

POWER STATION TAL-MARSA - POLLUTION EMISSION REPORT

***2939. L-ONOR. LEO BRINCAT** staqsa lill-Ministru ghat-Teknologija ta' l-
Informazzjoni u l-Investment: Jista' il-Ministru jirrispondi mistoqsija parlamentari
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dwar il-*power station* tal-Marsa? Jekk iva, jista' jqieghdu fuq il-mejda tal-Kamra
u/jew ghall-inqas jippubblika *executive summary* tal-konkluzjonijiet tieghu?

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ONOR. AUSTIN GATT: Jiena nfurmat li f'Marzu ta' l-2003 sar rapport kif rikjest
mir-Regolamenti dwar 'Integrated Pollution Prevention and Control', u mghoddi lil
MEPA.

Is-Sezzjoni tar-rapport li tittratta dwar il-Power Station tal-Marsa qed titqieghed fuq
il-mejda.

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Plan In Compliance with Subregulation 7 of the Integrated Pollution Prevention and Control Regulations 2002

Introduction

Subregulation 7 requires that operators of existing installations will submit a plan by 31 March 2003, stating how they propose to meet the obligations of the regulations.

An application for permits to operate Marsa and Delimara power stations, in accordance with Subregulation 6 was submitted to the MEPA in December 2002.

The main obligations on the operator are described in Subregulation 12 which requires the operator to take all appropriate measures to ensure that:

1. Appropriate measure are taken against pollution, in particular through the application of best available techniques.
2. No significant pollution is caused.
3. Waste production is avoided and, where this is not practicable, managed in accordance with the relevant regulations.
4. Energy is use efficiently;
5. Accidents are prevented, and their consequences limited.
6. Upon definite cessation of activities, the site of operation is returned to a satisfactory state and pollution risks are avoided.

Marsa Power Station

Emissions into the air

Marsa power station will comply with the regulations in Legal Notice 329 of 2002: Limitation of Emissions of Certain Pollutants into the Air from Large Combustion Plants Regulations 2002, which are derived from the European Union Directives 88/609 and 2001/80 (the old and new I.CPD's). This is deemed to be in full compliance with the IPPC regulations on the matter.

These regulations specify limits for emissions of Sulphur Dioxide (SO₂), Nitrogen oxides (NO_x) and dust. The plant at Marsa power station are classified as 'existing plant' in these regulations. The obligations are that

1. SO₂ and NO_x reductions are reduced according to the timetable in Annexes 1 and 2 of LN 329.
2. By 1 January 2008 emissions from individual plants will be reduced to the levels permitted in Annexes 3 to 7, or

3. Emissions are in accordance with the National Emissions Reduction Plan., or
4. A declaration will be made by the operator by 30 June 2004 at the latest, that a plant will not be operated for more than 20 000 hours beyond 1 January 2008.

Enemalta will comply with the first condition and will strive to comply with the second. Since information on the actual state of emissions is at present not fully available, it is possible that use will be made of conditions 3 and 4. Enemalta is legally entitled to keep this option open until 30 June 2004.

The conditions in Annex 9 of the LCPD on emission measurements will be complied with. These require continuous measurement of pollutants for plants with thermal input over 300 MW. In the case of Marsa power station continuous measurement is to be made on boilers no 7 and 8. In the case of other boilers regular measurements using portable instrumentation shall be made.

Because of malfunctions in instrumentation previously installed, new instruments have been purchased and are being delivered in March 2003. In the case of portable instruments defects have been corrected by the manufacturer, while the permanent instrumentation for the two larger boilers will be commissioned in the near future. In the meantime emission values available are either calculated from the fuel usage or are the readings of the former instrumentation, which have proved to be liable to unreliable operation.

The instrumentation to be installed on boilers 7 and 8 consists of analysers for the measurement of CO, NO, SO₂, CO₂ and O₂, a dust monitoring system and an emission monitoring computer. In addition independent instruments will measure gas flow and temperature. The emission measuring computer will have facilities for connection to a network for DCS or remote services. Facilities will be available for the summation of emission values and for the printing of reports.

The portable instruments for use on the other boilers will have the same analysis functions but without the computing facility.

The presently available readings of emissions are only partially reliable and concrete decisions on major modifications of the plant will be made following the availability of reliable values of actual emissions.

The limits of SO₂ emissions will be attained using fuel oil with low sulphur content. By this means the limit of 1700 mg/Nm³, which is the limit for plant of this size, will not be exceeded.

The limit for NO_x emission for plant fuelled by liquid fuels is 450 mg/Nm³. Present emissions are probably above this limit, but this is to be ascertained with certainty once the new instrumentation is in place. Appropriate action will then be taken to limit emissions to the regulation value.

