



Standard Operating Procedure for Environmental Inspections

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Environment Quality Sector	Corporate Management Representative	Secretary General
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* Ref to SG Circular S.G/C-08/12 Concerning Appointment and Responsibilities of the Corporate management Representative at the Environment Agency- Abu Dhabi.

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1.0 Purpose

The purpose of Standard Operating Procedures (SOPs) for the Environment Agency–Abu Dhabi (EAD) Outsourcing Contract is to provide information and guidance for Agency personnel and other concerned parties regarding specific aspects of environmental management. This SOP addresses the inspection activities and procedures for commercial and industrial facility operations, development and infrastructure project operations, and facilities that import, export, produce, store, or manage chemicals or hazardous materials (HAZMAT) in Abu Dhabi Emirate.

As the designated Competent Authority under federal law with responsibility for environmental protection in the Emirate, EAD regulates industry and development through various processes, including reviewing and approving Environmental Impact Assessments (EIAs), pre-development environmental studies, and permit applications. Regular inspections conducted by EAD provide assurance that a particular facility or development does not cause unacceptable pollution and has fully adhered to the environmental requirements outlined in its permit conditions and according to all applicable laws, regulations, and guidelines. As such, inspections are an essential component of an effective compliance assurance strategy under Abu Dhabi's Environment, Health, and Safety Management System (EHSMS) Framework. (Note: More information about the EHSMS Framework is available on the Abu Dhabi Occupational Safety and Health Center's Web site at <https://www.oshad.ae/en/pages/home.aspx>.)

The typical objectives of an environmental inspection are to accomplish the following:

- Identify specific environmental problems or violations and propose best management practices (BMPs) to mitigate the deficiencies
- Evaluate compliance against permit requirements, the Construction Environmental Management Plan (CEMP) for development projects, other environmental studies, BMPs, and other applicable legal requirements
- Ensure that the facility owner/operator or project proponent is aware of any problems identified during the inspection
- Ensure that the facility has the proper and up-to-date operating permits, licenses, and other documentation
- Gather essential information to determine a facility or project's compliance status and risks
- Collect objective evidence for possible enforcement proceedings
- Ensure that all data are of a suitable quality
- Determine whether previous corrective measures have been implemented.

The cornerstone of the EAD Compliance and Enforcement Program is the use of the Inspection and Compliance Tool (ICT), an electronic, remote reporting system that is installed on portable tablet computers for use in the field to conduct environmental inspections. The ICT is a question-driven system that has been designed to ensure that inspections are conducted in a comprehensive and consistent manner, reflecting a high level of detail and scrutiny during the inspection (as compared to a simple walk-through inspection). The ICT is one component of the On-site Assessment, Compliance, and Inspection System (OACIS). OACIS also enables users to perform administrative functions relevant to inspections, including scheduling inspections, updating and maintaining project and facility information, and producing reports.

2.0 Scope

This SOP applies to inspections of commercial and industrial facilities, development and infrastructure projects, and HAZMAT facilities that are conducted to ensure compliance with environmental permits required under the following laws and regulations:

- Federal Law No. (24) of 1999 for the Protection and Development of the Environment
- Local Law No. (21) of 2005 for Waste Management in the Emirate of Abu Dhabi
- Local Law No. (16) of 2005 Pertaining to the Reorganization of the Abu Dhabi Environment Agency
- Ministerial Decree No. (42) of 2009 concerning the Abu Dhabi Environment, Health, and Safety Management System
- Regulation for Handling Hazardous Materials, Hazardous Wastes, and Medical Wastes (UAE Cabinet, 2001a)
- Regulation for the Assessment of Environmental Effects of Installations (UAE Cabinet, 2001b)
- Regulation for the Protection of the Marine Environment (UAE Cabinet, 2001c)
- Regulation for the Protection of Air from Pollution (UAE Cabinet, 2001d)

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- Ministerial Decree No. (12) of 2006 concerning Protection of Air from Pollution.

Such inspections may include the following:

- Initial inspections because a new permit has been issued
- Periodic and routine compliance inspections
- Follow-up inspections resulting from an identified issue during a previous inspection
- Inspections conducted because of a complaint or incident
- Random inspections conducted based on the Agency's objectives and concerns.

3.0 Terms and Definitions

Terms defined in the following tables are from the *Abu Dhabi Environment, Health, and Safety Management System (EHSMS) Regulatory Framework Glossary of Terms* (Abu Dhabi EHS Centre, 2012).

Terms	Definitions
Chemical	Any element, compound, or mixture of elements and/or compounds that possesses hazardous properties, including, but not limited to, flammability, toxicity, corrosivity, or reactivity.
Compatible	Two or more substances or items that will not react together to cause fire, explosion, harmful reaction, or the evolution of flammable, toxic, or corrosive vapors.
Construction	The time period that corresponds to any event, process, or activity that occurs during the construction phase (e.g., building of site, buildings, or processing units) of the proposed project. This phase terminates when the project goes into full operation or use.
Construction Environmental Management Plan	A document that was developed by an environmental consultant approved by EAD prior to the commencement of construction work. This plan outlines the possible impacts to the environment of the construction activities and describes mitigation plans to help reduce the environmental impacts of the construction work.
Emission	The direct or indirect release of substances, vibration, heat, or noise from an installation into air, water, or land.
Environment	Surroundings in which a nominated entity operates, including air, water, land, natural resources, flora, fauna, and humans and their interrelation.
Environment, Health, and Safety Management System	An integrated series of elements for establishing policies, objectives, plans, and arrangements for implementation and continuous improvement in environment, health, and safety (EHS) performance.
Environmental Aspect	Element of the organization's activities, products, or services that can interact with the environment. A significant environmental aspect is one that has had or can have a significant environmental impact.
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially, resulting from the nominated entities activities, products, or services.
Environmental Impact Assessment	Systematic process of evaluating the environmental impacts of an activity or process on the environment.
Environmental Risk	A measure of the potential threats to the environment that combines the probability that an event may occur. An environmental risk may cause degradation of the environment with the severity of that degradation.

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Terms	Definitions
Handling	Conveying, manufacturing, processing, using, treating, dispensing, packing, selling, transporting, or disposing of a chemical or HAZMAT.
Hazard	A source of danger (i.e., material, energy source, or operation) with the potential to cause illness, injury, or death to personnel or damage to a facility or to the environment.
Hazardous Material	A substance with potential to cause harm to persons, property, or the environment due to the chemical, physical, or biological properties of the substance.
Incident	An event or chain of events that has caused or could have caused a fatality, injury, illness, and/or damage (loss) to assets, the environment, entity reputation, or third parties.
Inspection	Physical on-site verification that work is performed and that equipment is maintained in accordance with existing EHS standards and procedures.
Legal Requirement	Refers to United Arab Emirates (UAE) and/or Abu Dhabi laws, regulations, decrees, and any guidelines or Codes of Practice adopted by an entity on its own or because of these laws, regulations, or decrees. This term also refers to any international standards or treaties to which the UAE or Abu Dhabi Emirate is a signatory or under which it has agreed in principle to operate.
Mitigation	Measures taken to reduce the consequences of a potential hazardous event. The limitation of undesirable effects of a particular event.
Monitoring	Measurement of the properties of a material (such as a discharge) or (usually) the sampling of a material together with immediate or subsequent analysis or other form of measurement. There are different types of monitoring, including the following terms and descriptions: <ul style="list-style-type: none"> • <i>Discharge monitoring:</i> Monitoring of a discharge usually performed for the purpose of acquiring environmentally significant information. • <i>Process monitoring:</i> Monitoring of process streams or materials usually performed for the purpose of ensuring the safe and efficient operation of a process operation. Process monitoring may be continuous or intermittent (results of process monitoring may sometimes be useful in calculating or estimating information on discharges). • <i>Monitoring program:</i> A planned set of discharge monitoring activities.
Personal Protective Equipment	Any device, clothing, or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards.
Pollutant	Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.
Pollution	Generally, the presence of a substance in the environment that, because of its chemical composition or quantity, prevents the functioning of natural processes and produces undesirable environmental and health effects.
Procedure	A documented series of steps to be performed in a logical order for a defined operation or in a given situation.
Responsible Person	A person designated by the proponent who, through the appropriate training and experience in health and safety, is competent to implement, oversee, and manage the employer's health and safety program.
Risk	The product of the measure of the likelihood of occurrence of an undesired event and the potential adverse consequences which this event may have upon people (injury or harm to physical or psychological health) and the environment (water, air, soil, animals, plants, social). Risk is calculated by frequency multiplied by consequences.

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Terms	Definitions
Risk Assessment	The process of determining risk, usually in a quantitative or semi-quantitative manner. A risk assessment is an evaluation of the likelihood of undesired events and the likelihood of harm or damage being caused together with the value judgments made concerning the significance of the results. Risk assessment is also the process of examining, ranking, and prioritizing potential hazards and exposures in the work environment to help guide the implementation of suitable risk control measures.
Risk Management	The process of implementing decisions about accepting or altering risks.
Root Cause	The initiating event that begins a chain of events, which leads to an incident.
System	A management tool for meeting an established objective that consists of four basic steps: plan, implement, measure/evaluate, and adjust.
Training	Encompasses the steps necessary to ensure that employees and contractors have the job competencies (i.e., knowledge, skills, and values) necessary to fulfill their inspection responsibilities.

Abbreviations	Definitions
BMP	Best Management Practice
C&E	compliance and enforcement
CEMP	Construction Environmental Management Plan
COP	Code of Practice
DCT	Data Collection Tool
EAD	Environment Agency–Abu Dhabi
EAP	Environmental Action Plan
ECO	Environmental Consultancy Office
EDG	Enforcement Decisions Group
EHS	environment, health, and safety
EHSMS	Environment, Health, and Safety Management System
EIA	Environmental Impact Assessment
EQS	Environmental Quality Sector
ER	Eastern Region
ERTS	Environmental Repots Tracking System
GPS	global positioning system
HAZMAT	hazardous materials
ICT	Inspection and Compliance Tool
IPPC	Integrated Pollution Prevention and Control

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Abbreviations	Definitions
MP	Mitigation Plan
MSDS	Material Safety Data Sheet
OACIS	On-site Assessment, Compliance and Inspection System
OEMP	Operation Environmental Management Plan
PER	Preliminary Environmental Review
PPE	personal protective equipment
RiCHES	Risk Characterization and Hazard Evaluation System
SOP	Standard Operating Procedure
UAE	United Arab Emirates
WR	Western Region

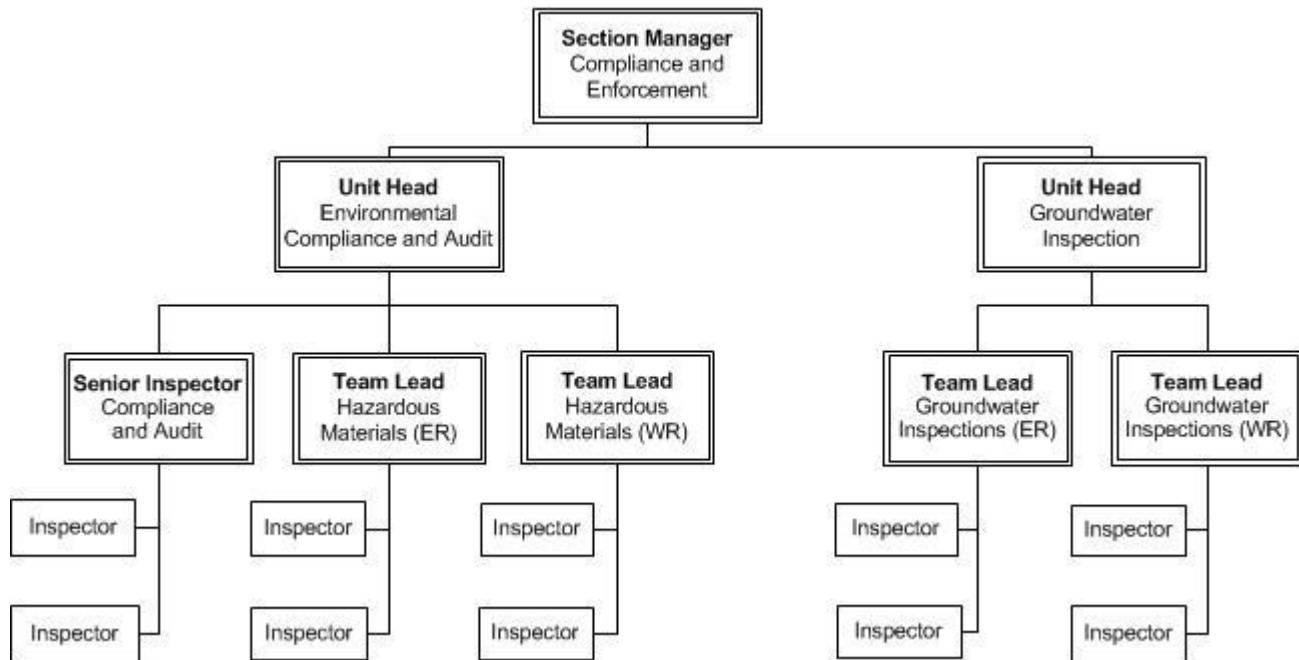
4.0 Roles and Responsibilities

4.1 Overview

Inspections of industrial facilities and development projects are conducted by staff in the EAD Environmental Quality Sector (EQS), which assists facility and project owners and operators in obtaining and renewing environmental permits and complying with environmental laws. Inspections of industrial facilities and development projects determine compliance with applicable regulations, permit conditions, and international BMPs, and where necessary, support enforcement actions to address non-compliance.

