



Permit with introductory note

Integrated Pollution Prevention and Control Regulations (LN 234 of 2002) as amended by LN 230 of 2004 and LN 56 of 2008.

**Marsa Power Station
Enemalta Corporation,
Church Wharf,
Marsa
MRS 1000**

Permit number
IP 0003/07/A

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Introductory note

This introductory note does not form part of the Permit

The following Permit is issued under Regulation 14 of the Integrated Pollution Prevention and Control Regulations (LN 234 of 2002) as amended by LN 230 of 2004 and LN 56 of 2008 ("the IPPC Regulations") to operate an installation carrying out activities covered by the description in Section 1.1 in Schedule 1 of the IPPC Regulations, to the extent authorised by the Permit, i.e.

"Combustion installations with a rated thermal input exceeding 50 MW".

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 15(4) of the 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.

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 heavy fuel oil (HFO) and gasoil.**

Note that the Permit requires the submission of certain information to the Competent Authority (see sections 1, 2, 4 and 5). In addition, the Competent Authority has the power to seek further information at any time under regulation 28 of the IPPC 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Superseded Licences/Authorisations/Consents relating to this installation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
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Public Registers

This IPPC Permit and application is available to the public through the Competent Authority in accordance with the requirements of the IPPC Regulations. The applicant has made a request for certain information of a commercial nature to be withheld from the public. MEPA 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.

Variations to the Permit

This Permit may be varied at any time in the future (by the Authority serving a Variation Notice on the Operator). If the Operator himself wants any of the Conditions of the Permit to be changed, a formal application must be submitted to the IPPC Committee of the Competent Authority. 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.

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 IPPC Committee of 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 risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made to the IPPC Committee of the Competent Authority, by the existing and proposed holders jointly. A transfer will be allowed unless the Authority considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be a technically competent person.

Status Log

Detail	Date	Comment
<i>Application IP 0003/07</i>	<i>Received 02 February 2007</i>	<i>Not 'duly made'</i>
<i>Response to request for information</i>	<i>Request dated 13 March 2007 and 23 March 2007</i>	<i>Response dated 11 April 2007 and 25 June 2007</i>
<i>Response to request for information</i>	<i>Request dated 24 October 2007</i>	<i>Partial response dated 25 July 2008</i>
<i>Application 'duly made'</i>	<i>24 October 2007</i>	
<i>Consolidated version</i>	<i>Received on 21 January 2009</i>	
<i>Public consultation</i>	<i>Commenced on 22 January 2009</i>	<i>Concluded on 21 February 2009</i>
<i>Permit determined</i>	<i>26 March 2009</i>	<i>Reconsideration: 13 August 2009</i>
<i>Permit issued</i>	<i>29 March 2010</i>	

Correspondence

All correspondence related to this IPPC permit shall be addressed to the Chairman of the IPPC Committee, c/o the IPPC Secretary.

End of Introductory Note

Permit

Integrated Pollution Prevention and Control Regulations (LN 234 of 2002, as amended by LN 230 of 2004 and LN 56 of 2008)

Permit number

IP 0003/07/A

The Malta Environment and Planning Authority (hereinafter the Authority; the Competent Authority or MEPA) in exercise of its powers under Regulation 14 of the Integrated Pollution Prevention and Control Regulations 2002 (LN 234 of 2002, as amended by LN 230 of 2004 and LN 56 of 2008), hereby authorises:

Enemalta Corporation. (hereinafter “the Operator” or “the Permit Holder”),
Of / Whose Registered Office (or principal place of business) is at
Church Wharf, Marsa MRS 1000

to operate an installation at

Marsa Power Station, Church Wharf, Marsa MRS 1000

to the extent authorised by and subject to the conditions of this Permit.

Signed

Date

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Authorised to sign on behalf of the Competent Authority

Name in block letters:

ID Number:

Conditions

1 General

These permit conditions shall be read in conjunction with the IPPC Application received on 02 February 2007, as subsequently clarified and recorded in the status log above, which forms an integral part of these permit conditions.

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.

Table 1.1.1		
Activity listed in Schedule 1 of the 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 heavy fuel oil and gasoil.	From receipt of fuel to delivery of utility.
Associated activity of fuel handling and storage	Handling and storage of heavy fuel oil and gas oil.	From receipt of the fuel to combustion in the combustion plant.
Associated activity of utilities	Sea water pre-treatment plant.	From intake of sea water 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 outlined in yellow on the Site Plan in Schedule 11 to this Permit.

1.3 Information to the public

- 1.3.1 The operator 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 two months after the production of such data.
- 1.3.2 The Local Councils most affected by emissions from the Marsa Power Station including Floriana, Valletta, Hamrun, Marsa, Paola and Fgura may jointly and in agreement with both the Authority and the operator, 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 Operator.

- 1.3.3 The Local Councils most affected by emissions from the Marsa Power Station including Floriana, Valletta, Hamrun, Marsa, Paola and Fgura may jointly and in agreement with the Authority, jointly appoint an independent expert to assist in the interpretation of the emission data made publically available pursuant to condition 1.3.1.

1.4 Overarching Management Condition

- 1.4.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain an Environmental Management System (EMS), and an organisational structure, and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit. The EMS can take the form of a standardised system (e.g. EN ISO 14001:1996 or EMAS) or a non-standardised ("customised") system, provided that is properly designed and implemented. The EMS shall give information on the person responsible for environmental management on site, and standard operating procedures on environmentally relevant matters including contingency plan.
- 1.4.2 The plan for an EMS must be submitted to the Competent Authority for approval within 6 months from the granting of the permit.
- 1.4.3 As part of the EMS, the Permit Holder shall submit the following reports annually as part of the AER of the site, according to the timeframe specified in Condition 4.1.2:
- 1.4.3.1 Environmental Policy containing the installation's environmental objectives and targets;
 - 1.4.3.2 Environmental Management Programme report (for the reporting year);
 - 1.4.3.3 Environmental Management Programme proposal (for the following year).
- 1.4.4 The Permit Holder shall submit an AER of the previous year to the Competent Authority by the end of March of each year (starting March 2010). The AER shall contain all the information listed in Schedule 2 of this permit, subject to the other conditions of this permit.
- 1.4.5 The Permitted Installation shall, subject to the conditions of this Permit, be managed, controlled and operated as described in the application and subsequent responses to requests for information submitted as per the Status Log above, or as otherwise agreed in writing by the Authority.
- 1.4.6 All plant, equipment and technical means used in operating the Permitted Installation shall be maintained in good operating condition.
- 1.4.7 The Permitted Installation shall be managed, controlled and operated by staff suitably trained and fully conversant with the requirements of this Permit.

1.5 Improvement Programme

- 1.5.1 The Operator 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 within 10 working days of the completion of each such requirement.

Table 1.5.1: Improvement programme		
Reference	Requirement	Date
1	Submission of a plan for an Environment Management System (EMS), as per Conditions 1.4.1 to 1.4.3	As per Condition 1.4.2.
2	Submission of a plan indicating how Enemalta will comply with certain emission ceilings by 2010.	As per condition 2.2.9.2.
3	Submission of land monitoring data as per Condition 2.16.3	To be submitted within 3 months of issue of the IPPC permit.
4	Submission of Outline Decommissioning Plan, as per Conditions 2.16.	To be submitted within 6 months of issue of the IPPC permit.
5	Submission of information regarding equipment containing Polychlorinated Biphenyls, as per Schedule 4.	To be submitted within 6 months of issue of the IPPC permit.
6	Implementation of automated measuring systems for air emissions, as per relevant Conditions in 2.2.2, 2.2.3, 2.2.4 and 2.2.5.	As soon as possible, and no later than 3 months from date of issue of IPPC permit.
7	Management plan for the storage and disposal of ash, containing the information specified in Condition 2.8.2.6.	As per Condition 2.8.2.6.
8	To submit the information requested as per condition 2.5.1.14.	To be submitted within 3 months of issue of the IPPC permit.
9	Fitting of high liquid level alarms on pump sumps or other treatment plant chambers as per Condition 2.5.8.9.	As per Condition 2.5.8.9.
10	Obtaining of Sewer Discharge Permit from the Water Services Corporation.	As per Condition 2.3.1.

1.6 Operational Changes

- 1.6.1 The Operator shall seek the Authority's written agreement to any operational change as defined by LN 234 of 2002 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 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 Operator shall operate

the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.

1.7 Pre-Operational Conditions

- 1.7.1 There are no pre-operational conditions.

1.8 Off-site Conditions

- 1.8.1 The Permit holder shall ensure that no chemicals or waste escape to the environment especially when transporting such materials offsite or onsite.

2 Operating Conditions

2.1 In-Process Controls

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the IPPC application, or as otherwise agreed in writing by the Authority in accordance with conditions 1.6.1 and 1.6.2 of this Permit.

2.2 Emissions to Air

2.2.1 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – General Considerations.

- 2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.
- 2.2.1.2 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.

Table 2.2.1 Emission points to air			
Release Point	Source and Total Thermal Rating	UTM Co-ordinates ¹	
		x-coordinates	y-coordinates
Chimney 1	MPS1 (Boilers 3 and 4) – 220 MW _{TH}	454,660	3,971,181
Chimney 2	MPS2 (Boilers 5 and 6) – 240 MW _{TH}	454,694	3,971,190
Chimney 3	MPS3 (Boiler 7) – 250 MW _{TH}	454,776	3,971,212
Chimney 4	MPS4 (Boiler 8) – 250 MW _{TH}	454,799	3,971,228
OCGT9	MPS5 (Gas turbine 9) – 121 MW _{TH}	454,891	3,971,238

See Application submitted in February 2007, p.48, Drawing number EMC/XZ/16

- 2.2.1.3 As from the 01 January 2008 the operator shall operate MPS1, MPS2, MPS3 and MPS4 for not more than 20000 hours.
- 2.2.1.4 The 20000 hours apply to the plant as whole and **NOT** to the individual constituents of a plant. Therefore MPS1, MPS2, MPS3 and MPS4 shall be considered to be operating when any part of these plants is in operation, irrespective of the load factor. Time shall be marked for the plant as a whole.
- 2.2.1.5 The 20000 hours shall be used by the 31 December 2015 at the latest.
- 2.2.1.6 The operator shall report to the Authority the operating time of each individual plant as part of the AER of the installation and in the format specified therein (Section s2.3.3). These reports shall be accompanied by copies of the relevant operational records which should be approved by an independent auditor certified by the Authority.
- 2.2.1.7 Boilers constituting MPS 1, MPS2, MPS3 and MPS4 shall fire only HFO (Heavy Fuel Oil) in the Authorised Process in accordance with the Application.

¹ Zone 33s, datum ED 50, ellipsoid – Hayford International.

- 2.2.1.8 The sulphur content of the fuel fed to the boilers making up plants MPS1, MPS2, MPS3 and MPS4 shall in no case exceed 10 kg of sulphur for every tonne of HFO.
- 2.2.1.9 The operator shall obtain certificates of analysis for one representative composite sample of HFO per delivery for the parameters listed in table 2.2.1.1. 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 17025:2005/Cor 1:2006 and preferably for each and every test listed in table 2.2.1.1.
- 2.2.1.10 Physical parameters in table 2.2.1.1 shall be measured using EN, EN ISO or ISO standard methods or equivalent.
- 2.2.1.11 The chemical parameters in table 2.2.1.1 shall be analysed to the relevant standards (or equivalent) as specified by the said table.

Table 2.2.1.1 Standards for the analysis of physical and chemical parameters

Physical Parameters		
Parameter	Unit	Standard
Density	kg.m ⁻³	EN ISO 3838:2004 or equivalent
Flash point	°C	EN ISO 2719:2002 or equivalent
Heat Value (Upper and Lower)	MJ.kg ⁻¹	ASTM D4868-00 (2005) or equivalent
Pour Point	°C	ISO 3016:1994 or equivalent
Viscosity	cSt	EN ISO 3104:1996 or equivalent
Chemical Parameters		
Parameter	Unit	Standard
Ash content	%	ASTM D482-03 or equivalent
Nickel content	ppm	EN 13131:2000 or equivalent
Sulphur Content	mg S.kg ⁻¹	EN ISO 8754:2003 or equivalent
Vanadium content	ppm	EN 13131:2000 or equivalent
Water content	%	EN ISO 12937:2000 or equivalent

- 2.2.1.12 At the end of every year, the operator shall forward to the Authority a copy of all the certificates of analysis for every representative composite sample throughout the year together with Schedule S2.5. Gas Turbine MPS5 shall fire only gasoil, in the Authorised Process in accordance with the Application. The gasoil used shall comply with the standards laid down by the Reductions of the Sulphur Content of Certain Liquid Fuels Regulations (L.N. 159 of 2002 as amended by L.N. 163 of 2004 and as may be subsequently amended from time to time), i.e. the sulphur content of the gas oil fired by gas turbines MPS5 shall in no case exceed 1 kg for every tonne of gas oil.
- 2.2.1.13 The operator shall determine the mass of each fuel fired in the Authorised Process for each Reporting Year and report this as per Section S2.3.2 of the AER.

- 2.2.1.14 Waste gases from the combustion plants within the Marsa Power Station shall be discharged in a controlled manner by means of a stack.
- 2.2.1.15 The dispersion of NO_x and PM₁₀ shall be studied through a dispersion model. This shall be done in order to estimate the likelihood of there being any exceedances of the relevant limits laid down by LN 224 of 2001, especially but not limited to the most sensitive receptor(s) in the prevailing wind direction. The Authority shall carry out this study at the operator's expense.
- 2.2.1.16 In order to ensure compliance with LN 224 of 2001, the Authority reserves the right to impose any additional conditions it deems necessary on the Operator.
- 2.2.1.17 The Authority shall be notified by the Operator 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 conditions 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6 and 2.2.7 are still adequate or require adaptation.
- 2.2.1.18 Without prejudice to Condition 2.2.2, the boilers constituting MPS1, MPS2, MPS3 and MPS4 and gas turbine MPS5 shall be operated so as to give a smoke colour less than or equal to shade number 1 on the Ringelmann chart (see Schedule 5) except during periods of start up, and soot blowing. The incidence of this colour being exceeded during normal operations (i.e. excluding startups and soot blowing), shall be cumulatively less than 60 minutes in any 24 hour period from the whole installation.
- 2.2.1.19 The operator shall make sure that the frequency of start ups, shut downs, soot blowing and malfunctions, is minimised as far as is technically possible.
- 2.2.1.20 The operator shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary.
- 2.2.1.21 The operator 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 part of the AER as per Section s2.6. In addition, any meteorological data collected by the operator shall be made available to the Authority upon request.

2.2.2 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Releases of Particulate Matter.

- 2.2.2.1 The Operator shall measure continuously the concentration of dust (TSP) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4 in accordance with EN 13284-2:2004 (Stationary source emissions - Determination of low range mass concentration of dust - Part 2: Automated measuring systems.).
- 2.2.2.2 The operator shall monitor the concentration of dust (TSP) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4. The annual load of dust (TSP) shall be reported using the schedules in section s2.4.2.2. Loads shall be calculated on the basis of the waste gas flow rate.
- 2.2.2.3 The sampling point(s) of the automated measuring system for dust must be located according to EN 13284-1:2004.
- 2.2.2.4 A release from the Authorised Process into the atmosphere from a release point specified in table 2.2.1 shall not exceed the limit for those release points in relation to any parameter specified in table 2.2.2.

