

**Spill Prevention  
Audit Protocol**

<b>Audit Information</b>
<b>Facility Name:</b>
<b>Date(s) of Audit:</b>
<b>Auditor's Name:</b>
<b>Period Under Review:</b>

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A. Introduction**

**Auditor's  
Comments**

**Working  
Paper  
Reference**

1. Review background information obtained from the facility to develop a general understanding of operations and activities at the facility which may be the source of spills
2. Tour the facility to gain a general understanding of areas of spill prevention concern. (Use Table 1 as appropriate for this and subsequent tours.)

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#### Table 1: Tour Tick list

This tick list is provided as a reference for things to look for during the orientation tour.” The list is not all inclusive; it is meant to serve as an aid or tool to remind the auditor of the major considerations during the tour.

- \_\_\_\_\_ Above/below ground storage tanks (e.g., fuel, oil, gasoline, waste oil, hazardous substances)
- \_\_\_\_\_ Tank construction (e.g., riveted vs. welded)
- \_\_\_\_\_ Process vessels (chemical storage)
- \_\_\_\_\_ Drum storage areas
- \_\_\_\_\_ Facility loading/unloading areas (spill control, insulation)
- \_\_\_\_\_ Above ground valves and pipes (location, condition)
- \_\_\_\_\_ Tank valves and pump switches (location, condition)
- \_\_\_\_\_ Bulk loading station flexible hoses (condition)
- \_\_\_\_\_ Oil-filled transformers (location)
- \_\_\_\_\_ Fill control devices
- \_\_\_\_\_ Facility perimeter
- \_\_\_\_\_ Site security (e.g., fencing, guarded entrances)
- \_\_\_\_\_ Storm drain inlets
- \_\_\_\_\_ Sumps
- \_\_\_\_\_ Ponds, lagoons, catchment basins
- \_\_\_\_\_ Flow diversion systems
- \_\_\_\_\_ Secondary containment facilities and conditions (e.g., bunding)
- \_\_\_\_\_ Oil or hazardous substance spillage (or evidence of spillage)
- \_\_\_\_\_ Deformation or age of tank walls, deep rust, chemical corrosion, damage, or any sign of leakage at the seams
- \_\_\_\_\_ Emergency response equipment (e.g., absorbents, booms, etc.)
- \_\_\_\_\_ Personal safety gear (e.g., goggles, gloves, rubber boots)
- \_\_\_\_\_ Internal communications or alarm systems

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**B. Step 1: Understand Management Systems**

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*Note: The purpose of Step 1: Understand Management Systems is to develop a detailed understanding of the facility's overall approach to managing its regulatory obligations. After completing this section of the protocol, the auditor should understand:*

- *How and why the facility has evaluated the applicability of existing regulatory and other standards to facility operations.*
- *Types of facility procedures that exist to implement compliance activities and the general scope of such procedures.*
- *Methods used by the facility to assist in the implementation of compliance programmes.*
- *Whether compliance management roles and responsibilities are clearly understood.*
- *Types of programmes or activities engaged in to familiarise staff with spill prevention information.*
- *How the facility maintains and documents the effectiveness of its spill prevention programme activities.*

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**C. Step 2: Assess Strengths and Weaknesses of Management Systems**

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*Note: Once the auditor has developed an understanding of how the facility manages its air pollution control programmes, the next step is to evaluate the soundness of these management and control systems in the context of the potential environmental, health and safety impacts. The purpose of this assessment is to determine verification priorities for Step 3: Gather Audit Evidence activities. Spending the time to evaluate priorities will enable the auditor to maximise the effectiveness and efficiency for gathering the evidence needed to achieve the objectives of the audit.*

3. Evaluate the range of potential impacts if a particular spill prevention issue is not managed appropriately
4. Evaluate the management systems and controls to determine if they are designed soundly, i.e., consider if the systems, coupled with the control systems, are appropriate given the potential impacts.
5. Set verification priorities so as to provide the optimum allocation of available team resources to ensure that issues representing high risk and weak management/control systems receive sufficient attention. That is, complete the matrix provided in Table 2 that links the management systems assessment with potential impacts to determine your prioritisation scheme.

