

## B.03.04 EMISSIONS TO SEA

Drawing references:

ENEM-URS-E0-00-DR-ME-00106 IPPC External Tie In Points

ENEM-URS-E0-00-DR-ME-00113 Discharges to Sea

2779-77-CI-DR-000401 Regasification Facilities Stormwater Drainage Works

MT1001-UZ-CLD103-444911146 CCGT Genera Layout Arrangement Drawing

The following table (B.03.04-1) presents a list of discharges, some of which are currently being produced at the adjacent Delimara Power Station facility and others which will be introduced by this new development, which will be discharged to sea.

In combination with the existing Delimara Power Station (DPS) the quantities of waste waters discharged into the sea will temporarily increase as the proposed development becomes operational but will ultimately decrease once DPS Phase 1 is decommissioned, and the operational hours of DPS 2A and 2B are reduced. For clarity only the discharges relating to this new facility are shown in the table below.

For locations and UTM coordinates refer to drawing ENEM-URS-E0-00-DR-ME-00113

Table B.03.04-1

Ref	Waste Type	EWC	Nature	Quantity	Disposal route
SD01	Seawater cooling water from CCGT and Regas plant including oxidants and disinfecting agents as dosed by Enemalta	10 01 26	Sea water with maximum: 0.2mg/L Chloride. Effluent treated to Directive 2006/11/EC. Max of 8deg above intake	17,260 m <sup>3</sup> /hr 139,115,600 m <sup>3</sup> /yr	Into Enemalta mixing basin and then out through existing Enemalta outfall into il- <del>H</del> ofra ż-Żgħira
SD01	HRSB Blowdown	10 01 22*	Concentrated boiler water with phosphate and Ammonia	Nominal (max 6.5 m <sup>3</sup> /hr)	Treated in neutralisation pit and then discharged via existing Enemalta outfall into il- <del>H</del> ofra ż-Żgħira
SD01	Discharge from neutralisation system	10 02 22* / 10 01 23	Containing substantial quantities of suspended solids, variable pH.	40 m <sup>3</sup> /hr (max) 322,400 m <sup>3</sup> /yr	Discharged to sea following pH control treatment.

Ref	Waste Type	EWC	Nature	Quantity	Disposal route
SD02	Oily water from CCGT, including run off from potentially oil contaminated areas.	13 05 07*	Effluent treated to Directive 76/464/EEC	4,433 m <sup>3</sup> /yr	Treated through newly installed oil interceptor to <5ppm and which then can be discharged via the surface water outfall.
SD02	Floor Washing CCGT	10 01 99	Variable contaminants including oils, degreasers.	N/A	Treated through oil interceptor and discharged to sea
SD02	Rainwater from CCGT	10 01 99	Uncontaminated rainwater	15.1 m <sup>3</sup> /day	Discharged to sea
SD02	Runoff from Waste Management Area	13 05 07*	Effluent treated to Directive 76/464/EEC	235 m <sup>3</sup> /yr	Treated through newly installed oil interceptor to <5ppm and which then can be discharged via the surface water outfall.
SD03	Rainwater from Regas plant	10 01 99	Uncontaminated rainwater	19 m <sup>3</sup> /day	Discharged to sea
SD04	FSU cooling water (max of main/auxiliary boilers) during STS and disconnection events.	10 01 26	Sea water	1,950,000 m <sup>3</sup> /yr	Discharged to sea in Marsaxlokk bay @ 3,000m <sup>3</sup> /hr
SD05	FSU boiler blowdown from Main Boilers only when the FSU first arrives in harbour. When demobilised the auxiliary boilers are in use and there will be no discharge from this source to sea.	10.01.22	Concentrated boiler water with phosphate, Ammonia and traces of diethylmethyla mine.	N/A	N/A as discharge is to the on-board bilge tanks
SD06	Ballast Water Refer to FSU Ballast Water Management Plan OPS-MAL-ALM-MAR-PLN-0001	05 07 99	Clean seawater.	Variable	Management Plan is implemented* Discharge to Marsaxlokk Bay

\* An FSU Ballast Water Management Plan will be implemented which meets to recommendations of the IMO, Assembly Resolution A.686(20) 'Guidelines for the Control and Management of Ships' Ballast Water to minimise the Transfer of harmful aquatic organisms and pathogens.

The overall expected changes in the discharge of cooling waters once this facility is operational and D1 has been decommissioned are as shown below

Table B.03.04-3

Cooling water discharges before and after the LNG Terminal and CCGT project.			
	Current	Expected after D1 decommissioning	Comments
Detailed seawater consumption	Delimara1:21000m <sup>3</sup> /hr Delimara 2:8500m <sup>3</sup> /hr Delimara3:14700m <sup>3</sup> /hr	Delimara1:N/A Delimara2:8500m <sup>3</sup> /hr Delimara3:14700m <sup>3</sup> /hr Delimara4 (CCGT): 16000m <sup>3</sup> /hr	Delimara1 Power plant will be shut down after Delimara4 (CCGT) commences operations. FSU flow is intermittent for a limited number of hours at 3,00m <sup>3</sup> /hrs and has not been included,
<b>Total</b>	<b>44200m<sup>3</sup>/hr</b>	<b>39200m<sup>3</sup>/hr</b>	It's expected a decrease of 11.3% on cooling seawater flow rate.