Table 2.2.2 Dust (TSP) Limit Values		
Emission limit value	97% of all 48 hourly mean values must not exceed:	In no case must the calendar monthly mean value exceed:
150 mg . Nm ⁻³ (*)	165 mg . Nm ⁻³ (*)	150 mg . Nm ⁻³ (*)

** All concentrations should be corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O₂) content of 3%. These concentrations relate to volume flows without dilution.*

- 2.2.2.5 Once the authorised installation has operated for at least 20000 hours from 01 January 2008 the limits in table 2.2.2 shall no longer apply, as per condition 2.2.1.3.
- 2.2.2.6 In case one or more of the plants MPS1, MPS2, MPS3 and MPS4, is/are in operation after the expiry of these 20000 hours, it/they shall conform to the associated emission levels specified in the most recent BAT-Reference Document for Large Combustion Plants published by the European Commission.
- 2.2.2.7 The continuous measurement carried out in compliance with Condition 2.2.2.4 shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume, as per Condition 2.2.8.
- 2.2.2.8 Provided that 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.
- 2.2.2.9 The Operator must keep record of:
- 2.2.2.9.1 the validated hourly concentration of dust (TSP) values for each combustion plant per day (in the format specified in s3.2.1).
 - 2.2.2.9.2 48-hourly mean values for the concentration of dust (TSP) (in the format specified in s3.2.2)
 - 2.2.2.9.3 Calendar monthly mean values for the concentration of dust (TSP). This shall be included in the AER for this installation in the format specified in s2.4.2.1)
 - 2.2.2.9.4 The total annual load of dust (TSP) which shall be calculated by adding the total mass of dust emitted per year, on the basis of the volumetric flow rates of waste gases. This shall be included in the AER for this installation in the format specified in s2.4.2.2.
- 2.2.2.10 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 30% of the measured valid hourly average value.
- 2.2.2.11 For both 2.2.2.9.2 and 2.2.2.9.3 the Operator must clearly indicate any exceedances of the concentrations of dust (TSP) indicated by table 2.2.2 in the format specified in s3.2.2 and s2.4.2.1 respectively.
- 2.2.2.12 The records specified by 2.2.2.9.1, 2.2.2.9.2 and 2.2.2.9.3 must be forwarded by email to the Authority in electronic format. Unless otherwise agreed in writing with the Authority the reporting frequencies to the Authority shall be as established in table 2.2.2, furthermore the said records must be made available to the Authority for inspection upon request.

Table 2.2.2 Frequency of Record Submission	
Condition	Frequency
2.2.2.9.1	quarterly
2.2.2.9.2	quarterly
2.2.2.9.3	annually

- 2.2.2.13 The data for 1 day shall be invalidated if on that day 3 or more hourly average concentration of dust (TSP) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.2.14 If more than 10 days in a year are invalidated for such situations, the Operator must take adequate measures to improve the continuous monitoring system.

2.2.3 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Releases of Sulphur Dioxide.

- 2.2.3.1 The Operator shall measure continuously the concentration of sulphur dioxide (SO₂) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4 in accordance with ISO 7935:1992 (Stationary source emissions -- Determination of the mass concentration of sulphur dioxide -- Performance characteristics of automated measuring methods) or the equivalent EN standard.
- 2.2.3.2 The operator shall monitor the concentration of sulphur dioxide (SO₂) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4. The annual load of sulphur dioxide (SO₂) shall be reported using the schedule in section s2.4.2.2. Load shall be calculated on the basis of the waste gas flow rate.
- 2.2.3.3 The sampling point(s) of the automated measuring system for sulphur dioxide must be located according to ISO 10396:2007 or the equivalent EN standard.
- 2.2.3.4 A release from the Authorised Process into the atmosphere from a release points specified in table 2.2.1 shall not exceed the limit for those release points in relation to any parameter specified in table 2.2.3.

Table 2.2.3 Sulphur Dioxide Emission Limit Values		
Emission limit value	97% of all 48 hourly mean values must not exceed:	In no case must the calendar monthly mean value exceed:
1700 mg . Nm ⁻³ (*)	1870 mg . Nm ⁻³ (*)	1700 mg . Nm ⁻³ (*)

** All concentrations should be corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O₂) content of 3%. These concentrations relate to volume flows without dilution.*

- 2.2.3.5 Once the authorised installation has operated for at least 20000 hours from 01 January 2008 the limits in table 2.2.3 shall no longer apply, as per condition 2.2.1.3.
- 2.2.3.6 In case one or more of the plants MPS1, MPS2, MPS3 and MPS4, is/are in operation after the expiry of these 20000 hours, it/they shall conform to the associated emission levels specified in the most recent BAT-Reference Document for Large Combustion Plants published by the European Commission.
- 2.2.3.7 The continuous measurement carried out in compliance with Condition 2.2.3.4 shall include the relevant process operation parameters of oxygen content,

temperature, pressure and water vapour content, velocity and flue gas volume, as per Condition 2.2.8.

- 2.2.3.8 Provided that 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.
- 2.2.3.9 The Operator must keep record of:
- 2.2.3.9.1 the validated hourly concentration of sulphur dioxide (SO₂) values for each combustion plant per day (in the format specified in s3.2.1)
 - 2.2.3.9.2 48-hourly mean values for the concentration of sulphur dioxide (SO₂) in the format specified in s3.2.2)
 - 2.2.3.9.3 Calendar monthly mean values for the concentration of sulphur dioxide (SO₂). This shall be included in the AER for this installation in the format specified in s2.4.2.1.
 - 2.2.3.9.4 The total annual load of sulphur dioxide (SO₂) which shall be calculated by adding the total mass of SO₂ emitted per year, on the basis of the volumetric flow rates of waste gases. This shall be included in the AER for this installation in the format specified in s2.4.2.2.
- 2.2.3.10 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 20% of the measured valid hourly average value.
- 2.2.3.11 For both 2.2.3.9.2 and 2.3.3.9.3 the Operator must clearly indicate any exceedances of the concentrations of sulphur dioxide (SO₂) indicated by table 2.2.3 in the format specified in s3.2.2. and s2.4.2.1 respectively.
- 2.2.3.12 The records specified by 2.2.3.9.1, 2.2.3.9.2 and 2.2.3.9.3 must be forwarded by email to the Authority in electronic format. Unless otherwise agreed in writing with the Authority the reporting frequencies to the Authority shall be as established in table 2.2.3.1. Furthermore the said records must be made available to the Authority for inspection upon request.

Table 2.2.3.1 Frequency of Record Submission	
Condition	Frequency
2.2.3.8.1	quarterly
2.2.3.8.2	quarterly
2.2.3.8.3	annually

- 2.2.3.13 The data for 1 day shall be invalidated if on that day 3 or more hourly average concentration of sulphur dioxide (SO₂) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.3.14 If more than 10 days in a year are invalidated for such situations, the Operator must take adequate measures to improve the continuous monitoring system.

2.2.4 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Releases of Nitrogen Oxides.

- 2.2.4.1 The Operator shall measure continuously the concentration of nitrogen oxides (NO_x) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4 in accordance with ISO 10849:1996 (Stationary source emissions --

Determination of the mass concentration of nitrogen oxides -- Performance characteristics of automated measuring systems) or the equivalent EN standard.

- 2.2.4.2 The operator shall monitor the concentration of nitrogen oxides (NO_x) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4. The annual load of nitrogen oxides (NO_x) shall be reported using the schedule in section s2.4.2.2. Load shall be calculated on the basis of the waste gas flow rate.
- 2.2.4.3 The sampling point(s) of the automated measuring system for nitrogen oxides must be located according to ISO 10396:2007 or the equivalent EN standard.
- 2.2.4.4 A release from the Authorised Process into the atmosphere from a release points specified in table 2.2.1 shall arise only from the sources for those releases specified in table 2.2.1, and shall not exceed the limit for those release points in relation to any parameter specified in table 2.2.4.

Table 2.2.4 Nitrogen Oxides Emission Limit Values		
Emission limit value	95% of all 48 hourly mean values must not exceed:	In no case must the calendar monthly mean value exceed:
1000 mg . Nm ⁻³ (*)	1100 mg . Nm ⁻³ (*)	1000 mg . Nm ⁻³ (*)

**All concentrations should be corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O_2) content of 3%.*

- 2.2.4.5 Once the authorised installation has operated for at least 20000 hours from 01 January 2008, the limits in table 2.2.4 shall no longer apply, as per condition 2.2.1.3.
- 2.2.4.6 In case one or more of the plants MPS1, MPS2, MPS3 and MPS4, is/are in operation after the expiry of these 20000 hours, it/they shall conform to the associated emission levels specified in the most recent BAT-Reference Document for Large Combustion Plants published by the European Commission.
- 2.2.4.7 The continuous measurement carried out in compliance with Condition 2.2.4.1 shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume; as per Condition 2.2.8.
- 2.2.4.8 Provided that 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
- 2.2.4.9 The Operator must keep record of:
- 2.2.4.9.1 the validated hourly concentration of nitrogen oxides (NO_x) values for each combustion plant per day in the format specified in s3.2.1.
- 2.2.4.9.2 48-hourly mean values for the concentration of nitrogen oxides (NO_x) in the format specified in s3.2.2.
- 2.2.4.9.3 Calendar monthly mean values for the concentration of nitrogen oxides (NO_x) in the format specified in s2.4.2.1.
- 2.2.4.9.4 The total annual load of nitrogen oxides (NO_x) which shall be calculated by adding the total mass of dust emitted per day, on the basis of the volumetric flow rates of waste gases. This shall be included in the AER for this installation in the format specified in s2.4.2.2.

- 2.2.4.10 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 20% of the measured valid hourly average value.
- 2.2.4.11 For both 2.2.4.9.2 and 2.2.4.9.3 the Operator must clearly indicate any exceedances of the concentrations of nitrogen oxides (NO_x) indicated by table 2.2.4 in the format specified in s3.2.2 and s2.4.2.1 respectively.
- 2.2.4.12 The records specified by 2.2.4.9.1, 2.2.4.9.2 and 2.2.9.3 must be forwarded by email to the Authority in electronic format. Unless otherwise communicated in writing the reporting frequencies to the Authority shall be as established in table 2.2.4.1. Furthermore the said records must be made available for inspection upon request.

Table 2.2.4.1 Frequency of Record Submission	
Condition	Frequency
2.2.4.9.1	quarterly
2.2.4.9.2	quarterly
2.2.4.9.3	annually

- 2.2.4.13 The data for 1 day shall be invalidated if on that day 3 or more hourly average concentration of nitrogen oxides (NO_x) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.4.14 If more than 10 days in a year are invalidated for such situations, the Operator must take adequate measures to improve the continuous monitoring system.

2.2.5 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Releases of Carbon Monoxide.

- 2.2.5.1 The Operator shall measure continuously the concentration of carbon monoxide (CO) in the waste gases of the individual units constituting MPS1, MPS2, MPS3 and MPS4 in accordance with EN 10558:2006 (Stationary source emissions -- Determination of the mass concentration of carbon monoxide – Reference method.)
- 2.2.5.2 The sampling point(s) of the automated measuring system for carbon monoxide must be located according to ISO 10396:2007 or the equivalent EN standard.
- 2.2.5.3 Releases of carbon monoxide (CO) from the Authorised Process into the atmosphere from the release points specified in table 2.2.1 shall arise only from the sources for those releases specified in table 2.2.1, and shall not exceed the mean daily and monthly average of 175 mg.Nm⁻³. All concentrations should be corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O₂) content of 3%.
- 2.2.5.4 The continuous measurement carried out in compliance with Condition 2.2.5.1 shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume; as per Condition 2.2.8.
- 2.2.5.5 Provided that 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.
- 2.2.5.6 The Operator must keep record of:

- 2.2.5.6.1 the validated hourly concentration of carbon monoxide (CO) values for each combustion plant per day in the format specified in s3.2.1.
- 2.2.5.6.2 24-hourly mean values for the concentration of carbon monoxide (CO) in the format specified in s3.2.2.
- 2.2.5.6.3 Calendar monthly mean values for the concentration of carbon monoxide (CO) in the format specified in s2.4.2.1.
- 2.2.5.7 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 10% of the measured valid hourly average value.
- 2.2.5.8 For 2.2.5.6.2 and 2.2.5.6.3 the Operator must clearly indicate any exceedances of the concentration of carbon monoxide laid down in condition 2.2.5.3 in the format specified in s3.2.2 and s2.4.2.1 respectively.
- 2.2.5.9 The records specified by 2.2.5.6.1, 2.2.5.6.2 and 2.2.5.6.3 must be forwarded by email to the Authority in electronic format. Unless otherwise communicated in writing the reporting frequencies to the Authority shall be as established in table 2.2.5.1. Furthermore the said records must be made available for inspection upon request.

Table 2.2.5.1 Frequency of Record Submission	
Condition	Frequency
2.2.5.6.1	quarterly
2.2.5.6.2	quarterly
2.2.5.6.3	annually

- 2.2.5.10 The data for 1 day shall be invalidated if on that day 3 or more hourly average concentration of carbon monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.5.11 If more than 10 days in a year are invalidated for such situations, the Operator must take adequate measures to improve the continuous monitoring system.

2.2.6 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Emission limits and Monitoring of Gas turbine Emissions.

- 2.2.6.1 The calendar monthly mean concentration of Nitrogen Oxides in the waste gases of MPS5 shall not exceed $400 \text{ mg} \cdot \text{Nm}^{-3}$ (concentrations corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O_2) content of 15%).
- 2.2.6.2 The 95% of all 48 hourly mean values of Nitrogen oxides shall not exceed $440 \text{ mg} \cdot \text{Nm}^{-3}$ (concentrations corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O_2) content of 15%).
- 2.2.6.3 The calendar monthly mean concentration of carbon monoxide (CO) in the waste gases of MPS5 shall not exceed $100 \text{ mg} \cdot \text{Nm}^{-3}$ (concentrations corrected to 273 K, 101.3 kPa, dry gas volume and to an oxygen content Oxygen (O_2) content of 15%).
- 2.2.6.4 The operator shall keep records of the operating hours of MPS5 and report to the Authority the operating time of MPS5 as part of the AER of the installation and in

the format specified therein (Section S2.3.4). This report shall be accompanied by copies of the relevant operational records which should be approved by an independent auditor, which should be certified by the Authority.

- 2.2.6.5 Emissions from gas turbine MPS5 must be monitored according to ISO 11042-2:1996 (Gas turbines -- Exhaust gas emission -- Part 2: Automated emission monitoring) or the equivalent EN standard.
- 2.2.6.6 The operator shall measure the concentration of dust (TSP), sulphur dioxide (SO₂), nitrogen oxides (NO_x) and carbon monoxide (CO) in the exhaust gases of gas turbines MPS5. The annual load of dust (TSP), sulphur dioxide (SO₂) and nitrogen oxides (NO_x) shall be reported separately using the schedules in s2.4.2.2. Load shall be calculated on the basis of the waste gas flow rate.
- 2.2.6.7 The continuous measurement carried out in compliance with Conditions 2.2.6.1 and 2.2.6.3 shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content, velocity and flue gas volume; see 2.2.7.
- 2.2.6.8 Provided that 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.
- 2.2.6.9 The Operator must keep record of:
 - 2.2.6.9.1 the validated hourly concentration of nitrogen oxides (NO_x), sulphur dioxide (SO₂), dust (TSP) and carbon monoxide (CO) values for each combustion plant per day in the format specified in s3.2.1.
 - 2.2.6.9.2 24-hourly mean values for the concentrations of carbon monoxide (CO) in the format specified in s3.2.2.
 - 2.2.6.9.3 48-hourly mean values for the concentration of nitrogen oxides (NO_x), sulphur dioxide (SO₂) and dust (TSP) in the format specified in s3.2.2.
 - 2.2.6.9.4 Calendar monthly mean values for the concentration of nitrogen oxides (NO_x), sulphur dioxide (SO₂), dust (TSP) and carbon monoxide in the format specified in s2.4.2.2.
 - 2.2.6.9.5 The total annual load of nitrogen oxides (NO_x), sulphur dioxide (SO₂) and dust (TSP) 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. This shall be included in the AER for this installation in the format specified in s2.4.3.1.
- 2.2.6.10 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 10% of the measured valid hourly average value for CO, 20% of the measured valid hourly average value for SO₂, NO_x and 30% of the measured valid hourly average value for dust.
- 2.2.6.11 95% of the validated hourly averages for nitrogen oxides (NO_x) shall not exceed 132 mg.Nm⁻³.
- 2.2.6.12 For 2.2.6.9.2, 2.2.6.9.3, 2.2.6.9.4 the Operator must clearly indicate any exceedances of the concentrations of nitrogen oxides (NO_x) and carbon monoxide (CO) indicated in conditions 2.2.6 in the format specified in s3.2.2.3, s3.2.2 and s2.4.2.1.