NOx reduction technologies will then be applied to bring the value in line with the limits in annex 6 for new plants. This may consist of the installation of new low NOx burners, or modifications to the present burners. The use of a fuel/water emulsion may also be made for the purpose of attaining the specified limits.

In the matter of dust emissions action has already been taken on boilers 6,7 and 8 which are supplied with electrostatic precipitators. Available data indicates that the gases after the precipitators comply with the limits for new plant, but this will be confirmed when the new instrumentation is installed.

Boilers 3,4 and 5 do not have precipitators. It is planned to take the same action as is being taken on the Delimara boilers for the reduction of dust to attain the limits for boiler no 5.. It is envisaged that boilers 3 and 4 will be retired before 2008 so that the emissions from them will not be in breach of the regulations. A firm undertaking concerning the operation beyond 2008 will be taken before 30 June 2004.

As Marsa power station is situated in a populated area and complaints have been received from neighbouring areas about nuisance form gases emitted from the power station chimneys. With this in mind a study is being made to determine the best way of dispersing the gas at a higher level. Enemalta is working on a scheme to replace chimneys no 1 and 2 with a higher chimney by the end of the period under consideration.

Marine Discharges

Discharges in the marine environment consist of sea water used for cooling the condensers, to which biocide chemicals are added, blowdowns for boilers and evaporators, effluents from demineraliser plant regenerations, discharges from the fireside washing of boilers, and surface drains.

Cooling water is drawn from the harbour and discharged at a temperature of a few degrees higher. Biocide treatment is applied to prevent the fouling of the cooling passages with marine growths. Formerly chlorine was used as a biocide but this was phased out because of its environmental and safety hazards. Tests have been made on a number of alternative treatments which are evaluated on their effectiveness, and environmental acceptability. The dosage rate is adjusted such that the residual chemical at the discharge is minimal and marine life outside the station is unaffected.

Surface drains are provided with oil interceptors so that any oil spills which may find themselves in the drains are separated out and only clean water discharged into the sea.

Evaporator blowdowns are concentrated sea water to which scale control chemicals have been added. The chemicals used are designed to be biodegradable and environmentally harmless.

Demineraliser plants are regenerated using sulphuric acid and caustic soda. Effluents from washing these plants after regeneration are neutralized before discharge into the sea.

Boiler fireside washing removes deposits from boiler furnace walls which include compounds of sulphur, iron, magnesium, nickel and vanadium. A scheme is being prepared for the treatment of this effluent before discharge by means of settling pit followed by a process of neutralization and chemical sedimentation.

Solid Wastes

Besides normal industrial wastes, the power station produces wastes particular to its function. These include fly ash from the electrostatic precipitators, ash from the periodic cleaning of boilers, sludge from sedimentation pits and sludge from the cleaning of fuel oil tanks.

With the changeover to fuel with a lower sulphur content and the modifications to the combustion system designed to minimize air pollution it is expected that the amount of hazardous wastes will be minimized. Fly ash will have a lower carbon content and effluents from furnace washing will be less acidic. This will make these wastes more acceptable for discharging in the public dump.

Asbestos has been removed from the insulation at Marsa B power station. There is still asbestos at the Marsa A Power station (closed down and separate from Marsa B station) and it is intended that this asbestos will be removed by the end of 2003. The asbestos removed is stored temporarily at Corradino ex British services power station. A plan for the eventual disposal of this material is being prepared.

Enemalta will cooperate with the waste management authorities in the disposal of other wastes.

Efficient use of energy

Enemalta is the largest user of primary energy in Malta and is committed to using the best available means to convert this energy to electricity in an efficient manner. This is achieved from the design of the plant, the employment of competent engineers and other persons, the regular maintenance and upkeep of the plant, the operating policy which favours the use of the most efficient plant, the correction of steam leaks and other faults, and the continuous drive to improve the operation of the plant.

Prevention of Accidents

Enemalta has a good record of safety in its plant. The personnel are highly skilled and go through a lengthy training period before taking responsibility for plant. There are well established rules for the operation of the steam plant, high voltage plant, etc, and for maintenance operations. The Health and Safety Enforcement Officers ensure that safety

rules are observed. The Fire and Safety section carries out regular inspection and sees that fire hazards are adequately provided for.

Cessation of Operations

Because of the unavailability of alternative locations it is intended that on retirement of the existing plant, these will be replaced by alternative generating plant, which will be constructed under a separate permit. It is not envisaged that operation at the Marsa plant will cease in the short or medium term. There are no processes at the power station which prevent the eventual use of the land once the power station is closed down and the plant removed.