Figure 1 shows generally how EAD's Compliance and Enforcement program is organized. The supervisory hierarchy of the program includes a Section Manager, Unit Heads, a Senior Inspector, Team Leaders, and the inspectors. Inspectors are organized into teams under the direction of a Team Leader. The Team Leaders report to the Unit Heads for inspections, and the Unit Heads report to the Section Manager for Compliance and Enforcement.

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Note: ER = Eastern Region; WR = Western Region.

Figure 1. General organizational structure of the EAD Compliance and Enforcement Program.

Section 4.2 of this SOP describes the qualifications for each role, and Section 4.3 describes the roles and responsibilities of each position in the organizational structure of the Compliance and Enforcement Program.

4.2 Personnel Qualifications

Each staff person should be adequately trained for both the technical and administrative responsibilities of their position. Inspectors should have earned an academic degree in a science or engineering discipline. Equivalent years of experience in working in the science or engineering field or completing training on how to conduct environmental inspections may substitute for a degree. Team Leaders should have experience with conducting environmental inspections. Unit Heads should have experience as both environmental inspectors and as a Team Leader.

4.3 Roles and Responsibilities

4.3.1 Section Manager

- Works with the Unit Heads to set the direction for EQS's inspection efforts at the program level.
- Oversees the preparation of the yearly Work Plan for the Inspection Department and monitor implementation of the plan.
- Leads the strategy development process of the inspection department by identifying priority areas, setting key performance indicators and reporting results on monthly and quarterly basis.
- Supervises and manages allocated manpower, including the preparation of performance plans, performance appraisals, and assessments of training needs and the implementation of the annual budget.
- Develops and maintains inspection process maps for developing the inspection schedule, covering complaints, HAZMAT operations, and general inspection processes.
- For industrial, HAZMAT, and other commercial inspections, oversees the preparation of the annual inspection schedule and entry of the schedule in the OACIS Web site.

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- For development project inspections, oversees the preparation of the inspection schedule and entry of the schedule in the OACIS Web site.
- Regularly meets with the Unit Heads, the Team Leaders, and inspectors to review the inspection schedule, issues and problems, and plans for the inspections staff.
- Manages the operations of the inspectors and ensures that they are following the inspectors' processes outlined in the process maps. The processes include setting and posting schedules to the OACIS Web site and ensuring that inspectors are using the ICT to conduct inspections and that the inspection reports are uploaded to the OACIS Web site. Additional processes include ensuring that the Team Leaders are preparing status reports, that complaints are covered and that reports prepared in a timely manner, and that the inspectors are using appropriate personal protective equipment (PPE) in the field.
- Periodically reviews reports from the OACIS Web site to check on the inspectors' progress in conducting their assigned inspections.
- Works with the Unit Heads to arrange inspectors' meetings with the respective inspectors group (i.e., industrial, HAZMAT development, and Al Ain) so inspection-related issues can be discussed.
- Uses the ICT to conduct site inspections with different inspectors.
- Works with the inspectors' staff regarding training needs, skills, and career development.
- Conducts performance evaluations and meetings with inspections staff.
- Ensures that inspectors are using the Data Collection Tool (DCT) from the Risk Characterization and Hazard Evaluation System (RiCHES) when they are performing hazard evaluations during each inspection visit to industrial and HAZMAT facilities.
- Manage any ad hoc tasks that come up each month by matching staff's skills with the needs of the particular task.
- Supervises the preparation of technical reports, recommendations, and other documents supporting decisions regarding environmental inspections activities.

4.3.2 Unit Head

- Works with the Section Manager to plan and schedule the inspectors' work
- Works with the Section Manager to prepare the yearly Work Plan for the Inspection Department and monitors the plan implementation
- Works with the Section Manager regarding the strategy development process of the Inspection Department by identifying priority areas, setting Key Performance Indicators, and reporting results monthly and quarterly
- Regularly meets with the Team Leaders and inspectors to discuss the inspection schedules and issues and problems, as well as the plans for the team staff
- Works with the Section Manager to prepare the industrial inspection schedule and posts the schedule to the OACIS Web site
- Uses the ICT to conduct inspections with different inspectors each month
- Works with the Section Manager and the staff to identify and address training needs, skills development, and career development (regularly meets with the staff to cover these issues)
- Arranges the inspectors' meeting with the respective inspectors' group (i.e., industrial and commercial, HAZMAT, development, and Al Ain) each month so different issues can be discussed
- Works with the Section Manager and Team Leaders to develop and maintain a list of priority facilities and regularly includes these facilities in the inspection schedule
- Ensures that follow-up inspections are conducted as scheduled and as required
- Works with the Team Leaders to ensure that each team is performing its scheduled activities
- Ensures that inspectors are using the DCT from RiCHES when performing hazard evaluations during each inspection visit to industrial and HAZMAT facilities
- Supervises and manages allocated manpower, including the preparation of performance plans, performance appraisals, and assessments of training needs and the implementation of the annual budget

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- Participates in the implementation of the developed software systems and procedures and of relevant Action Plans
- Prepares draft technical reports and recommendations, as well as necessary documents in support of decisions made regarding environmental compliance activities.

4.3.3 Team Leader

- Meets with the Section Manager, Unit Head, and the inspection teams to set the inspection schedule for each team.
- Work with the Section Manager and Unit Head to determine who will cover each inspection and on what day and to discuss any ad hoc tasks or studies that could impact the schedule.
- Ensures that the inspections are conducted according to the schedule. For most inspections, two inspectors will be required. However, the Team Leader can decide which of the facilities can be inspected by one inspector because the facility is small, because the environmental issues at the facility are relatively minor, or because there are minimal safety issues anticipated at the facility.
- Maintains and keeps a record of team equipment, including cameras, global positioning system (GPS) units, and ruggedized laptop computers.
- Ensures that team members wear appropriate PPE as needed during inspection visits.
- Coordinates with EAD management regarding team logistics and resource needs, including new purchases or replacement of PPE.
- Ensures that status reports are prepared and delivered to Unit Head (Note: A Team Leader does not necessarily need to prepare the report, but he or she is responsible for ensuring that the report is prepared).
- Works closely with other Team Leaders in sharing information and assigning joint inspection teams when needed.
- Uses the DCT from RiCHES when performing hazard evaluations during each inspection visit to industrial and HAZMAT facilities.
- Completes ad hoc tasks as directed by the Section Manager or Unit Head.

4.3.4 Inspector

- Conducts inspections according to the schedule listed in the OACIS Web site
- Wears appropriate PPE during every inspection
- Uses professional behavior when conducting each inspection and establishes a good working relationship with each representative at each facility or development project inspected
- Uses the ICT when conducting inspections and uploads completed inspections to the OACIS Web site
- Attends and participates in meetings of the respective inspection team
- Attends and participates in other inspectors' meetings
- Prepares an agenda and runs an inspectors' meeting as directed by the Section Manager, Unit Head, or Team Leader
- Completes ad hoc tasks as directed by the Section Manager, Unit Head, or Team Leader
- Uses the DCT from RiCHES when performing hazard evaluations during each inspection visit to industrial and HAZMAT facilities.

5.0 Implementation

This section addresses the specific activities that an inspector should conduct to complete a facility inspection. In general, a compliance inspection consists of six basic components, which are listed as follows and are further described in the respective section of this SOP:

- Select Facilities or Projects to Inspect (Section 5.1)
- Plan and Prepare for the Inspection (Section 5.2)
- Conduct the Inspection (Section 5.3)
- Identify Corrective Actions (Section 5.4)

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- Prepare the Inspection Reports (Section 5.5)
- Conduct Enforcement Follow-up (Section 5.6).

Special considerations for unscheduled and emergency inspections are presented in Section 5.7 of this SOP. A flow chart for the various steps in the inspections process is provided in **Figure 2**. Sub-process flow charts are presented in Section 8.

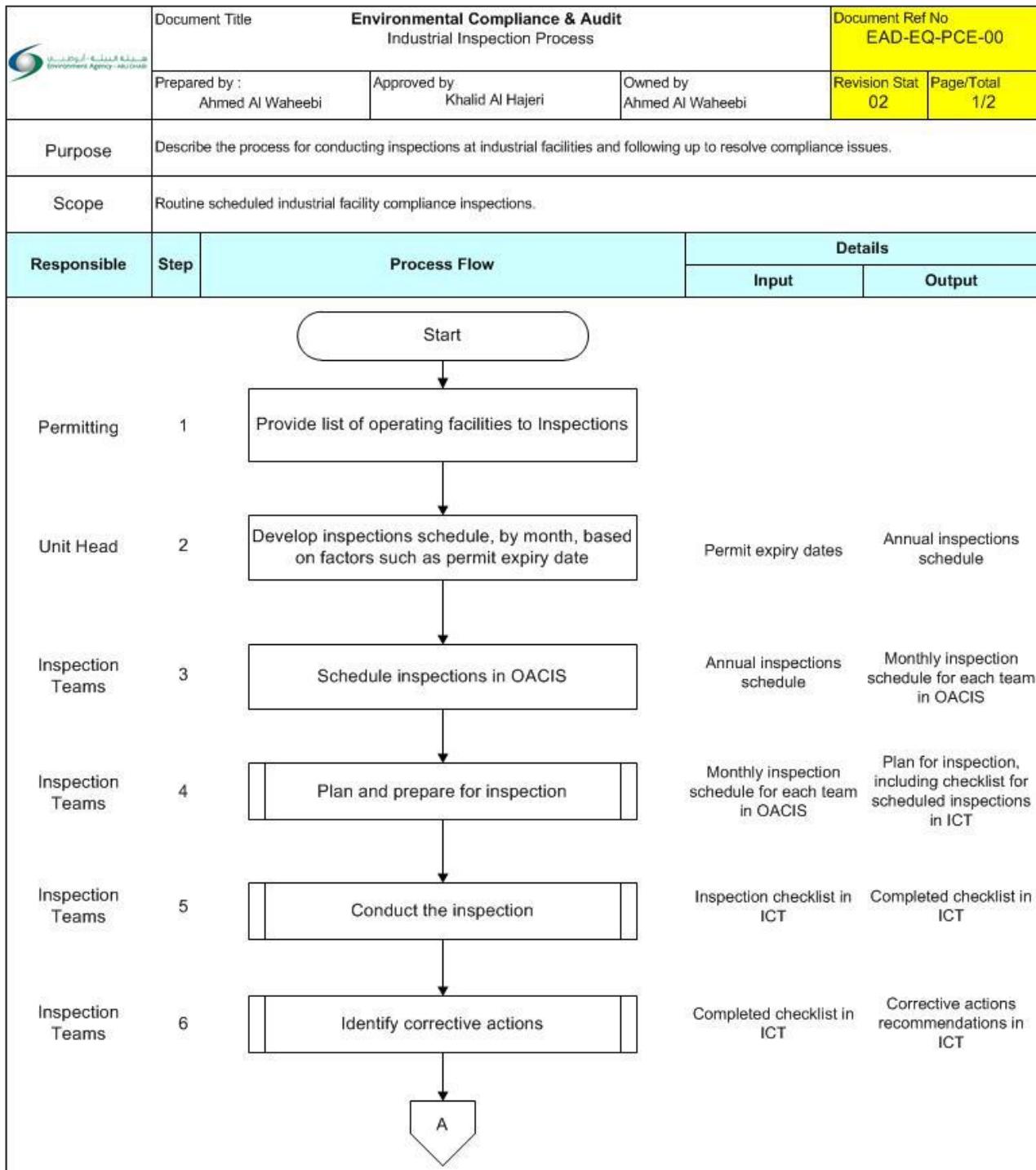


Figure 2. The overall inspections process.

