	EN 14181, EN 15267-3, EN ISO 14956	2.6 mg/Nm <sup>3</sup> (annual average)		-
SO <sub>3</sub>	Periodic: on an annual basis	—	—		—
TVOC	Periodic: Biannual basis	EN 12619	—		—
Metals and metalloids except mercury As Cd Co Cr Cu Mn Ni Pb Sb Se Ti V Zn	Periodic: on an annual basis	EN 14385	—		—

\*ELVs are deemed as being complied with if none of the validated hourly average values exceed 200% of respective ELVs

- 2.2.15 The Permit Holder shall carry out monitoring from DPS6 of the parameters listed in Table 2.2.14, according to the frequency and method specified in the table. In the case of parameters for which period monitoring (except sulphur trioxide) is requested in Table 2.2.14, this shall be carried out should the plant be operated on gas oil for more than 500 hours per stack
- 2.2.16 Measurements of parameters within Table 2.2.14 shall be carried out by means of a Continuous Emission monitoring system unless indicated otherwise.
- 2.2.17 In order to validate the hourly readings, the Permit Holder shall subtract a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed the percentages of the measured valid hourly average value indicated in Table 2.2.14.
- 2.2.18 As per condition 2.2.19 continuous measurements shall include the relevant process operation parameters of
- i. oxygen content;
  - ii. temperature;
  - iii. pressure;
  - iv. water vapour content;
  - v. velocity and;
  - vi. flue gas volume
- a) Provided that where the sampled exhaust gas is dried prior to emission analyses, the Permit Holder shall not be required to measure the water vapour content of the exhaust gas.
  - b) Provided that the flue gas volume and velocity may be calculated instead of measured if the fuel quality certification obtained measures the parameters listed in Table 2.2.9 and 2.2.10 of IP 0002/21/i [Subsidiary Permit 1] and Table 2.2.5 and 2.2.6 of IP 0002/21/iii [Subsidiary Permit 2].
- 2.2.19 The Permit Holder shall monitor continuously for the parameters listed in table 2.2.19 using the methods listed in the same table or their equivalent as may be agreed with the Authority.

<b>Table 2.2.19: Monitoring of additional parameters</b>	
<b>Parameter</b>	<b>Standard Number /Instrument</b>
Oxygen	ISO 12039:2019
Water Content	EN 14181 EN 15267-3
Velocity	ISO 10780:1994
Flue gas volume	ISO 14164:1999
Flue gas temperature (prior to discharge into the atmosphere)	Temperature Sensor
Flue gas pressure (prior to discharge into the atmosphere)	Pressure Sensor

- 2.2.20 In the case of parameters for which period monitoring is requested, this shall be carried out should the plant be operated on gas oil for more than 500 hrs cumulatively. Discontinuous analyses shall be carried out by a laboratory accredited by the National Accreditation Body (NAB-Malta) (or equivalent) to at least EN ISO 17025:2017 and preferably for each and every parameter.

### **Emissions to Air from Specified Points: Total Annual Emissions and Other Reporting**

- 2.2.21 The Permit Holder shall keep an inventory of the total annual emissions of the following from diesel engines 1 to 8 at the Delimara Power Station with a rated thermal input of 50 MW<sub>th</sub> or more;
- i. The total annual emissions of SO<sub>2</sub>, NO<sub>x</sub> and dust (as total suspended particles)
  - ii. The total fuel burn per plant, the fuel type and the average heat value of the fuel fired.

The inventory shall be submitted as part of the AER of the installation in the format specified in Schedule 2.

- 2.2.22 The Permit Holder must keep record of the following:
- i. The validated hourly concentration values of TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO for each combustion plant per day (in the format specified in the Monthly Reports [Schedule 4] and clearly indicating any exceedances).
  - ii. 24-hourly mean values for the concentration of carbon monoxide (CO) (in the format specified in the Monthly Reports [Schedule 4] and clearly indicating any exceedances).
  - iii. For TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO, calendar monthly mean concentrations (in the format specified in Schedule 4) and monthly loads for TSP, SO<sub>2</sub> and NO<sub>x</sub> (in the format specified in the AER [Schedule 2], and clearly indicating any exceedances).
  - iv. The total annual load of TSP, SO<sub>2</sub> and NO<sub>x</sub>, which shall be calculated by adding the total mass of pollutant emitted per year, on the basis of the volumetric flow rates of waste gases in the Monthly Reports [Schedule 4].
  - v. For DPS6, the total annual load of ammonia, which shall be calculated by adding the total mass of pollutant emitted per year, on the basis of the volumetric flow rates of waste gases in the format specified in the AER [Schedule 3].

### **Emissions to Air from Specified Points: Performance and Calibration of Automated Measuring Systems**

- 2.2.23 The operation of all automated measuring systems at the Delimara Power station shall follow EN 14181:2004 – Stationary Source Emissions – Quality Assurance of automated measurement systems.
- 2.2.24 Measuring systems shall be subject to control by means of parallel measurements with the reference methods listed in Table 2.2.24 at least every year. The calibrations shall be performed by a lab accredited as confirmed by the

National Accreditation Body (NAB-Malta) (or equivalent) to at least EN ISO 17025:2017 and preferably accredited for each and every calibration.

<b>Table 2.2.24 Calibration of Automated Measuring Systems</b>	
<b>Standard Number</b>	<b>Title</b>
EN 14791:2005	Stationary source emissions - Determination of mass concentration of sulphur dioxide - Reference method.
EN 14792 :2005	Stationary source emissions - Determination of mass concentration of nitrogen oxides (NO <sub>x</sub> ) - Reference method: Chemiluminescence.
EN 13284-1:2001	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method.

2.2.25 For the parameters measured continuously, the data for 1 day shall be invalidated if on that day three or more hourly average concentration of dust (TSP), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring system.

2.2.26 If more than 10 days in a year are invalidated for such situations, the Permit Holder must take adequate measures to improve the continuous monitoring system.

#### **Emissions to Air from Specified Points: Auxiliary steam boiler**

2.2.27 Industrial combustion plants (e.g. boilers, generators, etc.) shall be compliant with the provisions of the Limitation of Emissions of Certain Pollutants into the air from Medium Combustion Plant Regulations (S.L. 549.122) and any other applicable subsidiary legislation.

2.2.28 The Permit Holder shall keep the periods of start-up and shut-down of the combustion plants listed in Table 2.2.29 as short as possible.

2.2.29 The limits for emissions to air for the parameters and emission points set out in Table 2.2.30 shall not be exceeded. The limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases and at a standardised O<sub>2</sub> content of 15%.

<b>Table 2.2.29 : Emission limits to air for CP1</b>			
<b>Emission point reference</b>	<b>Parameter</b>	<b>Limit (mg/Nm<sup>3</sup>)</b>	<b>Frequency</b>
DPS6E (CP1)	Oxides of Nitrogen	200	Every three years
	Carbon Monoxide	-	

2.2.30 Monitoring shall be carried out according with the frequency stated in Table 2.2.29. During each measurement, the plant shall be operating under stable conditions at a representative even load. In this context, start-up and shutdown periods shall be excluded. The Authority reserves the right to require an increase in the frequency of such measurements. The monitoring results shall be submitted as part of the Annual Environmental Report (AER) of year in which the monitoring has been carried out. The data shall at the least be kept for a period of six years.

- 2.2.31 The Permit Holder shall maintain a record of the operating hours for each combustion plant.
- 2.2.32 Following submission of the AER for the previous reporting year, should the amount of operating hours of the combustion plant be less than 500 hours, as a rolling average over five years, the Permit Holder may apply with the Authority for an exemption from the emission limit values set out in Table 2.2.29, by submitting the information in Schedule 5.
- 2.2.33 The granting of such exemption described in Condition 2.2.32 shall be at the discretion of the Authority and shall be valid until such time that the rolling average of the operating hours over five years exceeds 500 hours, or until such time as prescribed by the Authority. The Authority shall communicate the expiry of the exemption in writing.
- 2.2.34 The exemption described in Condition 2.2.33 shall only exempt the Permit Holder from compliance with the emission limit values set out in Table 2.2.29. Monitoring is still to be carried out with the frequency indicated in the same table.
- 2.2.35 Should the emission limit values in Table 2.2.29 be exceeded, as part of the AER, the Permit Holder is to propose measures that will be taken to ensure compliance with the emission limit values.
- 2.2.36 Without prejudice to condition 2.2.35, should secondary abatement equipment be installed in order to meet the emission limit values indicated in S.L.549.122, the Permit Holder is to keep a record proving the effective continuous operation of such equipment.

#### **Monitoring Provisions and Emergency considerations**

- 2.2.37 In the event of non-compliance causing immediate danger to human health, operation of the activity must be suspended and the Competent Authorities informed within 24 hours.<sup>∞</sup>
- 2.2.38 For CP1 in the event of, malfunction or breakdown leading to abnormal emissions, the Permit Holder must:
- i. Investigate immediately and undertake corrective action to ensure compliance is restored without undue delay, and
  - ii. Adjust the process or activity to minimise those emissions, and
  - iii. Record the events and actions taken.
- 2.2.39 With respect to emissions emanating from combustion plants, and in furtherance to condition 2.2.39 the Permit Holder shall, at the written request of ERA and within 10 working days, identify the specific cause of the abnormal emission and examine means for its elimination or minimisation including:
- i. Relocating / redesigning/ extending the stack(s) or vent(s) to a point where nuisance is minimised
  - ii. Replacement of fuel
  - iii. Preventative measures such as replacement of process materials by substances which are less detrimental to the environment
  - iv. Improved storage of materials
  - v. Use of additional abatement measures in line with condition 2.2.36

2.2.40 All abatement equipment and ducting shall be cleaned and maintained on a regular basis (as per manufacturer specifications).

2.2.41 Sampling and analysis of polluting substances and measurements of process parameters shall be based on methods enabling reliable, representative and comparable results. Methods complying with harmonised EN standards shall be presumed to satisfy this requirement.

2.2.42 The auxiliary steam boiler shall vent through stacks extending at least 12 metres

## 2.3 Discharges to sewers<sup>∞</sup>

2.3.1 The Permit Holder shall ensure that monitoring exercises are carried out at the tie in point TP 11 D3 in drawing in 2B of the regulatory framework permit and coordinated with Enemalta plc. and any other locations as stipulated by the WSC

2.3.2 Where any of the parameters stipulated by the water services Coordinated are exceeded, the Permit Holder shall ensure that any follow up actions requested by the WSC are implemented and coordinated with the Permit Coordinator within the timeframes agreed upon with the WSC.

2.3.3 During operations involving the pumping of foul water from the D3 Power Generation Ltd. cesspit to underground pit operated by Enemalta plc., the Permit Holder shall ensure that no spillages occur during such a transfer.

## 2.4 Emissions to Marine Water

### Emissions to Marine Water from Specified Points: General Considerations

2.4.1 Waste waters shall not be discharged into marine water unless through the external tie-in points and from the specified points in Table 2.4.1., and only from the sources for those release points specified by the table in question.

Table 2.4.1 Emissions to Marine Water				
Outlet Number (as per Schedule 5 of the Framework Permit)	External Tie in point reference	Details	UTM Co-ordinates <sup>4</sup>	
			x-coordinate	y-coordinate
Point 2	TP13.D3	Existing stormwater overflow from Enemalta D3PG stormwater from FOT area	459, 903	3,965,595
Point 3	TP14.D3	Enemalta oil interceptor (from HFO and gasoil tank area), water from fuel centrifugation and run-off from access road (near gasoil tank farm)	459,860	3,965,516

<sup>4</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

Table 2.4.1 Emissions to Marine Water				
Outlet Number (as per Schedule 5 of the Framework Permit)	External Tie in point reference	Details	UTM Co-ordinates <sup>4</sup>	
			x-coordinate	y-coordinate
		D3PG oil interceptor from fuel tank area and other plant run-off.		
Point 4	TP 18 D3	Main outfall including water treatment, cooling systems, waste water from steam generation, waste water from boiler washdown/ blowdown from Enemalta, D3PG and ElectroGas.		
Point 5	TP 12 D3	D3 PG rainwater runoff to Enemalta reservoir overflowing into Hofra iz-zghira and routed through TP 18 D3	460,154	3,965,839

- 2.4.2 The monitoring specified in condition 2.5.3 of the framework permit shall apply to emission points Point 2 and Point 5.
- 2.4.3 No specified emission to water shall exceed the emission limit values set out in Table 2.5.3 of the framework permit, without prejudice to condition 2.5.16 of the framework permit. The emission limits shall apply to the waste water at the point of discharge into the sea. There shall be no other emissions to water of environmental significance.
- 2.4.4 Monitoring of parameters 1 and 4-25 in table 2.5.3 of the Framework permit from external tie in point TP 14.D3 is required prior to discharge of waste water **only** in case of a spillage of fuel from any tank. Testing of total petroleum hydrocarbons shall however be carried out continuously whenever water from fuel centrifugation (or other forms of water removal) is being discharged. The Permit Holder shall immediately inform Enemalta in cases where spillages from tanks occur.
- 2.4.5 The Authority may change monitoring parameters and frequencies as it considers appropriate.
- 2.4.6 In case of any exceedances of the emission limit values in Table 2.5.3 of the framework permit, either through the individual monitoring carried out in the location agreed upon with the competent authority or as highlighted by the Permit Coordinator through the procedure laid down in condition 2.5.26 of the Regulatory Framework Permit, the Permit Holder shall as part of the AER submit an action programme to the Authority aimed at achieving these emission limits. This plan shall be coordinated through the Permit Coordinator.

### **Discharges to Marine Water: Requirements for Waste Water arising from Non-process Water**

- 2.4.7 These requirements apply to discharges through external tie in points TP 13 D3 and TP14 D3 and TP 12 D3, discharging to Points 2, and 3. Conditions 2.5.36 – 2.5.40 in the framework permit shall also apply to these points.
- 2.4.8 The oily water separator systems shall have a continuous hydrocarbon detector with alarm. No discharge of wastewater is allowed if the emission limit value is exceeded. Detection of oily water at external tie in points TP 13 D3 and TP14 D3 and TP 12 D3, above the emission limit value or following a notification from the permit coordinator regarding detection of oily water at discharge points 2 and 3 shall be followed by immediate investigation and appropriate mitigation measures.
- 2.4.9 Detection of oily water at external tie in points TP 13 D3 and TP14 D3 and TP 12 D3 shall also be followed by an immediate notification to the permit coordinator.

### **2.5 Storage**

- 2.5.1 The unloading of gasoil shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.5.2 The transfer of gasoil from the Enemalta main tanks to the D3PG day tanks or the auxiliary steam boiler tank shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.5.3 The pipes, pumps, valves and flanges forming part of the system which transfers gasoil from the Enemalta main tanks to the D3PG day tanks or the auxiliary steam boiler tank shall be certified to be leak-proof by an approved auditor at least once every three years. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2.
- 2.5.4 All oil transfers shall be undertaken in accordance with an oil spillage response plan. The Permit Holder shall provide all the necessary information to the Permit coordinator in updating the existing plan to address oil transfers from Enemalta plc to D3 Power Generation Ltd.
- 2.5.5 Further to condition 2.5.4, and upon approval by the Authority, such a plan shall be implemented and adopted in cases where spillages occur during fuel transfers.
- 2.5.6 The Permit Holder shall carry out ultrasonic testing of shell thickness on the fuel tanks servicing DPS6. Such testing shall be carried out every five years and shall be reported as part of the AER.
- 2.5.7 All personnel involved in the transfer of gasoil from storage to the generating stations shall be trained in the oil spillage response plan. Records of such training shall be maintained and made available for inspection by Authority personnel.
- 2.5.8 All fuel tanks shall be fitted with a high level alarm and, for fuel tanks used for internal fuel transfer, a high-high liquid level alarm with automatic stoppage of pumps and automatic closure of valves in the event of a high-high level alarm.

- 2.5.9 The Permit Holder shall have in storage an adequate supply of containment booms and suitable absorbent material to absorb any spillage.
- 2.5.10 The Authority reserves the right to request that fuel tanks be connected to appropriate abatement systems to the satisfaction of the Authority, such that fugitive emissions and odours from the fuel tanks are sufficiently mitigated. The Permit Holder shall keep a log of opening and closing times of pressure relief valves
- 2.5.11 Upon replacement of the carbon filters associated with the fuel tanks, the permit holder shall submit a notification to the Authority which shall include a report by a warranted engineer indicating:
- i. The reason for the replacement;
  - ii. The saturation level of the carbon filter ; and
  - iii. Any further actions required including timeframes for their implementation

## **2.6 Waste**

### **Other Provisions due to prolonged use of gasoil in diesel engines 5 to 8 in in the event that equipment for flue gas desulphurisation is required/reinstalled**

- 2.6.1 The Permit Holder shall have in place a waste collection, transport and export service contract for flue gas desulphurisation waste and fly ash, a copy of which shall be submitted to the Authority prior to the first generation of flue gas desulphurisation waste and fly ash.
- 2.6.2 Further to condition 2.6.1, transport of flue gas desulphurisation waste shall follow the route identified in the Traffic Impact Statement submitted in the IPPC application.
- 2.6.3 Without prejudice to condition 2.6.2 should a change in the land route be proposed, the Permit holder is required to submit an updated Traffic Impact Statement to enable assessment of the request. In addition, once a land transport contractor has been identified, the Permit Holder shall have in place a spill response plan for use by transport operators in case of spillages during flue gas desulphurisation waste transfer.

## **2.7 Energy Efficiency**

- 2.7.1 The energy efficiency of D6A – D6D shall attain an net electrical efficiency of 35–44% whilst in operation using whilst operating using natural gas. Such documentation shall be made available on request
- 2.7.2 The energy efficiency of D6C – D6D shall attain an net electrical efficiency of 38.3-44.5% whilst in operation whilst utilising using gas oil. Such documentation shall be made available on request

## **2.8 Accident prevention and control<sup>∞</sup>**

- 2.8.1 In the case of an accident, the Permit Holder will be responsible for notifying the other operators and the Permit Coordinator of such an incident and each

operator shall follow the procedures stipulated in the Internal Emergency Plan submitted by each Permit Holder.

- 2.8.2 If the case of an emergency situation within an individual operator plant or in an emergency escalated to a site level), the procedures and coordinated actions stipulated within the Coordinated Emergency Plan (CERP) shall apply. The operator shall ensure communication and coordination with the other operators and stakeholders together with the local area emergency response organisations and Authorities
- 2.8.3 The level of application of the CERP shall be at least the communication of the emergency situation, with a possible escalation of the full activation of the CERP as required.
- 2.8.4 The CERP shall be reviewed at least every three years or as soon as practicable after an accident, whichever is the earlier, and the Authority notified of the results of the review within 2 months of its completion.
- 2.8.5 The Permit Holder shall, in collaboration with the other Permit Holders at the installation maintain and implement all health and safety measures in compliance with Act XXVII of 2000; Occupational Health and Safety Authority Chapter 424 and all relevant subsidiary legislation, in particular but no limited to implementation a risk assessment which covers the operation of the whole installation.
- 2.8.6 The Permit Holder is to keep the Authority updated on any major changes in operations that may impact on the health and safety of the employees and the other Permit Holders at the installation.
- 2.8.7 The Permit Holder is to ensure that all Health and Safety documentation is freely available and provided upon request to either the Competent Authority or to the Occupational Health and Safety Authority.

### **Safety Considerations<sup>∞</sup>**

- 2.8.8 Where necessary, the HAZID and HAZOP submitted by the Permit Holder shall be amended to address the COMAH competent Authority's inspection and any resulting changes which may be required.
- 2.8.9 Without prejudice to regulation 9 of the COMAH Regulations, the Permit Holder shall ensure that any information requested by the Permit Coordinator for the scope of the periodic review and where necessary update the Safety report, MAPP and Internal Emergency Plan (IEP), at least every five years. The updated documentation shall be sent to the COMAH competent authority without delay.

### **Fire Fighting Considerations<sup>∞</sup>**

- 2.8.10 The Permit Holder shall be responsible for the maintenance and certification of all internal and external fire-fighting systems from the tie in point connection with Enemalta as identified in schedule 2B of the regulatory framework permit and as detailed in Table 2.8.10 below.

<b>Table 2.8.10 – infrastructure related to fire fighting system</b>		
<b>Tie in point</b>	<b>Name</b>	<b>description</b>

TP7.D3	Internal fire-fighting system	Freshwater stored within Enemalta's 330m <sup>3</sup> tank which is supplied from evaporated water tanks and distributed through metered tie-in point for own use, D3PG and EGM.
TP8.D3	External fire-fighting system	Seawater taken from the intake of seawater from Marsaxlokk Bay to delivery and distribution through metered tie-in point to D3PG, EGM and own use.

- 2.8.11 The pipes, pumps, valves and flanges forming part of the fire-fighting system which transfers fire-fighting water from external tie in point connection to distribution to the Permit Holder shall be certified by an approved auditor at least once every three years or as otherwise identified in applicable studies and procedures. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 2.
- 2.8.12 The Permit Holder shall be responsible for the maintenance and certification of all gas pipelines from the tie in point connection with Electrogas Malta Ltd. as identified in Schedule 2C of the regulatory framework permit and as detailed in Table 1.6.1 of this permit.
- 2.8.13 Unless otherwise specified in this permit, emergency shutdown procedures shall be as described in the IPPC application and as agreed upon with the other Permit Holders.
- 2.8.14 The Permit Holder shall ensure that the installation is fitted with natural gas detection systems capable of detecting gas at 20% LEL.
- 2.8.15 The activation of any gas detector within the part of the installation shall trigger the automatic shutdown of the diesel engines, gas pumps and lines and communicated to the Permit Holder's control room.
- 2.8.16 The procedure detailed in condition 2.8.15 shall not apply in the event that the gas detection is the result of the activation of the pressure release valves installed throughout the pipeline.
- 2.8.17 Condition 2.8.16 shall not apply in the event that the overpressure in the pipe work resulting in the release of natural gas from the pressure release valves is the result of any malfunction in the natural gas conveyance system.
- 2.8.18 Upon execution of procedure detailed in condition 2.8.15, the Permit Holder shall immediately notify the other Permit Holders within the installation and the competent Authority.
- 2.8.19 Further to condition 2.8.18, the Permit Holder shall ensure that any leak or malfunction in the gas distribution system is rectified within the shortest time possible and recertified prior to recommencement of operations.
- 2.8.20 Further to condition 2.8.19, such certification shall be submitted to the Competent Authority for review and operations shall not commence until such a time that written authorisation is received by the competent Authority.

- 2.8.21 The Permit Holder shall abide by the instructions provided by the CPD and ensure that the type and amounts of fire-fighting agents requested by the CPD to be present at any one time within the part of the installation covered by this permit are on site at any given time.
- 2.8.22 It shall be the responsibility of the Permit Holder to ensure that such fire-fighting agents and systems are well maintained and certified periodically as per supplier's specifications.

### **Port security<sup>∞</sup>**

- 2.8.23 The Permit Holder shall provide all the necessary information to the Permit Coordinator to enable the maintenance of the port security document as requested by Transport Malta as per legal provisions of Port Security Regulations (SL 499.35).
- 2.8.24 The Permit Holder shall abide by the instructions of the Permit Coordinator so as to ensure adherence with the port security document for the installation.
- 2.8.25 Where any updates to the port security document requested by Transport Malta result in changes to standard operating procedures adopted, the Permit Holder shall ensure that these are implemented within the timeframes requested by Transport Malta.

## **3 Reporting**

- 3.1 All reports and written and/or oral notifications required by this Subsidiary Permit and notifications required by Regulation 7 of the Industrial Emissions (IPPC) Regulations shall be made and sent to the Authority using the contact details notified in writing to the Permit Holder by the Authority.
- 3.2 The Permit Holder shall submit to the Authority an AER of the previous year by not later than end of June of each year, providing the information listed in Schedule 2 of this Permit and in the format specified therein. The AER shall be forwarded to the Authority in electronic format.
- 3.3 The Permit Holder shall submit to the Authority the information listed in Schedule 3 Quarterly Reporting and in the format specified therein within two months after the end of each quarter. This information shall be forwarded to the Authority in electronic format.
- 3.4 The Permit Holder shall submit to the Authority the information listed in Schedule 4 Monthly Reporting and in the format specified therein within two weeks after the end of each month. This information shall be forwarded to the Authority in electronic format.
- 3.5 The European Pollutant Release and Transfer Register (E-PRTR) report for the installation shall be submitted, by end of March of each year, or as required by Legislation. All quantities shall be reported, even when these do not exceed the thresholds mentioned in EC Regulation 166/2006. The format used for reporting shall be that established by Legislation, notably S.L. 549.47 and Government Notice 138 of 2017 or as subsequently amended.
- 3.6 Where the submissions required under condition 3.5 are related to coordinated release points, the Permit Holder shall submit the information to the permit coordinator to allow submission of information related to the entire installation to be submitted in the AER for the regulatory framework permit.

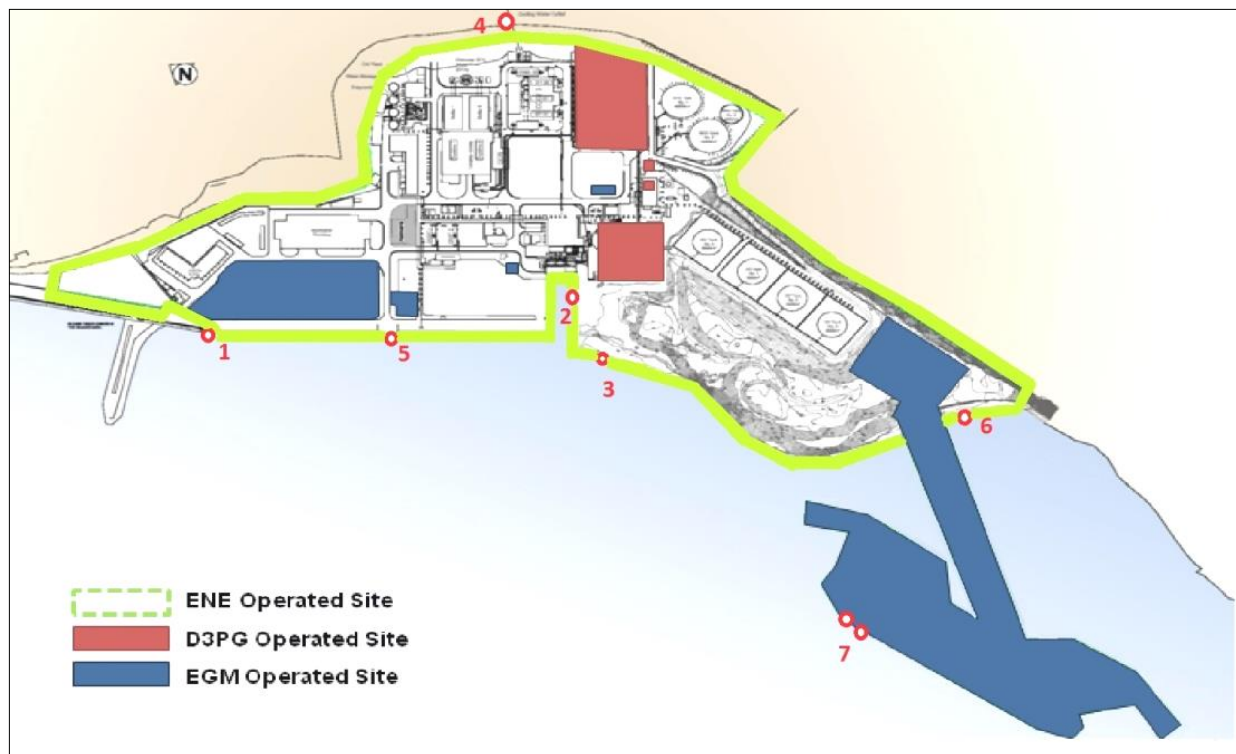
- 3.7 The Permit Holder shall, within 6 months of receipt of written notice from the Authority, submit to the Authority a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Permit Holder, that may provide environmental improvement.

## **4 Interpretation**

- 4.1 The interpretation and relevant expressions as defined in Condition 4 of the Regulatory Framework Permit (IP0002/21) shall also apply to this Subsidiary Permit.

**Schedule 1A**  
**Operational Boundary for D3PG**

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Site of installation, showing the extent of area authorised for activity for the carrying out of the activities specified in Condition 1.1.1 (shown in red). The extent of the site boundary is indicative and shall not be used for interpretation purposes.

## Schedule 1B

### Emission to Air

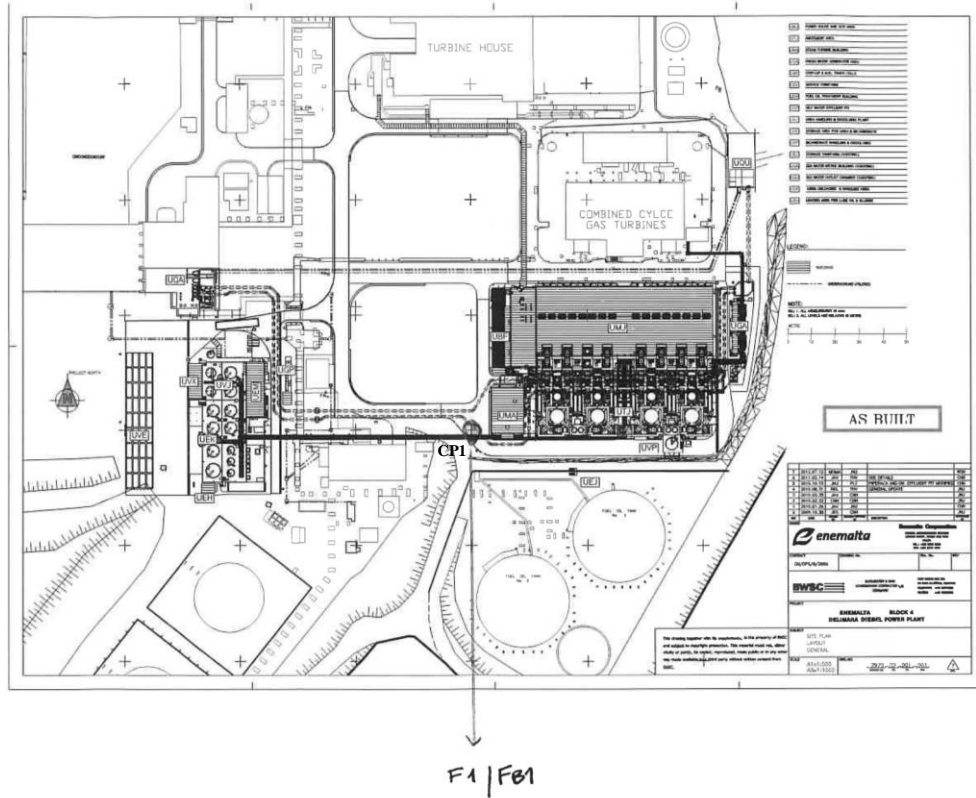


Figure 1: Site plan indicating location of CP1

## Schedule 2

### Annual Environmental Report

#### Important note

By this submission, you confirm that you give your explicit consent for the entire contents of this Annual Environment Report to be made available on the Authority's public website.

#### S2.1 Introduction

IPPC Permit Number	
Reporting Year	
Name and location of Site	
Brief description of activities at the site	

#### S2.2 Environment Management System & Reporting

Please attach a supporting document with the following:

1. Environmental Policy containing the installation's environmental objectives and targets;
2. Environmental Management Programme report (for the reporting year);
3. Environmental Management Programme proposal (for the following year);
4. European Pollutant Release and Transfer Register Report (as per condition 3.5

Tick (✓)


#### S2.3 Process Data

##### S2.3.1 Annual Summary

	Units	Previous reporting year	Current reporting year
Quantity of energy produced	MWh		
Total Annual Energy Consumption (from electricity and other sources)	MWh		
Energy consumption per unit product	MWh consumed/ MWh produced		
Annual water consumption	m <sup>3</sup>		
Water consumption per unit product	m <sup>3</sup> /MWh		
Annual quantity of waste produced	tonnes		
Waste produced per unit product	tonne waste/ MWh		
Flue Gas Volume for combustion plants with a rated thermal input >50 MWth	Nm <sup>3</sup>		
Yearly operating hours per combustion plant with a rated thermal input >50 MWth	hours		

**S2.3.2 Fuel consumption**

	Units	Sulphur Content <sup>5</sup>	Consumption	
			Previous Year	Current Year
Natural Gas	m <sup>3</sup>			
Gas Oil	m <sup>3</sup>			

---

<sup>5</sup> Specify units (e.g. as percentage, or mg/kg)

## S2.4 Monitoring Data of Emissions to Air

### Summary of emissions to air (concentrations)

#### S2.4.1 Emissions of Dust (TSP), Nitrogen Oxides (NO<sub>x</sub>) and Sulphur Dioxide (SO<sub>2</sub>)

Additional

Parameter	Emission point reference	Standard methodology used	Annual average pollutant concentration	Total annual number of exceedances of after validation	
			mg.Nm <sup>-3</sup>	Previous year	Present year
Total Suspended Particulates	DPS6				
Oxides of Nitrogen	DPS6				
Sulphur Dioxide	DPS6				
Total Suspended Particulates	DPS6				

documentation to be submitted:

Accreditation certificate(s) of laboratory ☐ Tick (✓)

#### S2.4.2 Emissions of Carbon monoxide (CO)

Emission point reference	Standard methodology used	Annual average pollutant concentration	Total annual number of exceedances of monthly mean value after validation		Total annual number of exceedances of daily mean value after validation	
		mg.Nm <sup>-3</sup>	Previous year	Present year	Previous year	Present year
DPS6						

**S2.4.3 Emissions of Ammonia**

Emission point reference	Standard methodology used	Mean Annual Limit Value	Annual average Pollutant Concentration (mg.Nm <sup>-3</sup> )	
		mg.Nm <sup>-3</sup>	Present year	Previous year
DPS6				

**S2.4.4 Monthly Loads of Particulates, SO<sub>2</sub> and NO<sub>x</sub>***ONE PAGE PER PLANT TO BE SUBMITTED*

Permit Holder: D 3 Power Generation Ltd..	Plant no. DPS ____
Location: Delimara.	Heat Value of Fuel fired: _____GJ.Mg <sup>-1</sup>
Reporting year: _____	

Month	Fuel Burn During this period  Mg . month <sup>-1</sup>	Monthly SO <sub>2</sub> Load  Mg	Monthly NO <sub>x</sub> Load  Mg	Monthly Dust Load  Mg
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
TOTAL				

Pollutant Load (Mg) = Pollutant concentration (µg.Nm<sup>-3</sup>) × 1×10<sup>-9</sup> × WGF (m<sup>3</sup>.month<sup>-1</sup>)  
(WGF = waste gas flow rate).

### S2.4.5 Annual Data

#### Annual Load of Particulates, SO<sub>2</sub> and NO<sub>x</sub>

Units	Rated Thermal Input  MW <sub>TH</sub>	Type	Fuel	Fuel Burn  Mg.yr <sup>-1</sup>	Heat Value  GJ.Mg <sup>-1</sup>	Annual Emissions* SO <sub>2</sub>  Mg.yr <sup>-1</sup>	Annual Emissions* NO <sub>x</sub>  Mg.yr <sup>-1</sup>	Annual Emissions* dust  Mg.yr <sup>-1</sup>
Delimara 6	308	Diesel engines						
<b>Total</b>								

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\* Sum of the total emissions during normal operations + total emissions during start-up/shut down periods.

**S2.4.7 Annual Load of Ammonia***ONE PAGE TO BE SUBMITTED FOR DPS 6*

Operator: D 3 Power Generation Ltd..	Plant no. DPS ____
Location: Delimara.	Heat Value of Fuel fired _____ GJ.Mg <sup>-1</sup>
Reporting year: _____	

Year	Annual Ammonia Load (Mg)
Previous	
Current	

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory	Tick (✓) <input type="checkbox"/>
--	--------------------------------------

## S2.4.3 Monitoring Data from Medium Combustion Plants

Table 2.4.3.1: Emissions to Air

Medium Combustion Plant reference Point	Parameter	Limit Value (mg/Nm <sup>3</sup> )	Standard methodology used	Type of monitoring (in-situ / at an accredited lab)	Measurement Error	Total annual number of exceedances <sup>i</sup>		Concentration (Annual Average)			Total Annual Load		
						Previous year <sup>ii</sup>	Present year	Unit	Previous year	Present year	Unit	Previous year	Present year
CP1	CO	-						mg/m <sup>3</sup>			kg		
	NOx	200						mg/m <sup>3</sup>			kg		

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Additional documentation to be submitted:	Tick (✓)
Accreditation certificate(s) of laboratory	

Table 2.4.3.2: Annual Operating hours for

Point Sources	Operating Hours during previous reporting year	Operating Hours during reporting year
CP1		

<sup>i</sup> If the total number of exceedances exceeds 0, the value of each of these exceedances (for the reporting year) must be submitted in a separate report, together with action taken to regularise the situation.

<sup>ii</sup> "Previous year" is not applicable for the first reporting year (2021).

Table 2.4.3.3: Corrective Action (to be compiled if emission limit values in S2.4.3.1 above are exceeded)	
Emission Point Reference	Proposed Action (may include reference to additional documentation)
CP1	

Table 2.4.2.4 Periodic monitoring											
		Sampling episode 1		Duration of sampling episode	No of samples	Sampling episode 2 <sup>1</sup>		Duration of sampling episode	No of samples	Concentration (Annual Average)	
Parameter	Standard methodology used	Average Concentration	Measurement Error			Average Concentration	Measurement Error			Previous year	Present year
SO <sub>3</sub>						-	-	-	-	-	-
Formaldehyde						-	-	-	-	-	-
CH <sub>4</sub>						-	-	-	-	-	-
TVOC											
Metals and metalloids except Hg						-	-	-	-	-	-

[As,Cd,Co,Cr,Cu,Mn,Ni,Pb,Sb,Se,Ti,V,Zn]											
---	--	--	--	--	--	--	--	--	--	--	--

### **S2.4.9: Wind Rose**

Documentation to be submitted:

Wind rose for the reporting year showing wind speed and direction at the site Tick (✓)  
☐

## S2.5 Emissions to Marine Water

### Emissions to Marine Water: Physical and Chemical Monitoring

*ONE REPORT PER OUTLET TO BE SUBMITTED*

Name of outlet and reference number: \_\_\_\_\_

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
1	Flow			-	-	-			
2	pH								
3	Temperature								
4	Biological oxygen demand (BOD5)								
5	Total Nitrogen								
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681								
8	Chlorine dioxide and oxidants (given as chlorine)								
9	Arsenic								
10	Cadmium								
11	Chromium (Total)								
12	Copper								
13	Lead								
14	Mercury								
15	Nickel								
16	Tin								
17	Vanadium								
18	Zinc								
19	Total petroleum hydrocarbons								

<sup>i</sup> Exceedances are to be clearly highlighted in red.

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
20	Tributyl tin compounds (tributyltin cation; CAS number 36643-28-4)								
21	Total Suspended Solids								
22	Benzene (CAS number 71-43-2)								
23	PAHs as follows:								
	Benzo(a)pyrene								
	Benzo(b)fluor-anthene, Benzo(k)fluor-anthene								
	Benzo(g,h,i)-perylene, Indeno(1,2,3-cd)-pyrene								
24	C10-C13 chloroalkanes (CAS number 85535-84-8)								
25	Polychlorinated biphenyls (CAS number 1336-36-3)								

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓)  
☐

Were there any exceedances in the present reporting year?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If yes, one of the following is also to be submitted:

Action programme aimed at achieving emission limits  
Document designating a mixing zone following the procedures specified in Schedule IX(3) "Mixing Zones" in L.N. 345 of 2015

Tick (✓)


## S2.9 Off-site transfers of waste

[illegible]

<sup>i</sup> European Waste Catalogue Code (Reference: Decision 2000/532/EC)

ii For hazardous waste only. If waste is not hazardous, please write "n/a".

## S2.10 Testing of bunds, pipes, pumps, valves, flanges, over-ground pipes and tanks

Number of bunds on site for tanks/containers $\leq 25 \text{ m}^3$ requiring testing in accordance with condition 2.6.3 of the regulatory framework permit	
Number of oil interceptors on site	
Number of tanks on site	
Date of last test for bunds for tanks/containers $\leq 25 \text{ m}^3$	
Testing for bunds for tanks/containers $\leq 25 \text{ m}^3$ due on (date)	
Number of existing fuel tanks on site	
Date of last test for pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm	
Testing of pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm due on (date)	
Date of last test for other flanges, valves and over-ground pipes on site	
Testing of other flanges, valves and over-ground pipes on site due on (date)	
Date of last test for oil interceptors	
Testing for oil interceptors due on (date)	

Additional documentation to be submitted if test was carried out during previous reporting year:

Tick (✓)

Inspection report and certification by approved auditor for bunds for tanks/containers  $\leq 25 \text{ m}^3$  on site

Inspection report and certification by approved auditor for pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm

Inspection report and certification by approved auditor for other flanges, valves and over-ground pipes on site

Inspection report and certification by approved auditor for oil interceptors

*Bunds for tanks/containers  $> 25 \text{ m}^3$ :*

Number of bunds on site for tanks $> 25 \text{ m}^3$	
Number of visual inspections carried out during reporting year on each bund	
Total number of faults identified during reporting year	
Total number of faults rectified during reporting year	

Additional documentation to be submitted for bunds for tanks/containers  $> 25 \text{ m}^3$ :

Tick (✓)

Bund certification by warranted civil engineer

Summary report by warranted engineer on the visual inspections undertaken during the reporting year (including reports on faults and remedial actions taken)

## S2.11 Incidents and Complaints

### S2.11.1 Non-Compliance Incidents during Reporting Year

Date of incident	Brief description of Incident	Cause	Corrective action

Total number of non-compliance incidents for previous year:

Total number of non-compliance incidents for current reporting year:

### S2.11.2 Complaints made by the public

Date of complaint	Description of complaint	Actions taken

Total number of complaints for previous year:

Total number of complaints for current reporting year:

## S2.12 Transport

Name of registered waste carrier used during reporting year	Waste type(s) transported

## S2.14 Data on Ozone depleting substances and Fluorinated greenhouse gases

### S2.14.1 Registration of equipment<sup>i</sup>

Equipment code	Type of equipment	Use	Charge		Type of substance
			Kg	CO <sub>2</sub> (eq)	
EQ 1					
EQ 2					
EQ 3					
EQ 4					
Continue as required					

### S2.14.2 Maintenance Schedule<sup>ii</sup>

<sup>i</sup> This table should only include information on any equipment commissioned or decommissioned during the reporting year, where relevant.

<sup>ii</sup> (a) for equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO<sub>2</sub> equivalent or more, but of less than 50 tonnes of CO<sub>2</sub> equivalent: at least every 12 months; or where a leakage detection system is installed, at least every 24 months; (b) for equipment that contains fluorinated greenhouse gases in quantities of 50 tonnes of CO<sub>2</sub> equivalent or more, but of less than 500 tonnes of CO<sub>2</sub> equivalent: at least every six months or, where a leakage

Data Submitted for each scheduled inspection <sup>i</sup>	Equipment Code							
	EQ 1	EQ 2	EQ 3	EQ 4	EQ 5	EQ 6	EQ 7	Continue as required
Date of inspection								
All amounts of leakages detected (in Kg/ CO <sub>2</sub> equiv <sup>ii</sup> )								
Actions taken to eliminate such leakages								
Quantity and nature of the substances involved								
Serial number of the personnel involved								
Quantities added <sup>iii</sup> and/or recovered (in Kg/ CO <sub>2</sub> equiv).								

detection system is installed, at least every 12 months; (c) for equipment that contains fluorinated greenhouse gases in quantities of 500 tonnes of CO<sub>2</sub> equivalent or more: at least every three months or, where a leakage detection system is installed, at least every six months

<sup>i</sup> Table to be repeated for every scheduled inspection as per 'footnote 1' above.

<sup>ii</sup> Carbon Dioxide equivalent – use Annex 1 and Annex IV of EC517/2014 for calculation.

<sup>iii</sup> The quantities of added fluorinated greenhouse gases are from recycled or reclaimed stocks, please include the name and address of the recycling or reclamation facility and, where applicable, the certificate number

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### Schedule 3

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### Quarterly Reporting

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**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Quarterly Report to be made available on the Authority's public website.

Period covered by this report: \_\_\_\_\_

**S3.1 Waste**

Waste removed from site (EWC code & description)	Quantity	Units

## Schedule 4

### Monthly reporting

**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Monthly Report to be made available on the Authority's public website.

**S4.1 Daily Statistical Analysis of Continuous Monitoring****S4.1.1 Data for Particulates**

ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS6)

Operator: D 3 Power Generation Ltd.	Emission Limit Value: ____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: ____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of particulates</b>	<b>mg . Nm<sup>-3</sup></b>
---	-----------------------------

Notes:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 30% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages

\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.

**S4.1.2 Data for Sulphur Dioxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT (DPS 6)**

Operator: D 3 Power Generation Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

**Validated mean daily  
concentration of sulphur  
dioxide**

**mg . Nm<sup>-3</sup>**

Notes:

- (a) *The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.*
- (b) *Validated mean daily concentration average is calculated from the validated hourly averages.*

*\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.*

**S4.1.3 Data for Nitrogen Oxides**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS6)**

Operator: D 3 Power Generation Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara	Plant no.: _____
Date: ____/____/____	

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

**Validated mean daily  
concentration of nitrogen  
oxides**

**mg . Nm<sup>-3</sup>**

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages

\*In this column mark valid data entries with a ✓ and invalid data entries with a ✕.

