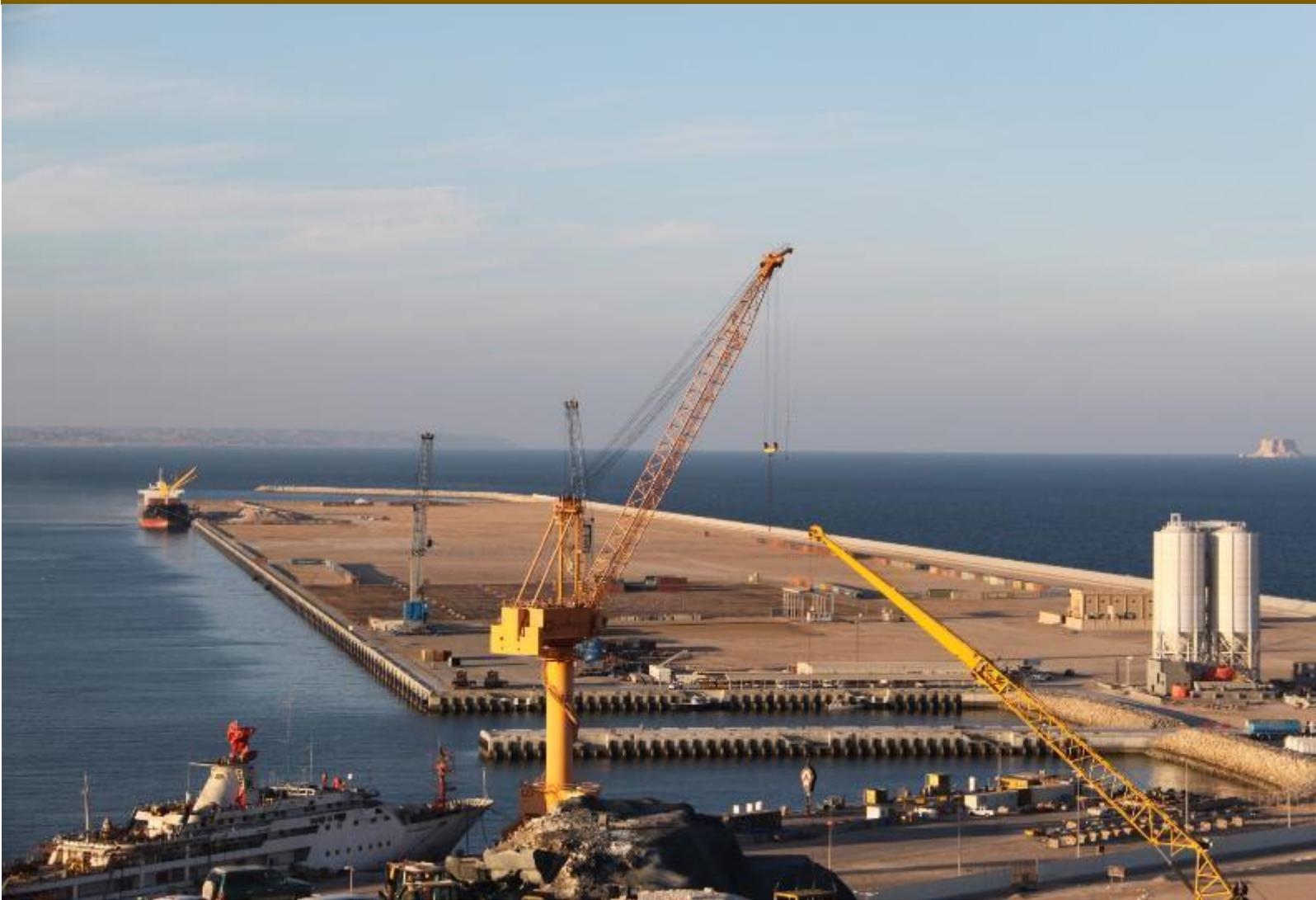


ENVIRONMENTAL GUIDANCE NOTES:  
WASTE MANAGEMENT



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**REVISION**

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## 1 PURPOSE

The purpose of this document is to assist PDC’s prospective tenants in identifying the environmental requirement of waste management as part of environmental permit condition requirements and provide PDC/SEZAD with overall environmental status with regard to different waste streams generated from the tenants’ activities. This guidance note provide the base of waste management approach to be followed while operating with PDC concession area and establish more coherent compliance control.

## 2 APPLICABILITY

This document is applicable to all of PDC’s Assets and Facilities and where PDC has operational control.