- 2.2.6.13 The records specified by 2.2.6.9.1, 2.2.6.9.2 and 2.2.6.9.3 must be forwarded by email to the Authority in electronic format. Unless otherwise communicated in writing the reporting frequencies to the Authority shall be as established in table 2.2.6.1. Furthermore the said records must be made available for inspection upon request.

Table 2.2.6.1 Frequency of Record Submission	
Condition	Frequency
2.2.5.9.1	quarterly
2.2.5.9.2	quarterly
2.2.5.9.3	annually

- 2.2.6.14 The data for 1 day shall be invalidated if on that day 3 or more hourly average concentration of dust (TSP), sulphur dioxide (SO₂), nitrogen oxides (NO_x) and carbon monoxide (CO) values are invalid due to malfunction or maintenance of the continuous monitoring system.
- 2.2.6.15 If more than 10 days in a year are invalidated for such situations, the Operator must take adequate measures to improve the continuous monitoring system.
- 2.2.6.16 All limit values specified in Condition 2.2.6 shall not apply if MPS5 does not operate more than 700 hours annually. Reporting obligations are still applicable.

2.2.7 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Discontinuous Measurements.

- 2.2.7.1 Until the automated measuring systems are installed and commissioned on all the units of the plants making up the Marsa power station, the operator shall monitor for sulphur dioxide, oxides of nitrogen, particulates and carbon monoxide using discontinuous measurements. Once automated measuring systems are installed and commissioned on a unit, only continuous measurements shall be allowed from that unit.
- 2.2.7.2 The concentrations of these pollutants shall be measured at least once daily. The sampling time shall not be less than 6 hours.
- 2.2.7.3 The sampling points are to be located according to BS 1756- 4:1976 or the equivalent EN standard for gases and ISO 9096:2003 or the equivalent EN standard for dust (TSP).
- 2.2.7.4 The Operator shall measure the concentrations of dioxins and furans (PCDDs and PCDFs) in the flue gases as per 2.2.7.3 and submit these to the Authority for evaluation within 6 months of the issuing of the permit. On the basis of these results, the Authority may request further measurements as it may deem necessary.
- 2.2.7.5 The Operator shall measure on a half-yearly basis the concentrations of the following metals in the flue gases as per 2.2.7.3:
- 2.2.7.5.1 Cadmium (Cd) and Thallium (Tl) together.
- 2.2.7.5.2 Arsenic (As), Chromium (Cr), Cobalt (Co), Copper (Cu), Manganese (Mn), Nickel (Ni), Lead (Pb), Antimony (Sb) and Vanadium (V) together.
- 2.2.7.6 The analyses shall be 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 17025:2005/Cor 1:2006 and preferably for each and every analyte listed in 2.2.7.4.

- 2.2.7.7 Dioxins and Furans (PCDDs and PCDFs) shall be sampled, extracted and cleaned-up, identified and quantified and analysed according to the standards listed in table 2.2.7 below, or equivalent:

Table 2.2.7 Standards for the analyses of waste gases for dioxins and furans	
Standard Number	Title
EN 1948-1:2006	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 1: Sampling of PCDDs/PCDFs.
EN 1948-2:2006	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 2: Extraction and clean-up of PCDDs/PCDFs.
EN 1948-3:2006	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 3: Identification and quantification of PCDDs/PCDFs.
EN 1948-4:2006	Stationary source emissions - Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 4: Sampling and analysis of dioxin-like PCBs.

- 2.2.7.8 The metals listed in condition 2.2.7.4 shall be analysed as per EN 14385:2004 (Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V.)
- 2.2.7.9 Alternatively the operator may determine the concentration of heavy metals in the flue gases by subtracting the concentration of the metals in the boiler bottom-ash from the concentration of the metals in the fuel; taking into consideration the relative waste gas flow rates. Samples should be analysed to the relevant EN or EN ISO standards or equivalent.
- 2.2.7.10 Releases of dioxins and furans (PCDDs and PCDFs) from the authorised process into the atmosphere shall occur only from the release points specified in table 2.2.1, shall arise only from the sources for those releases specified in table 2.2.1 and shall not exceed the annual average of $0.1 \text{ ng TEQ} \cdot \text{Nm}^{-3}$, calculated as per schedule 6.
- 2.2.7.11 The operator shall include a report on the emission levels of dioxins and furans in the AER in the format specified in s2.4.1.3.
- 2.2.7.12 Releases of the metals specified in 2.2.7.4.1 and 2.2.7.4.2 from the authorised process into the atmosphere shall occur only from the release points specified in table 2.2.1 shall arise only from the sources for those releases specified in table 2.2.1 and shall not exceed the annual average value of $0.05 \text{ mg} \cdot \text{Nm}^{-3}$ for cadmium (Cd) and thallium (Tl) together and the annual average value of $0.5 \text{ mg} \cdot \text{Nm}^{-3}$ for arsenic (As), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb) and vanadium (V) together.
- 2.2.7.13 The operator shall include a report on the emission levels of cadmium (Cd) and thallium (Tl) together and arsenic (As), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), lead (Pb), antimony (Sb) and vanadium (V) together in the AER in the format specified in s2.4.1.4.1 and s2.4.1.4.2 respectively.
- 2.2.7.14 The operator shall analyse the flue gases of MPS1, MPS2, MPS3 and MPS4 for the PAHs in Schedule 10 annually and shall submit this analysis as part of the

AER in the format specified in S2.4.1.5. Sampling shall be carried out according to ISO 11338-1:2003 or equivalent and analysis shall be carried out according to ISO 12884:2000 or equivalent.

- 2.2.7.15 Conditions 2.2.7.4 to 2.2.7.14 are applicable to plants MPS1, MPS2, MPS3 and MPS4 only.
- 2.2.7.16 The Operator must keep these records for a period which shall not be less than 5 years.

2.2.8 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Additional Monitoring Requirements.

- 2.2.8.1 In addition to the monitoring requirements for MPS1, MPS2, MPS3, MPS4 and MPS5 listed in Conditions 2.2.2, 2.2.3, 2.2.4 and 2.2.5, the operator shall monitor continuously for the parameters listed in table 2.2.8 using the methods listed in the same table.

Table 2.2.8 Monitoring of Additional Parameters		
Parameter	Standard Number /Instrument	Title
Oxygen	ISO 12039:2001	Stationary Source Emissions - - Determination of carbon monoxide, carbon dioxide and oxygen - - Performance characteristics of automated measuring systems.
Water Content	US EPA Method 4	Determination of moisture content in stack gases.
Velocity	ISO 10780:1994	Stationary source emissions -- Measurement of velocity and volume flowrate of gas streams in ducts.
Flue gas volume	ISO 14164:1999	Stationary Source Emissions - - Determination of the volume flow rate of gas streams in ducts - - automated method.
Flue gas temperature (prior to discharge into the atmosphere)	Temperature Sensor	N/A
Flue gas pressure (prior to discharge into the atmosphere)	Pressure Sensor	N/A

2.2.9 Compliance with Total Emission Ceilings for Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) by 2010.

- 2.2.9.1 From the 1st January 2010 onwards, the total annual loads of sulphur dioxide (SO₂) and nitrogen oxides (NO_x) from both the Marsa Power Station and Delimara Power Station together shall not exceed the ceilings specified in Table 2.2.9 or any other annual ceilings as may be amended by the Authority from time to time.

Table 2.2.9 Emission Ceiling for Marsa Power Station and Delimara Power Station together.

Pollutant	Total Annual Load
Sulphur Dioxide (SO ₂)	8000 tons
Nitrogen Oxides (NO _x)	4500 tons

- 2.2.9.2 The operator is to forward to the Authority:
- 2.2.9.2.1 A detailed plan indicating how the installation will be operated in order to comply with the ceilings for sulphur dioxide and nitrogen oxides indicated in table 2.2.9. The measures communicated in this plan shall be to the satisfaction of the Authority and shall be forwarded to the Authority within six months from the date of issue of this permit.
- 2.2.9.2.2 By not later than end of September of each year (starting September 2009), the projected quarterly loads (Jan-Mar, Apr-Jun, Jul-Sep, Oct-Dec) of SO₂ and NO_x from Marsa Power Station covering the following calendar year.
- 2.2.9.2.3 By not later than 2 weeks after the end of each quarter, a report in the format specified in Section S3.2.3 of Schedule 3 on the actual loads of SO₂ and NO_x emitted from Marsa Power Station during the previous quarter, and shall additionally submit revised projections of SO₂ and NO_x from Marsa Power Station for the remaining quarters of that calendar year.
- 2.2.9.3 The measures to be included in the plan as per Condition 2.2.9.2 shall also take into account that the Operator currently operates another power plant which is located on a separate site and which is also covered by the requirements of the IPPC Regulations.
- 2.2.9.4 The Competent Authority reserves the right to reduce these ceilings further particularly but not solely:
- 2.2.9.3.1 in the event of there being a new entrant on the power production market in Malta;
- 2.2.9.3.2 if it transpires that due to unforeseen circumstances the contributions of other sectors to the National Ceilings as per LN 291 of 2002 as amended by LN 232 of 2004 have been underestimated or if it transpires that sectors which also contribute to the total annual loads of these pollutants have been ignored;
- 2.2.9.3.3 if it is decided that such a decision is in the national interest.
- 2.2.9.5 The operator shall be responsible for compliance with the limits in Table 2.2.9 for sulphur dioxide (SO₂) as per Malta's commitments with the European Commission by the 31 December 2010.
- 2.2.9.6 The operator shall be responsible for compliance with the limits in Table 2.2.9 for nitrogen oxide (NO_x), as per Malta's commitments with the European Commission by the 31 December 2010.
- 2.2.9.7 The ceilings listed in table 2.2.9 shall expire on the 31 December 2019.

2.2.10 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Total Annual Emissions.

- 2.2.10.1 Starting on the 1st January 2009 and for each subsequent year, the Operator shall keep an inventory of the total annual emissions of SO₂, NO_x and dust (as total suspended particles) from all combustion plants at the Marsa Power Station with a rated thermal input of 50 MW_{th} or more, including the gas turbine. This inventory shall be submitted as part of the AER of the installation in the format specified in s2.4.3.1.
- 2.2.10.2 In addition to the total annual emissions of the pollutants listed in 2.2.10.1, the inventories shall also include the total fuel burn per plant, the fuel type and the average heat value of the fuel fired.
- 2.2.10.3 The above records must also be made available for inspection upon request.
- 2.2.10.4 As part of the AER, the Operator shall also report the annual loads of nickel and vanadium from MPS1, MPS2, MPS3 and MPS4, in the format specified in s2.4.3.2.

2.2.11 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Performance and Calibration of Automated Measuring Systems.

- 2.2.11.1 The commissioning and operation of all automated measuring systems at the Marsa Power station shall follow EN 14181:2004 – Stationary Source Emissions – Quality Assurance of automated measurement systems.
- 2.2.11.2 Measuring systems shall be subject to control by means of parallel measurements with the reference methods listed in table 2.2.11, 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 17025:2005/Cor 1:2006 and preferably accredited for each and every calibration.

Table 2.2.11 Calibration of Automated Measuring Systems	
Standard Number	Title
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 _x) - Reference method: Chemiluminescence.
EN 13284-1:2001	Stationary source emissions - Determination of low range mass concentration of dust - Part 1: Manual gravimetric method.

2.2.12 Emissions to Air (excluding Odour, Noise or Vibration) from Specified Points – Emergency Considerations

- 2.2.12.1 In the case of an interruption in the supply of low sulphur fuel due to a serious shortage, the Chairman of the IPPC Committee may allow a suspension for a maximum of six (6) months from the obligation to comply with the emission limit values in table 2.2.3.
- 2.2.12.2 The Chairman of the IPPC Committee shall be immediately notified about any interruptions in the supply of low-sulphur fuel.
- 2.2.12.3 In case the operator opts to control sulphur dioxide emissions through the use of low sulphur fuel, condition 2.2.12.1 above shall not apply unless the operator secures a supply of low sulphur (1% Sulphur w/w) through a long term supply contract.
- 2.2.12.4 Notwithstanding 2.2.12.1, in case of emergency the operator 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 LN 224 of 2001 and subsequent amendments are not exceeded.
- 2.2.12.5 In case of a malfunction or breakdown of any abatement equipment the Operator shall reduce or close down operations if a return to normal operations is not achieved within 24 hours.
- 2.2.12.6 Under no circumstance shall the cumulative unabated operation in any twelve-month period exceed 120 hours.
- 2.2.12.7 The Chairman of the IPPC Committee may allow exceptions to the 24 hours and 120 hours in 2.2.12.5 and 2.2.12.6 respectively in cases where in the Chairman's judgement:
 - 2.2.12.6.1 there is an overriding need to maintain energy supplies
 - 2.2.12.6.2 the plant with the breakdown would be replaced for a limited period by another plant which would cause an overall increase in emissions.
- 2.2.12.8 The Chairman of the IPPC Committee shall be notified about any malfunction or breakdown of the abatement equipment within 24 hours as per Condition 5.1.2 of this permit.
- 2.2.12.9 The Operator shall keep together in a log book all notifications compiled after:
 - (a) the occurrence of any malfunction to the abatement equipment,
 - (b) an interruption in the supply of low-sulphur fuel.
- 2.2.12.10 The log book shall be made available for inspection upon request.

2.3 Discharges to sewers

- 2.3.1 The Operator shall obtain a Sewer Discharge Permit from the Water Services Corporation and submit a copy of this permit to the Authority by no later than 3 months from the date of issue of the IPPC permit. The operator shall also abide by the provisions of the Sewer Discharge Control Regulations (LN139 of 2002 as amended by LN378 of 2005 and as may be amended from time to time).

- 2.3.2 Rainwater shall be segregated from all process areas that are potentially contaminated with raw materials, intermediates and/or products.
- 2.3.3 Rainwater shall not be discharged into the sewer.
- 2.3.4 With the exception of sanitary waters, the Operator shall not discharge any waste waters into the sewers.

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 in List I and List II (as defined in the Regulations for The Protection of Groundwater against Pollution caused by Certain Dangerous Substances, 2002 (LN 203 of 2002)).
- 2.4.2 For substances other than those in List I or II (as defined in LN 203 of 2002), the Operator shall not allow any discharges to groundwater.
- 2.4.3 The operations of the installation shall not hinder the achievement of good chemical and quantitative status of groundwaters as prescribed under the Water Policy Framework Regulations, LN194 of 2004 as may be amended from time to time.

2.5 Emissions to Marine Water

2.5.1 Emissions to Marine Water (from Specified Points – General Considerations.

- 2.5.1.1 This Part 2.5 of this Permit shall not apply to discharges to groundwater or sewers.
- 2.5.1.2 Waste waters shall not be discharged into marine water unless from the sources specified in table 2.5.1, and only from the sources for those release points specified by the table in question.