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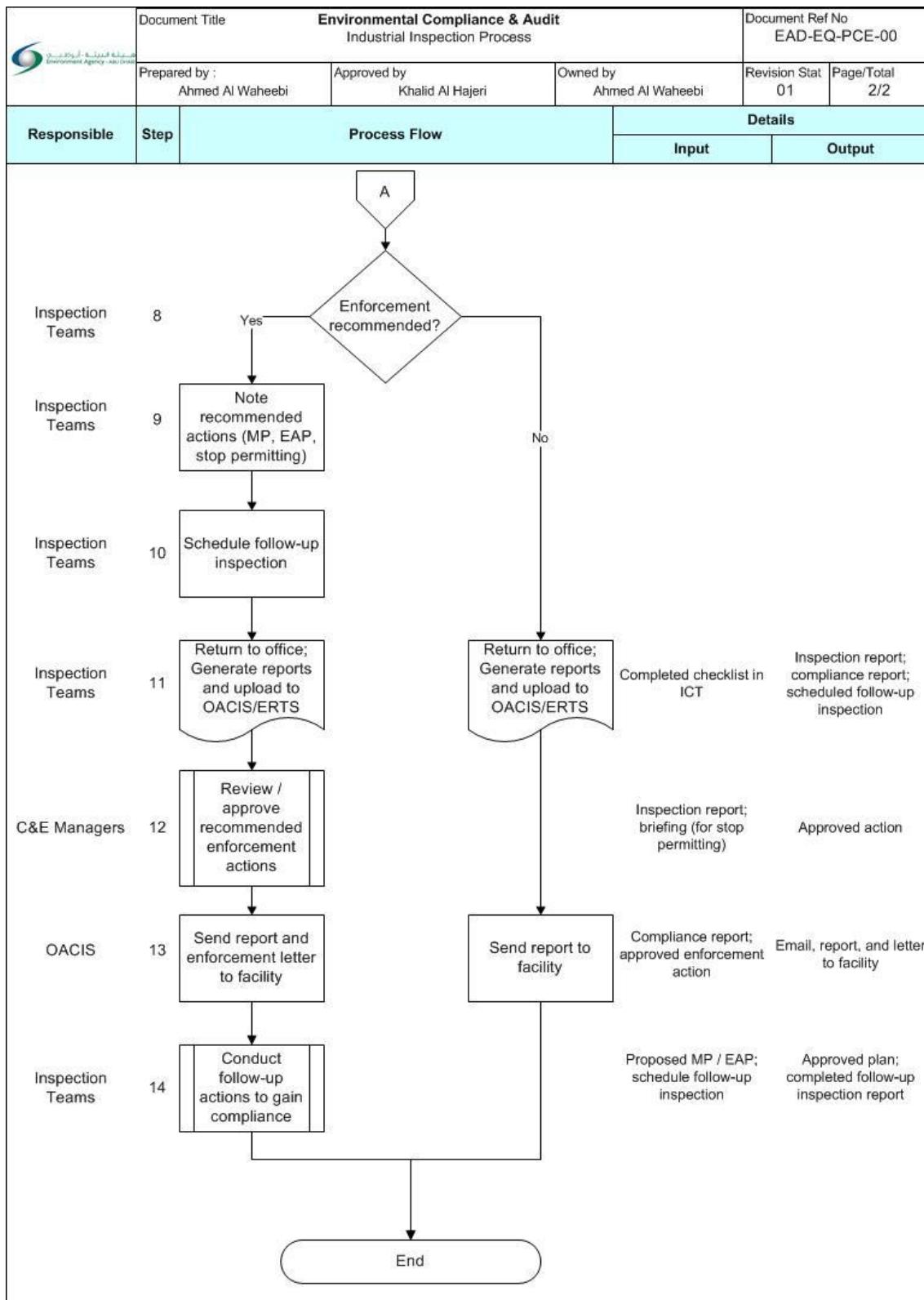


Figure 2. The overall inspections process (continued).

Note: C&E = compliance and enforcement; EAP = Environmental Action Plan; ERTS = Environmental Reports Tracking System; MP = Mitigation Plan.

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5.1 Select Facilities or Projects to Inspect

Environmental inspections can be performed on a routine basis, or they can be targeted to specific facilities or projects where non-compliance is suspected. The approach to facility or project selection differs for industrial facilities, development and infrastructure projects, and HAZMAT facilities; therefore, the approach for each is discussed separately as follows.

Procedural Step	Responsibility		
<p><i>Step 1. Provide a List of Operating Facilities to Inspections</i></p> <p>The EQS Permitting group should provide a list of operating facilities from which the inspections schedule will be developed.</p>	Permitting		
<p><i>Step 2. Select the Facilities to Be Inspected and Assign Them to Inspections Teams</i></p> <p>Industrial and Commercial Facilities</p> <p>Resource limitations make it impractical to inspect all of the regulated industrial facilities in any given area. Facilities should be selected for inspection based on specific criteria, and inspections should be targeted to achieve the maximum effect with the available resources.</p> <p>Facilities should be assigned to inspection teams by month, according to the expiration dates of the facilities' permits. To develop a schedule of inspections for EAD inspectors, facilities for inspection are selected from the following categories:</p> <ul style="list-style-type: none"> • Facilities that are close to the expiration of their environmental permit • Facilities with a history of major or significant violations or repeated violations • Facilities with a high environmental impact and/or complex facilities (high emissions, high wastewater generation, high waste generation) • Facilities with a higher risk of environmental problems (e.g., toxic chemical use, improper storage and use of these chemicals, practices by employees that increase the probability of an accident) as determined by the facility ranking in RiCHES • Facilities within specific industrial sectors that tend to have higher levels of pollutant emissions, such as steel mini mills, quarries, or hot-mix asphalt plants • Facilities that require follow-up inspections based on inspections conducted previously. <p>The facilities selected will represent a distribution across the previously mentioned categories based on EAD's strategic priorities. The schedule should be designed to ensure a high likelihood that EAD will meet or exceed its annual target for the number of industrial and commercial inspections.</p>	Unit Head		
<p>Development and Infrastructure Projects</p> <p>Development and infrastructure projects are typically implemented in phases, during which activities conducted in one phase establish the groundwork upon which a later phase builds. Therefore, the nature of the work, the parties conducting the work, and the potential EHS impacts can change significantly over the duration of the project. The inspections schedule for these projects should take into account the different potentials for environmental impacts during different phases of the projects.</p> <p>Development and infrastructure projects can involve a wide variety of technical work activities that produce potential EHS impacts. Such activities may include the following:</p> <table border="0" data-bbox="144 1911 1108 2061"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Road construction • Bridge construction • Clearing • Earthwork activities </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Traffic management • Materials and waste management • Dewatering • Dredging and reclamation </td> </tr> </table>	<ul style="list-style-type: none"> • Road construction • Bridge construction • Clearing • Earthwork activities 	<ul style="list-style-type: none"> • Traffic management • Materials and waste management • Dewatering • Dredging and reclamation 	
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<ul style="list-style-type: none"> • Raw material transport • Vehicle and equipment maintenance • Trenching • Steel frame construction • Masonry • Concrete or asphalt batching • Fuel storage • Welding and cutting • Demolition • Super structures • Landscaping • Cables, piping, and irrigation. 	<p>The scheduling of inspections for development and infrastructure projects should be established based on the duration of the project, the activities to be conducted, and the construction phases involved in the project. Because different project construction phases may include different construction activities resulting in related EHS impacts, it is not appropriate to schedule inspections solely based on a calendar interval (e.g., monthly, quarterly). Instead, the scheduling effort should include a review of the CEMP or other documentation that was the basis for issuance of the construction permit or No Objection Certification (NOC). Consideration should be given to the following factors:</p> <ul style="list-style-type: none"> • Potential for pollution and damage to the environment from each activity • Proximity of the project to sensitive receptors • Compliance history of the proponent and/or prime contractor (if known) • Current level of activity at the project site • Availability of self-monitoring data. <p>Based on this information review, the inspection schedule should be established at intervals that would be appropriate to evaluate the project's compliance with requirements to address EHS impacts presented throughout the duration of the project. The scheduling should also consider compliance audit reports required by the construction permit or CEMP. Having this information will allow the inspector to confirm and supplement audit findings and/or follow up about issues identified in the compliance audit report. However, development and infrastructure project inspections should be conducted more often than once per year for the duration of the project.</p>
HAZMAT Facilities <p>HAZMAT facilities in Abu Dhabi Emirate are those that either store HAZMAT or store, use, or process HAZMAT. Many of these facilities simply store HAZMAT for subsequent sale; therefore, they are known in Abu Dhabi as "HAZMAT stores." The facilities that store and process HAZMAT are classified as "industrial facilities." EAD seeks to inspect each of these facilities twice per year: one routine visit to verify compliance at the facility, and a second visit scheduled approximately 1 month before the facility's permit expires. The more risky facilities or those with major or frequent violations may be visited more frequently.</p> <p>EAD does not currently use a special facility selection process for HAZMAT facilities because there are sufficient resources to inspect each facility annually. For planning purposes, EAD prepares the inspection schedule at the beginning of the year and adjusts the schedule as new HAZMAT facilities are added or facilities are closed.</p>	
Step 3. Create Inspections Schedule <p>The Unit Head creates the inspection schedule and verifies it so it can be posted to OACIS.</p>	Unit Head
Step 4. Enter Scheduled Inspections into OACIS <p>The Inspections Team enters the inspections scheduled for the current quarter into OACIS through the OACIS website.</p>	Inspections Team

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5.2 Plan and Prepare for the Inspection

It is important that all inspections are properly planned to organize the approach and maximize the efficiency of the inspection. This section of the SOP details the steps required for planning and preparing for an inspection.

Procedural Step	Responsibility
<p>Step 1. Define the Inspection Scope and Objectives</p> <p>When defining the inspection scope and objectives, the type of inspection (i.e., initial, routine, follow-up, complaint, or incident) and the purpose of the inspection should be addressed.</p> <p>The type of inspection being conducted will determine the level of which planning and site activities will be conducted. For initial and routine inspections, all aspects of the facility would be considered in the inspection scope. However, if the inspection is a follow up to a corrective action, incident, or complaint, then the scope may be limited to the area or issue of concern.</p> <p>The purpose and objectives of the inspection can depend on other factors or issues, in addition to those previously discussed, including the following:</p> <ul style="list-style-type: none"> ▪ Availability of industry, facility, or project environmental information from previous facility inspections and from the environmental permit for the facility or environmental construction permit for development and infrastructure projects ▪ Review of available emissions monitoring data from monitoring reports, if any (facilities) ▪ Known emissions profiles (facilities) ▪ Previous enforcement actions or complaints ▪ Agency priorities ▪ Emergency planning and response ▪ Chemical storage and handling practices (industrial and HAZMAT facilities). <p>The approach chosen should be based on the inspection team's experience with the facility and should consider the type, location, and size of the facility. For example, official permission is required to enter power stations or military areas. Additionally, the Inspection Leader may consider using multiple inspection teams to inspect complex facilities or extremely large facilities.</p> <p>Because development and infrastructure projects are construction projects that usually involve tiers of management with numerous subcontractors working under a prime contractor, the inspector needs to be aware of how the proponent has delegated responsibility for EHS compliance through the management hierarchy. In addition, the inspection should consider all levels of the management hierarchy to determine whether requirements have been met, from the project oversight function through the daily work activities conducted onsite. Thus, the scope discussion should include an evaluation of the management hierarchy at the site and the degree to which oversight of project activities at the various levels should be audited or assessed. It should be noted that this exercise may not be necessary for all inspections (i.e., follow-up, complaint) if there have not been any changes in the management structure since the last inspection. However, the inspector should be aware that the same contractors and/or personnel and activities may not be present from one inspection to the next because of the dynamic nature of the construction process. Another item to consider when defining the scope of an inspection is the current phase of the construction activity.</p>	Inspector