**S4.1.4 Data for Carbon Monoxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS6)**

Operator: D 3 Power Generation Ltd.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara.	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

**Validated mean daily  
concentration of carbon  
monoxide**

**mg . Nm<sup>-3</sup>**

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 10% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages.

\*In this column mark valid data entries with a ✓ and invalid data entries with a ✕.



Note:  
In the table above underline daily averages which exceed the daily emission limit values.

### S4.3 Monthly Statistical Analysis of Continuous Monitoring

#### S4.4.1 Monthly Concentration Data for Particulates, SO<sub>2</sub>, NO<sub>x</sub> and CO

ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT

Reporting year	
Month	
Plant	

	Particulates	SO <sub>2</sub>	NO <sub>x</sub>	CO
No of exceedances of 24 hr limit in period	-	-	-	
Highest individual 24 hr average in period (mg . Nm <sup>-3</sup> )				
Mean daily average, in period (mg . Nm <sup>-3</sup> )				
Highest individual 1 hr average in period (mg . Nm <sup>-3</sup> )				
Mean 1 hr average in period (mg . Nm <sup>-3</sup> )				
Percentage of boiler operating time that continuous monitors available during reporting period				

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**Schedule 5**


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**Template for Exemption from Emission Limit Values**


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In view of the operating hours of combustion plant CP1 as described in IP 0002/21/ii, I [INSERT NAME AND SURNAME], as the Permit Holder responsible for the combustion plant at [ADDRESS], submit my request to Authority to be exempt from the Emission Limit Values set out in Table 2.2.29 of the above-mentioned permit for the year [INSERT YEAR].

Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Rolling Average over 5 Years	

**I declare that, to the best of my knowledge, all the above information is correct and substantiated.**

\_\_\_\_\_  
**Name**  
*(in block letters)*

\_\_\_\_\_  
**ID Card Number**

\_\_\_\_\_  
**On behalf of / in my own name**  
*(in block letters)*

---

**END OF PERMIT**

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## Subsidiary Permit 3 with introductory note

Environment Protection Act (CAP. 549)  
Industrial Emissions (Framework) Regulations, S.L.549.76;  
Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L.  
549.77;  
Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Installation: **Delimara Power Station**

Permit Holder: **Enemalta plc (C65836),  
Triq il-Belt il-Ħazna,  
Marsa, MRS 1571,  
MRS 1571**

Approved Documents: IP 0002/21 – framework document

Sub-permit numbers:

IP 0002/21/i – ElectroGas Malta Ltd.  
IP 0002/21/ii – D3 Power Generation Ltd.  
IP 0002/21/iii – Enemalta plc.

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## Introductory note

The following Permit is issued under Regulation 7 of the Industrial Emissions (Framework) Regulations, (S.L. 549.76) (“the Industrial Emissions (Framework) Regulations”) to operate an installation carrying out activities covered by the description in Section 1.1 in Schedule 1 of the Industrial Emissions (IPPC) Regulations (S.L. 549.77), to the extent authorised by the Permit, i.e.

**“Combustion of fuels in installations with a total rated thermal input of 50 MW or more”.**

Aspects of the operation of the installation which are not specifically regulated by conditions in the Permit may also be subject to the condition implied by Regulation 8 of the Industrial Emissions (IPPC) Regulations, which require the Permit Holder to use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Conditions marked with a “∞” shall be construed as conditions which are to be enforced by the Authority responsible for such an issue.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, managed, operated and decommissioned.

In some sections, the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. These conditions do not explain what is BAT.

A non-technical description of the installation is given in the application, but the main activity of the installation is as follows:

- **Generation of electrical energy through the combustion of gasoil.**

Note that the Permit requires the submission of certain information to the Competent Authority as per subsequent specific conditions. In addition, the Competent Authority has the power to seek further information at any time under regulation 11 of the Industrial Emissions (Framework) Regulations, provided that it acts reasonably.

Other IPPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
<i>Not applicable</i>		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
<i>Enemalta Corporation</i>	IP 0002/07/A	29 March 2010
<i>Enemalta Corporation</i>	IP 0002/07/B	6 December 2011
<i>Enemalta Corporation</i>	IP 0002/07/C	23 July 2012
<i>Enemalta Corporation</i>	IP 0002/07/D	17 September 2013
<i>Enemalta plc</i>	IP 0002/07/E	01 April 2014
<i>Enemalta plc</i>		
<i>ElectroGas Malta Ltd.</i>	IP 0002/07/F	11 January 2017
<i>D3 Power Generation Ltd</i>		
<i>ElectroGas Malta Ltd</i>	IP 0002/07/Fi	11 January 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Fii	12 January 2017
<i>Enemalta plc</i>	IP 0002/07/Fiii	11 January 2017
<i>Enemalta plc</i>		
<i>ElectroGas Malta Ltd.</i>	IP 0002/07/G	22 September 2017

<i>D3 Power Generation Ltd</i>		
<i>ElectroGas Malta Ltd</i>	IP 0002/07/Gi	22 September 2017
<i>D3 Power Generation Ltd</i>	IP 0002/07/Gii	22 September 2017
<i>Enemalta plc</i>	IP 0002/07/Giii	22 September 2017

## Multiple Operator installations

As indicated in Regulation 6(3) of S.L. 549.76<sup>1</sup>, a permit may regulate several parts of an installation operated by different operators. The importance of integrating the operations of each technical unit stems from the definition of “installation” in the provisions of S.L. 549.76, where this is defined as “a stationary technical unit within which one of more activities listed in the regulations concerning integrated prevention and control or in the regulations concerning organic solvents are carried out, and any other directly associated activities on the same site which have a technical connection with these activities and which could have an effect on emissions and pollution”.

In accordance to guidance provided by the Commission, an activity is considered to be a directly associated activity with a Schedule 1 activity if it shares common features, for example: it is part of the same industrial complex; it operates in the same or a related sector; or operates with some collective aspects such as site security.

This installation is therefore being regarded as a multi operator installation.

## Functions of the permit

This **subsidiary permit 3** (IP 0002/21/iii) which addresses the operations carried out by Enemalta plc. shall be regarded as part of the Permit IP 0002/21 which consists of four main parts structured so as to include:

- **The Regulatory Framework Permit** addressing the obligation of all Permit Holders and coordinating these obligations due to the nature of the facility as a multi-operator installation (IP 0002/21).
- **Subsidiary Permit 1** addressing the operation carried out by ElectroGas Malta Ltd (IP 0002/21/i);
- **Subsidiary Permit 2** addressing the operations carried out by D3 Power Generation Ltd. (IP 0002/21/ii).
- **Subsidiary Permit 3** addressing the operations carried out by Enemalta plc. (IP 0002/21/iii)

## Variations to the Permit

This Permit may be varied at any time in the future (If the Permit Holder wants any of the Conditions of either the regulatory framework or this specific permit to be changed, a formal application must be submitted to the Competent Authority. When such an application is submitted to the Authority for its consideration, the decision shall be carried out in consultation with the other Permit Holders within this multi operator installation

The **Status Log** within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Any change in operations shall only be implemented following the granting of a variation of the permit by the Authority.

<sup>1</sup> SL. 549.76 – Industrial Emissions (Framework) Regulations,

## Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made to the Competent Authority by the Permit Holder. For the application to be successful, the Permit Holder must be able to demonstrate to the Competent Authority that there is no pollution and/or public health risk and that no further steps are required to return the site to a satisfactory state.

The Permit Holder shall notify the other Permit Holders within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit of the Permit Holder specific Subsidiary Permit.

## Transfer of the Permit or part of the Permit

Upon the joint application of a Permit Holder and a proposed transferee, the Permit Holder may request to transfer an environmental permit. The permit shall not be transferred from the Permit Holder without prior approval from the Authority. Upon the Authority's decision to transfer the permit to the transferee, all rights, obligations, liabilities shall subsist onto the transferee.

The Permit Holder shall notify the other Permit Holders within the installation of any such intent so as to enable these entities to assess the impact of this proposal on their operations and on any obligations arising from either the Framework Permit of the Permit Holder specific Subsidiary Permit.

## Public Registers

This IPPC Permit and application is available to the public through the Competent Authority in accordance with the requirements of the Industrial Emissions (IPPC) Regulations. The applicant has made a request for certain information of a commercial nature to be withheld from the public. ERA has been supplied with all this information and has accepted the request of the applicant, because it was deemed to be commercially confidential. Alternative text which provides relevant information but does not include the confidential information has however been included in the application.

## Status Log

Detail	Date	Comment
<i>Application</i> IP 0002/07	Received 05 February 2007	Not 'duly made'
<i>Response to request for information</i>	Request dated 16 June 2007	Response dated July 2007
<i>Report on boiler conversion for emission reduction</i>	PDS submitted 24 April 2008	Request for further information dated 14 July 2008. Further information submitted 24 September 2008
<i>Noise survey</i>	Report submitted 25 July 2008	
<i>Application 'duly made'</i>	27 April 2009	
<i>Response to request for information</i>	Request dated 27 April 2009	Response received 18 May 2009

Detail	Date	Comment
		Consolidated version received 18 May 2009
<i>Public consultation</i>	Commenced on 21 May 2009	Concluded on 20 June 2009
<i>Re-classification of the phase 1 boilers (from 380 to 332 MW<sub>TH</sub>)</i>	Official letter dated 28 September 2009 plus supporting documents.	
<i>Permit A determined</i>	01 October 2009	
<i>Permit A issued</i>	29 March 2010	
<i>Application for variation of permit to include diesel engines</i>	Application received on 11 February 2010	
<i>Response to request for information</i>	Request dated 19 April 2010	Response received 31 May 2010, 17 June 2010 and 26 July 2010
<i>Response to request for information</i>	Request dated 17 September 2010	Response received 12 May and 2 June 2011
<i>Response to request for information regarding NO<sub>x</sub> emissions</i>	Request dated 24 June 2011	Response received 4 July 2011
<i>Response to request for information regarding socio-economic assessment</i>	Requests dated 24 June, 4 July and 18 July 2011	Response received on 4 August 2011
<i>Response to request for information</i>	Request dated 5 July 2011	Response received on 22 July, 27 July 2011.
<i>Correspondence regarding flue gas volume calculations</i>	Information submitted by Enemalta on 30 June, 8 and 29 July 2011 and 29 August 2011	Request accepted on 4 August 2011
<i>Request for variations to existing permit</i>	Received on 29 July 2011	
<i>Request for consolidated application</i>	Request made on 26 July 2011	Consolidated application received on 17 August (draft) and 23 August 2011 (final)
<i>Air dispersion model</i>	Report submitted on 24 August 2011	
<i>Updated cooling water dispersion modelling study</i>	Received on 7 September 2011	
<i>Public consultation</i>	Started on 24 August 2011	Concluded on 7 October 2011
<i>Renewal and variation B determined</i>	5 December 2011	
<i>Permit B issued</i>	6 December 2011	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on proposed extension to condition 2.2.1.7.9 from September 2012 to June 2013</i>	Started on 17 May 2012	Concluded on 18 June 2012
<i>Variation C determined</i>	12 July 2012	
<i>Permit C issued</i>	23 July 2012	Permit expires on 6 December 2015

Detail	Date	Comment
		A consolidated permit is being issued
<i>Public consultation on proposed extension for HFO use from June 2013 to March 2014</i>	Started on 28 June 2013	Concluded on 28 July 2013
<i>Variation D determined</i>	5 September 2013	
<i>Permit D Issued</i>	17 September 2013	Permit expires on 6 December 2015 A consolidated permit is being issued
<i>Public consultation on the determination of the choice of fuel for DPS6</i>	Started on 11 February 2014	Concluded on 12 March 2014
<i>Variation E determined</i>	27 March 2014	
<i>Permit E issued</i>	1 April 2014	Permit expires on 6 December 2015. A consolidated permit is being issued.
<i>Permit extended</i>	1 December 2015	From 06 December 2015 to 06 June 2016
	30 May 2016	From 06 June 2016 to 6 December 2016
	02 December 2016	From 06 December 2016 to 06 June 2017
<i>Request for variations to existing permit by Electrogas Malta Ltd.</i>	13 November 2014	
<i>Request for variations to existing permit by D3 Power Generation Ltd.</i>	20 February 2015	
<i>Request for renewal and variations to existing permit by Enemalta plc.</i>	4 June 2015	
<i>Responses to request for information</i>	Electrogas Malta Ltd.	From 13 November 2014 to 17 October 2016
	D3 Power Generation Ltd.	From 20 February 2015 to 17 October 2016
	Enemalta plc	From 4 June 2015 to 17 October 2016
<i>Application Duly made</i>	Electrogas Malta Ltd.	18 October 2016
	D3 Power Generation Ltd	18 October 2016
	Enemalta plc	18 October 2016
<i>Public Consultation</i>	Between 19 October 2016 and 27 November 2016	Public consultation extended by 10 days from the original end date of 17 November 2016.
<i>Permit F Determined</i>	19 December 2016	

Detail	Date	Comment
<i>Permit F Issued</i>	11 January 2017	Permit expires: 19 December 2020
<i>Request for partial surrender to existing permit by Enemalta plc.</i>	12 April 2017	
<i>Responses to request for information</i>	11 May 2017	
<i>Application Duly made</i>	5 July 2017	
<i>Public Consultation</i>	Between 10 July 2017	Concluded 24 July 2017
<i>Permit G Determined</i>	25 August 2017	
<i>Permit G Issued</i>	22 September 2017	Permit expires: 25 August 2021
<i>Application IP 0002/21</i>	12 February 2021 26 February 2021 25 February 2021	<i>EGM; variation and renewal</i>  <i>D3PG; renewal</i>  <i>ENE; renewal and variation</i>
<i>Regulatory consultation</i>	<i>between 23rd April 2021 – 7th May 2021 and between 1st June 2021 – 8th June 2021 and 25th October 2021 – 8th November 2021</i>	
<i>Public Consultation</i>	<i>Commenced on 17 December 2021</i>	<i>Concluded on 02 January 2022</i>
<i>Application Determined</i>	18 February 2022	

**End of Introductory Note**

## Permit

Industrial Emissions (Framework) Regulations, S.L.549.76;  
 Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, S.L. 549.77;  
 Industrial Emissions (Large Combustion Plants) Regulations, S.L. 549.78

Permit number

**IP 0002/21/iii**

The Environment and Resources Authority (hereinafter the Authority; the Competent Authority or ERA) in exercise of its powers under Regulation 7 of the Industrial Emissions (Framework) Regulations, 2013 (S.L.549.76) ("the Industrial Emissions (Framework) Regulations"), hereby authorises:

***Ing. Jonathan Scerri & Ing. Trustin Cann Farrugia obo Enemalta plc. (C65836)***  
 (hereinafter "the Permit Holder" unless specifically mentioned)

Of / Whose Registered Office (or principal place of business) is at

**Triq il-Belt il-Ħażna,  
 Marsa,  
 MRS 1571.**

to operate specified plant described in the framework permit and this subsidiary permit 3 of this permit at the installation at:

**Delimara Power Station, Delimara, Marsaxlokk, MXK 1320**

to the extent authorised by and subject to the conditions of this subsidiary permit and applicable conditions in the regulatory framework permit.

This permit is valid until the expiry of the permit which is 4 year/s from the 'permit granted' date below. An application for renewal is to be submitted at least nine (9) months prior to expiry of the permit.

Environment and Resources Authority		Permit Granted:
<b>APPROVAL</b>		
Board No.154	Held on 18/02/22	10/05/2022
Chairman_____ Secretary_____		

**Authorised to sign on behalf of the Competent Authority**

## Conditions

### 1 General

This permit shall be read in conjunction with the regulatory framework Permit and the subsidiary permits issued to D3 Power Generation Ltd. and ElectroGas Malta Ltd., which together comprise permit IP 00002/21.

#### 1.1 Permitted Activities

- 1.1.1 The Permit Holder is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1		
Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 1.1: Combustion installations with a rated thermal input exceeding 50 MW	Generation of electrical energy through the combustion of gasoil  Installation consists of two open cycle gas turbines (DPS2 and DPS3), two combined cycle gas turbines (DPS4 and DPS5)	From receipt of fuel to delivery of utility.
Associated activity of steam generation	Generation of steam by means of a 4.15 MW <sub>TH</sub> auxiliary boiler	
Associated activity of fuel handling and storage	Handling and storage of heavy fuel oil	From receipt of the fuel to storage in tank farm and from tank farm to tanker/barge to third parties.
	Handling and storage of gasoil	From receipt of fuel and storage in tank farm to delivery to D3PG for combustion in the diesel engines 5 to 8 and 3.85MW <sub>th</sub> Auxiliary Boiler of D3PG and;
		From receipt of fuel and storage in tank farm to combustion in DPS 2 to 5

		and 4.15 MW <sub>th</sub> auxiliary boiler of Enemalta
		From receipt of the fuel to storage in tank farm and from tank farm to tanker/barge to third parties.
Associated activity of storage, treatment and disposal/recycling of waste materials	Handling, storage, treatment and disposal/recovery of wastes from installation.	From generation of waste to disposal or recycling onsite or offsite.
Associated activity of maintenance	Maintenance carried out in any workshop in the installation.	From maintenance activity to appropriate recovery/disposal of any wastes created.
Other loading/Unloading to/from vessels on quay	Handling of equipment, materials and supplies	From DPS quay to vessels and vice-versa

## 1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, as outlined in green on the Site Plan in Schedule 1 to this Permit.
- 1.2.2 The Permit Holder shall also be responsible for any additional activities (and relevant extent) as authorised in condition 1.1.1 of the regulatory framework permit
- 1.2.3 Site security systems shall be implemented at all times during the subsistence of this Permit, the objective of which shall be to prevent access which is not authorised either by the Permit Holder or under legal powers of entry. These shall be installed, operated and maintained, and shall be fully documented and recorded.

## 1.3 Information to the public

- 1.3.1 Without prejudice to condition 2.2.27, in the event that the continuous monitoring equipment (CEM) is installed on DPS 2-5, the Permit Holder shall make emission data publicly available via the Internet not later than 30 days after the production of such data. Nonetheless such data shall be made available to the Authority upon request within 24 hours.

## 1.4 Overarching Management Conditions

- 1.4.1 The Permit Holder shall ensure that the EMS is coordinated with those established by the other Permit Holders within the installation.

## 1.5 Improvement Programme

- 1.5.1 The Permit Holder shall complete the improvements specified in Table 1.5.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Authority on [ced.coast@era.org.mt](mailto:ced.coast@era.org.mt) within 10 working days of the completion of each such requirement.

Table 1.5.1: Improvement programme		
Reference	Requirement	Date
<b>Improvements related to residual operations on site</b>		
1.	a) Submission of a method statement showing how the monitoring requirements for air emissions permitted in Table 2.2.42 will be sampled and tested.	a) Within 2 months of the granting of the permit
	b) First measurement for the air monitoring as approved by 1(a) above.	b) Within 4 months of the granting of the permit

## 1.6 Fuel supply to other Permit Holders within the installation

- 1.6.1 The Permit Holder shall only supply gasoil for combustion in specified plant to D3 Power Generation Ltd through the external tie in point connection as identified in Schedule 2B of the regulatory framework permit and as detailed in Table 1.6.1.

Table 1.6.1 – infrastructure related to receipt of fuel		
Tie in point	Type of Fuel	Description
TP 04 D3	Gasoil	Gasoil connection from Enemalta gasoil tank farm to D3PG diesel day tanks.

- 1.6.2 The Permit Holder shall supply gasoil for combustion in the specified plant permitted in table 1.1.1 and without prejudice to the subsequent conditions of this permit.

## 2 Operating Conditions

### 2.1 General Conditions

- 2.1.1 The permit is issued against a Bank Guarantee of € 1,000,000 covering aspects of this permit and operator specific conditions in the Regulatory Framework Permit. This guarantee will have to be maintained throughout the validity of the permit. Following renewal and/or variations to this permit, the Authority may require amendments to the Bank Guarantee.
- 2.1.2 The Permit Holder shall submit a fixed annual fee of €1606 and a variable addition reflecting ERA's cost for inspections. The latter variable component depends on the actual number of site inspections, which is determined by the

performance of the Permit Holder. The total annual contribution has to be paid annually before the anniversary of the date of issue of this permit.

## 2.2 Emissions to Air

### Emissions to Air from Specified Points: General Considerations

- 2.2.1 A release from the authorised process into the atmosphere shall arise only from a release point specified in Table 2.2.2, which shall arise only from the source for that release specified in Table 2.2.2.

Table 2.2.2 Emission points to air					
Release Point	Source	Fuel	Total Thermal Rating	UTM Co-ordinates <sup>2</sup>	
			MW <sub>TH</sub>	x-coordinates	y-coordinates
Chimney D2	DPS2 (OCGT1)	Gas oil	121	459,869	3,965,745
Chimney D3	DPS3 (OCGT2)		121	459,881	3,965,727
Chimney D4A	DPS4 (CCGT32 By-pass stack)		121	460,088	3,965,766
Chimney D4B	DPS4 (CCGT32 Main Stack)			460,072	3,965,789
Chimney D5A	DPS5 (CCGT31 By-pass stack)		121	460,037	3,965,731
Chimney D5B	DPS5 (CCGT31 Main Stack)			460,021	3,965,754
Chimney Auxillary Boiler	Auxiliary Boiler		4	459,964	3,965,833

### Emissions to Air: Fuel Source and quality

- 2.2.2 The gasoil used shall comply with the standards laid down by the Quality of Fuels Regulations (S.L. 545.18) shall in no case exceed 1 kg for every tonne of gas oil.<sup>∞</sup>
- 2.2.3 The Permit Holder shall determine the mass of each fuel fired in the Authorised Process for each Reporting Year and report this as part of the AER.

<sup>2</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

- 2.2.4 Co-incineration of any material or additional fuel including engine or other waste oil is strictly prohibited unless otherwise approved in writing by the Authority. Any change in fuel type shall require the notification and approval of the Authority prior to commencement of its utilisation.
- 2.2.5 The Permit Holder shall obtain certificates of analysis for one representative composite sample of gasoil per delivery for the parameters listed in Table 2.2.5.

Table 2.2.5 Standards for the analysis of physical and chemical parameters			
Physical Parameters	Parameter	Unit	Standard
	Density	kg.m <sup>-3</sup>	ISO 12185 or ISO 3675 or equivalent
	Flash point	°C	ISO 2719:2016 or equivalent
	Heat Value (Upper and Lower) Gross and Net Heat of Combustion	MJ.kg <sup>-1</sup>	ASTM D4868-00 (2005) or equivalent
	Pour Point	°C	ISO 3016:2019 or equivalent
	Viscosity	cSt	ISO 3104:2020 or equivalent
Chemical Parameters	Ash content	%	ISO 6245:2001 or equivalent
	Nickel	mg .kg <sup>-1</sup>	-
	Carbon	mg .kg <sup>-1</sup>	
	Sulphur Content	mg S.kg <sup>-1</sup>	EN ISO 8754:2003 or equivalent
	Water content*	%	ISO 3733, ASTM D95 or equivalent

- 2.2.6 In view that the flue gas volume from DPS6 is calculated rather than measured, the parameters listed in Table 2.2.6 shall be measured in one representative composite sample of each fuel delivery of gas oil intended for use in the diesel engines.

<b>Table 2.2.6 Standards for the analysis of chemical parameters for flow rate calculation</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Standard</b>
Sulphur Content	mg S.kg <sup>-1</sup>	EN ISO 8754:2003 or equivalent
Carbon content	% by weight	ASTM D5291 or equivalent EN or ISO
Hydrogen content	% by weight	ASTM D5291 or equivalent EN or ISO
Nitrogen content	% by weight	ASTM D3228 or equivalent EN or ISO
Oxygen content	% by weight	EN, ISO or equivalent

- 2.2.7 The chemical parameters in Tables 2.2.5 and 2.2.6 shall be analysed to the relevant standards (or equivalent) as specified by the respective table. The methods for analysis of the parameters in Table 2.2.6 shall have a precision suitable for the accurate calculation of flue gas volume. If a suitable method for analysis of any of the parameters in Table 2.2.6 is not available, calculation of flue gas volume from DPS6 is not authorised; in such cases, flue gas volume shall be measured
- 2.2.8 The analyses shall be carried out by a lab accredited (or in the process of accreditation, as confirmed by the National Accreditation Body (NAB-Malta) or equivalent) to at least EN ISO 17025:2017 and preferably for each and every test listed in Table 2.2.6
- 2.2.9 A copy of the certificates of analysis referred to in condition 2.2.5 and 2.2.6 shall also be submitted to D3 Power Generation Ltd.
- 2.2.10 Physical parameters in Table 2.2.5 shall be measured using EN, EN ISO or ISO standard methods or equivalent.
- 2.2.11 At the end of every year, the Permit Holder shall forward to the Authority a copy of all the certificates of analysis for every representative composite sample throughout the year as part of the AER.
- 2.2.12 The Permit Holder shall ensure that a quality assurance/quality control programmes for fuel utilised on site is in line with BAT 9 in the Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council for large combustion plants. The Permit Holder shall determine the mass of fuel fired in the Authorised Process for each reporting year and report this as part of section S2.3.2 in the Annual Environmental Report.

#### **Determination of start-up and shut-down**

- 2.2.13 The determination of periods of start-up and shut-down as defined in the following conditions shall be maintained in accordance with the provisions of Commission Implementing Decision 2012/249/EU.

- 2.2.14 The Permit Holder shall immediately inform the Authority should there be any changes in any aspects relating to each plant that affect start-up and shut-down periods, including the installed equipment, fuel type, plant role in the system and installed abatement technology,
- 2.2.15 The Permit Holder shall make sure that the frequency of start-up and shut down periods are minimised as far as practicable.
- 2.2.16 The Permit Holder shall ensure that all abatement equipment is brought into operation as soon as is technically practicable.
- 2.2.17 Start-up and shut-down of the respective units is defined in the Table 2.2.17:

<b>Table 2.2.17 – Determination of start-up and shut-down for the respective unit at the Delimara Power Station</b>				
<b>Determination of start-up and shut-down for DPS 4 and DPS 5 (CCGT 32 and CCGT 31)</b>				
	<b>DPS 4</b>		<b>DPS 5</b>	
Mode	<b>Open Cycle</b>	<b>Combined Cycle</b>	<b>Open cycle</b>	<b>Combined cycle</b>
End of Start-up period	18% of the rated electrical output	18% of the rated electrical output	18% of the rated electrical output	18% of the rated electrical output
Start of Shut-down period	18% of the rated electrical output	18% of the rated electrical output	18% of the rated electrical output	18% of the rated electrical output
<b>Determination of start-up and shut-down for DPS 2 and DPS 3 (OCGT 1 and OCGT 2)</b>				
	<b>DPS 2</b>		<b>DPS 3</b>	
End of Start-up period	18% of the rated electrical output		18% of the rated electrical output	
Start of Shut-down period	18% of the rated electrical output		18% of the rated electrical output	

#### **Emissions to Air from DPS2-5 (Gas turbines) – Emission limits and calculation methodology**

- 2.2.18 Gas turbines constituted of DPS 2 to 5 shall only be utilised as backup plant/emergency plant:-
- 2.2.19 The Permit Holder shall inform the Authority of any test start-ups of these turbines intended to ensure their functioning 48 hours before the test is carried out. The Permit Holder shall follow the procedure as agreed upon by the Authority for such a notification. A log shall be included as part of the AER.

2.2.20 The Permit Holder shall inform the Authority upon utilisation of the specified plants for energy production including the number of hours during which the plant was utilised. Such a notification shall be submitted in the format as specified in Schedule 6 and shall be submitted to the Authority within 24 hours of operations of specified plant.

2.2.21 The Permit Holder shall carry out monitoring from DPS2-5 of the parameters listed in Table 2.2.22, according to the frequency specified in this table.

2.2.22 The emission limit values specified in Table 2.2.22 shall not be exceeded. All concentrations shall be corrected to 273.15 K, 101.3 kPa, dry gas volume and to an oxygen (O<sub>2</sub>) content of 15%. These concentrations relate to volume flows without dilution.

<b>Table 2.2.22 Monitoring and emission limits for DPS2-5</b>					
<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring method</b>	<b>Emission limit value*</b>		<b>Maximum allowable factor subtracted by validation, in accordance with SL 549.78</b>
Dust (TSP)	Continuous	ISO 11042-2: 1996 or the equivalent EN standard	Daily average <sup>3</sup> : 10 mg/ Nm <sup>3</sup>	Yearly average <sup>3</sup> 5mg/Nm <sup>3</sup>	-
SO <sub>2</sub>	Continuous	ISO 11042-2: 1996 or the equivalent EN standard	Daily average <sup>3</sup> – 55mg/Nm <sup>3</sup>	Yearly average <sup>3</sup> - 35mg/Nm <sup>3</sup>	-
NO <sub>x</sub> (measured as NO <sub>2</sub> )	Continuous	ISO 11042-2: 1996 or the equivalent EN standard	250 mg/Nm <sup>3</sup> as a daily average		20%

<sup>3</sup> does not apply to existing plants operated < 1 500 h/yr

CO	Continuous	ISO 11042-2: 1996 or the equivalent EN standard	55 mg/Nm <sup>3</sup> (110% of all 24 hourly mean values) <sup>4</sup>	50 mg/Nm <sup>3</sup> (monthly average) <sup>4</sup>	10%
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\*ELVs are deemed as being complied with if none of the validated hourly average values exceed 200% of respective ELVs

2.2.23 Emissions from gas turbines DPS2, DPS3, DPS 4 and DPS 5 shall be monitored as per the standard in Table 2.2.22. In case this is not technically feasible, the Permit Holder shall use alternative monitoring techniques or other solutions which would ensure compliance with Regulation 14 of S.L. 549.56 and as agreed upon with the competent Authority.

2.2.24 Until such time that the plant (DPS2-5) is still utilised as an emergency plant and the hours of operation do not exceed 1500 hrs per year for each stack, emissions for NO<sub>x</sub>, Dust and SO<sub>x</sub> shall be calculated as specified in condition 2.2.25 and 2.2.26. Reporting obligations are however still applicable.

2.2.25 For the calculations of NO<sub>x</sub> and dust, the emission factor established from the EMEP/EEA Air Pollutant Emission Inventory Guidebook (latest Revision)<sup>5</sup> shall be utilised. The monthly and annual loads of dust (TSP), sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) shall be reported separately using the Schedule 2.

2.2.26 For SO<sub>x</sub>, the emission factor shall be calculated from the fuel's sulphur content (to be taken as 0.1% for gasoil) and the fuel burnt by each of the respective gas turbines during each month.

2.2.27 Further to conditions 2.2.24- 2.2.26, the Authority shall be immediately notified should the Permit Holder intend to deviate from such calculation methodology.

2.2.28 No new calculation methodology shall be applied by the Permit Holder unless approved in writing by the Authority.

**Emissions to Air from Specified Points – Monitoring of Gas turbine Emissions (DPS 2-5) in case of exceedance of 1500 hrs/year per stack.**

2.2.29 In relation to emissions from DPS 2 -5, the Authority reserves the right to request the re-introduction and/or re-calibration of CEMS in the event the plant is no longer utilised as a back-up plant. The Permit Holder may be requested to carry out a feasibility study in relation to the introduction of CEMS on the chimneys of DPS 2 and 3, as may be required.

<sup>4</sup> does not apply to existing plants operated < 500 h/yr

<sup>5</sup> <https://www.eea.europa.eu/themes/air/air-pollution-sources-1/emep-eea-air-pollutant-emission-inventory-guidebook>

- 2.2.30 In the event that CEMS are installed, the commissioning and operation of all automated measuring systems at the Delimara Power station shall follow EN 14181:2014– Stationary Source Emissions – Quality Assurance of automated measurement systems.
- 2.2.31 Further to condition 2.2.30, in case this is not technically feasible, the Permit Holder shall use alternative monitoring techniques or other solutions which would ensure compliance with S.L. 549.78 and as agreed upon with the competent Authority.
- 2.2.32 Continuous measurements shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume, as per Condition 2.2.31, provided that where the sampled exhaust gas is dried prior to emission analyses, the Operator shall not be required to measure the water vapour content of the exhaust gas.
- 2.2.33 Further to condition 2.2.32, the Permit Holder shall monitor continuously for the parameters listed in Table 2.2.33 using the methods listed in the same table.

<b>Table 2.2.33 Monitoring of Additional Parameters</b>	
Parameter	Standard Number /Instrument(or equivalent)
Oxygen	ISO 12039:2019
Water Content	EN 14181 EN 15267-3
Velocity	ISO 10780:1994
Flue gas volume	ISO 14164:1999
Flue gas temperature (prior to discharge into the atmosphere)	Temperature Sensor
Flue gas pressure (prior to discharge into the atmosphere)	Pressure Sensor N/A

- 2.2.34 The Permit Holder shall measure the concentration of dust (TSP), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) in the exhaust gases of gas turbines DPS2-5. The annual load of dust (TSP), sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) shall be reported separately in the format specified in Schedule 2. Load shall be calculated on the basis of the waste gas flow rate unless otherwise specified by the Authority.
- 2.2.35 In the event that continuous emission monitoring equipment is installed, the Permit Holder must keep record of the following:
- The validated hourly concentration values of TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO for each combustion plant per day (in the format specified in Monthly Reporting Schedule 4 and clearly indicating any exceedances).
  - 24-hourly mean values for the concentration of carbon monoxide (CO) (in the format specified in the Monthly reports [Schedule 4] and clearly indicating any exceedances).

- iii. For TSP, SO<sub>2</sub>, NO<sub>x</sub> and CO, calendar monthly mean concentrations (in the format specified in Schedule 4) and monthly loads for TSP, SO<sub>2</sub> and NO<sub>x</sub> (in the format specified in the AER [Schedule 2], and clearly indicating any exceedances for CO.
  - iv. The total annual load of TSP, SO<sub>2</sub> and NO<sub>x</sub>, which shall be calculated by adding the total mass of pollutant emitted per year, on the basis of the volumetric flow rates of waste gases (in the format specified in Schedule 2).
- 2.2.36 In order to validate the hourly readings from the CEMS, the Permit Holder shall subtract a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed the percentages of the measured valid hourly average value indicated in Table 2.2.22.
- 2.2.37 The data for one day shall be invalidated if on that day three or more hourly average concentration of dust (TSP), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.38 If more than 10 days in a year are invalidated for such situations, the Permit Holder must take adequate measures to improve the continuous monitoring system.

#### **Emissions to Air from Specified Points – Performance and Calibration of Automated Measuring Systems.**

- 2.2.39 Measuring systems shall be subject to control by means of parallel measurements with the reference methods listed in Table 2.2.39, at least every year. The calibrations shall be performed by a lab accredited (or in the process of accreditation, as confirmed by the National Accreditation Body (NAB-Malta) or equivalent) to at least EN ISO 17025:2017 or equivalent and preferably accredited for each and every calibration.

<b>Table 2.2.39 Calibration of Automated Measuring Systems</b>	
<b>Standard Number</b>	<b>Title</b>
EN 14791:2017 or equivalent	Stationary source emissions - Determination of mass concentration of sulphur dioxide - Reference method.
EN 14792:2017 or equivalent	Stationary source emissions - Determination of mass concentration of nitrogen oxides (NO <sub>x</sub> ) - Reference method: Chemiluminescence.
EN 13284-1:2017 or equivalent	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method.
EN 13284-2:2017	Stationary source emissions. Determination of low range mass concentration of dust. Quality assurance of automated measuring systems

- 2.2.40 For the parameters measured continuously, the data for one day shall be invalidated if on that day three or more hourly average concentration of dust (TSP), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and Carbon Monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring

system. If more than 10 days in a year are invalidated for such situations, the Permit Holder must take adequate measures to improve the continuous monitoring system.

### **Emissions to Air from Specified Points: Total Annual Emissions and Other Reporting**

2.2.41 The Permit Holder shall keep an inventory of the total annual emissions of the following from all combustion plants at the Delimara Power Station with a rated thermal input of 50 MW<sub>th</sub> or more, including the gas turbines.

- i. The total annual emissions of SO<sub>2</sub>, NO<sub>x</sub> and dust (as total suspended particles)
- ii. The total fuel burn per plant, the fuel type and the average heat value of the fuel fired.

This inventory shall be submitted as part of the AER of the installation in the format specified in Schedule 2.

### **Emissions to Air: Combustion plants (rated thermal input < 50MW<sup>TH</sup>)**

2.2.42 Industrial combustion plants (e.g. boilers, generators, etc.) shall be compliant with the provisions of the Limitation of Emissions of Certain Pollutants into the air from Medium Combustion Plant Regulations (S.L. 549.122) and any other applicable subsidiary legislation.

2.2.43 The Permit Holder shall keep the periods of start-up and shut-down of the combustion plants listed in Table 2.2.44 as short as possible.

2.2.44 The limits for emissions to air for the parameters and emission points set out in Table 2.2.44 shall not be exceeded. The limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases and at a standardised O<sub>2</sub> content of 15%.

<b>Table 2.2.44 : Emission limits to air for CP1</b>			
<b>Emission point reference</b>	<b>Parameter</b>	<b>Limit (mg/Nm<sup>3</sup>)</b>	<b>Frequency</b>
(CP1)	Oxides of Nitrogen	200	Every three years
	Carbon Monoxide	-	

2.2.45 Monitoring shall be carried out according with the frequency stated in Table 2.2.44. During each measurement, the plant shall be operating under stable conditions at a representative even load. In this context, start-up and shutdown periods shall be excluded. The Authority reserves the right to require an increase in the frequency of such measurements. The monitoring results shall be submitted as part of the Annual Environmental Report (AER) of year in which the monitoring has been carried out. The data shall at the least be kept for a period of six years.

- 2.2.46 The first measurement shall be taken within four months of the granting of the permit
- 2.2.47 The Permit Holder shall maintain a record of the operating hours for each combustion plant referred to in Table 2.2.44
- 2.2.48 Following submission of the AER for the previous reporting year, should the amount of operating hours of the combustion plant be less than 500 hours, as a rolling average over five years, the Permit Holder may apply with the Authority for an exemption from the emission limit values set out in Table 2.2.44, by submitting the information in Schedule 5.
- 2.2.49 The granting of such exemption described in Condition 2.2.48 shall be at the discretion of the Authority and shall be valid until such time that the rolling average of the operating hours over five years exceeds 500 hours, or until such time as prescribed by the Authority. The Authority shall communicate the expiry of the exemption in writing.
- 2.2.50 The exemption described in Condition 2.2.48 shall only exempt the Permit Holder from compliance with the emission limit values set out in Table 2.2.44. Monitoring is still to be carried out with the frequency indicated in the same table.
- 2.2.51 Should the emission limit values in Table 2.2.44 be exceeded, as part of the AER, the Permit Holder is to propose measures that will be taken to ensure compliance with the emission limit values.
- 2.2.52 Without prejudice to condition 2.2.51, should secondary abatement equipment be installed in order to meet the emission limit values indicated in S.L.549.122, the Permit Holder is to keep a record proving the effective continuous operation of that equipment.

#### **Monitoring Provisions and Emergency considerations**

- 2.2.53 In the event of non-compliance causing immediate danger to human health, operation of the activity must be suspended and the Competent Authorities informed within 24 hours.<sup>∞</sup>
- 2.2.54 For CP1 in the event of, malfunction or breakdown leading to abnormal emissions, the Permit Holder must
- i. Investigate immediately and undertake corrective action to ensure compliance is restored without undue delay, and
  - ii. Adjust the process or activity to minimise those emissions, and
  - iii. Record the events and actions taken
- 2.2.55 With respect to emissions emanating from combustion plants, and in furtherance to condition 2.2.54 the Permit Holder shall, at the written request of ERA and within 10 working days, identify the specific cause of the abnormal emission and examine means for its elimination or minimisation including.

- i. Relocating / redesigning/ extending the stack(s) or vent(s) to a point where nuisance is minimised
- ii. Replacement of fuel
- iii. Preventative measures such as replacement of process materials by substances which are less detrimental to the environment
- iv. Improved storage of materials
- v. Use of additional abatement measures in line with condition 2.2.52

2.2.56 All abatement equipment and ducting shall be cleaned and maintained on a regular basis (as per manufacturer specifications).

2.2.57 Sampling and analysis of polluting substances and measurements of process parameters shall be based on methods enabling reliable, representative and comparable results. Methods complying with harmonised EN standards shall be presumed to satisfy this requirement.

### **2.3 Discharges to sewers<sup>∞</sup>**

2.3.1 The Permit Holder shall ensure that monitoring exercises are carried out at locations stipulated by the WSC. Where necessary these shall be coordinated with D3 Power Generation Ltd within the timeframes agreed upon with the WSC.

2.3.2 Where any of the parameters stipulated by the WSC are exceeded, the Permit Holder shall ensure that any follow up actions requested by the WSC are implemented. Where necessary these shall be coordinated with D3 Power Generation Ltd within the timeframes agreed upon with the WSC.

2.3.3 During operations involving the pumping of foul water from the D3 Power Generation Ltd. cesspits to the underground pit operated by Enemalta plc. The Permit Holder shall ensure that no spillages occur from TP11.D3 to the main cess pit during such a transfer.

### **2.4 Emissions to Marine Water**

2.4.1 Waste waters shall not be discharged into marine water unless from the sources specified in Table 2.4.1, and only from the sources for those release points specified by the table in question.

Table 2.4.1 Emissions to Marine Water				
Outlet Number (as per Schedule 9)	External Tie in point reference	Details	UTM Co-ordinates <sup>6</sup>	
			x-coordinate	y-coordinate
Point 1	TP 21 D4	Existing storm water overflow from Enemalta  EGM treated interceptor discharge receiving floor washings and rainwater from CCGT area and runoff from waste management area.	459,647	3,965,869
Point 2	TP 13. D3	Existing stormwater overflow from Enemalta  D3PG stormwater from FOT area	459, 903	3,965,595
Point 3	TP 14 D3	Enemalta oil interceptor (from HFO and gasoil tank area), water from fuel centrifugation and run-off from access road (near gasoil tank farm)  D3PG oil interceptor from fuel tank area and other plant run-off.	459,860	3,965,516
Point 4	TP 18 D3 TP 18 D4	Main outfall including water treatment, cooling systems, waste water from steam generation, waste water from boiler washdown/ blowdown from Enemalta, D3PG and ElectroGas.	460,154	3,965,839

<sup>6</sup> Zone 33s, datum ED 50, ellipsoid – Hayford International.

	TP 12 D3	D3 PG rainwater runoff to Enemalta reservoir overflowing into Hofra iz-zghira and routed through TP 18 D3		
Point 5	-	Oil interceptor (turbine hall drains)	459,754	3,965,707

- 2.4.2 The monitoring specified in condition 2.5.3 of the framework permit shall apply to emission points Point 2 and Point 5.
- 2.4.3 Monitoring of parameters 1 and 4-25 (in table 2.5.3 in the framework permit) from points 2 and 3 referred to in Table 2.4.1 is required prior to discharge of waste water **only** in case of a spillage of fuel from any tank or notification from D3 power generation Ltd. indicating a spillage of fuel from their tanks. Testing of total petroleum hydrocarbons shall however be carried out continuously whenever water from fuel centrifugation (or other forms of water removal) is being discharged,
- 2.4.4 In case of any exceedances of the emission limit values in Table 2.5.3 in the framework permit for point 5 and point 2 referred to in Table 2.4.1 , the Permit Holder shall:
- (i) In the case of coordinated discharge points apply the procedure outlined in condition 2.5.26 of the regulatory framework permit.
  - (ii) In the case of discharge point 5, as part of the AER submit an action programme to the Authority aimed at achieving these emission limits.

### **Discharges to Marine Water: Requirements for Waste Water arising from Non-process Water**

- 2.4.5 These requirements apply to discharges from points 1, 2, 3, and 5 (referred to in Table 2.4.1) Conditions 2.5.37– 2.5.40 in the framework permit shall also apply to these points
- 2.4.6 The oily water separator system shall have a continuous hydrocarbon detector with alarm. For point 3, no discharge of wastewater is allowed if the emission limit value is exceeded. Detection of oily water in points 1, 2, 3, or 5 (referred to in Table 2.4.1) above the emission limit value shall be followed by immediate investigation and appropriate mitigation measures. During such an investigation, the procedure highlighted in Schedule 6 of the regulatory framework permit shall be implemented, except for point 5 which is a discharge point exclusive to Enemalta plc.

