



DET NORSKE VERITAS

Environmental Site Assessment at five
suppliers, Bangladesh

Executive Summary Report

Telenor ASA

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Executive Summary Report: Environmental Site Assessment at five suppliers, Bangladesh	DET NORSKE VERITAS AS Veritasveien 1 1322 Høvik, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 http://www.dnv.com Org. No: NO 945 748 931 MVA
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1 THE ASSIGNMENT

On behalf of Telenor, Det Norske Veritas has conducted an Environmental Site Assessment of five suppliers of mobile towers for Grameenphone in Bangladesh; namely

- i) Concrete & Steel Technologies Ltd (Dhaka)
- ii) Brothers Fabrication Engineering Ltd (Dhaka)
- iii) Mak International (Chittagong)
- iv) Confidence Steel Limited (Dhaka)
- v) Mizan Hatim Engineering Co. Ltd. (Dhaka)

The five suppliers produce mobile towers in steel which are dipped into a bath of molten zinc for rust protection, this process is called galvanization. The plants are located in mixed industry/residential areas. Two plants are also close to rice paddy fields.

The environmental assessment includes an investigation of how the galvanization processes may impact the environment; mainly through release of polluted water and air to the surroundings, and by disposing wastes containing pollutants. The investigation was done over two days at each plant. It included interviews of key personnel, inspections of facilities and spot sampling of water and soil for analysis of possible pollutants taken both inside and outside the plants. Although not the main focus of the assessment, obvious risks related to working environment were also noted.

2 MAIN FINDINGS

DNV concludes that the galvanization process at the plants poses a higher risk to the workers health and safety than the risk of damage to the environment. The main issues related to environment are waste products and discharges of polluted water to the surroundings. The extent of the pollution is assessed to be limited to the nearby areas of the plants (within approximately 100 metres).

The plant management has limited or no knowledge of the operations impact on the environment

The plant management demonstrated limited knowledge on how the operations at the plants may impact the environment. There is limited knowledge on the hazards of the chemicals used, both for environment and for the health of the workers. The lack of knowledge is a concern because knowledge is a prerequisite for protection of both environment and workers health.

The plants discharge polluted water to their surroundings

All plants generate waste water that is either recycled or discharged to a nearby canal/pond. The major concern of these discharges of water is that metals spread with the water. In canals outside the plants, metals were found in concentrations that may harm water living organisms. The samples showed no evidence of risk that the existing rice paddy fields are destroyed by the pollutants from the factories.

Unsafe handling of chemicals and manual work may cause harm to workers health and the environment

All five plants used acids and other chemicals that are potentially hazardous to the workers health. The chemicals were generally not handled safely. DNV observed that two plants had routines involving



manual work with sodium dichromate. This is a major concern because sodium dichromate can cause serious health damage if the workers are not properly protected. DNV observed inadequate personal protection during the site visit. DNV also observed manual work with acids.

Sodium dichromate can be harmful for the environment. At one plant, sodium dichromate was found leaking from a storage tank to the surroundings (stopped after notice from DNV). Traces of this substance were found in the immediate surroundings of both plants that use sodium dichromate.

The plants generate wastes that may cause harm to the environment and to people

The plants generate sludge (a muddy waste) that contains high levels of metals. This sludge is not disposed of in a safe manner. The sludge is either placed within the plant borders or on a municipal landfill. In either case, metals can leak to the soil and ground water and spread further in the surroundings. There is an additional concern involved with placing the sludge on landfills; people may be looking for wastes to sell on the landfills and at the same time get in contact with contaminated sludge.

Emission to air

The galvanization process generates acid fumes, ammonia and zinc. The plants have limited measures to reduce emission to air. DNV observed workers using masks that do not protect them against fumes. One plant used heavy fuel oil for melting the zinc which generates large amounts of smoke, particulates and sulphur oxides.

3 THE WAY FORWARD

The proposed way forward for Grameenphone is to further enhance the ongoing positive work to improve health and safety issues at the plants, incorporating environmental aspects into this programme. Through setting specific requirements and following up the suppliers Grameenphone can have a real and positive impact on the environment and the working conditions at the plants.

A big step forward would be to implement a capacity building program on environment for plant management and plant workers, creating knowledge/awareness needed to implement corrective measures successfully.

Many measures are needed to improve the conditions¹ and protect the environment better. Many will be low cost measures and easy to implement. Also, many measures involve a change in behaviour and practises, as opposed to investments in technology. However, waste handling is a huge problem in Bangladesh today. There is no safe way to dispose of wastes in the country. For the galvanizing industry a solution is especially needed for the sludge due to its content of metals. DNV suggests that Grameenphone initiates a cooperation with plants and environmental authorities to find better solutions for final disposal of such hazardous wastes. - o0o -

¹ The main report includes a list of suggested corrective measures for all findings

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