Table 2.5.1 Emissions to Marine Water			
Outlet Number	Details	UTM Co-ordinates ²	
		x-coordinate	y-coordinate
1	surface drains	454,691	3,971,053
2	condenser	454,717	3,971,067
4	condenser	454,752	3,971,086
5	surface drains	454,762	3,971,090
6	condenser	454,777	3,971,094
8	boiler blow-down	454,807	3,971,101
11	acid trench	454,858	3,971,104
12	Boiler 7 ; demineralisation plant and evaporators	454,877	3,971,102
13	turbine 8 condenser	454,892	3,971,098
14	boiler 8 interceptor	454,902	3,971,094
17	mechanics interceptor	454,938	3,971,074
18	light distillate fuel tank bund	455,007	3,971,160
19	boiler 8 surface drain interceptor	454,990	3,971,187
20	road rainwater	454,960	3,971,227

See Application submitted in February 2007, p.48, Drawing number EMC/XZ/16

- 2.5.1.3 Dry outlets and release points whose sources are unidentified should be securely and permanently disconnected from the discharge pipe-work. Furthermore the operator shall not discharge any waste waters through these outlets.
- 2.5.1.4 Waste water discharged through any of the outlets listed in table 2.5.1 above shall not contain the following substances and substance groups:
- 2.5.1.4.1 organic complexing agents (except for phosphonates and polycarboxylates) that do not attain an 80% degree of DOC degradation after 28 days, as per EN ISO 9888: 1999 (Water quality - Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium - Static test (Zahn-Wellens method))
 - 2.5.1.4.2 nitrate III; analysis for nitrate III to be carried out as per EN 26777: 1993 - (Water quality - Determination of nitrite - Molecular absorption spectrometric method (ISO 6777:1984).
- 2.5.1.5 Any operating or auxiliary substances used by the operator shall not contain:
- 2.5.1.5.1 chromium and chromium compounds;
 - 2.5.1.5.2 mercury and mercury compounds;
 - 2.5.1.5.3 zinc and zinc compounds.
- 2.5.1.6 Waste waters may contain microbiocidal agents only after having undergone shock treatment with microbiocides. This shall not apply to the use of hydrogen peroxide or ozone.

² Zone 33s, datum ED 50, ellipsoid – Hayford International.

- 2.5.1.7 No specified emission to water shall exceed the emission limit values set out in Schedule 7. There shall be no other emissions to water of environmental significance.
- 2.5.1.8 Monitoring and analyses of each substance shall be carried out according to the standards specified in Schedule 8 or equivalent.
- 2.5.1.9 No substance shall be discharged in a manner, or at a concentration which following initial dilution, causes tainting of fish or shellfish.
- 2.5.1.10 The operator is to maintain an operating journal in which the operating and auxiliary substances are listed down. The operator shall also attach information supplied by the manufacturers in order to prove that the operating and auxiliary substances do not contain any of the pollutants listed in 2.5.1.4 and 2.5.1.5 above.
- 2.5.1.11 An annual report summarising emissions to water from the installation 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 s2.7.
- 2.5.1.12 The operator 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: 2005/Cor 1: 2006 and preferably for each and every test listed in schedule 8. The operator shall include a copy of the laboratory's accreditation certification in the AER.
- 2.5.1.13 The operations of the installation shall not hinder the achievement of good status for surface as required under the Water Policy Framework Regulations, LN 194 of 2004.
- 2.5.1.14 The operator shall send written confirmation to the Authority that the priority substances in the field of water policy listed in schedule 9 are not in use at the site covered by this permit.

2.5.2 Discharges to Marine Water – General Conditions, Sampling.

- 2.5.2.1 All sampling carried out by the operator with the scope of monitoring compliance with the conditions listed in this permit shall be carried out according to the standards listed in table 2.5.2 or equivalent.

Table 2.5.2 Sampling	
Standard	Description
ISO 5667-1: 2006	Water quality -- Sampling -- Part 1: Guidance on the design of sampling programmes and sampling techniques
ISO 5667-3: 2003	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: 1992	Water quality -- Sampling -- Part 10: Guidance on sampling of waste waters
ISO 5667-14: 1998	Water quality -- Sampling -- Part 14: Guidance on quality assurance of environmental water sampling and handling

2.5.3 Discharges to Marine Water – Requirements for Waste Water arising from Water Treatment.

- 2.5.3.1 These requirements apply to discharges from outlets 11 and 12.
- 2.5.3.2 The following requirements shall apply to the waste water at the point of discharge into the sea.
- 2.5.3.3 The mass concentration of total suspended solids shall not exceed a value of 35 g.dm^{-3} in either the qualified random sample or in the 2 hour composite sample.
- 2.5.3.4 The operator must make sure that emission limit values listed in Schedule 7 are not exceeded by the effluents discharging waste water arising from water treatment.
- 2.5.3.5 The operator shall monitor discontinuously on a quarterly basis for parameters 1 and 2 in Schedule 7.
- 2.5.3.6 In order to monitor for parameters 3, 4, 5, 6, 7 and 8 in Schedule 7 the operator shall collect a random sample of the effluents arising from water treatment on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.3.7 In order to monitor for parameters 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 in Schedule 7 the operator shall also collect a qualified random sample or a 2-hr qualified sample of the effluents arising from water treatment on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.3.8 The operator shall report the results of these analyses of the parameters listed in Schedule 7 in the format specified in s3.3.1 on a quarterly basis. The operator shall also include a summary of these analyses in the AER. This shall be in the format specified in s2.7.

2.5.4 Discharges to Marine Water – Requirements for Waste Water arising from Cooling Systems.

- 2.5.4.1 These requirements apply to discharges from outlets 2, 4, 6 and 13.
- 2.5.4.2 The following requirements shall apply to the waste water at the point of discharge into the sea.
- 2.5.4.3 The operator must make sure that emission limit values listed in Schedule 7 are not exceeded by the effluents discharging waste water arising from cooling systems.
- 2.5.4.4 The operator shall monitor discontinuously on a quarterly basis for parameters 1 and 2 in Schedule 7.
- 2.5.4.5 In order to monitor for parameters 3, 4, 5, 6, 7 and 8 in Schedule 7 the operator shall collect a random sample of the effluents arising from cooling systems on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8.
- 2.5.4.6 In order to monitor for parameters 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20 and 21 in Schedule I the operator shall also collect a qualified random or a 2-hr qualified sample of the effluents arising from cooling systems on a quarterly basis, and

analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.

- 2.5.4.7 The operator shall make sure that the concentration of zinc in the effluent from cooling systems does not exceed 4mg.dm^{-3} . In order to do this the operator shall collect a qualified random sample or a 2-hr qualified random sample of the effluents arising from cooling systems on a quarterly basis and analyse for zinc according to the standard listed in Schedule 8 or equivalent.
- 2.6.4.8 The operator shall report the results of these analyses of the parameters listed in Schedule 7 in the format specified in s3.3.2 on a quarterly basis. The operator shall also include a summary of these analyses in the AER. This shall be in the format specified in s2.7.

2.5.5 Discharges to Marine Water – Requirements for Waste Water arising from Steam Generation.

- 2.5.5.1 These requirements apply to discharges from outlet 12.
- 2.5.5.2 The following requirements shall apply to the waste water at the point of discharge into the sea.
- 2.5.5.3 The operator must make sure that emission limit values listed in Schedule 7 are not exceeded by the effluents discharging waste water arising from steam generation.
- 2.5.5.4 The operator shall monitor discontinuously on a quarterly basis for parameters 1 and 2 in Schedule 7.
- 2.5.5.5 In order to monitor for parameters 3, 4, 5, 6, 7 and 8 in Schedule I the operator shall collect a random sample of the effluents arising from steam generation on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.5.6 In order to monitor for parameters 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 in Schedule 7 the operator shall also collect a qualified random or a 2-hr qualified sample of the effluents arising from steam generation on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.5.7 The operator shall report the results of these analyses of the parameters listed in Schedule 7 in the format specified in s3.3.3 on a quarterly basis. The operator shall also include a summary of these analyses in the AER. This shall be in the format specified in s2.7.

2.5.6 Discharges to Marine Water – Requirements for Waste Water arising from Boiler Washdown.

- 2.5.6.1 These requirements apply to discharges from points 8, 12.
- 2.5.6.2 The following requirements shall apply to the waste water at the point of discharge into the sea.
- 2.5.6.3 The operator must make sure that emission limit values listed in Schedule 7 are not exceeded by the effluents discharging waste water arising from steam generation.

- 2.5.6.4 The operator shall monitor discontinuously on a quarterly basis for parameters 1 and 2 in Schedule 7.
- 2.5.6.5 In order to monitor for parameters 3, 4, 5, 6, 7 and 8 in Schedule 7 the operator shall collect a random sample of the effluents arising from steam generation on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.6.6 In order to monitor for parameters 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 in Schedule 7 the operator shall also collect a qualified random sample or a 2-hr qualified sample of the effluents arising from steam generation on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.6.7 The operator shall report the results of these analyses of the parameters listed in Schedule 7 in the format specified in s3.3.4 on a quarterly basis. The operator shall also include a summary of these analyses in the AER. This shall be in the format specified in s2.7.

2.5.7 Discharges to Marine Water – Requirements for Waste Water arising from Non-process Water (Surface Drainage, Road Rainwater Drainage, Fuel Bunds Drainage and from the Mechanics Interceptor).

- 2.5.7.1 These requirements apply to discharges from points 1, 5, 14, 17, 18, 19 and 20.
- 2.5.7.2 The operator shall carry out a visual examination of the surface water discharge daily and shall maintain a log of such inspections. The operator 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.
- 2.5.7.3 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.
- 2.5.7.4 Rainwater shall be segregated from all areas (including areas for fuel storage and raw materials) that are potentially contaminated.
- 2.5.7.5 Rainwater shall not be discharged into the sewer or onto a public place or thoroughfare.
- 2.5.7.6 The operator shall ensure that the concentrations of the chemical parameters (parameters 3 to 21) listed in Schedule 7 are below the limit values listed in the same Schedule.
- 2.5.7.7 In order to monitor for parameters 3, 4, 5, 6, 7 and 8 in Schedule 7 the operator shall collect a random sample of the effluents arising from non sources waters on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.7.8 In order to monitor for parameters 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 in Schedule 7 the operator shall also collect a qualified random sample or a 2-hr qualified sample of the effluents arising from non process sources on a quarterly basis, and analyse for the relevant chemical parameters according to the standards listed in Schedule 8 or equivalent.
- 2.5.7.9 The operator shall report the results of these analyses of the parameters listed in Schedule 7 in the format specified in s3.3.5 on a quarterly basis. The operator shall also include a summary of these analyses in the AER. This shall be in the format specified in s2.7.
- 2.5.7.10 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 operator shall:
 - 2.5.7.10.1 Carry out an immediate investigation to identify and isolate the source of the contamination;
 - 2.5.7.10.2 Put in place measures to prevent further contamination and to minimise the effects of any contamination on the environment;

and

 - 2.5.7.10.3 notify the Authority as soon as is possible as per Condition 5 of this permit.

2.5.8 Discharges to Marine Water – Other Conditions.

- 2.5.8.1 All HFO and gasoil storage areas shall be rendered impervious to the minerals stored therein. In addition, the tank area shall be bunded, either locally or remotely, to a volume not less than the greater of the following.
- 2.5.8.1.1 110% of the capacity of the largest tank or drum within the bunded area.
 - 2.5.8.1.2 25% of the total volume of substance which could be stored within the bunded area.
- 2.5.8.2 Drainage from bunded areas shall be diverted for collection and safe disposal. All bunds shall be tested for integrity at least once every three years.
- 2.5.8.3 The integrity testing of bunds must be carried out 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 specifies in s2.11.
- 2.5.8.4 The unloading of HFO and gasoil shall be supervised at all times and shall be undertaken in accordance with the standard operating procedure or as amended.
- 2.5.8.5 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 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 s2.11.
- 2.5.8.6 All oil transfers shall be undertaken in accordance with the oil spillage response plan submitted as part of the IPPC permit application.
- 2.5.8.7 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.
- 2.5.8.8 The loading and unloading of other materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 2.5.8.9 All pump sumps or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment interceptors, shall be fitted with high liquid level alarms within 12 months from the grant of this permit, and followed by immediate notification to the Authority.
- 2.5.8.10 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.
- 2.5.8.11 All the flanges, valves and over-ground pipes listed in 2.5.8.10 shall be certified by an accredited auditor to be completely leak-proof at least once every three years. Any ensuing inspection report shall be included in the AER in the format specified in 2.11.

- 2.5.8.12 The operator shall have in storage an adequate supply of containment booms and suitable absorbent material to absorb any spillage.
- 2.5.8.13 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.
- 2.5.8.14 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.
- 2.5.8.15 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.

2.6 Fugitive emissions of substances to air

- 2.6.1 The Operator 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:
 - process areas
 - storage areas, including solvent storage, raw materials storage and waste storage
 - buildings
 - pipes, valves and other transfer systems
 - open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.
- 2.6.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.7 Fugitive emissions of substances to water and sewer

- 2.7.1 Subject to condition 2.7.2, the Operator 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.
- 2.7.2 There shall be no release to water that would cause a breach of an EQS (Environmental Quality Standard) established to implement the Dangerous Substances Directive 76/464/EEC (LN 213 of 2001).

- 2.7.3 The Operator shall undertake all necessary measures and precautions to prevent spillage of raw materials, intermediates, products, waste and any other materials.
- 2.7.4 All process and storage areas 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.
- 2.7.5 The operations of the installation shall not hinder the achievement of good ecological status for surface waters as prescribed under the Water Policy Framework Regulations, LN 194 of 2004.

2.8 Waste

2.8.1 Waste storage and handling

- 2.8.1.1 The Operator 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.

2.8.2 Waste recovery or disposal

- 2.8.2.1 The Operator shall be committed to reduce waste generation where possible.
- 2.8.2.2 Waste produced at the Permitted Installation shall be recycled, reused or recovered unless technically and/or economically impossible. When practical recyclable wastes should be segregated to facilitate recycling.
- 2.8.2.3 Unless approved in writing by the Authority, the Permit Holder is prohibited from mixing a hazardous waste of one Category with a hazardous waste of another category or with any other non-hazardous waste.
- 2.8.2.4 A full record which shall be open to inspection by authorised persons of the Authority at all times, shall be kept by the Permit Holder on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:
- 2.8.2.4.1 The tonnages and EWC Codes for the waste materials removed off site as per Schedule 1 of Legal Notice 337 of 2001 as may be amended from time to time.
 - 2.8.2.4.2 The names of the Company and carrier of the waste and their Permit details (either waste registration or waste management permit).
 - 2.8.2.4.3 Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its Waste Management Permit details and number.
 - 2.8.2.4.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.
 - 2.8.2.4.5 Details of all wastes consigned abroad for disposal or recovery and classified as Green, Amber or Red in accordance with the EU Transfrontier Shipment of waste regulations (Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, as may be amended from time to time.) The rationale for the classification must form part of the record.
 - 2.8.2.4.6 Details of any approved waste mixing as per condition 2.8.2.3.
- 2.8.2.5 Disposal of wastes are to be managed in accordance with the legal obligations of the Waste Management (Permit and Control) Regulations 2001 as per Legal Notice 337 of 2001 as may be amended from time to time.

- 2.8.2.6 Within one (1) month of the issue of this permit, permit holder is to provide to the Authority a management plan for the storage and disposal of ash. This management shall include information on at least the following:
- 2.8.2.6.1 Quantities of ash produced daily;
 - 2.8.2.6.2 The area on the site where ash is stored, together with a plan of the site marking this area;
 - 2.8.2.6.3 The method of storage of ash prior to disposal, including containment in case of spillages and protective measures to reduce the risk of spillage;
 - 2.8.2.6.4 The installation where ash is proposed to be disposed or recovered and evidence that this installation is covered by all the required permits;
 - 2.8.2.6.5 The method of transportation of ash and evidence that the waste carrier is covered by all the required permits.
- 2.8.2.7 Disposal or recovery of waste shall take place only at permitted sites. No waste shall be disposed of/recovered either on site or off-site without prior notice to, and prior written agreement of, the Authority.
- 2.8.2.8 Any packaging waste and separately collected non-hazardous waste including but not limited to glass, plastic, metal, wood, cardboard and paper shall not be disposed of in a landfill.
- 2.8.2.9 All wastes shall be stored within (a) designated and controlled storage area(s) prior to ultimate disposal; wastes to be recycled should be stored in a designated labelled container or area and not mixed with other wastes. The operator shall ensure adequate protection and containment of all wastes.
- 2.8.2.10 The Permit Holder shall ensure that waste transferred to another person is packaged and labelled in accordance with national, European and any other standards which are in force in relation to such labelling. While awaiting collection, recovery or disposal all waste shall be stored in designated areas protected, as may be appropriate, against spillage, leachate run-off and accidental damage. The waste is to be clearly labelled and appropriately segregated.
- 2.8.2.11 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 which shall be appropriately contained to ensure no contamination of the environment in case of spillage. Wastes of different natures should not be mixed in the same container.
- 2.8.2.12 Waste oils must be stored in a secure leakproof container and may only be disposed of through a company authorised for the collection of waste oils or at an authorised site. A record must be maintained of the quantities, nature, manner and date of dispatch of the oil.
- 2.8.2.13 No storage of waste is permitted for a period exceeding 12 months.
- 2.8.2.14 On-site disposal of wastes by any means including burning, disposal to drain or surface water, burying or deposition on land is prohibited, unless specifically approved by a permit from the Authority or the Water Services Corporation (WSC).

- 2.8.2.15 Transport of hazardous waste within the Maltese Islands shall be accompanied by the necessary waste transfer permits issued by the Authority. Applications for such permits are made through the hazardous waste consignment note procedure available from the Authority's Offices.
- 2.8.2.16 Each movement of hazardous waste to authorised facilities shall be covered by a valid consignment permit obtainable from the Authority. Each movement shall also be covered by a consignment note obtainable from the Authority.
- 2.8.2.17 Disposal certificates shall be kept on record and made available for inspection for a period of at least 5 years from date of their issue.
- 2.8.2.18 Waste sent off-site for recovery or disposal shall be conveyed only by an authorised waste carrier as per Activity 38 of Schedule 1 of Legal Notice 106 of 2007 as may be amended from time to time. The waste shall be transported only from the site of the activity 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.
- 2.8.2.19 The transport of waste off-site shall be by means of a waste carrier authorised for that waste.
- 2.8.2.20 Off-site disposal or recycling of wastes may only take place at a facility licensed for that purpose by the Authority.
- 2.8.2.21 Shipment of hazardous waste abroad is to follow the obligations listed in Council Regulation (EC) 1013/2006 of the European Parliament and of The Council of 14 June 2006 on shipments of waste, as may be amended from time to time.
- 2.8.2.22 None of the waste streams listed in Annexes 3, 4 and 5 of the EU Transfrontier Shipment of Wastes Regulations Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (as may be amended from time to time) shall be consigned for recovery/disposal without the prior agreement of the Authority.
- 2.8.2.23 Records shall be maintained for the disposal of all hazardous waste, including quantities, dates, contractor name and manner of disposal. The records should be maintained for a period of 5 years and be made available for inspection by the Authority upon request.
- 2.8.2.24 No storage of waste, equipment or materials is permitted on property outside the site premises.
- 2.8.2.25 Non-hazardous waste awaiting collection may be placed outside the site premises for a period not exceeding 12 hours.
- 2.8.2.26 Drums and containers of chemicals/oils shall be stored in designated and secure storage areas. Storage areas shall be bunded or otherwise designed so that surface and ground waters cannot be contaminated by spillages.
- 2.8.2.27 All storage of materials or waste shall take place only in locations where thorough clean-up and site reinstatement can be readily undertaken.
- 2.8.2.28 For any decommissioned equipment, the permit holder shall submit to the Authority a proposal for the screening of the intended equipment to be discarded which should include the details of any hazardous materials in the equipment (including but not limited to radioactive sources, hazardous chemicals, etc.), decontamination procedures and the procedures for final disposal.

- 2.8.2.29 Within three (3) months of issue of this permit the Permit holder shall provide to the authority all information requested in Schedule 4.
- 2.8.2.30 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 s3.1 of this Permit within 1 month following the end of the quarter.
- 2.8.2.31 As part of the Annual Environmental Report for the installation, the Operator shall produce a report on the off-site transfers of waste from the Permitted Installation over the previous calendar year, by end of March of each year, providing the information listed in the format specified in s2.10.

2.9 Odour

- 2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:
 - 2.9.1.1 limiting the use of odorous materials;
 - 2.9.1.2 restricting odorous activities;
 - 2.9.1.3 controlling the storage conditions of odorous materials;
 - 2.9.1.4 controlling processing parameters to minimise the generation of odour;
 - 2.9.1.5 optimising the performance of abatement systems;
 - 2.9.1.6 timely monitoring, inspection and maintenance;
 - 2.9.1.7 employing, where appropriate, an approved odour management plan; provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.
- 2.9.2 There shall be no significant offensive odour, as perceived by an Authorised Officer of the Competent Authority, at sensitive locations.

2.10 Emissions to Land

- 2.10.1 This Part 2.10 of this Permit shall not apply to emissions to groundwater.
- 2.10.2 The operator shall take all precautions to ensure that no emission from the Permitted Installation shall be made to land.
- 2.10.3 In the event of accidental contamination of land, the operator shall notify the Authority immediately, forward a decontamination plan and execute it within 1 week of the event.

2.11 Noise and Vibration

- 2.11.1 The Operator 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:

- 2.11.1.1 equipment maintenance, e.g. circulating pumps, extraction fans, compressors, silencers.
- 2.11.1.2 use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
- 2.11.1.3 appropriate timing and location of noisy activities and vehicle movements;
- 2.11.1.4 periodic checking of noise emissions, either qualitatively or quantitatively; and
- 2.11.1.5 maintenance of building fabric

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

- 2.11.2 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.
- 2.11.3 The level of noise emitted from the installation at all operational times shall not exceed the background noise level by 5dB, excluding during the use of emergency sirens and alarms and start-ups.
- 2.11.4 Noise monitoring is to be carried annually, to ensure that the above limits are not exceeded. The locations shall be chosen and the measurements and assessment made according to BS 4142:1997.
- 2.11.5 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 March after the end of each reporting year, in the format specified in s2.9 of this permit. A detailed report shall also accompany such results.

2.12 Management and Technically Competent Person

- 2.12.1 A copy of this Permit and those parts of the application referred to in 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

- 2.12.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.
- 2.12.3 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.
- 2.12.4 The Operator 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.

Maintenance

- 2.12.5 All plant and equipment used in operating the Permitted Installation shall be maintained in good operating condition.
- 2.12.6 The Operator shall maintain a record of plant and equipment covered by condition 2.12.5, and for such plant and equipment:
- 2.12.6.1 a written or electronic maintenance programme; and
 - 2.12.6.2 records of its maintenance.

Incidents and Complaints

- 2.12.7 The Operator shall maintain and implement written procedures for:
- 2.12.7.1 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;
 - 2.12.7.2 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
 - 2.12.7.3 ensuring that detailed records are made of all such actions and investigations.
- 2.12.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. 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.
- 2.12.9 As part of the AER of the Permitted Installation, the Operator shall provide the information specified in Sections s2.12.1 and s2.12.2 by not later than end of March after the end of each reporting year.

Attendance of Technically Competent Person(s)

- 2.12.10 Attendance of the technically competent person(s) at the Site shall be recorded in the Site diary on arrival and departure.
- 2.12.11 For the whole operational hours permitted for the Site under this Permit, the Technically Competent Person/s shall be physically in attendance at the Site. The Technically competent Person/s has 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.
- 2.12.12 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 Persons

- 2.12.13 Any changes in technically competent management (Person/s) and the name of any incoming person together with evidence that such person has the required technical competence shall be submitted to the Authority in writing within 5 working days of the change in management.
- 2.12.14 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.

2.13 Energy Efficiency

- 2.13.1 As part of the AER, the Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by the end of March of each year, providing the information listed in Tables s2.3.1 and s2.3.2 in the format specified therein.
- 2.13.2 The Operator shall maintain and operate the Permitted Installation so as to secure energy efficiency, in particular by:
 - 2.13.2.1 ensuring that the appropriate operating and maintenance systems are in place;
 - 2.13.2.2 ensuring that all installation is adequately insulated to minimise energy loss or gain;
 - 2.13.2.3 ensuring that the type of lighting used is energy-efficient;
 - 2.13.2.4 ensuring that all appropriate containment methods (e.g. seals) are employed and maintained to minimise energy loss;
 - 2.13.2.5 maintaining and implementing an energy efficiency plan which identifies energy-saving techniques that are applicable to the activities and their associated environmental benefit, and prioritises them.

2.14 Accident prevention and control

- 2.14.1 In the case of an accident, the Operator shall follow the Emergency Plan submitted as part of the IPPC application and updated according to the improvement programme of the installation.
- 2.14.2 The plan shall be reviewed at least every 2 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.
- 2.14.3 The Operator 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.
- 2.14.4 The Operator and Permit Holder shall have sufficient employees trained to deal with any emergency that may arise, e.g. fire-fighting and first aid.

- 2.14.5 The Operator and 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.
- 2.14.6 The Operator and Permit Holder are to make available Health and Safety documentation freely available.

2.15 Transport

- 2.15.1 Independent of any Environment Management System, the Operator 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 chemicals and hazardous wastes on land.
- 2.15.2 The Operator shall make use of the services of a registered waste carrier for the transport of waste from the site in accordance with LN 106/2007.
- 2.15.3 As part of the AER, the operator shall submit the name of each carrier used in the transport of the substances specified in Conditions 2.15.1 and 2.15.2, in the format specified in s2.13, by end of March after the end of each reporting year.

2.16 Closure and Decommissioning

- 2.16.1 As part of the improvement programme of the installation, the operator shall submit to the Authority an outline Decommissioning Plan within the timeframe specified in Condition 1.5.1. This Decommissioning Plan shall at least include the information required by conditions 2.16.3, 2.16.5.1, 2.16.5.4 and 2.16.5.5.
- 2.16.2 Two years before the planned decommissioning of all or part of the site, the operator shall submit to the authority a full Decommissioning Plan which shall at least include all the information required by conditions 2.16.3 to 2.16.5.
- 2.16.3 The operator shall submit to the Authority a report by a qualified geologist on the likelihood of their being a significant contamination of the land on the site by any of the pollutants in Schedule 10. Should it result that the land is likely to contain environmentally significant amounts of these pollutants, this report shall contain as a minimum the measured concentrations of the substances specified in Schedule 10:
 - 2.16.3.1 This monitoring programme shall amongst other things include the location of the points for the sampling of land, information on 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.
 - 2.16.3.2 Samples should be analysed to the relevant EN or EN ISO standards or equivalent.
 - 2.16.3.3 Samples shall be managed³ 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 17025:2005/Cor 1:2006 and preferably accredited for each and every analysis.

³ sampled, handled, pre-treated/extracted or analysed.

- 2.16.4 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the permitted activity, the operator 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.
- 2.16.5 The full Decommissioning Plan shall at least include the following information:
- 2.16.5.1 A detailed monitoring programme which will illustrate how the operator will measure the current levels of various pollutants in the land:
- 2.16.5.1.1 The list of the pollutants to be monitored for shall be as per Schedule 10.
- 2.16.5.1.2 The monitoring programme shall amongst other things include the location of the points for the sampling of land, 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.
- 2.16.5.1.3 Samples should be analysed to the relevant EN or EN ISO standards or equivalent.
- 2.16.5.1.4 Samples shall be managed³ 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 17025:2005/Cor 1:2006 and preferably accredited for each and every analysis.
- 2.16.5.2 The levels to which the site and any affected land will have to be decontaminated.
- 2.16.5.3 The methods which will be used in order to decontaminate the land. Such methods may also include isolation.
- 2.16.5.4 A waste management plan which shall include:
- 2.16.5.4.1 The identification and characterisation of sources, types and quantities of waste (including equipment, fuels, by-products such as ash, etc.);
- 2.16.5.4.2 Criteria for segregation of wastes;
- 2.16.5.4.3 Proposed treatment, conditioning, transport, storage and disposal/recovery methods;
- 2.16.5.4.4 Potential reuse/recycling of such wastes.
- 2.16.5.5 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.
- 2.16.6 The Operator 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:-

- 2.16.6.1 Attention to the design of new plant or equipment;
 - 2.16.6.2 The maintenance of a record 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
 - 2.16.6.3 The maintenance of a decommissioning plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.
- 2.16.7 Notwithstanding condition 2.16.4 of this Permit, the Operator shall carry out a full review of the outline Decommissioning Plan at least every 4 years, excluding the requirements under condition 2.16.3.
- 2.16.8 The Operator shall notify the Authority immediately upon a decision being taken to decommission the site.
- 2.16.9 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.
- 2.16.10 The approved Decommissioning Plan shall be implemented within 12 months of final cessation or decommissioning of the Permitted activities or part thereof.

2.17 Multiple Operator installations

- 2.17.1 This is not a multi-Operator installation.

3 Records

- 3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
 - 3.1.1 be made available for inspection by the Authority at any reasonable time;
 - 3.1.2 be supplied to the Authority on demand and without charge and in the format requested;
 - 3.1.3 be legible;
 - 3.1.4 be made as soon as reasonably practicable;
 - 3.1.5 indicate any amendments which have been made and shall include the original record wherever possible; and
 - 3.1.6 be retained at the Permitted Installation, or other location agreed by 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 Reporting

- 4.1 All reports and written and/or oral notifications required by this Permit and notifications required by Regulation 27 of the IPPC Regulations shall be made and sent to the Authority using the contact details notified in writing to the Operator by the Authority.
- 4.2 The Operator shall submit to the Authority an AER of the previous year by not later than end of March of each year, providing the information listed in Schedule 2 of this Permit and in the format specified therein.
- 4.3 The operator 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.
- 4.4 The European Pollutant Release and Transfer Register (E-PRTR) report for the installation shall be submitted as part of the Annual Environment Report, 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 Legal Notice 152 of 2007, as may be amended from time to time.
- 4.5 The Operator 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 Operator, that may provide environmental improvement.

5 Notifications

This section is without prejudice to any other notification requirement in this permit.

- 5.1 The Operator shall notify the Authority without delay of:-
 - 5.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
 - 5.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution unless the quantity emitted is so trivial that it would be incapable of causing significant pollution or incapable of being detected;
 - 5.1.3 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
 - 5.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.
- 5.2 The Operator shall submit written confirmation to the Authority of any notification under condition 5.1, by sending:-
 - 5.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.2.2 the more detailed information listed in Part B of Schedule 1 as soon as practicable thereafter;

5.2.3 the information listed in s2.12.1 according to the timeframe specified in Condition 4.2;

and such information shall be in accordance with that Schedule.

5.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

5.3.1 permanent cessation of the operation of part or all of the Permitted Installation;

5.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and

5.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.3.2.

5.4 The Operator 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.

5.5 The Operator shall notify the following matters to the Authority in writing within 10 working days of their occurrence:-

5.5.1 Where the Operator is a registered company:-

5.5.1.1 any change in the Operator's trading name, registered name or registered office address;

5.5.1.2 any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary); and

5.5.1.3 any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up.

5.5.2 Where the Operator is a corporate body other than a registered company:

5.5.2.1 any change in the Operator's name or address; and

5.5.2.2 any steps taken with a view to the dissolution of the Operator.

5.5.3 In any other case: -

5.5.3.1 the death of any of the named Operators (where the Operator consists of more than one named individual);

5.5.3.2 any change in the Operator's name(s) or address(es);

5.5.3.3 any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership.

6. Greenhouse gas emissions permit

- 6.1 The conditions in this permit are without prejudice to any condition in the Greenhouse gas Emissions Permit pursuant to LN 140 of 2005 - European Community Emissions Trading Scheme Regulations, 2005.