## **2.5 Storage**

- 2.5.1 The unloading of HFO and gasoil and the transfer of gasoil from the Enemalta main tanks shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.5.2 The pipes, pumps, valves and flanges forming part of the system which transfers fuel from the delivery ship to the tanks in the tank farm gasoil from the Enemalta main tanks to the D3PG day tanks or D3 auxiliary steam boiler tank up to external tie in point TP 04.D3 shall be certified to be leak-proof by an approved auditor at least once every three years. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 3.
- 2.5.3 All oil transfers shall be undertaken in accordance with the oil spillage response plan. Oil spillage response plan shall be updated so as to address oil transfers from the Permit Holder to D3 Power Generation Ltd
- 2.5.4 Further to condition 2.5.3, and upon approval by the Authority, such a plan shall be implemented and adopted in cases where spillages occur during fuel transfers.
- 2.5.5 All personnel involved in the transfer of HFO and gasoil from ships to storage or from storage to the generating stations shall be trained in the oil spillage response plan. Records of such training shall be maintained and made available for inspection by Authority personnel.
- 2.5.6 All fuel tanks shall be fitted with a high level alarm and, for fuel tanks used for internal fuel transfer, a high-high liquid level alarm with automatic stoppage of pumps and automatic closure of valves in the event of a high-high level alarm were feasible.
- 2.5.7 The Permit Holder shall have in storage an adequate supply of containment booms and suitable absorbent material to absorb any spillage.
- 2.5.8 The Permit Holder shall carry out ultrasonic testing of shell thickness on fuel tanks and report this as part of the AER. Such testing shall be carried out every two years for existing fuel tanks.
- 2.5.9 Fuel tanks shall be connected to appropriate abatement systems to the satisfaction of the Authority, such that fugitive emissions and odours from the fuel tanks are sufficiently mitigated. The Permit Holder shall keep a log of opening and closing times of pressure relief valves
- 2.5.10 All gasoil transfers shall be undertaken in accordance with the Approved Document oil spillage response plan
- 2.5.11 The oil spillage response plan required under condition 2.5.10 shall be implemented and adopted in cases where spillages occur during fuel transfers

## **2.6 Energy Efficiency**

- 2.6.1 In the event that DPS 2-5 is operated  $\geq 1\,500$  hr/yr a net electrical efficiency of 25 - 35.7 % shall be met. Such documentation shall be made available on

request.

## **2.7 Accident prevention and control<sup>∞</sup>**

- 2.7.1 In the case of an accident, the Permit Holder shall follow the Internal Emergency Plan submitted and updated according to the instructions provided by the COMAH competent Authority. Such a plan submitted as a legal requirement of the COMAH regulations shall be put into effect in case of a major accident.
- 2.7.2 If the case of an emergency situation within an individual operator plant or in an emergency escalated to a site level), the procedures and coordinated actions stipulated within the Coordinated Emergency Plan (CERP) shall apply. The operator shall ensure communication and coordination with the other operators and stakeholders together with the local area emergency response organisations and Authorities.
- 2.7.3 The level of application of the CERP shall be at least the communication of the emergency situation, with a possible escalation of the full activation of the CERP.
- 2.7.4 The CERP shall be reviewed at least every three years or as soon as practicable after an accident, whichever is the earlier, and the Authority notified of the results of the review within 2 months of its completion.
- 2.7.5 The Permit Holder shall, in collaboration with the other Permit Holders at the installation maintain and implement all health and safety measures in compliance with Act XXVII of 2000; Occupational Health and Safety Authority Chapter 424 and all relevant subsidiary legislation, in particular but not limited to the implementation of a risk assessment which covers the operation of the whole installation.
- 2.7.6 The Permit Holder is to keep the Authority updated on any major changes in operations that may impact on the health and safety of the employees and the other Permit Holders at the installation.
- 2.7.7 The Permit Holder is to ensure that all Health and Safety documentation is freely available and provided upon request to either the Competent Authority or to the Occupational Health and Safety Authority.

### **Safety Considerations<sup>∞</sup>**

- 2.7.8 The Permit Holder shall comply with the relevant provisions of the Control of Major Accident Hazards Regulations, 2015 (S.L. 424.19). Any actions deemed necessary during the operational phase as defined in the COMAH competent authority's review of the safety studies submitted by the Permit Holder shall be addressed within the timeframes stipulated by the COMAH competent authority.
- 2.7.9 Operations at the installation shall allow the periodic review and where necessary update of the safety report, MAPP and IEP, at least every five years. The updated documentation shall be sent to the COMAH competent authority without delay.
- 2.7.10 Further to the provisions of Regulation 14 of S.L. 424.19 and without prejudice to the operator's responsibilities, the COMAH Competent Authority shall, if

necessary, appoint individuals or set-up bodies to assist the COMAH competent authority at technical level at the expense of the operators.

- 2.7.11 Without prejudice to regulation 9 of the COMAH Regulations, the Permit Holder shall ensure that any instructions provided and any follow up actions requested by the COMAH competent authority shall be carried out without undue delay and within the timeframes stipulated by the COMAH Competent Authority.
- 2.7.12 Where instructed by the COMAH Competent Authority, the safety studies submitted by the operator shall be amended to address the COMAH Competent Authority's inspections and any resulting changes which may be required.
- 2.7.13 In case any further modification in the piping and instrumentation of the facilities is deemed necessary by D3PG and Electrogas Malta Ltd., which could have significant consequences for major-accident hazards in relation to the information provided in the P&IDs (Pipe& Instrumentation Diagrams) submitted along with the ENE Safety Report), it should be notified in detail to the COMAH Authority in advance of that modification (according to reg. 9 of the COMAH Regulations S.L.424.19).

#### **Fire fighting considerations<sup>∞</sup>**

- 2.7.14 The Permit Holder shall be responsible for the maintenance and certification of all internal and external firefighting systems up to the tie in point connection with D3 Power Generation Ltd. and ElectroGas Malta Ltd. as identified in schedules 2A and 2B of the regulatory framework permit and as detailed in Table 2.7.14 below.

<b>Table 2.7.14 – infrastructure related to fire fighting system</b>		
<b>Tie in point</b>	<b>Name</b>	<b>description</b>
TP 07.D3 TP 07A.D4 TP 07B.D4	Internal fire-fighting system	Freshwater stored within Enemalta's 330m <sup>3</sup> tank which is supplied from evaporated water tanks and distributed through metered tie-in point for own use, D3PG and EGM.
TP 08.D3 TP 08.D4	External fire-fighting system	Seawater taken from the intake of seawater from Marsaxlokk Bay to delivery and distribution through metered tie-in point to D3PG, EGM and own use.

- 2.7.15 The pipes, pumps, valves and flanges forming part of the fire-fighting system which transfers fire-fighting water to external tie in point connection to distribution to the other Permit Holders shall be certified by an approved auditor at least once every three years. The inspection report and any ensuing certification must be included in the AER in the format specified in Schedule 3.
- 2.7.16 The Permit Holder shall abide by the instructions provided by the CPD and ensure that the type and amounts of firefighting agents requested by the CPD to be present at any one time within the part of the installation covered by this permit are on site at any given time.

- 2.7.17 It shall be the responsibility of the Permit Holder to ensure that such firefighting agents and systems are well maintained and certified periodically as per supplier's specifications.

### **Port security<sup>∞</sup>**

- 2.7.18 Where any updates to the port security document requested by Transport Malta result in changes to standard operating procedures adopted, the Permit Holder shall ensure that these are implemented within the timeframes requested by Transport Malta.
- 2.7.19 Condition 2.7.18 is without prejudice to obligations on the Permit Holder in his dual role as permit coordinator arising from the regulatory framework permit

## **3 Reporting**

- 3.1 All reports and written and/or oral notifications required by this Subsidiary Permit and notifications required by Regulation 7 of the Industrial Emissions (IPPC) Regulations shall be made and sent to the Authority using the contact details notified in writing to the Permit Holder by the Authority.
- 3.2 The Permit Holder shall submit to the Authority an AER of the previous year by not later than end of June of each year, providing the information listed in Schedule 4 of this Permit and in the format specified therein. The AER shall be forwarded to the Authority in electronic format.
- 3.3 The Permit Holder shall submit to the Authority the information listed in Schedule 5 Quarterly Reporting and in the format specified therein within one month after the end of each quarter. This information shall be forwarded to the Authority in electronic format.
- 3.4 The Permit Holder shall submit to the Authority the information listed in Schedule 4 Monthly Reporting and in the format specified therein within two weeks after the end of each month. This information shall be forwarded to the Authority in electronic format.
- 3.5 The European Pollutant Release and Transfer Register (E-PRTR) report for the installation shall be submitted by end of March of each year, or as required by Legislation. All quantities shall be reported, even when these do not exceed the thresholds mentioned in EC Regulation 166/2006. The format used for reporting shall be that established by Legislation, notably S.L. 549.47 and Government Notice 138 of 2017 or as subsequently amended.
- 3.6 Where the submissions required under condition 3.5 are related to coordinated release points, the Permit Coordinator shall submit the information to the Authority. The Permit Holder shall submit on the obligations arising from this permit through the AER (Schedule 2) and collectively for the entire installation in the AER for the regulatory framework permit (Schedule 4 of the Framework Permit).

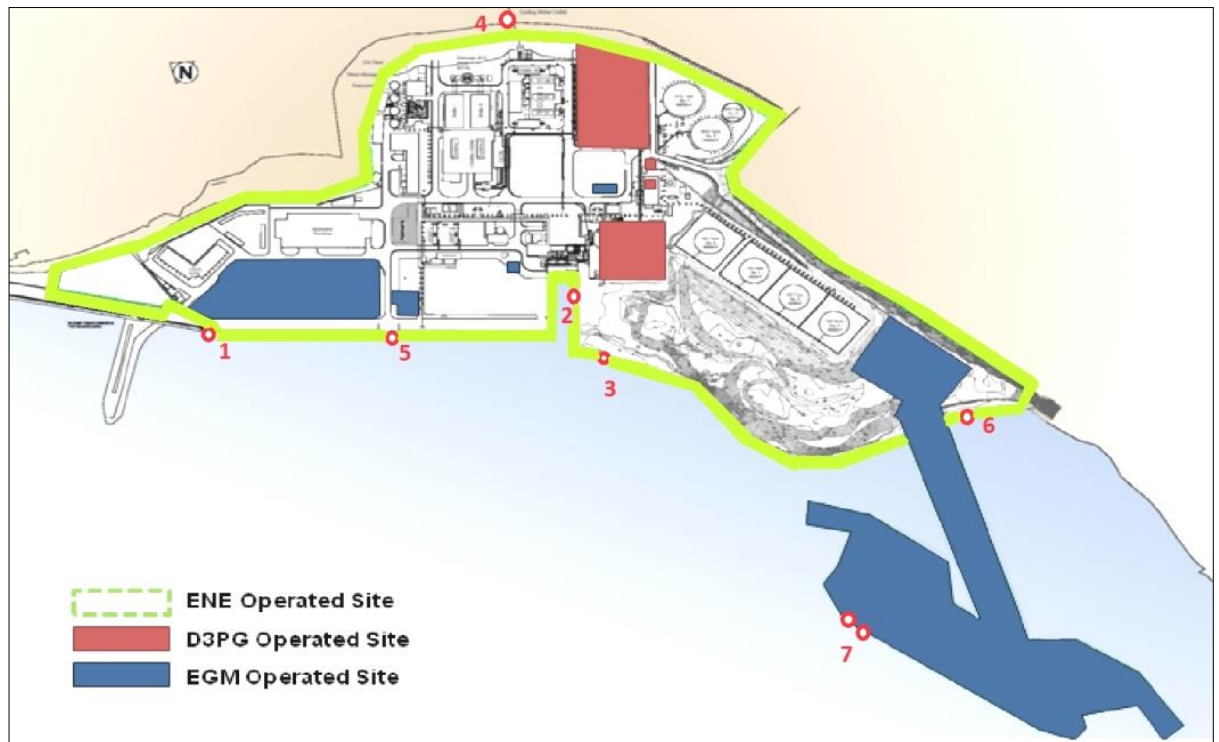
- 3.7 The Permit Holder shall, within 6 months of receipt of written notice from the Authority, submit to the Authority a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Permit Holder, that may provide environmental improvement.

## **4 Interpretation**

- 4.1 The interpretation and relevant expressions as defined in Condition 4 of the Regulatory Framework Permit (IP0002/21) shall also apply to this Subsidiary Permit

## Schedule 1A

### Operational Boundary for Enemalta



Site of installation, showing the extent of area authorised for activity for the carrying out of the activities specified in Condition 1.1.1 (shown in green). The extent of the site boundary is indicative and shall not be used for interpretation purposes.

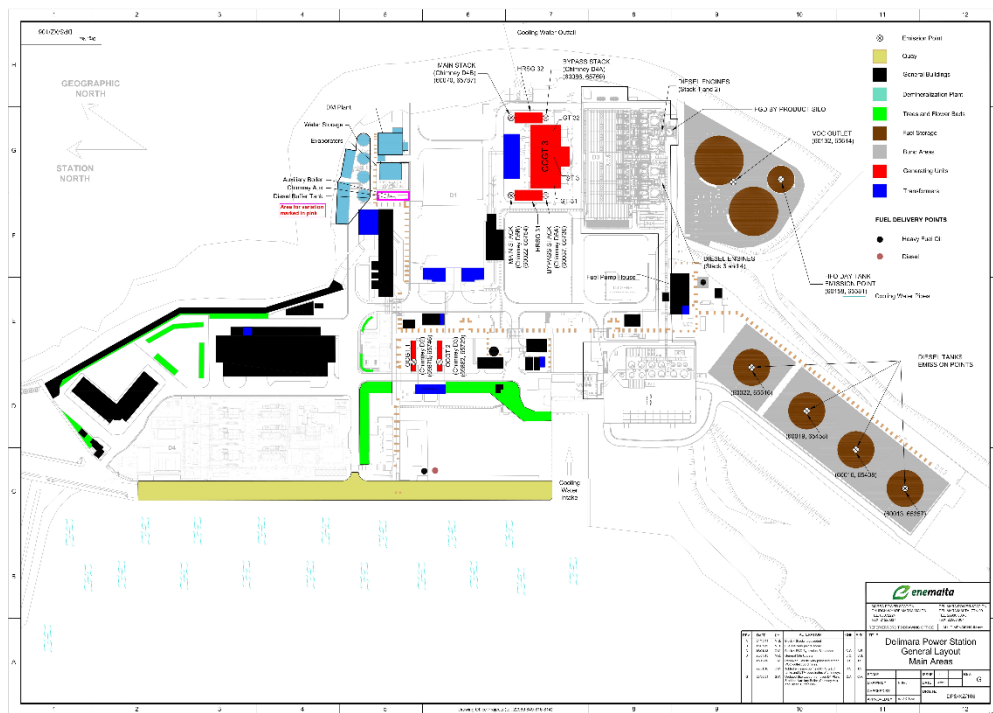


Figure 1: Site plan indicating the various emissions points including CP1 (auxiliary boiler)

## Schedule 2

### Annual Environmental Report

**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Annual Environment Report to be made available on the Authority's public website.

**S2.1 Introduction**

IPPC Permit Number	
Reporting Year	
Name and location of Site	
Brief description of activities at the site	

**S2.2 Environment Management System & Reporting**

Please attach a supporting document with the following:

- |   |  |  |  |  |  |
|---|--|--|--|--|--|
| <ol style="list-style-type: none"> <li>1. Environmental Policy containing the installation's environmental objectives and targets;</li> <li>2. Environmental Management Programme report (for the reporting year);</li> <li>3. Environmental Management Programme proposal (for the following year);</li> <li>4. European Pollutant Release and Transfer Register Report (as per Condition 3.5)<sup>7</sup>.</li> </ol> | Tick (✓)<br><table border="1" style="width: 100%; height: 100%;"> <tr><td style="height: 25px;"></td></tr> <tr><td style="height: 25px;"></td></tr> <tr><td style="height: 25px;"></td></tr> <tr><td style="height: 25px;"></td></tr> </table> |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |
|   |  |  |  |  |  |

**S2.3 Process Data****S2.3.1 Annual Summary**

	Units	Previous reporting year <sup>8</sup>	Current reporting year
Quantity of energy produced	MWh		
Total Annual Energy Consumption (from electricity and other sources)	MWh		
Energy consumption per unit product	MWh consumed/ MWh produced		
Annual water consumption	m <sup>3</sup>		
Water consumption per unit product	m <sup>3</sup> /MWh		
Annual quantity of waste produced	tonnes		
Waste produced per unit product	tonne waste/ MWh		

<sup>7</sup> The format used for reporting shall be that published in the Government Gazette (<http://www.doi.gov.mt/EN/gazetteonline/2007/07/gazts/GG%2013.7.pdf>)

Flue Gas Volume for combustion plants with a rated thermal input >50 MWth	Nm <sup>3</sup>		
Yearly operating hours per combustion plant with a rated thermal input >50 MWth	hours		

### S2.3.2 Fuel consumption

	Units	Sulphur Content <sup>9</sup>	Consumption	
			Previous Year	Current Year
Gas Oil	m <sup>3</sup>			

<sup>9</sup> Specify units (e.g. as percentage, or mg/kg)

## S2.4 Monitoring Data of Emissions to Air

### Summary of emissions to air (concentrations)

#### S2.4.1 Emissions of Dust (TSP), Nitrogen Oxides (NO<sub>x</sub>) and Sulphur Dioxide (SO<sub>2</sub>)

Parameter	Emission point reference	Standard methodology used	Annual average pollutant concentration	Mean Monthly Limit Value	Total annual number of exceedances of after validation	
			mg.Nm <sup>-3</sup>	mg.Nm <sup>-3</sup>	Previous year	Present year
TSP	DPS2					
NO <sub>x</sub>	DPS2					
SO <sub>2</sub>	DPS2					
TSP	DPS3					
NO <sub>x</sub>	DPS3					
SO <sub>2</sub>	DPS3					
TSP	DPS4					
NO <sub>x</sub>	DPS4					
SO <sub>2</sub>	DPS4					
TSP	DPS5					
NO <sub>x</sub>	DPS5					
SO <sub>2</sub>	DPS5					

Additional documentation to be submitted:

Tick (✓)

Accreditation certificate(s) of laboratory

☐

#### S2.4.2 Emissions of Carbon monoxide (CO)

Emission point reference	Standard methodology used	Annual average pollutant concentration	Total annual number of exceedances of daily value after validation		Total annual number of exceedances of monthly mean value after validation	
		mg.Nm <sup>-3</sup>	Previous year	Present year	Previous year	Present year
DPS2						
DPS3						
DPS4						
DPS5						

**S2.4.3 Monthly Loads of Particulates, SO<sub>2</sub> and NO<sub>x</sub>***ONE PAGE PER PLANT TO BE SUBMITTED*

Permit Holder: Enemalta plc.	Plant no. DPS ____
Location: Delimara.	Heat Value of Fuel fired: _____ GJ.Mg <sup>-1</sup>
Reporting year: _____	

Month	Fuel Burn During this period  Mg. month <sup>-1</sup>	Monthly SO <sub>2</sub> Load  Mg	Monthly NO <sub>x</sub> Load  Mg	Monthly Dust Load  Mg
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
TOTAL				

Pollutant Load (Mg) = Pollutant concentration (µg.Nm<sup>-3</sup>) × 1×10<sup>-9</sup> × WGF (m<sup>3</sup>.month<sup>-1</sup>)  
(WGF = waste gas flow rate).

### S3.4.4 Annual Data

#### S3.4.3.1 Annual Load of Particulates, SO<sub>2</sub> and NO<sub>x</sub>

Units	Rated Thermal Input	Type	Fuel	Fuel Burn	Heat Value	Annual Emissions* SO <sub>2</sub>	Annual Emissions* NO <sub>x</sub>	Annual Emissions* dust
	MW <sub>TH</sub>			Mg.yr <sup>-1</sup>	GJ.Mg <sup>-1</sup>	Mg.yr <sup>-1</sup>	Mg.yr <sup>-1</sup>	Mg.yr <sup>-1</sup>
Delimara 2	121	Gas Turbine	Gasoil					
Delimara 3	121	Gas Turbine	Gasoil					
Delimara 4	121	Gas Turbine	Gasoil					
Delimara 5	121	Gas Turbine	Gasoil					
<b>Total</b>								

---

\* Sum of the total emissions during normal operations + total emissions during start-up/shut down periods.

## S2.4.3 Monitoring Data from Medium Combustion Plants

Table 2.4.3.1: Emissions to Air													
Medium Combustion Plant reference Point	Parameter	Limit Value (mg/Nm <sup>3</sup> )	Standard methodology used	Type of monitoring (in-situ / at an accredited lab)	Measurement Error	Total annual number of exceedances <sup>i</sup>		Concentration (Annual Average)			Total Annual Load		
						Previous year <sup>ii</sup>	Present year	Unit	Previous year	Present year	Unit	Previous year	Present year
CP1	CO	-						mg/m <sup>3</sup>			kg		
	NOx	200						mg/m <sup>3</sup>			kg		

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Additional documentation to be submitted:	Tick (✓)
Accreditation certificate(s) of laboratory	

Table 2.4.3.2: Annual Operating hours for		
Point Sources	Operating Hours during previous reporting year	Operating Hours during reporting year
CP1		

<sup>i</sup> If the total number of exceedances exceeds 0, the value of each of these exceedances (for the reporting year) must be submitted in a separate report, together with action taken to regularise the situation.

<sup>ii</sup> "Previous year" is not applicable for the first reporting year (2021).

Table 2.4.3.3: Corrective Action (to be compiled if emission limit values in S2.4.3.1 above are exceeded)	
Emission Point Reference	Proposed Action (may include reference to additional documentation)
CP1	

### **S2.5: Certificates of Analysis for physical and chemical parameters of fuels**

Documentation to be submitted:

Certificates of analysis for physical and chemical parameters of fuels  
for reporting year (indicate number of certificates submitted)  
Accreditation certificate(s) of laboratory

Tick (✓)


### **S2.6: Wind Rose**

Documentation to be submitted:

Wind rose for the reporting year showing wind speed and direction at the site

Tick (✓)

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## S2.7 Emissions to Marine Water

### Emissions to Marine Water: Physical and Chemical Monitoring

*ONE REPORT PER OUTLET TO BE SUBMITTED*

Name of outlet and reference number: \_\_\_\_\_

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
1	Flow			-	-	-			
2	pH								
3	Temperature								
4	Biological oxygen demand (BOD5)								
5	Total Nitrogen								
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681								
8	Chlorine dioxide and oxidants (given as chlorine)								
9	Arsenic								
10	Cadmium								
11	Chromium (Total)								
12	Copper								
13	Lead								
14	Mercury								
15	Nickel								

<sup>i</sup> Exceedances are to be clearly highlighted in red.

No.	Parameter	Limit (annual average)	Standard methodology used	Concentration (annual average) <sup>i</sup>			Total annual mass emissions		
				Units	Previous year	Present year	Units	Previous year	Present year
16	Tin								
17	Vanadium								
18	Zinc								
19	Total petroleum hydrocarbons								
20	Tributyl tin compounds (tributyltin cation; CAS number 36643-28-4)								
21	Total Suspended Solids								
22	Benzene (CAS number 71-43-2)								
23	PAHs as follows:								
	Benzo(a)pyrene								
	Benzo(b)fluor-anthene, Benzo(k)fluor-anthene								
	Benzo(g,h,i)-perylene, Indeno(1,2,3-cd)-pyrene								
24	C10-C13 chloroalkanes (CAS number 85535-84-8)								
25	Polychlorinated biphenyls (CAS number 1336-36-3)								

Name of laboratory where tests in this section have been carried out	
Is this laboratory accredited (certified) for the above tests?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Additional documentation to be submitted:

Tick (✓)

Accreditation certificate(s) of laboratory

Were there any exceedances in the present reporting year?	Yes <input type="checkbox"/> No <input type="checkbox"/>
---	--

If yes, one of the following is also to be submitted:

Tick (✓)

Action programme aimed at achieving emission limits

Document designating a mixing zone following the procedures specified in Schedule IX(3) "Mixing Zones" in S.L. 549.100


## 2.8 Off-site transfers of waste

[illegible]

<sup>i</sup> European Waste Catalogue Code (Reference: Decision 2000/532/EC)

ii For hazardous waste only. If waste is not hazardous, please write "n/a".

## S2.9 Testing of bunds, pipes, pumps, valves, flanges, over-ground pipes and tanks

Number of bunds on site for tanks/containers $\leq 25 \text{ m}^3$ requiring testing in accordance with condition 2.6.3 of the regulatory framework permit	
Number of oil interceptors on site	
Number of tanks on site	
Date of last test for bunds for tanks/containers $\leq 25 \text{ m}^3$	
Testing for bunds for tanks/containers $< 25 \text{ m}^3$ due on (date)	
Number of existing fuel tanks on site	
Date of last ultrasonic testing of shell thickness for above tanks	
Ultrasonic testing of shell thickness for above tanks due on (date)	
Date of last test for pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm	
Testing of pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm due on (date)	
Date of last test for other flanges, valves and over-ground pipes on site	
Testing of other flanges, valves and over-ground pipes on site due on (date)	
Date of last test for oil interceptors	
Testing for oil interceptors due on (date)	

Additional documentation to be submitted if test was carried out during previous reporting year:

Tick (✓)

Inspection report and certification by approved auditor for bunds for tanks/containers  $\leq 25 \text{ m}^3$  on site

Inspection report and certification by approved auditor for pipes, pumps, valves and flanges for fuel delivery from delivery ship to tank farm

Inspection report and certification by approved auditor for other flanges, valves and over-ground pipes on site

Inspection report and certification by approved auditor for oil interceptors

Ultrasonic test report of tank shell thickness


*Bunds for tanks/containers  $> 25 \text{ m}^3$ :*

Number of bunds on site for tanks $> 25 \text{ m}^3$	
Number of visual inspections carried out during reporting year on each bund	
Total number of faults identified during reporting year	
Total number of faults rectified during reporting year	

Additional documentation to be submitted for bunds for tanks/containers  $> 25 \text{ m}^3$ :

Tick (✓)

Bund certification by warranted civil engineer

Summary report by warranted engineer on the visual inspections undertaken during the reporting year (including reports on faults and remedial actions taken)


## S2.10 Incidents and Complaints

### S2.10.1 Non-Compliance Incidents during Reporting Year

Date of incident	Brief description of Incident	Cause	Corrective action

Total number of non-compliance incidents for previous year:

Total number of non-compliance incidents for current reporting year:

### S2.10.2 Complaints made by the public

Date of complaint	Description of complaint	Actions taken

Total number of complaints for previous year:

Total number of complaints for current reporting year:

## S2.11 Transport

Name of registered waste carrier used during reporting year	Waste type(s) transported

## S2.12 DPS plants 2- 5 operational hours

Date	Release Point	Source	Operating hours in test/emergency condition	Cumulative number of Operating hours in test/emergency condition to date

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### Schedule 3

### Quarterly Reporting

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**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Quarterly Report to be made available on the Authority's public website.

Period covered by this report: \_\_\_\_\_

**S3.1 Waste**

Waste removed from site (EWC code & description)	Quantity	Units

## Schedule 4

### Monthly reporting

**Important note**

By this submission, you confirm that you give your explicit consent for the entire contents of this Monthly Report to be made available on the Authority's public website.

**S4.1 Daily Statistical Analysis of Continuous Monitoring****S 4.1.1 Data for Particulates**

*ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS2-5)*

Permit Holder: Enemalta plc.

Emission Limit Value: \_\_\_\_ mg . Nm<sup>-3</sup>

Location: Delimara

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Plant no.: \_\_\_\_

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

**Validated mean daily  
concentration of  
particulates**

mg . Nm<sup>-3</sup>

Notes:

(a) *The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 30% from the hourly average.*

(b) *Validated mean daily concentration average is calculated from the validated hourly averages*

*\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.*

**S4.1.2 Data for Sulphur Dioxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS2 - 5)**

Permit Holder: Enemalta plc.	Emission Limit Value: _____ mg. Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of sulphur dioxide</b>	<b>mg . Nm<sup>-3</sup></b>
--	-----------------------------

Notes:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages.

\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.

**S4.1.3 Data for Nitrogen Oxides**

*ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS2 - 5)*

Permit Holder: Enemalta plc.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

<b>Validated mean daily concentration of nitrogen oxides</b>	<b>mg . Nm<sup>-3</sup></b>
--	-----------------------------

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 20% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages

\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.

**S4.1.4 Data for Carbon Monoxide**

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT  
(DPS2 - 5)**

Permit Holder: Enemalta plc.	Emission Limit Value: _____ mg . Nm <sup>-3</sup>
Location: Delimara.	
Date: ____/____/____	Plant no.: _____

Time	Validated Hourly average (mg . Nm <sup>-3</sup> )	Validity of Data*
0000 hrs		
0100 hrs		
0200 hrs		
0300 hrs		
0400 hrs		
0500 hrs		
0600 hrs		
0700 hrs		
0800 hrs		
0900 hrs		
1000 hrs		
1100 hrs		
1200 hrs		
1300 hrs		
1400 hrs		
1500 hrs		
1600 hrs		
1700 hrs		
1800 hrs		
1900 hrs		
2000 hrs		
2100 hrs		
2200 hrs		
2300 hrs		

**Validated mean daily  
concentration of carbon  
monoxide**

**mg. Nm<sup>-3</sup>**

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant standard referred to in this permit and which shall in no case exceed 10% from the hourly average.
- (b) Validated mean daily concentration average is calculated from the validated hourly averages.

\*In this column mark valid data entries with a ✓ and invalid data entries with a ×.

#### S4.1 Daily Statistical Analysis of Continuous Monitoring

#### S4.3.1 Daily Data for Carbon Monoxide

*TWO PAGES PER MONTH TO BE SUBMITTED FOR EACH PLANT  
(DPS2-5)*

Permit Holder: Enemalta plc.	Emission Limit Value: _____ mg. Nm <sup>-3</sup>
Location: Delimara.	97% of all mean validated daily values must not exceed _____ mg. Nm <sup>-3</sup>
	Plant no.: _____

[illegible]



## S4.2 Monthly Statistical Analysis of Continuous Monitoring

### S4.2.1 Monthly Concentration Data for Particulates, SO<sub>2</sub>, NO<sub>x</sub> and CO

ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT

Reporting year	
Month	
Plant	

	Particulates	SO <sub>2</sub>	NO <sub>x</sub>	CO
Monthly average concentration for the period (mg . Nm <sup>-3</sup> )				
No of exceedances of 24 hr limit in period	-	-	-	
Highest individual 24 hr average in period (mg . Nm <sup>-3</sup> )				
Mean daily average, in period (mg . Nm <sup>-3</sup> )				
Highest individual 1 hr average in period (mg . Nm <sup>-3</sup> )				
Mean 1 hr average in period (mg . Nm <sup>-3</sup> )				
Percentage of boiler operating time that continuous monitors available during reporting period				

**Schedule 5****Template for Exemption from Emission Limit Values**

In view of the operating hours of combustion plant CP1 as described in IP 0002/21/iii, I [INSERT NAME AND SURNAME], as the Permit Holder responsible for the combustion plant at [ADDRESS], submit my request to Authority to be exempt from the Emission Limit Values set out in Table 2.2.42 of the above-mentioned permit for the year [INSERT YEAR].

Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Operating Hours in 20XX	
Rolling Average over 5 Years	

**I declare that, to the best of my knowledge, all the above information is correct and substantiated.**

\_\_\_\_\_  
**Name**  
*(in block letters)*

\_\_\_\_\_  
**ID Card Number**

\_\_\_\_\_  
**On behalf of / in my own name**  
*(in block letters)*

## Schedule 6

### Notification of operation of DPS 2 to 5 plant

This notification shall be submitted to the Competent Authority within 24 hours of utilisation of the following plants:

Release Point	Source
Chimney D2	DPS2 (OCGT1)
Chimney D3	DPS3 (OCGT2)
Chimney D4A	DPS4 (CCGT32 By-pass stack)
Chimney D4B	DPS4 (CCGT32 Main Stack)
Chimney D5A	DPS5 (CCGT31 By-pass stack)
Chimney D5B	DPS5 (CCGT31 Main Stack)

Date	Release Point	Source	Operating hours in test/emergency condition	Cumulative number of Operating hours in test/emergency condition to date

END OF PERMIT



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## SOP-232

### Mutual Audit Planning, Conducting and Reporting

Last Review Details – Refer to QPulse for full history

Review Comments	Review Owner	Date
Document reviewed.		14/07/2021

Latest Revision Details – Refer to QPulse for full history

Revision number	Revision Details
1	Minor formatting changes and added reference to Q-Pulse.

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## 1 Aim and scope

The objective of this procedure is to:

- define responsibilities and detailed rules used by all the operators to plan, conduct and report the audit as necessary
- ensure that the operations of any other operator within the installation are compatible with those of the auditing operator
- identify any amendments to such procedures which are required, in order to ensure that procedures adopted by one operator do not impede the operations of the other operators within the installation.

## 2 References

EN ISO 14001:2015 Clause 9.2

EN ISO 19011:2011

IPPC IP 0002/07/G – Framework document

## 3 Terms and Definitions

Audit plan	Description of activities to be carried out in a specific audit
Audit program	Group of several audits planned over a defined period of time, addressed for a specific aim
Audit team	Group of persons charged to carry out an audit
Auditor	Person competent to conduct an audit. The persons conducting the audit should be competent and in a position to do so impartially and objectively
D3PG	Delimara 3 Power Generation Ltd
EGM	ElectroGas Malta Ltd
ENE	Enemalta plc
EMS	Environmental Management System
ER	Environmental Representative
Installation	Technical unit within an establishment and whether at or below ground level, in which dangerous substances are produced, used, handled or stored; it includes all the equipment, structures, pipework, machinery, tools, private railway sidings, docks, unloading quays serving the installation, jetties, warehouses or similar structures, floating or otherwise, necessary for the operation of that installation
IPPC	Integrated Pollution Prevention and Control

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Internal audit	<p>Systematic, independent and documented process to obtain audit evidence, and through objective evaluation determines the extent to which the safety management system audit criteria, set by the organization are fulfilled</p> <p>Note 1: Auditor independence can be demonstrated by an auditor being free from responsibility for the activity being audited</p> <p>Note 2: Internal audit is a process which enables sharing of experience and improves the effectiveness of the workings of the organisation</p>
Lead auditor	Responsible of the audit team
NR	Nominated representative
Nonconformity	Non-fulfilment of a requirement
Operator (Main)	Company that operates, control and maintains one or more units owned by a stakeholder. The operators Involved in the implementation are ENEMALTA, International Energy Service Centre (IESC), ESB International (ESBI), Reganosa, BUMI ARMADA and others which may be appointed in the future
Operator	The personnel working for or on behalf of the four main operators
EGM operators	ESBI Power Generation, Reganosa Regasification, BUMI LNG storage
SOP	Standard Operating Procedure; An established written procedure to be followed by ENE staff, providing technical and organisational requirements to perform a specific activity
Q-Pulse	Database Application

## 4 Responsibilities

### 4.1 Management representative (MR ENE, D3PG, EGM):

- approves the audit program
- provides resources for the audit program. These resources could include human resources, transport, co-operation from interviewed persons, etc.

### 4.2 Nominated representative (NR ENE, D3PG, EGM):

- co-ordinates together with the lead auditor to evaluate the effectiveness of actions taken following nonconformity. The NR signs off the action plan when all actions are completed

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#### 4.3 Lead Auditor (ENE):

Based on data collected from past audits and the non-conformities identified, and taking into consideration the operator's exigencies, the lead auditor shall consult with the operator's auditors and/ or NR to develop a rationalised program intended to result in improved environmental and safety performance. The lead auditor:

- prepares the audit program and submits it to the respective MR;
- ensures that the audits are being carried out according to the audit program;
- coordinates the audits within the audit program;
- identifies the members of the audit team together with the other operators representatives;
- defines the audit conclusions and issues the audit report;
- where necessary, issues an action plan.

#### 4.4 Environmental representative (ER ENE, D3PG, EGM):

- supports the Lead Auditor in carrying out the environmental audit program (participating in audits and following up on audit report), depending on the site to be audited.

#### 4.5 Auditors (ENE, D3PG, EGM):

- assist the Lead Auditor during the audits.

#### 4.6 Audit Team (ENE, D3PG, EGM):

The persons forming part of the audit team may include personnel from the Enemalta, D3PG and ElectroGas Malta. Depending on the nature of the audit, these personnel can vary from Regulatory Affairs Office/Management, who are all qualified as internal auditors, or persons from management who have experience in the departments or documents being audited.

#### 4.7 Interviewed Persons (ENE, D3PG, EGM):

- The interviewed persons will be either the site responsible persons or the document responsible persons, or any other person nominated by them.

## 5 Frequency

An annual audit program shall be prepared by the lead auditor taking into account:

- the results of the previous audit program;
- any specific request coming from an internal or external party;
- requirements from the framework IPPC permit

Document Use – This document needs to be used whenever a work with the impact described in the scope is undertaken.

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Document revision - This document should be reviewed and updated every twenty- four (24) months, unless it is deemed necessary that it should be revised prior.

## 6 Detailed procedural rules

### 6.1 Mutual Audit program

The mutual audit program will be planned following a meeting with the ENE, D3PG and EGM management representative/s, nominated representative/s, lead auditor and other auditor/s to discuss and establish the criteria and priorities necessary as per ISO 19011.

The objectives of the mutual audit program are to:

- assess the degree of implementation of the common EMS documents and procedures;
- assess the effectiveness of the EMS;
- assess the EMS capability to grant compliance with legal requirements;
- assess the operation of any other operator within the installation
- assess the operation of any other operator within the common areas
- assess the operation and maintenance of common site services, including but not limited to firefighting, DM and evaporated water, foul water, etc.
- assess common activities, like water discharge, use of interceptors, etc.
- identify any amendments to such procedures which are required in order to ensure that procedures adopted by one operator do not impede the operations of the other operators within the installation
- identify areas for EMS improvement

The audit program shall be defined for each operator's area/activity as per EMS scope:

- the month of the year when the audit shall be conducted;
- the status of the audit (i.e. planned, conducted)

The audit program shall be approved by the MR of all operators in order to provide the requested resources.

### 6.2 Auditors

The lead auditor shall identify internal or external audit team members according to the following requirements:

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#### 6.2.1 Lead auditor requirements:

- Three years' experience in environmental/safety activities;
- Three years' experience in electrical energy production from fossil fuels;
- Attendance to a specific auditor training course or having a specific safety auditor certification / qualification;
- Experience in conducting audits in the role of responsible of the audit.

#### 6.2.2 Auditor requirements:

- One year experience in environmental/ safety activities;
- One year experience in electrical energy production from fossil fuels;
- Attendance to a specific auditor training course or having a specific safety auditor certification / qualification;
- Experience in conducting at least two internal audits under the leadership of a lead auditor.

#### 6.2.3 Audit Team

- If lead auditor does not have the required three years' experience, at least one member of the audit team should have the required criteria. This could be a person from management who has the required experience, who will assist the lead auditor during the audit preparation and/or the audit execution. If this is not satisfied an external auditor must be outsourced to conduct that specific audit.

### 6.3 Planning audits

The lead auditor shall plan the audit as follows:

- Analyses the coordinated EMS and SMS documents relevant for the audit scope;
- Provides specific tasks to all audit team members;
- Decides if checklists or other tools and / or records are required for the audit and compiles them in coordination with the other operators.

The lead auditor shall prepare the audit plan for the specific audit, where necessary. The audit plan should define:

- The audit date, starting time and duration;
- Names and roles of the audit team members;
- The audit objectives/criteria/priorities;
- The audit scope: Areas / Sections to be audited; Operator's activities to be audited;
- The locations to be visited;
- Persons to be contacted.

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The lead auditor shall inform all those concerned, including the NR of the audit by email in advance.

#### 6.4 Conducting audits

The audit team shall conduct the audit under the coordination and responsibility of the lead auditor by:

- Visiting working areas and places;
- Referring to relevant procedures and documents;
- Checking of records, forms, etc.
- Interviewing people working within the audit scope;
- Analysing processes and activities.

All the above mentioned audit activities are to be addressed to find evidence that can demonstrate the conformity and/or nonconformity to the coordinated EMS procedures, SOPs and other documents or site conditions.

#### 6.5 Audit reporting

Following each audit, the lead auditor shall prepare an audit report within a month after the audit, which may contain the following information:

- persons interviewed;
- a summary of the audit activities carried out;
- the list of nonconformities and/or recommendations including a description of the situation and of the reasons for the nonconformity/recommendation;
- a remark on any difficulty encountered during the audit, including any lack of agreement on the audit conclusions;
- any area which was not covered during the audit;
- strong and weak areas;
- the observations found and the responsibilities
- a non-disclosure claim by audit team members (external).

The lead auditor will issue the audit report listing the non-conformities identified during the audit and any recommendations deemed fit to be implemented in order to improve the process/site being audited. The audit details and audit report are registered in audits section database (Q-Pulse). Any nonconformities or recommendations are recorded in the Non Conformance Register (Q-Pulse).

The audit report will be finalised after a closing meeting with the ENE, D3PG and EGM management representative/s, nominated representative/s, lead auditor and other auditor/s, to clarify any issues that were observed. The report should be forwarded to the respective operator concerned; ENE, D3PG and EGM Management representative.

If during the closing meeting there are issues that the three operators cannot find an agreement on who is responsible to tackle the issue/s, any charges incurred for the corrective

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action must be either divided between ENE, D3PG and EGM or divided between ENE, D3PG and EGM according to the area where the issue is situated. This would mean that if for example there is an issue in Phase 1 pump house, corrective action measures are divided between ENE/D3PG. And if for example there is an issue at Gas intake of GPRS, corrective action is divided between EGM/ENE.

## 7 Related documents

DWG-038 (DPS-XZ 161) – Tie in points Enemalta with D3

DWG-033 (DPS-XZ 180) - Tie in points Enemalta with D4

DWG-039 (DPS-XZ 193) – Emissions points to sea

DWG-040 (DPS-XZ 194) – DPS common areas not considered as tie in points



# METHOD STATEMENT

REV.	DATA	REVISION DESCRIPTION	WRITTEN	VERIFIED	APPROVED
00	14/05/2021	First emission	Ing. G. Bernardini	Ing. F. Seni	Ing. F. Seni
01	21/05/2021	Reviewed after ERA's comments	Ing. G. Bernardini	Ing. F. Seni	Ing. F. Seni
02	30/06/2021	Reviewed after ERA's comments	Ing. G. Bernardini	Ing. F. Seni	Ing. F. Seni
03	06/08/2021	Reviewed after ERA's comments	Ing. G. Bernardini	Ing. F. Seni	Ing. F. Seni



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TARANTO

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## 1. Methodology

The methodology proposed for the air dispersion modelling study is described in this document and includes: the details of the software packages to be used, including details on how the simulation models will be implemented, and on how comparison with previous studies will be carried out.

### 1.1. Model

The activity will be carried out for all the different type of emission sources by the application of “**AERMOD Modelling System**”. AERMOD<sup>1</sup> is listed in the Guideline on Air Quality Models of US-EPA - Appendix W – as the Preferred and Recommended Models. AERMOD is a steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and complex terrain scenario.

**AERMOD** will be applied for the simulation of all the different types of source emissions taken into consideration and listed in the table below.

#### Industrial emissions from

- Plant D2A (Enemalta DPS) – 2 GTs
- Plant D2B (Enemalta DPS) – 2 GTs
- Plant GT9 (Enemalta Marsa) – 1 GT
- Plant D3 (D3PG DPS) – 8 Diesel Engines
- Plant D4 (Electrogas DPS) – 3 GTs

**Other Emissions** will be taken into consideration like traffic, maritime activities, oil bunkering and storage, aircraft, Marsa Thermal Treatment Facility and other sources like (residential heating, extraction, landfill, agriculture etc.).<sup>2</sup>

### 1.2. Model domains & configuration

In the following table the **AERMOD configuration** is described for the simulation to be carried out.

Table 1 AERMOD Configuration

Input	Modelling Details
Period	The solar year 2019
Modelling domain	The modelling domain comprises the Malta isles and is nearly 45 km WEST-EAST and 40 km North-South. The modelling domain, for the Malta Isles, will be configured with a grid resolution of 250 meter. The <b>gridded receptors</b> that will be modelled are 180 x 160 (total of 28'800 gridded receptor). The gridded receptors set will be integrated by a set of <b>discrete receptors</b> localised in an area of 15 km radius centered in the Delimara Power Station. The set of receptors (nearly 50 in number) will comprise the most sensitive receptors in the prevailing wind direction and the high impacted areas.

<sup>1</sup> Ref to Requirement Item No.1 – 15 – 16 - 17 “Technical Schedule”

<sup>2</sup> Ref to Requirement Item No.3 “Technical Schedule”

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### 1.3. Project location

#### The Delimara Power Station

The DPS is a “Combustion installation with a rated thermal input exceeding 50 MW”, and licensed for the generation of electric energy through the combustion of natural gas (LNG) and gasoil (diesel). The baseline system is described in the IPPC Permit IP 0002/07/G.