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Procedural Step	Responsibility
<p>Step 2. Create an Inspection Plan</p> <p>Inspection Plans are simply plans of action for the inspectors to follow that include issues to consider when conducting inspections. To develop an effective Inspection Plan, the following questions should be addressed:</p> <ul style="list-style-type: none"> ▪ Does the inspection team need any specific approval or clearance before entering the site (e.g., security pass)? ▪ What information is available for review (e.g., permits, regulations, previous inspection reports, compliance history) before the team is onsite? The ICT allows an inspector to download documentation about the facility, including permits, previous inspection reports, Operation Environmental Management Plans (OEMPs) or CEMPs, and environmental studies. The inspector should review all of this information and enforcement history before conducting the inspection to understand the types of environmental issues that may be encountered. ▪ What coordination is required with other facilities and bodies (e.g., laboratories, other governmental agencies) to meet the objectives of the effort? For power plant inspections, advanced security clearances and approvals are needed. ▪ What information and data will the inspector collect while onsite? The ICT contains checklist questions that identify the information that will be reviewed during the inspection. ▪ What specific site areas will be inspected? Inspectors should review available studies (e.g., Environmental Baseline Audits or Action Plans, Preliminary Environmental Reviews [PERs], EIAs), permit files, previous inspection reports, and records to gain a basic understanding of the entity, site activities, location, layout, main process operations or work areas, emissions and discharges, permit conditions, monitoring results, and compliance history. ▪ Is any emissions monitoring required at the facility? ▪ What will be the responsibilities of the individual inspection team members? ▪ What BMPs, Codes of Practice (COPs), and guidelines are available for the facility being inspected? <p>Although the ICT is the primary tool for support during the inspection process, the inspectors should also review any current, relevant, industry-specific information that could be used to prepare for the inspections (e.g., recently published pollution prevention guides, the international BMPs database, industry-specific guidance published by EAD or the international community, or recent control technology reviews).</p> <p>Another consideration when planning for an inspection is whether to make it announced or unannounced. If the inspection is announced, then the Facility Manager can prepare any documents and ensure that essential personnel are available for interviewing, thereby maximizing the efficiency of the inspection. In contrast, unannounced inspections are more likely to discover both the true operating conditions at the facility and any violations. Most inspections conducted by EAD inspectors are unannounced.</p>	Inspector

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Procedural Step	Responsibility
<p>Step 3. Identify Needed Resources</p> <p>To determine the needed resources, the following questions should be addressed:</p> <ul style="list-style-type: none"> ▪ The typical inspection team will include two inspectors. Will additional personnel be needed to accomplish the inspection objectives in a timely manner? Alternatively, would this inspection visit provide a good training exercise for less experienced inspectors? ▪ The inspectors should be knowledgeable and experienced in inspecting the type of entity. Depending on the activities and process operations, are there any specific qualifications needed for the inspection team? ▪ What types of equipment are needed for the inspection? Typical equipment could include a mobile computer, a camera, a GPS tool, personal identification, checklists, and PPE (e.g., hardhat, reflective vest, safety glasses, hearing protection, gloves, and steel-toed shoes). 	Inspector
<p>Step 4. Select an Inspection Checklist</p> <p>The inspection checklist is a tool designed to assist in the inspection process. The checklist provides a tickler, or template, so an inspector will know exactly which items and situations require attention during the inspection. Although a checklist is a useful tool to assist the inspector during the inspection process, the document does not replace the judgments of an experienced inspector and does not guarantee that the inspector will identify all issues and aspects of concern.</p> <p>The ICT contains various industrial sector checklists, including a specific HAZMAT checklist, and reference materials for various types of industries and industrial operations. Specific instructions regarding the use of the ICT and the various industry sector-specific checklists can be found in the OACIS User's Guide.</p>	Inspector
<p>Step 5. Establish a Schedule for the Inspection</p> <p>An inspection schedule can keep the inspection activities on track and will maximize the efficiency of the inspection. This type of inspection planning would be important when inspecting a large site with many activity or process areas where multiple inspectors or inspection teams will be involved in performing the inspection. When developing the inspection schedule, the following items should be considered:</p> <ul style="list-style-type: none"> ▪ Size and complexity of the facility ▪ Time constraints ▪ Inspection sequence ▪ Facility operations and activities ▪ Weather conditions ▪ Safety issues ▪ Facility coordination (if this is an announced inspection) ▪ Inspection objectives. <p>The inspection schedule should be developed to assure that the high-priority or high-risk issues or activities are addressed first. In addition, if there are areas that are critical to the compliance evaluation, then the inspection should be scheduled during times when the activity will be representative of normal activity levels (e.g., avoid maintenance shutdowns).</p>	Inspector
<p>Step 6. Consider Inspector Health and Safety Concerns</p> <p>Industrial and HAZMAT facilities and development project sites are potentially dangerous. Therefore, it is important that the inspector become familiar with the health and safety hazards that can exist at the</p>	Inspector

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<p>facility or site. Specific hazards might include the following:</p> <ul style="list-style-type: none"> ▪ Moving vehicles and equipment ▪ Falling object hazards ▪ Slip and trip hazards ▪ Fall hazards ▪ Chemical hazards ▪ Electrical hazards. <p>If the facility has not been previously visited or the inspector is unfamiliar with the processes used at the facility, then the inspector should contact the owner before the inspection to determine what type of PPE is required for entry into the facility and various process areas within the facility, and whether the owner will provide the PPE onsite. If PPE will not be provided by the owner, then the inspector should make sure that the appropriate type of equipment is available for the inspection. EAD provides PPE to its inspections staff and expects the staff to use the PPE as appropriate when conducting field inspections. Once onsite, the inspector should discuss emergency procedures such as site evacuation procedures to ensure that the inspector is prepared in case an incident should occur while onsite (even though the inspector will likely be escorted while onsite). A thorough and comprehensive understanding of real and potential hazards is best achieved by having a safety-conscious attitude. Therefore, the inspector should be aware of his or her surroundings, stay alert, and always keep safety in mind.</p>	

5.3 Conduct the Inspection

During an inspection, an inspector visually observes operations, reviews and evaluates records, interviews facility or project personnel, evaluates mitigation and monitoring measures, and collects objective evidence of non-compliance. The inspection steps are detailed in Section 5.3.1 of this SOP.

The inspector is responsible for gathering information to determine whether the facility is in compliance with environmental laws and regulations, as set forth in the facility's environmental permit. The inspector is also responsible for documenting evidence of any violations. The ICT is used to collect compliance information and evidence. This evidence may subsequently be used for legal enforcement; therefore, it should be thorough, objective, and accurate. The use of a standard checklist ensures a more systematic, consistent, and comprehensive approach to the inspection. The OACIS ICT includes a general inspection checklist, industry sector-specific checklists for the industrial facilities, a HAZMAT facility checklist, a general development project checklist, and activity-specific checklists.

EAD developed the OACIS ICT to assist inspectors with conducting an inspection. This tool and associated software provide information about BMPs and include a programmed checklist of questions for use while in the field. The software is run on a field notebook computer and is designed to download data for pre-inspection use, to conduct the inspection, and to prepare the inspection reports and data for upload to the OACIS database following the completion of the inspection. Inspectors may supplement the data recorded in the ICT with relevant photographs and copies of facility or project documents.

The software is programmed with checklists that cover basic processes and activities, as well as sector-specific and activity-specific EHS issues. The system provides a menu of available industry-specific and generic checklists that are selected automatically by the ICT for use during the inspection based on the facility's industry sector. The inspector simply conducts the inspection and answers the questions in the ICT. The responses to most questions in the ICT are in the form of "yes" or "no" answers. In addition, when a deficiency is identified (usually if the answer to a question is no), the inspector is prompted to select a BMP from a menu of BMPs that would be applicable to the deficiency. When all of the questions in the ICT have been answered, the inspection is complete. It is important to note that the ICT will not allow the inspection to be completed until all of the questions have been answered. The ICT also allows inspectors to add photographs to inspection reports.

The Industrial Facility General Inspection Checklist illustrates the types of information that are included in the ICT. The inspection questions covered in this checklist are included in the following categories:

- Facility and contact information

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- Surrounding area surveillance
- Record keeping and training
- Material transfer, storage, and handling
- Combustion units and process operations
- Solid waste and wastewater management
- Safety and emergency response
- Noise.

The following questions cover the types of information that should be assessed during the field inspection:

- Are permits or operating licenses up to date?
- Does the facility or project have adequate documentation (e.g., training records, inspection or audit reports, operating permit, Material Safety Data Sheets [MSDSs])?
- Has required pollution-control equipment been installed and maintained? Is the equipment functioning properly?
- Are the required self-monitoring activities being conducted according to the conditions of the OEMP and permit?
- Are there adequate records of self-monitoring data?
- Are the required sampling and analysis being conducted according to the conditions of the permit?
- Does the facility or project have appropriate Management or Environmental Action Plans in place to ensure compliance?
- Does the facility or project have SOPs for chemical and HAZMAT storage and handling?
- Are there adequate records of EHS training for facility or project personnel (e.g., hazard communication, laboratory, waste disposal)?
- Is there any indication of deliberate violation or falsification of data (e.g., conflicting or missing data, conflicting accounts from different persons at the facility or project)?
- Has emergency planning and preparedness been addressed and maintained at the site?
- Are there any environmental problems onsite, such as incidents or violations?

If an entity is found to be out of compliance, then EAD conducts enforcement follow up. More information about identifying corrective actions is presented in Section 5.3.2 of this SOP. Most inspections are routine, scheduled inspections, and the steps provided here are oriented to these regular inspections. Section 5.3.3 provides more information about special considerations for unscheduled and emergency inspections.

5.3.1 Regular Inspection Steps

Note that when the inspection is a follow up to a previous inspection that uncovered violations, the inspector will inspect only the areas relevant to those violations. However, the overall process is the same, just more limited in scope. A regular inspection consists of eight basic steps, which are listed as follows and are further described in the table below:

- Step 1. Conduct surrounding area surveillance
- Step 2. Enter the site
- Step 3. Conduct an opening meeting
- Step 4. Review records
- Step 5. Interview key site personnel
- Step 6. Conduct the site inspection
- Step 7. Conduct a closing meeting
- Step 8. Document the inspection.

Procedural Step	Responsibility
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Procedural Step	Responsibility
<p>Step 1. Conduct Surrounding Area Surveillance</p> <p>Issues of environmental concern may be evident offsite. Therefore, the purpose of offsite surveillance is to determine whether there are signs of pollutant migration offsite and to identify any potential sensitive receptors or areas of value that could be impacted. To the fullest extent possible, inspectors should survey the area surrounding the facility for water discharge receptors (e.g., marine environments, rivers, canals), stressed vegetation, smoke emanating from the facility, and the presence of sensitive human or habitat receptors.</p>	Inspector
<p>Step 2. Enter the Site</p> <p>Although the legal basis for conducting inspections of sites is incorporated into Abu Dhabi Emirate's environmental laws and regulations, it is important that inspectors behave in a reasonable and considerate manner when seeking entry into a facility. This type of professionalism is particularly important in the case of unannounced inspections. When seeking entry to a site, the inspector's main duties include the following:</p> <ul style="list-style-type: none"> ▪ Identify himself or herself to a responsible person (e.g., owner, plant manager, operations manager) and show the appropriate credentials ▪ State that he or she is a representative of EAD ▪ Explain the purpose of the visit. <p>If the inspector is denied entry or access, then he or she should explain the legal basis of his or her request for entry, record the details of the conversation with the person or persons denying entry, and immediately refer the matter to senior management at EAD for subsequent enforcement action. Types of denial of entry or access include the following:</p> <ul style="list-style-type: none"> ▪ Denial of entry into the facility or portions of the property ▪ Instances in which the facility incurs unreasonable delays that prevent the inspector from conducting a thorough and accurate inspection ▪ Instances in which the facility allows a threat to the safety or health of the inspector to prevent the inspector from conducting a thorough inspection ▪ Instances in which the facility does not allow the copying of documents or the taking of samples or photographs. 	Inspector
<p>Step 3. Conduct an Opening Meeting</p> <p>Inspections should normally begin with an opening meeting between the inspectors and entity management to explain the reason for the inspection, the scope and objectives of the inspection, and the inspection process. The opening meeting provides an opportunity to outline an agenda and schedule so that entity personnel can accommodate the inspection. During this meeting, the inspector can learn more about the entity's operations, site layout, management structure, monitoring activities, and availability of essential records. The inspector should ask whether there have been any changes in site activity or operation since the previous inspection, environmental problems that the entity is experiencing, or complaints, unplanned emissions episodes, or spills.</p> <p>The opening meeting also provides the facility's representative an opportunity to explain relevant operations and processes—in particular, chemical handling and manufacture, waste management and treatment, emissions and discharge points, and any previous violations and their resolutions. The inspector should request an up-to-date map (e.g., layout, diagram) of the site so that important information can be logged during the site inspection. The inspector should also ask whether the entity representative has any concerns or whether there are any environmental issues for which entity management would like EAD assistance.</p> <p>Another important element of this meeting is to discuss health and safety requirements, including any special health and safety briefings or PPE that may be required. Industrial and construction sites are hazardous areas; therefore, the inspector should ensure that he or she is aware of and takes all</p>	Inspector, Entity Management

