

Service Provider EH&S Expectations Manual

v 3.6 June, 2017

Forward

If we can't do it safely, we won't do it.

At Encana, safety is not just a priority. It is more important than that. Safety is a core business value, is part of our culture, and is built into every job.

As a partner in our success, we expect you to take safety as seriously as we do by ensuring your company's work is performed as safely as possible. Our philosophy is, *"if you can't do it safely, don't do it."* We also believe that each of us is responsible for our own safety and that of our co-workers so we can all go home to our families at the end of the day.

This philosophy goes beyond hard-hats, steel-toed boots and other personal protective equipment. It's a mental commitment to safety that is reflected in the decisions we make every day about how we approach our work. This is the only way we can conduct our business responsibly.

We are counting on each of you to embrace our safety culture, not just on the jobs you do for us, but on the jobs, you do for other companies. And, remember: Safety is free; take some home with you.

Best regards,



Byron Gale
VP, EH&S/Reg Affairs/Security

Table of Contents

1.0	OVERVIEW	3
2.0	REGULATORY DISCLAIMER AND INDUSTRY RECOMMENDED PRACTICES	3
3.0	ENCANA EH&S CULTURE, SYSTEMS AND TRAINING REQUIREMENTS	4
	ETHOS.....	4
	COURTESY MATTERS.....	4
	INTEGRITY HOTLINE.....	5
	ISNETWORLD	5
	CERTIFICATE OF RECOGNITION/SMALL EMPLOYER CERTIFICATE OF RECOGNITION REQUIREMENTS	5
	SERVICE PROVIDERS USING SUBCONTRACTORS	5
	ORIENTATION/SAFETY TRAINING & COMPETENCY MANAGEMENT	6
4.0	SAFETY	8
	ALCOHOL AND DRUGS	8
	BONDING AND GROUNDING.....	8
	CONFINED SPACE.....	9
	ELECTRICAL HAZARDS	10
	EMERGENCY PREPAREDNESS AND RESPONSE.....	10
	ENERGY ISOLATION.....	11
	EXCAVATION, TRENCHING AND SHORING	11
	FIRE AND EXPLOSION HAZARD MANAGEMENT.....	12
	GROUND DISTURBANCE	13
	INCIDENT MANAGEMENT	14
	MOTOR VEHICLE SAFETY	15
	PERSONAL PROTECTIVE EQUIPMENT.....	15
	PROCESS SAFETY	18
	PURGING	19
	RENTAL LEASE EQUIPMENT.....	19
	RIGGING AND LIFTING	20
	SAFE WORK PERMIT	20
	WORKING ALONE	21
	WORKING AT HEIGHTS	21
	WORKING AT NIGHT	21
5.0	HEALTH HAZARD ASSESSMENT AND CONTROL	22
6.0	ENVIRONMENTAL STEWARDSHIP	22
	PRE-DEVELOPMENT ENVIRONMENTAL PLANNING AND ASSESSMENTS	22
	SPILLS AND RELEASES	22
	WATER WITHDRAWALS AND TRACKING.....	23
	WASTE MANAGEMENT	23
	WILDLIFE AND HABITAT	23
7.0	REGULATORY COMPLIANCE	23
8.0	RISK MANAGEMENT	23
9.0	SECURITY AND SECURITY INVESTIGATIONS	23
10.0	VERIFICATION AND AUDIT	24

1.0 Overview

This Service Provider Expectations Manual (SPEM) has been designed to provide Service Providers with a clear understanding of Encana's Environmental, Health and Safety (EH&S) expectations. This document applies to Encana Canadian operations and replaces all previous versions of the Service Provider Expectations Manual and/or the Contractor Expectations Manual.

The information in this manual is intended for general use and may not apply to every circumstance. It is not a definitive guide to government regulations and does not exempt the Service Provider from their responsibilities under applicable regulations. While performing services on Encana locations, Service Providers shall comply with applicable regulations.

If any doubt arises as to the meaning or interpretation of these expectations, or any conflict identified between your company's policies/protocols and those of Encana, the Service Provider shall consult with your Encana representative.

This document summarizes EH&S expectations for Service Providers providing onsite services in the field. **The term "Service Providers" as used in this document includes but is not limited to the service provider's employees, consultants, contractors and sub-contractors; and collectively will be referred to as staff.** Additional requirements may exist in Service Orders, Master Service and Supply Agreements, master contracts or other agreements.

Note: This document does not apply to offshore activities and operations.

Acknowledgement

Service Providers shall:

1. review and communicate the key points of this manual, as they apply to your business and to your staff who will be working on Encana locations
2. acknowledge your understanding of the EH&S expectations contained in this manual by providing electronic acknowledgement in ISNetworld (ISN) as requested
3. For auditing purposes, maintain a record of staff acknowledgements.

2.0 Regulatory disclaimer and industry recommended practices

It is the Service Provider's responsibility to comply with all applicable laws, statutes or other regulatory requirements and industry best practices. If there is a conflict between these stated expectations and regulatory requirements, regulatory requirements always supersede this document.

Service Providers shall strictly comply with all Encana policies located on Encana's Website ([Doing Business with us](#)) and such other policies and practices as identified by Encana to the Service Provider, as well as the expectations stated in this document. The words in these documents are to be read in their entire context. In the event of an irreconcilable inconsistency among these documents, the more specific/strict requirements shall override the other requirements.

Encana endorses the Industry Recommended Practices (IRPs) published by Enform. The IRPs are publicly available on the Enform website (<http://enform.ca/publications/IRPs>). Service Providers

shall comply with Enform IRPs and ensure staff are trained in IRPs applicable to work on Encana field worksites and specific to each job.

3.0 Encana EH&S culture, systems and training requirements

At Encana, we believe that to excel in executing our strategy and to achieve our vision and goals, we must strive to share, uphold and embody a set of moral and business principles that clearly guides our behavior and keeps us moving in the right direction. Encana's company values define what we should expect of ourselves and each other in the work place. We uphold seven values that guide our actions, policies, practices and sustainability philosophy. Encana believes these actions will distinguish us as a company where our pride is reflected not only in what we achieve, but also in how we achieve it. These values are One, Agile, Driven, Safety, Trust, Integrity and Respect.

Ethos



Encana standards for operational excellence, including Service Provider Management, are defined in Ethos®, our operational management system. Service Providers will be identified, evaluated and selected based upon an analysis of strong EH&S management practices and performance.

Courtesy Matters

Courtesy Matters®, Encana's signature program, is focused on respectful and courteous conduct in the communities and at worksites where we operate. The program is designed to minimize the everyday disturbances that can come along with our activity.

Courteous conduct is a prerequisite for operating and our efforts to minimize daily impacts are critical to our ongoing development. Service Providers shall understand and model the actions and behaviors as described in Encana's Courtesy Matters documentation, <http://www.encana.com/business/contractors/courtesy-matters.html>

When working for Encana, remember to:

- always promote respectful behaviour
- manage your garbage and waste; use appropriate waste and garbage facilities
- be mindful of your activity; minimize impacts on area residents and property while on lease and while traveling to and from work sites
- be familiar with all gate requirements for the area you're working in
- minimize noise disturbance whenever possible
- watch for livestock and wildlife along roads /in ditches

If unsure about matters related to Courtesy Matters, ask your Encana representative

Courtesy Matters Phone: 1.888.568.6322
Email: courtesymatters@encana.com

Integrity hotline

Encana maintains an Integrity hotline so that internal and external stakeholders can confidentially or anonymously report any unethical, illegal or otherwise inappropriate behavior they observe.

Please contact us below to report any unethical, illegal, or otherwise inappropriate behavior:

Phone: 1.877.445.3222
Email: integrity.hotline@encana.com
Mail: Integrity Hotline
c/o Encana Corporation
500 Centre Street SE
P. O. Box 2850
Calgary, AB, Canada T2P 2S5

ISNetwork

All Service Providers shall subscribe to ISNetwork (ISN) and maintain an acceptable grade (www.isn.com). Service Providers shall complete the ISN questionnaire, as well as additional requirements as specified by Encana. To be cleared for work, Service Providers shall maintain an acceptable grade of "C" or higher. Conducting work with anything short of an acceptable grade may jeopardize your company's ability to work for Encana, potentially resulting in "Restricted Status". Accountability for maintaining your status within ISN lies solely with your organization.

To view your current grade and any outstanding items required by Encana, please follow the steps below:

1. select 'My Clients' from the navigation bar
2. search for Encana Corporation
3. click and review your grade in the 'Grades/Requirements' column

ISN Customer Service Team: 1-800-976-1303 or CustomerService@isn.com.

Certificate of Recognition/Small Employer Certificate of Recognition requirements

This certification is strongly recommended for all Service Providers and is recognized within Encana's ISNetwork prequalification grading. Specific work groups/types within Encana may require a Certificate of Recognition (COR)/Small Employer Certificate of Recognition (SECOR) to work for Encana.

Service providers using subcontractors

Service Providers employing subcontractors shall follow the subcontractor management protocol as identified in their ISNetwork profile. Requirements include:

- verification of valid WCB coverage
- a review of subcontractor safety statistics
- a review of the subcontractors' safety program and ensure it meets Encana's expectations outlined in this document
- orientation of subcontractors to the Service Provider's management system
- orientation to this document

The Service Provider must report all subcontractors' incidents as their own (see Incident Management).

Orientation/safety training & competency management

Service Provider staff shall complete the following training prior to their arrival on Encana worksites.

Note: Proof of training may be requested by Encana.

- [Encana's General Safety Orientation for Service Providers.](#)
- Industry Safety Orientation (e.g. Enform's General Safety Orientation (eGSO), PST, CSTS)
- H2S Alive®
- WHMIS
- First Aid (Standard First Aid – Alberta / OFA Level 1 – B.C.)
- Bear Awareness
- Detection and Control of Flammable Substances (Enform or Accepted Equivalent Training) when required to use gas detection equipment

Task specific training

- Ground Disturbance training as required
- TDG training for workers that coordinate the shipping, handling, and/or transportation of dangerous goods
- staff operating a motor vehicle require documented advanced driver training, which measures driving skills and knowledge beyond jurisdictional licensing requirements
- in British Columbia, on remote sites with six or more people without a Level 3 or equivalent First Aid attendant immediately available, at least one person must possess the BC First Aid Transportation Endorsement
- staff involved in down-hole operations or operation of associated surface equipment require training as outlined in IRP 18: Fire and Explosion Hazard Management
- additional task specific training for Service Providers may be required as stated by Federal and/or Provincial Regulation, or may be identified as a requirement for the specific business or discipline. Examples of task specific training may include: Mobile Equipment operation, Fall Protection, Confined Space Entry/Rescue, Wildlife Awareness, etc.

NOTE: Encana may implement "site specific" training requirements and/or exceptions if required (e.g. mandatory training required for the worksite **or** exceptions to minimum required training for Service Providers based on a project specific risk assessment performed by the business)

Site-specific orientation

- staff and visitors entering an Encana worksite for the first time must receive a site-specific orientation which could include being issued a Safe Work Permit or Hazard Assessment

- individuals who have not received a site-specific orientation must request an orientation from the Encana site representative or delegate
- service providers on Encana worksites without an Encana site representative must ensure all staff/visitors receive a site-specific orientation. The site-specific orientation must include an overview of site-specific hazards, emergency response plan (ERP) information and site reporting requirements
- If site conditions change or new hazards are identified, individuals must have the site-specific orientation updated before entering the site

Ground disturbance orientation

- all Service Provider staff involved in ground disturbance activities must complete the Encana Ground Disturbance Orientation

Medical provider orientation

- all medical Service Providers must complete the [Encana Medic Orientation](#)
- all medical Service Providers must be aware of any controlled products on the worksite (i.e., as identified on safety data sheets [SDS]) and ensure appropriate First Aid treatment/facilities for the controlled products are in place

Short Service Employees

Encana defines a short service employee (SSE) as a service provider staff with less than six months' experience in their assigned job. Encana expects that service providers have a written SSE program that includes the following requirements:

- distinguish SSEs from other employees on location (e.g., green hard hat)
- assign a seasoned mentor to each SSE that is fluent in the language the SSE best understands
- assess job skill competency for removal of SSE status; and
- ensure that SSEs do not make up more than 50% of a single crew at one time

Exceptions to these requirements require a plan to mitigate the risks and written approval of the Encana site supervisor.

Fitness for work

Service Providers shall develop and enforce fit-for-work practices to ensure staff are fit-for-work and remain so when:

- on on-call for Encana
- on Encana premises, and during all business activities undertaken during Encana's operations, whether conducted on or off company premises

Service Provider staff are considered unfit for work if injury, fatigue, illness, physical or psychological health issues or the use of alcohol or drugs results in or could result in a reduced ability to perform assigned duties and responsibilities safely or effectively.

4.0 Safety

Alcohol and drugs

Service Providers are required to meet the standards outlined in Encana's [Alcohol & Drug Policy](#). Depending on the terms of their agreement with Encana, Service Providers must either:

- implement an alcohol and drug policy and testing program that meets the same standards for prevention and testing as Encana's program, or
- follow the requirements outlined in Encana's Alcohol & Drug Policy

Service Providers are responsible for enforcing the requirements of their alcohol and drug program among their employees, subcontractors and staff who do business or who work on Encana premises. For details on Service Provider responsibilities refer to the [Contractor Compliance with the Alcohol & Drug Policy](#).

Service Providers must conduct their own post-incident and reasonable suspicion testing in accordance with their company policies/practices.

Encana may request post-incident and/or reasonable suspicion alcohol and drug testing at its sole discretion.

Staff directly involved in post-incident and reasonable suspicion testing must not return to work for Encana until Service Provider staff have been confirmed fit-for-work.

Onsite drug and alcohol inspections

Contracts with Encana authorize unannounced searches for and seizure of alcohol, drugs or drug paraphernalia during onsite activities when there are reasonable grounds. Searches may include vehicles, buildings, accommodation or other structures.

Bonding and Grounding

Service Providers must maintain and follow specific procedures for bonding and grounding, provide equipment that meets all regulatory requirements and must demonstrate clean, dedicated and labelled bonding sites, if required. These procedures must be made available at the worksite.

The following specific controls must also be in place

Bonding and grounding in the transfer of flammable liquids

- proper grounding cables shall always be used when transferring flammable liquids - static discharging hoses do not substitute as a grounding/bonding cable
- in temporary situations (tank truck loading/ off-loading) where there is little or no foot/machine traffic and the chances of dislodgment of the bonding cables is negligible, alligator clamps may be used (providing they are in good condition and make sufficient surface contact)
- ensure containers are in contact with each other (or connected using a bonding cable) and remain continuously electrically bonded throughout the transfer to prevent accumulation of static electric charge
- ensure containers are made from a conductive material compatible with the fluid being transferred. Tanks constructed of non-conductive materials are not permitted for storage of National Fire Prevention Association (NFPA) Class I, Class II, and Class IIIA liquids (unless otherwise approved in writing by an Encana engineer). Tanks, mixers, and process vessels

- used for flammable or explosive substances must be bonded and grounded together during liquid transfer
- maintain low vessel filling rates until the loading spout is submerged to help avoid the buildup of static electricity
 - place fill spouts as low as possible in the fill containers to help dissipate any charge build-up
 - monitor lower explosive limits (LELs) and wear proper personal protective equipment (PPE) as required depending on the substance being transferred (see appropriate practices / SDS sheets)

Bonding and grounding of non-electrical equipment on Drilling and Completions sites

- ensure metal parts of equipment (e.g., mud pumps, mud tanks, centrifuges, boilers, or generators) on Encana sites are electrically bonded together and grounded (e.g. rig anchors, well casing)
- use bonding wires no smaller than American Wire Gauge (AWG) number 6 to prevent mechanical damage. AWG number 4 is recommended
- attach wires with approved lugs / clips to unpainted, clean, and dedicated locations. Use an Ohm meter (with Hot Work Permit) to test the connection if unsure. Alligator clamps or spring enabled booster clamps are not acceptable as they may easily dislodge
- ensure bonding and grounding wires are without joints or splices throughout their length
- ensure continuity of bonding and grounding system controls (e.g., by flagging, traffic control, or inspections)

Bonding and grounding of electrical equipment

- install ground rods for electrical generators/light plants in accordance with manufacturer specifications, grounding drawings, and regulatory requirements

Steam cleaning / high pressure washing

- steam hose nozzles and steam lines are bonded to the vessel being cleaned.
- all components of the steaming system are conductive and grounded. A second bonding wire from the nozzle to the vessel is recommended.
- no insulated or spark-promoting objects are present inside the vessel
- all conductive components of the tank are bonded and grounded together
- start the initial flow of steam at a low rate until most of the atmosphere in the vessel is replaced by steam
- pressure washing/vacuum truck operators must bond their trucks to the equipment being cleaned prior to commencing work

Confined space

Service Providers must make every effort to use zero entry tools, equipment, and procedures to avoid the worker exposure hazards of confined space entry.

Service Providers must make every effort to reduce hazardous atmospheres as low as possible prior to opening any manways, access hatches, etc. This can be achieved by using tools/procedures such as flooding/spray tools, vacuum trucks, H₂S scavengers and chemical additives.

Service Providers involved in confined space entry must have their own confined space code of practice that meets or exceeds all regulatory requirements. It is critical that Service Providers understand that confined space requirements differ provincially; therefore, the Service Provider is responsible to incorporate relevant regulation into their own confined space code of practice.

Encana requires identification of all confined spaces. Additionally, Service Providers shall adhere to the following.

- prior to staff entering a confined space, competent workers must document the hazard assessment of the work area that identifies the hazards that a worker is likely to be exposed to while in the confined space, and the controls required to eliminate or mitigate the identified hazards
- atmospheric testing must be completed no more than 20 minutes prior to any entry into a confined space. Documentation of testing must be posted at the entry point.
- work is not permitted in spaces where the flammable limit exceeds 20 percent LEL
- during confined space work, continuous mechanical ventilation must be maintained

Confined space permits

A permit is always required for entry into a confined space. This may be an Encana permit or a Service Provider permit depending on the site circumstances. If there is any doubt, contact the Encana site representative.

A permit is not sufficient to meet regulatory requirements and may need to be accompanied by additional documentation (e.g., hazard assessments, staff logs, atmospheric monitoring sheets, energy isolation checklists and confined space entry checklists). Service Providers are required to use these additional documents.

Any permit used for confined space must include at a minimum:

- name of the confined space
- activities to be performed
- names of workers allowed entry
- required precautions for the space
- time and expiration of the permit
- a record of atmospheric testing with any specific numerical atmospheric findings

Electrical hazards

All Service Providers designing electrical systems shall design systems in conjunction with industry standards and engineering best practices.

Only Qualified Persons (as defined in the NFPA 70 E and CSA-Z 462) shall interact with electrical equipment while it is energized, including work on or operation of electrical equipment while exposed to energized components. If acting as a Qualified Person, Service Providers shall provide credentials of qualified status if requested by Encana.

Emergency preparedness and response

ENCANA 24-HR. EMERGENCY NUMBER

Operations Control Center (OCC): 1-866-244-0062

Or

Encana Emergency Line: 1-403-645-5911

Service Providers shall follow any Encana site-specific Site Safety Plans and/or Emergency Response Plans when made available. Although development and communication of the Encana Site Safety Plan is the responsibility of the Encana Worksite Supervisor, Service Providers are required to ensure that the contents of the Site Safety Plan are effectively communicated to all staff. In addition, Service Providers shall have their company specific emergency response plan (ERP) available at the worksite, with appropriate contact information and emergency procedures.

Service Provider staff shall participate in any tabletop exercises or drills held on Encana worksites. The service provider shall refer all media or outside inquiries to their Encana representative in the case of any incident or emergency.

STARS registration

Encana field worksites and activities are typically registered with the STARS Emergency Link Centre (ELC). When an Encana site representative is **not** on the worksite, then Service Providers must register the site as an Encana site with the STARS ELC at 1-888-888-4567 prior to operations.

The STARS site registration number and the STARS ELC number must be posted at the worksite.

Upon completion of work, Encana worksites are de-registered with STARS by Encana. When an Encana site representative is not on the worksite, Service Providers must de-register the site with the STARS ELC at 1-888-888-4567.

Energy isolation

Service Providers must follow Encana site-specific procedures for the safe isolation of energy in production processes, facilities, and equipment using blanks, blinds, locks and tags.

For their own equipment and processes, Service Providers shall implement their own energy isolation procedures for all potentially harmful energy sources.

Excavation, trenching and shoring

Service Providers involved with excavations and trenching must receive [Encana's Ground Disturbance Orientation](#) prior to excavating, trenching or shoring.

Any staff performing activities such as trenching, shoring, ditching, etc. for Encana must be versed in, and follow, the regulatory requirements around excavations, trenching and shoring.

Any excavation, earth moving, soil stripping, brush clearing and other earthwork shall be conducted in a manner that preserves the soil and allows for the segregation of soil types to facilitate land reclamation in the future. Where necessary, measures to prevent excessive soil erosion by wind or water shall be put in place.

Fire and explosion hazard management

Service Providers conducting down-hole activities such as coiled tubing, pumping hydrocarbons, snubbing, swabbing, fracking, well testing and flowing are required to implement a Fire and Explosion Hazard Management (FEHM) program as outlined in the ENFORM [Fire and Explosion Hazard Management Guideline \(Formerly IRP 18\)](#)

Hot work

Service Providers must have their own hot work practice and procedures that meet or exceed all regulatory requirements and Encana expectations.

Where there is a potential for fire and explosion Service Providers are required to adhere to all Encana permitting processes for hot work (Hot Work Permit) as well as ensure that all non-intrinsically safe equipment such as cameras, cell phones, tablets, and laptops are left in vehicles/offices/trailers.

Flammable liquid loading/offloading

Service Providers must follow Encana site-specific requirements for flammable liquid loading/offloading including bonding and grounding.

In addition to site-specific requirements, Service Providers involved with flammable liquid loading/offloading must adhere to the following:

- smoking or other sources of open flame are not permitted within 25 metres of the loading/offloading operation. Any other sources of ignition must be a minimum of 8 metres from the area involved in loading/offloading flammable liquids.
- at a minimum, the wheels of the truck and/or trailer loading/offloading flammable liquids must be safely chocked against forward and backwards motion
- hoses and fittings used for loading/offloading flammable liquids must be rated for the product being transferred
- Encana's bonding and grounding requirements in the transfer of flammable liquids
 - grounding cables must always be utilized when loading/offloading flammable liquids and must remain effectively attached until all other connections are removed
 - both tanks and tank trucks must be bonded and grounded. The connector attachment sites must be un-painted, rust-free surfaces. All bonding equipment must meet all regulatory requirements and allow for clean, dedicated, and labelled bonding sites.
- drivers must verify that their grounding equipment is functional
- service and maintenance must not be carried out on a tank truck when loading/offloading flammable liquids
- a worker's sole duty during loading/offloading of flammable liquids must be to monitor and operate loading/offloading equipment; this worker must remain in the immediate area and must be able to promptly shut off equipment if required
- nozzles must not be blocked open, except with a device designed and approved for the task by a manufacturer
- when possible, all vehicles involved in loading/offloading flammable liquids must be shut off prior to transfer beginning
- if a tank is pressurized as part of the offloading process, the truck must be fitted with a pressure relief valve, a regulator, a pressure gauge and a mechanism for quickly shutting off supply to the tank. The controls must be readily accessible to the operator
- when loading/offloading flammable liquids, all vent lines and hoses required by the manufacturer and legislation must be in place. The outlet of these must be in an area that does not impact workers in case of a release, and has no risk of explosion on an Encana site.

