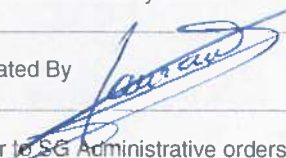

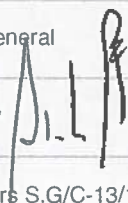


## Technical Guidance Document Outline for Leak Detection and Repair Plan

EAD-EQ-PCE-TG-19

Environmental Quality Sector	*Corporate Management Representative	Secretary General
Originated By 	Reviewed By 	Approved By 
* Refer to SG Administrative orders No. 08/2008, No. 17/2008, and No. 16/2008 and SG Circulars S.G/C-13/10 and S.G/C-15/10 Concerning Management of the Quality, Environment, Health, and Safety Management System at the Environment Agency-Abu Dhabi.		

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# Technical Guidance Document Outline for Leak Detection and Repair Plan

## List of Abbreviations

Abbreviation	Definition
Abbreviation	Definition

## Definitions of Terms

**Term**—Definition.

**Term**—Definition.

## Purpose of This Guidance Document

A facility that has the potential to emit volatile organic compounds (VOC) into indoor or ambient air from the use or storage of materials requires the facility to prepare and implement a Leak Detection and Repair (LDAR) Plan. The purpose of this plan is to outline the facility's framework for implementing methods and approaches that will help minimize the potential for leaks to occur, mapping and tracking the sources at the facility, and inspecting and monitoring the sources to detect for leaks. This plan also outlines the procedures for identifying leaks and expeditiously eliminating the leaks by either repairing or replacing equipment. The plan includes the training requirements for workers so they can proficiently implement the plan, as well as the recordkeeping necessary to demonstrate compliance with the plan.

The LDAR Plan must be submitted to the Environment Agency–Abu Dhabi (EAD). The LDAR Plan should be submitted as part of a facility's Operation Environmental Management Plan (OEMP).Body Text.

# Technical Guidance Document Outline for Leak Detection and Repair Plan

## 1.0 Facility Description

Section 1.0 provides background information about the industrial processes used at the facility. Information required for this section includes the following:

### 1.1 Narrative overview description of the facility processes and equipment

Body Text

### 1.2 Process flow diagram showing processes and equipment that use or store VOC-containing materials, including piping, valves, and connections

Body Text

### 1.3 Key facility design and operating parameters (e.g., material flow, process, or storage capacities; daily and annual flow or process or storage variation charts)

Body Text

### 1.4 Facility site map showing locations of key site features discussed in the facility description narrative (e.g., piping, valves, storage tanks, process units).

Body Text.

## 2.0 List of Components

### 2.1 Components Subject to the Plan

A LDAR Plan must include a list of components that are subject to the plan with specific information to identify and locate the component within the process and facility. The components list should include the following:

- Unique identification number for each component
- Location of manufacturer's specifications for proper maintenance and operation of the component
- The component's location in the facility (coordinated with a map and a process flow diagram)
- The name of the VOC-containing material stored or used and the VOC emitted
- The method by which VOC emissions or leaks would be identified (e.g., physical measurement, visual observation [any drips, sprays, mists, or clouds], smell, sound).

### 2.2 LDAR Plan Procedure

A LDAR Plan must include a procedure to ensure that the components list is updated regularly to reflect the current facility processes and configuration. The procedure must identify the person who is responsible for performing regular reviews or audits of the components list and how often reviews and updates should be conducted.

## 3.0 Inspection or Monitoring Procedures for Leaks

The plan must specify an inspection and monitoring procedure (or procedures) for each component identified in the list that includes the following:

- Identification of person responsible for conducting inspections or monitoring of the component

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- The required frequency of inspections or monitoring
- A detailed description of the acceptable method or standard to be used for inspections or monitoring, including copies of or reference to any applicable published method or standard
- Descriptions of the records to be maintained to document the inspection or monitoring effort
- Any quality assurance or quality control efforts necessary to ensure data accuracy and completeness of any monitoring data generated.

### 4.0 Repair Procedures

The plan must include the procedures for repairing each component on the list and the method by which prompt repair or replacement of the component will be handled. The procedure should include the following:

- Identification of person responsible for conducting the repair.
- Guidance stating that the repair or replacement must be conducted as soon as possible, with a maximum specified period for the repair or replacement.
- Alternative directions on how to proceed when a component cannot be repaired or replaced in the specific time period. These directions can include mitigating measures (e.g., process shut down) that will be taken to minimize the VOC emissions during the period until the repair or replacement can be made.
- Description of monitoring or inspection requirements to assure that the repair or replacement has been successful.
- Descriptions of the recordkeeping requirements to document compliance with the LDAR Plan, including the following:
  - Maintaining records of the equipment identification number, the instrument or method used to identify the leak, the worker who identified the leak, and the date when the leak was detected
  - Maintaining a list of the dates when each repair was attempted and an explanation of the repair method used
  - Include the dates when successful repairs were made
  - Identification of the root cause of the problem
  - Include the results of monitoring tests to determine if the repair was successful.

### 5.0 Training

The LDAR Plan must outline the training requirements for personnel responsible implementing the LDAR Plan to include, at minimum, initial and periodic refresher training and recordkeeping to document training completed.

### 6.0 Plan Audit and Contractor Accountability

The plan must identify who is responsible for and the frequency of audits of the plan. Audits are conducted to determine whether the plan is being implemented correctly and to identify any weaknesses to be addressed or improvements that can be made to ensure compliance with all aspects of the plan and minimization of fugitive VOC emissions from the facility.

LDAR Plans must include procedures stating that contractors are responsible for complying with the plan when performing work on the listed components at the facility.

## Technical Guidance Document Outline for Leak Detection and Repair Plan

### Appendix A: Site Map

## Technical Guidance Document Outline for Leak Detection and Repair Plan

### **Appendix B: Process Flow Diagrams**

## Technical Guidance Document Outline for Leak Detection and Repair Plan

### Document Change History

Doc. No.	Rev. No.	Rev. Date	Revision Description	Page No.	Approved by
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