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Procedural Step	Responsibility
<p>necessary precautions against any health and safety hazards that could be encountered during the inspection.</p> <p>Although an opening meeting should always be conducted, the duration and the extent of topics covered will be governed by the scope and purpose of the inspection, and hence, can be abbreviated for the less complex inspection types or if inspectors are familiar with the facility.</p>	
<p>Step 4. Review Records</p> <p>The inspector should review the facility or project environmental file to determine whether appropriate documentation has been developed and maintained in accordance with OEMPs and legal requirements. The environmental file should contain the following documentation:</p> <ul style="list-style-type: none"> • Any existing permits • Licenses and OEMPs or CEMPs • Other environmental studies • EHSMS documentation • Compliance plans and procedures • Emergency Response Plans • Chemical and emissions inventories • Internal inspection and audit reports • EAD inspection reports • Plans required by past enforcement actions (e.g., Mitigation Plans, Environmental Action Plans [EAPs]) • Training records • Monitoring or sampling results. 	Inspector
<p>Reviewing this information will help the inspector decide which operations or processes, areas of the site, and emissions or discharges are likely the most important at the site. The ICT contains the required questions that need to be answered to cover the records review process.</p> <p>The inspector should also request access to the following items if they are not contained in the environmental file:</p> <ul style="list-style-type: none"> • MSDSs • Technical drawings of the site, maps, and process diagrams • Descriptions of planned new processes, expansions, and modifications in the site that have been subjected to recent change (and should have resulted in issuing a revised license) • Notices sent to the entity • Seasonal influences that are of importance for the outcome of the inspection • Any spills, injuries, releases or other incidents of concern that have occurred in the past • Earlier notices of non-compliance • SOPs focusing on the handling of chemicals and HAZMAT • Notifications of environmental incidents • Research reports or environmental reports. <p>The inspector should examine records of any self-monitoring activities, and, as directed by the ICT questions, should conduct an initial evaluation of the completeness of the record and its compliance with any regulatory standard. After the inspection has been completed, the inspector can request copies of records so as to conduct a more detailed review, if necessary.</p>	

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<p>Step 5. Interview Key Site Personnel</p> <p>After reviewing the relevant environmental records, the inspector should request to interview the key site personnel responsible for operations and/or environmental compliance if those staff have not already been part of the inspection. Interviews with facility or project staff should be properly planned to obtain all relevant information. Staff interviews are an important component of the inspector's information gathering, and one person may not be sufficiently knowledgeable of all areas of operation. Staff interviews provide an opportunity to understand actual work practices (not just documented procedures) and to discuss any missing documentation or records, deficiencies, or questions arising from the records review. In most cases, the inspector will need information from on-site staff to be able to complete the ICT checklist questions.</p>	Inspector
<p>Step 6. Conduct the Site Inspection</p> <p>After the inspector has reviewed the records and conducted the opening meeting, he or she should confirm the safety requirements that must be met for inspection of the site and request a site representative to serve as an escort. The site inspection should focus on those parts of the site or operations where permit conditions apply or that may have environmental impacts. It is recommended that the order of inspection parallels the order of the flow of materials through production, beginning inside the building or plant and moving to the outdoor operations. The ICT questions are organized in this manner. Following this order will be helpful during discussions between the inspector and facility management regarding any emissions or discharges that have been identified.</p>	Inspector
<p>During the site walk, the inspector should take detailed notes that are supported with photographs. It is important that any observed issues that could be interpreted as non-compliance are documented and immediately discussed with the entity personnel. The ICT includes the capability for the inspector to add comments and notes for any violation or observation identified during the inspection. Note-taking is an essential part of the inspection process, and a detailed set of field notes is the foundation of a good-quality inspection report.</p> <p>During an inspection, the inspector should closely examine the following areas:</p> <ul style="list-style-type: none"> ▪ Manufacturing or other processes with air emissions, wastewater discharges, or generation of solid or hazardous waste ▪ Chemical storage and handling areas ▪ Chemical transfer facilities ▪ Air pollution control equipment and mitigation measures ▪ Wastewater treatment and discharge points ▪ Laboratories ▪ Maintenance shops ▪ Waste staging or storage ▪ Outdoor chemical, raw material, or product process or storage areas. <p>Inspectors should also look for evidence of, or the potential for, the following issues:</p> <ul style="list-style-type: none"> ▪ Improper chemical storage and handling (e.g., damaged containers, unlabeled containers, open containers, unsecured containers, incompatible materials, inadequate ventilation) ▪ Poor housekeeping, spills and leaks, discharges of pollutants to the environment ▪ Improper installation and maintenance of engineering controls (e.g., equipment leak control equipment, secondary containment, local exhaust ventilation, laboratory fume hoods, chemical 	

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<ul style="list-style-type: none"> storage cabinets) ▪ Inadequate emergency response equipment (e.g., fire control equipment, spill control equipment) ▪ Improper waste management (e.g., excessive accumulation of waste, incompatible wastes in storage, improper disposal) ▪ Uncontrolled air emissions (e.g., fumes, smoke). 	
<p>Step 7. Conduct a Closing Meeting</p> <p>At the end of the inspection, a closing meeting should be held with entity management. This meeting is important because it helps confirm observations and preliminary findings with entity personnel and offers the entity staff an opportunity to provide any initial feedback. This meeting is also an opportunity to request any additional information or data that were not previously reviewed. During the closing meeting, the inspector should show the facility representative the EAD Environmental Inspection and Violation Report and discuss the violations identified and any corrective actions required by EAD (see Section 5.3.3 of this SOP). Any corrective actions should have a time frame to rectify all the violations. The inspector and the proponent should reach an agreement regarding the time frame. The ICT on the tablet computer is used to show this report to the entity representative. Both the inspector and the entity representative use the tablet computer to sign the report, thereby confirming that the findings of the inspection have been shared. After the inspector returns to the office and uploads the report to OACIS, the system automatically sends an e-mail to the entity contact person with the Environmental Inspection and Violation Report attached.</p>	Inspector, Entity Management
<p>Step 8. Document the Inspection</p> <p>All aspects of the inspection should be appropriately documented to support both EAD's assessment of compliance status and any potential enforcement action. In addition, EAD maintains data for risk assessment and other planning purposes. The data will be managed with a database or other electronic media to allow robust and consistent data storage, retrieval, and analysis. Therefore, it is important that inspections be documented by using applicable tools that allow data to be retained for the permanent record of the inspection and site. All relevant information from the inspection process should be entered, scanned, or uploaded as appropriate to maintain consistent and updated records.</p> <p>At the end of the site visit, the inspector can use the ICT to produce a programmed report that lists all of the deficiencies noted during the inspection, along with the corresponding BMPs (see Section 5.4 of this SOP). Once the inspection is complete, the BMPs and responses to questions are uploaded to OACIS as a permanent record of the inspection.</p> <p>The ICT serves to collect and store the responses to the inspection questions. The responses and the selected BMPs are stored in the tool and serve as the basis for the inspection and violation reports that are generated by the ICT. The tool also provides multiple opportunities for the inspector to add notes to the inspection report. The inspector can add notes in a text box in the tool that describe the basic information covered during the opening meeting with the entity representatives. The information added in the text box could include any new information about the entity, the current status of the processes at the entity, any specific environmental issues that have arisen at the entity since the last inspection, any specific technical questions that the representative posed, or any other pertinent information that the inspector wants to record. At the end of the inspection during the closing meeting and as the inspector is finalizing the inspection, there is another text box to which the inspector can add general information about the findings of the inspection, including any unusual findings. Finally, the inspector can use the Comment button in the ICT to add notes or observations for any questions.</p>	Inspector

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<p>The language in the field notes should be objective, factual, and free of personal feeling or interpretation of laws. It is up to the inspector to determine the language in which the field notes are written or spoken (either English or Arabic can be chosen).</p> <p>Important issues that should be recorded in the field notes include the following:</p> <ul style="list-style-type: none"> ▪ Weather conditions ▪ Unusual conditions or problems observed onsite ▪ Interview notes ▪ General information not covered within the checklists ▪ Details of violations ▪ Locations of pertinent photographs. <p>Specific directions and specifications regarding the use of the OACIS ICT are available in the <i>OACIS User's Guide</i>.</p> <p>At the end of the inspection, the lead inspector signs the completed checklist and an entity representative signs the acknowledgment.</p>	

5.4 Identify Corrective Actions

If the inspection reveals that the facility is operating in accordance with its permitted conditions and is in full compliance with all environmental laws and regulations, then no follow-up actions are needed, other than to indicate a suitable time interval before the next inspection.

If evidence of non-compliance is found, then follow-up action items will be required. The nature and urgency of follow-up actions depend upon the type of non-compliance. If a serious breach of environmental regulations has been identified, with potentially serious consequences for the environment or public health, then immediate corrective action will be necessary, including possible enforcement proceedings. However, for minor breaches, it is usually more appropriate to initiate corrective actions through discussion or negotiation with the facility owner, operator, or representative. A timetable for implementing the corrective actions should be agreed upon with the facility, and a follow-up visit should be scheduled.

At the closing meeting, the inspectors will review and evaluate the number and severity of the violations found during the inspection. At this point, the inspectors will need to make a decision regarding the actions that they will require the facility to implement. If the inspection revealed very few violations that have few impacts on the environment, then the inspector can simply inform the facility owner, operator, or representative to implement the BMPs for the violations listed in the EAD Environmental Inspection and Violations Report. The inspector will then schedule a follow-up visit so the violations identified can be re-inspected.

If the violations are more numerous and/or more serious or if violations have been repeated over time, then EAD's policy is to take an enforcement action that is appropriate to the situation. Enforcement actions may include requiring the entity to prepare a Mitigation Plan, requiring the entity to hire an EAD-registered Environmental Consultancy Office (ECO) to prepare an EAP, stopping permit processing until violations are resolved, and referring a case to the judiciary for assessment of penalties. The goal of these actions is to resolve the problems in a timely manner. Each enforcement step is described in the following subsections. Except for judicial referrals, the enforcement action to be taken is noted in the ICT, and the inspector schedules a follow-up inspection to verify that all violations are corrected.

Mitigation Plans

The purpose of a Mitigation Plan is to require that an entity plan and document a schedule for all corrective actions that are needed to return to compliance and to submit that plan to EAD. The inspector will require a Mitigation Plan when he or she decides that the environmental violations are serious enough or numerous enough to warrant immediate attention from the

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facility. Requiring a Mitigation Plan is an excellent opportunity for the inspector to work closely with the facility staff to improve environmental performance at the facility. EAD's inspectors must foster a cooperative working relationship with facility representatives to improve performance. The inspector may require a Mitigation Plan when the inspection is the first one conducted at the facility or the facility representative is new and is not familiar with the expectations of the inspection process. The inspector may also require a Mitigation Plan when he or she believes that the facility representatives are committed to improve performance or when the violations are serious enough to warrant a Mitigation Plan, but not as significant as those that would trigger an EAP.

If an entity has more violations than the threshold for requiring a Mitigation Plan, or the inspector decides that the situation at the site warrants it, then a Mitigation Plan is required. The inspector will inform the facility representative that someone at the facility needs to prepare a Mitigation Plan. The plan is a table that lists the violations from the EAD Environmental Inspection and Violations Report, describes the mitigation measures or actions that the entity will implement to address the violations, and provides a timeframe for the mitigation measures or actions to be implemented. Additionally, EAD will set a date for a follow-up inspection. A Mitigation Plan may be required by the inspector without further review by EAD management.

Environmental Action Plans

The inspector will require an EAP when there are serious environmental violations that must be addressed. Additionally, an EAP may be needed if the facility was required to implement a Mitigation Plan and has not met the requirements that were previously agreed upon with EAD. In these instances, the facility may have been making slow progress on the remediation measures or actions and has not yet met the agreed upon schedule for addressing the violations. An EAP may also be required from facilities that have repeatedly not addressed violations from previous inspections. The EAP requires the facility to retain an EAD-approved ECO to prepare a detailed plan that addresses each of the violations uncovered during the inspection, describes in detail the remediation measures that will be implemented to address each of the violations, and also provides a time frame for completion of each of the remediation measures. The details on the requirements for the information that must be included in an EAP are found in *Technical Guidance Document for Environmental Action Plan* (EAD, 2010a). Because an EAP requires an entity to spend money to hire an ECO to develop the plan, the decision to require an EAP is reviewed by the Unit Manager for Environmental Compliance and Audits.

Stop Permit Processing

When violations are severe and numerous, it is an indication that an entity is either unwilling or unable to properly manage its operations in an environmentally sound manner. EAD may decide that it is necessary to block the processing of the entity's permit renewal to ensure that the entity takes the environmental requirements seriously and takes action to correct its environmental violations. If the entity does not address the violations in a timely manner, then it runs the risk of having its environmental permit expire, potentially leading to a ceasing of operations and activities at the site. Because this action can have serious consequences for the entity and because it requires some coordination with the permitting group, the decision to stop permitting is reviewed by the Unit Managers for Environmental Compliance and Audits and for Permitting.