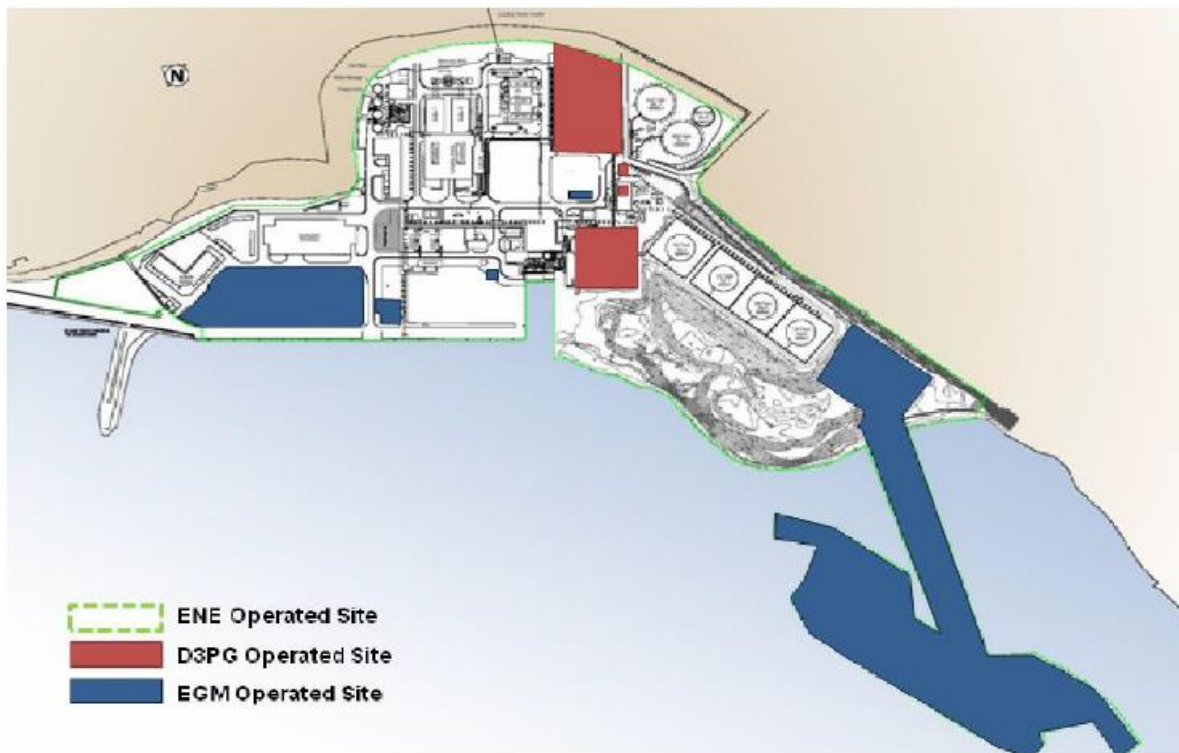


Figure 1 Operational boundaries for individual operators (ref. IPPC Permit IP 0002/07/G)

### 1.4. Input Data

#### 1.4.1. Orography

The modelling domain comprising the Malta isles will be characterised by DEM (digital elevation model) that will be acquired from international resources depending on the availability of the data. Possible resources area:

- US-EPA data designates GTOPO30 30-sec data (~900m)
- US-EPA data designates 3-sec Shuttle RADAR Topo Mission files (~90m)
- EEA data EU-DEM Digital Elevation Model over Europe

The data will be elaborated via GIS to create a gridded orographical representation of Malta territory aligned to the modelling domain selected for the simulation both in extension and resolution.

#### 1.4.2. Meteorological data

Detailed meteorological characterization will be provided for the meteorological year to be modelled by AERMOD. The data from surface meteorological stations will be acquired from ERA and elaborated for the last available 3 years. The objective will be to simulate the last available meteorological year by AERMOD with the only exception of unavailable full set of data or if the results of the analysis identify a “not typical year”.

The data will be at least required for monitoring station in Żejtun as well as from the Malta International Airport and Delimara Power Station.

The meteorological surface data, on an hourly basis, will be elaborated also to create the input files for the simulation with AERMOD. The simulation will be carried out with AERMOD for the selected meteorological year. The simulation will calculate the emissions and the impacts on air quality concentrations for all the 8760 hours of the selected year.

The vertical profile of the meteorological data will be acquired on an hourly basis by the prognostic meteorological model available data. The possible resources from meteorological international offices will be:

- EMEP meteorological model
- WRF - LaMMA – Tuscany Met Office - Italy.
- MM5 from CETEMPs

#### 1.4.3. Air quality monitoring (baseline)<sup>7</sup>

The air dispersion modelling study will take into account available baseline data collected as:

- *NO<sub>2</sub> diffusion tube data from ERA for locations in a 15 km radius, for the most recent time period available spanning at least thirty-six consecutive months.*
- *All the validated PM<sub>10</sub>, PM<sub>2.5</sub>, real-time data available from ERA Żejtun air monitoring station for the most recent time period available spanning at least thirty-six consecutive months.*
- *All PM<sub>10</sub>, PM<sub>2.5</sub>, data from the air quality monitoring point at Marsaxlokk from Enemalta plc*
- *Extrapolated data from Birżebbuġa air quality monitoring point to simulate current conditions for PM<sub>10</sub>, PM<sub>2.5</sub>. Data to be extrapolated from monitoring periods carried out between 05/04/2012 till 13/06/2014 and 23/07/2012 till 30/03/2014.*

#### 1.4.4. Scenario Analysis<sup>8</sup>

The study will include assessment of different scenarios as follows:

##### **(i) Worst-case scenario: Interconnector NOT AVAILABLE**

Generation plants available shall be considered to be operating under two different operational mode configurations as follows:

##### **A.1 LNG Available**

The generation plants available shall be operating with the following configuration:

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
D2A	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
D2B	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
GT9	Enemalta (MPS)	Gas Turbine	1	Diesel oil	In operation
D3	D3PG Ltd (DPS)	Diesel Engine	8	LNG	In operation
D4	Electrogas Ltd (DPS)	Gas Turbine (50,5 MW)	3	LNG	In operation

##### **A.2 LNG Available**

The generation plants available shall be operating with the following configuration:

<sup>7</sup> Ref to Requirement Item No.4 "Technical Schedule"

<sup>8</sup> Ref to Requirement Item No.5 "Technical Schedule"

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
D2A	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
D2B	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
GT9	Enemalta (MPS)	Gas Turbine	1	Diesel oil	In operation
D3	D3PG Ltd (DPS)	Diesel Engine	8	LNG	In operation
D4	Electrogas Ltd (DPS)	Gas Turbine (54 MW)	3	LNG	In operation

### B. LNG **NOT** Available

The generation plants available operating with the following configuration:

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
D2A	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
D2B	Enemalta (DPS)	Gas Turbine	2	Diesel oil	In operation
GT9	Enemalta (MPS)	Gas Turbine	1	Diesel oil	In operation
D3	D3PG Ltd (DPS)	Diesel Engine	4	Diesel oil	In operation
D3	D3PG Ltd (DPS)	Diesel Engine	4	LNG	Not in operation
D4	Electrogas Ltd (DPS)	Gas Turbine	3	LNG	Not in operation

### (ii) Typical operation scenario: Interconnector available

The generation plants available operating with the following configuration:

#### C.1 Interconnector available

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
D2A	Enemalta (DPS)	Gas Turbine	2	Diesel oil	Standby/ Not in operation
D2B	Enemalta (DPS)	Gas Turbine	2	Diesel oil	Standby/ Not in operation
GT9	Enemalta (MPS)	Gas Turbine	1	Diesel oil	Standby/ Not in operation
D3	D3PG Ltd (DPS)	Diesel Engine	8	LNG	In operation
D4	Electrogas Ltd (DPS)	Gas Turbine (50,5 MW)	3	LNG	In operation

#### C.2 Interconnector available

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
D2A	Enemalta (DPS)	Gas Turbine	2	Diesel oil	Standby/ Not in operation
D2B	Enemalta (DPS)	Gas Turbine	2	Diesel oil	Standby/

Plant Designation	Operator (Site)	Electricity Generation Plant Type	Electricity Generation Plant Quantity	Fuel	Status
					Not in operation
GT9	Enemalta (MPS)	Gas Turbine	1	Diesel oil	Standby/ Not in operation
D3	D3PG Ltd (DPS)	Diesel Engine	8	LNG	In operation
D4	Electrogas Ltd (DPS)	Gas Turbine (54 MW)	3	LNG	In operation

(i) **Other scenarios:**

- **D1 Plant:** The modelling scenario will comprise the assessment of the impact of closure and the decommissioning of D1 Plant at DPS (known as Phase 1 Plant) in terms of emissions and impact assessment of the decommissioning operation (PM emissions from demolition and other operation). Moreover, this analysis will be carried out to show the difference between the emissions when D1 was in operation with heavy fuel oil and now that it has been decommissioned and dismantled.<sup>9</sup>
- **2030 emission scenario<sup>10</sup>:** The estimated emissions will be projected for the pollutants (NO<sub>x</sub>, PM<sub>2.5</sub>, NH<sub>3</sub> and SO<sub>2</sub>) in 2030, making projections for expected fuel consumption in 2030, with appropriate references to projected national targets for emissions, and additional reductions which can be achieved through the imposition of additional measures. Furthermore, the estimated emissions will be projected considering the projections which Enemalta (as Permit Coordinator) are to carry out as per obligations in conditions 2.3.1 of the IPPC Permit (IP0002/07/G).

The emission scenario will assess the total load of NO<sub>x</sub> (as NO<sub>2</sub>) and PM<sub>2.5</sub> from the power generation sector in 2019 taking data from the Customers and will check the compliance with the limit of NO<sub>2</sub> = 1,850 Mg (Mega grammes) and 0,33 Mg (Mega grammes) of annual load.<sup>1112</sup>

#### 1.4.5. Emission data and estimates

##### Point sources

The point sources are listed in the following table.

Point Sources	Data from Enemalta plc, D3 Power Generation Ltd and Electrogas Malta Ltd
DPS 2-3	<ol style="list-style-type: none"> <li>SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> (or dust if PM<sub>10</sub> and PM<sub>2.5</sub> are not available, with PM<sub>10</sub> and PM<sub>2.5</sub> estimations): total annual emission data (derived from fuel consumption).</li> <li>Stack parameters and details of each plant.</li> <li>Information regarding the type of fuel used.</li> <li>Operating times and conditions.</li> <li>Information regarding pollution control equipment, including its efficiency.</li> </ol>

<sup>9</sup> Ref to Requirement Item No.11 "Technical Schedule"

<sup>10</sup> Ref to Requirement Item No. 8 "Technical Schedule"

<sup>11</sup> Ref to Requirement Item No.6 "Technical Schedule"

<sup>12</sup> Ref to Requirement Item No.7 "Technical Schedule"

DPS 4-5	<ul style="list-style-type: none"> <li>a. SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> (or dust if PM<sub>10</sub> and PM<sub>2.5</sub> are not available, with PM<sub>10</sub> and PM<sub>2.5</sub> estimations): total annual emission data (derived from fuel consumption).</li> <li>b. Stack parameters and details of each plant.</li> <li>c. Information regarding the type of fuel used.</li> <li>d. Operating times and conditions.</li> <li>e. Information regarding pollution control equipment, including its efficiency.</li> </ul>
DPS 6-7	<ul style="list-style-type: none"> <li>a. SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> (or dust if PM<sub>10</sub> and PM<sub>2.5</sub> are not available, with PM<sub>10</sub> and PM<sub>2.5</sub> estimations) validated measurements from the automated monitoring systems at DPS for the most recent time period available spanning at least thirty-six consecutive months.</li> <li>b. Stack parameters and details of each plant.</li> <li>c. Information regarding the type of fuel used.</li> <li>d. Operating times and conditions.</li> <li>e. Information regarding pollution control equipment, including its efficiency.</li> </ul>

\*these data will be disaggregated to obtain an hourly emission and use it in modelling.

### Other sources

In order to accurately implement emissions from “other sources” in the modelling application, the national emission inventory data for Malta (most recent available dataset), will be acquired.

The emissions are subdivided in 11 main categories established by the European Environmental Agency. The annual data will be temporally and spatially disaggregated to be used as main model inputs. This disaggregation will be carried out applying the “top-down” approach which determines, for each area of the modelling domain, an emission rate (expressed in kg/hour) of the key pollutants that have to be considered for the modelling assessment of the air quality impact in Malta. The approach is called “top-down” because it starts from annual values of emissions assessed at national level and subdivided into several categories (e.g. EEA NFR sectors). These emissions will then be spatially disaggregated at different levels by means of statistical indicators (population, roads, land use, etc.). This methodology will take into consideration also specific temporal disaggregation for each emission sources.

The “other” emissions that will be taken into consideration are listed in the following table.

NFR EEA categories	Input Data	Spatial disaggregation	Temporal disaggregation	Additional Information
A_PublicPower	Stack Emission Data	Localization to be defined.	No	To be provided by the 3 DPS plant operators
B_Industry	Annual Emission Inventory	Shape file of the industrial areas - Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	
C_Other Stationary Combustion	Annual Emission Inventory	Shape file of the urban areas and commercial areas - Corine Land Cover.	Monthly, weekly and hourly profile from	

NFR EEA categories	Input Data	Spatial disaggregation	Temporal disaggregation	Additional Information
		Available@Ambiente to be verified by Customer.	European database.	
I_Offroad	Annual Emission Inventory	Shape file of the agricultural areas, port areas - Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	
E_Solvents	Annual Emission Inventory	Shape file of the industrial area and urban areas - Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	
F_Road Transport	Annual Emission Inventory and detailed road and transport data.	Shape file of roads other MALTA. Data will be acquired from <i>Transport Malta</i> for latest available dataset of roads and traffic volume for different categories.		A detailed table with the selected emission factors will be submitted to ERA for approval. The emission estimated by bottom up approach will be submitted to ERA for approval.
H_Aviation G_Shipping	Annual Emission Inventory	Shape file of port and airport areas in MALTA Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	If specific port and airport transport data is available this can be utilised instead
J_Waste	Annual Emission Inventory	Shape file of landfill other MALTA and Industrial areas - Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	
K_AgriLivestock	Annual Emission Inventory	Shape file of agricultural area other MALTA Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	
L_AgriOther	Annual Emission Inventory	Shape file of agricultural area	Monthly, weekly and hourly profile	

NFR EEA categories	Input Data	Spatial disaggregation	Temporal disaggregation	Additional Information
		other MALTA Corine Land Cover. Available@Ambiente to be verified by Customer.	from European database.	
D_Fugitive	Annual Emission Inventory	Shape file of industrial, urban etc. areas in MALTA Corine Land Cover. Available@Ambiente to be verified by Customer.	Monthly, weekly and hourly profile from European database.	

The sources listed in the previous table will comprise the following specific emissions that will be taken into account depending on the available data: specific emissions in the modelling application as point or area sources or as contribution to the specific emission sector (EEA NFR sector).

- Marsa Thermal Treatment Facility
- Valletta Harbour (ship movements)
- Malta Freeport (frequency of ships calling)
- Malta International Airport (aircraft data)
- Oil Tanking Malta
- San Lucjan Oil Company
- 31st March 1979 Fuel storage
- Wied Dalam Depot
- Marsa PS

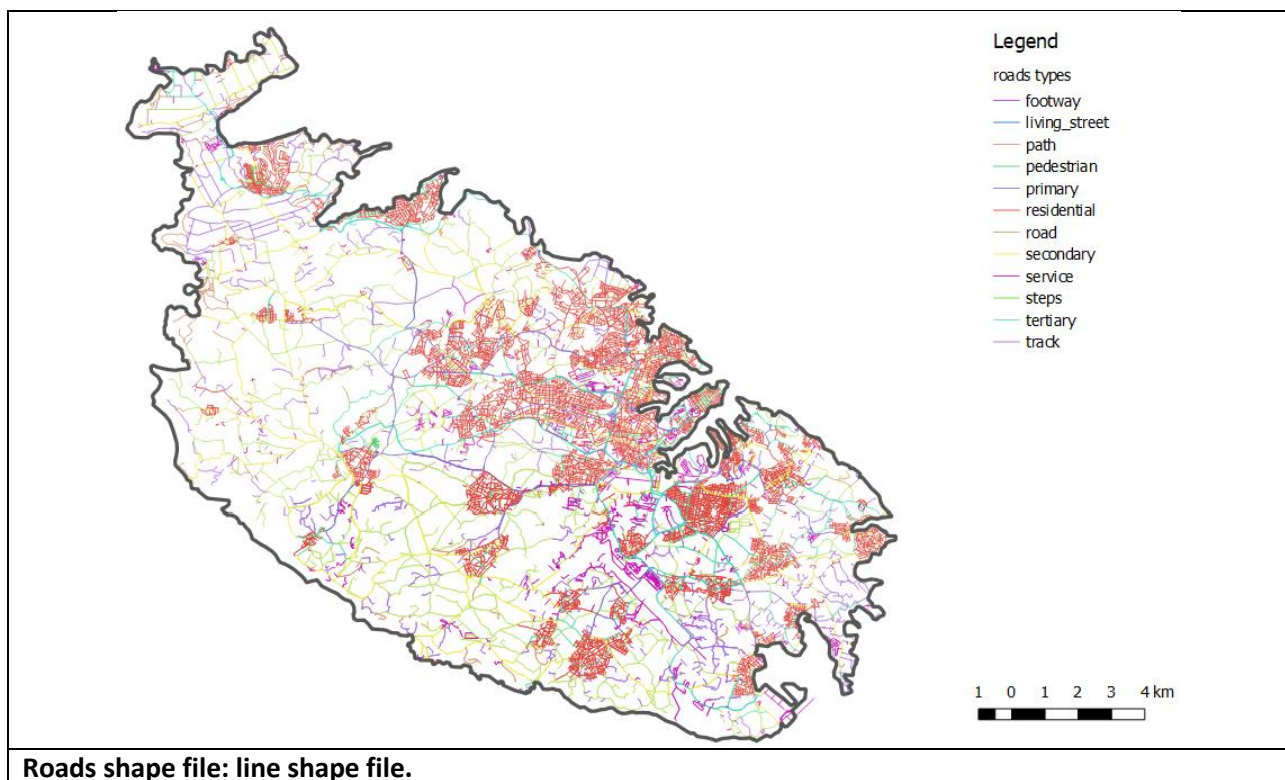
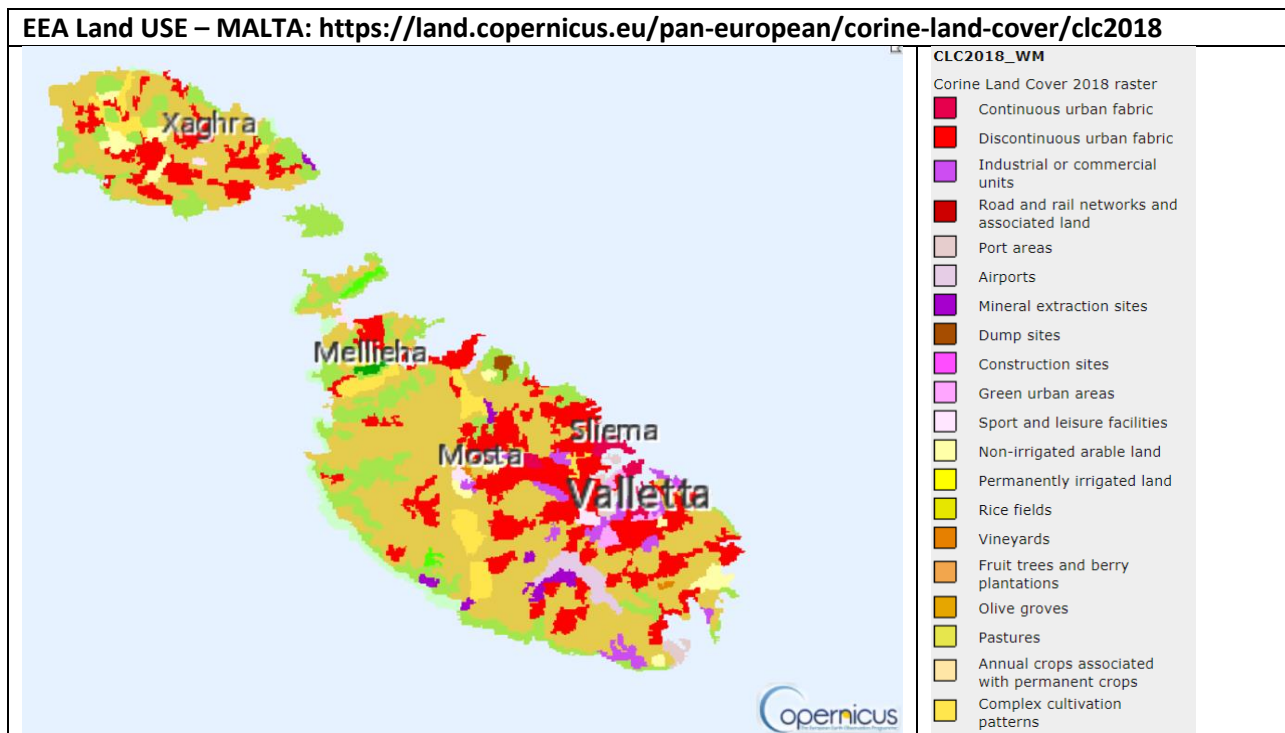
The limited activity in some of these listed sites will be considered by post-elaboration of the emission impact (AERMOD concentrations output). The results will be adjusted, for the annual mean values, by multiplying the results to the ratio defined as the number of hours or days of normal operation over the full year period. These elaborations will be implemented in the positive availability of data or with the “top-down” approach as explained at the beginning of this paragraph.

The emission scenarios will be submitted to the Customer for approval, prior to implementing them in the modelling application.

#### 1.4.6. Spatial disaggregation

The spatial disaggregation for the emission sector other the modelling domain will be carried put by the following procedure:

- Identify the total amount of emissions in ton/year for the selected pollutants for the specific emission sector (NFR sectors)
- Acquire the land use shape file for Malta (EEA Copernicus 2018)
- Associate the emission sectors to land-use categories as proposed in the following table.
- Create the emission maps (grid emission) as raster map with spatial resolution of 250 meters for each pollutant to be modelled.



Roads shape file: line shape file.

CLC categories association to Emission NFR Categories		
Emissions NFR categories	Input Data	Corine Land Cover Categories <sup>[1]</sup> <sup>[2]</sup>
B_Industry	Annual Emission Inventory	121: Industrial or commercial units
C_Other Stationary Combustion	Annual Emission Inventory	111: Continuous urban fabric 112: Discontinuous urban fabric Class 2: Agricultural areas

CLC categories association to Emission NFR Categories		
Emissions NFR categories	Input Data	Corine Land Cover Categories <sup>[1] [2]</sup>
D_Fugitive	Annual Emission Inventory	121: Industrial units 131: Mineral extraction sites
E_Solvents	Annual Emission Inventory	121: Industrial or commercial units
F_Road Transport	Annual Emission Inventory	Specific shape file with road lines see figure above.
G_Shipping H_Aviation	Annual Emission Inventory	123: Port areas 124: Airports
I_Offroad	Annual Emission Inventory	Class 2: Agricultural areas
J_Waste	Annual Emission Inventory	121: Industrial units 132: Dump sites
K_AgriLivestock L_AgriOther	Annual Emission Inventory	Class 2: Agricultural areas Class 2.1.x Arable land Class 2.2.x Permanent crops Class 2.4.x Heterogeneous agricultural areas

[1] the association is preliminary and can be revised if necessary, in the development of the activities to be able to better implement the emission inventory.

[2] CLC classes are identified but can be preliminary not defined due to the need of data elaboration. The "x" in the CLC classes means that all the available sub classes will be take into account.

#### 1.4.7. Background concentration for air quality

The assessed impacts by AERMOD in terms of concentrations for the modelled pollutants will be analysed also integrated by background level concentrations acquired by one of the following resources:

- EMEP MSC-W model [https://www.emep.int/mscw/mscw\\_moddata.html/](https://www.emep.int/mscw/mscw_moddata.html/)  
[https://thredds.met.no/thredds/catalog/data/EMEP/2020\\_Reporting/catalog.html](https://thredds.met.no/thredds/catalog/data/EMEP/2020_Reporting/catalog.html)
- Forechem Univerisy of l'Aquila (if available simulation for the selected meteorological period)  
<http://pumpkin.aquila.infn.it/forechem/>
- Other concentration data available from modelling simulation other Europe by EMEP or other provider

The air dispersion modelling study int the post elaboration and assessment of air quality standard for the scenarios to be analysed will consider the available baseline data (available from ERA stations) collected from the monitoring station. The air quality data for the modelled pollutants will be used to analyse the modelling results both to verify the impacts levels and to be used as background values if needed.

#### 1.4.8. Receptors<sup>13</sup>

The receptors will be divided into two main categories: gridded receptors and discrete receptors. The gridded receptor will be used to create iso-concentration maps for the entire modelling domain. After the analysis of the meteorological conditions and the assessment of the main impacted area a set of discrete receptors at high spatial resolution will be implemented and new simulations will be carried out. The results of this high resolutions simulations that comprises the main sensitive receptors in a 15 km radius from Power Station include residences, schools, retirement homes and public places.

<sup>13</sup> Ref to Requirement Item No. 18 "Technical Schedule"

Type of receptor	number	notes
GRIDDED	28'800	Resolution of 250 meters
DISCRETE	50 - 60	Resolution as needed inside the area of 15 km radius

The sensitive receptors in a maximum number of 60 discrete point identified in the area of influence (15km radius) will be selected with the criteria of the exceedance of the ambient levels of NO<sub>2</sub>, PM<sub>10</sub> or PM<sub>2.5</sub> as follows:

- i. » PM<sub>10</sub> by 0.3 µg/m<sup>3</sup>
- ii. » NO<sub>2</sub> by 0.3 µg/m<sup>3</sup>
- iii. » PM<sub>2.5</sub> by 0.19 µg/m<sup>3</sup>

### 1.5. Elaborations and comparison

The results of the modelling application will be analysed and compared with the results submitted in the EIA process for the construction of the new Electrogas Combined Cycle gas turbine plant<sup>14</sup>. In the eventuality of any identified deviations, these will be supported with adequate technical justification, and assurance that the results area directly comparable with those of the Environmental Impact Statement (EIS). The technical justification will be submitted to ERA to be deemed in compliance with the requirements of the tender. The elaborations and comparison will be focused on the air quality standards parameters defined in EU Directive 2008/50/EC.


Simulations will also be implemented to compare the different emissions and the related impacts on air quality for the different scenarios of the power generation plant related to the modification of the fuels (diesel, LNG, etc) used. In particular the major pollutants (PM<sub>10</sub>, NO<sub>x</sub> and SO<sub>2</sub>) will be simulated and compared, on the same meteorological period, to assess the variation of the air quality impact due to the modification of the power plant emissions. The selected receptors identified inside the area of 15 km of radius round the power station will be used for the comparison.

### 1.6. Timeline <sup>15</sup>

1. The Contractor shall collect all the input data as stated in the Terms of Reference.
2. Following award of tender, a Method Statement is to be submitted within thirty (30) working days.
3. In case revisions of the Method Statement are requested by ERA/Enemalta, the revised Method Statement shall be submitted to Enemalta within fifteen (15) working days from notification by Enemalta.
4. The draft and final reports shall be submitted within eighteen (18) and twenty-two (22) weeks respectively following approval of the Method Statement by ERA.
5. The report shall be submitted in the English language, with a soft copy in MS word format, pdf format and 2 hard copies.
6. The Contractor shall comply with any revised permit conditions or instructions that may be issued by ERA.

<sup>14</sup> Ref to Requirement Item No.4-12 "Technical Schedule"

<sup>15</sup> Ref to Requirement Item No. 19-24 "Technical Schedule"

 International ENERGY SERVICE CENTRE ElectroGas Malta CONSULTING 国家电投 SPIC D3发电有限公司 D3 Power Generation Ltd	Title: Annual Noise Monitoring at DPS (Co-ordinated)	
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Review Date:09/07/2022	Owner:	Revision: 1

SOP-207





Annual Noise Monitoring at DPS (Co-ordinated)

Last Review Details – Refer to QPulse for full history

Review Comments	Review Owner	Date
<QPulse_DocLastReviewDetails>	<QPulse_DocLastReviewOwner>	<QPulse_DocLastReviewDate>





Latest Revision Details – Refer to QPulse for full history

Revision number	Revision Details
1	Standards update and other minor changes in formatting.

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## 1 Aim and Scope

The objective of this procedure is to carry out annual noise monitoring by identifying a number of Noise Sensitive Receptors around the periphery of Marsaxlokk, mainly lying within the neighbourhood and opposite to Delimara Power Station. These NSRs can be prone to noise emissions emanating from the Delimara Power Station site.

Noise monitoring will be carried out according to the obligations of the IPPC Framework permit IP0002/07 (latest revision) and is a requisite for the Annual Environmental report.

## 2 References

BS 4142:2014+A1:2019

ISO 8297:1994

ISO 37XX series





ISO 96142:1996

EN ISO 14001:2015 Clause 9.2

IPPC Permit IP 0002/07 – Framework Permit (latest revision)

## 3 Terms and Definitions

D3PG	Delimara 3 Power Generation Ltd
EGM	ElectroGas Malta Ltd
ENE	Enemalta plc
ERA	Environmental Resources Authority
IPPC	Integrated Pollution Prevention and Control
NSR	Noise Sensitive Receptor

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## 4 Responsibilities





IPPC Coordinator	co-ordinates between the three operators (ENE, D3PG and EGM) operating at the DPS site, the contractor and the local authority
Station Responsible	responsible for the day-to-day running of the plant and has the authority to implement any necessary corrective actions
Plant Representative	nominated person representing the plant and the station responsible

## 5 Frequency

- This monitoring is to be performed annually according to the IPPC obligation.
- Document revision – This document should be reviewed and updated every twenty-four (24) months unless it is deemed necessary that it should be revised.

## 6 Detailed procedural rules

- (1) Noise monitoring shall be carried out according to BS4142:2014+A1:2019 or standard ISO 8297:1994 and any revision thereof and ISO 37XXseries or specifically ISO 9614-2:1996 as per IPPC permit requirements
- (2) Noise monitoring will be carried out annually if possible, during the same period of the year. Preferably noise monitoring is carried out during the first weeks of September to continue building on past data and to ensure that the monitoring is being carried out under the same external conditions
- (3) NSRs will be chosen in agreement with ERA
- (4) Preferably past NSRs will be utilised in order to have a build-up of historical data and also to be able to carry out trend analysis and compare present with past results
- (5) Once the most technically and economically feasible offer is selected the method statement will be forwarded to each plant representative and station responsible for approval and comments
- (6) Following agreement with the representatives of all 3 operators the method statement will be sent to ERA by the IPPC permit coordinator for approval
- (7) The IPPC permit coordinator will forward the annual noise monitoring report for the previous year with the Coordinated Annual Environmental Report to ERA by not later than end of June
- (8) The IPPC permit coordinator will be responsible to follow up on the results obtained and ensures that recommendations issued by the competent person (who should hold at least an associate membership in the Institute of Acoustics) are implemented by the 3 operators
- (9) If during noise monitoring the competent person notices that for a particular NSR the noise level is high and exceeds the stipulated emission limits and brings this to the attention of the IPPC coordinator, the latter shall consult with all 3 representatives to try and identify the cause for this anomaly in real time.

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If the problem is detected and rectified the person carrying out the noise monitoring may be asked to repeat the monitoring at the specified NSR.

- (10) If for any particular NSR the noise level at that location exceeds the emission limit values as stipulated by the subsidiary permits and ERA requests that further investigations are carried out, then the IPPC coordinator will have to consult with a noise specialist who from a noise base map can identify the noise component that is generating the high noise level at that particular NSR
- (11) Once the plant that is causing the high noise level is identified the IPPC permit coordinator will issue a request to the representative of the operator of the plant concerned to carry out a root cause analysis in order to identify the root cause of the problem and implement the necessary corrective actions within stipulated time frames
- (12) Any corrective actions implemented will be verified by the IPPC permit coordinator who in turn will report these actions to ERA

## 7 Related Documents

n/a |

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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**REGANOSA MALTA, Ltd.**

**DELIMARA REGASIFICATION PLANT**

**MALTA**

**GHG EMISSIONS CALCULATION**

**RM E T 001**

A	29/05/17	Initial draft	MCV	AdA	CVF
Rev.	Date	Details of revision	Elaborated	Reviewed	Approved

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## GHG EMISSIONS CALCULATION

### 1 PURPOSE

The purpose of this Instruction is to identify the different sources of atmospheric emissions of the REGANOSA's Regasification plant in which GHG emissions are produced, in special consideration to CO<sub>2</sub>. Also, it indicates how the equipment will be monitored during the operational phase of the Regas plant, indicating a measurement of the quantity of the gases emitted.

### 2 SCOPE

This instruction covers the actions on equipment and activities developed by maintenance, operation and HSEQ Departments that need to be observed, to obtain data to determine the CO<sub>2</sub> emissions produced by the identified focus during the study period.

### 3 DEFINITIONS

- **DCS:** Distributed Control System
- **EF:** Emission Factor
- **GHG:** Green House Gas.
- **PI:** Process Information
- **NVC:** Net Calorific Value
- **NG:** Natural Gas
- **NVCC:** Non-Visible Combustion Chamber
- **TN:** Metric ton
- **ppm:** Particles per million

### 4 RESPONSIBILITIES

#### Plant Manager

- ✓ The approval of the present instruction and its modifications.
- ✓ Ensuring the availability of those human and material resources which are necessary for its proper execution.

#### Operation Department

- ✓ Inform the HSEQ Department of the Start-up of equipment that generates CO<sub>2</sub> emissions.
- ✓ Report all those unscheduled operations involving the placing in services equipment or installations affected by the greenhouse gases (GHG) emissions.
- ✓ Calculate natural gas self-consumption in plant equipment consuming this Fuel (NVCC and D3PP boilers).

## GHG EMISSIONS CALCULATION

- ✓ Calculate diesel self-consumption in plant equipment consuming this Fuel (Emergency Generator and firefighting pumps).
- ✓ Send monthly self-consumption data obtained to HSEQ Department for obtaining the CO<sub>2</sub> emissions produced.
- ✓ Alarm monitoring of the chromatograph.

### Maintenance Department

- ✓ Perform maintenance and calibration work necessary for the proper functioning of the instruments used in the measurements of fuel consumed by the emission generating source, under the technical instructions of the application to this work.
- ✓ Inform the HSEQ Department of all preventive and/or corrective maintenance operations that affect the start-up of equipment or installations related to the emission of GHG.
- ✓ To provide annually, upon the request of the HSEQ Department, and within one week, all the certificates and tests of verification and calibration of the instruments used in the fuel consumption measures, as well as the equipment that are used for the verification and / or calibration of these instruments.

### HSEQ Department

- ✓ Coordinate all emission control operations described in this procedure: measurement, emission verification, authorization processing, etc.
- ✓ Carry out the measurement and monitoring of the indicators that affect this process.
- ✓ Maintain a list of personnel involved in the management of CO<sub>2</sub> emissions.
- ✓ Organise an annual meeting to monitor greenhouse gas emissions and identify the training needs of the personnel involved.
- ✓ Confirm the relevant information and data without directly participating in the determination and recording of the data necessary for the monitoring of greenhouse gas emissions.
- ✓ Perform routine equipment checks.
- ✓ Collect data and information necessary to carry out calculations of greenhouse gas emissions, based on the applicable legal regulations and the Greenhouse Gas Emissions Monitoring Plan approved by the Authorities Competent.
- ✓ Carry out, monthly, the calculations of the emissions of all the sources identified in Reganosa from the consumption of natural gas and the hours of operation of the engines.
- ✓ Generate the necessary reports to comply with the applicable regulations.

## GHG EMISSIONS CALCULATION

### Reganosa Staff

- ✓ Communicate to the shift supervisor the detection of abnormal atmospheric emissions, which may cause the emission of greenhouse gases into the atmosphere, as indicated in the procedure *Industrial Incident Management* (RM HS P 008).

## 5 DEVELOPMENT

### 5.1 IDENTIFICATION OF ATMOSPHERIC EMISSIONS SOURCES

The sources that generate atmospheric emissions of GHG are detailed in the following table:

Location	Equipment	Tag Denomination	Fuel Used	Process	GHG generated
1	NVCC	-	NG	Combustion	CO <sub>2</sub>
2	Emergency Generator	12MJI10 GH001	Diesel	Combustion	CO <sub>2</sub>
3	Fire Fighting Pumps Diesel Generator	12SGA20 AP001	Diesel	Combustion	CO <sub>2</sub>
4	D3PP GRS boiler 1	12EKT12 AH001	NG	Combustion	CO <sub>2</sub>
5	D3PP GRS boiler 2	12EKT12 AH002	NG	Combustion	CO <sub>2</sub>

### 5.2 ATMOSPHERIC EMISSION MEASUREMENT EQUIPMENT

According to the Instruction *Fuel Consumption Calculation* (RM O T 025 Rev A), for the fuel consumption calculation, the following instruments, data and signals are required:

- FI 12EKR10 CF001/002/003: these flow meters measure the gas volumetric flow which is send to the NVCC. This gas may include NG, BOG, nitrogen and/or propane.
- PT 12EKR10 CP003: pressure transmitter which measures the pressure of the gas which is send to the NVCC.
- TT 12EKR10 CT004: temperature transmitter which measures the temperature of the gas which is send to the NVCC.
- FI 12EKR10 CF901: this flow computer, using the values provided by FI 12EKR10 CF001/002/003, PT 12EKR10 CP003 and TT 12EKR10 CT004, calculates the gas flow sent to the NVCC expressed in kg/h.
- FI 12QJD50 CF001: this flow meter measures the nitrogen volumetric flow, expressed in Nm<sup>3</sup>/h, used as a positive pressure system avoiding oxygen entering the NVCC.
- Operating hours of the fire-fighting diesel pump 12SGA20 AP001.
- Operating hours of the emergency diesel generator 12MJI10 GH001.
- Operating hours of D3PP GRS boilers PLC.
- QI 12EKG53 CQ001 and QI 12EKG54 CQ002: these two chromatographs measure the quality of the gas which is send to D3PP.

## GHG EMISSIONS CALCULATION

- 12EKA12 AA001 position: if this valve is open, BOG coming from the ship is being burned in the NVCC.
- BIH 12QJE10 EG001/002/003: if these signals are activated the pilots of the NVCC are switched on.
- PI 12EKG11 CP003: it measures the NG pressure upstream the PCV 12QJE10 AA702. If this pressure falls below 0.8 bar it is assumed that the pilots are fed with propane.

### 5.3 FLOW DATA ACTIVITIES

In accordance with the applicable regulations, the data flow activity for the monitoring and reporting of CO<sub>2</sub> emissions at the REGANOSA Malta facility is described below.

The general procedure for collecting primary data corresponding with the all the equipment in Regas plant is:

1. Main via PI

The PI is a database where all the data of Regas Plant is saved, and via add-on can be exported to a Excel to realize all the required calculations.

These applications allow to visualise in real time the flow of combustible gas towards this equipment and allow the discharge of these values in an Excel (protected) spreadsheet. The periodicity of taking these data is every second.

2. Alternative via DCS

In the Engineering computer can be extracted via USB all the data required for a calculations for a short periods of time (1-2months) in a *txt* format.


Following, is described specifically for each emission focus:

#### NVCC

The procedure for collecting primary data corresponding to the fuel gas flows consumed by the NVCC will be carried out by recording data from the flowmeters in the PI trough the flow computer.

The sensors that send the signal to the plant control system and allow to know the flows of fuel gas consumed are:

- FI 12EKR10 CF001/002/003
- PT 12EKR10 CP003
- TT 12EKR10 CT004
- FI 12EKR10 CF901
- FI 12QJD50 CF001

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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#### **F&F Pumps & Emergency Generator**

In the case of motors, the hours of operation are displayed and after recorded in PI where they can be counted monthly and secondarily via DCS.

#### **D3 Boilers**

To obtain the data of activity of the NG consumed by the boilers of D3, we use the nominal consumption and the hours of operation. This consumption must be determined in a functional test.

Once these fuel natural gas and diesel gas flow data are obtained, these values will be transformed into fuel energy content and then the emission and oxidation factors will be applied.

The primary data sources are those indicated in the instruction *Fuel Consumption Calculation* (RM O T 025 Rev A). The formulas used to determine GHG emissions are those indicated in the following sections of this procedure.

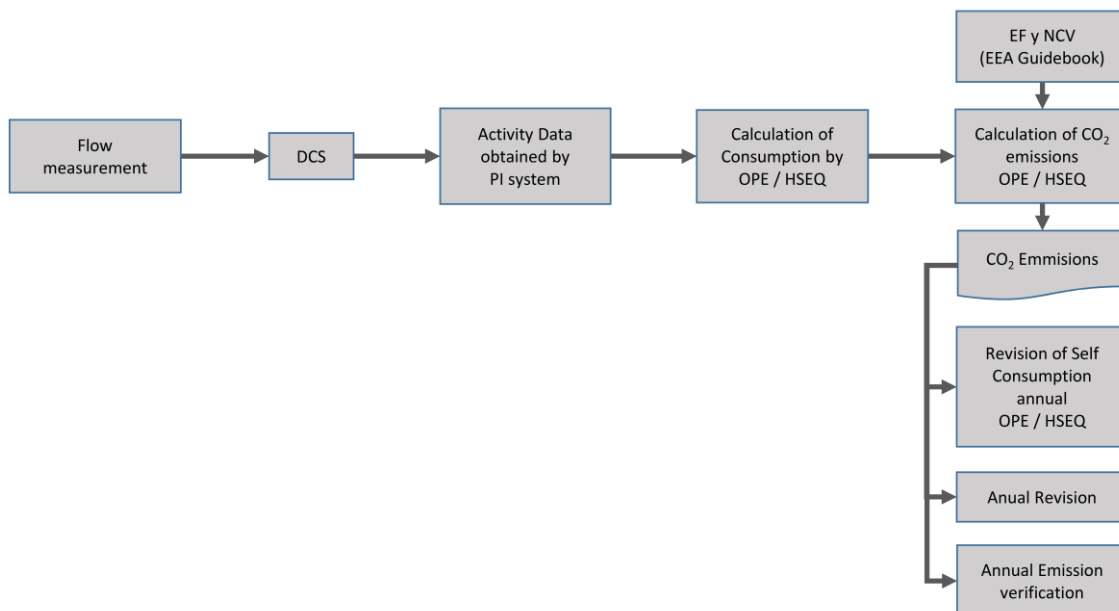
All the above data will be recorded in a protected Excel spreadsheet *Fuel Consumption Monthly Sheet* (RM O FT 025/01) along with the original natural gas flow values consumed and the operating hours of the fire pump motors, the emergency generator and the boilers.

The corresponding calculations will be carried out to transform these values into CO<sub>2</sub> emissions and establish the emission of greenhouse gases monthly. The total value of CO<sub>2</sub> emissions obtained using NVCC, emergency engines and the boilers are verified annually, per the requirements of the applicable legal regulations.

The flow diagrams of the tasks involved in monitoring and reporting the CO<sub>2</sub> emissions associated with natural gas fuel and diesel fuel are shown below.

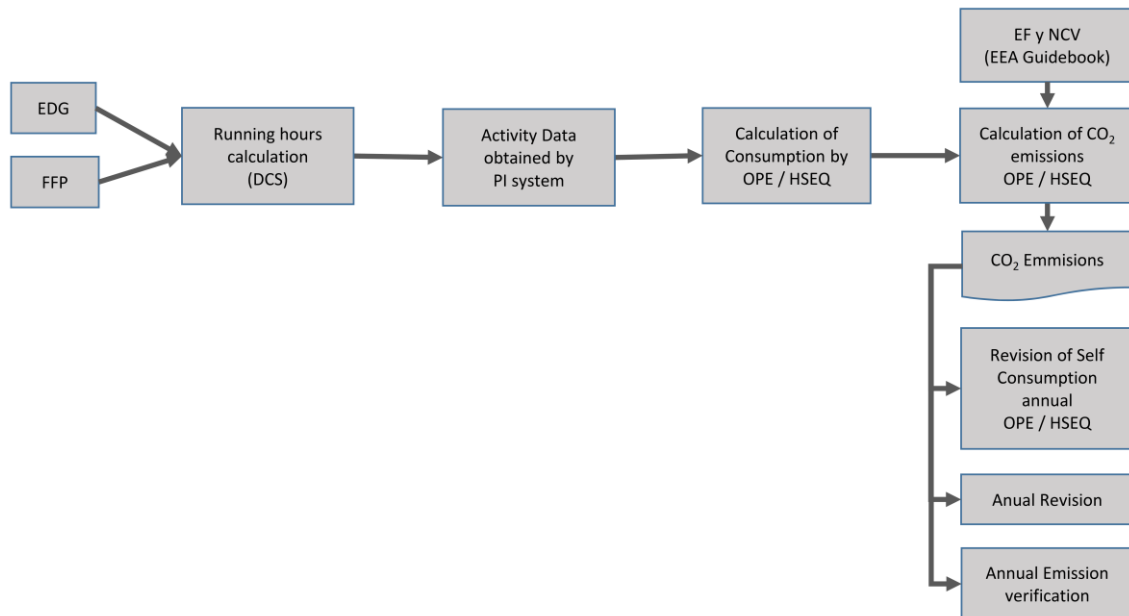
GHG EMISSIONS CALCULATION

Monitoring and reporting of emissions associated with natural gas flow in NVCC



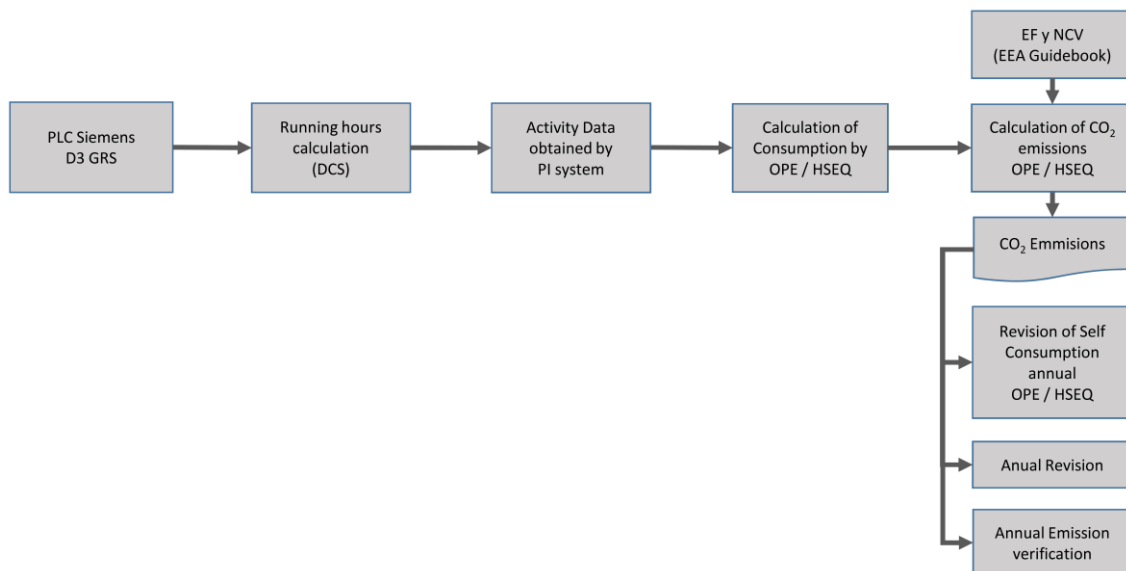
## GHG EMISSIONS CALCULATION

Monitoring and reporting of emissions associated with diesel oil flow in Emergency generator and Firefighting pump.