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**Table 2: Determining Verification Priorities**

For each protocol topic listed below, graph the strength of the management system on the Y axis against the potential impacts on the X axis.

- Spill Prevention Practices
- Spill Response Plans
- Oil, Fuel and Hazardous Substance Loading and Unloading Procedures

The completed matrix will be the basis for prioritising your time for the balance of the audit, with those protocol topics in Area 1 receiving highest priority and those in Area 4 lowest priority.

		Potential Impacts	
		Low	High
y a x i s	Management Systems Weak	3	1
	Strong	4	2

**x axis**

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### D. Step 3: Gather Audit Evidence

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*Note: The results of Step 2: Assess Strengths and Weaknesses of Management Systems activities (i.e., setting the verification priorities) provide the basic framework for the auditor to use in developing a sound and defensible verification strategy. Once the auditor has determined where the audit priorities lie for their protocol assignment(s), he/she develops a verification strategy based on available resources, what needs to be done, how to gather the information, where to apply verification testing and what sampling strategies to employ. It is important to remember that the auditor develops this strategy in general to help ensure that the verification strategy is representative of the assessment made in Step 2: Assess Strengths and Weaknesses of Management Systems and that the types of information gathered are appropriate for the protocol topics being examined. When gathering audit evidence, each auditor should ensure that the most appropriate type(s) of information will be representative and will be sufficient to verify compliance, as well as to substantiate non-compliance.*

6. Verify that the facility has an oil and hazardous substances spill plan in place.
7. Test the adequacy of the facility's oil and hazardous substance spill prevention and control plan by performing the following:
  - a. Verify that the plan has been reviewed by the facility within the past three years.
  - b. Verify that the plan contains the required elements and is based on good management practices. For example, verify that the plan includes a discussion on:
    - 1) Location and volume of oil and hazardous substances stored, including drum storage areas.
    - 2) Containment and diversionary structures or equipment used to prevent and/or control spills.
    - 3) Provisions for the management and prevention of hazardous wastes.
    - 4) Spill response measures if containment or diversionary structures are not used where oil or hazardous substances are stored.
    - 5) Procedures for reporting hazardous substance releases, or other spill events.
    - 6) Responsible personnel for spill response activities.
    - 7) Spill response procedures.

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8. Confirm facility procedures are established and implemented to ensure that tanks and other storage vessels are installed and maintained so as to avoid the risk of leakage or spills, for example (place a tick [✓] on the line if the element is included):
- Review of vessel design prior to purchase.
  
  - Provision of alarms and cut-out devices for bulk storage activities.
  
  - Visual inspections and integrity testing of tanks and associate pipes.
9. Review facility procedures and practices for spill prevention and confirm that they address the following (place a tick [✓] on the line if the element is included):
- Inspections to identify areas of potential spill concern.
  
  - Periodic tours/inspection of facility to examine practices.
  
  - Procedures to keep storage of chemicals on site to a minimum.
  
  - Inspections to identify areas of potential spill concern.
  
  - Secondary containment requirements and inspection to ensure integrity.
  
  - Provision of training and instruction in spill prevention measures.

***Spill Response Plans***

10. Confirm that the facility has developed a Spill Response Plan which addresses the following (place a tick [✓] on the line if the element is included):

- Inventory of the location and volume of bulk and drum storage areas.
- Recent facility changes in design or operations which may affect spill potential.
- Identification of appropriate spill response measures.
- Provision, inspection and maintenance of appropriate spill response equipment.
- Disposal requirements for contaminated materials.
- Responsibilities for implementing spill response measures after a spill.
- Training requirements.
- Spill reporting and investigation procedures.
- Use of spill-clean-up contractor (as appropriate).