Referral to the Abu Dhabi Judiciary

When violations are numerous, severe, and repeated over time, EAD needs to take strong action to compel the entity to correct the violations and to punish the entity for not having acted sooner. EAD can refer these cases to the Abu Dhabi judiciary. The judiciary can impose financial penalties on entities for their failure to comply with environmental requirements. Referring a case to the judiciary requires EAD to complete a Case Summary Form and file it with the local police office to obtain a case number. Because the potential outcomes of a judicial referral are significant, decisions to refer a case are reviewed by the Section Manager for inspections and enforcement before the case is filed and sent to the EAD Legal Advisor.

5.5 Prepare the Inspection Reports

The next aspect of an inspection is the preparation of inspection reports. At the completion of each inspection, as a part of the closing meeting, the inspector will provide a review of all of the findings of the inspection to facility management. Once the inspector returns to the office, he or she will use the OACIS ICT to finalize the inspection and upload the selected reports to the OACIS database.

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Currently, the OACIS ICT generates the following four different reports (in both Arabic and English) that can be uploaded into the OACIS database:

- **Inspection Checklist Report:** The ICT will automatically produce the Inspection Checklist Report, which lists all of the inspection questions and answers from the inspection. This report also includes an overall determination regarding the compliance assessment, which indicates whether the facility is in compliance. This determination is based on responses to several questions included in the inspection.
- **Environmental Inspection and Violations Report:** The ICT will also produce the Environmental Inspection and Violations Report, which lists all non-compliance issues identified during the inspection and the recommended or required BMPs to correct the non-compliance issue. If the inspector did not identify any violations or non-compliance issues during the inspection, then this report indicates that an inspection occurred without any violations discovered. A copy of this report is provided to the owner or operator regardless of the presence of a violation. The Environmental Inspection and Violations Report serves as the official documentation and record of the inspection and of the overall findings resulting from the inspection.
- **Compliance Report:** The Compliance Report is similar in structure to the Inspection Checklist Report, but simply lists the questions and responses for all of the questions that are designated as compliance questions. The compliance questions are classified as “major” or “minor” compliance questions, as previously designated by EQS staff. If a deficiency is found regarding one major or five minor compliance questions, then a facility is out of compliance.
- **Assessment Report:** The Assessment Report is similar in structure to the Environmental Inspection and Violations Report except that photographs are added to the violations and any additional comments that were added to the report are included.

5.6 Conduct Enforcement Follow up

Enforcement follow up will depend on the enforcement actions that EAD chooses to take and the entity's responses to those actions. In some cases, an entity may request, or EAD may recommend, a meeting between the Agency and the entity to discuss the violations and actions needed to address them. EAD must then follow up in a timely manner to ensure that violations are resolved quickly. At a minimum, EAD will conduct follow-up inspections to verify that an entity has adequately addressed all violations noted in the inspections report. If violations are not being addressed, then EAD will escalate the matter to stronger enforcement actions.

5.7 Special Considerations for Unscheduled and Emergency Inspections

Any complaint, serious accident, incident, or occurrence of non-compliance at an industrial facility requires an immediate inspection of the facility, with particular focus on the issue causing the accident or incident. The format and components for this type of inspection are the same as the items previously discussed in Section 5.3.1 of this SOP; however, the components would be scaled back and would be more issue specific and time sensitive. At a minimum, this inspection would endeavor to accomplish the following:

- Identify immediate action that was taken by the facility owner or operator to address the issue
- Determine the root cause of the incident or non-compliance event and estimate the extent of its impact on the environment
- Identify the responsible parties
- In collaboration with the facility operator, determine and initiate the mitigation measures necessary to remedy the environmental impacts of the event
- Based on a root cause determination, discuss and document the actions required to prevent further accidents, incidents, or non-compliance
- If appropriate, collect information to initiate any applicable enforcement action
- If this is a follow-up inspection, then ensure that the facility operator has taken any required or necessary follow-up actions when a time period was specified.

Similar to the regular inspection, the inspector will compile a full inspection report and its findings.

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6.0 Attachments

6.1 Regulatory Framework for Industrial Pollution Control in Abu Dhabi Emirate

6.1.1 Federal and Local Laws and Regulations

Industrial facilities, development and infrastructure project activities, and HAZMAT facilities in Abu Dhabi Emirate are regulated through various federal laws and executive regulations that have been introduced into the Emirate. The following subsections summarize the current regulatory framework and highlight the authority for inspection and entry by the Competent Authority (i.e., EAD).

6.1.1.1 *Federal Law No. (24) of 1999 for the Protection and Development of the Environment*

Federal Law No. (24) of 1999 for the Protection and Development of the Environment established the current regulatory framework for environmental protection in the United Arab Emirates (UAE) (UAE FEA, 1999). This law has the following key objectives:

- Protection and conservation of the quality and natural balance of the environment
- Control of all forms of pollution and avoidance of any immediate or long-term harmful effects
- Development of natural resources and conservation of biological diversity
- Protection of society, human health, and the health of other living creatures
- Protection of the state environment from the harmful effects of activities undertaken outside the region or state
- Compliance with international and regional conventions ratified or approved by the state regarding environmental protection, pollution control, and natural resources conservation.

Federal Law No. (24) is a comprehensive law that discusses the following environmental issues:

- Protection of the water environment
- Soil protection
- Protection of air from pollution
- Handling of hazardous substances and hazardous wastes and medical wastes
- Natural reserves
- Liability and compensation for environmental damage
- Penalties.

Federal Law No. (24) requires any person who operates or plans to operate an industrial facility to obtain a license (i.e., permit) from the Competent Authority (i.e., EAD). Article 69 of Federal Law No. (24) discusses the judicial control powers for the inspection of establishments and other places to verify their compliance with the application of the provisions of this law and resolutions issued for its enforcement.

6.1.1.2 *Local Law No. (21) of 2005 for Waste Management in the Emirate of Abu Dhabi*

Local Law No. (21) of 2005 describes the waste management responsibilities of the Competent Authority, concerned parties (governmental or private authorities that have facilities for waste treatment and disposal or those authorities whose activities generate waste), waste generators, and environmental service providers (parties operating in the field of collection, transport, storage, recycling, processing and disposal of wastes). This law discusses ordinary, medical, industrial, hazardous, and other types of waste.

Article 8 of Law No. (21) of 2005 details the rights of inspectors for the Competent Authority to inspect projects, sites, and facilities to determine compliance with the law's provisions. These rights include the following:

- Inspectors of the Competent Authority who are authorized to act as Judicial Enforcement Officers shall have the right to access all sites and facilities that generate, handle, treat, and dispose of all types of waste at any time and to prepare

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inspection reports and issue violations. Facility owners shall cooperate with inspectors, facilitate inspectors' access to all facility divisions or projects, and provide them with all the required information.

- Concerned parties that have approved environmental system duly verified by the Competent Authority may inspect its sites and facilities that generate, handle, treat, and dispose waste and hazardous waste.
- Competent Authority inspectors shall have the right to cease activity of any facility or to prohibit usage of any material, tool, or machine if continuation of such activity or usage results in negative impacts on the health and safety of human beings and the environment.

6.1.1.3 Local Law No. 16 of 2005 Pertaining to the Reorganization of the Abu Dhabi Environment Agency

Local Law No. (16) of 2005 established EAD as an independent juridical agency concerned with environmental affairs in Abu Dhabi Emirate. As such, the Agency is aimed at protecting the environment and wildlife, along with its biological diversity in its natural environment, offering suggestions, making recommendations, and conducting necessary studies and research to conserve the environment and develop wildlife. All governmental departments and agencies are required to coordinate with EAD in relation to research, studies, and programs relating to environmental and wildlife affairs. To fulfill the previously mentioned objective, EAD is required to accomplish the following:

- Inspect and review applications for issuance of licenses for industrial, development, agricultural, and environmental projects submitted to the Competent Authorities and notify such authorities about EAD's related decisions. In addition, all government authorities that issue commercial and industrial licenses are required to send such applications to EAD to determine whether an assessment is necessary for the project.
- Combat pollution; protect the safety and quality of air, water, soil, natural resources, and biological diversification; ensure the optimal utilization of the environment and its resources for the purpose of protecting humans and the environment; and formulate a constant control system and propose suitable solutions for various problems.

In accordance with Article 14 of Law No. (16) of 2005,

- It shall be prohibited for any establishment or any individual to carry out any activity that could negatively affect the lives of human beings and the safety of the environment before obtaining a license from the Agency.
- The Agency inspectors may stop the activity of any establishment or prevent the use of any material, tool, or device if they are used in such a manner that would endanger health and safety of humans and the environment.
- Anyone causing any damage or harm to humans or the safety of the environment because of his or her action or negligence shall bear all charges and costs necessary for remediation or removal of such damage.

6.1.2 Regulations and Executive Orders

To further implement Federal Law No. (24) of 1999, numerous regulations have been published that focus on specific environmental areas. To date, these regulations and decrees include the following:

- Ministerial Decree No. (42) of 2009 concerning the Abu Dhabi Environment, Health, and Safety Management System
- Regulation for Handling Hazardous Materials, Hazardous Wastes, and Medical Wastes (UAE Cabinet, 2001a)
- Regulation for the Assessment of Environmental Effects of Installations (UAE Cabinet, 2001b)
- Regulation for the Protection of the Marine Environment (UAE Cabinet, 2001c)
- Regulation for the Protection of Air from Pollution (UAE Cabinet, 2001d).
- Ministerial Decree No. (12) of 2006 concerning Protection of Air from Pollution.

The main provisions of these regulations with regard to their relevance to the control of industrial facilities, development and infrastructure projects, and HAZMAT operations are summarized in Sections 2.2.1 through 2.2.4 of this SOP.

6.1.2.1 Regulation for Handling HAZMAT, Hazardous Wastes, and Medical Wastes

This regulation covers the requirements for the storage, handling, and transport of HAZMAT and hazardous wastes in the UAE. No HAZMAT or hazardous wastes may be handled or transported without a license issued by the Competent Authority.

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Article 10 of Law No. (21) of 2005 for Waste Management in the Emirate of Abu Dhabi covers procedures for the management of hazardous wastes at industrial sites. Any organization generating hazardous wastes is required to develop and adopt clean production technologies and to select products or raw materials that are less damaging to the environment. In addition, organizations generating hazardous waste are required to accomplish the following:

- Record the quality and quantity of generated wastes
- Construct and operate waste treatment units at the pollution source wherever possible, subject to the approval of such units by the Competent Authority
- Provide designated safe storage areas for wastes to prevent any risk to the public
- Ensure that hazardous wastes are properly stored in leak-proof containers
- Clearly mark hazardous waste storage containers to show their contents and indicate the hazards from improper handling
- Establish a program for collecting hazardous wastes that prohibits their storage for long periods of time
- Comply with hazardous waste transportation regulations. Transport of hazardous wastes is prohibited in the UAE except by licensed carriers who comply with specified conditions.

6.1.2.2 Regulation for the Assessment of Environmental Effects of Installations

This regulation requires that an EIA be conducted for specific facilities or projects before the Competent Authority issues a license or permit for construction or operation. The types of facilities or projects that require permitting are presented in *Regulation for the Assessment of Environmental Effects of Installations* (UAE Cabinet, 2001b). (Application procedures for obtaining an environmental license or permit and the corresponding information requirements are in subsequent guidance documents and are available on EAD's Web site at <http://www.ead.ae/en/portal/environmental.permitting.guidelines.aspx>).

6.1.2.3 Regulation for the Protection of the Marine Environment

This regulation focuses on preventing pollution of the marine environment from vessels, land-based sources, and offshore platforms. The discharge of degradable contaminants from land-based sources should not exceed the suggested limits specified in the regulation.

6.1.2.4 Regulation for the Protection of Air from Pollution

This regulation established many air emissions and air quality standards for the UAE. The standards include those about noise, ambient air quality, and emissions from industrial sources, incinerators, construction, and demolition.

6.1.3 Abu Dhabi Environment, Health, and Safety Management System Framework

The EHSMS Framework is the regulatory mechanism to be implemented within the regulated community to ensure compliance with UAE, Abu Dhabi Emirate, and local laws and decrees. The Environment, Health, and Safety Management System Program consists of policies, manuals, COPs, and standards specific to various attributes (more information is available on the Abu Dhabi Occupational Safety and Health Center's Web site at <https://www.oshad.ae/en/pages/home.aspx>). The Abu Dhabi Emirate environment protection policies and standards are as follows:

- EAD regulations regarding HAZMAT and waste permits
- Industrial safety and health regulations: Occupational Health and Environmental Control SSUAE No. 209/1995.

