

Presentation
Seminar-cum-Exposition on
Energy Conservation and Industrial Waste Management

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**Common Disposal Facility for Hazardous
Waste in Karnataka**

- **P.Bineesha**
Chief Environmental Advisor
HAWA Project, Karnataka

Brief Bio-data of Presenter:

Ms.P.Bineesha is presently working as Chief Environmental Advisor, ERM GmbH, HAWA-GTZ, a project in Bangalore along with Karnataka State Pollution Control Board (KSPCB). Ms.Bineesha is an Environmental Scientist with Nine years broad-based experience in the field of Environmental Management. Her Specialization includes Urban and Rural Environment Management. She has executed projects related to Waste Management (Hazardous Waste, Bio-Medical Waste, Domestic Solid Waste and Waste from Electrical, Electronic Equipment {WEEE}), Environment Impact Assessment (EIA), Due Diligence studies, Watershed Management, Social Assessment, Effluent Treatment, Air Pollution Mitigation, Clean Development Mechanism (CDM) and Environment Audits. She has an ISO -14,000 lead auditor's certificate on EMS audit. She has working knowledge of Indian Environmental Regulations, in addition to exposure to International regulations. She is conversant with Techno-Economic Analysis of projects. Ms.Bineesha has her Masters Degree in Environmental Sciences from University of Pune and presently doing her Masters in Business Management, Common Wealth Programme. She has also undergone Diploma Courses in Genetics, Journalism and Landfill Management. She has also a certificate for evaluation of environmental and social projects from German Technical Co-operation.

Brief of Presentation

1. HAWA Project Set-up

- Implementing Agency:
 - Karnataka State Pollution Control Board (KSPCB)
 - Department of Forest, Ecology and Environment (DFEE)
- Technically Assisted by:
 - GTZ - German Technical Cooperation
- Consulting Company:
 - ERM GmbH, Frankfurt
- Funded by:
 - German Federal Ministry of Economic Cooperation and Development

2. Status of HAWA project

Milestones of the project

- Site selection procedure completed
- Dobbasapete site selected - 108.18 acres
- EIA clearance obtained
- Government Order issued
- Land procurement in progress
- Pre-qualification for selection of Private Operator (PO) completed
- Cleaner Production within industries -ongoing
- Illegal Hazardous waste dump site remediation plan preparation for Karnataka

3. Need for Common HW TSDF

- Hazardous Waste (Management & Handling) Rules, 1989, amended 2000 & 2003 - mandatory for scientific treatment and disposal of HW by industries
- Supreme Court Directive to all states - implementation of these rules
- Closure order given to industries in other states by Monitoring committee for violation of these rules
- Individual facility expensive and not feasible

4. Features of TSDF

- Treatment Storage & Disposal Facility (TSDF)
 - Landfill and associated facilities
 - No incinerator
- Design, Build, Own, Operate & (Transfer) -DBOO(T)
- Private Operator - selection through National Competitive Bidding process
- Land along with the facility to be transferred to Government of Karnataka (GoK) after satisfactory completion of post closure phase
- The facility would handle about 40,000 tonnes per annum of Hazardous Waste (HW).
- It is a Rs.40 Crore project
- Shimoga, Bangalore rural, and Bangalore Urban districts have the maximum No. of HW generating industries and maximum quantity of HW
- Only solid, or semi solid wastes from the HW generating industries of Karnataka will be accepted in this TSDF

- All the wastes will be tested in laboratory and appropriate treatment given to make it suitable for landfilling
- No acceptance of municipal solid waste, bio-medical waste, liquid waste or radioactive wastes at the site;
- Project life cycle includes 1 year of construction, 20 years of landfill operation and 30 years of post closure landfill management. The operation phase will comprise of four stages. Each stage will last 5 years and will require construction of 5-6 cells for operation during next stage.

5. Operator Model

- GoK: Land to be leased by Govt. at lease rate Rs.100/acre/yr for 1 yr construction + ~ 20 yrs operation + 30 yrs post-closure period
- Contracting Authority (CA): KIADB (until commissioning): tendering, monitoring during construction phase
- Special Purpose Vehicle (SPV): After commissioning and start of operation
 - SPV to be created by KIADB in consultation with GoK
- PO:
 - Gate fee to be revenue for PO
 - Gate fee to be fixed in cooperation with CA, GoK and industry
- Transport of HW by PO, industries or third parties as per standard
- KSPCB: Environmental monitoring of TSDF
 - Separate laboratory for environmental monitoring to be set up by KSPCB

