

Frequently Asked Questions

Facility Application Audit Submissions (Technical)

March 2016

This document clarifies and supports the submission of audit documentation for the technical requirements of *Directive 056: Energy Development Applications and Schedules (Directive 056)* facility applications. The questions below identify areas of concern resulting from common omissions or errors within audit submissions. Clarification has been provided to reduce the number of supplemental information requests in the audit process.

This document supplements the audit requirements as outlined in *Directive 056*, section 5.9, Technical Requirements.

Q1. Where do I find what documentation is required for a technical audit of a facility application in *Directive 056*?

A1. *Directive 056*, section 5.10, outlines the required audit documentation to be submitted for a technical audit of a facility application. The table below outlines the required sections in *Directive 056*.

Schedule 2: Facility licence application	Section
Step 4: Application type	5.10.4
Step 5: Design criteria	5.10.5
Step 6: Technical information	5.10.6
Schedule 2.2: Gas plants – facilities	
Step 2: Total recovered products	5.11.2
Step 3: Technical information	5.11.3
Schedule 2.3: H₂S information – facilities	
Step 2: Gas treating and processing Information	5.12.2
Step 3: Technical information—setback requirements	5.12.3
Schedule 2.4: Compressors/pumps – facilities	
Step 2: Compressors, and step 3: pumps	5.13.2

Q2. What documentation must be submitted in response to a technical facility audit request?

A2. When compiling documentation for submission in response to a technical facility audit request, the AER recommends the following for the steps noted above:

Schedule 2: Facility Licence Application

Step 4: Application Type

Audit Documentation Required

For category B facilities, the licensee must submit a gas analysis representative of the inlet stream.

Provide	Do not provide
<ul style="list-style-type: none"> Gas analysis from the lab Explanation of how the gas analysis is representative of the inlet if it is not from an inlet source 	<p>Only the gas composition portion of a gas analysis</p>

Step 5: Design Criteria

Audit Documentation Required

- For all facilities, the licensee must submit a written description of the proposed process scheme and a process flow diagram (PFD).
- For custom-treating facilities, the licensee must submit an inlet analysis to determine the percentage of oil, water, and solids.
- For facilities with sources of NO_x and CO₂ emissions, the licensee must submit
 - a breakdown and total of NO_x and CO₂ emissions for all sources in kilograms per hour (kg/h) and tonnes per day (t/d), respectively,
 - manufacturer specifications to confirm NO_x and CO₂ emissions, and
 - diagrams to demonstrate that the exhaust stack height requirements of IL 88-05 are met if the total NO_x emissions are less than 16 kg/h.

Provide	Do not provide
<ul style="list-style-type: none"> Emissions from all sources (including small sources such as pump jacks, heaters, etc.) in the break down Manufacturer specification for all compressors/ pumps that emit NO_x and CO₂ 	<p>The breakdown should not include NO_x & CO₂ from flare stacks.</p>

- For facilities with continuous flaring, venting, or incineration, the licensee must submit
 - a list of all sources, and
 - the results of the ground-level radiant heat intensity calculation.

Step 6: Technical Information

Audit Documentation Required

Equipment Spacing Requirements

The licensee must submit a site-specific plot plan showing

- equipment placement,
- the distances between equipment, and
- the distance from equipment to surface improvements, vegetation, water bodies, and roads (within 100 m of the lease boundary).

The licensee must state whether emergency shutdown device (ESD) valves are automated or manually controlled.

For heavy oil facilities, the licensee must submit a representative oil analysis.

Provide
An explanation of how the gas analysis is representative of the inlet if it is not from an inlet source.

Noise Guidelines

For all facilities with noise-generating equipment, the licensee must submit a copy of the noise impact assessment (NIA) prepared in accordance with *Directive 038: Noise Control*.

Provide
<ul style="list-style-type: none"> • Discussion to clarify any discrepancies between the equipment identified on the PFD and the equipment included in the NIA • Confirmation that mitigation has been or will be implemented, if required

Storage Requirements

For facilities where products and materials will be stored on site, the licensee must submit a list of materials that will be stored and a description of the storage method (*Directive 055: Storage Requirements for the Upstream Petroleum Industry*), including details of

- design and construction,
- leak detection,
- secondary containment,
- weather protection, and
- primary containment type and size.

Provide
Documentation of the applicable requirements as outlined in <i>Directive 055</i> , table 2

Production Measurement Requirements

For all facilities, the licensee must submit a list and provide the location of each type of meter proposed for each measurement point.

For facilities with continuous flaring, venting, and incineration recorded in step 5, the licensee must submit documentation to confirm how measurement/estimation procedures meet the requirements of *Directive 060*.

