



Core ERP Content  
Checklist Guidance  
Document  
**VERSION 1.1: Nov. 2023**

## Preface

As with all Regulator documents, this document does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Regulator staff for clarification.

The Regulator publishes both application and operations manuals and guides. The application manual provides guidance to applicants in preparing and applying for permits and the regulatory requirements in the planning and application stages. The operation manual details the reporting, compliance and regulatory obligations of the permit holder. Regulator manuals focus on requirements and processes associated with the Regulator's legislative authorities. Some activities may require additional requirements and approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities. For example, Federal Fisheries Act, Transportation Act, Highway Act, Workers Compensation Act and Wildlife Act.

Throughout the document there are references to guides, forms, tables and definitions to assist in creating and submitting all required information. Additional resources include:

- [Glossary and acronym listing](#) on the Regulator website.
- [Documentation and guidelines](#) on the Regulator website.
- [Frequently asked questions](#) on the Regulator website.
- [Advisories, bulletins, reports and directives](#) on the Regulator website.
- [Regulations and Acts](#) listed on the Regulator website.

In addition, this document may reference some application types and forms to be submitted outside of the Application Management System but made available on the Regulator's website. Application types and forms include:

- Heritage Conservation Act, Section 12
- Road use permits
- Water licences
- Master licence to cut
- Certificate of restoration

- Waste discharge permit
- Experimental scheme application
- Permit extension application

## Scope of this Document

This document was created as a guide to the contents of emergency management plans (ERP's) and reflects industry best practices and regulatory intentions focused on a comprehensive and capable plan that addresses the range of risks and hazards identified by each permit holder.

The guide is limited in scope to the authorities and requirements established within the Energy Resource Activities Act (ERAA) and the Emergency Management Regulation (EMR.) Carrying out oil and gas and related activities may require additional approvals from other regulators or create obligations under other statutes. It is the permit holder's responsibility to know and uphold all of their legal obligations.

The Regulator is committed to the continuous improvement of its documentation. Stakeholders who would like to provide input or feedback on Regulator documentation may send comments to [servicedesk@bc-er.ca](mailto:servicedesk@bc-er.ca).

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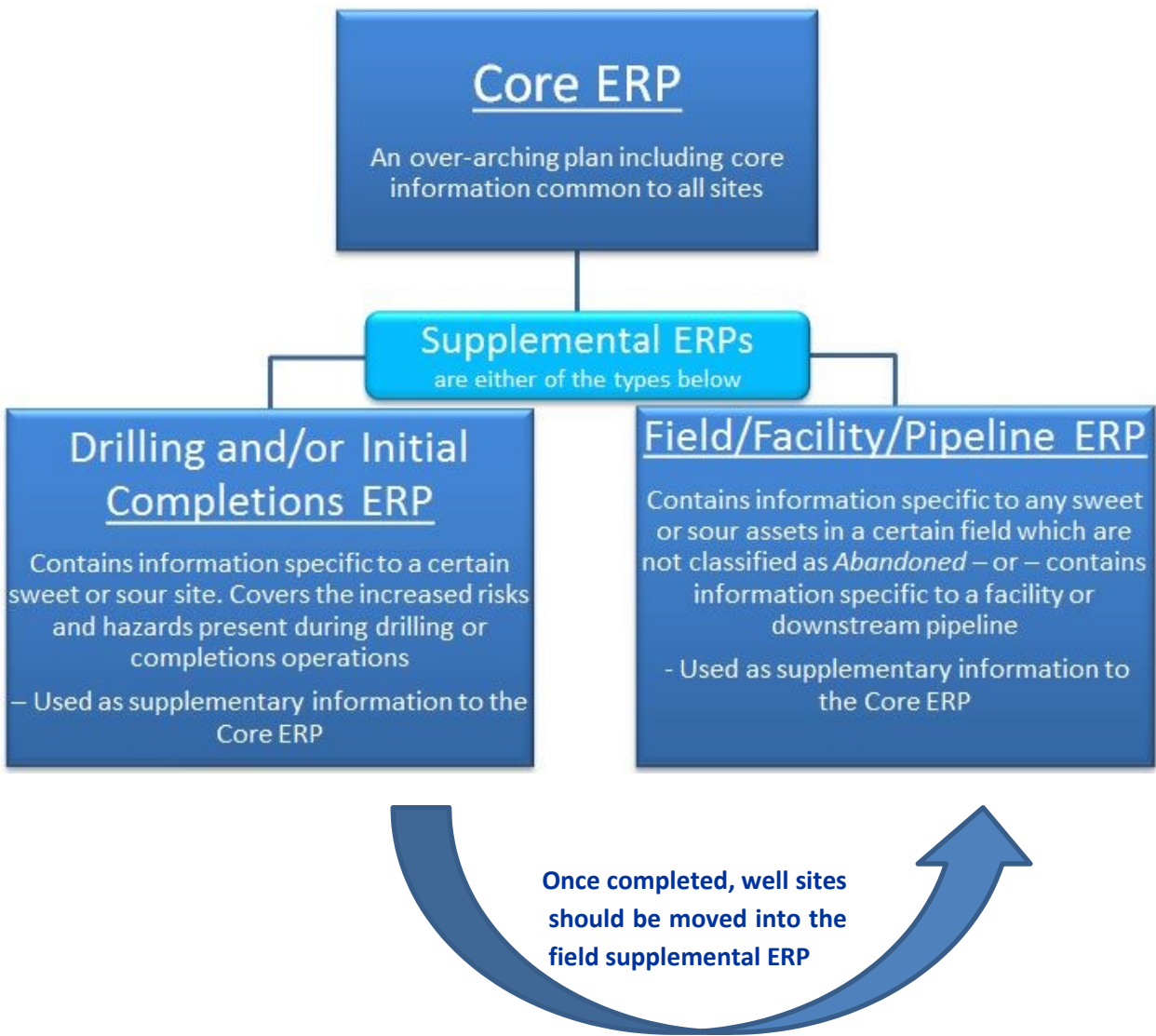
# Document Revisions