**GHG EMISSIONS CALCULATION**

**Monitoring and reporting of emissions associated with natural gas flow in D3PP boilers**



		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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#### CALCULATION OF GHG EMISSIONS

Monthly, the HSEQ Officer calculates the GHG emissions of REGANOSA with the data of the fuel consumed in the NVCC and the data obtained in PI for the emergency and firefighting engines and boilers provided by Operation Department.

These determinations are made to obtain annually the tons of GHG emitted by REGANOSA, in compliance with the provisions of the Greenhouse Gas Emissions Trading regulations.

The results are recorded in the format *GHG emission control* (RM E FT 006/1). These data are recorded as historical combustion of GHG-generating equipment in REGANOSA. Also, we submit the report GHG emission to ElectroGasMalta monthly. The system generates reports including the whole month in hourly basis for the NVCC, where it will contain all the episodes. The NVCC keep the Pilots burning and ready as a main safety equipment measure, ready as income as hydrocarbon flow. The scenarios that can increase this flow are such like purges, manifold/arm change over, maintenance operation, etc...

Each year, the Maintenance department will submit to the HSEQ Department a copy of the calibration of all equipment included in the control and monitoring of GHG emissions, as indicated in Section 4.

The calculation of GHG emissions is carried out per the Greenhouse Gas Emission Monitoring Plan, approved by the competent autonomous body and per the indications of the applicable legal regulations on the monitoring and reporting of emissions of greenhouse gases.

The calculation factors are taken as the last value published in Commission Regulation (EU) nº 601/2012 (See reference 2).

The control of the process of flow measurement, instrument calibration, emission calculation and monitoring is performed according to internal procedures included in the Integrated Management System according to the requirements of the ISO 9001, ISO 45.001 (replacement of OHSAS 18001) and ISO 14001 standards.

The calibration of the instruments is performed annually and an adjustment criterion is established (if the error is <0.1% of span) or a criterion of rejection (if the error is > 0.5% of the span).

## GHG EMISSIONS CALCULATION

### 5.3.1 Emissions calculation

#### 5.3.1.1 NVCC

The fuel gas consumption towards the combustor can be controlled with the EKR10 CF901 flow computer by instantaneously measuring the line of the gas feed to the combustor (type). The transmitter is connected to the process control system of the plant, sending the corresponding signal. In PI there is configured the value coming from EKR10 CF901 which record the measures continuously. From the control room, they will count the total fuel gas consumption.

#### CO<sub>2</sub> emissions

The CO<sub>2</sub> emissions for a specific period can be estimated using the Equation 1, 2 & 3.

Equation 1

$$Fuel\ consumption(Tn) = \sum_{i=0}^{i=n} F_i \left( \frac{kg}{h} \right) \cdot t_i(h) \cdot 10^{-3} \left( \frac{Tn}{kg} \right)$$

Where:

- $F_i$ : fuel consumption value of the flow gas measured by EKR10 CF901 during the interval  $t_i$
- $t_i$ : length of the time interval considered

Equation 2

$$Activity\ data(GJ) = Fuel\ consumption(Tn) \cdot Net\ Calorific\ Value \left( \frac{GJ}{Tn} \right)$$

Where:

- Net Calorific Value: obtained via D3GRS's Chromatograph

Equation 3

$$CO_2\ Emissions(Tn) = Activity\ Data(GJ) \cdot EF \left( \frac{kg}{Tn\ gas\ burnt} \right) \cdot OF \cdot 10^{-3} \left( \frac{Tn}{kg} \right)$$

Where:

- CO<sub>2</sub> Emissions: CO<sub>2</sub> tons emitted during the period considered.
- EF: Emission Factor 56.1 Tn CO<sub>2</sub>/TJ for Natural Gas <sup>1</sup>.
- OF: Oxidation Factor 1 for a Flare <sup>1</sup>

<sup>1</sup> European Environment Agency. Air pollutant emission inventory guidebook 2016. Venting and Flaring for Oil Refinery and for Oil and Gas Extraction

## GHG EMISSIONS CALCULATION

### NO<sub>x</sub> emissions

The NO<sub>x</sub> emissions for a specific period can be estimated using the Equation 4.

Equation 4

$$NO_x Emissions(Tn) = Fuel\ consumption(Tn) \cdot EF \left( \frac{kg}{Tn\ gas\ burnt} \right) \cdot OF \cdot 10^{-3} \left( \frac{Tn}{kg} \right)$$

Where:

- Fuel consumption (Tn): value according Equation 1
- NO<sub>x</sub> Emissions: NO<sub>x</sub> tons emitted during the period considered.
- EF: Emission Factor 1.4 kg/Tn gas burnt <sup>1</sup>.
- OF: Oxidation Factor 1 for a Flare <sup>1</sup>

### SO<sub>x</sub> emissions

The NO<sub>x</sub> emissions for a specific period can be estimated using the Equation 5 & 6.

Equation 5

$$EF \left( \frac{kg}{Tn\ gas\ burnt} \right) = \frac{2 \cdot X}{1000}$$

Where:


- X: Sulphur content in the NG, expressed in ppm.

Equation 6

$$SO_x Emissions(Tn) = Fuel\ consumption(Tn) \cdot EF \left( \frac{kg}{Tn\ gas\ burnt} \right) \cdot OF \cdot 10^{-3} \left( \frac{Tn}{kg} \right)$$

Where:

- Fuel consumption (Tn): value according Equation 1
- SO<sub>x</sub> Emissions: SO<sub>x</sub> tons emitted during the period considered.
- EF: Emission Factor
- OF: Oxidation Factor 1 for a Flare <sup>1</sup>

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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#### **CO & Hydrocarbons emissions**

According to the OEM, the NVCC is designed with the main aim of a complete combustion of the fuel, oxidizing all hydrocarbons to its maximum oxidation status, which means no CO is emitted to the Atmosphere, only CO<sub>2</sub> is produced during the combustion.

#### **Dust emissions**

Natural Gas which comes directly from the NG wells have dust, sand and lot of water. This NG is cleaned, filtered and water removed prior to the condensation in the Liquefaction Plants. Once the NG is in liquid state, it is free of CO, CO<sub>2</sub>, water and dust. Due to this, there is no dust emissions to the Atmosphere coming from the combustion in the NVCC.

## GHG EMISSIONS CALCULATION

### 5.3.1.2 Diesel emergency generator and Firefighting pump

The CO<sub>2</sub> emissions for a specific period can be estimated using the Equation 6, 7 & 8.

Equation 6

$$Fuel\ consumption(Tn) = Operating\ hours\ (h) \cdot consume\ \left(\frac{l}{h}\right) \cdot \rho\ \left(\frac{kg}{m^3}\right) \cdot 10^{-3} \left(\frac{Tn}{kg}\right) \cdot 10^{-3} \left(\frac{m^3}{l}\right)$$

Where:

- Operating hours: hours of functioning during the period of time
- Consume: 70 l/h according to the theoretical consumption by manufacture data sheet for a load of 100%
- $\rho$ : Density 836 kg/m<sup>3</sup> according to ISO 12185 Crude petroleum and petroleum products -- Determination of density -- Oscillating U-tube method

Equation 7

$$Activity\ data(GJ) = Fuel\ consumption(Tn) \cdot Net\ Calorific\ Value\ \left(\frac{GJ}{Tn}\right)$$

Where:

- Net Calorific value = 43.0 TJ/Gg<sup>1</sup>

Equation 8

$$CO_2\ Emissions(Tn) = Activity\ Data(GJ) \cdot EF\ \left(\frac{kg}{Tn\ gas\ burnt}\right) \cdot OF \cdot 10^{-3} \left(\frac{Tn}{kg}\right)$$

Where:

- CO<sub>2</sub> Emissions: CO<sub>2</sub> tons emitted during the period considered.
- EF: Emission Factor 74.1 Tn CO<sub>2</sub>/TJ for Diesel<sup>1</sup>.
- OF: Oxidation Factor 1 for a Flare<sup>1</sup>

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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The hours of operation are recorded in the format *Fuel Consumption Monthly Sheet* (RM O 025/01). The calculation of consumed gasoil is obtained knowing the data of hours of consumption of the equipment multiplying it by the value of theoretical consumption presented by the manufacturer for a load of 100%.

Besides, in parallel with the hourly consumption, a register of gasoil refills will be made in, it could be determined whether the consumption calculated by operating hours at 100% load of the engines corresponds to the actual consumption of the engine or is overestimated.

Once these diesel oil flow data are obtained, these values will be transformed into fuel energy content and then the Emission and oxidation to obtain the Values of GHG emissions, monthly. These data will be reflected in the format *GHG Emission Control* (RM E FT 006/01). All the above data will be recorded in a protected Excel spreadsheet with the original values of the hours of operation of the fire pump motors and the emergency generator.

## GHG EMISSIONS CALCULATION

### 5.3.1.3 Boilers DP3

The procedure to know the fuel gas consumption used for the boilers should be determined.

The CO<sub>2</sub> emissions for a specific period can be estimated using the Equation 9, 10 & 11.

Equation 9

$$Fuel\ consumption(Nm^3) = \sum_{i=0}^{i=n} t_i (h) \cdot F \left( \frac{Nm^3}{h} \right)$$

Where:

- F<sub>i</sub>: fuel consumption at maximum potential 76 Nm<sup>3</sup>/h according to manual data sheet
- t<sub>i</sub>: operating hours

Equation 10

$$Activity\ data(GJ) = Fuel\ consumption(Nm^3) \cdot Net\ Calorific\ Value \left( \frac{Nm^3}{Tn} \right)$$

Where:

- Net Calorific Value: obtained via D3GRS's Chromatograph

Equation 11

$$CO_2\ Emissions(Tn) = Activity\ Data(GJ) \cdot EF \left( \frac{kg}{Tn\ gas\ burnt} \right) \cdot OF \cdot 10^{-3} \left( \frac{Tn}{kg} \right)$$

Where:

- CO<sub>2</sub> Emissions: CO<sub>2</sub> tons emitted during the period considered.
- EF: Emission Factor 56.1 Tn CO<sub>2</sub>/TJ for Natural Gas <sup>1</sup>.
- OF: Oxidation Factor 1 for a Flare <sup>1</sup>

<b>GHG EMISSIONS CALCULATION</b>
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#### 5.4 PERIODIC EVALUATION OF THE MONITORING PLAN

Annually and prior to verification of greenhouse gas emissions, an assessment of the monitoring plan will be carried out to verify the list of emission sources flows to ensure that it is up to date and that any changes in characteristics and operation of the installation are included in the monitoring plan.

##### 5.4.1 Analysis of inherent risks and risks for control

A risk analysis has been carried out where the following sections have been identified:

- Type of incidents
- Probability of occurrence
- Impact on emissions monitoring
- Resulting risk
- Final risk assessment

##### 5.4.2 Type of incidents

The incidents that can be generated during the phases involved in the monitoring and reporting of the emissions, some can cause inaccuracy in the recorded or calculated data, while others can cause a loss of data.

The following table, prepared per the guidance document included in the application regulations, shows the possible incidents that could occur in the phases involved in the monitoring and reporting of emissions:

Stage	Incident	Inaccurate Data	Missing Data
instruments for measurement of gas consumption and determination of gas composition	Instrument Failures	YES	YES
	Cuts of data transmission	NO	YES
	Calibration or periodic verification is not performed within the established period	YES	NO
	Perform calibration and verification	YES	YES
Hour Meters of Emergency and firefighting Engines	Failures in the hour counters	YES	YES
	Errors in data collection	YES	NO

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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Stage	Incident	Inaccurate Data	Missing Data
Calculation of natural gas self-consumption	Errors occur in the calculation of self-consumption	YES	NO
	Errors occur in the calculation of emissions associated with consumption	ES	NO
Calculation of diesel self-consumption	Errors occur in the calculation of self-consumption	YES	NO
	Errors occur in the calculation of emissions associated with consumption	YES	NO
Update of the Emission Factors and the NCV	Errors occur when updating the Emission Factor data and the NCV	YES	NO
	Emission factor and NCV data are not updated	YES	NO

#### 5.4.3 Likelihood of occurrence

For the determination of the probability of occurrence of the incidents, semi-quantitative values will be used that have been extracted from guidance document included in the application regulations:

Level	Likelihood
Very low	Unlikely to occur more than once per year
Low	It may occur up to 4 times a year
Moderate	It may occur up to 12 times a year
High	It may occur up to 24 times a year
Very high	It may occur more than 24 times per year

<b>GHG EMISSIONS CALCULATION</b>
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#### 5.4.4 Impact of monitoring of GHG emissions

The impact on the monitoring of emissions is assessed as indicated in the guidance document included in the implementing legislation:

Level	Impact
Very low	It has no discernible effect on emissions tracking
Low	There is an inaccuracy of up to $\pm 50$ tonnes of GHG
Moderate	There is an inaccuracy of up to $\pm 250$ tonnes of GHG
High	There is an inaccuracy of up to $\pm 500$ tonnes of GHG
Very high	There is an inaccuracy exceeding $\pm 500$ tonnes of GHG

#### 5.4.5 Resultant risk

For the risk assessment, a matrix will be used combining the probability of occurrence of an incident and the impact of the incident on the emission monitoring, which has been elaborated according to the guidance document included in the application regulations:

		Impact				
		Very low	Low	Moderate	High	Very high
<b>Likelihood</b>	Very low					
	Low					
	Moderate					
	High					
	Very high					

Risk level:

	Low
	Moderate
	High

**GHG EMISSIONS CALCULATION**
**5.4.6 Final risk assessment**


The inherent risk assessment is performed by combining the three previous tables assigning probability, impact and risk values to each possible incident as indicated in the following table, which indicated examples of the control activities for the mitigation of the associated risks, as well as the type of general risk anticipated applying the Control activity.

This table has been prepared following the guidelines or guidance documents related to the registration, monitoring and reporting of greenhouse gas emissions.

Incident	Likelihood	Impact	Inherent Risk	Control Activity	General Risk
Instrument failure	Very low	Moderate	Low	The signals are received continuously in PI. A fault in an instrument of Measure is a corrective maintenance action	Low
Transmission cuts of data	Very low	Moderate	Low	Corrective maintenance action	Low
Calibration or periodic verification is not performed within the established period	Very low	Low	Low	There is an annual preventive maintenance plan	Low
Perform calibration and verification	Very low	Very low	Very low	It is done once a year with the equipment out of service	Very low
Failures in the hour counters	Very low	Low	Low	They are checked after each start-up and the start-up time is recorded	Low
Errors in data collection	Very low	Low	Low	It compares to the operating hours of the previous month. There is a record of the starts of these engines	Low
Errors occur in the calculation of self-consumption	Low	Moderate	Moderate	Self-consumption is reviewed by the Operation Technician	Moderate

## GHG EMISSIONS CALCULATION

Incident	Likelihood	Impact	Inherent Risk	Control Activity	General Risk
				and the HSEQ Officer, applying the principle "of four eyes"	
Errors occur in the calculation of emissions associated with consumption	Very low	Moderate	Low	Self-consumption is reviewed by the HSEQ Manager and the HSEQ Officer, applying the principle "of four eyes"	Low
Errors occur in the calculation of diesel self-consumption	Very low	Low	Low	Self-consumption is reviewed by the HSEQ Manager and the HSEQ Officer, applying the principle "of four eyes"	Low
Errors occur in the calculation of emissions associated with diesel self-consumption	Very low	Low	Low	Self-consumption is reviewed by the HSEQ Manager and the HSEQ Officer, applying the principle "of four eyes"	Low
Errors occur when updating the Emission Factor data and the NCV	Very low	Low	Low	It is noted in the Excel sheet monthly monitoring of emissions that these factors need to be updated	Low
Emission factor and NCV data are not updated	Very low	Low	Low	It is noted in the Excel sheet monthly monitoring of emissions that these factors need to be updated	Low

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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#### 5.4.7 Assurance of the quality of the information technology

In order to ensure the quality of the information technology used in data flow activities, as indicated in the applicable legal regulations, on monitoring and reporting of greenhouse gas emissions, proceed as indicated in Section 5.4, of this Technical Instruction.

Data records are stored on specific servers with corresponding backups (daily, weekly, monthly, etc.). This equipment is subject to the preventive maintenance specified by the manufacturer.

Monthly and annual monitoring of greenhouse gas emissions is carried out on an Excel sheet protected by a password as indicated in Section 5.4 of this Technical Instruction.

#### 5.4.8 Internal periodic reviews and validation of data

In accordance with the applicable legal regulations on monitoring and reporting of greenhouse gas emissions, an evaluation of the Monitoring Plan is carried out periodically to review the list of emission sources and source streams, to ensure that it is Updated and that any changes that take place in the characteristics and operation of the facilities will be included in the Tracking Plan.

The flow activity data are reviewed and validated among the REGANOSA departments or areas affected by the control and monitoring of CO<sub>2</sub> emissions, to verify that they are complete.

A comparison is made with the historical activity data and the calculation factors are compared with national and international references.

In case of any change or improvement that may affect the Monitoring Plan, this will be applied as an update of the Plan.

#### 5.4.9 Internal periodic reviews and validation of data

If nonconformities are detected regarding the requirements of this technical instruction (Data collection, the periodicity of follow-ups, etc.), the Environment Technician will proceed to correct and record them as Non-Compliance, if applicable. The corrective or preventive actions necessary for its correction or correction will be determined.

In order to carry out the monitoring of the actions, the Procedures *Nonconformities Management* (TBD) and *Corrective actions and preventive actions Management* (TBD).

## GHG EMISSIONS CALCULATION

### 6 REGISTER AND ARCHIVE

REGISTERS	FORM	FILE	PERIOD
Greenhouse Gas Verification Reports	ERA-Free	Documentation Management System	10 Years
Control of GHG emissions (TBD)	Free	Documentation Management System	10 Years
Calculation of diesel fuel consumption in emergency diesel and firefighting equipment (TBD)	Free	Documentation Management System	10 Years

### 7 REFERENCES

- RM O T 025 - Fuel consumption calculation.
- TBD - Nonconformities Management.
- TBD - Corrective actions and preventive actions Management.
- RM HS P 008 - Industrial Incident Management

The regulations for the application of greenhouse gas emissions are set out below.

- [1] European Environmental Agency. Air pollutant emission inventory guidebook 2016. Venting and Flaring for Oil Refinery and for Oil and Gas Extraction.
- [2] Commission Regulation (EU) n° 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council.

### 8 ANNEXES AND FORMS

#### 8.1 ANNEXES

- RM E A 006/01 - Annexe 1: Location map of GHG emission sources.

#### 8.2 FORMS

- RM E FT 006/01 - GHG emission control.

		<b>Instruction</b>
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<b>GHG EMISSIONS CALCULATION</b>
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## PLANNING AUTHORITY

Perit Godwin Agius  
Adm Building  
Marsa Power Station  
Church Wharf Street  
Marsa MRS 1571

Date : 6 March 2017  
Your Ref : TD/95/14

Dear Sir/Madam,

Notification Number: DN 00166/17  
Proposal: Demolishing of chimney and two (2) boilers at Delimara power-station.  
Location: Delimara Power Station , Delimara, Marsaxlokk, Malta

**Permitted Development by the Development Notification Order, 2016.**

We refer to your notification of intent to undertake the above mentioned works, validated on 6 March 2017.

In accordance with the Development Notification Order, 2016, the development as endorsed on the attached drawings and site plan DN 166/17/1A/1B/1C/1D/1E. Conditions imposed in DN 1054/14 apply.

is permitted under the following class:

**1(i) Internal alterations**

This written notification is limited to the development as shown on the submitted plans and is issued without prejudice to sub-article 55(7) of the Development Planning Act, 2016.

This written notification is valid for a period of 12 Months from 6 March 2017 to 6 March 2018, but is rendered null in the event that the development is subsequently modified, extended or relocated in a manner which would result in the limitations set out in the Development Notification Order being exceeded.

The written notification is granted saving third party rights. This notification does not exonerate the applicant from obtaining any other necessary permission, license, clearance or approval required from any Government department, local council, agency or authority, as required by any law or regulation, including an environmental permit from the Planning Authority for the operation of the permitted development.

A Commencement Notice is to be submitted to the Planning Authority, by the *perit* on behalf of the applicant, at least FIVE DAYS prior to the date of commencement of works or utilisation of the permission. Failure to submit the Commencement Notice (with all fields correctly completed) or failure to submit it within the required timeframe shall invalidate the Notice and shall result in the imposition of fines according to Schedule D of Legal Notice 277 of 2012, or its amendments, or its replacements. In addition, **if the applicant fails to submit the Commencement Notice or the**

Commencement Notice submitted is invalid, the relative permission shall be considered as ever having been utilised - Article 72(4) of the Development Planning Act (2016).

Where applicable, the development, hereby notified, shall be carried out in accordance with the provisions of the Environmental Management Construction Site Regulations, LN 295 of 2007.

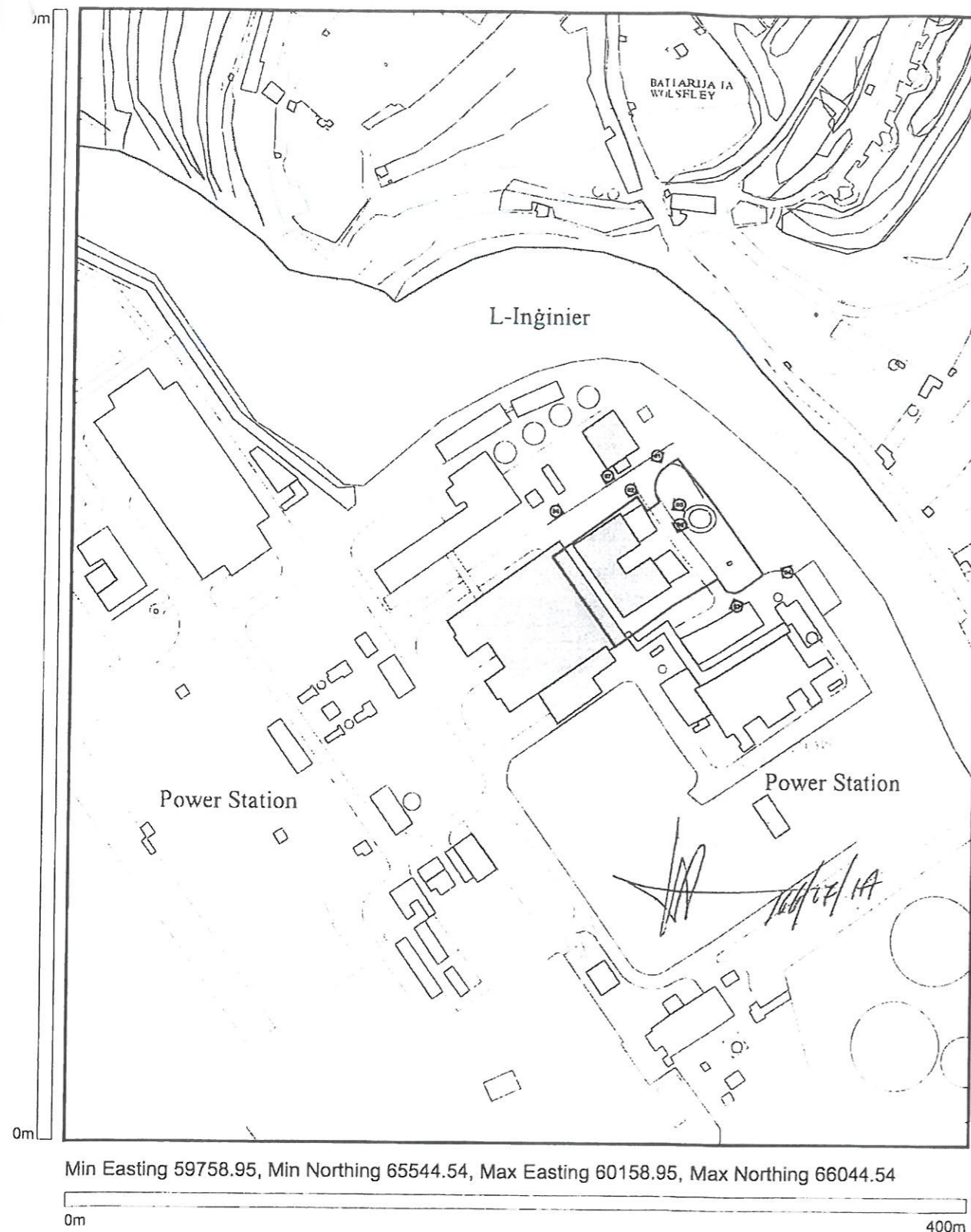
If the declaration of ownership, as contained in the application form, is determined as incorrect by an Administrative Tribunal or by a Court of Law, then the said notification and its effects shall be considered as null and void.

~~Malcolm Perring~~ B. Plan.

f/ Executive Chairperson

c.c. Ing. Fredrick Azzopardi

1A



## Planning Authority - [www.pa.org.mt](http://www.pa.org.mt)

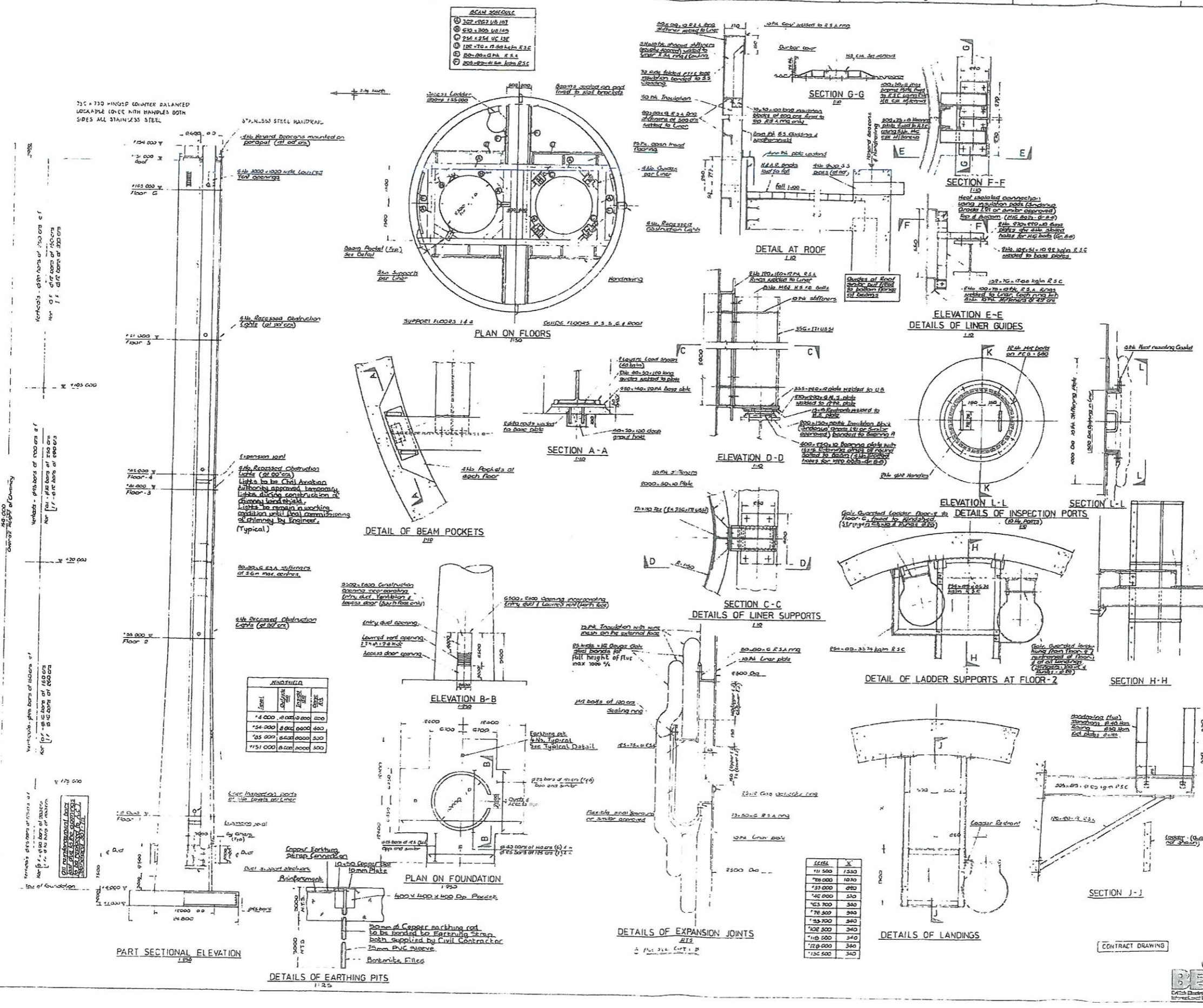
St. Francis Ravelin  
Floriana FRN 1230, Malta  
PO Box 200, Marsa MRS 1000, Malta  
Tel: +356 2290 0000 Fax: +356 22902295

### Site Plan, Scale 1:2500

Printed on: Wednesday, December 14, 2016

Not to be used for interpretation or scaling of scheme alignments  
Copyright © PA - Planning Authority. Not for resale.





- [illegible]

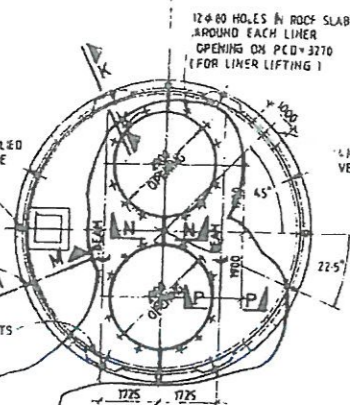
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*54,000	8,000	8,000	8,000
*85,000	6,000	6,000	6,000
*151,000	8,000	8,000	8,000

SETEL	X
*11 500	1330
*08 000	1070
*37 000	080
*40 000	530
*65 700	340
*78 300	340
*83 700	340
*102 500	340
*110 500	340
*120 000	340
*126 500	340

1	CONTRACT	ISSUE	APR
2	Name		Date
<p align="center"><b>ENMELTA CORPORATION</b>  <b>DELMARA POWER STATION</b></p>			
3	Type <b>POB PRECIPITATOR &amp; CHIMNEY</b>		
4	Item # (optional) <b>CHIMNEY, FOUNDS, STEELWORK, SUPERSTRUCTURE.</b> QUOTE <b>1</b> (optional reference)		
5	<b>DMC/PP/10561-1</b> <b>DPS 400-08</b>		
<p align="center"><u><b>DETAILS OF CHIMNEY</b></u></p>			
6	Order No.	Contract	Ref. No.
	<b>K N</b>		<b>26550</b>
7	Remarks <b>Matched</b> <b>General</b> <b>Contract</b> <b>Signature</b>		Drawing No. <b>800 / 2061</b>
8			Doc # <b>1</b>



- NOTES**
1. ALL DIMENSIONS ARE TO BE PROVIDED ON SITE FROM TO CORRESPONDENCE OF CONSTRUCTION
  2. DIMENSIONS ARE TO BE SCALED
  3. ALL DIMENSIONS ARE IN MILLIMETRES
  4. ALL LEVELS ARE IN METRES RELATIVE TO +0.000 LAT
  5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS
  6. TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS
  7. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE SPECIFICATION
- CONCRETE WORK SHALL BE AS FOLLOWS UNLESS OTHERWISE SPECIFIED ON THE DRAWING
- STEELWORK SHALL BE AS FOLLOWS UNLESS OTHERWISE SPECIFIED
- VERTICAL SURFACES TO RECEIVE ADDITIONAL FINISHES
- INTERIOR SURFACES OF CONCRETE SERVICE TRENCHES
- CABLE DRAINAGE SURFACES AGAINST WHICH DOWNFALL IS PLACED
- ALL EXPOSED VERTICAL SURFACES AND ROOFS
- HORIZONTAL SURFACES TO BE COVERED BY INCHPALLING METHOD CONCRETE OR FLOOR FINISHES
- ALL EXPOSED HORIZONTAL UNPAINTED SURFACES
- 600-400-20 THK MS PLATE



PLAN E-E (Roof)

**EXPANSION JOINT**  
20mm BITUMEN IMPREGNATED FIBREGLASS  
20x25 POLYSULPHIDE SEALANT

SECTION N-N

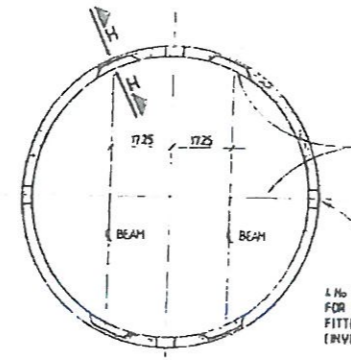
EXPANSION JOINT

SECTION P-P

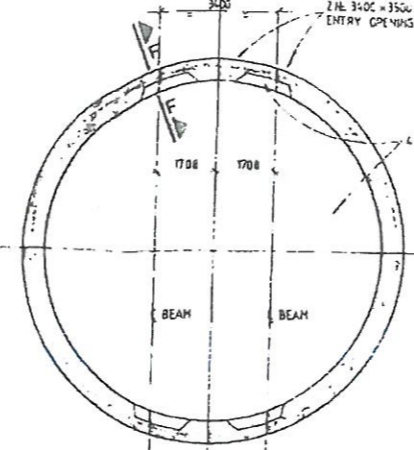
EXPANSION JOINT

SECTION M-M

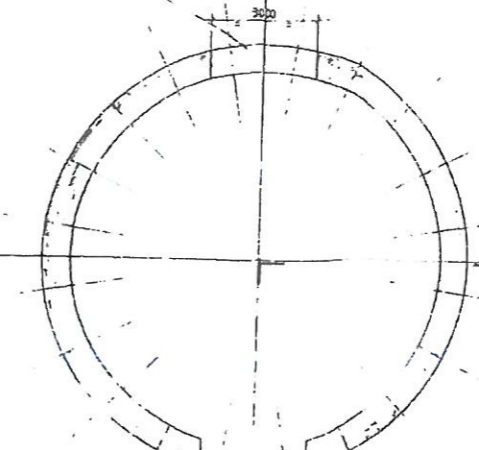
TOP OF WINDSHIELD  
ROOF SLAB RECESS  
V.E. EYE  
+149.750  
+149.750



SECTION D-D

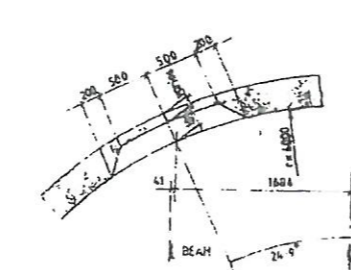


SECTION C-C

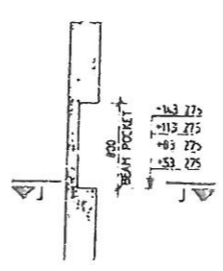


SECTION B-B

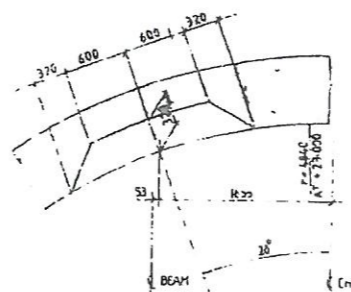
**DUCT ENTRY OPENING**  
(OPPOSITE SIDE SIMILAR)  
PLATE CAST-IN FLUSH WITH CONCRETE TOP OF PLATE +19.600  
SEE DETAIL-1



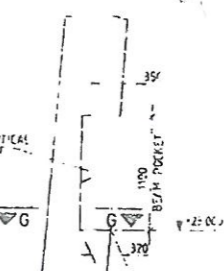
SECTION J-J  
(2 No. POCKETS AS DRAWN TO OPP HAND)



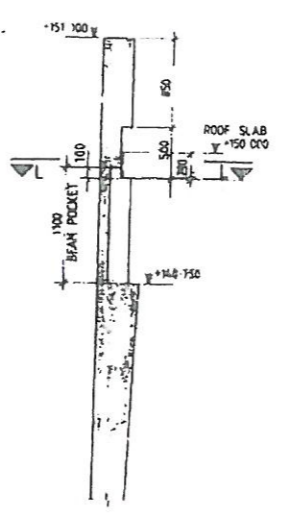
SECTION H-H



SECTION G-G  
(2 No. POCKETS AS DRAWN TO OPP HAND)



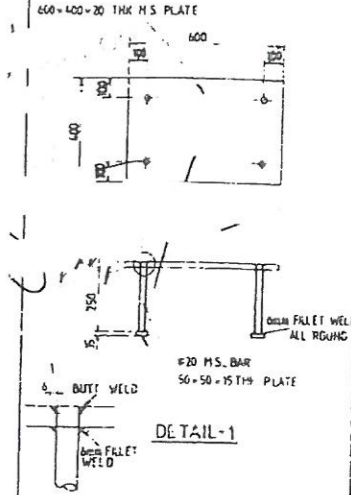
SECTION F-F



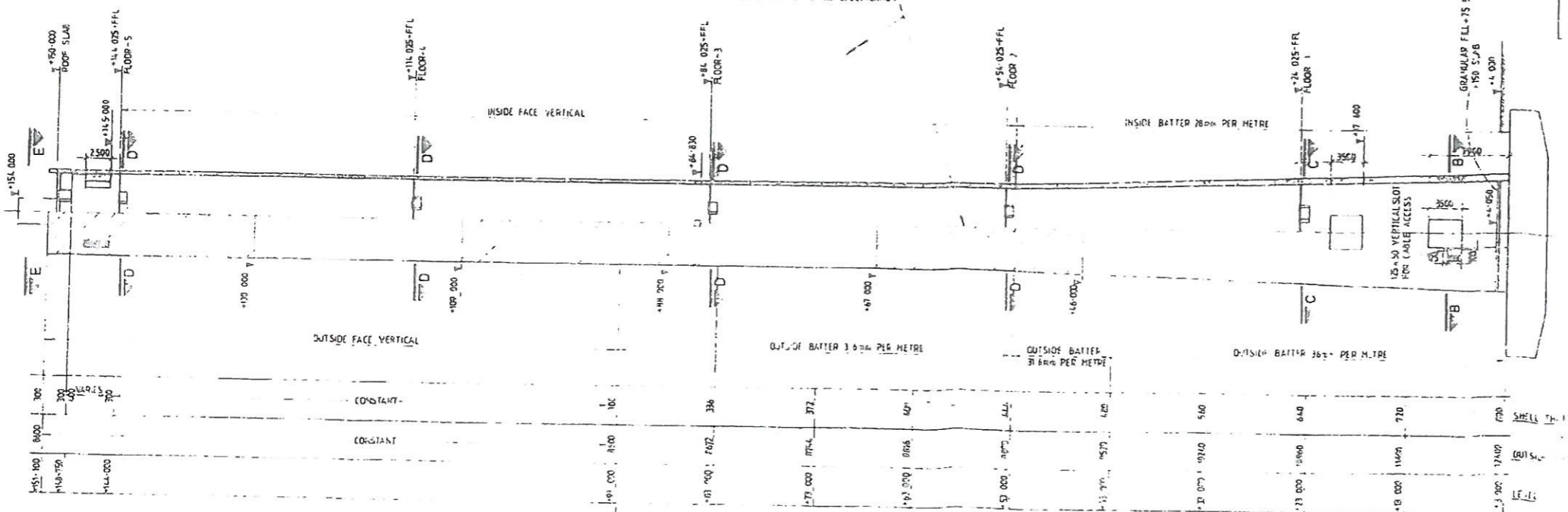
SECTION K-K

CROSS HATCHING BETWEEN LEVELS SHOWN INDICATES BANDS OF PAINT COLOUR INTERNATIONAL ORANGE, B.S. 381C (COLOUR CODE 502) IN ACCORDANCE WITH THE SPECIFICATION. ALL OTHER EXTERNAL CONCRETE SURFACES TO BE PAINTED WHITE IN ACCORDANCE WITH THE SPECIFICATION.

