

Subject: IP 0002/21 - Application for the renewal and variation of the Delimara Power Station IP 0002/07/G operated by Electrogas Malta Ltd., D3 Power Generation Ltd. and Enemalta plc.

Date: 31st January 2022

To: ERA Board

From: Environment and Resources Directorate

Case Officer: Gabriella Grima

1. Background

This report has been prepared for the determination of the Integrated Pollution Prevention and Control (IPPC) Permit IP 0002/21 for the operation of Delimara Power Station carrying out activity *1.1 combustion installation with a rated thermal input exceeding 50 MW* under Industrial Emissions (Integrated Pollution Prevention and Control) Regulations S.L. 549.77. The current permit was determined by the ERA board on 22nd September 2017 for a period of years and extended until 25th February 2022.

The IPPC permit for this installation consists of 4 subsidiary permits which include a framework permit covering over-arching activities and activities which utilise common infrastructure, for which Enemalta plc is the Permit Coordinator and 3 other operator specific permits which include conditions specific to the operations carried out by the respective operators.

The application comprises of the following:

- a) Renewal and Variation for Electrogas Malta Ltd
- b) Renewal for D3 Power Generation Ltd.
- c) Renewal and Variation for Enemalta plc.

The variations proposed by the respective operators are detailed in section 2 of this memo. In this regard, the application for renewal and variation from Electrogas Malta Ltd. was submitted on 12 February 2021. In this request, the operator proposed a number

of variations to the permit, this was subsequently amended to the list delineated in section 2 of this memo.

In tandem on 28th May 2020 the Electrogas Malta Ltd. submitted the medium combustion plants registration for several existing permitted combustion plants on site and an additional new combustion plant, which is being consolidated as part of this renewal and variation which was submitted on 9th December 2021.

On the 26th February 2021 and 7th April 2021, D3 Power Generation Ltd. submitted a request for renewal of the IPPC permit.

On the 25th February 2021, Enemalta plc. submitted a request for the renewal of the IPPC permit. In view that the applicant has indicated that an additional medium combustion plant has been installed on site, the Operator submitted an application for variation of the permit, as requested by the Authority

2. Case Officer Report

2.1 Proposal

The operator is authorized to carry out the activities and the associated activities specified in the table below.

3.1.1 Framework Permit specified activities

Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity	Description of specified activity	Limits of specified activity	Extent of responsibility
Section 1.1: Combustion installations with a rated thermal input exceeding 50 MW	<p>Generation of electrical energy through the combustion gasoil.</p> <p>Installation consists of two boilers making up DPS1 (phase 1A and phase 1B), two open cycle gas turbines (DPS2 and DPS3), two combined cycle</p>	From receipt of fuel to delivery of utility.	Enemalta plc.

	gas turbines (DPS4 and DPS5)		
	<p>Generation of electrical energy through the combustion of Natural Gas</p> <p>Installation consists of three Combined cycle gas turbines (DPS 7),</p>	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	From receipt of fuel and storage within the Floating Storage	ElectroGas Malta Ltd.

		Unit to delivery to the Regasification Plant.	
	Handling and storage of heavy fuel oil	From receipt of the fuel and storage in tank farm to combustion in DPS1 in emergency cases only	Enemalta plc.
	Handling and storage of gasoil	From receipt of the fuel and storage in tank farm from Enemalta plc. at tie-in point TP4.D3 to combustion in the diesel engines 5 to 8 and the 3.85MW _{th} auxiliary boiler	D3 Power Generation Ltd.
		From receipt of fuel and storage in tank farm to combustion in DPS 2 to 5.and delivery of utility to D3PG at tie in point TP4.D3	Enemalta plc
Associated activity of regasification and gas pressure reduction	Operation of a regasification plant and a gas reducing station	From receipt of liquified 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 at Marsaxlokk Bay	Enemalta plc

		to dosing and delivery of utility.	
	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 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	Enemalta plc.
	Provision of potable water	From receipt of potable water from mains	Enemalta plc.

		system to distribution through metered tie-in point to D3PG, EGM and own use.	
	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. ¹
	Auxiliary steam	From generation of additional steam by D3PG to delivery to Enemalta.	D3 Power Generation Ltd.
Other	Decommissioning and dismantling plant constituting DPS phase 1 and ancillary equipment	From decommissioning and demolition as per approved method statements to the appropriate disposal/recovery of	Enemalta plc.

¹ Management of catchment zones remain the responsibility of each operator.

		resulting waste streams.	
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3.1.2 Electrogas Malta Ltd. Specified activities

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 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	From receipt of fuel to storage within the Floating Storage Unit to delivery to the Regasification Plant.
	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; including IFV technology, gas compressors, Nitrogen generating plant and non-visible combustion chamber (NVCC) and a gas receiving station.	From receipt of liquefied natural gas from the floating storage unit to delivery to D3PG (DPS6) and DPS 7 through the gas receiving station.

Associated activity of other combustion plant	<p>Operation of:</p> <ul style="list-style-type: none"> • 2 X FSU main Boilers (58.5MWth each operating at 4.3MWth)² • 2xFSU Aux. boilers (16.25MWth each) • FSU emergency Diesel gen-set 1 (3.6MWth) • FSU emergency Diesel gen-set 2 (0.45MWth) • FSU auxiliary diesel gen set (5 MWth) • 2 X gas heating boilers at the gas receiving station (0.42MWth each) • CCGT emergency diesel gen-set (2.6 MWth) • Re-gas emergency diesel gen-set (0.54 MWth) 	From receipt of natural gas or gasoil to combustion in the specified plant.
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.

² the 2 X FSU main Boilers (58.5MWth each operating at 4.3MWth) shall only operate while the LNG FSU is mobilised as per immobilisation procedure detailed in condition 1.8.2.6

3.1.3 D3 Power Generation Ltd. specified activities

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	<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 conversion of the diesel engines 1 to 4 to receipt of fuel for combustion in diesel engines 1 to 8.
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 3.85MWth 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.

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	<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 conversion of the diesel engines 1 to 4 to receipt of fuel for combustion in diesel engines 1 to 8.
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 _{th} 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.

3.1.4 Enemalta plc. specified activities

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	<p>Generation of electrical energy through the combustion of gasoil</p> <p>Generation of electrical energy through the combustion of heavy fuel oil in emergency cases only²</p> <p>Installation consists of two boilers making up DPS1 (phase 1A and phase 1B)³, two open cycle gas turbines (DPS2 and DPS3), two combined cycle gas turbines (DPS4 and DPS5)</p>	From receipt of fuel to delivery of utility.
Associated activity of fuel handling and storage	Handling and storage of heavy fuel oil	From receipt of the fuel and storage in tank farm to combustion in DPS1 in emergency cases only

³ Until such time that operator informs ERA on official shutdown of plant after which dismantling operations on plant DPS1 can commence.

	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 _{th} Auxiliary Boiler and combustion in DPS 2 to 5;
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	Decommissioning and dismantling plant constituting DPS phase 1 and ancillary equipment	From decommissioning and demolition as per approved method statements to the appropriate disposal/recovery of resulting waste streams.

Proposed Variation for ElectroGas Malta Ltd.

- a) Ship-to-Ship transfer - LNG offloading;
- b) Glycol expansion tank upgrade;
- c) Improved Power Supply Feeder;
- d) Addition of FSU Boil-Off Gas Attenuator;
- e) Improved bunding of make-up water glycol tank;
- f) Introduction of Oily Water Separator at Regasification Site;
- g) Additional of an oil boom to improve emergency response in case of oil spill;
- h) Introduction of a fixed sewage connection to the porta cabin office facilities;
- i) Installation of Chemical Stores used in plant operation/maintenance (at both generation and regasification sites)
- j) Installation of office facilities as approved by PA/04297/18;
- k) Updates with respect to use of fluorinated gases on site;
- l) Upgrade to reflect changes in fire suppression systems in line with regulations;
- m) Replacement of a cooling water pump;
- n) Removal of AST and QAL 2 testing requirement for GT bypass stacks;
- o) The use of an Inert Gas Generator on board the FSU; and
- p) Changes in the status of the cooling water mixing chamber.

- q) Inclusion of additional emission point to air falling within scope of the medium combustion plant regulations (S.L.549.122)

Proposed amendments to permitted activities

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	<p>Generation of electrical energy through the combustion of Natural Gas</p> <p>Installation consists of three Combined cycle gas turbines (DPS7)</p>	From receipt of fuel to delivery of utility.
Associated activity of fuel handling and storage	Handling and storage of Liquefied 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>
	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	<p>Operation of a Regasification Compound;</p> <ul style="list-style-type: none"> a) including IFV technology b) gas compressors, Nitrogen generating plant c) non-visible combustion chamber (NVCC) and a gas receiving station 	From receipt of liquefied natural gas from the floating storage unit to delivery to D3PG (DPS6) and DPS 7 through the gas receiving station
Associated activity of other combustion plant	<p>Operation of:</p> <ul style="list-style-type: none"> a) Two FSU main Boilers (58.5MWth each operating at 4.3MWth) b) (CP1) CCGT emergency diesel gen-set (2.191 MWth) c) (CP2 & CP3) Two FSU Auxiliary boilers (16.25MWth each) d) (CP4) FSU emergency Diesel gen-set 1 (3.4 MWth) e) (CP5) FSU auxiliary diesel gen set (4.5 MWth) 	<p>From receipt of natural gas or gasoil to combustion in the specified plant.</p> <ul style="list-style-type: none"> a) Operating on gas oil b) Operating on gas oil c) Operating on natural gas d) Operating on gas oil e) Operating on gas oil

	<p>f) (CP6) FSU Inert Gas Generator (14.33 MWth)</p> <p>g) FSU emergency Diesel gen-set 2 (0.45MWth)</p> <p>h) Two gas heating boilers at the gas receiving station (0.42MWth each)</p> <p>i) Re-gas emergency diesel gen-set (0.54 MWth)</p>	<p>f) Operating on gas oil</p> <p>g) Operating on gas oil</p> <p>h) Operating on natural gas</p> <p>i) Operating on gas oil</p>
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.

Proposed Emissions and Mitigation for ElectroGas Malta Ltd.

Emission limits to air and monitoring				
Emission point reference		Parameter	Limit	Frequency
D7A - D7F	CCGT 1-3	Dust (TSP)	5 mg/ Nm ³	Continuous
		SO ₂	10 mg/Nm ³	Continuous
		NOx (measured as NO ₂)	35 mg/Nm ³ (daily average and yearly average)	Continuous
		CO	30 mg/Nm ³ (yearly average)	Continuous
D7G	Gas receiving station gas boiler 1	-	-	-
D7H	Gas receiving station gas boiler 2	-	-	-
D7I	FSU Main Boiler 1	-	-	-
	FSU Main Boiler 2	-	-	-
	FSU Aux Boiler 1 (CP2)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years
	FSU Aux Boiler 2 (CP3)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years
D7J	FSU emergency Gen Set 1 (CP4)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years
D7K	FSU emergency Gen Set 2	-	-	-
	FSU auxiliary diesel Gen Set (CP5)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years

Emission limits to air and monitoring				
Emission point reference		Parameter	Limit	Frequency
D7L	CCGT emergency Gen Set (CP1)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years
D7M	Re-gas emergency Gen Set	-	-	-
D7N	Non Visible Combustion Chamber (NVCC)	-	-	-
D7O	Inert Gas Generator (CP6)	NOx	200 mg/Nm ³	Every three years
		CO	-	Every three years

Minor updates to the permitted activities of **D3 Power Generation Ltd.**

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	<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 conversion of the diesel engines 1 to 4 to 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 _{th} 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.

Proposed Emissions and Mitigation for D3 Power Generation Ltd.

Emission limits to air and monitoring			
Emission point reference	Parameter	Limit	Frequency
D6A – D6D (operating using natural gas)	Dust (TSP)	5 mg/ Nm ³	Continuous
	SO ₂	10 mg/Nm ³	Continuous
	NO _x (measured as NO ₂)	55 mg/Nm ³ (daily average) and 50 mg/Nm ³ yearly average)	Continuous
	CO	110 mg/Nm ³ (110% of all 24 hourly mean values)	Continuous

		100 mg/Nm ³ (100% calendar monthly mean value)	
	Ammonia	2.6 mg/Nm ³	Continuous
	SO ₃	–	Periodic (On an annual basis)
	Formaldehyde	–	Periodic (On an annual basis)
	CH ₄	–	Periodic (On an annual basis)
D6A – D6D (operating using gas oil)	Dust (TSP)	20 mg/ Nm ³ (daily average and yearly average)	Continuous
	SO ₂	110 mg/Nm ³ (daily average and yearly average)	Continuous
	NOx (measured as NO ₂)	150 mg/Nm ³ daily average and 125 mg/Nm ³ yearly average)	Continuous
	CO	1000 mg/Nm ³ (yearly average)	Continuous
	Ammonia	2.6 mg/Nm ³	Continuous
	SO ₃	–	Periodic (On an annual basis)
	TVOC	–	Periodic (On a biannual basis)
	Metals and metalloids except mercury (As,Cd,Co,Cr,Cu Mn,Ni,Pb,Sb,Se Ti,V,Zn)	–	Periodic (On an annual basis)
D6F (CP1)	NOx	200 mg/Nm ³	Every three years
	CO	–	Every three years

Proposed Variation for Enemalta plc.

- a) Inclusion of additional emission point to air falling within scope of the medium combustion plant regulations (S.L.549.122)
- b) Amendments to the permitted activities as delineated below.

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	<p>Generation of electrical energy through the combustion of gasoil</p> <p>Generation of electrical energy through the combustion of heavy fuel oil in emergency cases only²</p> <p>Installation consists of two open cycle gas turbines (DPS2 and DPS3), two combined cycle gas turbines (DPS4 and DPS5)</p>	From receipt of fuel to delivery of utility.
Associated activity of steam generation	Generation of steam by means of a 4 MW TH 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 _{th} Auxiliary Boiler of D3PG and;
		From receipt of fuel and storage in tank farm to combustion in DPS 2 to 5 and 4MW TH 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

Proposed Emissions and Mitigation for Enemalta plc.

Emission limits to air and monitoring			
Emission point reference	Parameter	Limit	Frequency
D2– D5(operating using gas oil)	Dust (TSP)	10 mg/ Nm ³ daily average and 5 mg/ Nm ³	Continuous in the event that CEMS are installed and plants no longer

		yearly average	remain as back up plants.
	SO ₂	55 mg/Nm ³ daily average and 35mg/N m ³ yearly average	
	NOx (measured as NO ₂)	250 mg/Nm ³ daily average	
	CO	55 mg/Nm ³ (110% of all 24 hourly mean values) and 50 mg/Nm ³ (monthly average)	
(CP1)	NOx	200 mg/Nm ³	Every three years
	CO	-	Every three years

Common Monitoring requirements;

Sediment monitoring requirements			
	Parameter	Limit (mg/kg dw)	Frequency
1	Arsenic	-	Every three years
2	Cadmium	0.3	
3	Chromium	50	
4	Copper	-	
5	Lead	30	
6	Mercury	0.3	
7	Nickel	30	
8	Zinc	-	
9	Total Petroleum Hydrocarbons	-	
10	Tributyltin compounds	0.005	
11	C10-C13 chloroalkanes	-	
12	Polychlorinated biphenyls	-	

Emission limits and monitoring for emissions to marine water at the discharge and various tie-in points.				
No.	Parameter	Emission limit value (annual average)	Measurement methodology	Monitoring frequency
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 1899: 1998	Annual
5	Total Nitrogen	10 mg/L	EN 12260:2003	Quarterly
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681	1 mg/L	EN ISO 15681: 2004	Annual
8	Chlorine dioxide and oxidants (given as chlorine)	0.3 mg/L	DIN 38408-5	Quarterly
9	Arsenic	5 µg/L	ISO 17294-2:2004	Quarterly
10	Cadmium ⁴	0.2 µg/L	ISO 17294-2:2004	Quarterly
11	Chromium (Total)	0.5 mg/L	ISO 17294-2:2004	Every six months
12	Copper	0.5 mg/L	ISO 17294-2:2004	Quarterly
13	Lead	1.3 µg/L	ISO 17294-2:2004	Quarterly
14	Mercury	0.05 µg/L	EN ISO 17852: 2008	Every six months
15	Nickel	8.6 µg/L	ISO 17294-2:2004	Quarterly

⁴ 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 17294-2:2004	Annual
17	Vanadium	4 mg/L	ISO 17294-2:2004	Annual
18	Zinc	0.5 mg/L	Method 3125B, AWWA/APHA, 20 th 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 ⁻⁴ 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

2.2 Supporting documents recommended for approval

- Documents: IP 0002/21/ Framework permit
IP 0002/21/i Electrogas Malta Ltd. Subsidiary permit 1
IP 0002/21/ii D3 Power Generation Ltd. Subsidiary permit 2
IP 0002/21/iii Enemalta plc. Subsidiary permit 3
- Approved Documents: IP 0002/21/DOC1
IP 0002/21/DOC2
IP 0002/21/DOC3
IP 0002/21/i/DOC1

2.3 Applicable law/ policy

The proposal is to comply with:

- 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) requires that installations carrying out activities as listed in section 1.1of Schedule 1 to apply and obtain an IPPC permit prior to operations. In the case of this facility, operations consist of the “combustion of fuels in installations with a total rated thermal input of 50MW or more”.
- BREF documents:
 - Best available techniques (BAT) specified in the BREF for large combustion (published July 2017);
 - Best available techniques (BAT) specified in the BREF for Emissions from Storage (published July 2006)

2.4 Site Description and Constraints

The facility is located at Delimara, Marsaxlokk. The predominant land use on the peninsula is agricultural, although there are also some isolated residential units in the vicinity of the power station complex. Moreover, there are tracts of natural and semi-natural habitats within the peninsula as well as historical elements in the landscape. The major industrial land-use is the Delimara power station itself. The adjacent water bodies to the site in question are the Marsaxlokk Bay and il-Ħofra ż-Żgħira area. These coastal waters are predominately used for fishing and bathing activities.

2.5 Site History

The following permitting history is noted on site:

Number	Title	Date of Issue
IP0002/07/A	New Permit	29 March 2010
IP0002/07/B	Renewal and Variation to include Diesel Engines	06 December 2011
IP0002/07/C	Variation – proposed extension to condition 2.2.1.7.9 from September 2012 to June 2013	23 July 2012
IP0002/07/D	Variation – proposed extension to condition 2.2.1.7.9 from June 2013 to March 2014	17 September 2013
IP0002/07/E	Variation – Public consultation on the determination of the choice of fuel for DPS6	1 April 2014
	Permit Extension of validity	1 December 2015 30 May 2016 2 December 2016
IP0002/07/F IP0002/07/Fi IP0002/07/Fii IP0002/07/Fiii	Renewal and Variation to existing permit by Electrogas Malta Ltd., D3 Power Generation Ltd., and Enemalta plc.	11 January 2017
IP0002/07/G IP0002/07/Gi IP0002/07/Gii IP0002/07/Giii	Partial surrender and renewal of the IPPC application	22 September 2017
	Permit Extension of validity	9 July 2021
PA 5166/93	Phase IIA Phase IIB Fuel Tanks	N/A withdrawn at the request of the applicant
PA 6369/99	Excavation of underground tunnel for 132KV from Delimara power station to Malta south D.C.	23 October 2000
PA 2009/00	Extension of quay at Delimara	N/A withdrawn at the request of the applicant
PA 4739/02	Construction of stores at Delimara Power Station	16 September 2002
PA 1031/04	Construction of new security room	26 April 2004
PA 3152/05	Proposed local generating capacity at Delimara Power Station	26 April 2004

PA 03154/08	Boiler conversion for emission reduction	29 September 2009
PA 02933/09	Soil investigation at Delimara Power Station Block 4 (through removal of a layer of material)	28 January 2010
PA 4854/09	To erect new electrical power generating station.	20 May 2010
PA 2053/10	Boiler conversion for emission reduction at Delimara Power Station	21 July 2010
PA 00021/14	Combined cycle gas turbine and liquefied natural gas receiving storage, and re-gassification facilities	24 March 2014
PA 00022/14	Construction of jetty and ancillary facilities	24 March 2014
PA 02298/14	Demolition and relocation of fire station and laboratory facilities	31 October 2014
PA 0144/16	Excavation of basement cable flat and construction of distribution centre at Delimara	25 April 2016
PA 4253/17	Construction of a desalination plant at the Delimara Power Station	1 November 2017
PA 4118/18	Installation of cabins in the re-gasification area together with storage containers in approved power station.	26 September 2018
PA 4297/18	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.	10 October 2018
DN 281/07	Enemalta trench excavation and cable laying	30 April 2007
DN 146/14	Relocation of cesspit	20 February 2014
DN 1054/14	Demolishing of chimney at Delimara power station.	10 April 2015

DN 166/17	Demolishing of chimney and two (2) boilers at Delimara power-station	6 March 2017

2.6 Consultations

i. Intra-ERA Feedback

The **Compliance & Enforcement Directorate** stated that no objections on latest amendments provided by Enemalta. Moreover there are no comments with respect to the status of the improvement programme items for IP0002/07/Gi , IP0002/07/Gii & IP0002/07/Giii.

With respect to the submissions made by D3PG and Enemalta plc. in relation to their application for a renewal of the permit, there were no comments from an environmental assessment perspective. With respect to the submissions made by ElectroGas Malta Ltd in relation to their application for variations to the permit, Environment Assessment Unit have received a revised EIA Coordinator's Statement on 4 November 2021, addressing the variations as amended to which there is no comments and no objection to the proposed variations from an environmental assessment perspective. The previous assessment and conditions for PA/00021/14 and PA/00022/14, remain valid. No additional conditions were proposed, following the revised variations.

There are no comments from a Trans-Frontier Shipment perspective regarding waste exports.

There were no comments on the application from a biodiversity and water perspective. Notwithstanding the Biodiversity and Water Unit recommended that the existing limits in relation to marine discharge in the permit are retained. Moreover, emission limit values pertaining to the sediment monitoring were provided to be included in the proposed permit

With respect to ambient quality and waste, with respect to EGM, it was requested that flue gas volume in m³ for CCGT 51, CCGT 52, and CCGT 53 should be included in the updated permit so as to calculate the carbon monoxide emission load. With respect to all the Permit Holders the yearly operating hours per turbine/engine was recommended to be included in the permit. A number of revisions to the emission limits values in relation to air were also recommended, and are proposed in the revised permit. General comments on the waste management plan of D3 Power generation Ltd. and Enemalta's plc. were provided as well as general comments with respect to the noise monitoring provisions.

ii. Feedback from External consultees

The **Environmental Health Directorate (EHD)** stated that they have no objection to the variation and provided generic comments with respect to mitigation measures on air and noise and contamination of groundwater and sea water. It noted that in the case of any oil and/or fuel spill end into the sea, the applicants should immediately inform the

Environmental Health Directorate since opposite to the scheme there are several bathing zones. It is recommended that no re-fuelling of oil and/ or fuel from offshore vehicles is carried out in poor weather conditions that could cause accidental discharge into the sea. The necessary mitigation measures and monitoring procedures are to be adopted.

Transport Malta commented that with respect to the aspects on bunkering and aspects in relation to the storage of fuel for third parties within pre-existing storage tanks, there are no comments subject that the internal and external emergency response plans are updated or already cater for the type of fuel.

The Water Services Corporation stated that they had no objection from the Discharge Permit Unit however with respect to update provide by Enemalta, the operation (storage and transfer of HFO and Gasoil) must be covered by a Public Sewer Discharge Permit (DMU 6465) issued by Water Services Corporation. This has been renewed annually over the past years as per obligations of S.L. 545.08.

The **Occupational Health and Safety Authority (OHSA)** stated that they have communicated to the applicant/s, issues related to COMAH which are to be included in the revised safety report. Furthermore the applicant/s shall abide by all relevant occupational health and safety regulations in particular updating of risk assessments due to new and, or modified work practices. A number of safety related COMAH documentation has been submitted, notwithstanding foreign consultants will have to be engaged to evaluate these documents.

The Malta Competition and Consumer Affairs Authority, Malta Resources Authority, Planning Authority, Civil Protection Department, and Energy and Water Agency did not provide any feedback with respect to the variation application.

2.7 Representations from public

- i. **Public consultation dates:** 17th December 2021 to 2nd January 2022
- ii. **Responses received:** None

2.8 Discussion

The current permit is valid until 25th February 2022 as per the conditions of the permit (IP 0002/07/G/Gi/Gii/Giii) and a request for the renewal had to be submitted six months prior to the expiry.

On 12 February 2021, Electrogas Malta Ltd. submitted a request for a renewal and variation of the IPPC permit. In this request, the operator proposed a number of variations to the permit, this was subsequently amended to the list delineated in section 2 of this memo.

In tandem on 28th May 2020 the Electrogas Malta Ltd. submitted the medium combustion plants registration for several existing permitted combustion plants on site and an additional new combustion plant, which is being consolidated as part of this renewal and variation, which was submitted on 9th December 2021.

On the 26th February 2021 and 7th April 2021, D3 Power Generation Ltd. submitted a request for renewal of the IPPC permit.

On the 25th February 2021, Enemalta plc. submitted a request for the renewal of the IPPC permit. In view that the applicant has indicated that an additional medium combustion plant has been installed on site, an application for variation was submitted by the Operator, as requested by the Authority.

The application submitted by each Permit Holder is in line with the with the commission implementing decision (EU) 2017/1442 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants published on 31st July 2017.

It also should be noted that updates to the safety studies were required in view of the proposed changes, which have been submitted. In this regard discussions with the COMAH Competent Authority are ongoing, albeit no objection was put forward from COMAH on the matter.

The Regulatory consultation was carried out between 23rd April 2021 – 7th May 2021 and between 1st June 2021 – 8th June 2021 and 25th October 2021 – 8th November 2021.

A public consultation was carried out between 17th December 2022 and 2nd January 2022 and no representations from the public were received.

A site visit was conducted on the 14th January 2022 at D3 Power Generation Ltd and Enemalta plc. A site visit to the Electrogas Malta Ltd. Facility was arranged for yet was delayed on several instance dues to the COVID 19 pandemic. During the site visit, ERA officers did not observe any environmental issues.

With respect to the proposed improvement programmes for both Enemalta plc and ElectroGas Malta Ltd. and improvement programme in relation to monitoring of air emissions for the additional air emission point (medium combustion plant) is being proposed. For D3 Power Generation Ltd. the improvement programme in relation to the submission of an outline decommissioning plan is being recommended to be retained in the proposed permit. In terms of the framework permit, the proposed permit includes items which relate to the submission of a revised method statement for the routine land and groundwater monitoring which takes place on site, the submission of a coordinated outline decommissioning plan, the submission of the air dispersion model study and the submission of marine ecological monitoring method statement.

In terms of approved documents four documents are proposed to be included which relate the mutual audit standard of procedure, the air dispersion model method statement, the annual noise monitoring standard of procedure and the emission calculation and monitoring of the non-visible combustion chamber.

The amendments to the permit being recommended include:

1. the amendment of the permitted emission points to air (to include the proposed additional emission points in this variation application),
2. the amendment to the emissions air monitoring programme to include monitoring from a number of the new emission points and monitoring requirements as per the latest BAT conclusions,
3. The standardization of certain conditions,
4. Updating of the Improvement programme items to include submission of monitoring from the new emission points.

2.9 Financial Matters

Application Fee (including both IPPC and MCP application as applicable)	ElectroGas Malta Ltd.; €20,181 - Paid D3 Power Generation Ltd.; €11,950 - Paid Enemalta plc.; €19,772 - Paid
Financial guarantee	<p>Current financial guarantees are the following:</p> <p>Enemalta: €1,000,000 covering aspects related to its role as Permit coordinator.</p> <p style="padding-left: 40px;">: €150,000 covering submission of the air dispersion model on behalf of all 3 operators</p> <p style="padding-left: 40px;">: €3,500,000 covering site specific conditions.</p> <p>€2,500,000 are to be released in view that decommissioning and dismantling of the Delimara Phase I plant has been completed.</p> <p>ElectroGas Malta Ltd: €3,000,000</p> <p>D3 Power Generation Ltd.: €1,000,000.</p> <p>Proposed financial guarantees are the following (current guarantees to be retained):</p> <p>ElectroGas Malta Ltd.; €3,000,000</p> <p>D3 Power Generation Ltd.; €1,000,000</p> <p>Enemalta plc.; €1,000,000 covering aspects related to its role as Permit Co-ordinator.</p> <p style="padding-left: 40px;">: €150,000 covering submission of the air dispersion model on behalf of all 3 operators</p> <p style="padding-left: 40px;">: €1,000,000 covering site specific conditions</p>
Annual Fee	All operators have paid the required annual fees (including inspections costs) until 2022 as follows:

	<p>ElectroGas Malta Ltd.; €14,630 (covering annual fees and any costs of inspections between 2018-2022)</p> <p>D3 Power Generation Ltd.; €11,220 (covering annual fees and any costs of inspections between 2018-2022)</p> <p>Enemalta plc.; €12,110 (covering annual fees and any costs of inspections between 2018-2022)</p>
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3. Environment Officer Recommendation:

- The Environment and Resources Directorate recommends the GRANTING of this renewal and variation for a period up of four years, subject to the following conditions as post decision requirements for each respective Permit Holder as detailed below.

For ElectroGas Malta Ltd.;

1. Submission of a bank guarantee of € 3,000,000 covering the obligations of Subsidiary Permit 1 and the operator specific conditions in the Framework Permit

For D3 Power Generation Ltd.;

1. Submission of a bank guarantee of € 1,000,000 covering the obligations of Subsidiary Permit 2 and the operator specific conditions in the Framework Permit

For Enemalta plc.;

1. Submission of a bank guarantee of € 1,150,000 covering the regulatory framework permit and the operator specific conditions in the Framework Permit
2. Submission of a bank guarantee of € 1,000,000 covering the obligations of Subsidiary Permit 3 the operator specific conditions in the Framework Permit

The proposed permit conditions include:

- Standard conditions applicable to this sector;
- Site-specific conditions as delineated below for the regulatory framework permit and the respective subsidiary permit;

For ElectroGas Malta Ltd.;

1. Emissions to air in accordance to the LCP BAT conclusions and in accordance to medium combustion plant regulations
2. Requirements in relation to the publication of data to the public on air emissions
3. Conditions in relation to Continuous Monitoring Equipment

4. Quality of fuels
5. Accident prevention and control and safety
6. Reporting requirements
7. Bespoke conditions in relation to waste and to maintenance procedures
8. Conditions in relation to accident prevention and control
9. Conditions in relation to fire-fighting considerations.
10. Conditions in relation to COMAH regulations
11. Derogation from BAT on Storage

For D3 Power Generation Ltd.;

1. Emissions to air in accordance to the LCP BAT conclusions and medium combustion plant regulations
2. Quality of fuel
3. Conditions in relation to Continuous Monitoring Equipment
4. Accident prevention and control and safety (D3PG is not a COMAH site)
5. Reporting requirements
6. Bespoke conditions in relation to waste and to odour in the case of complaints
7. Specific conditions related to the extended use of gasoil in the dual fuel engines.
8. Conditions in relation to accident prevention and control
9. Conditions in relation to fire-fighting considerations.

For Enemalta plc.;

1. Emissions to air in accordance to the LCP BAT conclusions and the medium combustion plant regulations.
2. Conditions related to the calculation of emissions in view of plants being operated as an emergency back-up.
3. Quality of fuel
4. Reporting requirements
5. Bespoke conditions in relation to odour in the case of complaints
6. Conditions in relation to the Gas oil tank and HFO Tank Farm
7. Conditions in relation to the provision of services to the other Permit Holders.
8. Conditions in relation to accident prevention and control
9. Conditions in relation to COMAH regulations
10. Conditions in relation to fire-fighting considerations

- Improvement programme items for the regulatory framework permit and the respective subsidiary permit

Regulatory Framework Permit: IP 0002/21		
Reference	Requirement	Deadline
5	a) Submission of a revised monitoring methodology proposal based on the results of Site Report 2018-2021 for approval by the	a) Within 12 months from

	Authority including timeframes for implementation b) Submission of the monitoring report	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 2.5.34

ElectroGas Malta plc. subsidiary permit 1: IP 0002/21/i		
Reference	Requirement	Deadline
1.	Submission of a method statement showing how the monitoring requirements for CP6 will be sampled and tested. This is to include frequency of monitoring.	Within 2 months of the granting of the permit
	First measurement for the air monitoring as approved by 1(a) above.	Within 4 months of the granting of the permit

D3 Power Generation Ltd. subsidiary permit 2: IP 0002/21/ii		
Reference	Requirement	Deadline
4	Submission of an outline decommissioning plan	Within 2 months of the granting of the permit

Enemalta plc. subsidiary permit 2: IP 0002/21/ii		
Reference	Requirement	Deadline
1.	Submission of a method statement showing how the monitoring requirements for air emissions permitted in Table 2.2.46 will be sampled and tested. This is to include frequency of monitoring.	Within 2 months of the granting of the permit
	First measurement for the air monitoring as approved by 1(a) above.	Within 4 months of the granting of the permit

This report to the ERA Board has been prepared, reviewed and endorsed by:	
Case Officer: Gabriella Grima	Reviewed by: Simon Farrugia
Env. Protection Officer	Senior Env. Protection Officer
Signature:	Signature:
Date: 31 st January 2022	Date: 31 st January 2022
Endorsed by: Nathalie Ellul	
Team Manager (Permitting)	
Signature:	
Date: 31 st January 2022	