The Regulator is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the [Documentation Section](#) of the Regulator's website. Stakeholders are invited to provide input or feedback on Regulator documentation to [ServiceDesk@bc-er.ca](mailto:ServiceDesk@bc-er.ca) or submit feedback using the [feedback form](#).

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
1.0	January 9, 2017	February 1, 2017	Various	This is a new document. Users are encouraged to review in full.
1.1	Nov.24, 2023	Nov.24, 2024	Various	Replace BCOGC with BCER; OGAA with ERAA; new logos, references and associations

# ERP System – Relationship Between Plan Types

The following graphic shows the relationship between the two types of supplemental emergency response plans (ERPs), and the Core ERP.



## Submission of Plans

Every permit holder must develop and maintain a Core Emergency Response Plan. This plan will include all information common to any type of site, any operation and any location. The Core plan will be coupled with a supplemental plan for Drilling & Initial Completions, Field or Facility. A checklist for these supplemental plans is also available on the BCER website in the Documentation section.

Construction activities related to oil and gas development can normally be managed within the scope of the Core plan, so long as any hazards identified, and associated mitigation processes and required resources are addressed within the plan.

The Core plan must be retained until the permit holder is no longer operating in B.C.

Plans must be reviewed and an update submitted every year to confirm information remains accurate and relevant. When annual updates are submitted, the **permit holder must indicate that the submission is for the annual update** for compliance purposes.

Other updates, such as changes in contact information, may be submitted from time to time but will not be counted as the annual update unless indicated. When sending in electronic ERP updates, the whole manual must be submitted each time to ensure a complete plan is on file.

In some cases, there may be no changes required to the plan. When this occurs, the Regulator will allow permit holders to re-submit their plans in electronic format only, with a new revision page showing:

- The date the review was completed (for the current year's plan), and
- The person responsible for the review; this includes the person's position within the company, and their contact information. This responsibility typically rests at a manager or above level, reflecting the need to understand the regulatory requirements, and the potential consequences should there be inaccuracies that affect life and safety.
- A checklist will not be required if no updates have been made.

All emergency response plans (ERPs) on file with the BC Energy Regulator (Regulator or BCER) must be submitted in both electronic and hard copy formats. At this time, the Regulator can only accept ERP electronic submission through our Secure File Transfer Protocol Site (SFTP). In order to submit electronic ERP's through the SFTP, please email [ServiceDesk@bc-er.ca](mailto:ServiceDesk@bc-er.ca) for a user ID, password, and URL. Hard copies can be mailed to the BC Energy Regulator, 6534 – 100<sup>th</sup> Ave., Fort St. John, BC, V1J 8C5 ATTN: Public Protection & Safety Branch.

The electronic ERP's must be submitted in the following format:

- A full Core ERP must be uploaded as one document in PDF format and named as follows:  
[Company name] **Core** [MMM DD, YYYY] (date the ERP was created), e.g. ABC Ltd Core Aug 1, 2015.

## Contents of a Plan

The numbered sections below provide guidance for the completion of the corresponding numbered ERP requirements listed on the Core ERP Content Checklist.