6. Inventorisation of HW

Types of Hazardous Waste:	Total HW t/a approximately
Reprocessible:	18,000
Incinerable:	16,000
Landfillable:	40,000
Total:	74,000
Illegal Dump sites:	1 lakh tons (until 2006)*
Accumulated in Industry:	2 lakh tons (until 2006)*

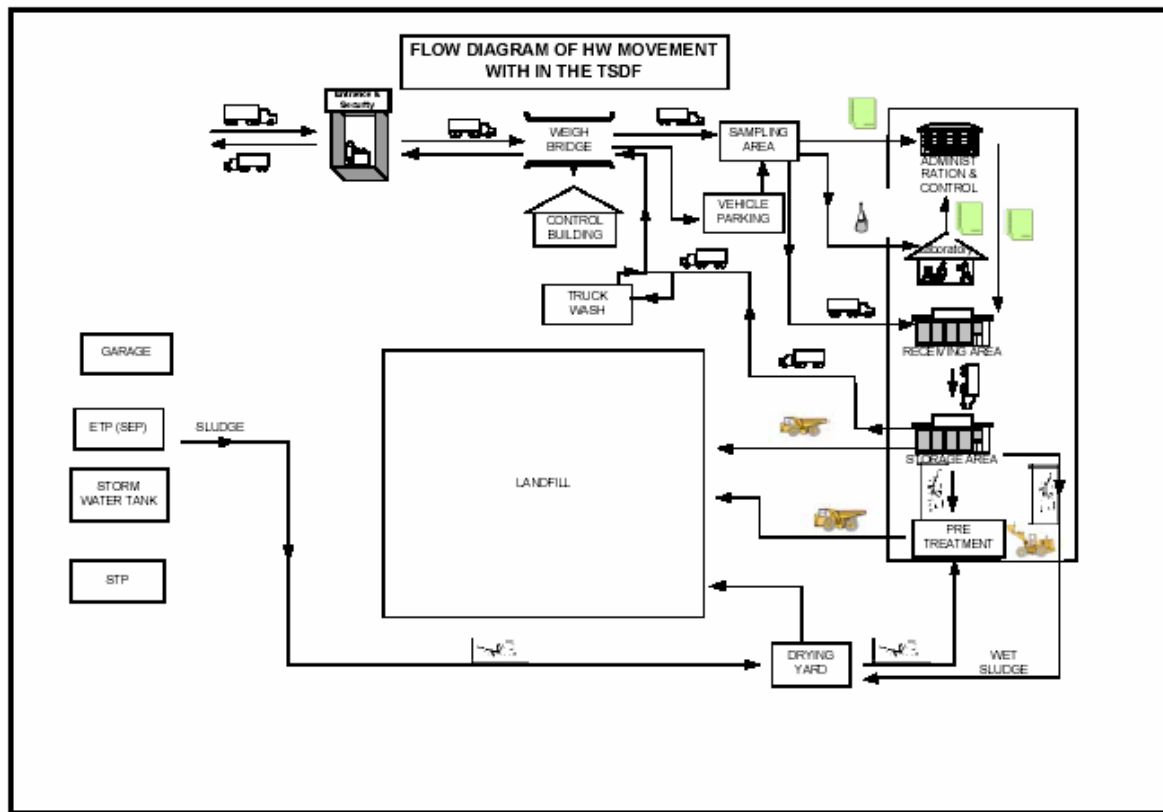
* until the TSDF is operational

7. Infrastructure at TSDF

- Waiting Area, Entrance and Security Cabin;
- Weigh Bridge and Control Building;
- Sampling Area;
- Administration/Operation Building:
 - Analytical Laboratory
 - Sample Storage area
 - Public Relations Office / Information Centre

- Room for KSPCB/CA representative
- Meeting room
- Administrative staff office
- Canteen and Kitchen
- Cloak Rooms and Toilets
- Delivery, Treatment and Storage Area;
- Vehicle washing area for trucks
- Disposal Facility (Engineered Landfill);
- Solar evaporation pond for leachate and effluent treatment
- Rain water harvesting pond
- Workshop and Garage

8. Flow Diagram of HW Movement within the TSDF



9. Project Implementation Schedule

- Timeframe for tendering etc. 60 days starting May 05
- Evaluation and finalizing of tendering 30 days
- Final order August 2005
- Mobilization of resources for PO by September 2005
- Start of construction October 2005
- Commissioning of TSDF - October 2006
- Establishment of SPV by Dec 2006