## 3 LEGAL COMPLIANCE

### 3.1 Statutory Framework

It is mandatory that each PDC’s tenants develop and systematically implement waste management plan pertaining their activities and operation. This is to meet the environmental requirement of following legislatives:

- RD 26/1981 Ratifying the accession of Oman to the Convention for the Prevention of Pollution from ships 1973, and its 1978 Protocol (MARPOL 73/78);
- RD 114/2001 The Law on Conservation of the Environment and Prevention of Pollution;
- RD 115/2001 Law on protection of potable water sources from pollution;
- RD 24/2002 Sanctioning the protocol on the transboundary movement of hazardous wastes and other wastes and their disposal The Protocol on the Trans-boundary Movement of Hazardous Wastes and Other Wastes and their Disposal (Basel Convention);
- MD 17/93 Regulations for the Management of Solid Non-hazardous Waste; and
- MD 18/93 Regulations for the Management of Hazardous Waste.

Integrating waste management in environmental management plan (EMP) and reporting demonstrating level of compliance to the imposed environmental requirements and need to be included into performance records.

### 3.2 Permitting Authorities

SEZAD is the statutory institution empowered under the RD 119/2011 with regulatory, administrative, fiscal and economic responsibilities within the Duqm Special Economic Zone (SEZ). SEZAD is also responsible for the planning and environmental regulation for Al-Duqm in Al-Wusta Governorate. This includes granting environmental permitting to developments taking place within the Duqm SEZ according to Article 3 of 119/2011.

### 3.3 Permits and Licenses

There are a number of licenses or permits that are required to carry out waste management for handling and storage requirements. Applications of these approvals are submitted to SEZAD and reviewed to which subsequently approval granted.

Type of Approval	Name of Approval
Permits	Discharge or Re-use Wastewater
	Construct Waste Treatment Facility
	Dumping at Sea
	Dealing with Toxic Chemicals
Licenses	Operate Non-hazardous Waste Site
	Transport Non-hazardous Waste

Type of Approval	Name of Approval
	Dispose Non-hazardous Waste
	Recycle Non-hazardous Waste
	Operate Hazardous Waste Disposal Site
	Transport Hazardous Waste
	Dispose Hazardous Waste
	Recycle Hazardous Waste
	Store Hazardous Waste

#### 4 WASTE MANAGEMENT PRINCIPLES

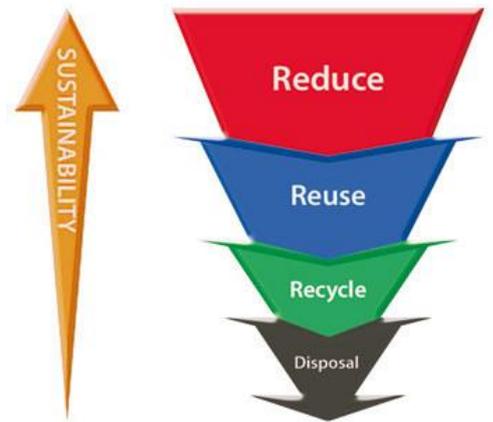
Wastes are not found in nature but are generated from various activities. Some wastes could be of no consequence and must be disposed of because there is no chance of putting them to use. Wastes could be cost-effective resources, as they might contain components that can be appropriately used if the right means are employed. This may contribute in reduce costs through, but not limited to:

- Reduce dependency on natural resources
- Savings on raw materials
- Reduced time in handling wastes

It is the responsibility of the tenants (as the polluter) to manage their own waste production, storage and disposal. Therefore utilizing and following Waste Management Hierarchy as shown in the diagram is highly recommended when developing waste management plan and considering sustainable development.

Tenants should seek where possible methods to first reduce, recycle, and energise their waste (both liquid and solid) before controlled disposal is required. The following principles should be adhered to by all tenants:

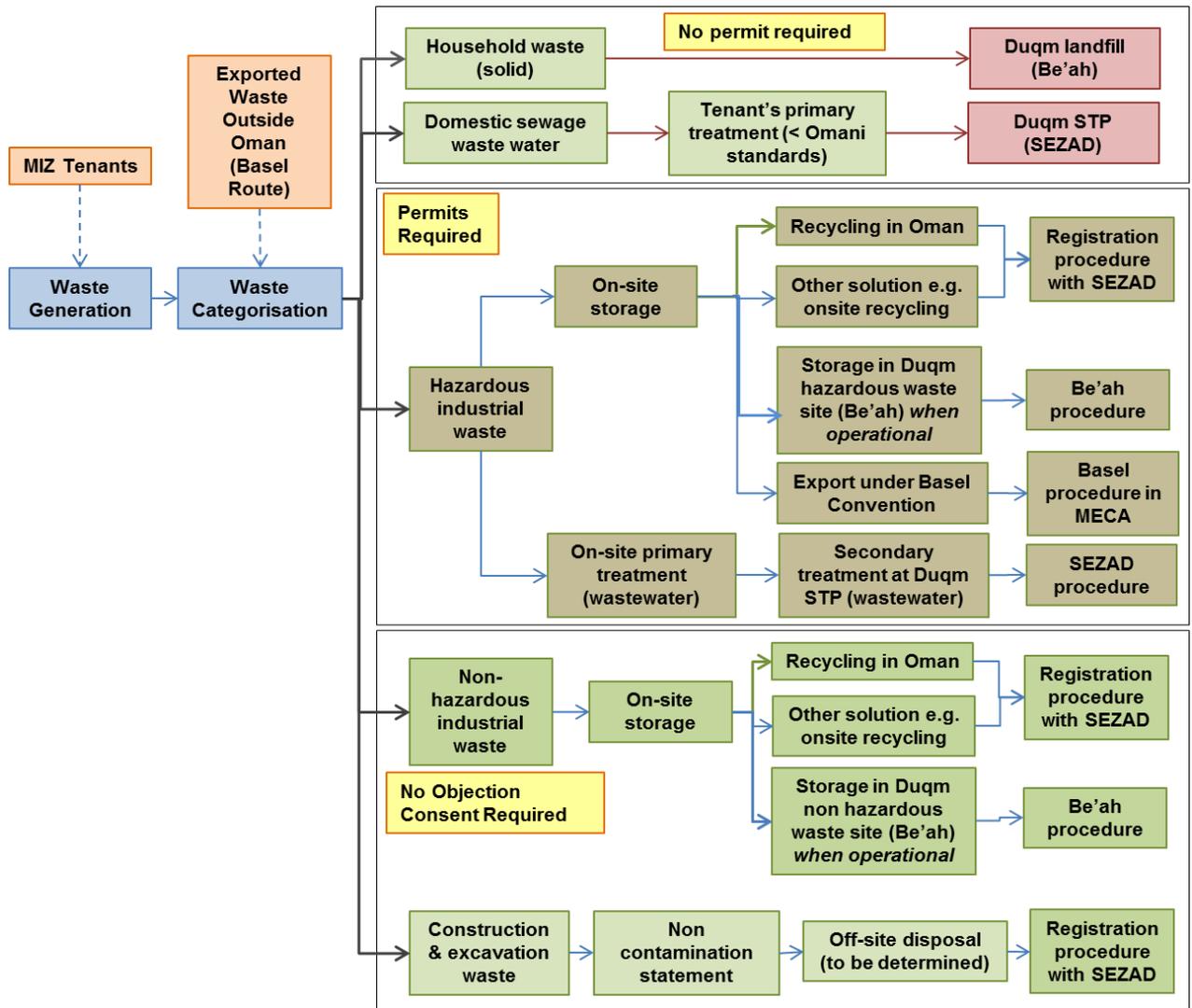
- Polluter Pays principle;
- Priority order of waste management: reduction, recycling, energizing, then controlled disposal;
- All generated / transported industrial waste has to be registered with SEZAD (by permit or No Objection Consent (NOC));
- On-site storage of hazardous waste will have to occur until the hazardous waste facilities are operational in Duqm (under Permit or NOC), unless waste is collected and transported to Muscat by an approved and licensed third party contractor (proof of transfer); and
- When off-site solutions are available (once the Duqm hazardous waste facility is operational), on-site hazardous waste can be allowed (under Permit or NOC) for a limited time and quantities.



#### 5 PROPOSED WASTE MANAGEMENT APPROACH

The below figure provides a visual interpretation of waste management pathways within PDC’s jurisdiction area, which may be developed further if operational requirement necessitates.

Further consultation will require to obtain approval from SEZAD and other stakeholders such as Be’ah and MECA.



## 6 WASTE CATEGORIZATION

Waste is defined as any discarded material which may be in liquid, semi-liquid, solid, semi-solid or gaseous form. Waste classification has been defined by Omani environmental regulations, however the expectation that the waste generator to categorize the waste based on best practices and regulations.

### 6.1 Solid Non-hazardous Waste

MD 17/93 defines non-hazardous solid waste as any solid or semi solid material which does not pose any danger to the environment or to human health, if it is dealt with in a safe scientific way. According to MD 17/93 that solid non-hazardous waste shall be stored and disposed in accordance with the provisions of these Regulations. Generally waste will be quarters garbage, office refusals and general trash.

### 6.2 Hazardous Waste

MD 18/93 defines hazardous waste as any liquid or solid waste, which because of its quantity; physical, chemical or infectious characteristics can be hazardous or potentially hazardous to human health, to plants or animals and to air, soil or water.

Based on the Article (4) MD 18/93, no hazardous waste shall be mixed with any other category of waste, nor shall it be discharged to a common or other internal or external sewerage or other drainage system without a license from the MECA.

Therefore segregation and designation of each category is required to ensure the compliance with above regulation. The designated areas should be labeled and access secured. This includes, but not limited to; contaminated solid, hazardous waste chemicals, batteries, tyres, used oil, waste lubricants, hazardous empty drums, clinical waste and others.