EXTERNAL FACE OF CHIMNEY PAINTED TO FULL HEIGHT WITH CHLORINATED RUBBER PAINT (BANDS OF INTERNATIONAL ORANGE AND WHITE)



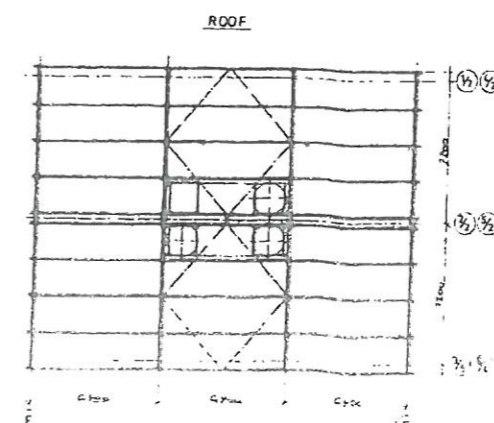
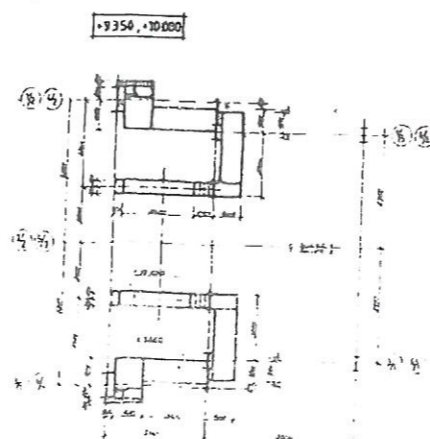
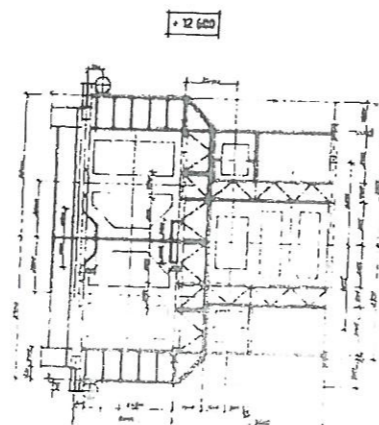
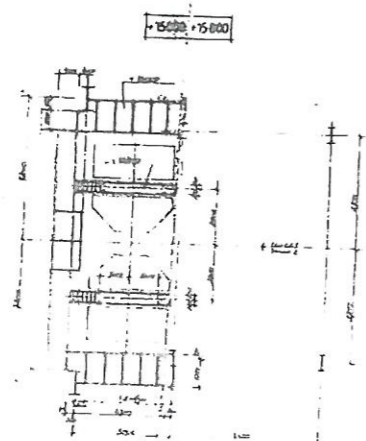
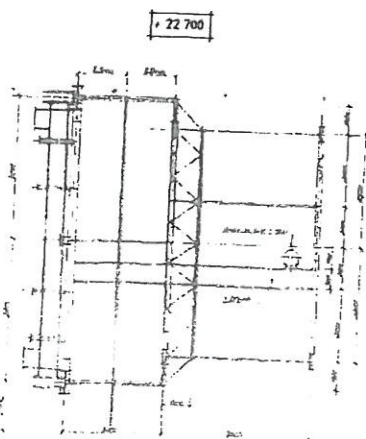
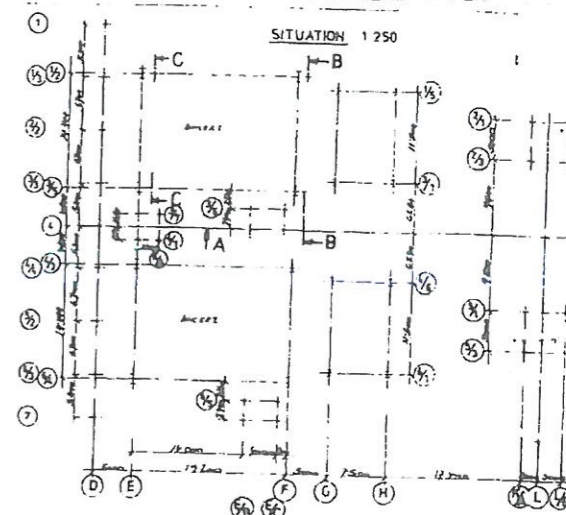
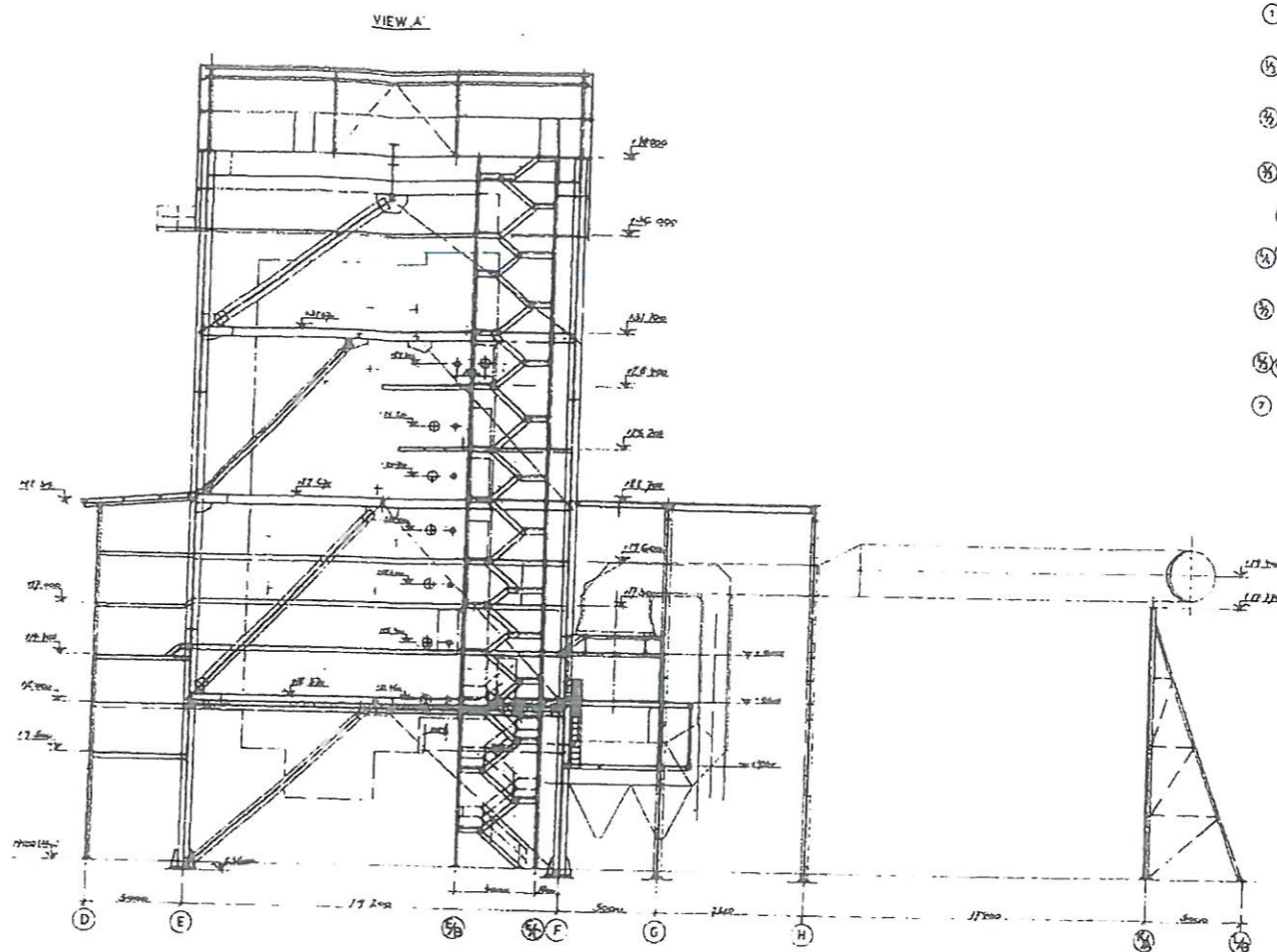
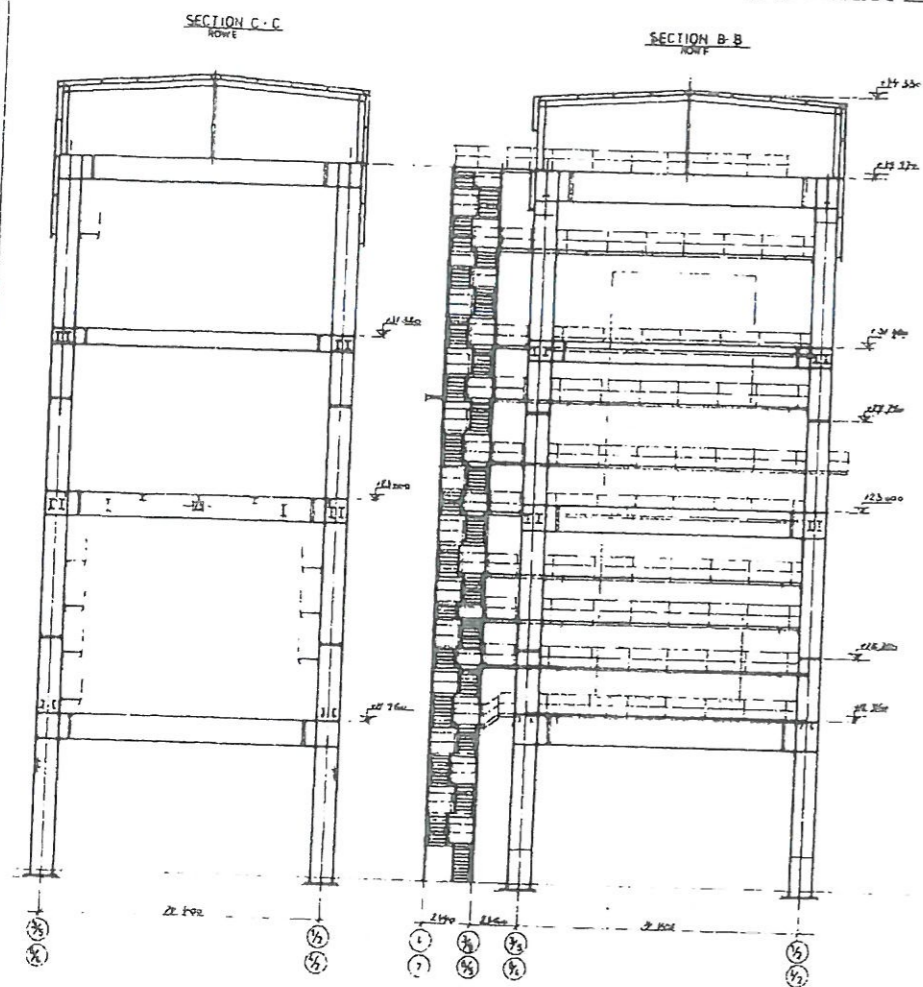
DETAIL-1



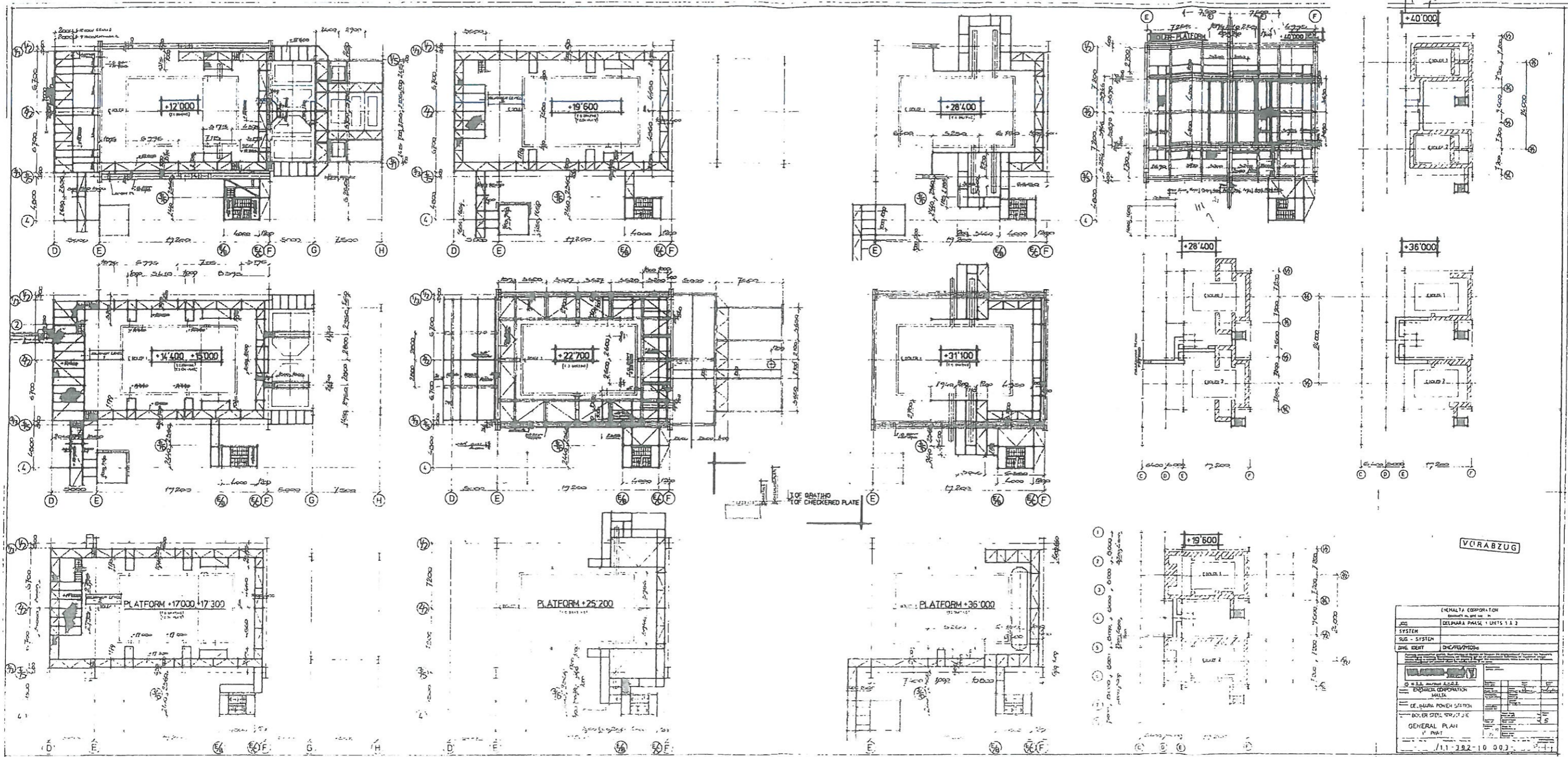
PART SECTIONAL ELEVATION A-A

F	EXPANSION JOINTS IN ROOF FINISHES ADDED	22.11.91
E	AML AT +55.140 & +15.140 DELETED. 4 No. OPENINGS PROVIDED FOR AML AT +85.140	6.7.90
D	LAYOUT OF PAINT BANDS AND NOTE ON PAINTING ADDED	8.6.90
C	TOP OF LINERS, FINISHED FLOOR LEVELS & BASE SLAB SHOWN. AML LEVELS, SECTION C DIMENSIONS, LINER LIFTING HOLES & ROOF RECESS REVISED. DUCT ENTRY SOFFIT CAST IN PLATES ADDED.	1.4.90
B	CHIMNEY BATTER INDICATED POCKETS AT AT +23.000 MODIFIED PCO OF LINER LIFTING HOLES AND ROOF CONCRETE GRADE AND WINDSHIELD PAINTING NOTES ADDED	18.3.90
A	ISSUED FOR CONSTRUCTION ORIGINAL ISSUE	2.3.90

CHEMICAL CORPORATION	
DE HARA POWER STATION	
PSB CHIMNEY	
CHIMNEY - SUPERSTRUCTURE	
DMC/PP/11113	DPS 400-08
CHIMNEY	
GENERAL ARRANGEMENT OF WINDSHIELD	
REV	DATE
1	FEB 98
2	26.5.90
3	1.7.90
4	1.7.90
5	1.7.90
6	1.7.90
7	1.7.90
8	1.7.90
9	1.7.90
10	1.7.90



ENEMALTA CORPORATION	
JOB	DELIMARA PHASE 1 UNITS 1 & 2
SYSTEM	DRIVER
SUB-SYSTEM	
DWG IDENT	DMC/DA170016
	
ENEMALTA CORPORATION MALTA DELIMARA POWER STATION DELIMARA STREET STRUCUTURE GENERAL PLAN 2nd PART	
/11-392-10-004	





## Attachment 04: Deployment and operation of Temporary Emergency Plant at Delimara Power Station

13. The proposed power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. Plans for layout for deployment are provided in Attachment 02.
14. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity.
15. **Site preparation:** The plant is designed to function with minimal site preparation. Both sites are generally level given their past use, and minimal civil engineering works (minor levelling works) are required to allow deployment the plant.
16. **Plant deployment:** Given that the plant is containerised, deployment will involve bringing in the containerised generation plant as containers, which shall be driven onto site and laid out in the allocated space.
17. **Supporting Infrastructure:** in parallel with deployment of the containerised generation plant, works will be done to lay down cable trays/ladders and electrical systems for connection to the earthing systems, transformers and 33kV systems. The fuel connection point pipework provided by Enemalta -an extension of the existing systems - will be extended to allow fuel delivery to the gensets. Other systems related to site security and firefighting provision will then be installed.
18. **Commissioning:** all plant and ancillary systems described above will be certified by a competent person as required by the safety rules applicable to the DPS safety studies, and associated operational procedures developed to ensure safe operation of the plant.

## Attachments: 5, 25, 27, 28 & 36, 32, 42, 44, 58, 60

Section	Attachment - Relevant Information
<p><b>3.2. Directly Associated Activities</b></p> <p>Provide a document with a technical description of all activities which are directly associated with the activities listed in Section 3.1. These should have a technical connection with the activities described in Section 3.1 and are also activities that could have an effect on pollution. If the site is operated by multiple operators, the relevant operator for each activity is to be specified. This is to be attached with this application and clearly labelled as <b>Attachment 5</b>.</p>	<p>Given the limited scale of these activities, directly associate activities are limited to:</p> <ul style="list-style-type: none"> <li>• Handling of gasoil, received from Enemalta storage, and temporary storage in integrated tanks of MCP – this is described in the section on environmental and firefighting risks (attachment 64)</li> <li>• Maintenance activity carried out on site is minimal (See section 14.9 – Attachment 61)</li> <li>• Firefighting systems – this is described in the section on environmental and firefighting risks (attachment 64)</li> </ul> <p>The applicant is to be considered the operator for all three activities above, though there are tie-in points for fuel (two points) and firefighting systems, which are linked with existing Enemalta systems.</p>
<p><b>C5.1 Energy Consumption</b></p> <p>Provide a document with a breakdown of the proposed annual energy consumption, highlighting the main energy-consuming equipment, and generation by source and end-use (including information on energy generated on site, if applicable).</p> <p><b>Attachment 25</b></p>	<p>Energy consumption from the operational perspective is limited to the battery chargers and alternator heaters (less than 800W per generator). Energy consumption will ultimately depend on frequency of dispatch, though this may be limited to two hours a month for testing purposes.</p> <p>Energy for office and surveillance on site is expected to be of the order of a single residence.</p>
<p><b>5.2. Energy Efficiency</b></p> <p>Provide a document describing the proposed basic measures for improvement of energy efficiency. This is to be attached with this application and clearly labelled as <b>Attachment 26</b>.</p>	<p>Energy consumption described in section C5.1 above is generally limited, and proper operation of the plant should ensure that wastage is minimal.</p> <p>It is pertinent to note that the energy efficiency of the gensets is considered in attachment 43, where these have a relatively high energy conversion efficiency.</p>
<p><b>5.3. Water Consumption</b></p> <p>Provide a document with a breakdown of the proposed annual water consumption by source and end-use. This is to be attached with this application and clearly labelled as <b>Attachment 27</b>.</p>	<p>No water consumption is envisaged, as the generator plant cooling systems uses coolant and not water.</p>

Section	Attachment - Relevant Information
<p><b>5.4. Rainwater Management</b> A drainage layout plan indicating rainwater capture and discharge is to be attached with the application and clearly labelled as <b>Attachment 28</b>.</p>	<p>This project does not alter existing rainwater management provisions on site. As stated in the PDS, <i>'Gensets, being Diesel Engine based which are enclosed in standard ISO containers, are protected from the natural elements and environment. It is not envisaged that there shall be changes in the present surface water run-off and storm water drainage systems due to this project.'</i></p> <p>All elements involved in this development that pose an environmental risk are managed in that:</p> <ul style="list-style-type: none"> <li>• The containerised gensets have integrated bunding and high-level alarms;</li> <li>• Spill kits and absorbent materials will be available in case of failure; and</li> <li>• Fuel pipeline systems will conform to existing Enemalta provision, in conformity with IPPC permit condition 2.6.10 on weekly inspection for over-ground pipes used to transport materials other than uncontaminated water, where no permanent provision for containment of leaks is provided.</li> </ul>
<p><b>6.4. Techniques to Prevent and Reduce Waste</b> Provide a document showing the techniques that are being proposed to prevent and reduce waste production on site. This is to be attached with the application and clearly labelled as <b>Attachment 32</b>.</p>	<p>An advantage of this plant configuration is that waste generation is minimal. Plant deployed on site will require minimal site preparation, and can be removed for reuse elsewhere after the facility is no longer required. Waste reduction is maintained mainly through the minimal packaging of materials involved, and efficiency in use of material such a cabling, pipework, etc.</p>
<p><b>10.2. Comparison with Best Available Techniques (BAT)</b> Provide a document with a comparison of the proposed techniques with the BAT reference documents or their conclusions (where available) listed in Section 5.1 above. This is to be attached with this application and clearly labelled as <b>Attachment 42</b>.</p>	<p>Activities involved in this temporary emergency plant do not fall within scope of the Large Combustion Plant BAT. However, as detailed throughout this permit, the deployment of plant and management systems employed are designed to respect IPPC permit conditions and safety studies in force within this installation. Such systems would apply to management of liquid fuels, waste management, EMS, and all other sections on this application.</p>

Section	Attachment - Relevant Information
<p><b>10.4. Multi Operator Installations</b></p> <p>Provide a document to describe the proposed techniques and measures, both those to be undertaken jointly or separately, which will ensure satisfactory operation of the whole installation according to BAT. This is to be attached with this application and clearly labelled as <b>Attachment 44.</b></p>	<p>Activities involved in this temporary emergency plant do not fall within scope of the Large Combustion Plant BAT. However, as detailed throughout this permit, the deployment of plant and management systems employed are designed to respect IPPC permit conditions and safety studies in force within this installation. Such systems would apply to management of liquid fuels, waste management, EMS, and all other sections on this application.</p>
<p>Provide a copy of the EMS policy and accreditation certification (if applicable). These are to be attached with the application and clearly labelled as <b>Attachment 58.</b></p>	<p>The EMS system is currently being developed. However, it is envisaged that the Environmental Policy satisfies the requirements of ISO 14001 in that it is:</p> <ul style="list-style-type: none"> <li><i>a) is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services;</i></li> <li><i>b) provides a framework for setting environmental objectives;</i></li> <li><i>c) includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization;</i></li> <li><i>d) includes a commitment to fulfil its compliance obligations;</i></li> <li><i>e) includes a commitment to continual improvement of the environmental management system to enhance environmental performance.</i></li> </ul> <p><i>"The environmental policy shall:</i></p> <ul style="list-style-type: none"> <li><i>— be maintained as documented information;"</i></li> <li><i>— be communicated within the organization;</i></li> <li><i>— be available to interested parties</i></li> </ul>
<p><b>14.8. Training</b></p> <p>Provide a proposal for a training programme and a proposed template for keeping training records. This is to be attached with this application and clearly labelled as <b>Attachment 60.</b></p>	<p>Training is being provided in all aspects of the plant, including operation and safety procedures, as well as ISO14001 and IPPC requirements. The nature of training provided to staff involved in the project will be recorded, and certificates maintained on file.</p>
<p><b>14.9. Maintenance</b></p> <p>Provide a proposed maintenance programme for the installation, and a template for keeping records of maintenance. This is to be attached with this application and clearly labelled as <b>Attachment 61.</b></p>	<p>Maintenance required by the plant is limited to replacement of air and fuel filters after 500 hours of operation. Topping/replacement of lubricants and coolant may also be required from time to time after periodic checks.</p>

# Attachment 08: Site Report

## Introduction

19. Submission of an IPPC application requires the preparation of a baseline report in conformity with Articles 16 (2) and 22 of the Industrial Emissions Directive, 2010/75/EU. The scope of this document is the development of a Conceptual Site Model (CSM) following the process defined within the *European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C 136/03)*.
20. Evaluation of the scope for ground pollution requires the development of a CSM for the site. This involves the review of available site history and surrounding context as relevant to development of a CSM, and evaluation of the need for a formal proposal for sampling and testing, for approval by the Environment and Resources Authority (ERA). The following stages are required to establish the baseline conditions of the site:
  - Stage 1: Identifying the hazardous substances that are currently used, produced, or released at the installation.
  - Stage 2: Identifying the relevant hazardous substances.
  - Stage 3: Assessment of the site-specific pollution possibility
  - Stage 4: Site history
  - Stage 5: Environmental setting
  - Stage 6: Site characterisation
  - Stage 7: Site investigation
  - Stage 8: Production of the baseline report
21. This report shall cover stages 1 - 6 as defined above, and lay the groundwork for stages 7-8 as defined in the Commission Guidance, as may be considered necessary.

## Stage 1: Identifying the hazardous substances that are currently used, produced or released at the installation.

22. Stages 1 & 2 of preparation of baseline reports as per *European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C 136/03)* require identification of the hazardous substances that are currently used, produced or released at the installation, and identifying the relevant hazardous substances.
23. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. Plant will be fuelled with diesel EN 590 provided on demand by Enemalta, and stored on site within the integrated bunded tanks of the containerised plant. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. Maintenance on site will be minimal, and limited to changes of fuel and air filters as per manufacturer's specification.
24. A review of the project details indicates that hazardous substances proposed for use at the installation are those derived from:
  - Diesel fuel,
  - Hydrocarbon lubricants;
  - coolants; and
  - Waste oils generated through maintenance activities.

## Stage 2: Identifying the relevant hazardous substances

25. Stage 1 evaluation identified hazardous substances present on site. Stage 2 requires discarding those hazardous substances that are incapable of contaminating soil or groundwater. Given the nature of operations on site, the risk of contamination of soil and groundwater is expected to arise from spillage of hazardous substances, and the failure of mitigation measures implemented to prevent or contain such spillage.
26. Review of the materials highlighted in stage 1 indicate that **the main relevant hazardous substances are those related to hydrocarbon fuel**, given the presence of significant volumes of fuel that are present on site.
27. Other chemicals consist of coolant liquids or lubricants; given their limited volume and limited potential area of influence in case of spillage, the risk posed here is expected to be limited in terms of volume of material involved, and highly site specific.
28. The above substances are considered to be relevant hazardous substances, given their presence on site in appreciable quantities.

### Stage 3: Assessment of the potential for site-specific pollution

29. Assessment for the potential of site-specific pollution requires consideration of site infrastructure that has an effect on pollution and its mitigation. The following section review such features, and considers potential pollution pathways.

30. The two sites used for the temporary plant are described as follows within the PDS:

*'Site 01 measures approximately 61m x 60m for a total area of circa 3,660m<sup>2</sup> and is located on the former Phase D1 power plant which consisted of the two (2) steam power plants operated using heavy fuel oil, each having an electrical output of 60MW, including the ancillary equipment and structures (boilers, chimney stack, etc.). This site is accessible by two roads within the internal road network, one on each side of the site.'*

*'Site 02 measures approximately 70m x 45m for a total area of circa 3,150m<sup>2</sup> and is located southwest of Phase 2B power plant, northwest of Phase 3 and south of the Delimara power station central control room. The area is a portion of land which has not yet been developed and has been intermittently used as a temporary storage area of material and equipment.... It is bound on all four sides by the DPS internal road network.'*

31. The potential for site specific pollution is linked with the following operations:

- **Fuelling:** this operation will take place using metal pipework of a specification already in use at DPS. Potential for site specific pollution is highest here, given the potential volumes of fuel that may be involved, and given that areas of ground used are not impermeable.

The following mitigation will be made:

- i. This pipework will be pressure tested before use, and certified by a competent person.
  - ii. Regular checks will be made throughout operations to verify the continued integrity of the pipelines.
  - iii. Integrated tanks are fitted with a high-level alarm; and
  - iv. Refuelling processes will be supervised (see attachment 64).
- **Maintenance operations:** the potential for contamination here is limited, given that volumes of lubricants, coolants and wastes is very limited. The risk of spillage to the environment is mainly during transport of the material, and the containerised plant has integrated bunds.

## Stage 4: Site history

32. The history of the two sites used for the temporary plant are described as follows within the PDS:

**Site 01:** *'The Phase D1 power plant was switched off in 2017 and eventually decommissioned and dismantled in the following year. The plant's chimney structure consisted of a cylindrical concrete shield rising up to 150m in height, with a base diameter of 12 metres and concrete wall thickness varying from 80 centimetres at the bottom and 30 centimetres on top. Inside the concrete structure there were two 2.3 metre steel exhaust pipes that emitted the exhaust gases produced by the oil-fired boilers... the foundations are still on site underneath the finished level of the site, in view that these were not removed during the dismantling and demolition works.'*

**Site 02:** *'Site 02 is a portion of land within the Delimara Power Station on the Delimara peninsula which is partly on reclaimed land and partly on natural rock.'*

33. The history of contamination at the Delimara Power station has been investigated by Ramboll (2022) *Delimara Power Station, Delimara, MXK 1220, Malta: Site Condition Report: 2018-2021 Land and Groundwater Monitoring*. This report includes the findings of investigations related to ground and groundwater investigations, where a number of boreholes<sup>1</sup> were located on the boundary the site of the proposed temporary emergency plant. Hydrocarbon contamination was studied in detail, but no issues were raised with respect to contamination detected in the proximity of the sites of interest to this application.

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<sup>1</sup> Boreholes of interest are SB09, SB03 and SB16 for site 1, and SB04 and SB05 for site 2.

## Stage 5: Environmental setting

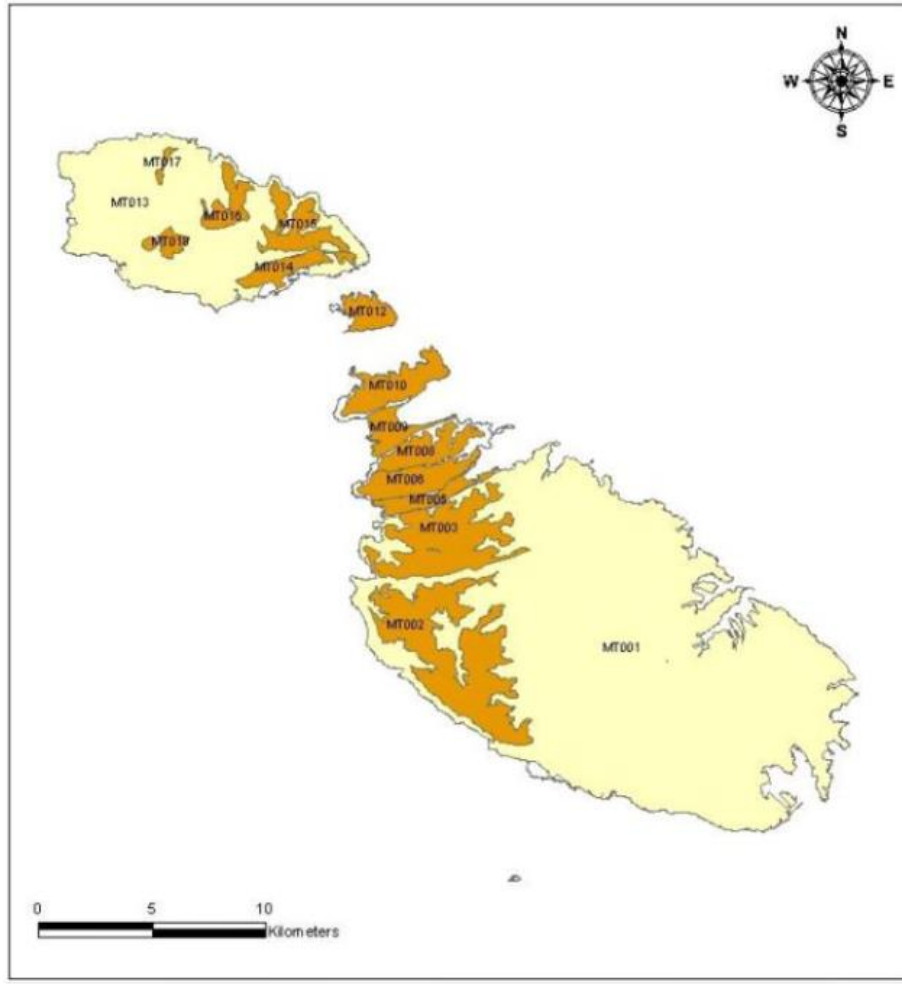
34. The environmental character of the two sites used for the temporary plant is that of a brownfield site, where both sites have been part of the Delimara Power Station complex since the 1990s when the area was excavated from the peninsula. Excavated rock was utilised to reclaim land from the seabed, to form of ‘*a man-made platform reclaimed from the sea by cut and fill activities in a non-engineering manner.*’ (Enemalta PDS).
35. **Geology:** Geological maps managed by the Continental Shelf Department (see figure 3 below) indicate the following items of information that are of relevance:
- the eastern part of the site is formed from Upper Globigerina Limestone Member, the thickness of which ranges from circa 8m to 26m. This layer overlies a Middle Globigerina Limestone Member
  - the northern portion is underlain by solid geology of Middle Globigerina Limestone Member, the thickness of which ranges from 15m to 38m; and
  - extensive rock fracturing is noted on site.

**Figure 3:** geological map of Marsaxlokk Bay – (Continental Shelf Department website, 2024)



36. **Hydrogeology:** the groundwater body underlying the site is the Malta Mean Sea Level Aquifer (MSLA) Groundwater Body as highlighted in the image below (figure 4). Given that site 2 is artificial and not engineered, any groundwater here is in close proximity to the marine waters on which the freshwater lens rests. As can be seen in the following figure 5, the closes groundwater protection zones are approximately 3.5km away, and on the other side of the Marsaxlokk harbour.

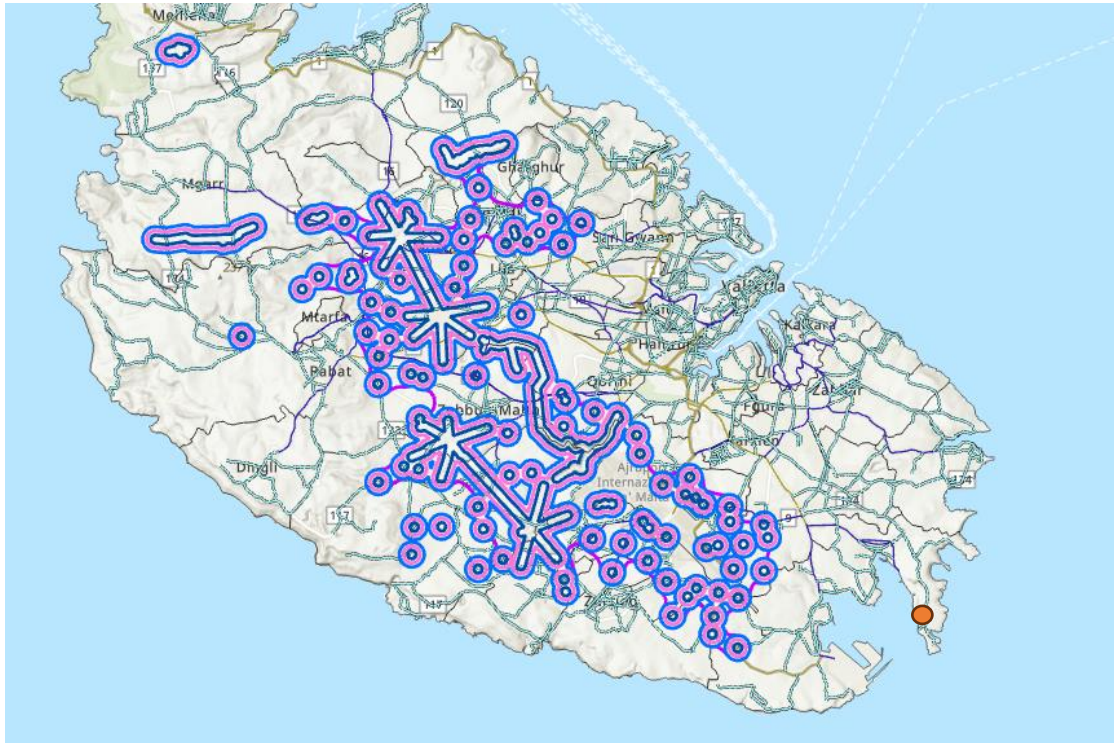
**Figure 4:** groundwater bodies in the Maltese islands – (State of the Environment Report, 2018 – Chapter 5: Marine and Fresh Waters<sup>2</sup>)



37. The terrain on site is relatively level, and surface waters tend to be directed to stormwater channels. However, not all surfaces are concreted, so the ground cannot be considered impermeable.

<sup>2</sup>[https://era.org.mt/wpcontent/uploads/2019/05/Chapter5\\_MarineFreshWaters\\_26Nov2018.pdf](https://era.org.mt/wpcontent/uploads/2019/05/Chapter5_MarineFreshWaters_26Nov2018.pdf)

**Figure 5:** groundwater protection zones marked in purple; the approximate location of DPS is marked with an orange dot. (adapted from Planning Authority Mapserver, 2024).



## Stage 6: Site characterisation

38. **Pollution sources and pathways:** the facility on site is dedicated to the generation of electrical power through combustion of hydrocarbons in Medium Combustion Plant. In this regard, the potential for present and future ground contamination is principally linked with:
- Historic contamination on site as detailed within stages 4 & 5;
  - The potential of pollutants resulting from operational spills, in the event of failure of engineered containment designed to transport fuel; and
  - Incidents such as fire.
39. Given the available documentation as referenced in Stage 4 & 5, no further investigations are deemed necessary. Future investigations can be integrated in the framework if the existing ground monitoring plan, which follows terms of reference provided by the ERA, and includes:
- a risk assessment and conceptual site model identifying the areas within the site which were at greatest risk of being polluted;
  - a sampling plan where representative samples were taken from selected points within the site, focussing on those areas identified by the risk assessment;
  - a list of pollutants identified as being of relevance to the site; and
  - proposed sampling and analytical methodologies;
40. In this regard, information already exists regarding the typical conditions prevalent at DPS in terms of ground contamination. Given that risks of contamination are highly site-specific, it is recommended that operational incidents are recorded carefully, and investigations carried out afterwards to determine the nature of the contamination and the remedial measures required.
41. Investigations into incidents would involve ground sampling and analysis. Investigative techniques would be determined by consideration of the nature and extent of the incident. The following standard is being recommended for the site investigations: **BS 10175:2011+A1:2013: Investigation of potentially contaminated sites.**
42. The results of the ground investigations would then necessitate comparison with standards provided by the ERA, or alternatively with other standards that the ERA may deem suitable to determine whether a site is fit for reuse. This remediation strategy would consider various treatment alternatives, including:
- site sealing to prevent further movement of contamination;
  - excavation of contaminated material for eventual disposal;
  - *in situ* treatment of contamination; or
  - *ex situ* treatment of contamination (possibly utilising licensed plant deployed on site).

43. The choice of testing regimen and remediation techniques would necessarily be the subject of the full decommissioning plan, which would have to follow the standards that would be applicable at the time; the strategy that is selected would need to complement the projected use, and take into consideration the actual levels of contamination that are detected in the various areas within the site. Unless otherwise directed, it is expected that testing will be conducted at laboratories accredited to at least EN ISO 17025:2005/Cor 1:2006.

## Attachment 24: SDS sheets



**arteco**  
INGENIOUS COOLANTS

# Scheda di sicurezza

## SEZIONE 1 IDENTIFICAZIONE DELLA SOSTANZA/MISCELA E DELLA SOCIETÀ/IMPRESA

### 1.1 Identificativo del prodotto

#### **CAT ELC with Embitterment Concentrate**

**Codice(i) del prodotto:** 040237

### 1.2 Utilizzi identificati pertinenti della sostanza o della miscela e utilizzi consigliati contro

**Usi Identificati:** Antigelo/refrigerante

### 1.3 Dettagli del fornitore del foglio dati di sicurezza

ARTECO N.V.

Technologiepark-Zwijnaarde 2

B-9052 Gent-Zwijnaarde

Belgium

E-mail : customerservice@arteco-coolants.eu

### 1.4 Numero telefonico di emergenza

#### **Risposta di emergenza per il trasporto**

Europa: 0044/(0)18 65 407333

#### **Emergenza sanitaria**

Europa: 0044/(0)18 65 407333

Centro Antiveneni: 0032/(0)70 245 245

Cina (24h): +86 532 83889090

#### **Informazioni sul prodotto**

Informazioni tecniche: 0032/(0)9 293 7320

Numero FAX: 0032/(0)9 293 7324

## SEZIONE 2 IDENTIFICAZIONE DEI PERICOLI

### 2.1 Classificazione della sostanza o miscela

**DSD/DPD CLASSIFICAZIONE:** Xn, Nocivo; R22 |

### 2.2 Elementi dell'etichetta

Secondo i principi della Direttiva 1999/45/CE (preparati pericolosi):

- contiene: Glicol etilenico

#### **Simboli:**

Xn - Nocivo

R22; Nocivo per ingestione.

S2; Conservare fuori dalla portata dei bambini.

S46; In caso d'ingestione consultare immediatamente il medico e mostrargli il contenitore e l'etichetta.

## 2.3 Altri pericoli Non applicabile.

### SEZIONE 3 COMPOSIZIONE / INFORMAZIONI SUGLI INGREDIENTI

#### 3.1 Miscele

Il presente materiale è una miscela.

COMPONENTI	NUMERO CE	SIMBOLO / FRASI DI RISCHIO	QUANTITÀ
Glicol etilenico	203-473-3	Xn/R22	70 - 99 % peso
2-etilesanoato di sodio	243-283-8	Xn/Repro. Cat. 3/R63	1 - 4.9 % peso
Nitrito di sodio	231-555-9	O/R8, T/R25, N/R50	0.1 - 1 % peso
Sodio molibdato, diidrato	231-551-7	Xi/R36/37/38	0.1 - 1 % peso

Il testo completo di tutte le frasi R è riportato nella Sezione 16. Il prodotto contiene un agente amaro.

COMPONENTI	NUMERO CAS	NUMERO CE	NUMERO DI REGISTRAZIONE	CLASSIFICAZIONE CLP	QUANTITÀ
Glicol etilenico	107-21-1	203-473-3	01-2119456816-28	Acute Tox. 4/H302; STOT RE 2/H373	70 - 99 % peso
2-etilesanoato di sodio	19766-89-3	243-283-8	**	Repr. 2/H361d	1 - 4.9 % peso
Sodio molibdato, diidrato	10102-40-6	231-551-7	01-2119489495-21	Eye Irrit. 2/H319; Skin Irrit. 2/H315	0.1 - 1 % peso
Nitrito di sodio	7632-00-0	231-555-9	01-2119471836-27	Aquatic Acute 1/H400; Eye Irrit. 2/H319; Acute Tox. 3/H301; Ox. Liq. 3/H272	0.1 - 1 % peso

Il testo per esteso di tutte le frasi H del regolamento CLP è indicato nella sezione 16.

### SEZIONE 4 MISURE DI PRIMO SOCCORSO

#### 4.1 Descrizione delle misure di primo soccorso

**Occhio:** Non è necessaria alcuna misura specifica di primo soccorso. Per precauzione, rimuovere le eventuali lenti a contatto e sciacquare gli occhi con acqua.

**Pelle:** Non è necessaria alcuna misura specifica di primo soccorso. Per precauzione, togliere le scarpe e gli indumenti, se contaminati. Per rimuovere il materiale dalla pelle, usare acqua e sapone. Gettare gli indumenti e le scarpe oppure pulirli accuratamente prima di riutilizzarli.

**Ingestione:** In caso di ingestione, ricorrere a visita medica. Non indurre vomito. Non somministrare mai nulla a persone in stato di incoscienza.

**Inalazione:** Non è necessaria alcuna misura specifica di primo soccorso. In caso di esposizione a livelli eccessivi di materiale nell'aria, portare la persona esposta all'aria fresca. Se la tosse o il problema respiratorio persiste, ricorrere a visita medica.

#### 4.2 Principali sintomi ed effetti, sia acuti che ritardati

## **SINTOMI ED EFFETTI SULLA SALUTE IMMEDIATI**

**Occhio:** Non causa irritazione agli occhi prolungata o significativa.

**Pelle:** Il contatto con la pelle non è nocivo.

**Ingestione:** Può essere nocivo in caso di ingestione.

**Inalazione:** Non nocivo in caso di inalazione. La respirazione di questo materiale a concentrazioni superiori ai limiti di esposizione raccomandati, può causare effetti sul sistema nervoso centrale. Gli effetti a carico del sistema nervoso centrale possono comprendere cefalea, vertigini, vomito, debolezza, perdita di coordinazione, alterazione del visus, torpore, confusione o disorientamento. A esposizioni estreme, gli effetti a carico del sistema nervoso centrale possono comprendere depressione respiratoria, tremori o convulsioni, perdita di coscienza, coma o morte.

**SINTOMI ED EFFETTI SULLA SALUTE RITARDATI O DIVERSI:** Non classificato.

### **4.3 Indicazione di necessità di immediato intervento medico e trattamento speciale**

Non applicabile.

## **SEZIONE 5 MISURE ANTINCENDIO**

### **5.1 Mezzi di estinzione**

Sostanza chimica secca, CO<sub>2</sub>, schiuma AFFF o schiuma alcol-resistente.

### **5.2 Pericoli speciali derivanti dalla sostanza o miscela**

**Prodotti di combustione:** Estremamente dipendente da condizioni di combustione. Durante la combustione, questo materiale sviluppa una miscela complessa di solidi aerodispersi, liquidi e gas tra cui monossido di carbonio, anidride carbonica e composti organici non identificati.

### **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

Questo materiale brucia anche non è facilmente infiammabile. Per le procedure corrette di manipolazione e stoccaggio, vedere la Sezione 7. In caso di incendi che interessano questo materiale, non entrare in spazi di incendio chiusi o confinati senza equipaggiamento di protezione appropriato, incluso un autorespiratore.

## **SEZIONE 6 MISURE IN CASO DI FUORIUSCITA ACCIDENTALE**

### **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**

Eliminare tutte le fonti di accensione in prossimità del materiale accidentalmente fuoriuscito. Per ulteriori informazioni, fare riferimento alle sezioni 5 e 8.

### **6.2 Precauzioni ambientali**

Arrestare la sorgente del rilascio se è possibile farlo senza rischio. Contenere il rilascio per prevenire l'ulteriore contaminazione del suolo, delle acque superficiali o delle acque freatiche.

### **6.3 Metodi e materiale per il contenimento e la pulizia**

Ripulire i versamenti non appena possibile, rispettando le precauzioni in Controllo delle esposizioni e protezione individuale. Utilizzare tecniche appropriate, ad esempio l'applicazione di materiali assorbenti non combustibili o il pompaggio. Laddove ciò sia fattibile e appropriato, rimuovere il terreno contaminato e smaltirlo in maniera coerente con i requisiti applicabili. Collocare altri materiali contaminati in contenitori monouso e smaltirli in maniera coerente con i requisiti applicabili. Riportare eventuali fuoriuscite accidentali alle autorità competenti nel modo opportuno o richiesto.

### **6.4 Riferimento ad altre sezioni**

Vedere le sezioni 8 e 13.

## **SEZIONE 7 MANIPOLAZIONE E STOCCAGGIO**

### 7.1 Precauzioni per il trattamento sicuro

Non assaggiare o ingerire. Non respirare vapori o fumi. Lavarsi accuratamente dopo la manipolazione. Conservare fuori della portata dei bambini.

### 7.2 Condizioni per l'immagazzinamento sicuro, comprese eventuali incompatibilità

**Informazioni generali sulla manipolazione:** Evitare di contaminare il suolo o di rilasciare questo materiale nei sistemi di scarico e nelle reti fognarie e nei sistemi idrici.

**Pericolo statico:** Possono accumularsi cariche elettrostatiche, che creano una condizione pericolosa quando si manipola questo materiale. Per minimizzare questo pericolo, il collegamento a terra / a massa potrebbe essere necessario, ma di per sé non sufficiente. Rivedere tutte le attività che possono comportare la generazione e l'accumulo di cariche elettrostatiche e/o atmosfera infiammabile (inclusi riempimento di serbatoi e recipienti, riempimento a caduta, pulizia di serbatoi, campionamento, misurazione, trasferimento/caricamento di liquidi organici, filtrazione, miscelazione, agitazione e operazioni con sistemi di aspirazione) e usare misure adatte a ridurle.

**Avvertenze per il recipiente:** Il recipiente non è progettato per contenere pressione. Non usare pressione per svuotare il recipiente perché potrebbe rompersi con forza esplosiva. I recipienti vuoti conservano residui (solidi, liquidi e/o vapori) e possono essere pericolosi. Non pressurizzare, tagliare, saldare, brasare, saldobrasare, trapanare, molare o esporre tali recipienti a calore, fiamme, scintille, elettricità statica o altre fonti di accensione. Potrebbero esplodere e provocare lesioni o morte. I recipienti vuoti devono essere completamente svuotati, adeguatamente tappati e tempestivamente ritornati a un centro di rigenerazione oppure smaltiti nel modo appropriato.

