ISLAMABAD MEDICAL COMPLEX (NESCOM)

ENVIRONMNETAL IMPACT ASSESSMENT (EIA) REPORT FOR THE INSTALLATION OF INCINERATOR

Impact Assessment & Mitigation Measures

DOCUMENT CERTIFICATION

This project report on Environmental Impact Assessment has been prepared by a team of SPECTRUM duly registered for providing quality medical equipments, service delivery and well educated human resource /consultants. We the undersigned, certify that the particulars in this report are correct and true to the best of our knowledge.

EIA/ CONSULTANTS:

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PROPONENT:

NESCOM HOSPITAL ISLAMABAD

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EXECUTIVE SUMMARY

Industrialization in Pakistan and the implementation of Environmental Protection policies, rules and laws have necessitated the need to develop a hazardous waste treatment facility that can cope with the increased demand from hospital infectious waste and at the same time meet the ever demanding regulatory framework. The proponent is a private organization providing healthcare services to reduce the disease burden in the vicinity by providing quality medical and environmental services to safeguard the human health & Environment. The Proponent intends to install an incinerator to facilitate waste management within the facility.

The availability of a hazardous waste treatment facility is not only a critical environmental issue, but also an essential economic factor for the city that aspires to grow its industrial base. Most National companies expect a hazardous waste management program to be in place that is both economical and meets international standards, especially ISO 14000 considerations. Besides, without the means to treat and dispose infectious wastes, it is not possible to enforce the current environmental legislation.

The installation of a new incineration facility at NESCOM will increase the handling capacity of hazardous waste which will both assist the waste management and provide a proper treatment and disposal route that is affordable.

The purpose of this EIA report submission to the Environment Protection Department is to grant the proponent an opportunity to install an incineration plant in the land which is currently left idle. The proposed site is the property of hospital maintained by NESCOM on the faqeer Aipee Road H/11/4 Islamabad. The area is well connected and protected for any natural degradation or resettlement of the indigenous people. The incinerator is expected to handle 50 kgs/hr during its pick operation.

Upon realization of the growing hazardous wastes challenges, the proponent is seeking to install a new facility to be able to provide a hazardous waste handling capacity to cater for the need of such waste disposal by environment friendly methods. For this reason the proponent has identified a parcel of land in the vicinity of the hospital allocating a designated yard also for the collection, storage prior to incineration. The site will also take advantage of the existing road for safe

delivery of the non infectious waste (Municipal Waste) disposed by the Capital Development Authority

In compliance to the Environmental Protection Act 1997, HWMR, 2005 as well as the related regulations, the proponent has undertaken this EIA Study through a well reputed Firm SPECTRUM for review and necessary approval purposes.

Our investigation examined the potential impacts of the project on the immediate surrounding with due regard to all the phases from installation through to completing, operation and decommissioning. It encompasses all aspects pertaining to the **physical, socio-cultural, health and safety conditions** at the site and its environs during and after installation of the project. During the screening exercise, issues identified as those that may be impacted upon by the project activities include: air quality, health and safety, and other environmental hazards and socio-economic welfare of the surrounding communities.

The estimated project cost is PKR 6 Million. The proposed plant will be handling infectious wastes through incineration. It is, therefore, expected that there will be potential emission of various gases and particulate matter into the atmosphere, depositions of particulate matter onto land. This scenario implies potential linkages with the surrounding environment and ecological setting that require to be addressed during the construction and upon commissioning. The following sections outline these linkages as well as proposed corrective measures.

ANTICIPATED IMPACTS

Positive Impacts

The plant has an overall positive implication to the facility to management and disposes the waste in accordance with HWM Rules, 2005. The major threat to the environment and human health today is risks associated with waste management. Not all waste sources are capable of handling hazardous and toxic materials within the premises without compromising the health of their own workers or the neighboring facilities. The result of waste generators disposing wastes without appropriate equipment has been pollution of environmental resources and particularly water sources, air pollution, land contamination and even direct effects to human health. In this regard, therefore, the following are considered main benefits of the proposed plant;

- The facility has a clean and healthy environment for all. It also encourages private investments in environmental conservation within the country.
- Clean up of the infectious waste from water stream, dumpsites, ponds and rivers
- Cleaning up of hazardous and toxic materials from the agricultural sector and particularly the agro-chemical manufacturers and dealers as well as major users such as to include expired chemicals, packaging materials and obsolete equipments.
- Provision for disposal of expired drugs and medicines from hospitals and health centers across the country, most of whom do not have a professional mode of the waste disposal.
- The facility will provide a safe point for reducing the volumes of hazardous waste and toxic wastes before its final and disposal of the waste would be through environment friendly methods that may not effect ecology and human health.
- The facility will provide a multiple of direct and indirect employment opportunities relating to installation of incinerator.

Negative Impacts

The project is anticipated to create negative impacts as well. This will emanate from the construction and subsequent operation activities of the facility. They include the following:

- Air pollution: Emissions released to the atmosphere both during the installation and operation,
- Impact to soil (soil erosion and degradation) especially when laying the foundation and other earthworks.
- Potential contamination of soil and water; due to oil spills and other leakages/releases.
- The health and safety of workers and immediate residents and neighbors may be compromised due to accidents, pollution and disturbance.
- Impact (constraints/pressure) to the existing infrastructure i.e. water,

power, surface drains, roads among others.