- cam locks utilized for connecting hoses must have a means of secondary securement, such as cable ties or strapping
- prior to loading/offloading flammable liquids, connections must be checked and verified to ensure no leaks
- all spills, regardless of size or material, must be immediately reported to the Encana site representative
- the atmosphere around the tank truck must be tested and continuously monitored for lower explosive limit (LEL), oxygen levels, and toxicity during loading/offloading

Ground disturbance

All Service Providers performing ground disturbance activities shall:

- ensure all Service Provider staff involved in ground disturbance activities have completed the [Encana Ground Disturbance Orientation](#) prior to the initiation of ground disturbance activities
- submit a One-Call locate request for the proposed ground disturbance excavation
- follow all the requirements when performing the function of a Ground Disturbance Supervisor, equipment operator and/or spotter
- seek clarification concerning any Encana practice through their Encana representative
- initiate work only after a Ground Disturbance Authorization has been completed (with a signed Ground Disturbance Authorization Form in place) approved by Ground Disturbance Supervisor
- maintain Ground Disturbance Supervisor training if acting in the role of a Ground Disturbance Supervisor; and
- ensure internal competency requirements are established and followed for equipment operators and spotters

If multiple Service Providers are supervising ground disturbance work at a single Encana location, each Service Provider shall be responsible for ensuring locates are performed for their specific ground disturbance work.

The ground disturbance supervisor

Ground Disturbance Supervisor shall:

- oversee the execution of the ground disturbance activity in the field
- ensure the necessary third-party crossing agreements are in place or that information and requirements specified on a line locate ticket are recognized and adhered to, when working near third-party buried facilities
- ensure that a line locate is requested from the One-Call Center (“Call before you Dig”) and that all buried facilities in the search area have been located and identified through site walkovers, as-built drawings, maps, survey records, etc., prior to beginning ground disturbance work
- complete and sign the Ground Disturbance Authorization Form and ensure any required Encana Safe Work Permits/Job Safety Analyses (JSAs) are in place prior to the initiation of ground disturbance activities
- incorporate emergency response to a buried facility contact as part of the Safe Work Permit/JSA
- ensure that a search area and Hand Expose Zone have been established at the worksite and the limits of these areas have been communicated to affected staff
- ensure that the depth and direction of buried facilities within the Hand Expose Zone are defined on the Ground Disturbance Authorization Form

- ensure that all staff involved with the ground disturbance activity understand and comply with Encana's requirement that mechanical equipment may not be operated within the Tolerance Zone (see exception bullet below)
- ensure that the equipment operator uses a competent spotter when conducting ground disturbance in a Hand Expose Zone
- communicate to affected staff to STOP WORK and immediately contact the Encana site representative upon any buried facility being contacted, or if an unidentified buried facility is encountered, AND that all work will remain stopped until a new Ground Disturbance Authorization is completed
- report any contact with or any discovery of an unidentified buried facility to the Encana site representative and an EHS representative
- ensure that if mechanical excavation is required within a Tolerance Zone, it is only performed:
 - after first exposing the facility by hand digging or hydrovac excavation
 - with direct supervision of a representative of, and with permission from, the buried facility owner

Equipment operator

The equipment operator performing ground disturbance activities shall:

- adhere to the specified requirements and limitations of the established Tolerance Zone
- use a competent spotter when performing ground disturbance in the Hand Expose Zone and maintain continuous communication with the spotter
- perform hand digging or hydrovacating prior to mechanical excavation in any Hand Expose Zone, and perform hand digging or hydrovacating ONLY within a Tolerance Zone
- work within the conditions of the Ground Disturbance Authorization Form
- STOP WORK and immediately contact the Encana site representative upon any buried facility being contacted, or if an unidentified buried facility is encountered, AND that all work will remain stopped until a new Ground Disturbance Authorization is completed
- understand and comply with the locate ticket information provided
- ensure exposed buried facilities are properly supported

Incident management

Service Providers must have incident investigation procedures in place. Encana's incident management practice and any associated procedures take precedence.

Encana defines an incident, which includes near hits, as an undesired or unplanned event or non-conformance that has resulted in, or could result in, personal harm, property damage, detrimental environmental impact or loss of production.

All staff present on site at the time of the incident, excluding those being transported or transporting people for medical treatment, must remain in a safe location on site until directed otherwise by Encana to aid in the investigation.

For incidents occurring on an Encana worksite, Service Providers shall complete and submit incident investigation reports. The initial report must be submitted to the site representative within 24 hours, or prior to leaving site, whichever is sooner. To facilitate incident reporting, workers must have incident reporting documentation readily available in the field.

Incidents that require mandatory reporting to a regulator must be communicated in coordination with Encana. Any written or verbal requests from regulatory authorities related to Encana activities must be immediately reported to Encana.

Motor vehicle safety

Service Providers shall adhere to the following motor vehicle safety requirements:

- the use of cell phones and other electronic devices is prohibited in motor vehicles while the vehicle is in motion. This includes the use of hands-free devices.
- drive to destinations using preferred road routes and drive in accordance within the boundaries of Encana's Courtesy Matters initiative when conducting business for Encana
- ensure staff transport is performed as per local regulations / industry standards
- ensure vehicles travelling on radio-controlled roads have a functioning two-way radio. Correct road frequencies must be installed in the radio. Local road protocols must be followed
- use hand signals as outlined in IRP 12: Hand Signals for Directing Vehicles
- use spotters, if available, when backing in

Off-highway vehicles

Off-highway vehicles include, but are not limited to:

- all-terrain vehicles (ATV's), commonly referred to as quads
- snowmobiles
- argos
- side-by-sides (UTV's)

Service Providers must follow the manufacturer's instructions for operation of the off-highway vehicle. Prior to working for Encana Service Providers using off-highway vehicles must be trained in the correct operation of the vehicle and wear appropriate PPE.

Off-highway vehicles must not approach or park within 7.5 metres of any wellhead, piping, process vessel or tank containing combustible fluid or gases without prior issue of a Hot Work Permit.

Operators and passengers of off-highway vehicles must wear CSA- or Department of Transportation (DOT)- approved helmets while the vehicle is in motion.

Personal protective equipment

In addition to the requirements below, Service Providers must provide their staff with personal protective equipment (PPE) suitable to any identified chemical, physical, biological or ergonomic hazard. Jewelry, watches and rings, etc. shall be removed if wearing them interferes with the protection offered by the PPE selected or if they have the potential to constitute a hazard during the work or job task.

NOTE: Encana may allow exceptions to PPE requirements on a project-specific basis.

Fire retardant clothing

- Service Providers must wear fire retardant clothing that meet or exceed requirements in NFPA 2112 and CGSB 155.20, and be full-body coverage with reflective strips
- if rainwear is worn, it must be fire retardant and have reflective strips

Hard hats

- Service Providers must wear hard hats
- hard hats shall comply with ANSI Standard Z89.1-2014
- minimum requirements include: Type I impact and Class E electrical
- Service Providers may require the additional protection of side impact hardhats based upon a risk assessment of their work activities and environment

Safety footwear

- Service Providers must wear footwear that:
 - is oil, acid, and puncture resistant
 - extends up the leg a minimum of six inches and must be properly tied and fastened
 - complies with CSA Standard Z195 M92
 - bears the following visible Canadian Standards Association (CSA) certification markings:
 - CSA green triangle for puncture protection (Figure 1)
 - CSA white rectangle with the orange Greek letter omega for electric shock resistance (Figure 2)



Figure 1. CSA Green Triangle



Figure 2. CSA White Rectangle

- Service Providers may require additional safety footwear protection based on a risk assessment of their work activities and environment
 - Traction Aids are recommended when and where appropriate

Safety eyewear

Service Providers must wear CSA-approved protective eyewear (Z94.3-07). For those requiring prescription eyewear, safety eyewear can be worn overtop prescriptive eyewear if prescription safety eyewear is not available or utilize safety prescriptive eyewear with side shields

Hand protection

Hand protection is required where there is a likelihood that hazards may lead to hand injury.

Hearing protection

Appropriate hearing protection devices are required in areas in accordance with signage at Encana locations, measured noise levels (≥ 85 dBA), SWP requirements, and applicable regulations and standards.

Noise level (dBA Lex for an 8-hour shift)	CSA Class of hearing protection
85-90	A, B or C
90-95	A or B
95-100	A
100-105	A
105-110	A type earplug + A or B type earmuff

>110	A type earplug + A or B type earmuff and limit exposure time to achieve <85 dBA Lex
------	---

Note: Double hearing protection must not be worn in areas with noise less than 95 dBA due to the potential for sensory isolation and the inability to hear emergency alarms.

Respiratory protection

All respirators must conform to standards set forth by the National Institute of Occupational Safety and Health (NIOSH) and be NIOSH-certified. Respirators are approved as a system; parts may not be interchanged between respirators.

Air purifying respirators (APRs) are required under the following conditions

- atmospheres with oxygen levels between 19.5% and 23%
- atmospheres containing contaminant concentrations above exposure limits but below the immediately dangerous to life or health (IDLH) or maximum use concentration (MUC)

The use of SABA/SCBA is required under the following conditions

- atmospheres with less than 19.5% oxygen (deficient)
- atmospheres greater than 23% oxygen (enrichment)
- atmospheres with IDLH levels (may require additional controls)
- unacceptable atmospheres where APRs cannot be used such as for methanol or H2S
- atmospheres above the MUC of APR
- unknown atmospheres

SCBA air cylinders must be hydro-tested every 5 years.

Compressed breathing air must be of good quality and conform to CSA Standard Z180.1-00 (R2005) Compressed Breathing Air and Systems.

Personal gas monitors

Service Providers shall have combustible gas detection where a fire and explosion risk may exist (e.g., a live site where gas is present). Service Providers are also required to have H₂S detection via personal or fixed monitors where concentrations are equal to or greater than 0.1 percent or when an unacceptable exposure risk exists. The minimum gas sensor requirements for personal gas monitors are as follows:

- Hydrogen Sulfide (H₂S)
- Carbon Monoxide (CO)
- Lower Explosive Limit (LEL)
- Oxygen (O₂)

Personal gas monitors shall be:

- intrinsically safe
- worn in the personal breathing zone (i.e., within 1 foot of the face)
- set to meet or exceed regulatory guidelines; and
- bump tested and calibrated per manufacturer recommendations, at a minimum

Process safety

Mechanical integrity

Service Providers shall ensure:

- any critical equipment used at Encana locations are designed, installed, operated and maintained per Recognized and Generally Accepted Good Engineering Practices
- equipment, spare parts and maintenance materials are suitable for the application for which they will be used
- Management of Change (MOC) procedures are followed if identical or like-in-kind equipment is not available for repair/replacement

Pre-Start-up Safety Review (PSSR)

Service Providers shall participate in Encana PSSRs, when requested.

Process Hazard Analysis (PHA)

Service Providers shall participate in Encana PHAs when requested and provide completed PHA reports with recommendations to Operating Area Leadership.

Service Providers acting as PHA Team leaders shall have the appropriate training, knowledge, and experience in the specific PHA methodology being used.

Process Safety Information (PSI)

Service Providers shall provide appropriate PSI, when requested.

SIMOPS (Concurrent operations)

Service Providers operating on concurrent operation sites shall have a mutually agreed upon plan for communicating hazards, emergencies and evacuations at the site. Service Providers shall participate in:

- hazard identification and/or risk assessments
- ad hoc pre-job planning
- “kick off” meetings
- the execution requirements of the SIMOPS plan

Well control barrier

Service Providers shall supply the appropriate equipment and competent staff to meet Encana’s well control barrier expectations.

- for any down-hole well work, a risk assessment shall be done to identify the number and type of well control barriers required for the planned down-hole activities;
- risk assessments can be conducted and maintained for similar wells where the risks are the same (e.g., for given well types, plays or areas where the design is the same)
- the risk assessment shall consider the impact of a failure of the primary barrier
- barrier design and usage shall meet any applicable regulatory requirements

- it is recommended that in most drilling, completion, and production operations that at least two well control barriers are in place; if a secondary barrier is not possible or practical for the operation, then another mitigation measure shall be included in the risk assessment and work program.

Well control

Service Providers involved in well operations must ensure that they:

- understand the requirements of Encana's well control equipment requirements and well control SOPs
- bring to the attention of Encana representative any potential conflicts between their own practices and procedures and Encana's requirements that have not been addressed in a bridging document
- fulfill their responsibilities for well control incident avoidance (e.g. kick monitoring) and taking appropriate first steps to shut-in and secure a well when warning signs are detected

Service Providers involved with, and have the responsibility for, maintaining well control shall have the appropriate training. The level of training may vary dependent on job type. Training includes:

- Enform (via Enform or authorized training provider)
 - Second Line Supervisor's Well Control (drilling)
 - Well Service Blowout Prevention (completions/workovers)
- Coil Tubing Blowout Prevention (requires Well Service Blowout Prevention certification)

Well design

Service Providers are responsible for ensuring they have a copy of a current Well Program and fully understand their responsibilities prior to conducting any work at a wellsite

Purging

Purging must be done prior to the execution of repair, modification, inspection or entry of any process equipment that has or may have contained a toxic, flammable or corrosive material.

All vessels tanks, equipment, piping and pipelines must be purged of air prior to pressuring up or placing back into hydrocarbon service. Similarly, they must be purged of combustibles (hydrocarbon liquids or vapours) prior to opening for ventilation, inspection, construction or maintenance.

Combustible liquids will continue to flash-off vapours after purging; therefore, controls must be in place where there is a possibility of accumulation.

Rental lease equipment

The following requirements apply when a Service Provider is renting or leasing equipment: The equipment must be:

- safe for use and meet legislative and any other legal requirements
- provided with maintenance and operation manuals
- operated by competent operators who employ the proper PPE

NOTE: If any requirements listed above are not met, Encana may at its sole discretion refuse entry of rental lease equipment.

Service Providers providing rented or leased human occupancy shacks, wellsite trailers or camps must have the following as part of their safety features:

- carbon monoxide detectors
- propane leak detectors
- fire/smoke detectors
- any rented or leased equipment that can or does produce electricity or a static charge must be bonded and grounded as per manufacturer's specification.

Rigging and lifting

Encana Service Providers shall follow all requirements when performing rigging and lifting activities on Encana locations. Encana Service Providers shall:

- initiate rigging and/or lifting activities only after identifying hazards and associated controls on the Safe Work Permit and reviewing all site-specific procedures with all those involved with the activity. For high hazard lifts, a lift plan that has been reviewed and approved by a qualified professional engineer may also be required.
- maintain competency if acting in the role of an equipment operator, signaler or rigger.
- ensure that the service company establishes and follows competency requirements for equipment operators, signalers and riggers, in accordance with applicable regulations governing the use and operation of cranes and rigging

NOTE: Lever load binders are prohibited from Encana worksites. Only ratchet binders are to be used.

Safe work permit

Encana's Safe Work Permit (SWP) program is in place to ensure staff on Encana worksites are prepared to safely respond to an onsite emergency, that work has been planned and communicated, and to assess, identify and control potential worksite hazards.

A Safe Work permit:

- describes specific work tasks at specific locations for a specific period
- identifies potential hazards associated with the worksite and tasks and addresses them, as applicable, through an appropriate hierarchy of controls beginning with substitution/elimination and subsequently followed by engineering controls, administrative controls and finally personal protective equipment (PPE)
- identifies the need for other required documents, forms, or permits (e.g. management of change, hot work, lockout/tagout, etc.); and
- becomes incomplete when conditions change or new hazards are identified

Service Providers shall:

- have a SWP/hazard assessment practice or program in place that meets or exceeds Encana's standards
- prior to initiating work, prepare or revise, and sign a SWP
- conduct work in accordance with their own company's SWP program
- follow established practices and procedures
- ensure that all staff have reviewed and acknowledged/signed a SWP applicable to the work task prior to initiating work
- seek clarification from the Encana supervisor or representative concerning job hazards related to the specific job scope of work or procedure; and
- stop work if requirements of the SWP are not met, or if a hazard or condition not covered in the SWP is identified

Working alone

Service Providers shall develop and implement a system to monitor the location of its staff to ensure their well-being in working alone situations. Service Providers must ensure their staff are competent in working alone procedures and any associated equipment.

Working at heights

Service Providers must use or wear fall protection equipment at temporary or permanent installations, if a worker could fall:

- more than 3 metres
- less than 3 metres, when there is a possibility that a worker could sustain injuries more serious than those likely to result from landing on a solid, flat surface (e.g., over moving or rotating equipment, open water or tanks, ice or heated surfaces)
- more than 1.2 metres, but less than 3 metres, in the case of a permanent installation where guardrails or other similar means of fall restraint have not been provided

Service Providers must remove a fall protection system from service when it:

- is defective
- has encountered excessive heat, a chemical or any other substance that may corrode or otherwise damage the fall protection system
- has arrested a fall

If a fall protection system is removed from service, it must not be reused until it has been inspected and recertified as safe for use by the manufacturer or a professional engineer.

Working at night

Service Providers working on an Encana lease at night shall follow the requirements of Enform's Lease Lighting Guideline. Beyond this guideline, Service Providers shall ensure the following.

- prior to commencing the first night shift, workers shall be given a minimum of 24-hour notice to help prevent fatigue; the impacts of impairment due to worker fatigue must be considered prior to and during night work
- if an Encana site representative is not on site for non-routine night work, the Service Provider must conduct a hazard assessment (including darkness-related issues); this must include a review of the potential for increased wildlife activity and reduced emergency response resources during night hours
- for night work, Service Providers must wear high visibility reflective vests or coveralls with reflective stripes

5.0 Health hazard assessment and control

Service Providers shall have programs in place that addresses all chemical, physical, ergonomic, indoor air quality, and biological hazards. Specifically, Service Providers shall:

- communicate chemical, physical, ergonomic, indoor air quality, and biological hazard control procedures for affected staff
- adhere to Encana's Exposure Control Plans and procedures for applicable hazards
- comply with Global Harmonization System (GHS), Transportation of Dangerous Goods (TDG), and/or Department of Transportation (DOT) regulations
- provide current SDSs and a list of hazardous chemicals used at Encana workplaces upon request
- submit an accurate inventory of all chemical, physical, and biological hazards on site, to the site supervisor, when necessary
- ensure appropriate controls are available and used in accordance with manufacturer guidelines for all staff
- establish competency requirements for its staff in accordance with applicable regulations; and
- respond to staff concerns directly or seek additional information from EH&S staff

6.0 Environmental stewardship

Service Providers must adhere to Encana's environmental expectations.

Pre-development environmental planning and assessments

Service Providers must confirm that landowner permission has been obtained prior to conducting any field assessment on private land. If uncertain, contact the Encana representative to confirm permission has been obtained.

Service Providers must confirm with the Encana representative that proper regulatory permits are in place before beginning any activity in or about environmentally sensitive areas watercourse, stream or wetland.

To reduce the movement of pests throughout our operating areas all Service Provider vehicles and equipment will arrive at the worksite in clean and working condition. Cleanliness requirements correspond to activity type and land sensitivity. Service Providers must confirm with the Encana representative cleanliness requirements.

Spills and releases

Service Providers must immediately report any loss of containment (including gases) as an incident (Incident Management) to Encana representative.

Service Providers must have response procedures and resources for spills that may be generated by their activities.

Water withdrawals and tracking

No water must be removed from either a surface water or sub-surface source without proper regulatory permits and authorization in place. Service Providers shall verify with the Encana representative to ensure withdrawal is permitted.

All water withdrawals (both surface and groundwater) must be recorded and reported to Encana representative in a manner that satisfies both regulatory reporting requirements and Encana requirements.

Waste management

Waste generated by Service Providers while working for Encana must be tracked (shipping documents, manifests truck tickets, etc). Where feasible waste shall be reduced, reused, recovered or recycled. Contact the Encana representative for waste stream specific information including handling instructions and disposal requirements.

Wildlife and habitat

Service Providers shall respect wildlife and habitat and report potential wildlife and/or habitat impacts identified during field activities to appropriate Encana representative.

7.0 Regulatory compliance

Service Providers shall be aware of, and maintain compliance with, the applicable regulations, legislation and laws relevant to the jurisdiction they are working in.

If a Service Provider is approached or contacted by a regulatory agency at any time while working for or on an Encana site, they must notify Encana immediately. The Encana representative will address all questions related to Encana sites, processes and/or equipment.

8.0 Risk management

Service Providers shall:

- have and follow their own risk management process
- engage Encana staff in service provider's risk management process when necessary
- ensure high-impact/high-probability tasks are mitigated
- participate in Encana's risk management process as required

9.0 Security and security investigations

Service Providers shall behave in a manner that promotes sound security practices. Service Providers must adhere to Encana's Corporate Responsibility Policy. Criminal behaviour in any form will not be tolerated nor will the condoning of illegal acts by others.

Firearms and ammunition are not permitted on any Encana location unless explicit authorization has been received from the Encana site representative.

Service Provider staff must not collect, distribute, publish, post or otherwise disseminate any information, document, photos, videos, text and audio obtained without prior approval by Encana. If in doubt, consult with the Encana site representative or contact Encana's designated social media spokesperson (social.media@encana.com).

10.0 Verification and audit

Service Provider EH&S programs are initially evaluated during the pre-qualification process by evaluating and scoring ISNetworld entries as well as other pre-qualification requirements.

EH&S performance of Service Providers is also verified in the field on a continual basis by Encana operational and EH&S staff in the form of daily observations, field spot checks and inspections.

Service Providers working for Encana may also be identified and selected to take part in a more thorough and formal EH&S audit. The intent of the EH&S audit is to provide Encana with assurance that the relevant expectations and processes listed in this manual are in place, and being implemented. The audit process includes a tabletop review at the Service Providers field office and a possible field inspection of active operations.

If selected to take part in an EH&S audit, the service provider is responsible for the following:

- to be readily available prior to, during and after the audit
- administration and logistics for the audit team including work space, meeting space and access to field locations, operations and staff
- providing relevant EH&S documents and records to demonstrate conformance to the requirements listed in this manual
- address all corrective actions identified in the audit report