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Works Method Statement WMS-04

Transformers

Delimara Power Station

Delimara - Marsaxlokk

Rev.	Date	Details	Prepared by	Reviewed by	Approved by
03	31.05.2017	Review	Roberto Brustia	Mario Sabolo	Mario Sabolo
02	03.04.2017	Review	Roberto Brustia	Mario Sabolo	Mario Sabolo
01	27.03.2017	Review	Roberto Brustia	Mario Sabolo	Mario Sabolo
00	20.03.2017	Draft WMS 04	Roberto Brustia	Mario Sabolo	Mario Sabolo

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00. Site description

Delimara Power Station (DPS) is located on the Delimara Peninsula in Marsaxlokk Bay, on the south east coast of Malta. The site is located at an elevation of between 1.8m and approximately 6.0m metres above local sea level (ALSL).

The site comprises operational plant in the centre and south of site, and a workshop, administration buildings and a first aid room in the north of site.


Below some pictures of the Transformers involved in the decommissioning.



Delimara Power Station – Global view



Transformers – Global view

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01. Description of area - structure


The area comprises two 75MVA generator transformers and two 8MVA unit transformers.



Example of Transformer

02. Safety precautions prior to works

- Switching off or protect all live equipment.
- Permit to work must be issued, and 'do not switch on' signs put on circuit breakers and the latter shall be padlocked.
- Part of the internal streets closer to the transformers to be dismantled will be closed during the dismantling only access from workers will remain accessible at all times. Area just around the transformers will be cleaned following the dismantling of the transofmers and will be disposed of as non-hazardous waste.
- Safety tests and certification of all material and equipment to be used.
- Ground operators shall not pass, stand or work in the operating area of the mechanical equipment or suspended loads;
- The area immediately around the works shall be properly hoarded with suitable barriers and the transit and standing of people and vehicles shall be prohibited.
- Before carrying out any demolition operations, the site Supervisor of Works shall carefully assess the possibility that the demolition might cause the immediate or successive collapse of other

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parts. Particular attention shall be given to the structure housing the transformer when removing the transformer from its bay given that this is the foundation of the electrical building that will have to be retained.

03. Environmental Issue

- A precautionary approach is being taken, to segregate any hazardous components that might be detected during the course of works. Hazardous components will be sampled and tested. The results of the hazardous waste testing will also be presented in a separate HAZMAT report.
- Transformers contain tens of drums as amount of hazardous liquids such as oils that have to be drained and cleaned before of the dismantling of the structures.
- Details of expected waste to be generated is provided in the Waste Management Plan.
- No hot cutting works will be carried out on the transformers. Any WEEE will be removed manually before starting any cutting works, which will be carried out by means of an excavator scissors to cut the transformers into smaller pieces inside the bunded area. Any residual oil will be cleaned prior to disposal. All cleaning will be done inside the bund.

04. Works methodology

First activity will be the removal of internal oils. The Contractors' operators detect and open the lower point for each transformer that permit the draining by gravity of the oils.

The oils will be collected in appropriate tanks and stored safely on site in a bunded area.


In a second time the internal parts will be clean by aspiration.

During emptying accidental spills will be confined in the containment tank and by specific spill kits located in site. The light weight roofs covering the transformers might have to be removed to remove the transformers and placed back afterwards.

After the emptying the technique, that must be used will be pull out each transformers from the compartment by hydraulic excavator and crane taking care to maintain the transformer's bay structure intact.

Then operators dismantling empty transformers in bunded area (Waste Storages Area as described in WMP).

Spill kit on site

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05. Works description

As for all the activities described above, the parts to be removed will be sectioned by cutting, while those requiring the mechanical disassembly of components by removing nuts and bolts.

Once the transformers to be removed have been reached, they will be mechanically removed.

During the disassembly, particular attention will be paid to issues related to operators' safety and the identification of each removed item.

Before disassembly, cutting or mechanical lines and gripping points will be marked out.

Each transformer will be broken down into small portions according of the operating spaces.

Cutting and mechanical disassembling include the following operations, to be cyclically repeated until full removal of each transformers.

No hot cutting works will be carried out on the transformers. Any WEEE will be removed manually before starting any cutting works, which will be carried out by means of an excavator scissors to cut the transformers into smaller pieces inside the bunded area. Any residual oil will be cleaned prior to disposal. All cleaning will be done inside the bund.

06. Timeframes

Steps	Time	
Pull out Transformers	5	Days
Demolition Transformers	10	Days
Restore of areas	3	Days
Waste desposal	10	Days

07. Personnel and machinery earmark for use

Description	Number	
Excavators	01	Unit
Cranes	01	Unit
Machine operator	02	-
Helpers	04	-
Cutters	04	-