Health, Safety, Environment & Regulatory (HSER)

This document supports the requirements of COMS.

Worksite Entry Standard

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Custodian	HSER Doc Mgt	
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COMS	See COMS Standards	
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Revision History

Version	Description	Date	Approver
2.1	4.11 Wildlife site rules were added	2020-02-20	Group Lead, HSER Programs
2.0	Combined the two documents Well Site and Facility (Process Building) Entry Practice (Issued: July 2010) and Deep Basin Work Site Entry Procedure (Issued: Feb 2015)	2019-06-28	Group Lead, H&S Programs & Solutions

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1.0 Purpose

The purpose of this Worksite Entry Standard (hereafter "this Standard") is to describe Cenovus's requirements for safely entering a live wellsite or a facility. Hereafter, in this Standard, if the instructions apply to either a wellsite or a facility (including a process building) in general, the term "worksite" is used. If the instructions apply to a wellsite specifically, the term "wellsite" is used; if they refer to a facility, the term "facility" is used.

2.0 Scope

This Standard applies to all Cenovus live worksites where hydrocarbons are piped, stored, processed, or treated.

Out of Scope: Not applicable when working on a previously flooded system at a riser valve station.

3.0 Roles and Responsibilities

The following roles and responsibilities apply to this Standard.

Table 1: Roles and Responsibilities

Role:	Responsible to:
Functional Leaders (Senior Business Leaders)	• Communicate and implement this Standard in functional areas of authority • Demonstrate ownership and leadership by actively setting a positive example • Allocate resources to implement this Standard
Functional Supervisors (Field Supervisors responsible for worksites and execution of work)	• Confirm that all workers are aware of their roles and responsibilities outlined in this Standard • Confirm that workers are trained and competent in the requirements of this Standard • Coach and correct workers who do not understand or comply with the requirements of this Standard • Provide feedback to the Program Manager or their representative concerning proposed changes to this Standard
Health & Safety Programs and Solutions Team	• Monitor and collect feedback related to this Standard to verify program effectiveness • Lead standard reviews and revisions as per the expectations described in this Standard
Field Health & Safety Team	• Conduct worksite observations and assessments regularly to verify compliance with the expectations of this Standard • Provide feedback to the Program Manager or representative concerning proposed changes or improvements to this document • Assist with the implementation and communication of the requirements of this Standard

Role:	Responsible to:
Workers	• Review and comply with this Standard
Service Providers	• Comply with this Standard and all other Cenovus requirements • If required, develop and implement procedures that satisfy company-specific operational needs and align with the minimum requirements outlined in this Standard

4.0 Preparatory Worksite Entry Requirements

4.1 Worksite warning signs and indicators

- For all worksites, signage at the entrance to the worksite shall be posted, having the legal description of the surface location and Cenovus's 24-hour emergency telephone number
- Warning signs shall identify the nature of the hazards such as flammable gas, flammable liquid, or poison gas

NOTE: Refer to the Alberta Oil and Gas Conservation Rules (section 6.020) or the British Columbia Drilling and Production Regulation (sections 15, 77).

Cenovus leaders must post site-specific caution signs at the worksite that advise workers of hazards.

- All work sites where H_2S is or may be present in concentrations that exceed 10 ppm, must have a posted poison gas warning symbol
- PPE warning signs shall be affixed on facility doors and inside the facility
- Directional wind indicators such as flags and windsocks, as appropriate, shall be available at prominent and visible locations on the worksite

4.2 Hazards to mitigate

Conduct a hazard assessment of the known hazards before entering a worksite. Common hazards that include but is not limited to the following list:

- Toxic gas and oxygen-deficient atmospheres
- Flammable and explosive atmospheres
- Corrosive and hazardous chemicals
- High pressure and line of fire hazards
- Confined spaces
- Wildlife dangers, including Hantavirus
- Extreme hot or cold temperatures

- Static electricity
- Loud noise

4.3 Safe work permits

- Workers shall obtain a Safe Work Permit before performing work on a Worksite

  NOTE: Refer to the Cenovus Safe Work Permit Practice (CEN-EHS114) and Hot Work Standard (CEN-EHS095)

- Workers shall obtain a Safe Work Permit before operating a vehicle within Hazardous Locations (see glossary)

  NOTE: Obtain general site orientation to understand applicable requirements related to onsite reporting and safe work management. (Refer to Section 9.2.1)

4.4 Personal protective equipment (PPE)

- Workers shall use additional or special personal protective equipment (PPE) if required by a hazard assessment or as per a site-specific procedure

  NOTE: Refer to the Cenovus Personal Protection Equipment Practice (CEN-EHS108) for minimum and specific personal protection equipment requirements.

4.5 Working Alone

- Workers shall prepare a working-alone plan for working-alone scenarios

  NOTE: Refer to Cenovus Work Alone Standard (CEN-EHS123).