- Vegetation clearing
- Increased storm water/run off resulting from the roof catchments and as a result of decreased recharge areas, after pavement of most areas i.e. fore court and drive ways.
- Visual Intrusion; likely to occur during earthworks for the foundation of the project.
- Increased waste generation (both solid and liquid) during construction and operation phases.

Proposed mitigation measures

To minimize the occurrence and magnitude of the negative impacts, mitigation measures have been proposed against each of the anticipated impact. Some measures have been integrated in the project designs with a view to ensuring compliance with applicable environmental laws and guidelines. The measures include the following:

Erection of warning /informative signs (bill boards) at the site during the installation/construction phase.

Suppressors or silencers on equipment or noise shields for instance corrugated iron sheet structures. Management strategies to reduce impacts including truck speed. Sensitize workers on the need to switch off engines whenever possible; ensure that the machineries are well maintained; ensure that the work is carried out during the recommended time.

Septic system should be properly designed (using approved materials), installed and regularly maintained to effectively drain effluent.

Workers should be provided with appropriate personal protective equipment (PPE) to beef up their health and safety and they should be sensitized on EHS safety measures.

The site should be fenced off during installations to keep off animals and the general public.

Provision of sound waste management systems and procedures. This will involve provision of solid waste collection bins; segregation of waste at source, appointing a reputable garbage collector etc during operation phase. During the installation phase, the contractor should put in place effective and efficient waste disposal systems in collaboration with hospital waste management committee. Waste, including excavated

soil and debris will be properly disposed of by backfilling or dumping in approved grounds by the contractor.

An emergency power control switch will be strategically installed in order to facilitate general power cut of the entire workplace in case of emergency.

An adequately stocked “First Aid Box” will be provided and the employees at the incinerator will be properly trained on how to administer first aid.

Following the completion of the construction phase, measures will be undertaken to restore the affected biodiversity through landscaping; i.e. planting of trees and grasses to cover unpaved areas.

The surface drainage system should direct all potentially contaminated surface waters from the incinerator area into waste interceptor. The drainage and interceptor maintenance will be carried out regularly, including cleaning the interceptors of foliage, rubbish and grit.

Capacity building of the workers and staff; to create awareness towards potential risks and recommended preventive measures through training. This will ensure that health and safety measures are followed. Conduction of regular drills on fire prevention and control will be encouraged to ensure proper preparedness for fire control.

Formal procedures will be put in place for energy and water saving to optimize their use. The staff will be encouraged to turn off unnecessary lights and not to leave water taps running.

A comprehensive fire fighting equipments should be provided after completion of the project. This should be installed or provided at strategic points. The fire extinguishers should be serviced accordingly i.e. after every six months to ensure effective and efficient performance when required.

The contractor and the proponent will implement the proposed mitigation and monitoring plan in order to protect the environment from any negative impacts.

During the operation phase, conduct annual environment audit, health/Safety and Fire audits.

Realization of cordial relations among various community, economic, social and cultural groups as well as between the local community and the contractor,

Soil compaction and watering of loose soils on all unpaved access areas, construction materials at the construction sites to minimize air pollution and erosion by the agents of soil erosion i.e. water and wind.

Conclusion

The proponent will take note that apart from the positive impacts created, the project has negative impacts which should be closely monitored and evaluated. This will ensure that the environment is always safeguarded. It is important that the proponent conducts regular site assessments to provide early indication of leaks or releases of waste into the ground and other potential risks. Considering the proposed project, mitigation measures that will be put in place and the project's contribution to the environment and economy, its implementation is considered important and beneficial. The key effort should be geared towards safeguarding the environment. This can be effectively overcome through close following and implementation of HWMR, 2005 consequently attaining sustainable development.

It is concluded that the project is important for the infectious waste management and its eradication at the point of source and has a balanced environmental considerations and benefits. This report gives adequate measures to mitigate the negative impacts and a management plan. The proponent is committed the proposed measures during the construction, operation and decommissioning phase of the project.

Project Cost

Phase	Component	Cost estimate PKR
Pre-construction	Environmental impact assessment	**1,000,000**
	Architectural drawings	
	Bill of quantities	
Construction	Construction of the buildings/Incinerator room	**1,000,000**
Post-construction	Purchase of the incinerator plus transportation	**3,500,000**
	Installation of the machine	
Total		**5,500,000**
Percentage payable to EPA		

The proposed project's estimated cost will not exceed PKR 6,000,000. (6 million only). The proponents will therefore, in accordance to Legal Supplement submit PKR, 30000.

ACRONYMS

EIA	Environmental Impact Assessment
EPA	Environment Protection Act 1997
EPA	Environment Protection Agency
IEE	Initial Environmental Examination
PEPC	Pakistan Environmental Protection Council
HWM	Hospital waste Management
HWMC	Hospital Waste Management Committee
PPE	Personal Protection Unit
ToR	Terms of Reference