NO_x Emissions

For facilities where the NO_x emissions are less than 16 kg/h, the licensee must submit documentation or a diagram demonstrating that the stack height for each source is at least 1.2 times the peak building height. If dispersion modelling was conducted, the licensee must submit the following:

- Documentation that confirms dispersion modelling was conducted in accordance with the *Air Quality Model Guideline*
- The source parameters, locations, elevations, and NO_x emission rates for all sources
- Predicted maximum ground-level NO₂ concentrations
- The name of the dispersion model used
- A description of meteorological data used
- A terrain map of the study area

Environmental Protection and Enhancement Act Approval/Registration

For facilities with total NO_x emissions of more than 16 kg/h and all category C, D, and E gas plants that remove H₂S using regenerative sweetening processes, the licensee must submit the *Environmental Protection and Enhancement Act* approval or registration number, if available. If the facility or amendment to the licence has not been registered or approved, the licensee must submit the following to demonstrate that it will meet the Alberta Ambient Air Quality Objectives prior to approval:

- Documentation that confirms dispersion modelling was conducted in accordance with the *Air Quality Model Guideline*
- The source parameters, locations, elevations, and NO_x emission rates for all sources
- Predicted maximum ground-level NO₂ concentrations
- The name of the dispersion model used

- A description of meteorological data used
- A terrain map of the study area

Historical Resources Act Clearance

Where applicable, the licensee must submit documentation showing that it received clearance from the Government of Alberta before submitting the facility licence application.

AER Environmental Requirements

The licensee must submit all documentation outlined in *IL 93-09*, if applicable.

Schedule 2.2: Gas Plants – Facilities

Step 2: Total Recovered Products

For gas processing, straddle, fractionation, and sulphur recovery plants, the licensee must submit

- a plant material balance for design conditions that matches the streams and equipment shown on the PFD and includes
 - maximum H₂S content for both the inlet rate and the acid gas rate,
 - design rates for the inlet and recovered products,
 - maximum acid gas rate, and
 - continuous sulphur emission rate; and
- an explanation of any differences between the applied-for rates and those contained in the plant material balance.

Step 3: Technical Information – Sour Gas Proliferation

For new category C and D and all category E gas plants, the licensee must submit documentation about the alternatives to construction, including

- evaluation of the technical and economic feasibility of using or modifying existing infrastructure,
- an assessment of the social and economic effects of the alternatives, and
- design parameters and available capacity of existing category C, D, and E gas plants that were considered.

Schedule 2.3: H₂S Information – Facilities

Step 2: Gas Treating and Processing Information

For facilities where an H₂S scavenger unit is proposed, the licensee must submit

- a description of the H₂S scavenger system proposed, and
- the nature of the spent scavenger and its disposition.

For all facilities where the inlet H₂S content is more than 0.01 mol/kmol, the licensee must submit a wellhead or inlet gas analysis representative of the facility’s inlet streams.

Provide	Do not provide
<ul style="list-style-type: none"> • Gas analysis from the lab • Explanation of how the gas analysis is representative of the inlet if it is not from an inlet source 	<ul style="list-style-type: none"> • Tabulated summary of an area • Only the gas composition portion of a gas analysis

For facilities with continuous sulphur emissions, the licensee must submit a breakdown of all sources that contribute to the total value (e.g., flare, produced water tanks).

Provide
<ul style="list-style-type: none"> • Break down in the same units as the facility application schedules • If the facility is amended, provide the breakdown for the entire facility, not only for the portion being amended.

For facilities where the sulphur inlet is greater than 1 t/d, the licensee must submit an explanation of how the facility meets the current sulphur recovery guidelines.

Step 3: Technical Information – Setback Requirements

Setback Requirements

The licensee must submit

- the input parameters used to calculate the potential H₂S release volume of the highest level of pipeline associated with the facility (inlet or outlet streams),
- a pipeline map showing ESD and check valve locations, and
- the pipeline licence and line number for the highest level of pipeline associated with the facility.

Vapour Recovery

For facilities where the inlet H₂S is greater than 10 mol/kmol, the licensee must submit a description of the method proposed to control odours from storage tanks and other sources of vented gas, including the type of system.

For facilities where a product containing greater than 0.01 mol/kmol of H₂S will be transported, the licensee must submit documentation that confirms that a method to control off-lease odours during the transport of fluids containing H₂S gas is in place.

SO₂ Emissions and Stack Design

For facilities with continuous flaring/incineration where the inlet H₂S is less than 10 mol/kmol, the licensee must submit the heating value of the gas stream for the flare/incinerator.

For facilities where the inlet H₂S is greater than 10 mol/kmol, the licensee must submit

- a schematic diagram or description of the flare/incinerator that must show a continuous pilot and/or automatic igniter, flame arrestor, and stack height;
- for incinerators, the residence time and exit temperature; and
- documentation that demonstrates that the Alberta Ambient Air Quality Objectives will be met for SO₂ emissions from continuous sources and from nonroutine events. The documentation must clearly show that dispersion modelling was conducted in accordance with the *Alberta Air Quality Model Guideline* and *Directive 060* and should include at least the following:
 - The source parameters, locations, elevations, and SO₂ emission rates for all sources
 - Predicted maximum ground-level SO₂ concentrations
 - The name of the dispersion model used
 - A description of meteorological data used
 - A terrain map of the study area

Schedule 2.4: Compressors/Pumps – Facilities

Step 2: Compressors, and Step 3: Pumps

For facilities with compressors/pumps, the licensee must submit manufacturer's specifications for the proposed compressor that confirm emission ratings, unit size, and driver type.

Provide
<ul style="list-style-type: none">• If generic information is provided, please highlight the data that is applicable to the compressors/pumps in the application.• Ensure the new or removed compressors/pumps identified in schedule 2.4 match those identified on the PFD.

Q3. Who do I contact if I have more questions about my audit submission?

A3. Send questions about *Directive 056* participant involvement audits to the AER's Customer Contact Centre at 403-297-8311 (toll free: 1-855-297-8311), or by e-mail at inquiries@aer.ca.