4.6 Emergency preparedness

- Supervisors and workers shall review and assess the onsite emergency preparedness conditions and activities needed for work on a worksite
- Examples include but are not limited to muster points, emergency contact numbers, emergency alarms, and escape routes

4.7 Personal gas detector

- Workers shall wear a four-head gas detector in the breathing zone when working in areas where exposure to a hazardous atmosphere may occur
- A four-head personal gas detector must be worn in a live facility unless deemed unnecessary by a risk assessment
- The detector must be donned with the sensor exposed to the atmosphere in the worker's breathing zone before the worker enters the worksite

  NOTE: To review the personal monitoring considerations, refer to the Cenovus Portable Gas Detection Practice (CEN-EHS090).

- Workers must not exceed the occupational exposure limit (OEL) of a known substance at any time
- If an H_2S alarm set at 10 ppm on a personal gas detector sounds, any worker in the immediate vicinity shall evacuate to a safe area to avoid further exposure

4.8 Smoking

- Smoking and use of e-cigarettes is allowed only in designated smoking areas on the worksite

4.9 Fire and explosion hazards

- Workers shall not use non-intrinsically safe equipment in a live facility or other hazardous locations unless authorized by the supervisor after a Safe Work Permit has been obtained. Most common non-intrinsically safe equipment includes a cell phone, pager, flashlight, or camera.
- All diesel-powered vehicles and equipment operating within 25 m of a well, process vessel, oil storage tank, or source of ignitable vapours, must be equipped with a functional automatic air shutoff device and must follow Cenovus Hot Work Standard (CEN-EHS095)

  NOTE: Refer to CSA B621-14 and B622-14.
- Workers shall ensure that worksites are adequately ventilated before entry

4.10 Hantavirus

- Workers shall not deliberately come into contact with live/dead rodents
- Workers shall not knowingly come into contact with or inhale dust from dried rodent droppings, urine, saliva, or any other contaminated materials

NOTE: Refer to the Cenovus Hantavirus Hazards and Control Practice (CEN-EHS127).

4.11 Wildlife

- Workers shall not deliberately feed wildlife
- Workers shall ensure that waste, food, and wildlife attractants are managed to prevent attracting wildlife

NOTE: Refer to the Cenovus Wildlife Awareness and Reporting Guideline (CEN-EHS13857).

4.12 Static electricity

- Workers shall ensure that their person or any clothing worn or equipment they use dissipates any static electrical charge through using bonding and grounding techniques

NOTE: Refer to the Cenovus Electrical Safety Standard (CEN-EHS14169).

Warning! – Cold, dry weather increases the possibility of static electricity accumulation on workers.

5.0 Visitors

- A qualified Cenovus employee or an authorized contractor must accompany any visitor at locations other than camp accommodations
- Site visitors are not required to be clean-shaven during their visit

NOTE: Refer to the Cenovus EH&S Orientation Standard (CEN-EHS232).

6.0 Atmospheric Conditions

Table 2: Atmospheric Conditions

Hazard	Readings	Action
H_2S	>10 ppm	• Workers in the immediate vicinity will evacuate to a safe area to avoid further exposure
LEL	0%	• All reasonable efforts must be made to reduce LEL levels to 0% or as low as reasonably possible
LEL	>10%	• No hot work shall be conducted • Any worker must not remain in the building for more than 10 minutes, even to ventilate the premises • Workers shall conduct continuous monitoring of the atmosphere inside the building **Warning!** – Reaction time for the gas detectors could be long as 10 seconds
LEL	>20%	• Consider this an operational emergency • Before entry, an emergency response plan (ERP) that includes risk assessment, assessing backup resources, PPE, continuous monitoring, isolation must be in place • Workers shall not enter or remain in the building
O_2	<19.5% or >23%	• Workers shall not enter or remain in the building
CO	>25 ppm	• Workers shall not enter or remain in the building

NOTE: Refer to the Cenovus Portable Gas Detection Practice.

7.0 Requirements for Physical Entry to a Worksite

7.1 Site check-in

- Report to a site supervisor at a worksite (if manned)
- Obtain a site-specific orientation, as applicable

NOTE: Refer to Cenovus Safety Orientation & Visitor Standard (CEN-EHS14379).

7.2 Assessment of immediate hazards

Workers shall conduct a Field Level Hazard Assessment (FLHA), stop, look, and listen to assess hazards, such as:

- Anything unusual about equipment, general conditions including roadways
- Air contamination
- Spills
- Alarms and warning lights (e.g., beacons)
- Wind direction

NOTE: Refer to Cenovus H&S Hazard Management Process (CEN-EHS14199).

Personnel must don a personal four-head H_2S monitor when entering the well site or lease environment where H_2S may be present.

