KPMG

cutting through complexity™

Cost impact analysis

Extension of the Delimara power station

Enemalta Corporation

09 November 2011

Contents

Important information relating to this deliverable

This deliverable is addressed to Enemalta Corporation (the Corporation) and has been prepared in accordance with our terms of engagement dated 05 November 2011.

Our duties in relation to this deliverable are owed solely to the Corporation and accordingly we do not accept any responsibility for loss occasioned to any third party acting or refraining from action as a result of this deliverable. We understand that this document may be provided to third parties. We have given our consent for this document to be copied or disclosed to such third parties on the basis that we do not owe such third parties any duty of care as a result of giving such consent.

We have indicated in this presentation the sources of information presented. We have not sought to establish the reliability of those sources.

The scope of our work was different from that for an audit and, consequently, we do not issue any opinion or any other certificate or confirmation relating to the financial statements, tax position or the internal control systems of Enemalta Corporation.

In carrying out our work, we have relied on information obtained from parties not employed by us and this information has been assumed to be true and correct. We have for the most part based our work on information, including audited and unaudited financial information, relating to the Corporation. We do not accept responsibility for such information which remains the responsibility of the Corporation. We have not sought to establish the reliability of this information by reference to sources independent of the Corporation. Our reliance on and the use of this unaudited information should not be construed as an expression of our opinion on it. We do not accept any responsibility or liability for the impact on our analysis and conclusions of any inaccuracies in such information.

This deliverable includes certain statements and estimates with respect to the Corporation's business. Such statements and estimates reflect various assumptions made by the Corporation which assumptions may or may not prove to be correct. No representation is made as to the accuracy of such statements and estimates.

In compiling this deliverable, we have relied on Enemalta Corporation's estimates for 2011, based on the Corporation's assumptions related to the nature and size of the intended level of operations. There will usually be variances between projected and actual results, because events and circumstances frequently do not occur as expected and these variances may be material.

The analysis set out in this deliverable takes into account all the information known and made available to us up to the time of its preparation and is therefore current as at the document date, or such other date that may be specified.

Terms of reference

We were asked to simulate the effect on fuel cost and plant repairs and maintenance in scenarios where the Delimara power station extension (DPSE) will be powered by either heavy fuel oil (HFO) or gasoil for the period May to December 2012.

Methodology

- The information in this presentation has been compiled through meetings held with key senior executives of the Corporation for the purpose of gathering cost data and underlying assumptions
- We also held meetings with the Corporation's key technical staff to understand the technical implications of converting from HFO to Gasoil for the DPSE
- The following were the key persons consulted during our meetings:
  - Mr. Antoine Galea
  - Ing. Peter Grima
  - Ing. Albert Farrugia
  - Perit Martin Attard Montalto

Key assumptions

- It is assumed that the DPSE would be effectively operational as at 4 May 2012

Days in utilisation	
Month	**Days**
May	26
June	30
July	31
Aug	31
Sept	30
Oct	31
Nov	30
Dec	31
Total no. of days	**240**

- The power output base load is of 144 MW (Mega Watts) which equates to a total energy output of 829,440 MWh (Megawatt hour) for the period May to December 2012
- The gross heat rate at the DPSE is 7,697 kJ/kWh (Kilojoules per Kilowatt hour), equivalent to 6,384,199,680 MJ (Megajoules) for the same period
- The calorific values of gasoil and HFO are 42,700 and 40,710 MJ/Tonne respectively
- The resulting consumption for Gasoil and HFO are 149,513 MT (Metric Tons) and 156,821 MT respectively.

Key assumptions

Schedule of other costs including R&M, flue gas, and abatement costs					
				HFO	Gasoil
Lubricating oil					
Consumption	115	l/hr	Litres	662,400	662,400
Cost	2.366	€/litre	Euro	1,567,238	1,567,238
Urea					
Consumption	0.009	MT/MWh	MT	7,465	7,465
Cost(i)	476	€/ton	Euro	3,553,321	3,553,321
DeSOx reagent					
Consumption(ii)	0.0072	MT/MWh	MT	5,972	597
Cost(iii)	353	€/MT	Euro	2,108,105	210,810
Maintenance Cost(iv)					
Specific cost	302	€ per running hour	Euro	1,739,520	1,739,520
Fixed cost	409,375	quarterly fee	Euro	1,091,667	1,091,667
FGD Waste Disposal					
Specific volume(v)	0.0065	m^3/ MWh	m^3	5,391	539
Cost(vi)	441	€/m^3	Euro	2,377,590	237,759
Sludge					
Specific volume	3	m^3/ day	m^3	720	-
Cost(vii)	441	€/m^3	Euro	317,520	-
				12,754,960	**8,400,315**

Notes:

(i) cost of urea €366€/MT (Black sea Sep 2011) + €110 /MT transport to Malta

(ii) Consumption desox reagent calculated at 0.7% S HFO and 10% of this value for Gasoil.