6.1.4 Permitting in Abu Dhabi Emirate

Specific activities in Abu Dhabi Emirate are currently regulated through a system of permits issued by EAD. The types of operations that require a permit are defined in Federal Law No. (24) of 1999. A permit is required to

- Construct an industrial facility
- Operate an industrial facility
- Construct a new development or infrastructure project
- Modify an existing development or infrastructure project

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- Operate a development or infrastructure project
- Create any new development or infrastructure project or a new addition or modification of an existing project
- Operate a facility to import, export, produce, store, or manage chemicals or HAZMAT.

To obtain a permit, the operator must submit an application to EAD. The permit application includes information about the environmental impacts of the facility or project and other details about the facility, such as monitoring arrangements. EAD will then issue a permit based on its assessment of the application and the supporting details. Permits are issued to the following types of entities.

Industrial Facilities—EAD regulates large and potentially high-polluting industries through the Integrated Pollution Prevention and Control (IPPC) directive, which requires operators of new or existing facilities to apply for an IPPC operating permit in accordance with detailed procedures. Operators of large industrial facilities that release significant amounts of pollution into the environment are required to conduct periodic testing of emission points to ensure that emissions are within regulatory limits. All testing and analysis should be prepared by an approved laboratory, and the data resulting from these monitoring/testing programs should be forwarded to EAD for review and approval.

Development and Infrastructure Projects—There are two types of environmental permits for development and infrastructure projects: construction and operation. A proponent should obtain an environmental construction permit before beginning construction and an environmental operation permit before commencing operations.

Chemicals and HAZMAT—Facilities that import and store HAZMAT are permitted to ensure that necessary measures to minimize adverse effects on human health and the environment are maintained. The permit must be renewed annually to ensure compliance with its conditions and to update the permit to reflect current operations at the facility. Facilities and companies that handle chemicals and HAZMAT in other ways (e.g., industrial facilities and waste treatment facilities) must also receive a permit from EAD. However, permitting procedures for most of these facilities and the relevant conditions and COPs are contained in other EAD documents.

Additional information regarding permitting requirements can be found in the following documents

- *Standard Operating Procedure for Permitting of Industrial, Commercial, and Light Industrial Projects in Abu Dhabi* (EAD, 2011a)
- *Standard Operating Procedures for Permitting of Development and Infrastructure Projects in Abu Dhabi* (EAD, 2011b)
- *Standard Operating Procedures for Permitting of Chemicals and Hazardous Materials in Abu Dhabi* (EAD, 2011c).

6.1.5 EAD's Legal Right to Inspect Industrial and HAZMAT Facilities and Development and Infrastructure Projects

As previously described, Federal Law No. (24) requires any person who operates or plans to operate an industrial or HAZMAT facility to obtain an environmental license (i.e., permit) from the Competent Authority. In Abu Dhabi, EAD is the Competent Authority and issues these licenses, along with general and specific permit conditions that a facility must follow. One of the general conditions included in each license or permit issued by EAD is that the facility must grant access to any EAD representative at any time to conduct an environmental inspection at that facility, review any documentation at the facility, take samples as needed, and conduct environmental monitoring as needed.

6.1.6 Construction Environmental Management Plan

The construction permits issued by EAD for development and infrastructure projects usually require the development of a CEMP or other environmental study. The CEMP is a site-specific plan developed to ensure that appropriate environmental management practices are followed during the entire construction project. The CEMP is developed by the proponent and submitted to EAD for review and approval. The contents of a CEMP include the following:

- Description of the project
- Details of the project's Environmental Management Systems
- Descriptions of anticipated environmental impacts from the project
- Details of planned environmental mitigation measures

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- Descriptions of monitoring and auditing activities to be conducted.

The measures and activities outlined in the CEMP or other environmental study should be implemented for the project to be considered in compliance with the construction permit. EAD staff members conduct routine inspections of development project sites to ensure compliance with permit requirements and conditions. More information about the contents of a CEMP can be found in the *Technical Guidance Document for Construction Environmental Management Plan (CEMP)* (EAD, 2010b).

6.1.7 Operation Environmental Management Plan

Operating permits issued by EAD for industrial sites sometimes require the development of an OEMP. The OEMP is a site-, project-, or industry-specific plan developed to ensure that environmental management practices to eliminate and control environmental impacts are followed during commissioning and operation. The OEMP is developed by the proponent and submitted to EAD for review and approval. The contents of an OEMP include the following:

- Description of the entity
- Details of the entity's Environmental Management Systems
- Descriptions of anticipated environmental impacts from operations
- Details of planned environmental mitigation measures
- Descriptions of monitoring and auditing activities to be conducted.

The measures and activities outlined in the OEMP should be implemented for the entity to be considered in compliance with the permit. EAD staff members conduct routine inspections of industrial sites to ensure compliance with permit requirements and conditions. More information about the contents of a OEMP can be found in the *Technical Guidance Document for Operation Environmental Management Plan (OEMP)* (EAD, 2010c).

7.0 References

Abu Dhabi EHS Centre. 2012. *Abu Dhabi Environment, Health, and Safety Management System (EHSMS) Regulatory Framework Glossary of Terms*.

EAD. 2010a. *Technical Guidance Document for Environmental Action Plan*. Available at <http://www.ead.ae/our-services/business-and-industry/>

EAD. 2010b. *Technical Guidance Document for Construction Environmental Management Plan (CEMP)*. Available at <http://www.ead.ae/our-services/business-and-industry/>

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EAD. 2011a. *Standard Operating Procedure for Permitting of Industrial, Commercial and Light Industrial Projects in Abu Dhabi*. Available at <http://www.ead.ae/our-services/business-and-industry/>

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UAE Cabinet. 2001a. *Regulation for Handling Hazardous Materials, Hazardous Wastes, and Medical Wastes*.

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UAE Federal Environment Agency 1999. *Federal Law No. (24) of 1999 for the Protection and Development of the Environment*.

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8.0 Additional Flow Charts

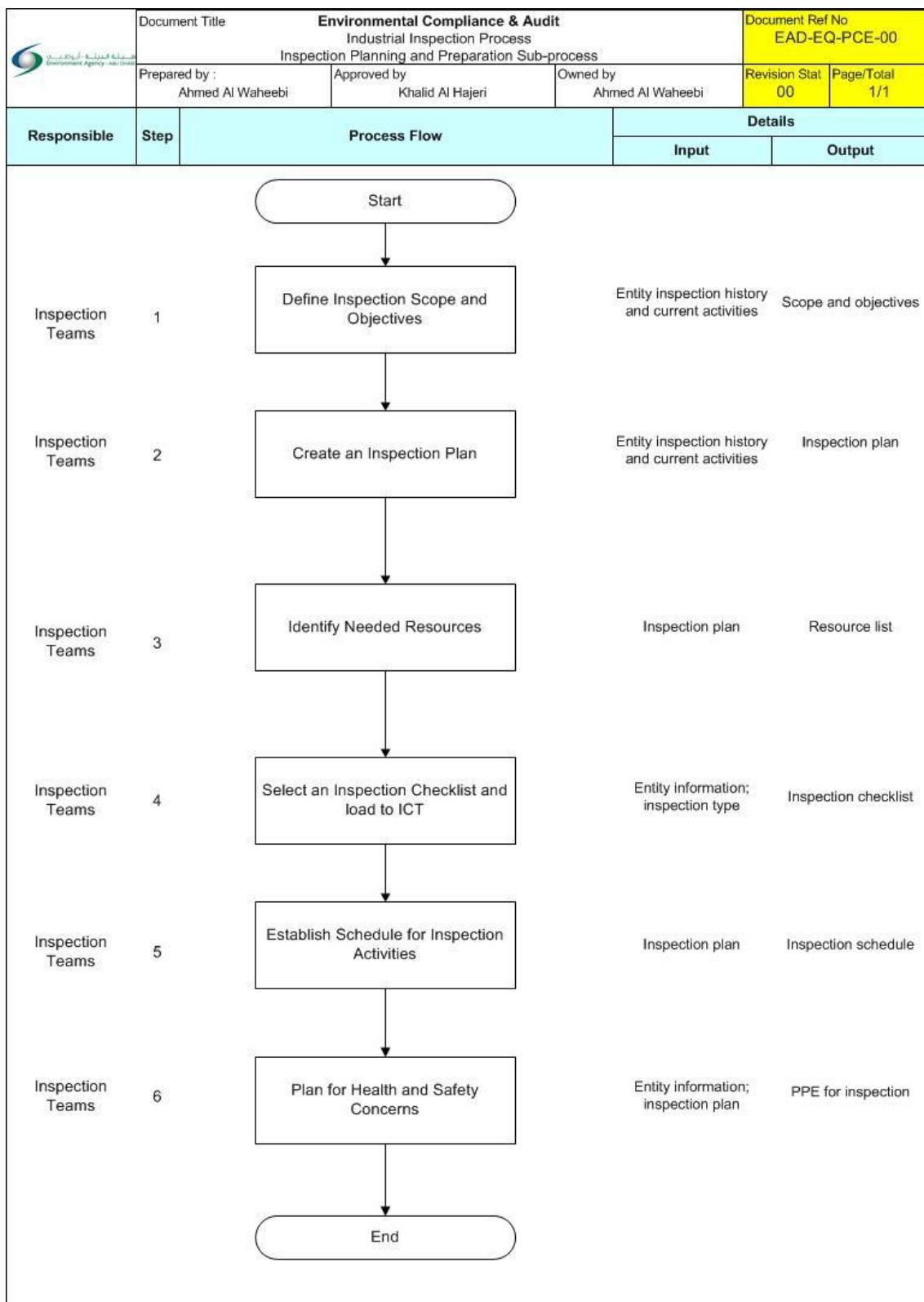


Figure 3. The sub-process for planning and preparation of an inspection.

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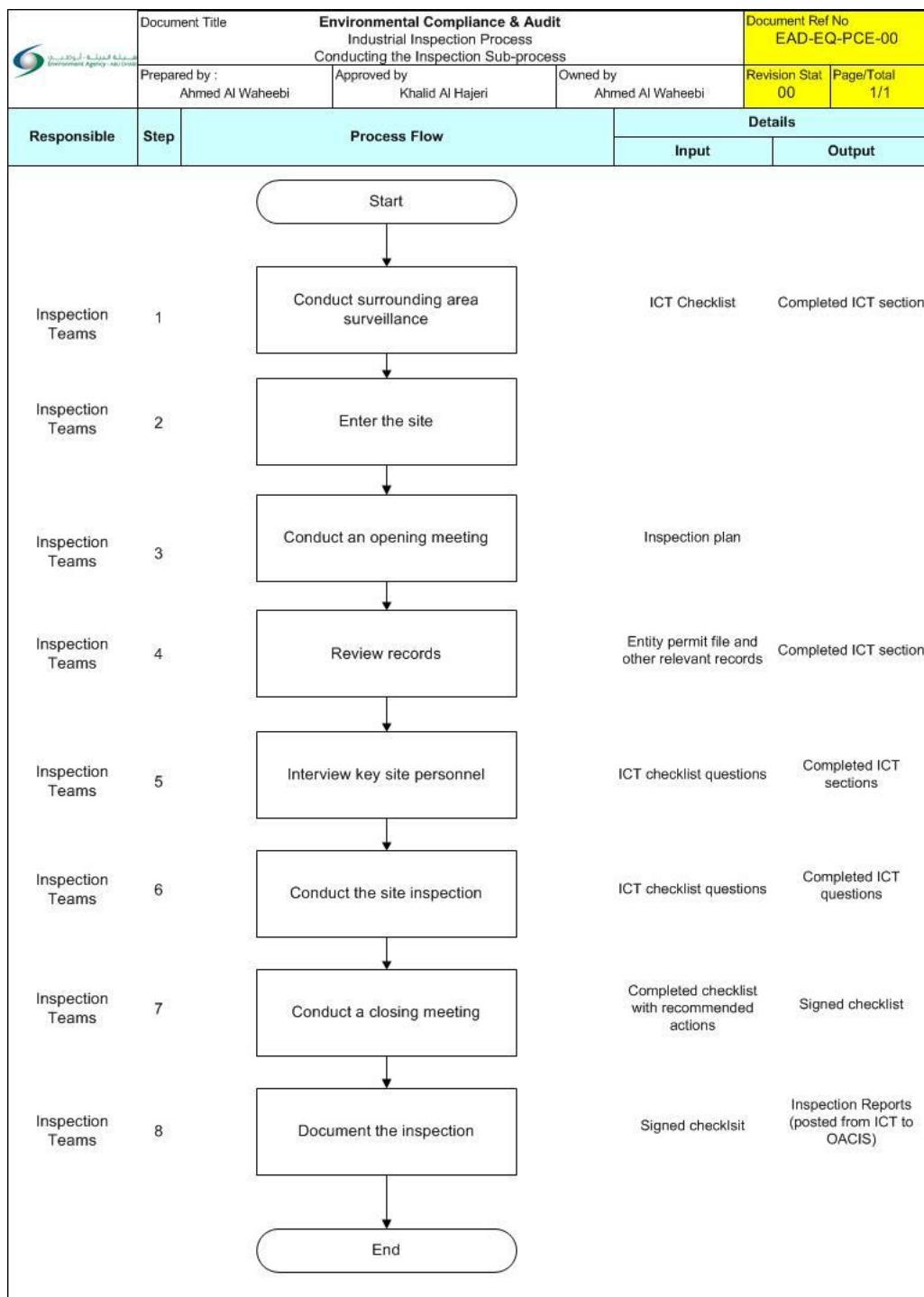


Figure 4. The sub-process for conducting an inspection.