7.3 Vehicle parking

- A vehicle shall be parked a minimum of 7.5 m (25 feet) away from potential gas sources (e.g. wellheads or process buildings)
- All vehicles and engines operated within 7.5 m of a hazardous location, must adhere to the Cenovus Safe Work Permit Practice

NOTE: Exemption to this clause is when using the main roads to the facility unless the roadway has signage indicating Hot Work Permit is required past a certain point.

- Drivers shall position the vehicle upwind or crosswind of any worksites with the vehicle facing the direction of egress and outside the classified area as per hazardous area classification if applicable
- A vehicle must be turned off if they are not under the direct supervision/control of the driver

8.0 Requirements for a Facility Entry

8.1 Assessment of immediate hazards

Before entering a facility, workers shall proceed as follows:

- Watch for facilities that are closed tight to retain heat because this increases the risk of accumulation of hydrocarbons and hazardous atmosphere (e.g. H_2S, CO, LEL) inside the facility. Also, it may result in an oxygen-deficient atmosphere
- Wear a correctly bumped and calibrated personal gas detector
- Check the personal monitor to ensure that it is switched on and worn with the sensor exposed to the atmosphere in the worker's breathing zone
- Take a safe position to the side of the door before opening it
- Check the multi-gas detector and monitor the atmosphere readings in the doorway
- Remove the weatherproof cap from the test line and insert a personal gas monitor pump into the test line
- For facilities without a test line, check the atmosphere at the doorway before entering
- Wait at least 45 seconds to complete the sampling of the inside atmosphere
- Ensure that the atmosphere check with the gas detector shows a satisfactory atmosphere as per Section 6 of this Standard
- For a facility equipped with fixed gas detection, read the gas detection monitor located in the facility office or mounted on outside of the building or call control room for an instantaneous reading

8.2 Assessment of ventilation issues

Before entering a facility, workers shall proceed as follows:

- Exercise extra care and caution for a facility with only one point of ventilation (i.e., a Facility with only one door or a facility with all but one closed window)
- If the facility has two doors, open the downwind door first, then open the upwind door
- Switch on the ventilation fans (if available) before entry
- Increase the ventilation time before entering the facility during cold weather, to reduce the risk of accumulation of hydrocarbon gas inside
- If clothing has been exposed to an oxygen-enriched atmosphere, ventilate it in the open air for at least 15 minutes away from ignition sources, to remove trapped gases

Warning! – Always take a safe position to the side of the door before opening it

Warning! – More time is required for natural ventilation to take place when the interior and exterior temperatures are similar

Warning! – Vent the facility equipped with catalytic heaters appropriately as most catalytic heaters consume air from the room in which it is installed

8.3 Assessment of other hazards

Workers shall stop, look, listen to assess other hazards as follows:

- Check for any unusual noises, odours, leaks or other hazards
- Dissipate the static electrical charge from one's body by touching metal on the facility. In the case of facility built of non-conductive materials, touch a pre-installed grounding rod
- Verify that adequate ventilation exists for the building (e.g. opening doors or windows)

8.4 Entrance to the facility

- Stop, Look, Listen, Check and Assess hazards
- If no hazardous conditions exist, open the door and enter with caution
- Enter the facility, preferably through the upwind door
- Monitor conditions continuously while inside the facility

9.0 Training

9.1 Operating and maintenance procedures

It is the accountability of Functional Leaders to ensure that workers under their supervision are aware of the appropriate policies, standards, processes, and procedures. This accountability is defined within 4.5 Operating and Maintenance Procedures COMS Standard.

9.2 Training

All personnel involved in work related to this *Worksite Entry Standard* shall have the training and the appropriate competency to perform their roles. Training must include theoretical (classroom), practical education/training and a competency review. Cenovus expectations related to training and competency are outlined in 5.4 Training and Competency Assurance COMS Standard.

9.2.1 Cenovus staff and service providers required training

Cenovus staff and service providers must receive HSE orientations before starting the work on a Cenovus worksite:

- Cenovus **service providers** can log on and access the training on the contractor portal.

Cenovus External Learning Portal

- **Cenovus staff** access the training through Cenovus's internal eLearning in WorkDay
    - General EHS Orientation (online)
    - General Site-specific Orientation
- **Cenovus staff** going to access Cenovus worksites must go through general site orientations for their respective sites before going to the field locations
    - Christina Lake General Site Orientation
    - Cold Lake Air Weapons Range (CLAWR) Orientation
    - Foster Creek Site Specific Orientation
    - Narrows Lake Site Specific Orientation
    - EHS Orientation for Deep Basin Operations
- **Site Specific Orientation** provided by the site supervisor (if applicable)

10.0 Program Compliance

10.1 Compliance measurement

- Compliance with this Standard shall be assessed through program assessments and internal audits, or other measurement criteria as specified in the 7.2 Assurance COMS Standard
- Measurement can also be accomplished through the tracking of appropriate Key Performance Indicators (KPIs)
- Business functions impacted by this Standard must include compliance and program effectiveness verifications in their business assurance program

11.0 References

11.1 Definitions and acronyms

The following terms and definitions are specific to this Standard.

Table 3: Terms and Definitions

Term	Definition
Hazardous locations	A place where fire or explosion hazards may exist due to flammable gases or vapours, flammable or combustible liquids, combustible dust or ignitable fibres or flyings, as described in the Canadian Electrical Code.
Manned worksite	A worksite where a Cenovus supervisor is present and work activities on that site are under their care and control. For maintaining a headcount of the personnel on site, it is expected to sign on to the site roster after

Term	Definition
	reporting to the Cenovus supervisor and sign off from the roster before leaving the site.
Live wellsite or facility	A worksite with one or multiple oil and or gas wells which is producing, or is capable of producing, or with a facility used for processing, storing or transporting oil and natural gas from the wells.
Non-routine work activities	Work other than routine site visits, low-risk routine maintenance work (without hot work), meter reading and inspection of equipment. A risk assessment of the scope of work by the site supervisor will decide whether an activity is non-routine or not.
Non-intrinsically safe equipment	If an electrical device is intrinsically safe, it is designed to be certified by an independent approving body, so that if it fails during normal use and operation, it will not generate enough energy to ignite a flammable mixture of the hazard classes specified.
The automatic air shutoff device	Designed to keep a diesel engine from over-revving and "running away." This is a unique hazard with diesel engines because they do not require a spark for ignition and can continue to burn hydrocarbons in the air even when the diesel fuel is exhausted, or the key is removed. As a result, positive air shutoffs are an essential barrier to prevent the over-revving and subsequent explosion of the engine. Such an explosion could result in injury or be the source of ignition for a more significant fire or explosion.
Hantavirus	Hantavirus is a virus that exists in a variety of rodents, although it is primarily limited to the deer mouse in North America.
Breathing zone	A hemisphere forward of the shoulders within a radius of approximately 6-9 inches (US OSHA).
Oxygen-enriched atmosphere	Specific chemical reactions may produce Oxygen-enriched atmospheres but are typically caused by leaking oxygen hoses and torches. Oxygen-enriched atmospheres present a significant fire and explosion risk — oxygen concentration in the atmosphere above 23.5% by volume.

Table 4: Acronyms, initialisms and abbreviations

Acronym	In Full
LEL	Lower Explosive Limit. The lower value of the range of concentrations of a substance, in a mixture with air, at which the substance may ignite.
OEL	Occupational Exposure Limit. The exposure limit as specified by provincial occupational regulation (OH&S).
e.g.	For example. (Instances stated after "e.g." are not exhaustive)
ERP	Emergency response plan
i.e.	That is (Instances stated after "i.e." are exhaustive)
KPI	Key performance indicator
PPE	Personal protective equipment

11.2 Internal references

The following Cenovus references support this Standard.

Table 5: Internal references

Reference Type or File Number	Reference Title
COMS	4.5 Operating and Maintenance Procedures COMS Standard
COMS	5.4 Training and Competency Assurance COMS Standard
COMS	7.2 Assurance COMS Standard
CEN-EHS14169	Electrcial Safety Standard
CEN-EHS14379	Safety Orientation & Visitor Standard
CEN-EHS13040	HSER Program Revision Process
CEN-EHS127	Hantavirus Hazards and Control Practice
CEN-EHS14199	Hazard Management Process
CEN-EHS095	Hot Work Standard
CEN-EHS108	Personal Protective Equipment Practice
CEN-EHS090	Portable Gas Detection Practice
CEN-EHS114	Safe Work Permit Practice
CEN-EHS13857	Wildlife Awareness and Reporting Guideline
CEN-EHS123	Working Alone Standard

11.3 External References

The following external references support this Standard.

Table 6: External references

Reference Type/ Agency/ Association	Reference Title
AB OH&S	Alberta OHS Act, Regulation & Code
Alberta Oil and Gas Conservation Rules	Alberta Oil and Gas Conservation Rules (section 6.020)
BC OH&S	WorkSafe BC
Energy Safety Canada	Safety Bulletin – Positive Air Shutoff
British Columbia Drilling and Production Regulation (sections 15, 77)	British Columbia Drilling and Producation Regulation, (sections 15, 77)
Canadian Centre for Occupational Health and Safety (CCOHS)	Canadian Centre for Occupational Health and Safety (CCOHS)
Canadian Standards Association	CSA B621-14 and B622-14
Province of Alberta	Oil and Gas Conservation Rules
Province of British Columbia	Oil and Gas Activites Act – Drilling and Production Regulation