(iii) Desox reagent cost from Tender document as no recent prices available.

(iv) From latest BWSC draft maintenance contract document- Start up fees not included

(v) Volume of waste calculated at 0.7% S HFO and 10% of this value for Gasoil.

(vi) From cheapest tenderer cost 3rd envelope opened today.

(vii) It is assumed that EMC shall not be allowed to burn this material in DPS boilers and shall have to be disposed of. Cost assumed same as FGD waste.

Re-specification costs for HFO

Schedule of cost of re-specification of HFO - May to Dec 2012			
	MWh	MT	€
DPSE	829,440	156,821	557,368
Delimara	852,479	226,831	806,196
Total	**1,681,919**	**383,652**	**1,363,564**

- Due to requirements and constraints of the DPSE operations, the Corporation will need to re-specify its procurement parameters for HFO. This will impact all the Corporation's purchases of HFO including that consumed by the existing Delimara plant. There will be separate HFO shipments for the Marsa plant.
- The above table shows the HFO requirement in MT for the DPSE and Delimara plant for the period May to December 2012. This data is based on the Corporation's consumption projections for 2011.
- The cost associated with the re-specification of HFO is estimated at USD 5.00 (EUR 3.55) per MT.

Impact analysis

Cost estimate impact assessment (May-Dec 2012)								
Fuel type	**Consumption**	**Fuel price (i)**	**Total fuel cost**	**Exchange rate (ii)**	**Total fuel cost**	**Other cost incl. R&M Flue Gas Abatement cost**	**Re-specification cost (iii)**	**Total cost**
	MT	**$**	**$**		**€**	**€**	**€**	**€**
Heavy Fuel Oil (HFO)	156,821	658.96	103,338,881	1.4068	73,456,697	12,754,960	1,363,564	87,575,221
Gasoil	149,513	932.45	139,413,278	1.4068	99,099,572	8,400,315	-	107,499,888
			36,074,398		**25,642,876**	**(4,354,645)**	**(1,363,564)**	**19,924,667**

Notes:

(i) Fuel prices are based on PLATTS average prices for october 2011
CIF Med Gasoil 0.1 USD 937.45 less discount of USD 5.00
CIF Med 1PCT fuel oil USD 653.46 add premium of USD 5.50

(ii) The USD/EUR exchage rate is as per Enemalta's Draft Budget for 2012 calculated as follows:
62% hedged at 1.417 and 38% unhedged assumed at 1.390

(iii) The cost for re-specification of HFO is estimated at USD 5.00 per MT

- The above table indicates that a change in the fuel powering the DPSE, from HFO to the Gasoil alternative, will induce an increase in fuel costs and abatement costs of approximately €20 million for the eight-month period May to December 2012.

- It is also important to note that by using Gasoil only the contractor of the extension would not be able to carry out the necessary tests on abatement equipment. The commissioning of this equipment would not take place as provided for in the agreement and the Corporation would therefore lose any warranty on such equipment. Requesting the contractor to carry out such tests at a later date would probably incur additional costs to the Corporation.

- It is not envisaged that there will be any physical modifications / changes required to be made to the DPSE as a result of the potential change of use of the primary operating fuel from HFO to Gasoil. Therefore no additional costs are expected, nor have any costs been included in this report, in this regard. However, there will always remain the risk of a potential liability contingent upon the Contractor submitting a claim resulting from the stipulated change of primary fuel.

Impact analysis

Cost impact on tariffs	
	€
Target variable revenue from variable charges[(i)]	294,229,199
Target variable revenue pro-rated to 8 months	196,152,799
Total cost impact	19,924,667
Impact on current tariffs	**10.16%**

(i) sourced from KPMG report dated 10 December 2009 available on http://www.mra.org.mt/energy_tariffs.shtml

- Based on the above costs of powering the DPSE with Gasoil exclusively for the eight month period, it is estimated that the target variable revenue to be recovered through consumption charges underlying the current tariff for the same eight month period would need to be increased by 10.16%.

cutting through complexity™