### 7.3 Usi finali specifici: Antigelo/refrigerante

## SEZIONE 8 CONTROLLO DELL'ESPOSIZIONE / PROTEZIONE INDIVIDUALE

### CONSIDERAZIONI GENERALI:

Considerare i potenziali pericoli di questo materiale (vedere la Sezione 2), i limiti di esposizione applicabili, le attività lavorative e le altre sostanze nel luogo di lavoro quando si progettano controlli tecnici e si seleziona l'equipaggiamento di protezione personale. Se i controlli tecnici o le procedure lavorative non sono adeguati a impedire l'esposizione a livelli nocivi di questo materiale, si raccomanda l'equipaggiamento di protezione personale sottoelencato. L'utente deve leggere e capire tutte le istruzioni e limitazioni fornite con l'equipaggiamento poiché la protezione è generalmente fornita per un periodo di tempo limitato o in determinate circostanze. Consultare le norme CEN appropriate.

### 8.1 Parametri di controllo

**Limiti di esposizione occupazionale:**

Componente	Paese/ Agenzia	Media ponderata nel tempo (Time Weighted Average, TWA)	Limite di esposizione di breve durata (Short Term Exposure Limit, STEL)	Soffitto	Annotazi one
Glicol etilenico	Indicativo per UE	52 mg/m3	104 mg/m3	--	Pelle
Glicol etilenico	Italia	52 mg/m3	104 mg/m3	--	Pelle

### 8.2 Controlli di esposizione

#### CONTROLLI TECNICI:

Usare in un luogo ben ventilato.

#### EQUIPAGGIAMENTO DI PROTEZIONE PERSONALE

**Protezione per faccia/occhi:** Di norma, non è necessaria alcuna protezione speciale per gli occhi. Qualora vi sia la possibilità di formazione di schizzi, indossare occhiali di sicurezza con protezioni laterali come buona misura di sicurezza.

**Protezione della pelle:** Di norma, non è necessario alcun indumento protettivo speciale. Qualora vi sia la possibilità di formazione di schizzi, scegliere indumenti protettivi a seconda delle operazioni condotte, dei requisiti fisici e altre sostanze nel luogo di lavoro. I materiali suggeriti per i guanti protettivi: Gomma naturale, Gomma nitrile, Polivinilcloruro (PCV o vinile).

**Protezione delle vie respiratorie:** Di norma, non è richiesta alcuna protezione delle vie respiratorie. Respiratore a purificazione dell'aria per polveri e nebulizzazioni.

#### **CONTROLLI DI ESPOSIZIONE AMBIENTALE:**

Vedere la legislazione comunitaria pertinente in materia di protezione dell'ambiente o l'Allegato, in base al caso specifico.

### **SEZIONE 9 PROPRIETÀ FISICHE E CHIMICHE**

**Attenzione:** i dati seguenti sono valori tipici e non costituiscono una specifica.

#### **9.1 Informazioni sulle proprietà fisiche e chimiche**

##### **Aspetto**

**Colore:** Rosso

**Stato fisico:** Liquido

**Odore:** Debole o lieve

**Soglia di odore:** Nessun dato disponibile

**pH:** 8.5 - 8.85

**Punto di fusione:** Nessun dato disponibile

**Punto di congelamento:** -22°C (-7.6°F) (Tipico)

**Punto di ebollizione iniziale:** 174.5°C (346.1°F) (Tipico)

**Punto di infiammabilità:** (Vaso chiuso Pensky-Martens) 115 °C (239 °F) Minimo

**Velocità di evaporazione:** Nessun dato disponibile

**Infiammabilità (solido, gas):** Nessun Dato Disponibile

**Limiti di infiammabilità (esplosione) (% per volume in aria):**

Inferiore: Non applicabile Superiore: Non applicabile

**Pressione di vapore:** <0.01 mmHg @ 37.8 °C (100 °F)

**Densità di vapore (aria = 1):** >1

**Densità:** 1.1175 kg/l - 1.1156 kg/l @ 15°C (59°F)

**Solubilità:** Idrosolubile.

**Coefficiente di partizione: n-ottanolo/acqua:** Nessun dato disponibile

**Temperatura di autoaccensione:** Nessun dato disponibile

**Temperatura di decomposizione:** Nessun Dato Disponibile

**Viscosità:** Nessun dato disponibile

**Proprietà esplosive:** Nessun Dato Disponibile

**Proprietà ossidanti:** Nessun Dato Disponibile

**9.2 Altre informazioni:** Nessun Dato Disponibile

### **SEZIONE 10 STABILITÀ E REATTIVITÀ**

**10.1 Reattività:** Per il presente materiale non è prevista alcuna reazione.

**10.2 Stabilità chimica:** Questo materiale è considerato stabile in condizioni di pressione e temperatura ambiente normali e di stoccaggio e manipolazione previste.

**10.3 Possibilità di reazioni pericolose:** Non si verifica polimerizzazione pericolosa.

**10.4 Condizioni da evitare:** Non applicabile

**10.5 Materiali incompatibili da evitare:** Può reagire con acidi forti o agenti ossidanti forti come clorati, nitrati, perossidi, ecc.

**10.6 Prodotti di decomposizione pericolosi:** Chetoni (Temperature elevate), Aldeidi (Temperature elevate)

## SEZIONE 11 INFORMAZIONI TOSSICOLOGICHE

### 11.1 Informazioni sugli effetti tossicologici

**Gravi danni/irritazioni oculari:** Il pericolo di irritazione oculare si basa sulla valutazione di dati relativi a componenti di prodotti.

**Corrosione/irritazione cutanea:** Il pericolo di irritazione cutanea si basa sulla valutazione di dati relativi a componenti di prodotti.

**Sensibilizzazione cutanea:** Il pericolo di sensibilizzazione cutanea si basa sulla valutazione di dati relativi a componenti di prodotti.

**Tossicità dermica acuta:** Il pericolo di tossicità dermica acuta si basa sulla valutazione di dati relativi a componenti di prodotti.

**Tossicità orale acuta:** Il pericolo di tossicità orale acuta si basa sulla valutazione di dati relativi a componenti di prodotti.

**Tossicità acuta per inalazione:** Il pericolo di tossicità acuta per inalazione si basa sulla valutazione di dati relativi a componenti di prodotti.

**Mutagenicità delle cellule germinali:** La valutazione del pericolo si basa su dati relativi ai componenti o a un materiale simile.

**Cancerogenesi:** La valutazione del pericolo si basa su dati relativi ai componenti o a un materiale simile.

**Tossicità riproduttiva:** La valutazione del pericolo si basa su dati relativi ai componenti o a un materiale simile.

**Tossicità specifica a carico degli organi bersaglio - esposizione singola:** La valutazione del pericolo si basa su dati relativi ai componenti o a un materiale simile.

**Tossicità specifica a carico degli organi bersaglio - esposizione ripetuta:** La valutazione del pericolo si basa su dati relativi ai componenti o a un materiale simile.

### ALTRE INFORMAZIONI TOSSICOLOGICHE:

Questo prodotto contiene etilenglicole (EG). La tossicità dell'EG per inalazione o contatto cutaneo è leggera a temperatura ambiente. La dose orale letale stimata è di circa 100 cc (3,3 once) per un uomo adulto. L'etilenglicole viene ossidato in acido ossalico con conseguente deposizione di cristalli di ossalato di calcio, principalmente nel cervello e nei reni. I segni e sintomi precoci di avvelenamento da EG possono ricordare quelli dell'intossicazione etilica. In un secondo momento, la vittima può manifestare nausea, vomito, debolezza, dolori addominali e muscolari, difficoltà di respirazione e riduzione della diuresi. Il riscaldamento dell'EG oltre il punto di ebollizione dell'acqua, determina lo sviluppo di vapori che si sono dimostrati causa di perdita di coscienza, incremento della conta linfocitaria e movimenti oculari rapidi, a scatti, nelle persone soggette a esposizione cronica. Quando l'EG è stato somministrato per via orale a ratti e topi in gravidanza, è stato riscontrato un aumento delle morti fetali e delle malformazioni genetiche. Alcuni di questi effetti si sono verificati a dosi prive di effetti tossici sulle madri. Non abbiamo dati in merito al fatto che l'EG causi tossicità riproduttiva nell'uomo. L'acido 2-etilesanoico (2-EXA) ha causato epatomegalia e aumento degli enzimi epatici allorché somministrato ripetutamente ai ratti tramite la dieta. Quando somministrato a ratti in gravidanza mediante gavage o nell'acqua potabile, il 2-EXA ha causato teratogenicità (malformazioni congenite) e ritardo di sviluppo postnatale della prole. Il 2-EXA ha inoltre ridotto la fertilità femminile nei ratti. Malformazioni congenite sono state osservate nella prole dei topi sottoposti a somministrazione di 2-etilesanoato di sodio per iniezione intraperitoneale durante la gravidanza.

## SEZIONE 12 INFORMAZIONI ECOLOGICHE

### 12.1 Tossicità

Questo materiale non è nocivo per gli organismi acquatici. Il prodotto non è stato testato. La nota informativa è stata derivata dalle proprietà dei singoli componenti.

### 12.2 Persistenza e degradabilità

Questo materiale è facilmente biodegradabile. Il prodotto non è stato testato. La nota informativa è stata derivata dalle proprietà dei singoli componenti.

### 12.3 Potenziale di bioaccumulo

Al Fattore di Bioconcentrazione (FBC): Nessun Dato Disponibile

Al Coefficiente di Ripartizione Ottanolo-Acqua (Kow): Nessun dato disponibile

### 12.4 Mobilità nel suolo

Nessun dato disponibile.

### 12.5 Risultati della valutazione PBT e vPvB

Il presente prodotto non è o contiene una potenziale sostanza PBT o vPvB.

### 12.6 Altri effetti avversi

Non sono stati identificati ulteriori effetti avversi.

## SEZIONE 13 CONSIDERAZIONI SULLO SMALTIMENTO

### 13.1 Metodi per il trattamento dei rifiuti

Usare il materiale per l'uso previsto o riciclarlo, se possibile. Questo materiale, se deve essere gettato, potrebbe essere conforme ai criteri di rifiuto pericoloso, secondo quanto definito dalle norme o leggi internazionali e locali vigenti. In conformità al Catalogo Europeo dei Rifiuti (E.W.C.), la codifica è la seguente: 16 01 14

## SEZIONE 14 INFORMAZIONI SUL TRASPORTO

La descrizione illustrata potrebbe non applicarsi a tutte le situazioni di spedizione. Per altri requisiti di descrizione (es. denominazione tecnica) e requisiti di spedizione specifici per quantità o modo, consultare i regolamenti per le merci pericolose appropriati.

### ADR/RID

NON REGOLATO COME MERCE PERICOLOSA PER IL TRASPORTO

14.1 Numero ONU: Non applicabile

14.2 Nome di spedizione dell'ONU: Non applicabile

14.3 Classi di pericolo connesso al trasporto: Non applicabile

14.4 Gruppo d'imballaggio: Non applicabile

14.5 Pericoli per l'ambiente: Non applicabile

14.6 Precauzioni speciali per gli utilizzatori: Non applicabile

### ICAO

NON REGOLATO COME MERCE PERICOLOSA PER IL TRASPORTO

14.1 Numero ONU: Non applicabile

14.2 Nome di spedizione dell'ONU: Non applicabile

14.3 Classi di pericolo connesso al trasporto: Non applicabile

14.4 Gruppo d'imballaggio: Non applicabile

14.5 Pericoli per l'ambiente: Non applicabile

**14.6 Precauzioni speciali per gli utilizzatori:** Non applicabile

## IMO

NON REGOLATO COME MERCE PERICOLOSA PER IL TRASPORTO

**14.1 Numero ONU:** Non applicabile

**14.2 Nome di spedizione dell'ONU:** Non applicabile

**14.3 Classi di pericolo connesso al trasporto:** Non applicabile

**14.4 Gruppo d'imballaggio:** Non applicabile

**14.5 Pericoli per l'ambiente:** Non applicabile

**14.6 Precauzioni speciali per gli utilizzatori:** Non applicabile

**14.7 Trasportare come prodotto sfuso secondo l'Allegato II di MARPOL 73/78 e il codice IBC:** Non applicabile

## SEZIONE 15 INFORMAZIONI SULLA REGOLAMENTAZIONE

### 15.1 Norme e legislazione su salute, sicurezza e ambiente specifiche per la sostanza o la miscela ELENCHI NORMATIVI CONSULTATI:

01=Direttiva UE 76/769/CE: restrizioni all'immissione sul mercato e all'uso di talune sostanze e preparati pericolosi

02=Direttiva UE 90/394/CE: cancerogeni sul luogo di lavoro.

03=Direttiva UE 92/85/CE: lavoratrici gestanti o in periodo di allattamento.

04=Direttiva UE 96/82/CE (Seveso II): articolo 9.

05=Direttiva UE 96/82/CE (Seveso II): articoli 6 e 7.

06=Direttiva UE 98/24/CE: agenti chimici sul luogo di lavoro.

07=Direttiva UE 2004/37/CE: In materia di tutela dei lavoratori.

08=Regolamento UE CE n. 689/2008: Allegato 1, Parte 1.

09=Regolamento UE CE n. 689/2008: Allegato 1, Parte 2.

10=Regolamento UE CE n. 689/2008: Allegato 1, Parte 3.

11=Regolamento UE CE n. 850/2004: Proibizione e restrizione degli inquinanti organici persistenti (POP).

12=REACH UE, Allegato XVII: Restrizioni sulla lavorazione, l'immissione sul mercato e l'uso di certe sostanze pericolose, miscela e articolo.

13=REACH UE, Allegato XIV: Elenco di sostanze candidate estremamente problematiche (SVHC) per l'autorizzazione.

I seguenti componenti di questo materiale sono presenti negli elenchi normativi indicati.

Glicol etilenico	06
Nitrito di sodio	04, 05, 06

### INVENTARI DELLE SOSTANZE CHIMICHE:

Tutti i componenti sono conformi ai seguenti requisiti dell'inventario delle sostanze chimiche: AICS (Australia), DSL (Canada), EINECS (Unione Europea), ENCS (Giappone), IECSC (Cina), KECI (Corea), PICCS (Filippine), TSCA (Stati Uniti).

### 15.2 Valutazione della sicurezza chimica

Nessuna valutazione della sicurezza chimica.

## SEZIONE 16 ALTRE INFORMAZIONI

**NOTA SULLA REVISIONE:** La presente revisione aggiorna le seguenti sezioni di questa scheda di sicurezza: 1-16

**Data di revisione:** AGOSTO 24, 2012

**Testo completo delle frasi R:**

R22; Nocivo per ingestione.  
 R25; Tossico per ingestione.  
 R36; Irritante per gli occhi.  
 R37; Irritante per le vie respiratorie.  
 R38; Irritante per la pelle.  
 R50; Altamente tossico per gli organismi acquatici.  
 R63; Possibile rischio di danni ai bambini non ancora nati.  
 R8; Può provocare l'accensione di materiali combustibili.

**Testo per esteso delle frasi H del regolamento CLP:**

H400; Molto tossico per gli organismi acquatici.  
 H319; Provoca grave irritazione oculare.  
 H301; Tossico se ingerito.  
 H302; Nocivo se ingerito.  
 H272; Può aggravare un incendio; comburente.  
 H361d; Sospettato di nuocere al feto.  
 H315; Provoca irritazione cutanea.  
 H373; Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

**ABBREVIAZIONI PROBABILMENTE UTILIZZATE IN QUESTO DOCUMENTO:**

Valore limite di soglia (TLV) - Valore limite di soglia	Media ponderata nel tempo (Time Weighted Average, TWA) - Media ponderata nel tempo
Limite di esposizione di breve durata (Short Term Exposure Limit, STEL) - Limiti di esposizione di breve durata	Limite di esposizione permissibile (PEL) - Limiti di esposizione permissibile
CVX - Chevron	CAS - Numero CAS (Chemical Abstract Service)
NQ - Non quantificabile	

Preparati secondo i criteri di UE Normativa 1907/2006 della Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

Le informazioni suddette si basano sui dati a noi noti e sono corrette alla data del presente. Poiché queste informazioni possono applicarsi in condizioni al di fuori del nostro controllo e a noi non familiari e dal momento che i dati disponibili dopo la data del presente potrebbe suggerire modifiche a tali informazioni, non ci assumiamo alcuna responsabilità per i risultati del loro impiego. Queste informazioni sono fornite a condizione che la persona che le riceve determini l'idoneità del materiale al suo scopo particolare.

**Nessun Allegato**

Nome del prodotto: CAT DEO 15W-40 (DIESEL ENGINE OIL)

Data di revisione: 01 Novembre 2018

Numero di revisione: 1.12

Pagina 1 di 14

## SCHEDA DI SICUREZZA

### SEZIONE 1

### IDENTIFICAZIONE DELLA SOSTANZA/MISCELA E DELLA COMPAGNIA/IMPRESA

Alla data di revisione, questa SDS è conforme alla legislazione Italiana vigente.

#### 1.1. IDENTIFICATORE DEL PRODOTTO

Nome del prodotto: CAT DEO 15W-40 (DIESEL ENGINE OIL)

Descrizione del prodotto: Olio base e additivi

Codice del prodotto: 20202040B020, 400040, 478669-60

#### 1.2. USI IDENTIFICATI DELLA SOSTANZA O DELLA MISCELA E USI SCONSIGLIATI

Uso previsto: Olio per motori

Usi non raccomandati: Nessuno a meno che sia specificato altrove in questa scheda dei dati di sicurezza.

#### 1.3. Dettagli del fornitore della scheda di dati di sicurezza

Fornitore: ExxonMobil Petroleum & Chemical BVBA  
POLDERDIJKWEG  
B-2030 Antwerpen  
Belgio

Richiesta informazioni tecnico/commerciali sui prodotti:

39 800 929014

Indirizzo internet per ricerca MSDS:

[www.msds.exxonmobil.com](http://www.msds.exxonmobil.com)

E-Mail:

[sds.italy@exxonmobil.com](mailto:sds.italy@exxonmobil.com)

Fornitore/Registratore:

(BE) 32 35433111

#### 1.4. NUMERO TELEFONICO DI EMERGENZA

Servizio Emergenza 24 ore su 24:

0800 789767 or +(39)-0245557031 (CHEMTREC)

Centro Soccorso Antiveleni CNIT - Pavia:

0382 24444

### SEZIONE 2

### IDENTIFICAZIONE DEI PERICOLI

#### 2.1. CLASSIFICAZIONE DELLE SOSTANZE O MISCELE

Classificazione a norma del regolamento (CE) N. 1272/2008

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Non Classificato

## 2.2. ELEMENTI DELL'ETICHETTA

Nessuna etichettatura secondo il Regolamento (EC) No 1272/2008

**Contiene:** COMPLESSO ORGANICO MOLLI-ZOLFO Può provocare una reazione allergica.

## 2.3. ALTRI RISCHI

### Rischi fisici / chimici:

Nessun pericolo significativo.

### Rischi per la salute:

L'iniezione sottocutanea ad alta pressione può causare danni gravi. Eccessiva esposizione può causare irritazione a occhi, pelle o respiratoria.

### Pericoli per l'ambiente:

Nessun pericolo significativo. Il materiale non incontra i criteri di PBT o vPvB in accordo al REACH Allegato XIII.

## SEZIONE 3

## COMPOSIZIONE / INFORMAZIONI SUI COMPONENTI

**3.1. SOSTANZE** Non Applicabile. Questo materiale è regolato come miscela.

## 3.2. MISCELE

Questo prodotto è regolamentato come miscela.

### Sostanze pericolose riportabili in accordo ai criteri di classificazione e/o con i limiti di esposizione (OEL)

Nome	CAS#	EC#	Registrazione#	Concentr.*	Classificazione GHS/CLP
COMPLESSO ORGANICO MOLLI-ZOLFO		457-320-2	01-0000019337-66	0.1 - < 1%	[Aquatic Acute 3 H402], Aquatic Chronic 3 H412, Skin Irrit. 2 H315, Skin Sens. 1 H317
ZINCO ALCHIL DITIOFOSFATO	93819-94-4	298-577-9	01-2119543726-33	1 - < 2.5%	[Acute Tox. 5 H303], [Aquatic Acute 2 H401], Aquatic Chronic 2 H411, Skin Irrit. 2 H315, Eye Dam. 1 H318

Nota - qualsiasi classificazione tra parentesi è un blocco GHS che non è stato adottato dalla UE nel Regolamento CLP (N. 1272/2008) e come tale non è applicabile nella UE o in Paesi non facenti parte della UE che hanno implementato il Regolamento CLP. Essa viene mostrata unicamente a scopo informativo.

Tutte le concentrazioni sono in percentuale sul peso, ad eccezione dei gas. Le concentrazioni di gas sono in

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percentuale sul volume.

Nota: Vedi (M)SDS Sezione 16 per il testo completo delle frasi di pericolo.

## SEZIONE 4

## INTERVENTI DI PRIMO SOCCORSO

### 4.1. DESCRIZIONE DELLE MISURE DI PRIMO SOCCORSO

#### INALAZIONE

Rimuovere per evitare ulteriore esposizione. Coloro che prestano assistenza devono evitare l'esposizione per se' e per gli altri. Usare una protezione adeguata delle vie respiratorie. In caso di irritazione delle vie respiratorie, vertigini, nausea o incoscienza, ricorrere immediatamente a visita medica. In caso di arresto della respirazione, praticare ventilazione assistita con un dispositivo meccanico o ricorrendo alla respirazione bocca a bocca.

#### CONTATTO CON LA PELLE

Lavare le aree di contatto con acqua e sapone. In caso di iniezione del prodotto nella o sotto la cute, o in qualsiasi parte del corpo, indipendentemente dall'aspetto o dalle dimensioni della ferita, fare vedere immediatamente il paziente a un medico come emergenza chirurgica. Anche se i sintomi iniziali da iniezione ad alta pressione possono essere minimi o assenti, il trattamento chirurgico precoce entro poche ore può ridurre significativamente l'entità finale della lesione.

#### CONTATTO CON GLI OCCHI

Sciacquare con abbondanti quantità d'acqua. In caso di irritazione, ricorrere a visita medica.

#### INGESTIONE

Di norma, non sono necessarie misure di primo soccorso. Consultare tuttavia un medico in caso di malessere persistente.

### 4.2. SINTOMI ED EFFETTI PIU' IMPORTANTI, SIA ACUTI CHE RITARDATI

Necrosi locale, evidenziata da principio di dolore e danni ai tessuti ritardati, che insorgono qualche ora dopo l'iniezione.

### 4.3. INDICAZIONE DI CONSULTAZIONE IMMEDIATA DI UN MEDICO E NECESSITÀ DI TRATTAMENTO SPECIALE

Non si presume sia necessario disporre di mezzi speciali per provvedere a specifici ed immediati trattamenti medici sul luogo di lavoro.

## SEZIONE 5

## MISURE ANTINCENDIO

### 5.1. MEZZI ESTINGUENTI

**Mezzi di estinzione idonei:** Usare nebbia d'acqua, schiuma, polvere chimica secca, anidride carbonica (CO<sub>2</sub>) per spegnere l'incendio.

**Mezzi di estinzione da evitare:** Getti diretti d'acqua

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## 5.2. RISCHI SPECIFICI DERIVANTI DALLA SOSTANZA O MISCELA

**Prodotti di combustione pericolosi:** Aldeidi, Prodotti di combustione incompleta., Ossidi di carbonio, Fumi, esalazioni, Ossido di zolfo

## 5.3. AVVISI PER I POMPIERI

**Istruzioni antincendio:** Evacuare l'area. Evitare la dispersione o infiltrazione dei materiali antincendio in corsi d'acqua, reti fognarie o riserve d'acqua potabile. Gli addetti all'estinzione dell'incendio devono usare equipaggiamento di protezione standard e - in spazi chiusi - autorespiratore SCBA. Usare spruzzi d'acqua per raffreddare le superfici esposte all'incendio e proteggere il personale.

## DATI D'INFIAMMABILITÀ

**Punto di infiammabilità [Metodo]:** >225 ° C. (437° F) [ASTM D-92]

**Limite di infiammabilità superiore/inferiore (Volume approssimativo % in aria):** UEL: 7.0 LEL: 0.9 [metodi di test non disponibili]

**Temperatura di autoaccensione:** Nessun dato disponibile

## SEZIONE 6

## MISURE IN CASO DI FUORIUSCITA ACCIDENTALE

### 6.1. PRECAUZIONI INDIVIDUALI, DISPOSITIVI DI PROTEZIONE E PROCEDURE DI EMERGENZA

#### PROCEDURE DI NOTIFICA

In caso di fuoriuscita o rilascio accidentale, darne notifica alle autorità competenti in conformità a tutte le normative vigenti.

#### MISURE PROTETTIVE

Evitare il contatto con il materiale accidentalmente fuoriuscito. Consultare la Sezione 5 per le Misure Antincendio. Consultare la Sezione "Identificazione dei Pericoli" per verificare i maggiori rischi. Consultare la Sezione 4 per le Misure di Primo Soccorso. Consultare la Sezione 8 per consigli sui requisiti minimi per l'Equipaggiamento di Protezione Individuale. Possono essere necessarie altre misure protettive addizionali, in considerazione delle specifiche circostanze e/o dal giudizio esperto di addetti all'emergenza.

Guanti di lavoro (preferibilmente guanti lunghi) che assicurano una resistenza adeguata alle sostanze chimiche. Nota: i guanti fatti di PVA non sono resistenti all'acqua e non sono idonei all'uso in situazioni di emergenza. Se è possibile o è previsto il contatto con il prodotto caldo, si consiglia di utilizzare guanti termoresistenti e termoisolanti. Protezione respiratoria: la protezione respiratoria sarà necessaria solo in casi speciali, ad esempio: formazione di nebbie. E' possibile utilizzare un respiratore a mezza faccia o con facciale integrale con filtro(-i) per polveri/vapori organici o un autorespiratore (SCBA), a seconda dell'entità del versamento e del potenziale livello di esposizione. Se l'esposizione non può essere caratterizzata completamente o è possibile o prevista un'atmosfera deficiente di ossigeno, si consiglia di utilizzare un SCBA. Si consiglia di utilizzare guanti di lavoro resistenti agli idrocarburi. I guanti fatti di polivinilacetato (PVA) non sono resistenti all'acqua e non sono idonei all'uso in situazioni di emergenza.. Sono raccomandati occhiali resistenti ai chimici se è possibile il contatto con schizzi o con gli occhi. Piccole fuoriuscite: solitamente i normali abiti da lavoro antistatici sono adeguati. Fuoriuscite di grandi quantità: si consiglia di utilizzare indumenti integrali di materiale antistatico resistente alle sostanze chimiche.

### 6.2. PRECAUZIONI AMBIENTALI

Fuoriuscite di grandi dimensioni: arginare a distanza il liquido accidentalmente fuoriuscito per il successivo recupero e smaltimento. Evitare la dispersione in corsi d'acqua, reti fognarie, seminterrati o aree confinate.

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### 6.3. METODI E MATERIALI PER CONTENIMENTO E DECONTAMINAZIONE

**Dispersione sul suolo:** Arrestare la perdita se tale intervento può essere compiuto senza rischi. Recuperare mediante pompaggio o con un materiale assorbente adatto.

**Dispersione in acqua:** Arrestare la perdita se tale intervento può essere compiuto senza rischi. Confinare con barriere immediatamente lo sversamento. Avvisare altre imbarcazioni.. Rimuovere dalla superficie schiumando o con assorbenti appropriati.. Consultare uno tecnico specialista prima di usare disperdenti.

Le raccomandazioni per fuoriuscite accidentali a terra e nell'acqua si basano sulle ipotesi di fuoriuscite più probabili per questo prodotto; tuttavia, condizioni geografiche, venti, temperatura (e nel caso di fuoriuscite in acqua) direzione e velocità e della corrente possono influenzare fortemente le azioni appropriate da prendere. Per questa ragione dovrebbero esse consultati esperti locali.

Nota : Le regolamentazioni locali possono prescrivere o limitare un'azione da prendere.

### 6.4. RIFERIMENTO ALLE ALTRE SEZIONI

Vedi Sezioni 8 e 13.

## SEZIONE 7

## MANIPOLAZIONE ED IMMAGAZZINAMENTO

### 7.1. PRECAUZIONI PER L'USO SICURO

Evitare il contatto con il prodotto usato. Evitare piccole fuoriuscite e perdite per impedire il pericolo di scivolamento. Il materiale puo' accumulare cariche di energia statica che possono causare scintille (fonte di innesco). Quando il materiale è gestito in sfuso, una fonte di innesco puo' incendiare i vapori infiammabili o residui che possono essere presenti (per es. durante le operazioni di carico/scarico). Usare appropriate procedure di magazzinaggio e di messa a terra . Comunque lo stoccaggio e la messa a terra non puo' eliminare il rischio di accumulo statico.Consultare le linee guide locali per gli standards applicabili. Indicazioni aggiuntive American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) o National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Accumulatore statico:** Questo materiale è un accumulatore statico.

### 7.2. CONDIZIONI DI STOCCAGGIO SICURO, INCLUDENDO OGNI INCOMPATIBILITA'

La scelta del contenitore, puo' influenzare l'accumulo e la dissipazione della carica statica. Non stoccare in recipienti aperti o privi di etichetta.

### 7.3. USI FINALI SPECIFICI

Sezione 01 Informazioni sull'uso finale identificato Nessuna guida industriale o di settore disponibile.

## SEZIONE 8

## CONTROLLO DELL'ESPOSIZIONE / PROTEZIONE INDIVIDUALE

### 8.1. PARAMETRI DI CONTROLLO

#### VALORI LIMITE DI ESPOSIZIONE

Standard/Limiti di esposizione (Nota : I limiti di esposizione non sono cumulabili)

Nome sostanza	Forma	Limite/Standard			Nota	Fonte
COMPLESSO ORGANICO MOLIZOLFO	Frazione inalabile.	TWA	10 mg/m3			ACGIH

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COMPLESSO ORGANICO MOLIZOLFO	Frazione respirabile.	TWA	3 mg/m <sup>3</sup>			ACGIH
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**Standard/Limiti di esposizione per i materiali possono riscontrarsi durante la manipolazione di questo prodotto:** In presenza di nebbie/aerosoli, si raccomandano i seguenti limiti: 5 mg/m<sup>3</sup> - TLV ACGIH (frazione inalabile).

Nota: Le informazioni sulle procedure di monitoraggio raccomandate possono essere ottenute dagli organismi/enti citati :  
Ente Nazionale Italiano di Unificazione - UNI

## 8.2. CONTROLLI DELL'ESPOSIZIONE

### CONTROLLI INGEGNERISTICI

Il livello di protezione e i tipi di controlli necessari variano a seconda delle condizioni di potenziale esposizione.

Misure di controllo da considerare :

Nessun requisito speciale in normali condizioni d'uso e con ventilazione adeguata.

### PROTEZIONE PERSONALE

La scelta dell'equipaggiamento di protezione individuale varia in base alle condizioni di esposizione potenziale come per esempio applicazioni, procedure di manipolazione, concentrazione e ventilazione. Le informazioni sulla scelta dell'equipaggiamento di protezione, come indicata di seguito, si basa sull'uso normale e definito.

**Protezione respiratoria:** Se i controlli tecnici non mantengono le concentrazioni di agenti contaminanti aerodispersi a un livello adeguato a proteggere la salute dei lavoratori, è opportuno usare un respiratore appropriato. Il respiratore deve essere scelto, impiegato e sottoposto a manutenzione in accordo alle legislazioni vigenti, se applicabili. I tipi di respiratori da utilizzare per questo materiale includono :

Nessun requisito speciale in normali condizioni d'uso e con ventilazione adeguata.

Per elevate concentrazioni aerodisperse, usare un respiratore approvato alimentato ad aria, funzionante a pressione positiva. I respiratori alimentati ad aria, con un flacone di scarico, possono essere appropriati quando i livelli di ossigeno sono inadeguati, se i rischi dei gas/vapori sono bassi, e se la capacità/valori dei filtri di purificazione dell'aria possono essere superati.

**Protezione delle mani:** Le informazioni sui tipi di guanti specifici fornite si basano sulla documentazione pubblicata e sui dati dei produttori di guanti. Le condizioni di lavoro possono notevolmente incidere sulla adeguatezza e durata dei guanti. Contattare il produttore di guanti per informazioni specifiche sulla

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adeguatezza e durata dei guanti nelle condizioni di lavoro specifiche. Ispezionare e sostituire guanti usurati o danneggiati. I tipi di guanti da considerare per questo materiale includono:

Nessuna protezione è normalmente richiesta in normali condizioni d'uso.

**Protezione degli occhi:** In caso di contatto probabile, si raccomanda l'uso di occhiali di sicurezza con protezioni laterali.

**Protezione cutanea e del corpo:** Le informazioni sui tipi di indumenti specifici fornite si basano sulla documentazione pubblicata o sui dati dei produttori. I tipi di indumenti da considerare per questo materiale comprendono:

Nessuna protezione per la pelle è normalmente richiesta in normali condizioni d'uso. Adottare le precauzioni necessarie per evitare il contatto con la pelle in conformità alle procedure standard di igiene industriale.

**Misure igieniche specifiche:** Osservare sempre le misure standard di igiene personale, come per esempio il lavaggio delle mani dopo aver manipolato il materiale e prima di mangiare, bere e/o fumare. Lavare regolarmente gli indumenti da lavoro e l'equipaggiamento di protezione per rimuovere i contaminanti. Eliminare gli indumenti e le scarpe che non possono essere lavati. Praticare una buona pulizia generale.

## CONTROLLI AMBIENTALI

In conformità con le legislazioni vigenti che limitano le emissioni in aria, acqua e terreno. Proteggere l'ambiente applicando le appropriate misure di controllo per prevenire o limitare le emissioni.

## SEZIONE 9

## PROPRIETÀ FISICHE E CHIMICHE

**Nota:** Le proprietà fisiche e chimiche sono fornite esclusivamente per considerazioni di tipo ambientale, di salute e sicurezza e possono non rappresentare completamente le specifiche del prodotto. Per maggiori dati, consultare il Fornitore.

### 9.1. INFORMAZIONI SU PROPRIETÀ CHIMICO-FISICHE DI BASE

**Stato fisico:** Liquido

**Colore:** Marrone

**Odore:** Caratteristico

**Soglia di odore:** Nessun dato disponibile

**pH:** Non fattibile tecnicamente

**Punto di fusione:** Non fattibile tecnicamente

**Punto di congelamento:** Nessun dato disponibile

**Punto iniziale di ebollizione / e intervallo di ebollizione:** > 316 ° C. (600° F) [metodi di test non disponibili]

**Punto di infiammabilità [Metodo]:** >225 ° C. (437° F) [ASTM D-92]

**Velocità di evaporazione (n-butyl acetato = 1):** Nessun dato disponibile

**Infiammabilità (Solidi, Gas):** Non fattibile tecnicamente

**Limite di infiammabilità superiore/inferiore (Volume approssimativo % in aria):** UEL: 7.0 LEL: 0.9 [metodi di test non disponibili]

**Tensione di vapore:** < 0.013 kPa (0.1 mm Hg) a 20° C [metodi di test non disponibili]

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**Densità dei vapori (aria = 1):** > 2 a 101 kPa [metodi di test non disponibili]  
**Densità relativa (a 15 ° C.):** 0.884 [ASTM D4052]  
**Solubilità: acqua** Trascurabile  
**Coefficiente di ripartizione (Coefficiente di ripartizione n-ottanolo/acqua):** > 3.5 [metodi di test non disponibili]  
**Temperatura di autoaccensione:** Nessun dato disponibile  
**Temperatura di decomposizione:** Nessun dato disponibile  
**Viscosità:** 106 Cst. (106 mm<sup>2</sup>/sec) a 40 °C | 14.5 Cst. (14.5 mm<sup>2</sup>/sec) a 100 °C. [ASTM D 445]  
**Proprietà di Esplosione:** Nessuno  
**proprietà Ossidanti:** Nessuno

## 9.2. ALTRE INFORMAZIONI

**Punto di scorrimento:** -27 ° C. (-17° F) [ASTM D97]  
**DMSO Estratto (oliominerale soltanto), IP - 346:** < 3 % peso

## SEZIONE 10 STABILITÀ E REATTIVITÀ

**10.1. REATTIVITA':** Vedi sotto sezioni in basso.

**10.2. STABILITÀ CHIMICA:** Il materiale è stabile in condizioni normali.

**10.3. POSSIBILITÀ DI REAZIONI PERICOLOSE:** Non si verificherà una polimerizzazione pericolosa.

**10.4. CONDIZIONI DA EVITARE:** Calore eccessivo. Fonti di accensione ad alta energia

**10.5. MATERIALI INCOMPATIBILI:** Ossidanti forti

**10.6. PRODOTTI DI DECOMPOSIZIONE PERICOLOSI:** Il materiale non si decompone a temperatura ambiente.

## SEZIONE 11 INFORMAZIONI TOSSICOLOGICHE

### 11.1. INFORMAZIONI SUGLI EFFETTI TOSSICOLOGICI

<u>Classe di Rischio</u>	<u>Conclusione / Osservazioni</u>
<b>Inalazione</b>	
Tossicità acuta: Nessun dato finale dei dati per questo materiale.	Minimamente tossico. In base alla valutazione dei componenti.
Irritazione: Nessun dato finale dei dati per questo materiale.	Pericolo trascurabile a temperatura ambiente o di normale manipolazione.
<b>Ingestione</b>	
Tossicità acuta: Nessun dato finale dei dati per questo materiale.	Minimamente tossico. In base alla valutazione dei componenti.
<b>Pelle</b>	
Tossicità acuta: Nessun dato finale dei dati per questo materiale.	Minimamente tossico. In base alla valutazione dei componenti.
Corrosione cutanea/Irritazione: Nessun dato finale dei dati per questo materiale.	Irritazione trascurabile per la pelle a temperatura ambiente. In base alla valutazione dei componenti.

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<b>Occhio</b>	
Gravi lesioni oculari/Irritazione: Nessun dato finale dei dati per questo materiale.	Può causare disturbi lievi di breve durata agli occhi. In base alla valutazione dei componenti.
<b>Sensibilizzazione</b>	
Sensibilizzazione respiratoria: Nessun dato su organi bersagli per questo materiale	Si presuppone che non sia un sensibilizzante respiratorio.
Sensibilizzazione della pelle: Nessun dato su organi bersagli per questo materiale	Si presuppone che non sia un sensibilizzante cutaneo. In base alla valutazione dei componenti.
<b>Aspirazione:</b> Dati disponibili.	Si presuppone che non sia un pericolo per aspirazione. Basato sulle proprietà chimico-fisiche del materiale.
<b>Mutagenicità delle cellule germinali:</b> Nessun dato su organi bersagli per questo materiale	Si presuppone che non sia un agente mutageno di cellule germinali. In base alla valutazione dei componenti.
<b>Cancerogenicità:</b> Nessun dato su organi bersagli per questo materiale	Si presuppone che non provochi il cancro. In base alla valutazione dei componenti.
<b>Tossicità per il sistema di riproduzione:</b> Nessun dato su organi bersagli per questo materiale	Si presuppone che non sia un agente tossico per la riproduzione. In base alla valutazione dei componenti.
<b>Lattazione:</b> Nessun dato su organi bersagli per questo materiale	Si presuppone che non sia nocivo per i lattanti allattati al seno.
<b>Tossicità specifica per organo bersaglio (STOT)</b>	
Esposizione singola: Nessun dato su organi bersagli per questo materiale	Si presuppone che non provochi danni a organi in seguito a una singola esposizione.
Esposizione ripetuta: Nessun dato su organi bersagli per questo materiale	Si presuppone che non provochi danni a organi in seguito a un'esposizione prolungata o ripetuta. In base alla valutazione dei componenti.

## ALTRE INFORMAZIONI

### Relativo unicamente al prodotto:

La concentrazione del componente in questa formulazione non si presume possa causare sensibilizzazione cutanea, basandosi su tests sul componente e in formulazioni similari..

Olio per motori diesel: non cancerogeni in test sugli animali. Gli oli usati e non usati, per motori diesel, non hanno prodotto alcun effetto cancerogeno negli studi cronici di spalmatura sulla pelle del topo. Olio usato nei motori (a benzina) può divenire pericoloso e mostrare queste caratteristiche : cancerogeno in test sugli animali. Ha causato mutazioni in vitro. Possibile allergene e fotoallergene. Contiene composti aromatici policiclici (PAC) da prodotti di combustione di benzina e/o prodotti da degradazione termica.

#### Contiene:

Olio base severamente raffinato. non cancerogeno in studi sugli animali. Il materiale rappresentativo supera IP-346, il test di Ames modificato e/o altri test di screening. Studi di inalazione e dermatologici hanno evidenziato effetti minimi, infiltrazioni non specifiche nei polmoni di cellule immuni, deposizione dell'olio e minima formazione di granuloma. Non sensibilizzante negli animali.

## SEZIONE 12 INFORMAZIONI ECOLOGICHE

Le informazioni fornite sono basate su dati riguardanti il materiale, i componenti del materiale o materiali simili, mediante l'applicazione di principi ponte.

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#### 12.1. TOSSICITÀ

Materiale -- Non si presume che sia nocivo per gli organismi acquatici.

#### 12.2. PERSISTENZA E DEGRADABILITÀ

##### Biodegradazione:

Componente olio base -- Si presume che sia intrinsecamente biodegradabile.

#### 12.3. POTENZIALE DI BIOACCUMULO

Componente olio base -- Ha potenziale di bioaccumulazione, comunque il metabolismo o le proprietà fisiche possono ridurre la bioconcentrazione o limitare la biodisponibilità.

#### 12.4. MOBILITÀ NEL SUOLO

Componente olio base -- Questo materiale ha bassa solubilità e si presume che galleggi e migri dall'acqua al terreno. Si presume che si ripartisca nel sedimento e in solidi sospesi nelle acque reflue.

#### 12.5. PERSISTENZA, BIOACCUMULO E TOSSICITÀ PER SOSTANZA(-E)

Questo prodotto non è, o non contiene, una sostanza definita PBT o vPvB.

#### 12.6. ALTRI EFFETTI NOCIVI

Non sono previsti effetti nocivi.

### SEZIONE 13

### CONSIDERAZIONI SULLO SMALTIMENTO

Le raccomandazioni per lo smaltimento si basano sul materiale così come fornito. Smaltire in conformità alle leggi e ai regolamenti vigenti e alle caratteristiche del materiale al momento dello smaltimento.

#### 13.1. METODI DI TRATTAMENTO DEI RIFIUTI

Il prodotto è idoneo alla combustione in un impianto chiuso e controllato adatto ai combustibili o allo smaltimento mediante incenerimento in condizioni controllate a temperature molto elevate per impedire la formazione di prodotti di combustione indesiderati.

Proteggere l'ambiente. Smaltire oli usati in luoghi specifici. Minimizzare il contatto con la pelle. Non mescolare oli usati con solventi, fluidi per freni o refrigeranti.

### INFORMAZIONI SULLO SMALTIMENTO AI SENSI DI LEGGE

**Codice Europeo dei Rifiuti:** 13 02 05\*

NOTA: questi codici sono assegnati in base agli usi più comuni per questo materiale e possono non tenere conto degli agenti contaminanti derivanti dall'uso effettivo. Chi produce rifiuti deve valutare il processo effettivamente usato durante la generazione del rifiuto e i suoi contaminanti al fine di assegnare il codice di rifiuto più appropriato.

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Questo prodotto e' considerato un rifiuto pericoloso in accordo alla Direttiva 91/689/EEC sui rifiuti pericolosi, e soggetto alle disposizioni di detta Direttiva, almeno che non sia applicabile l'articolo 1(5) della Direttiva.

**Avvertenza recipienti vuoti** Avvertenza sui contenitori vuoti (quando appropriato): i contenitori vuoti possono contenere residui e possono essere pericolosi. Non cercare di riempire o pulire i contenitori senza opportune istruzioni. I bidoni vuoti devono essere completamente drenati e stoccati in sicurezza fino a un appropriato condizionamento o smaltimento. I contenitori vuoti devono essere riciclati, recuperati o smaltiti da un appaltatore qualificato o autorizzato e in conformità con le normative governative. **NON METTERE SOTTO PRESSIONE, TAGLIARE, SALDARE, FORARE, FRANTUMARE O ESPORRE TALI CONTENITORI A CALORE, FIAMME, SCINTILLE, SCARICHE ELETTROSTATICHE O ALTRE SORGENTI DI ACCENSIONE. ESSI POSSONO ESPLODERE E PROVOCARE LESIONI O LA MORTE.**

<b>SEZIONE 14</b>	<b>INFORMAZIONI SUL TRASPORTO</b>
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**TERRA (ADR/RID):** 14.1-14.6 Non regolamentato per il trasporto via terra.