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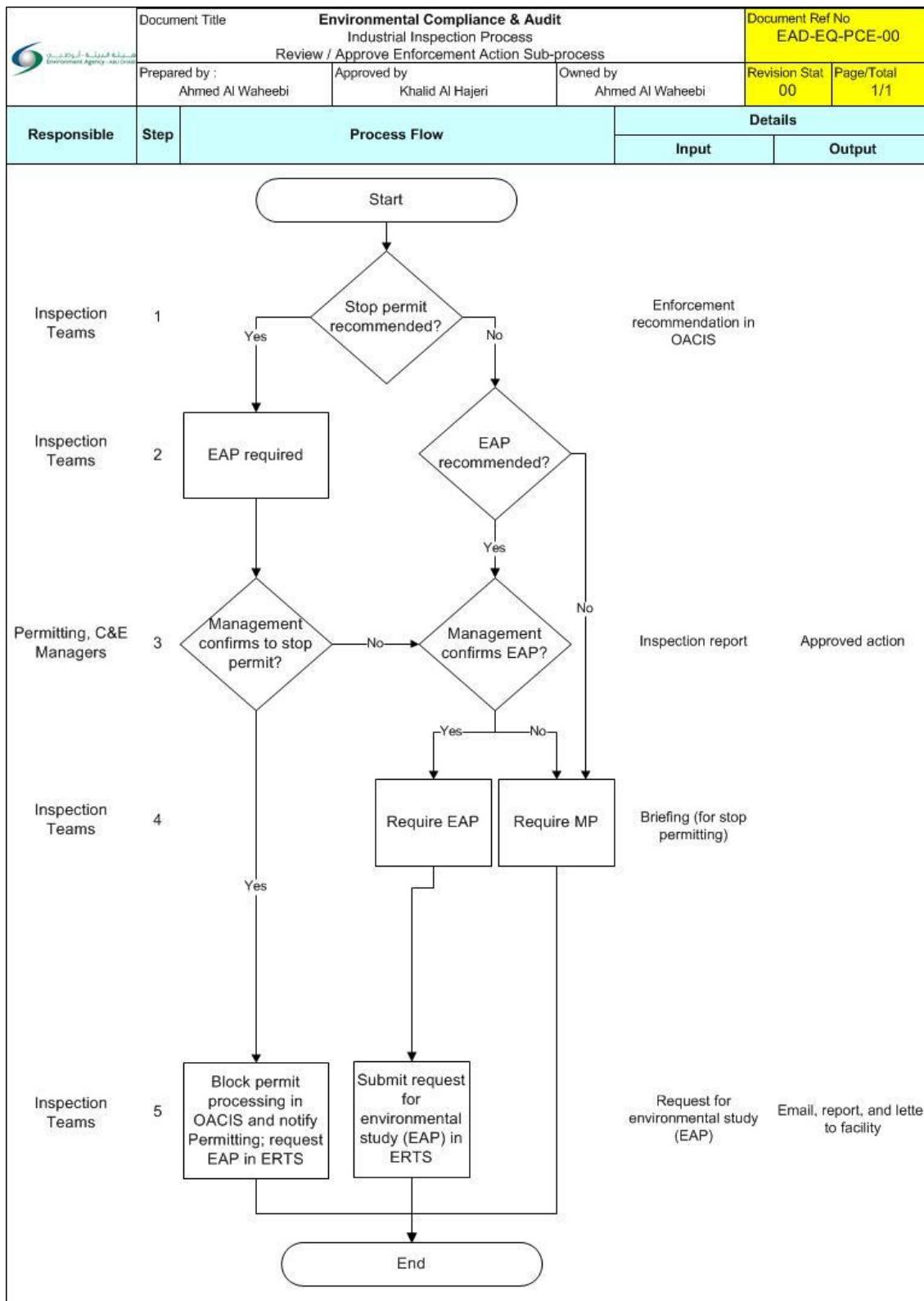


Figure 5. The sub-process for review and approval of enforcement action.

Note: C&E = compliance and enforcement; EAP = Environmental Action Plan, ERTS = Environmental Reports Tracking System; MP = Mitigation Plan.

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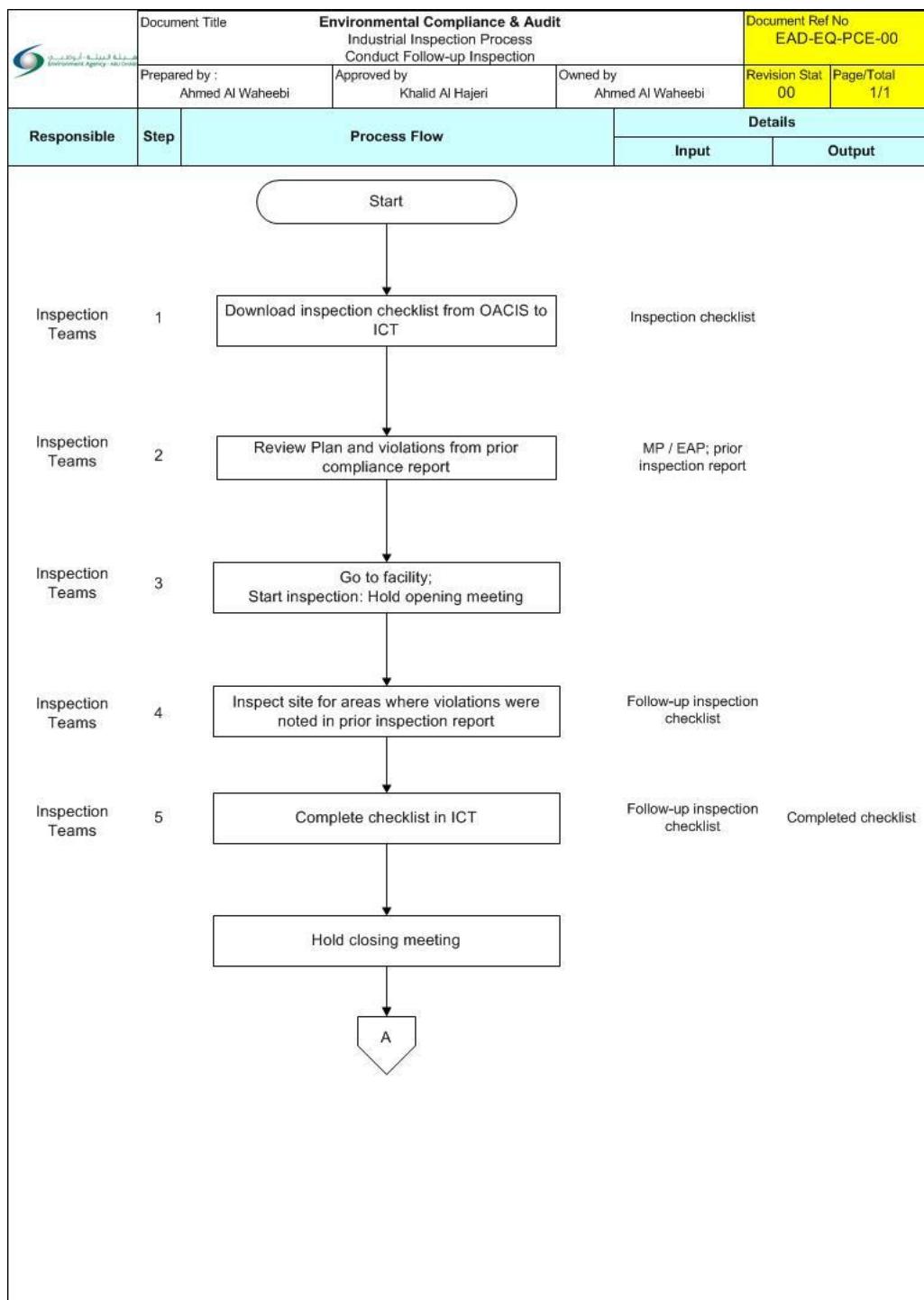


Figure 6. The sub-process for follow-up inspections.
Note: EAP = Environmental Action Plan; MP = Mitigation Plan.

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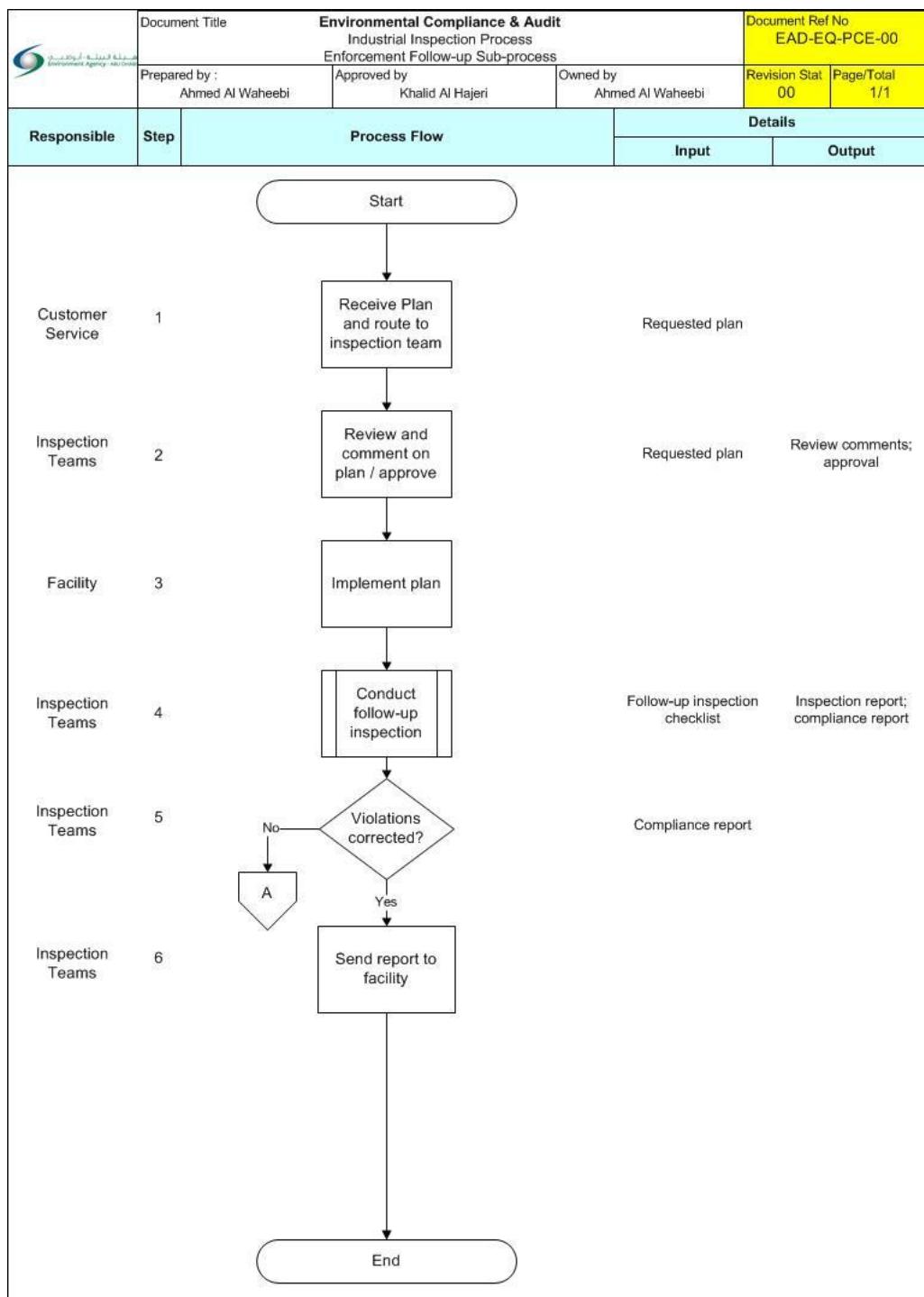


Figure 7. The sub-process for enforcement follow up.

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Document Change History

Document Number	Revision Number	Revision Date	Revision Description	Page Number	Approved by
	0	30 August 2015	Initial version		

Remarks: