

Case Study: Power station decommissioning plans

Enemalta Corporation – the state-owned energy utility giant responsible for generating and providing electricity to the Maltese islands – has begun planning for the future.

Specialist UK-based engineering consultancy RVA Group has supported Enemalta in its review and assessment of two existing power stations – Marsa (MPS) and Delimara (DPS) – as part of the company's strategy to update their electricity generation technology.



Marsa power station

Beginning with the preparation of outline plant decommissioning, this initial phase of work comprised a monitoring programme from which a waste management plan could be devised.

As MPS is expected to be phased out by 2015, the RVA team has gone a step further in developing a full decommissioning plan for this plant with recommendations as to the most suitable de-planting options, associated dismantling and demolition techniques and finally the civil works required to reinstate the site ready for subsequent use. A detailed safety management programme underpins the entire strategy document.

RVA managing director Richard Vann explains: "As with any decommissioning project there are numerous factors to consider, which is why it is important to undertake extensive investigative work before a recommended plant decommissioning plan is prepared.

"There can never be a 'one size fits all' approach. On this particular project we have to think about the removal and dismantling in the most cost-effective way of all mechanical and electrical equipment and the structures themselves.

"With the client keen to ensure best practice from day one, it is crucial that every risk is assessed and every opportunity explored."

RVA's plans – subjected to the Malta Environment and Planning Authority (MEPA) approval – detail how, in what sequence and over what period of time this project should be pursued, together with an estimate of the resources required, security protocols and the costs

involved. The authorised plans then form the basis for decommissioning implementation at the appropriate time.

Martin Attard-Montalto, division manager at Enemalta, commented: "We know we are going to need additional generation capacity in the coming years, but we recognised the need to replace some of our outdated technology with more efficient plant. This will not only ensure legislative compliance but will significantly reduce primary fuel consumption and subsequent emissions.

"We appointed RVA following a rigorous tendering process, on the basis of their specialist expertise and proven independent experience within the field of planning for power station decommissioning. It is important that Enemalta makes not only the safest, but also the most environmentally and commercially sound decisions going forward, so this guidance and much-needed insight allows us to progress in this manner."

RVA has undertaken similar projects in the past – for example asset and liability assessments and baseline decommissioning plans have been carried out previously for both Magnox and British Energy, and the RVA team has recently completed detailed front end engineering support to EDP, for their power plant demolition project in Barreiro, Portugal.

Enemalta's current power generation technology is expected to be replaced by a new plant at Delimara and by submarine interconnection to the European grid.

NOTES: Marsa power station is an electricity generating plant comprising six fired boilers, six generating turbines (30MW to 60MW), one open-cycle gas turbine, seven fuel storage facilities and four stacks (up to a maximum 75m in height). Almost all electricity produced at Marsa is derived from the combustion of HFO (residual heavy fuel oil).

Delimara power station comprises two fired boilers with two 60MW condensing steam turbines utilising HFO. Elsewhere two 37.5MW open-cycle gas turbines, two 38.5MW gas turbines and one 38MW fully condensing steam turbine (in a combined-cycle arrangement with two heat recovery steam generators) utilise GDO (gas/diesel oil). There are also four stacks – the tallest of which is 154m in height.

A new plant at Delimara is due for commissioning mid 2012 and will consist of eight diesel engines (with selective catalytic reduction and waste heat recovery boilers), a single condensing steam turbine and four steel stacks.

RVA Group's team of consulting engineers provides specialist planning, project management and coordination support for site operators and plant owners involved in large scale decommissioning, decontamination, dismantling and demolition projects – often a step into the unknown for many organisations.

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