### ***Basel option***

Hazardous waste that is exported from Oman has to follow the 'Basel route'. The Basel desk is located in MECA Muscat office, however SEZAD will be the gateway for application.

### ***Construction and Excavation waste/materials***

Waste that is generated by building activities rather than industrial production processes can be categorized as non-hazardous if a 'statement of non-contamination' is submitted with the NOL. This statement might be based lab result or a plausible explanation and should be verifiable by SEZAD.

## **7 WASTE STORAGE**

On-site storage of non-hazardous industrial waste is allowed when there is no off-site solution after explicit no-objection of SEZAD. According to RD 114/2011 article 19, 20, 22, 31, 34 and 37 and MD 18/1993 No hazardous waste should be stored on-site without environmental license.

License application for on-site storage of hazardous waste should include the following:

- Hazardous waste license form (filled in properly).
- Request letter with details like: area in m<sup>2</sup>, name of hazardous waste which will be stored and maximum waste quantities.
- A sketch of the area with the detailed design which prove the minimum requirements
- A waste management plan

The minimum requirements of on-site hazardous waste storage facility are described in following subsections

### **7.1 Storage Floor**

- Impermeable floor lined with concrete or any other impermeable material which is suitable for storing hazardous waste.
- The floor should be able to handle the weight of the hazardous waste and the vehicles can move on it without any cracks.
- The floor should not erode or get cracked over time and inspections must be included in maintenance plan.
- The floor should be smooth, easy to clean and do not absorb liquids (consider a chemical resistant coating)
- The floor material should not ignite sparks with friction or static.
- The maximum allowed load on the floor should be clearly presented.

### **7.2 Storage Area**

- The area should have a collection system and slope if necessary to contain any spill or leakages.
- The area should not be too low that can lead to storm water collection.
- The area have proper ventilation system.
- Proper signage to show the properties of the stored hazardous waste should be provided.
- 'Restricted access for authorized persons only' should be marked at concerned places.

- Proper safety and fire-fighting equipment should be provided.
- Communication system to the main office or the responsible persons should be available in case of any emergencies.
- The MSDS of all stored hazardous waste should be available.
- The storage area of hazardous waste should be always clean and well maintained.

### **7.3 Waste Arrangement**

- The hazardous waste should be stored in stable and sealed containers which cannot fall or collapse.
- The hazardous waste with flash point less than 32°C should be stored in a separate area.
- Minimum amount of recyclable hazardous waste should be stored.
- Database of all stored hazardous waste should be available upon request from the authority.
- All hazardous waste stored on-site should be reported in each Environmental Performance Report (EPR).
- The hazardous or non-hazardous waste should not be disposed or transported off-site without SEZAD registration consignment note.

## **8 WASTE HANDLING**

- Employee who may deal with hazardous waste should be properly trained for handling the stored hazardous waste.
- Spill kit should be available and staff must be trained on when and how to use it.
- Personal protection equipment (PPE) must be available and used by all concern staff.
- The area requires regular inspections to insure that all requirements are met.

## **9 WASTE TRANSPORTATION**

Hazardous waste transporters need the basic licenses from MECA, ROP, Commercial registration etc. to be registered by SEZAD. SEZAD will issue a license to transport consignments to the disposal site if the framework licenses are present.

## **10 WATSE RECORD AND REPORTING**

The following records must be available for all waste generated and movement including, but not limited to

- Waste Consignment Notes (WCN)
- Duty of Care (DoC) records
- Waste Generated and Disposal Log
- Waste Acceptance Criteria (WAC) records (where applicable)

Waste records must be retained for a period not less than 3 years. Annual waste reporting is completed at end of each calendar year. Waste reporting is made to SEZAD and other stakeholder if required. Annual waste reporting records are kept for a period of 10 years.

## **11 MONITORING**

Monitoring requirements associated with waste management involves, but not limited to, following activities

- Documentation all waste generated to ensure that all waste arising and methods of disposal are fully recorded;
- Routine inspection of waste collection and storage facilities to ensure compliance;
- Regular audits of waste segregation and collection practices; and
- Periodic auditing of third party (i.e. waste contractors, disposal services) where possible this should include site visits to the treatment storage and disposal location.

## 12 EMERGENCY RESPONSE

As part of Waste Management Plan, an Emergency Response Plan including Spill Prevention and Control must prepared and properly implemented.

## 13 ABBREVIATIONS

Term	Definition
EMP	Environmental Management Plan
EPR	Environmental Performance Report
MD	Ministerial Decision
MECA	Ministry of Environment and Climate Affairs
NOL	Non Objection Letter
PDC	Port of Duqm Company
PPE	Personal Protection Equipment
RD	Royal Decree
ROP	Royal Oman Police
SEZAD	Special Economic Zone Authority at Duqm