**NAVIGAZIONE IN ACQUE INTERNE (ADNR/ADN):** 14.1-14.6 Non regolamentato per il trasporto fluviale interno.

**MARE (IMDG):** 14.1-14.6 Non regolamentato per il trasporto via mare in accordo ai codici IMDG

**MARE (MARPOL 73/78 Convention - Annex II):**

14.7. Trasporto alla rinfusa secondo l'allegato II di MARPOL 73/78 e il codice IBC

Non classificato in accordo all'Allegato II

**TRAFFICO AEREO (IATA):** 14.1-14.6 Non regolamentato per il trasporto aereo

<b>SEZIONE 15</b>	<b>INFORMAZIONI SULLA NORMATIVA</b>
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**INFORMAZIONI SULLA NORMATIVA E LEGGI E REGOLAMENTI VIGENTI**

Elencato o esente da elenchi/notifiche nei seguenti inventari chimici (Può contenere sostanze soggette a notifica all'inventario TSCA di sostanze attive dell'EPA prima dell'importazione negli USA): AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

**15.1. NORME E LEGISLAZIONE SU SALUTE, SICUREZZA E AMBIENTE SPECIFICHE PER LA SOSTANZA O LA MISCELA**

**Direttive e regolamenti UE applicabili:**

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1907/2006 ( Registrazione, Valutazione, Autorizzazione e Restrizioni per le sostanze Chimiche, e successive modifiche)  
1272/2008, Classificazione ed Etichettatura di sostanze e miscele.... e successivi  
amendamenti [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

## 15.2. VALUTAZIONE DELLA SICUREZZA CHIMICA

**Informazioni REACH:** È stata effettuata una valutazione della sicurezza chimica per la sostanza / le sostanze che compongono questo materiale.

SEZIONE 16	ALTRE INFORMAZIONI
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**BIBLIOGRAFIA:** Le fonti di informazioni utilizzate nella preparazione di questa SDS includono una o più delle seguenti: risultati di studi tossicologici propri o di fornitori, dossier di prodotti CONCAWE, pubblicazioni di altre associazioni come EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, pubblicazioni U.S. NTP, ed altre fonti, come appropriato.

### Elenco delle abbreviazioni e degli acronimi che potrebbero essere utilizzati (ma non lo sono necessariamente) in questa scheda di dati di sicurezza:

Acronimo	Testo completo
N/A	Non applicabile
N/D	Non determinato
NE	Non stabilito
VOC	Composti Organici Volatici
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	Valori limite di esposizione negli ambienti di lavoro dell'American Industrial Hygiene Association
ASTM	ASTM International, originariamente nota come American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (inventario giapponese)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Valore limite di soglia (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (inventario USA)
UVCB	Sostanze con composizione variabile o Sconosciuta, prodotti di reazione complessa o materiali biologici
LC	Concentrazione Letale
LD	Dose Letale
LL	Carico Letale
EC	Concentrazione Effettiva
EL	Carico Effettivo

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NOEC	Nessun effetto osservabile per concentrazione
NOELR	Nessun effetto osservabile per tasso di carico

---

**CODIFICA DEI CODICI H CONTENUTI NELLA SEZIONE 2 E 3 DI QUESTO DOCUMENTO (a solo scopo informativo):**

[Acute Tox. 5 H303]: Può essere nocivo per ingestione; Tossicità acuta orale, Cat.

Skin Irrit. 2 H315: Provoca irritazione cutanea; Corrosione/irritazione cutanea, Cat.

Skin Sens. 1 H317: Può provocare una reazione allergica della pelle; Sensibilizzazione della pelle, Cat.

Eye Dam. 1 H318: Provoca gravi lesioni oculari; Gravi lesioni/irritazioni oculari, Cat.

[Aquatic Acute 2 H401]: Tossico per gli organismi acquatici; Acuta Env Tox, Cat 2

[Aquatic Acute 3 H402]: Pericoloso per la vita acquatica; Tossicità acuta per l'ambiente, Cat.

Aquatic Chronic 2 H411: Tossico per gli organismi acquatici con effetti di lunga durata; Tossicità cronica per l'ambiente, Cat.

Aquatic Chronic 3 H412: Nocivo per gli organismi acquatici con effetti di lunga durata; Tossicità cronica per l'ambiente, Cat.

**QUESTA SCHEDA DI SICUREZZA CONTIENE LE SEGUENTI REVISIONI ::**

Sezione 01: Contatti di Emergenza della Società Informazione modificata.

Sezione 09 : Limite di Infiammabilità Informazione modificata.

Sezione 09: Punto di Fusione C(F) Informazione modificata.

Sezione 09 : Densità relativa Informazione modificata.

Sezione 09 : Tensione di vapore Informazione modificata.

Sezione 09 : Viscosità Informazione modificata.

Sezione 12 : Informazione modificata.

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Le informazioni e raccomandazioni qui contenute sono, per quanto a conoscenza di ExxonMobil, accurate e affidabili, alla data di pubblicazione. La ExxonMobil può essere contattata per assicurarsi che il documento sia il più aggiornato disponibile presso la ExxonMobil. Le informazioni e raccomandazioni sono offerte all'esame e considerazione dell'utilizzatore, ed è responsabilità dell'utilizzatore di considerare se il prodotto è appropriato per il suo utilizzo specifico. Se il compratore reimpacca questo prodotto, deve assicurarsi che le appropriate informazioni di salute e sicurezza siano incluse nel contenitore. Appropriate segnalazioni e procedure di manipolazione sicura devono essere messe a disposizione del trasportatore e dell'utilizzatore.

Sono severamente proibite alterazioni a questo documento. Eccezione fatta per quanto stabilito dalla legge, la ripubblicazione o la ritrasmissione di questo documento, in tutto o in parte, è vietata. Il termine "ExxonMobil" è usato per convenienza, e può includere una o più ExxonMobil Chemical Company, Exxon Mobil Corporation, o qualsiasi affiliata nella quale detengano interessi.

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Esclusivamente per uso interno

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A

DGN: 2030672XIT (1021351)

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Questo prodotto non è classificato per la salute umana e per l'ambiente, e uno scenario di esposizione non è richiesto. Questa SDS illustra le misure di gestione dei rischi.

<b>ANNEX</b>
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Allegato non richiesto per questo materiale.

## Attachment 40 – Noise Map

**To whom it may concern**

4<sup>th</sup> of March 2024

## 1 Introduction

Acoustical Consultancy has been asked to review literature provided to check compliance with tender document GN/DPS/T/4036/PC3/2023 (10154) with the title of 'Lease and operation of a 60MW power plant', dated the 24<sup>th</sup> of January 2024. Specifically, in satisfying clause 3.1.3.2 Noise Emissions Regulations, both for level requirements and Item 4 of the Literature List (Note 2) of said tender document.

Clause 3.1.3.2 of the tender document states: *The offered gensets shall have a noise emission limit of 81dB(A) at 7.0m from genset enclosure.* Furthermore, the Literature List for said clause asks for a noise map of the installation. The following sections address both criteria.

## 2 Sound pressure level statement.

The noise data available from the manufacturer is provided in *Test Report No. EPD2012-004* dated the 3<sup>rd</sup> August 2012. The information is based on a series of measurements to fulfill the following criteria:

- ISO 8528-10:1998 1m derive sound power data from 15 measurements.
- SAE J1074:FEB2000 providing sound pressure measurements at 7 meters.
- Directive 2000/14/EC, Part B, Item 45. The applicable basic noise emission standard is EN ISO 3744:1995 with a measurement radius of 16 meters to derive sound power data from sound pressure measurements.

Note that both 60Hz and 50 Hz generators are combined in a single report (in the case of the 60Hz versions the RPM would be of 1800).

The following information is extracted for the models in use on the proposed site:

- Table 14
  - Sound Pressure Level data at 7 m
  - Operating condition: 100% Standby
  - Power Output: 1800 kVA (400 VAC)
  - Speed / Freq.: 1500 rpm / 50 Hz
  - L<sub>PA</sub> 80 dBA
- Table 15
  - Sound Pressure Level data at 7 m
  - Operating condition: 100% Prime
  - Power Output: 1600 kVA (400 VAC)
  - Speed / Freq.: 1500 rpm / 50 Hz
  - L<sub>PA</sub> 80 dBA
- Table 16
  - Sound Pressure Level data at 7 m
  - Operating condition: 100% Continuous
  - Power Output: 1400 kVA (400 VAC)
  - Speed / Freq.: 1500 rpm / 50 Hz
  - L<sub>PA</sub> 80 dBA

All three use cases (or power configurations) declare a level of 80dBA at 7 meters.

### 3 Noise map of operating site.

A series of simulations have been conducted of the proposed units installed at the proposed location as seen in Figure 3-1.



*Figure 3-1 Equipment layout on site.*

The contained gensets are off the proposed ground level by 0.5 meters of the minimum ground level at present. The units have been simulated as full sources i.e. all panels are emission points and not point sources due to their physical size in relation to the environment. Ground absorption is set for the area using both CORINNE 2000 and other areas from satellite imagery.

The source sound power used is as in Table 3-1. With the 2MW versions running at 1400 kVA and the 1.6MW version running at 1200 kVA. Spare units are not considered running and not on standby.

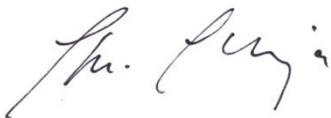
Table 3-1 Sound power data from Table 40 of Test Report No. EPD2012-004.

Supplementary Information - Sound Power Level								ISO 8528-10 (15 pts. per Figure 3)			
Power kVA	Load %	Rating	Overall dB(A)	OBCF 63 Hz dB	OBCF 125 Hz dB	OBCF 250 Hz dB	OBCF 500 Hz dB	OBCF 1k Hz dB	OBCF 2k Hz dB	OBCF 4k Hz dB	OBCF 8k Hz dB
1800	100	Stdby	110	119	119	116	108	104	100	95	95
1600	100	Prime	109	119	119	115	107	103	100	95	97
1400	100	Cont.	109	118	118	115	107	103	100	95	99
1200	75	Prime	109	118	119	115	107	103	100	95	100
800	50	Prime	109	118	119	115	107	104	100	95	91
400	25	Prime	110	118	118	115	108	105	100	96	88
0	0		108	118	117	113	107	102	99	94	88

The transformers are passive and hence placed for their physicality and not as noise sources. The propagation model is based on ISO 1996-2:2017 Acoustics - *Description, measurement, and assessment of environmental noise Part 2: Determination of sound pressure levels*, thereby all the levels are the worst-case scenario with the ISO assumption of the wind or most favourable propagation conditions exist between each source and receiver. There are over 215 thousand receivers in these models as they are based on a 5 x 5-meter grid with height off the ground of 2 meters. The results shown are based on a sixteen-hour day; between 07:00 and 23:00.

Results presented are for these scenarios:

- The proposed units fully operating to provide the 60MW generation over a 24-hour period,
- The proposed units operating to provide the 60MW generation over two 2-hour periods (07:00 to 10:00 and 17:00 to 20:00),
- The proposed units operating to provide the 20MW generation over a 24-hour period with units at old Phase 1 location.



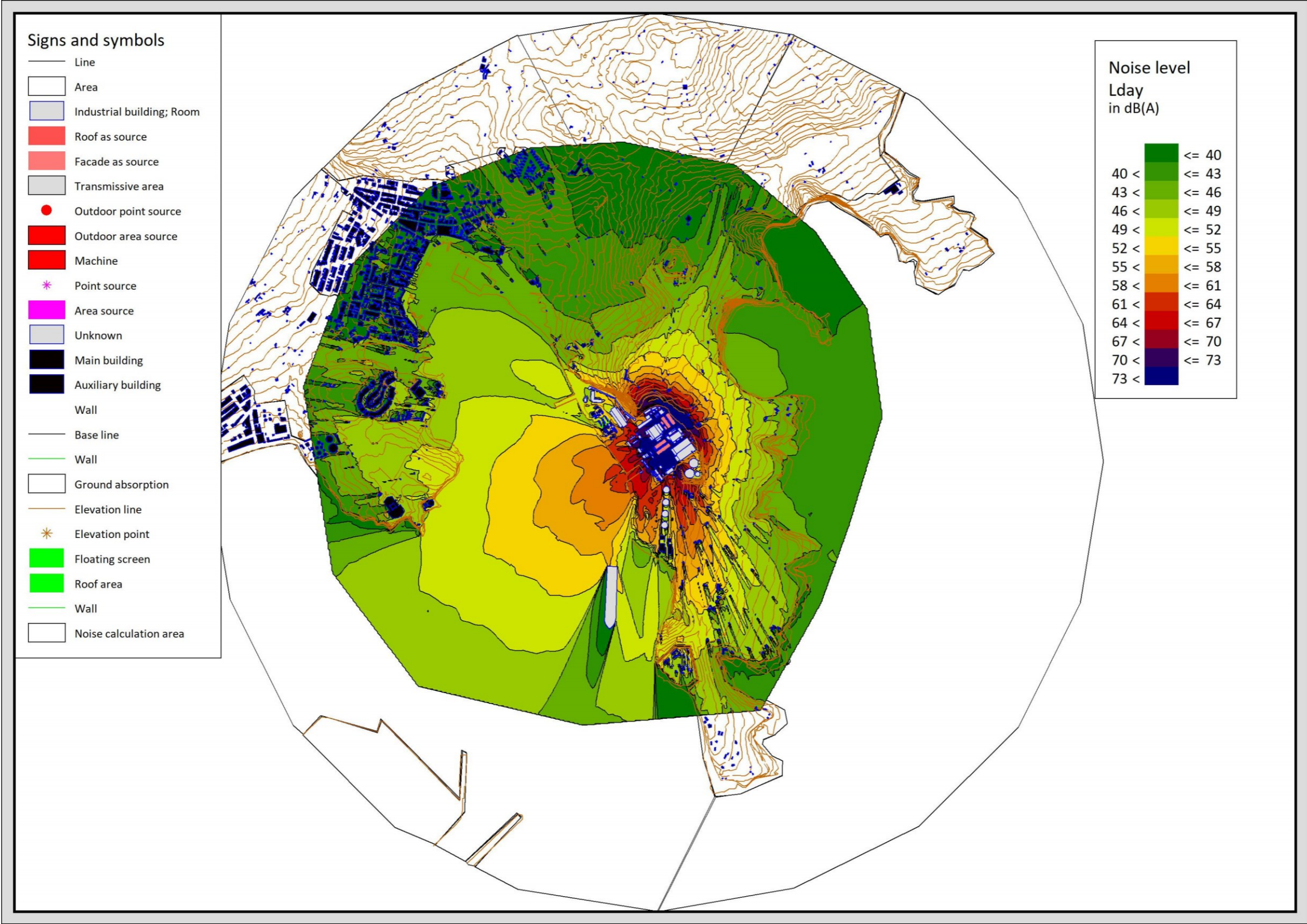


Figure 3-2 Full 60 MW operation continuously over a 24-hour period, L<sub>day</sub> (07:00-23:00)

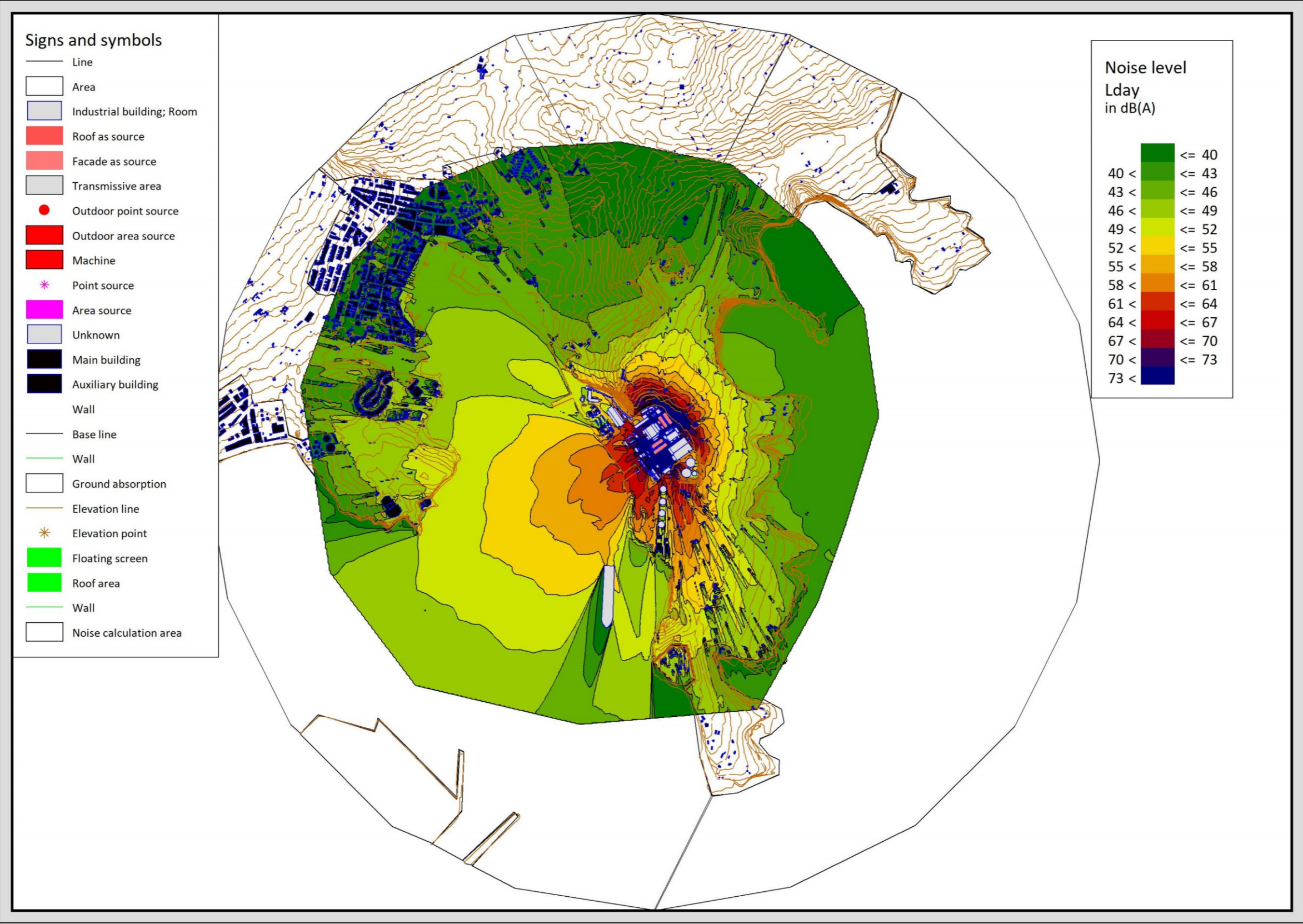


Figure 3-3 Full 60 MW operation continuously over a 6-hour period; 07:00 to 10:00; 17:00 to 20:00, Lday (07:00-23:00)

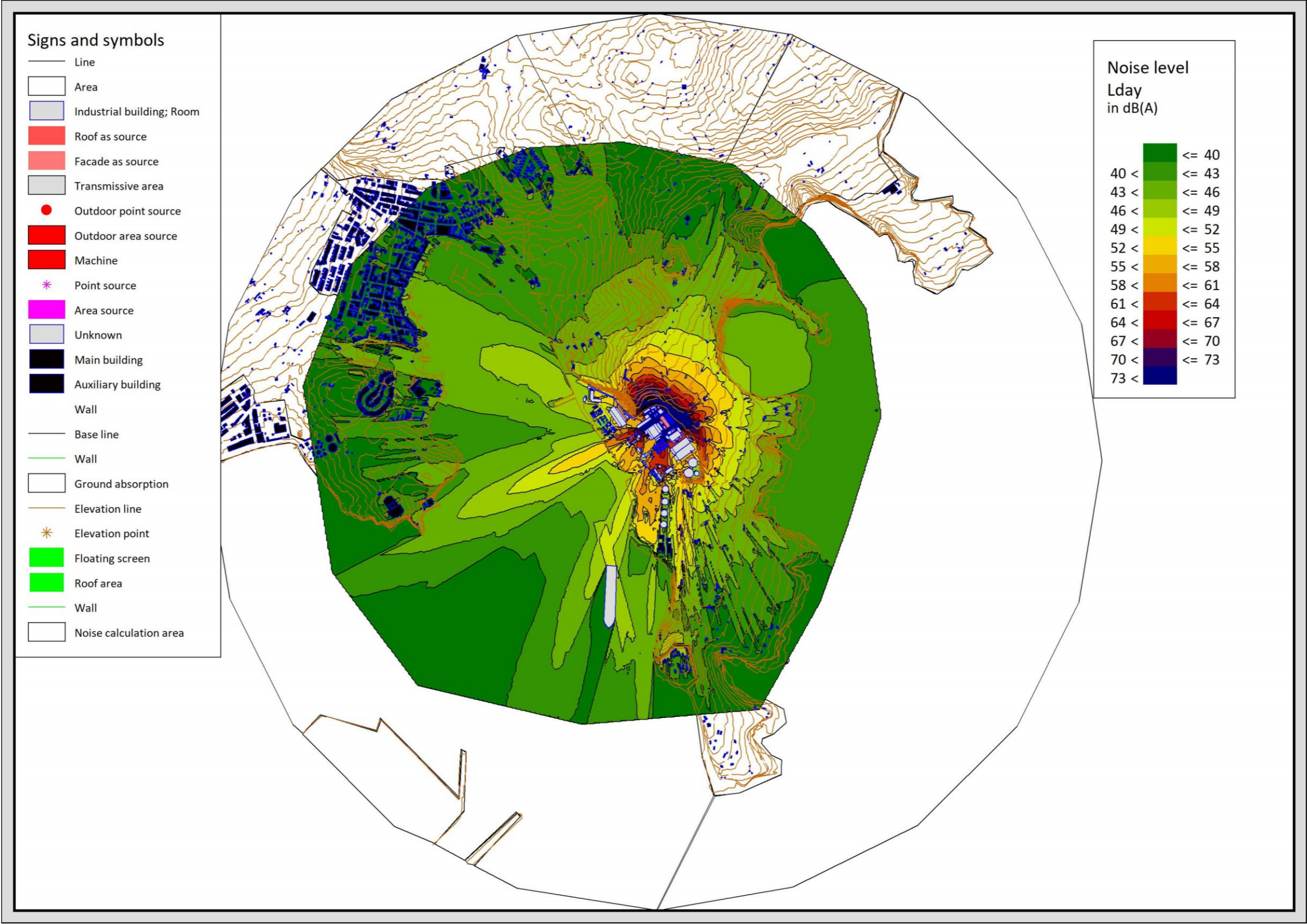


Figure 3-4 20 MW operation continuously over a 24-hour period at Phase 1 location, Lday (07:00-23:00)

## Attachment 41: Techniques to Prevent and Reduce Emissions

44. Section 8.5 of the IPPC application Form C requires a description of the techniques that are being proposed to prevent and reduce air, odour and noise emission production on site.
45. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. Scope for emissions is related to:
- For emissions to air and noise: operation of the plant
  - Odour: handling of fuel
46. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity. The tender stipulates that Enemalta *‘does not envisage that this Plant shall be dispatched for more than 500 hours per year’*.
47. **Odour:** management of this issue is related to the handling of the diesel fuel. The latter:
- Will be delivered using certified pipework equivalent to those already used on site (where odour is clearly not an issue);
  - Refuelling will utilise automatic shut-off valves and high-level alarms;
  - storage is in containerised bunded tanks integrated with the generation plant; and
  - fuel will not be exposed to air at any time.

48. **Noise abatement:** the main abatement feature would be that the generator plant is containerised, and exhaust vent provided with silencers, providing immediate abatement. The specifications of the plant, and the noise modelling carried out by Acousti-Cal (Attachment 40), which indicate that this issue has been studied for various operational scenarios, satisfying tender requirements that '*gensets shall have a noise emission limit of 81dB(A) at 7.0m from genset enclosure*'. These also indicate that noise emissions towards sensitive receptors (as identified in the approved monitoring programme) are limited.
49. **Abatement of emissions to air:** as is the case with Medium Combustion Plant, the gensets are not equipped with abatement systems, and optimisation of emissions results from:
- A plant layout which allows flexible deployment of gensets, to optimise power output, thereby limiting fuel consumption and consequent emissions;
  - Maintenance of plant to maintain optimal performance, including calibration of fuel burn through the regular certification process.

## Attachment 43: Alternative Techniques

50. The development of this proposal originates from the tender issued by Enemalta plc GN/DPS/T/4036/PC3/2023 for the *Lease and Operation of a 60MW Power Plant*. This tender was awarded to the United Equipment Co. Ltd. (UNEC), to deploy and operate a temporary emergency plant at Delimara Power Station (DPS). The consideration of alternative techniques is explored within the PDS provided to ERA, which details how:

*'Enemalta considered two (2) different technologies that can be easily implemented in a short period of time while making use of the available fuel types already in use by other power plants within the Delimara Power Station.'*

*To this end, Enemalta carried out an assessment on Diesel Engine Based plants and Gas Turbine Based plants, with these two being the most viable types of prime movers for the proposed 60MW temporary emergency plant generators. An assessment was carried out by comparing a number of essential parameters of these two with each other in order to obtain a rank by order of priority of the most ideal technology that addresses the requirements of the proposed Scheme.'*

51. The overall purpose of the temporary plant at DPS is provided by Enemalta in the PDS document, i.e.: *'to cater for the following:*
- a. to have access to an extra 60 MWe of electricity supply when the electricity demand surges during the seasonal peaks in winter (mainly in January and February) and in summer (mainly between June and September).*
  - b. to be dispatched and used in emergency situations when one of the country's principal electricity supplies fails during peak demand, effectively eliminating the redundancy to the energy generation potential. These circumstances may be the results of one of the following instances:*
    - i. when the Maltese Islands are in island mode due to a sudden disconnection from the European electricity grid following faults or damages to the existing electrical interconnection.*
    - ii. alternatively, in instances of severe weather conditions affecting the port of Delimara, and in particular affecting the floating LNG storage vessel for extended periods.'*

52. The assessment of options carried out by Enemalta that led to the selection of this technology considered a number of factors, reproduced below for ease of reference. It is understood that the rapidity of deployment was a cardinal criterion in selecting the technological option. This is also likely to apply to selection of fuel supply, as the connection to natural gas supplies would require more preparation, than the connection to the existing liquid fuel network on site.

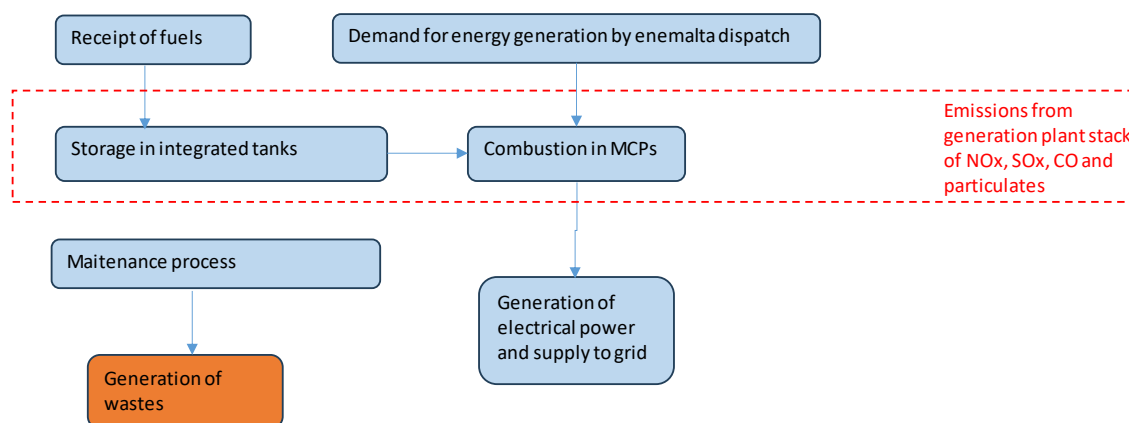
**Table 1:** technical issues considered by Enemalta in selection of technology (PDS: Lease and Operation of a 60MW Power Plant – Enemalta plc, 2024).

Item	Parameter	Diesel Engine Based	Gas Turbine Based
1	60MW Power Output	Can be achieved with multiple small gensets. Individual Gensets typically rated 0.8MW to 1.4MW. Quantity of gensets required: 75 x 0.8MW units or 43 x 1.4MW units	Exact figure may not be achieved as individual gensets available are rated 25MW or 35MW. Quantity required: 2 to 3 units
2	60MW Maintained in Summer	Normally genset output is maintained in summer conditions; alternatively, more gensets may be added to cover shortfall.	GT's output falls as ambient temperature increases. Will derate at high ambient temperatures. Part recovery by water injection for power augmentation.
3	Availability of gensets for power block	May be problematic having the number of gensets required for 60MW readily available and transported to site.	May be less problematic if contractor has 2 or 3 gensets not committed elsewhere.
4	Power Density	Needs a large area due to deployment of multiple small gensets. Space may be limited within DPS for a setup based of 0.8MW units.	Needs a smaller area as 60MW is covered by 3 (25MW units) or 2 (35MW units). Should fit easily in space available at DPS
5	Energy Conversion Efficiency	Typically, around 38% efficient.	Typically, 34% efficient, and efficiency lowers at high ambient temperatures.
6	Exhaust Gas emissions	High NOx and Dust emissions from the gensets.	Low NOx and very low dust emissions. NOx emissions can also be further reduced by DM water injection.
7	Noise Parameter	Individual gensets will be silenced to industrial standards to typically 74dB at 15m. Grouping them together will increase noise proportionally. For 20 gensets, increase in noise level may be up to 26dB i.e. reaching 100dB at Diesel Engine Based simultaneously noise levels will increase even more.	GT enclosure will provide noise attenuation to typically 85dB at 1.0m from enclosure.

Item	Parameter	Diesel Engine Based	Gas Turbine Based
8	60MW Power Connection to Grid	Requires multiple connection points as gensets deliver at 400V, and step-up transformers required to transmit at 33kV. Requires also 33kV switchboard to group gensets to the 2 Enemalta 33kV connections available.	Should require direct connections via step-up transformers to the 2 Enemalta 33kV connections. Will require 33kV CBs on power block side.
9	Redundancy	If 1 or a number of gensets fail to start, loss of capacity will be low.	Failure of start/trip of 1 genset will result in up to 50% loss of availability.
10	Onboard Fuel Storage	System will consist of a number of 'small' fuel tanks set adjacent to a group of gensets.	Having an onboard fuel storage tank(s) will entail an 400T storage tank for 1 days.
11	Startup Time	Fast startup time, typically 30sec from start command to FSNL (Full Speed No-Load).	Startup time typically 5 min to FSNL (Full Speed No-Load) if aeroderivative GTs are employed (normally the case).
12	Ground Preparation	Will require simple ground preparation to support the 20ft/40ft containers.	May require more complex ground preparation given that Genset package is made up of a number of enclosures that need to be aligned and kept aligned together
13	Overload capability	May allow 10% overload for 1hr every 12hrs on each genset.	Does not allow overload operation.
14	Rental Cost	Rental cost of diesel engines compared to gas turbines is estimated at 1.0:1.5, but depends on number available on the market.	Rental cost may be high depending on genset availability on the market.

## Attachment 54: Mass Flow Diagram

Mass & Process flow diagram illustrating the major process steps for all activities taking place on site.



Generation of emissions in marked in red  
 Generation of wastes marked in orange

Input of materials:	Restricted to fuel
Abstraction of water:	Nil
Processes:	Generation & maintenance
Treatments:	NIL
Output of products:	generation of electrical power
Generation of emissions:	Mass flows related to emissions to air are expected to vary according to demand for power generation. Exhaust flow of MCP is between 119.4 – 167.8m <sup>3</sup> /min depending on load. The maximum time of usage contemplated by the tender is of 500 hours over three years i.e. equivalent to under 21 non-consecutive days.
Generation of effluents:	NIL
Generation of waste:	Minimal amounts during maintenance, after 500 hours of use. Maintenance will be carried out prior to commissioning of the system, and after the 500 hours elapse.

## **Attachment 56: Development Consent**



## PLANNING AUTHORITY

Ing. Ryan Fava  
Executive Chairman  
Enemalta plc

20<sup>th</sup> February 2024

### Re: Installation of a 60MW Temporary Emergency Generation Plant at Delimara Power Station

With reference to your letter dated the 9<sup>th</sup> of January 2024, kindly note that the Executive Council of the Planning Authority in its meeting of the 6<sup>th</sup> of February 2024 took cognisance of your request to place a temporary emergency generation plant at the Delimara Power Station without the need of a development application.

Article 70(2)(f) of the Development Planning Act (Chapter 552) states that *the placing of plant and machinery required for the operation of a use already covered by a development permission on land within the perimeter of the site covered by the same permission of the use being operated* is not defined as development.

Hence, you may proceed with the said installation within the boundaries indicated in your letter above quoted.

Regards,

Oliver Magro  
Executive Chairman

## **Attachment 59: Certificate of Incorporation**

# COMPANIES ACT, 1995

## CERTIFICATE OF COMPLIANCE WITH THE COMPANIES ACT, 1995

United Equipment Company (UNEC) Ltd

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Name of Commercial Partnership

Bonnici Hse, Sardines Street, Burmarrad SPB 08,

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Malta

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Registered Office

C 10827

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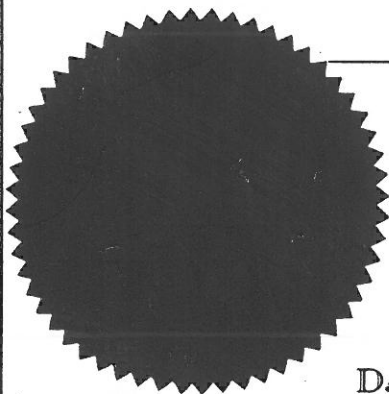
Registration No.

This is to certify that the above-mentioned  
Commercial Partnership which was registered under  
the Commercial Partnerships Ordinance on the

19 July, 1989

has complied with the provisions of the Companies Act, 1995  
in terms of Section 428 of the Act and shall be  
regulated by the said Act, with effect from the

31 December 1997



*O. Grech*  
O. GRECH

---

Registrar

Dated this 10th November, 1997  
..... day of ..... 19.....

## **Attachment 62: Financial Provision**

## Attachment 63: Cessation of Operations & Outline Decommissioning Plan

53. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity.
54. This Outline Decommissioning Plan describes the decommissioning and dismantling of the temporary emergency plant, once the tender contract has terminated, and instruction are for the eventual decommissioning. A full decommissioning plan will be submitted in accordance with terms of reference to be provided by the Authority, applying the standards that may be applicable at that point in time.
55. The full decommissioning plan will be accompanied by an application for the surrender of the IPPC subsidiary permit, detailing the methods that will be applied to ensure that the site will be rendered fit for reuse. The approval of the surrender permit, together with the execution of any testing and remediation works that may be necessary to render the site fit for subsequent use, would fulfil the environmental obligations of UNEC as operator. The after use of the site would then be the subject of separate studies and development permit applications, as may be applicable.
56. **The decommissioning process** would essentially reverse the deployment process:
- i. disconnection of services, including fuel provision and electricity connections;
  - ii. removal of the generation plant off-site for eventual reuse away from DPS; and
  - iii. cleaning and decommissioning of pipework extending off-site to the tie-in point with Enemalta.

Method statements for the execution of the above processes may be required as part of the full decommissioning plan, as such documents would need to be drafted according to the standards that may be applicable in the future.

57. The boundary wall of the terminal will be retained to ensure site containment, prevent unauthorised access, and safeguard people and third parties from any possible hazard due to the decommissioning works.

58. Systematic decommissioning and dismantling will not commence until the following operations are completed:
- All necessary approvals and/or clearances are obtained from the competent Authorities;
  - hazardous chemicals present on site will be identified and removed, either as a product fit for reuse, or as a waste;
  - remaining stock of fuels on site are transferred off site through the fuel lines;
  - all tanks are emptied and certified as being free of gas or flammable vapours;
  - purging of fuel delivery lines and vent pipes, and cleaning of all pipework; and
  - disconnection of electricity services as directed by health and safety considerations.
59. Decommissioning and dismantling will not involve any excavations, or demolition of existing concrete surfaces.
60. **Addressing incidents recorded on site during operation of the temporary plant:** should oil spills result during operations, decommissioning may expose contaminated ground to the air or rainwater. All precautions will be taken to ensure prevention of emissions to the air and/or movement of waterborne contamination off site. Such measures shall include:
- avoidance of all excavation until the site has been remediated; and
  - sealing of areas newly exposed to the elements at the site of the incident
61. **Render the site fit for reuse:** remediation would necessarily involve testing of samples to determine the extent of ground contamination (i.e. fuel or lubricant oil) that may require remediation. A full decommissioning plan would include a proposal for evaluation of potential ground contamination, including a comparison of comparison of pollution levels against a baseline as required under the Industrial Emissions Directive (2010/75/EU), followed the process defined within the European Commission *Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C 136/03)* – see also attachment 8 for details.
62. **Wastes from cessation activities:** all wastes generated by the decommissioning or remediation processes will be kept segregated in areas that will be designated for that purpose. The areas will be marked and signposted, and located in a manner that will facilitate proper access and housekeeping.
63. All necessary containment measures (including provision of cover) will be applied, and all liquid wastes will be banded. Any hazardous wastes generated on site will be removed as soon as possible, and sent/exported to permitted waste management facilities using licensed waste carriers.

## Attachment 64: Environmental and Fire risks

64. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity.
65. Review of the materials and processes on site highlights that the main environmental risks are those related to spillage and fire. The latter issue is addressed in the report prepared by Mr. Adrian Cauchi (Health and Safety Advisor), attached overleaf<sup>3</sup>.
66. Management of spillage risk will be through the following measures:
- Fuel will be delivered using certified pipework equivalent to that already used on site (where odour is clearly not an issue);
  - Pipework will be certified at the frequency required by the IPPC permit, and will be inspected on a weekly basis to confirm continued integrity;
  - Refuelling will utilise automatic shut-off valves and high-level alarms;
  - storage is in containerised bunded tanks integrated with the generation plant; and
  - spill kits will be present on site, and staff will be trained in their use.

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<sup>3</sup> It should be noted that this report is to be considered a living document; although project design is considered final, minor modifications that may be required will necessitate revision of this report.

## Attachment 65 & 66: Effects on other sites & Assessment of Effects on other Sites

68. The proposed emergency power plant consists of 48 containerised generator plant (XQ 2000 IPP – see Attachment 2 for specifications), which shall be installed at the Delimara Power Station in areas identified as Site 1 and Site 2. The Power Plant shall be connected to the Enemalta electricity grid via two 33kV connections. The plant shall be fuelled by diesel (gasoil EN590), which will be made available by Enemalta as required by the demand for dispatch of the plant for the generation of electricity. The tender stipulates that Enemalta *'does not envisage that this Plant shall be dispatched for more than 500 hours per year'*.
69. **Effects on other sites:** review of plant details and operation highlight that emissions to land, water and sea are negligible during normal operations. Emissions having the potential for movement off site are noise and emissions, as described previously in Attachment 41.
70. **Effects caused by incident:** small scale incidents are expected to be contained on site, where effects to land and water are described in the site report (Attachment 08). The potential for catastrophic failure is considered in Attachment 64, where provisions for addressing such incidents have been developed in line with the requirements of the Coordinated Emergency Response Plan, as may be directed by Enemalta as the responsible coordinator on site.
71. **Operation of the plant:** demand specification is summarised in the Enemalta PDS as follows:
- 'The overall objectives and purpose of the Temporary Emergency Plant at Delimara Power Station is to cater for the following:*
- a) to have access to an extra 60 MWe of electricity supply when the electricity demand surges during the seasonal peaks in winter (mainly in January and February) and in summer (mainly between June and September).*
- b) to be dispatched and used in emergency situations when one of the country's principal electricity supplies fails during peak demand, effectively eliminating the redundancy to the energy generation potential. These circumstances may be the results of one of the following instances:'*
- i. when the Maltese Islands are in island mode due to a sudden disconnection from the European electricity grid following faults or damages to the existing electrical interconnection.*

ii. *alternatively, in instances of severe weather conditions affecting the port of Delimara, and in particular affecting the floating LNG storage vessel for extended periods.'*

72. The above implies that operations of the emergency plant are envisaged for a total of 500 hours over three years, where the total number of hours is equivalent to just under 21 days. The circumstances of use would be during peak demand, due to a failure in current electrical provision capacity. It would be during these periods of peak demand that scope for emissions to air or of noise would occur.

73. **Significance of noise emissions to other sites:** effects on other sites caused by noise are expected to be minimal, as based on the noise assessment in Attachment 40. It is recognised that even simple malfunction (such as a damaged bearing on a ventilator fan) may cause disproportionate nuisance. In this regard, regular inspection of plant, attention to maintenance requirements, and the existing provisions for noise monitoring as per condition 2.12.12 of the current permit (see below) should be sufficient to mitigate this issue:

*'2.12.12 Following receipt of any complaints related to noise emissions or a request by the Competent Authority or a notification from any of the Permit Holders within the installation, the Permit Coordinator shall ensure that such complaints are investigated and where necessary accompanied by the necessary noise monitoring in accordance with the Approved Doc IP 0002/21/DOC 3. Such investigations and monitoring shall be carried out in collaboration with the other Permit Holders and where necessary led by the permit Coordinator.'*

74. **Significance of emissions to air affecting other sites:** effects on other sites caused by emissions to air from the emergency generation facility are dependent on the extent to which the plant is required to operate. The description given above implies that usage of the plant is expected to be for short time periods in most circumstances, so the effect on other sites is expected to be transient.

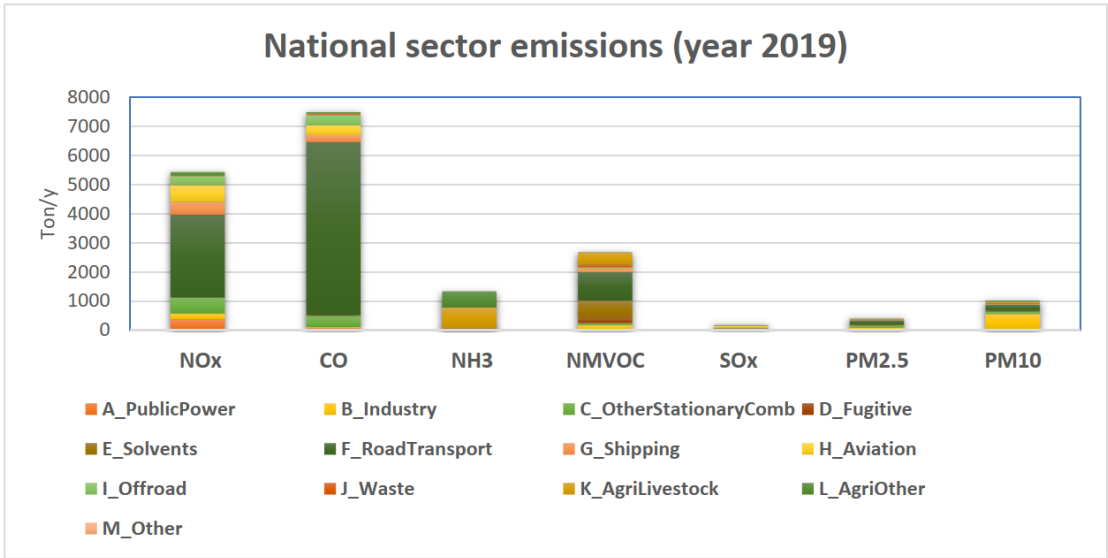
75. The significance is expected to be negligible in those circumstances where weather conditions facilitate dispersion of emissions to air: during storm events where the LNG Floating Storage Unit is on the storm moorings, and LNG supply is suspended. In this case, emissions from the emergency plant will replace those from other plant, and be rapidly dispersed.

76. Calm weather conditions may occur under peak demand in February and particularly in the summer months. In this scenario, emissions from this plant would add to the cumulative effect of emissions from the entire installation (i.e. all operators on site, depending on dispatch of plant by Enemalta). It is pertinent to note the conclusion of the approved Air Dispersion Modelling Study Report - Delimara Power Station (Ambiente, 2023), which summarizes the results of the modelling application for the emissions of the Delimara Power Station:

The results of the modelling application area were analysed and compared to the air quality standards parameters defined in EU Directive 2008/50/EC. Simulations were implemented to compare the different emissions and the related impacts on air quality for the different scenarios of the power generation plant related to the fuels (diesel, LNG, etc) used. The major pollutants (PM10, NOx, PM2.5 and SO2) were simulated and compared, on the same meteorological period, to assess the variation of the air quality impact due to the modification of the power plant emissions. Selected receptors were identified inside the area of 15 km radius round the power station to be used for comparison. The results show that the different scenarios of the power generation plant related to the fuels used do not significantly change the impacts on air quality for all the pollutants.'

77. Review of the data on emissions utilised in Ambiente (2023) study indicates an improvement over previous scenarios where HFO was used as a fuel, and does not highlight that emissions from power plant cause specific issues in local areas. Indeed, the review of national emissions included within this report highlights the high contribution of road transport to various pollutants (particularly NOx, CO and PM values – see figure 6 below). It is these latter values, directly generated in the locality at ground level, which have the most direct effect on local air quality.

Figure 6: national emissions by sector from Ambiente, 2023.



78. Given the above circumstances, limited use of the emergency plant during low wind conditions is expected to result in a transient cumulative impact, added to those already experienced in other localities (largely from road transport). Given that the temporary emergency plant is expected to be used for the equivalent of 21 days over three years in the worst-case scenario, the significance of this impact is deemed to be low.
79. **Transboundary effects:** given the above evaluation, transboundary effects are not expected.