7. Interpretation

- 7.1 In this Permit, the following expressions shall have the following meanings:-
- 7.1.1 “AER” means the Annual Environmental Report;
- 7.1.2 “Application” means the application for this Permit, together with any response to a notice served under Schedule 4 to the IPPC Regulations and any operational change agreed under the conditions of this Permit;
- 7.1.3 “Authorised Officer” means any officer of the Authority authorised in writing pursuant to Part X of the Environment Protection Act 2001 to exercise any of the powers specified in Part X of that Act;
- 7.1.4 “Background concentration” means such concentration of that substance as is present in:
- 7.1.4.1 water supplied to the site; or
- 7.1.4.2 where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- 7.1.4.3 where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation onto the site.
- 7.1.5 “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.”;
- 7.1.6 “BREF” means the latest version of the BAT reference document available from the website of the European Integrated Pollution Prevention and Control Bureau (<http://eippcb.jrc.es/pages/Factivities.htm>);
- 7.1.7 “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;
- 7.1.8 “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;
- 7.1.9 “Direct discharge” shall refer to the introduction into marine waters and internal coastal water of any effluent;

- 7.1.10 “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;
- 7.1.11 “Emission limit value”
- 7.1.11.1 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^3 , 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;
 - 7.1.11.2 for discharges to marine waters: shall refer to the limit value given in Schedule I to these permit conditions;
- 7.1.12 “Fuel” means any solid, liquid or gaseous combustible material used to fire the combustion plant with the exception of waste;
- 7.1.13 “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 2.2 and 2.5 of this Permit;
- 7.1.14 “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) distills at 350°C by the ASTM D86 method;
- 7.1.15 “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;
- 7.1.16 “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;
- 7.1.17 “GJ . Mg^{-1} ” means gigajoule per megagramme;
- 7.1.18 “Heavy fuel oil” means any petroleum-derived liquid fuel falling within CN code 2710 00 71 to 2710 00 78, or any petroleum-derived liquid fuel, other than gas oil which, by reason of its distillation limits, falls within the category of heavy oils intended for use as fuel and of which less than 65 % by volume (including losses) distills at 250°C by the ASTM D86 method. If the distillation cannot be determined by the ASTM D86 method, the petroleum product is likewise categorised as a heavy fuel oil;
- 7.1.19 “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;

- 7.1.20 “*IPPC Regulations*” means the Integrated Pollution Prevention and Control Regulations 2002 (LN 234 of 2002) as amended by LN 230 of 2004 and LN 56 of 2008 and words and expressions defined in the 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;
- 7.1.21 “*Land*” means the upper layer of the earth’s crust and shall include all the various components of the lithosphere to the rock-water and rock-air boundary, where the topmost 200 cm which is made up of inorganic and organic components and which serves as a habitat for micro- and macroorganisms is defined as soil;
- 7.1.22 “*Malta*” means the Island of Malta, the Island of Gozo and the other islands of the Maltese Archipelago, including the territorial waters thereof;
- 7.1.23 “*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;
- 7.1.24 “*mg . Nm⁻³*” means milligramme per normal metre cubed;
- 7.1.25 “*Mg . month⁻¹*” means megagramme per month;
- 7.1.26 “*Monitoring*” includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys;
- 7.1.27 “*Permitted Installation*” means the activities and the limits to those activities described in Table 1.1.1 of this Permit;
- 7.1.28 “*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;
- 7.1.29 “*Random sample*” shall refer to a single sample from a waste water flow;
- 7.1.30 “*Sewer*” means sewer within the meaning of section 219(1) of the Water Industry Act 1991;
- 7.1.31 “*Staff*” includes employees, directors or other officers of the Operator, and any other person under the Operator’s direct or indirect control, including contractors;
- 7.1.32 “*Technically Competent Person*” means a person possessing the qualifications, experience and technical competence to abide by the conditions of the Permit;
- 7.1.33 “*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;
- 7.1.34 “*The Authority*” or “*the Competent Authority*” or “*MEPA*” means the Malta Environment and Planning Authority or such other body or person as the Minister responsible for the environment may by order in the Gazette prescribe;
- 7.1.35 “*The Permit Holder*” means the Permit Holder specified in the Permit or other person to whom the Permit has been transferred in accordance with the Integrated Pollution Prevention and Control Regulations 2002 as amended by LN230 of 2004 and LN56 of 2008, and any statutory provisions or regulations amending or replacing them;

- 7.1.36 “*The Operator*” means a person who is in occupation of the Site and has responsibility for carrying out day to day activities at the Site;
- 7.1.37 “*The Regulations*” means the Integrated Pollution Prevention and Control Regulations 2002 (LN 234 of 2002) as amended by LN 230 of 2004 and LN 56 of 2008, and any regulations amending or replacing them;
- 7.1.38 “*The Site*” means the land, structures, combustion plants and equipment to which this Permit relates;
- 7.1.39 “*Total nitrogen*” shall refer to the sum of total Kjeldahl nitrogen (organic N + NH₃), nitrate V (NO₃⁻) – nitrogen and nitrate III (NO₂⁻) – nitrogen;
- 7.1.40 “*TSP*” means Total Suspended Particulates;
- 7.1.41 “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 (Nm³/h);
- 7.1.42 “*Year*” or “*reporting year*” means calendar year ending on the 31 December.
- 7.1.43 “% w/w” means percentage weight by weight;
- 7.2 Where a minimum limit is set for an emission parameter such as pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.
- 7.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-
- 7.3.1 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
- 7.3.2 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.
- 7.4 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 conflict.

Schedule 1

Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 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 IPPC Regulations.

Part A

Permit Number	
Name of Operator	
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 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 ⁴	
I.D. Card No./Passport No.	
Post	
Signature	
Date	

⁴ authorised to sign on behalf of Operator

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 4.1.3) ⁵.

Tick (✓)

S2.3 Process Data**S2.3.1 Annual Summary**

	Units	Previous reporting year ⁶	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 ³		
Water consumption per unit product	m ³ /MWh		
Annual quantity of waste produced	tonnes		
Waste produced per unit product	tonne waste/ MWh		

S2.3.2 Fuel consumption

	Units	Sulphur Content ⁷	Consumption	
			Previous Year	Current Year
Heavy Fuel Oil	m ³			
Gas Oil	m ³			

⁵ 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>)

⁶ "Previous reporting year" is not applicable for the first reporting year (2008)

⁷ Specify units (e.g. as percentage, or mg/kg)

S2.3.3 Operating Time Data for Steam Cycle

Operator: Enemalta Corporation Ltd.	From: 01/01/
Location: Marsa.	To: 31/12/

MPS1 (boilers 3 &4)			
Total hours during which any part of the plant was operating throughout the past year. hrs	Cumulative total hours during which any part of the plant was operating since 01 January 2008. hrs	Total allowed operating time. hrs	Total remaining operating time to be used by 31 December 2015. hrs
		20000	

MPS2 (boilers 5 & 6)			
Total hours during which any part of the plant was operating throughout the past year. hrs	Cumulative total hours during which any part of the plant was operating since 01 January 2008. hrs	Total allowed operating time. hrs	Total remaining operating time to be used by 31 December 2015. hrs
		20000	

MPS3 (boiler 7)			
Total hours during which any part of the plant was operating throughout the past year. hrs	Cumulative total hours during which any part of the plant was operating since 01 January 2008. hrs	Total allowed operating time. hrs	Total remaining operating time to be used by 31 December 2015. hrs
		20000	

MPS4 (boiler 8)			
Total hours during which any part of the plant was operating throughout the past year. hrs	Cumulative total hours during which any part of the plant was operating since 01 January 2008. hrs	Total allowed operating time. hrs	Total remaining operating time to be used by 31 December 2015. hrs
		20000	

Additional documentation to be submitted:

Operational records ☐ Tick (✓)

Approval of operational records by independent auditor ☐

S2.3.4 Operating Time Data for Gas Turbine

Operator: Enemalta Corporation Ltd.	From: 01/01/	
Location: Marsa.	To: 31/12/	

Total operating hours of the plant MPS 5 during reporting year	
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Additional documentation to be submitted:

Operational records	Tick (✓)
Approval of operational records by independent auditor	

S2.4 Monitoring Data

S2.4.1 Summary of emissions to air

S2.4.1.1 Emissions of Dust (TSP), Nitrogen Oxides (NO_x) and Sulphur Dioxide (SO₂).

Parameter	Emission point reference	Standard methodology used	Annual average pollutant concentration	Mean Monthly Limit Value	Total annual number of exceedances of monthly mean value after validation		48 hourly Mean Limit Value	Percentage of exceedances of 48 hourly mean limit value after validation	
			mg.Nm ⁻³	mg.Nm ⁻³	Previous year ⁸	Present year	mg.Nm ⁻³	Previous year ⁸	Present year
Total Suspended Particulates	MPS1	EN 13284-2		150			165 (97%)		
Oxides of Nitrogen	MPS1	ISO 7395		1000			1100 (95%)		
Sulphur Dioxide	MPS1	ISO 10849		1700			1870 (97%)		
Total Suspended Particulates	MPS2	EN 13284-2		100			165 (97%)		
Oxides of Nitrogen	MPS2	ISO 7395		1000			1100 (95%)		
Sulphur Dioxide	MPS2	ISO 10849		1700			1870 (97%)		
Total Suspended Particulates	MPS3	EN 13284-2		100			165(97%)		
Oxides of Nitrogen	MPS3	ISO 7395		1000			1100 (95%)		
Sulphur Dioxide	MPS3	ISO 10849		1700			1870 (97%)		
Total Suspended Particulates	MPS4	EN 13284-2		100			165 (97%)		
Oxides of Nitrogen	MPS4	ISO 7395		1000			1100 (95%)		
Sulphur Dioxide	MPS4	ISO 10849		1700			1870 (97%)		
Total Suspended Particulates	MPS5	ISO 1142-2		-	-	-	-	-	-
Oxides of Nitrogen	MPS5	ISO 1142-2		400			440 (95%)		
Sulphur Dioxide	MPS5	ISO 1142-2		-	-	-	-	-	-

Additional documentation to be submitted:

Tick (✓)

Accreditation certificate(s) of laboratory

☐

⁸ "Previous year" is not applicable for the first reporting year (2009).

S2.4.1.2 Emissions of Carbon monoxide (CO)

Emission point reference	Standard methodology used	Annual average pollutant concentration	Monthly Limit Value	Total annual number of exceedances of monthly mean value after validation	
		mg.Nm ⁻³	mg.Nm ⁻³	Previous year ⁹	Present year
MPS1	EN 10558		175		
MPS2	EN 10558		175		
MPS3	EN 10558		175		
MPS4	EN 10558		175		
MPS5	ISO 1142-2		100		

⁹ "Previous year" is not applicable for the first reporting year (2009).

S2.4.1.3 Emissions of Dioxins and Furans (PCDDs and PCDFs)

Dates on which sampling was carried out:

1 st semester:	
2 nd semester:	

Emission point reference	Standard methodology used ¹⁰	Mean Annual Limit Value	PCDD & PCDF concentration 1 st semester	PCDD & PCDF concentration 2 nd semester	Annual average Pollutant Concentration	
		ng.Nm ⁻³	ng.Nm ⁻³	ng.Nm ⁻³	Present year ng.Nm ⁻³	Previous year ¹¹ ng.Nm ⁻³
MPS1	EN 1948	0.1				
MPS2	EN 1948	0.1				
MPS3	EN 1948	0.1				
MPS4	EN 1948	0.1				

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓) ☐

¹⁰ If equivalent methodology has been used, kindly indicate which standard methodology has been used.

¹¹ "Previous year" is not applicable for the first reporting year (2009).

S2.4.1.4 Emissions of Metals**S2.4.1.4.1 Emissions of Cadmium (Cd) and Thallium (Tl)**

Dates on which sampling was carried out:

1st semester:	
2nd semester:	

Emission point reference	Standard methodology used	Mean Annual Limit Value	Cd & Tl concentration 1 st semester	Cd & Tl concentration 2 nd semester	Annual average Pollutant Concentration	
		mg.Nm ⁻³	mg.Nm ⁻³	mg.Nm ⁻³	Present year mg.Nm ⁻³	Previous year ¹² mg.Nm ⁻³
MPS1	EN 14385	0.05				
MPS2	EN 14385	0.05				
MPS3	EN 14385	0.05				
MPS4	EN 14385	0.05				

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓) ☐

¹² "Previous year" is not applicable for the first reporting year (2009).

S2.4.1.4.2 Emissions of Arsenic (As), Chromium (Cr), Cobalt (Co), Copper (Cu), Manganese (Mn), Nickel (Ni), Lead (Pb), Antimony (Sb) and Vanadium (V)

Dates on which sampling was carried out:

1 st semester:	
2 nd semester:	

Emission point reference	Standard methodology used	Mean Annual Limit Value	Metals concentration 1 st semester	Metals concentration 2 nd semester	Annual average Pollutant Concentration	
		mg.Nm ⁻³	mg.Nm ⁻³	mg.Nm ⁻³	Present year mg.Nm ⁻³	Previous year ¹³ mg.Nm ⁻³
MPS1	EN 14385	0.5				
MPS2	EN 14385	0.5				
MPS3	EN 14385	0.5				
MPS4	EN 14385	0.5				

Additional documentation to be submitted:

Tick (✓)

Accreditation certificate(s) of laboratory ☐

¹³ "Previous year" is not applicable for the first reporting year (2009).

S2.4.1.5 Emissions of PAHs

Date on which sampling was carried out

Emission point reference	Standard methodology used ¹⁴	Naphthalene	Anthracene	Phenanthrene	Fluoranthene	Benzo(a)anthracene	Chrysene	Benzo(a)pyrene	Benzo(ghi)perylene	Benzo(k)fluoranthene	Indeno(1,2,3-cd)pyrene
		mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust	mg.kg ⁻¹ dust
MPS1											
MPS2											
MPS3											
MPS4											

Emission point reference	PAH (sum 10) mg.kg ⁻¹ dust	
	Present year	Previous year ¹⁵
MPS1		
MPS2		
MPS3		
MPS4		

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory Tick (✓)

¹⁴ If equivalent methodology has been used, kindly indicate which standard methodology has been used.

¹⁵ "Previous year" is not applicable for the first reporting year (2009).

S2.4.2 Monthly Statistical Analysis of Continuous Monitoring

S2.4.2.1 Monthly Concentration Data for Particulates, SO₂ and NO_x

ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT

Reporting year	
Month	
Plant	

	Particulates	SO ₂	NO _x	CO
Monthly average concentration for the period (mg . Nm ⁻³)				
No of exceedances of 24 hr limit in period				
Highest individual 24 hr average in period (mg . Nm ⁻³)				
Mean daily average, in period (mg . Nm ⁻³)				
No of exceedances of 1 hr average in period				
Highest individual 1 hr average in period (mg . Nm ⁻³)				
Mean 1 hr average in period (mg . Nm ⁻³)				
Percentage of boiler operating time that continuous monitors available during reporting period.				

S2.4.2.2 Monthly Loads of Particulates, SO₂ and NO_x*ONE PAGE PER PLANT TO BE SUBMITTED*

Operator: Enemalta Corporation Ltd.	Plant no. MPS _____
Location: Marsa.	Heat Value of Fuel fired: _____ GJ.Mg ⁻¹
Reporting year: _____	

Month	Fuel Burn During this period Mg . month ⁻¹	Monthly SO ₂ Load Mg	Monthly NO _x 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⁻³) × 1×10⁻⁹ × WGF (m³.month⁻¹)
(WGF = waste gas flow rate).

S2.4.3 Annual Data**S2.4.3.1 Annual Load of Particulates, SO₂ and NO_x****Marsa Power Station**

Units	Rated Thermal Input	Type	Fuel	Fuel Burn	Heat Value	Annual Emissions[*] SO₂	Annual Emissions[*] NO_x	Annual Emissions[*] dust
	MW_{TH}			Mg.yr⁻¹	GJ.Mg⁻¹	Mg.yr⁻¹	Mg.yr⁻¹	Mg.yr⁻¹
“Existing” plants – 50-300 MW_{TH}								
Marsa 1	220	Steam Boiler	HFO					
Marsa 2	240	Steam Boiler	HFO					
Marsa 3	250	Steam Boiler	HFO					
Marsa 4	250	Steam Boiler	HFO					
“Existing” plants- 50-300 MW _{TH}								
Marsa 5	121	Gas Turbine	Gasoil					
Total “Existing” 50-300 MW_{TH}								
Total								

* Sum of the total emissions during normal operations + total emissions during start-up/shut down periods.