11. Confirm that the plan is kept up-to-date, and that procedures address the following (place a tick [✓] on the line if the element is included):

- Regular and periodic review of plan.
- Review of plan upon process changes or other facility modifications.

**Oil, Fuel, and Hazardous Substance Loading and Unloading Procedures**

12. Review facility procedures and practices to prevent and control spills during loading and unloading operations (e.g., loading/unloading of tanks, transfer of materials between tanks, etc.) and confirm that the following are addressed (place a tick [✓] on the line if the element is included):

- Site supervision of loading/unloading activities.
- Provision of measurement devices on tanks to indicated fill level.
- Provision of cut-off devices to prevent overfills.
- Provision of alarms (visual and/or audible) to alert drivers/supervisors of potential overfills.
- Provision of local secondary containment and dedicated spill response equipment.

**E. Step 4: Evaluate Audit Findings**

13. Review actions taken to complete each step of the protocol. For each protocol step assigned, summarise your conclusions regarding the facility's compliance status. (Use Table 3 to summarise your opinion regarding the level of compliance being achieved for each topical area.)
14. Develop a written list of your exceptions and observations and use as a basis for discussion with other team members prior to the exit meeting. As a team, evaluate the data used to substantiate the audit results and identify any patterns or trends in the results. In addition, evaluate your findings and observations based on the information gathered during Step 1: Understand Management Systems.
15. Review and discuss any unresolved compliance issues with appropriate facility personnel. Note explanations and disposition of such issues in the working papers.

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16. As a team, develop a complete list of exceptions and observations, which are clearly and concisely written and substantiated by audit data gathered.

**F. Step 5: Report Audit Findings**

17. Review all exceptions and observations with the facility environmental, health and safety contact and present them to facility management during the close-out meeting.

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Table 3: Audit Opinion**

For each protocol topic under Step 3: Gather Audit Evidence, develop an opinion as to the compliance status of the facility using the guidance provided on the following page. Place a tick [✓] in the most appropriate category or record N/A (not applicable). Document your opinion in your working papers.

Protocol Topic	Audit Opinion				
	Meets	Substantially Meets	Generally Meets	Requires Improvement to Meet	Requires Significant Improvement to Meet
Spill Prevention					
Spill Response Plans					
Loading and Unloading Procedures					
Description of Audit Opinion Categories					
<p><b>Meets Governmental and Internal Requirements</b> This opinion applies when, based on the audit team’s review, the facility is judged to be in compliance with all (or virtually all) of the applicable requirements included in the audit scope. For those very few requirements where isolated exceptions are noted, these departures are determined to be occasional and anomalous, and are considered to be inconsequential in comparison to the overall level of compliance achieved. It is intended for locations that are found to be in full compliance with applicable requirements.</p> <p><b>Substantially Meets Governmental and Internal Requirements</b> This opinion is given when the audit results substantiate a high degree of compliance. It applies when, based on the audit team’s review, the facility is in compliance with most of the applicable requirements reviewed but only a few requirements were not satisfied. These departures are considered to represent isolated exceptions in an otherwise effective compliance program.</p> <p><b>Generally Meets Governmental and Internal Requirements Except as Noted</b> This opinion applies when, based on the audit team’s review, several exceptions to applicable requirements are noted. These exceptions are more than isolated anomalies and reflect weaknesses in the design and/or implementation of compliance programs.</p> <p><b>Requires Improvement to Meet Governmental and Internal Requirements</b> This opinion applies when, based on the audit team’s review, several exceptions to applicable requirements are noted and some of the exceptions reflect the absence of required programs, significant departures from established criteria, or lapses in program implementation.</p> <p><b>Requires Significant Improvement to Meet Governmental and Internal Requirements</b> This opinion applies when, based on the audit team’s review, many exceptions to applicable requirements are noted, including several significant departures from established criteria, the absence of several required programs, or prolonged inattention to the resolution of previously identified compliance or liability issues.</p>					