S2.4.3.2 Annual Load of Ni and V**ONE PAGE PER PLANT TO BE SUBMITTED**

Operator: Enemalta Corporation Ltd. Location: Marsa. Reporting year: _____	Plant no. MPS ____ Heat Value of Fuel fired _____ GJ.Mg ⁻¹
--	--

Year	Fuel Burn (Mg . year ⁻¹)	Average Ni content ⁱ (mg Ni.Mg ⁻¹)	Average V content ⁱⁱ (mg V.Mg ⁻¹)	Annual Ni Load (Mg)	Annual V Load (Mg)
Previous					
Current					

Metal Load (Mg) = metal content (mg metal .Mg⁻¹) × 1×10⁻⁹ × FB (Mg.month⁻¹)

FB = Fuel Burn.

Metal = nickel or vanadium.

Additional documentation to be submitted:

Accreditation certificate(s) of laboratory ☐ Tick (✓)

ⁱ Analysed according to ASTM D5708-05: Standard Test Methods for Determination of Nickel, Vanadium, and Iron in Crude Oils and Residual Fuels by Inductively Coupled Plasma (ICP) Atomic Emission Spectrometry.

ⁱⁱ Analysed according to ASTM D5708-05: Standard Test Methods for Determination of Nickel, Vanadium, and Iron in Crude Oils and Residual Fuels by Inductively Coupled Plasma (ICP) Atomic Emission Spectrometry.

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 (✓)

--

S2.7 Emissions to Marine Water*ONE REPORT PER OUTLET TO BE SUBMITTED*

Parameter	Limit	Standard methodology used ⁱ	Total annual number of exceedances ⁱⁱ		Concentration (Annual Average)			Total Annual Mass Emissions		
			Previous year	Present year	Units	Previous year	Present year	Units	Previous Year	Present Year
pH	6-10	n/a								
Temperature	15°C above marine	n/a								
BOD5	25 mg.dm ⁻³	EN 1899								
COD	30 mg.dm ⁻³	ISO 6060								
Total Nitrogen	10 mg.dm ⁻³	EN 12260								
Total Phosphorous	1 mg.dm ⁻³	EN ISO 15681								
AOX	0.15 mg.dm ⁻³	EN ISO 9562								
Chlorine dioxide and oxidants (given as chlorine)	0.3 mg.dm ⁻³	DIN 38408-5 or equiv.								
Arsenic	0.1 mg.dm ⁻³	ISO 11885								
Cadmium	0.05 mg.dm ⁻³	ISO 11885								
Chromium (total)	0.5 mg.dm ⁻³	ISO 11885								
Copper	0.5 mg.dm ⁻³	ISO 11885								
Lead	0.1 mg.dm ⁻³	ISO 11885								
Mercury	0.03 mg.dm ⁻³	ISO 11885								
Nickel	0.5 mg.dm ⁻³	ISO 11885								

ⁱ If an equivalent methodology is used, kindly indicate this instead of the quoted standard.

ⁱⁱ 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.

Parameter	Limit	Standard methodology used ⁱ	Total annual number of exceedances ⁱⁱ		Concentration (Annual Average)			Total Annual Mass Emissions		
			Previous year	Present year	Units	Previous year	Present year	Units	Previous Year	Present Year
Tin	1 mg.dm ⁻³	ISO 11885								
Vanadium	4 mg.dm ⁻³	ISO 11885								
Zinc (insert limit value)		ISO 11885								
PCBs	0.5 mg.dm ⁻³	EN ISO 6469								
Petroleum hydrocarbons	0.03 mg.dm ⁻³	ISO 9377-2								
Tributyltin compounds	0.0005 mg.dm ⁻³	EN ISO 17353								
Total Suspended Solids	35 mg.dm ⁻³	EN 872								

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

ⁱ If an equivalent methodology is used, kindly indicate this instead of the quoted standard.

ⁱⁱ 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.

S2.8 Noise monitoringⁱ

Monitoring point ⁱⁱ	Date sampled	Time sampled	Operating conditions	Noise measurement	Units	Other comments (if any)

Additional documentation to be submitted:

	Tick (✓)
Map showing monitoring points	<input type="checkbox"/>
Detailed noise report ⁱⁱⁱ	<input type="checkbox"/>

ⁱ Noise monitoring shall be carried out according to BS 4142:1997.

ⁱⁱ 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.

ⁱⁱⁱ The detailed noise report should include information about the various monitoring points chosen, an analysis of the results and suggestions for improvement (if applicable).

S2.10 Off-site transfers of waste

[illegible]

ⁱ European Waste Catalogue Code (Reference: Schedule 1 of LN 337 of 2001)

ⁱⁱ For hazardous waste only. If waste is not hazardous, please write "n/a".

S2.11 Testing of bunds, pipes, pumps, valves, flanges and over-ground pipes

Number of bunds on site	
Number of oil interceptors on site	
Date of last test for bunds	
Testing for bunds 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 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	

S2.12 Incidents and Complaints

S2.12.1 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:²⁷

Total number of non-compliance incidents for current reporting year:

S2.12.2 Complaints made by the public

Date of complaint	Description of complaint	Actions taken

Total number of complaints for previous year: ⁱ

Total number of complaints for current reporting year:

²⁷ "Previous year" data is not required in the first reporting year (2008).

S2.13 Transport

Name of ADR certified carrier used during reporting year	Material(s) transported

Name of registered waste carrier used during reporting year	Waste type(s) transported

Schedule 3

Quarterly Reporting

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.

S3.1 Waste

Period covered by this report: _____

Waste	Quantity	Units
Waste removed from site		

S3.2 Air emissions

S3.2.1 Daily Statistical Analysis of Continuous Monitoring

S3.2.1.1 Data for Particulates

ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT (MPS 1 - 4)

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 150 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS ____

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³
---	-----------------------------

Note:

- The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 30% from the hourly average.
- In the table above underline the **validated** hourly averages which exceed the emission limit value of 150 mg . Nm⁻³.
- 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 ×.

S3.2.1.2 Data for Particulates**ONE PAGE PER DAY TO BE SUBMITTED FOR MPS 5**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: n/a
Location: Marsa.	
Date: ____/____/____	Plant no. MPS5

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³
---	-----------------------------

Note:

- (a) *The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 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 ×.*

S3.2.1.3 Data for Sulphur Dioxide

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 1700 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS__

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 20% from the hourly average.
- (b) In the table above underline the **validated** hourly averages which exceed the emission limit value of 1700 mg . Nm⁻³.
- (c) 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 ×.

S3.2.1.4 Data for Sulphur Dioxide**ONE PAGE PER DAY TO BE SUBMITTED FOR MPS5**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: n/a
Location: Marsa.	
Date: ____/____/____	Plant no. MPS5

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³
--	-----------------------------

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 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 ×.

S3.2.1.5 Data for Nitrogen Oxides

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 1000 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS__

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 20% from the hourly average.
- (b) In the table above underline the **validated** hourly averages which exceed the emission limit value of 1000 mg . Nm⁻³.
- (c) 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 ×.

S3.2.1.6 Data for Nitrogen Oxides**ONE PAGE PER DAY TO BE SUBMITTED FOR MPS5**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 400 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS5

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³

Note:

- The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 20% from the hourly average.
- In the table above underline the **validated** hourly averages which exceed the emission limit value of 400 mg . Nm⁻³.
- 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 ×.

S3.2.1.7 Data for Carbon Monoxide

**ONE PAGE PER DAY TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 175 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS__

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³

Note:

- (a) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 10% from the hourly average.
- (b) In the table above underline the **validated** hourly averages which exceed the emission limit value of 175 mg . Nm⁻³
- (c) 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 ✕.

S3.2.1.8 Data for Carbon Monoxide**ONE PAGE PER DAY TO BE SUBMITTED FOR MPS5**

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 100 mg . Nm ⁻³
Location: Marsa.	
Date: ____/____/____	Plant no. MPS5

Time	Hourly average (mg . Nm ⁻³)	Validated Hourly average (mg . Nm ⁻³)	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⁻³

Note:

- (d) The validated hourly average is calculated by subtracting a factor determined according to the procedure established by the relevant part of EN14181 and which shall in no case exceed 10% from the hourly average.
- (e) In the table above underline the **validated** hourly averages which exceed the emission limit value of 100 mg . Nm⁻³
- (f) 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 ×.

S3.2.2 Diurnal Statistical Analysis of Continuous Monitoring

S3.2.2.1 Diurnal Data for Particulates

ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 150 mg . Nm ⁻³
Location: Marsa.	97% of all mean validated 48 hourly values must not exceed 165 mg . Nm ⁻³
Date: ____/____/____	Plant no. MPS ____

Period	48 Hourly average (validated) (mg . Nm ⁻³)
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	

Note

In the table above underline 48 hourly averages which exceed 165 mg . Nm⁻³.

S3.2.2.5 Diurnal Data for Nitrogen Oxides

*ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)*

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 1000 mg . Nm ⁻³
Location: Marsa.	95% of all mean validated 48 hourly values must not exceed 1100 mg . Nm ⁻³
Date: ____/____/____	Plant no. MPS ____

Period	48 Hourly average (validated) (mg . Nm ⁻³)
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	

Note

In the table above underline 48 hourly averages which exceed 1100 mg . Nm⁻³.

S3.2.2.6 Diurnal Data for Nitrogen Oxides

*ONE PAGE PER MONTH TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)*

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 400 mg . Nm ⁻³
Location: Marsa.	95% of all mean validated 48 hourly values must not exceed 440 mg . Nm ⁻³
Date: ____/____/____	Plant no. MPS5

Period	48 Hourly average (validated) (mg . Nm ⁻³)
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	

Note

In the table above underline 48 hourly averages which exceed 440 mg . Nm⁻³.

S3.2.2.7 Daily Data for Carbon Monoxide

*TWO PAGES PER MONTH TO BE SUBMITTED FOR EACH PLANT
(MPS 1 - 4)*

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 175 mg . Nm ⁻³
Location: Marsa.	Daily average not to exceed 175 mg . Nm ⁻³
Date: ____/____/____	Plant no. MPS ____

Period	24 Hourly average (validated) (mg . Nm ⁻³)
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	

In the table above underline 48 hourly averages which exceed 175 mg . Nm⁻³.

S3.2.2.8 Daily Data for Carbon Monoxide*TWO PAGES PER MONTH TO BE SUBMITTED FOR MPS5*

Operator: Enemalta Corporation Ltd.	Emission Limit Value: 100 mg . Nm ⁻³
Location: Marsa.	Daily average not to exceed 100 mg . Nm ⁻³
Date: ____/____/____	Plant no. MPS5

Period	24 Hourly average (validated) (mg . Nm ⁻³)
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	

[illegible]

Note

In the table above underline 48 hourly averages which exceed 100 mg . Nm⁻³.

S3.2.2 Quarterly reporting of SO₂ and NO_x loads

ONE PAGE PER QUARTER TO BE SUBMITTED FOR MPS

S3.2.2.1 SO₂ load

Period	Projected load ²⁸	Actual load	Revised projected load
	tonnes	tonnes	tonnes
January – March			
April – June			
July – September			
October - December			
Total annual load			

S3.2.2.2 NO_x load

Period	Projected load ²⁸	Actual load	Revised projected load
	tonnes	tonnes	tonnes
January – March			
April – June			
July – September			
October - December			
Total annual load			

²⁸ As submitted to the Authority in September of previous year

S3.3 Emissions to Marine Water**S3.3.1 Quarterly Report Sheet for Waste Water arising from Water Treatment**

*ONE PAGE PER QUARTER TO BE SUBMITTED FOR EACH OUTLET
(11 & 12)*

Operator: Enemalta Corporation Ltd.	Water Treatment
Location: Marsa.	
Month sample was taken _____	Outlet no. _____
Total volume of water discharged _____	m³

Parameter	Emission Limit Value	Value in Effluent
pH	6-10	
temperature	15°C above marine	
Parameter	Emission Limit Value	Concentration in Effluent
	mg.dm ⁻³	mg.dm ⁻³
Biological oxygen demand (BOD5)	25	
Chemical oxygen demand (COD)	30	
Total Nitrogen	10	
Phosphorous compounds as total phosphorous	1	
Adsorbable organically bound halogens (AOX)	0.15	
Chlorine dioxide and oxidants (given as chlorine)	0.3	
Arsenic	0.1	
Cadmium	0.05	
Chromium (Total)	0.5	
Copper	0.5	
Lead	0.1	
Mercury	0.03	
Nickel	0.5	
Tin	1.0	
Vanadium	4	
Zinc	1	
PCBs	0.5	
Petroleum hydrocarbons	0.003	
Tributyl tin compounds	0.0005	
Total Suspended Solid	35	

S3.3.2 Quarterly Report Sheet for Waste Water arising from Cooling Systems

*ONE PAGE PER QUARTER TO BE SUBMITTED FOR EACH OUTLET
(2, 4, 6 & 13)*

Operator: Enemalta Corporation Ltd.	Cooling Systems
Location: Marsa.	
Month sample was taken _____	Outlet no. _____
Total volume of water discharged _____	m³

Parameter	Emission Limit Value	Value in Effluent
pH	6-10	
temperature	15°C above marine	
Parameter	Emission Limit Value mg.dm ⁻³	Concentration in Effluent mg.dm ⁻³
Biological oxygen demand (BOD5)	25	
Chemical oxygen demand (COD)	30	
Total Nitrogen	10	
Phosphorous compounds as total phosphorous	1	
Adsorbable organically bound halogens (AOX)	0.15	
Chlorine dioxide and oxidants (given as chlorine)	0.3	
Arsenic	0.1	
Cadmium	0.05	
Chromium (Total)	0.5	
Copper	0.5	
Lead	0.1	
Mercury	0.03	
Nickel	0.5	
Tin	1.0	
Vanadium	4	
Zinc	4	
PCBs	0.5	
Petroleum hydrocarbons	0.003	
Tributyl tin compounds	0.0005	
Total Suspended Solid	35	

S3.3.3 Quarterly Report Sheet for Waste Water arising from Steam Generation

*ONE PAGE PER QUARTER TO BE SUBMITTED FOR EACH OUTLET
(12)*

Operator: Enemalta Corporation Ltd.	Steam Generation
Location: Marsa.	
Month sample was taken _____	Outlet no. _____
Total volume of water discharged _____	m³

Parameter	Emission Limit Value	Value in Effluent
pH	6-10	
temperature	15°C above marine	
Parameter	Emission Limit Value mg.dm ⁻³	Concentration in Effluent mg.dm ⁻³
Biological oxygen demand (BOD5)	25	
Chemical oxygen demand (COD)	30	
Total Nitrogen	10	
Phosphorous compounds as total phosphorous	1	
Adsorbable organically bound halogens (AOX)	0.15	
Chlorine dioxide and oxidants (given as chlorine)	0.3	
Arsenic	0.1	
Cadmium	0.05	
Chromium (Total)	0.5	
Copper	0.5	
Lead	0.1	
Mercury	0.03	
Nickel	0.5	
Tin	1.0	
Vanadium	4	
Zinc	1	
PCBs	0.5	
Petroleum hydrocarbons	0.003	
Tributyl tin compounds	0.0005	
Total Suspended Solid	35	

S3.3.4 Quarterly Report Sheet for Waste Water arising from Boiler Washdown

*ONE PAGE PER QUARTER TO BE SUBMITTED FOR EACH OUTLET
(8 & 12)*

Operator: Enemalta Corporation Ltd.	Boiler Washdown
Location: Marsa.	
Month sample was taken _____	Outlet no. _____
Total volume of water discharged _____	m³

Parameter	Emission Limit Value	Value in Effluent
pH	6-10	
temperature	15°C above marine	
Parameter	Emission Limit Value mg.dm ⁻³	Concentration in Effluent mg.dm ⁻³
Biological oxygen demand (BOD5)	25	
Chemical oxygen demand (COD)	30	
Total Nitrogen	10	
Phosphorous compounds as total phosphorous	1	
Adsorbable organically bound halogens (AOX)	0.15	
Chlorine dioxide and oxidants (given as chlorine)	0.3	
Arsenic	0.1	
Cadmium	0.05	
Chromium (Total)	0.5	
Copper	0.5	
Lead	0.1	
Mercury	0.03	
Nickel	0.5	
Tin	1.0	
Vanadium	4	
Zinc	1	
PCBs	0.5	
Petroleum hydrocarbons	0.003	
Tributyl tin compounds	0.0005	
Total Suspended Solid	35	

S3.3.5 Quarterly Report Sheet for Waste Water arising from Other Sources

*ONE PAGE PER QUARTER TO BE SUBMITTED FOR EACH OUTLET
(1, 5, 14, 17, 18, 19 & 20)*

Operator: Enemalta Corporation Ltd.	Other Discharges: Source: _____
Location: Marsa.	
Month sample was taken _____	Outlet no. _____

Parameter	Emission Limit Value	Value in Effluent
pH	6-10	
temperature	15°C above marine	
Parameter	Emission Limit Value mg.dm ⁻³	Concentration in Effluent mg.dm ⁻³
Biological oxygen demand (BOD5)	25	
Chemical oxygen demand (COD)	30	
Total Nitrogen	10	
Phosphorous compounds as total phosphorous	1	
Adsorbable organically bound halogens (AOX)	0.15	
Chlorine dioxide and oxidants (given as chlorine)	0.3	
Arsenic	0.1	
Cadmium	0.05	
Chromium (Total)	0.5	
Copper	0.5	
Lead	0.1	
Mercury	0.03	
Nickel	0.5	
Tin	1.0	
Vanadium	4	
Zinc	1	
PCBs	0.5	
Petroleum hydrocarbons	0.003	
Tributyl tin compounds	0.0005	
Total Suspended Solid	35	

Additional documentation to be submitted for Schedule S3.3:

Tick (✓)

Accreditation certificate(s) of laboratory

☐

Schedule 4

Questions on electronic equipment containing PCB-contaminated oil

1. How many transformers, reactors, voltage regulators, resistors or other oil filled electrical equipment having a volume greater than 5 dm³ and which have been in use prior to 1990 are physically present on site?
2. Are any out of use transformers which were manufactured prior to 1990 and having a volume exceeding 5 dm³ present on site?
3. The Operator shall submit a list any equipment produced before 1990 which is currently used.
4. How does the Operator organise the repair of transformers?
5. Does the Operator keep records on the type of oil used for the topping up and refilling of transformers?
6. Does the operator analyse transformer oils for PCBs in oil? Kindly submit any protocols available.
7. Has any person in employment with the Operator ever used the quick test for the identification of PCBs?
8. The operator is to supply the name of the person(s)/company responsible for keeping, repairing, refilling and topping up of transformers present on site? The Operator shall also identify the location where these transformers are repaired and refilled?
9. Which documents (including amongst other things standards, regulations and other technical documentation with recommendations on the technical conditions/parameters for the use of transformers), is the Operator in possession of?.
10. Which transformer oils are used for the topping up of the transformers? Please specify trade name and type of oil (mineral or synthetic)?
11. Which transformers oils are used for the refilling of transformers? Please specify trade name and type of oil (mineral or synthetic)?
12. The Operator is to indicate whether any of its transformers are filled with transformer oils listed in Annex 1 to this Schedule?
13. Is the Operator in possession of transformers having a cooling system designated with a descriptor starting with the letter L, such as LNaN, LNAF, LNWF etc. When did the Operator start using this equipment?
14. Is the Operator currently using any transformers and capacitors, on which no information is available?
15. Does the operator analyse for PCBs in the oils of the equipment received from different industrial sites for maintenance work carried out on-site?

Annex I to Schedule 4

TRADE NAMES OF SYNTHETIC PCB CONTAINING OILS

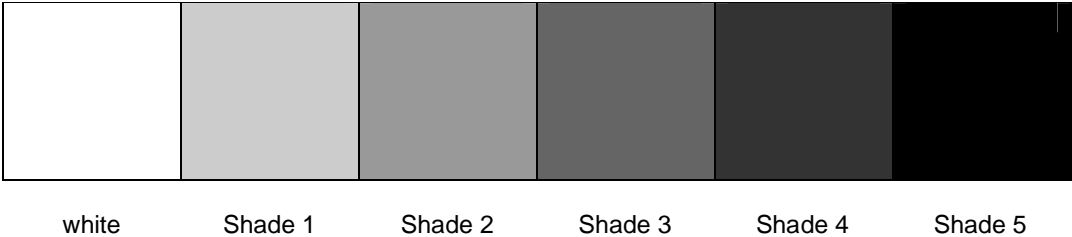
Abestol (t, c)	Choresil	Eucarel (t,c)	Orophene
Abuntol	Chorextol	Euracel	PBB
Aceclor (t)	Clophen A30, A50, A60, (t,c) (Germany)	Fenchlor (t,c) (Italy)	PBBs
Acoclor		Fenclor 42,54,54,70 (t, c) (Italy)	PCB
Adine	Clophen Apirorio	Fenocloro	PCBs
Adine0102	Clophen Harz W	Firemaster	PCB's
Adkarel	Cloresil (A,B,100)	Firemaster BP-6	PCBs Areclor (t)
ALC	Clorinal	Firemaster FF-1	PCT
Apirolio (t, c) (Italy)	Clorinol	Flammex	PCTs
Areclor (t)	Clorphen (t)	Flammex B-10	PCT's
Arochlor 1221, 1232, 1242, 1254, 1260,1268, 1270, 1342, 2565, 4465, 5460	Crophene (Germany)		
Arochlors	Decachlorodiphenyl Del (Slovakia)	Gilotherm hbb	Pheneclor
Aroclor 1016, 1221, 1232, 1242, 1254, 1262, 1262, 1268, (t,c) (USA)			Phenochlor
Aroclor 5460, 5442 и 5432	Delofet O-2	hexabromobiphenyl	Phenochlor DP6
Aroclors	Delor (Czech Rep.)	Hexol (Russian Federation)	Phenoclor (t,c) (France)
Arubren (t,c)	Delor (Slovakia)	HFO 101 UK	Plastivar
Asbestol (t,c) (USA)	Delor Nepolin	Hivar (c)	Polychlorinated biphenyl
ASK	Delorene	Hydelor	Polychlorinated biphenyls
Askael	Delorit	Hydrol (t,c)	Polychlorinated diphenyl
Askarel (t,c) (USA)	Delotherm DK/DH (Slovakia)	Hyrol	Polychlorinated diphenyls
Auxol	DI (a) conal	Hyvol (USA)	Polychlorobiphenyl
Bakola 131 (t,c)	Diachlor	Hywol	Polychlorodiphenyl
Bakolo	Diaclor (t,c) (USA)	Inclar	Prodelec
BB-8	Dialor (c)	Inclor	Pydraul (USA)
BB-9	Dicolor	Inclor Santovac 1и 2	Pyraclor
BerkflamB10	Diconal	Inerteen 300,400,600 (t, c) (USA)	Pyralene (t, c) (France)
Biclor (c)	Diphenyl	Inertenn	Pyranol (t, c) (USA)
Biphenyl	Disconon (c)	Kanechlor (t,c) (Japan)	Pyrochlor
	DK (deochlorodiphenyl)	Kanechlor KC-C	Pyroclor (t) (USA)
Blacol (Germany)		Kaneclor 400,500, (KC) (t,c) (Japan)	
Bromkal	Dk (t,c) (Italy)		Pyronol
	DP3, 4, 5, 6, 5	Kennechlor (Japan)	Saf-T-Kuhl (t, c) (USA)
C (h) lophen A30 A50	Ducanol (c)	Kenneclor	Santosol
CD	Duconal	Leromoll	Santotherm (Japan)
Chlophen	Duconol (c)	Magvar	Santovac
Chlorescl	Dykanol (t,c) (USA)	MCS 1489	Sat-T-America
Chloretol	Dyknol	Montar	Siclonyl(c)
Chlorextol (t) (USA)	E (d) ucaral	Montar Therminol	Solvot (t,c) (Russian Federation)

Chlorfin	Educaral	Monter	Sorol
Chlorinal	Educarel	Nepoli	Soval
Chlorinated biphenyl	EEC-18	Nepolin	Sovol(USSR)
Chlorinated Biphenyl Hydol (t,c)	EEC-IS	Niren	Sovtol (Russian Federation)
Chlorinated diphenyl	Elaol (Germany)	No-Famol	Tarnol(Poland)
Chlorinol (t, c) (USA)	Electrophenyl	No-Flamol (t, c) (USA)	Terphenychlore
Chlorintol	Electrophenyl T50 и T60	Nonflammable liquid	Therminal
Chlorobiphenyl	Elemex (t,c) (USA)	Non-Flamol	Therminol (USA)
Chlorodiphenyl	Elenex	obb	Turbinol
Chlorofen (Poland)	Elinol	Olex-SF-D	Ugilec 21,121
Chlorphen (t)			Ugilec 141

Schedule 5
Ringelmann Chart

The Ringelmann scale is made up of six fields, four of which are shades of grey in between white and black; the percentage of black in each shade is shown below:

Shade 1	20%
Shade 2	40%
Shade 3	60%
Shade 4	80%



Schedule 6

Equivalence Factors

The concentrations of the following dioxins and furans determined in the waste gas shall be multiplied by the given equivalence factors and summed up in order to assess compliance with condition 2.2.7.8.

Substance	Equivalence factor
2,3,7,8-Tetrachlordibenzodioxin (TCDD)	1
1,2,3,7,8-Pentachlordibenzodioxin (PeCDD)	0.5
1,2,3,4,7,8-Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,7,8,9-Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,6,7,8-Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,4,6,7,8-Heptachlordibenzodioxin (HpCDD)	0.01
Octachlordibenzodioxin (OCDD)	0.001
2,3,7,8-Tetrachlordibenzofuran (TCDF)	0.1
2,3,4,7,8-Pentachlordibenzofuran (PeCDF)	0.5
1,2,3,7,8-Pentachlordibenzofuran (PeCDF)	0.05
1,2,3,4,7,8-Hexachlordibenzofuran (HxCDF)	0.1
1,2,3,7,8,9-Hexachlordibenzofuran (HxCDF)	0.1
1,2,3,6,7,8-Hexachlordibenzofuran (HxCDF)	0.1
2,3,4,6,7,8-Hexachlordibenzofuran (HxCDF)	0.1
1,2,3,4,6,7,8-Heptachlordibenzofuran (HpCDF)	0.01
1,2,3,4,7,8,9-Heptachlordibenzofuran (HpCDF)	0.01
Octachlordibenzofuran (OCDF)	0.001

Schedule 7

Emission Limit Values for discharges to Marine Waters

PHYSICAL PARAMETERS

Number	Parameter	value
1	pH	6-10
2	Temperature	15°C above marine water and 12°C (98 th percentile of hourly values over a year)

CHEMICAL PARAMETERS

Number	Parameter	mg.dm ⁻³
3	Biological oxygen demand (BOD5)	25
4	Chemical oxygen demand (COD)	30
5	Total Nitrogen	10
6	Phosphorous compounds as total phosphorous, as per EN ISO 15681	1
7	Adsorbable organically bound halogens (AOX)	0.15
8	Chlorine dioxide and oxidants (given as chlorine)	0.3
9	Arsenic	0.1
10	Cadmium	0.05
11	Chromium (Total)	0.5
12	Copper	0.5
13	Lead	0.1
14	Mercury	0.03
15	Nickel	0.5
16	Tin	1.0
17	Vanadium	4
18	Zinc	0.5
19	PCBs	0.003
20	Petroleum hydrocarbons	5

And

21	Tributyl tin compounds	5µg.dm ⁻³
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Schedule 8

Standards for the analysis of discharges to Marine Waters

Number	Parameter	Reference Number	Description
1	pH	NA	pH metre with data-logger.
2	temperature	NA	Digital thermometer with data-logger.
3	Biological oxygen demand (BOD5)	EN 1899: 1998	Water quality - Determination of biochemical oxygen demand after n days (BODn).
4	Chemical oxygen demand (COD)	ISO 6060: 1989	Water quality -- Determination of the chemical oxygen demand.
5	Total Nitrogen	EN 12260:2003	Water quality - Determination of bound nitrogen (TN _b), following oxidation to nitrogen oxides.
6	Total phosphorous	EN ISO 15681: 2004	Water quality -- Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA).
7	Adsorbable organically bound halogens (AOX)	EN ISO 9562: 2004	Water quality - Determination of adsorbable organically bound halogens (AOX).
8	Chlorine dioxide and oxidants (given as chlorine)	DIN 38408-5	German standard methods for the examination of water, waste water and sludge; gaseous components (group G); determination of chlorine dioxide (G 5).
9	Arsenic	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
10	Cadmium	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
11	Chromium (Total)	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
12	Copper	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
13	Lead	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
14	Mercury	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
15	Nickel	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
16	Tin	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).
17	Vanadium	ISO 11885: 2007	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES).

Number	Parameter	Reference Number	Description
18	PCBs	EN ISO 6469: 1996	Water quality -- Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes -- Gas chromatographic method after liquid-liquid extraction.
19	Petroleum hydrocarbons	ISO 9377-2: 2000	Water quality - Determination of hydrocarbon oil index -- Part 2: Method using solvent extraction and gas chromatography.
20	Total Suspendend Solids	EN 872:2005	Water quality - Determination of suspended solids - Method by filtration through glass fibre filters
21	Tributyl tin compounds	EN ISO 17353: 2005	Water quality - Determination of selected organotin compounds - Gas chromatographic method.

Schedule 9

List of Priority Substances in the field of Water Quality

Alachlor	Hexachloro-cyclohexane
Anthracene	Isoproturon
Atrazine	Naphtalene
Benzene	Nonylphenol
Brominated diphenylether	Octylphenol
Carbon tetrachloride	Pentachloro-benzne
C10-13 Chloroalkanes	Pentachloro-phenol
Chlorfenvinphos	Simazine
Aldrin	Tetrachloroeythlene
Dieldrin	Trichloroethylene
Endrin	Trichloro-benzenes
Isodrin	Trichloro-methane
DDT	Trifluralin
1,2-Dichloroethane	
Dicholoromethane	
Di(2-ethylhexyl)-phthalate	
Diuron	
Endosulfan	
Fluoranthene	
Hexachloro-benzene	
Hexachloro-butadiene	

Schedule 10
List of pollutants to be measured in land

Pollutant
Metals
Mercury
Cadmium
Lead
Copper
Zinc
Arsenic
Chromium
Selenium
Nickel
Vanadium
Cobalt
Thallium
Manganese
Antimony
Inorganic compounds
Asbestos fibres
Alkanes
Straight-chain alkanes from C ₁₀ to C ₇₀
Cycloalkanes
Aromatic compounds
Benzene
Ethyl benzene
Toluene
Xylene

Alkylbenzenes
Polycyclic aromatic hydrocarbons (PAHs)
PAH (sum 10)
Naphthalene
Anthracene
Phenatrene
Flouranthene
Benzo(a)anthracene
Chrysene
Benzo(a)pyrene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Indeno(1,2,3-cd)pyrene
Polychlorinated biphenyls (PCBs)
Total PCB Content
Other contaminants
Mineral oil

Annex I – Site boundary replacing Schedule 11 in IP 003/07/A