# 1. Cover of the Binder

The cover of the binder should include:

- The legal name of the permit holder in B.C., under which the assets are registered. If the permit holder operates under multiple names, it may use one Core ERP if all legal names are listed on the binder,
- The permit holder’s 24-hour emergency phone number. This must be the same as the number on the site location signs,
- The Regulator’s 24-hour incident reporting phone number,
- The name of the ERP (must include “Core Emergency Response Plan”),
- The date the ERP was created, and

# 2. Table of Contents

A comprehensive and easy to use table of contents must be included at the beginning of the ERP.

# 3. Document Controls

A document control process is essential to maintenance of all emergency response plans. The following section outlines key elements of effective controls and should be reflected in the CORE plans submitted to the Commission.

## Distribution List

All copies of the ERP should be numbered and a list of recipients maintained to ensure updates are provided and implemented.

## Record of Revisions / Updates

A chronological list or table of ERP revisions which include information as shown in the table below must be included. The “Date Inserted into ERP” and “Signature” is completed by the ERP holder upon insertion of revisions into the ERP. Annual revision date is calculated from the ERP developed date or last Annual Update date. Please note that the Annual Update should be reviewed and approved by an appropriately senior position, as they are accepting responsibility for the completeness and accuracy of all information found in the ERP which may affect life and safety of responders, residents and others.

Table of Revisions
Annual Review Date: MM-DD
Annual Update Due: MM-DD



Date	Revision #	Revision Highlights	Annual Update Y or N	Date Inserted into ERP: YYY-MM-DD	Signature

All hard copy updates must be accompanied with clear instructions on how to insert and remove pages from the Core Plan. A sample can be found below.

## Update Instructions Table

Type of Update: <input type="checkbox"/> Core Annual Update <input type="checkbox"/> Core General Update		
Date:		
Contact Name and Phone number for questions:		
LOCATION	REMOVE/DESTROY PAGES	INSERT PAGES
Table of Contents	Pages i to iv	Page i to iv
Section 5 – Government Roles & Responsibilities	Pages 5-1 to 5-10	Pages 5-1 to 5-12
Section 8 – EOC (green tab)	Rev. 6 2009-06-09	Rev. 7 2010-07-19
Section 10 – Standard Guidelines	NEW	Insert section 10 after Section 9 blue tab

## Revision Request Form

The Revision Request Form allows field or other staff to initiate changes to an ERP, and ensures the changes are reviewed and approved by the designated permit holder staff, and applied to all copies of the ERP. It is the responsibility of all manual users to ensure the accuracy of all ERPs; therefore, all users are expected to use the Revision Request Form, if necessary. A example form is provided below.

## 4. Glossary

A glossary to define words used in the manual, including commonly used acronyms.

## 5. Communications Planning

A communication plan for internal and external stakeholders must include the following:

## External Communication

### Government Agencies and Regulatory Authorities

Communication plans for government agencies and regulatory authorities must include:

- A list of government agencies that would require notification of, or be involved in, the incident,
- Procedures for contacting government agencies and regulatory authorities; contacts may differ depending on the nature of the emergency.
- A list of the roles and responsibilities of applicable government agencies, specific to oil and gas incidents, which will help to determine under what circumstance they must be contacted.

**Note:** roles and responsibilities for ICS positions should indicate who is making contact with government agencies and under what circumstance they should make contact with them.

Agencies may include, but are not limited to:

- Regional Health Authorities (See [HEMBC](#) for contacts)
- Ministry of Transportation and Infrastructure and/or Public Works and Government Services Canada
- RCMP
- Local authorities (municipal / regional)
- Ministry of Environment
- WorkSafeBC
- Ministry of Forests, Lands and Natural Resource Operations
- Aboriginal Affairs and Northern Development Canada
- BC Ambulance Service
- Municipal and/or volunteer fire departments

- Fisheries and Oceans Canada
- Environment Canada
- National Energy Board
- Ministry of Agriculture
- NAV Canada
- Transport Canada
- BC Oil and Gas Commission The Commission's roles and responsibilities are located on the Commission's [website](#)
- Emergency Management BC (formerly called Provincial Emergency Program)
- Any other agencies that may be deemed necessary by the permit holder

During the development of the ERP, and on the annual review date, the permit holder must contact all applicable/relevant agencies and request or confirm a list of their roles and responsibilities that they would assist in or enact during the permit holder's incident.

The permit holder should ask if the agency would like a copy of the ERP and supply one upon request. The permit holder must keep a record of the contact date, name and telephone number of the agency and the name of the agency's contact; the Regulator may request this information at any time.

### Emergency Response Resources

Communication plans for emergency response resources should include

- procedures for who will contact the external response resources and when.

### Affected Parties

Communication plans for affected parties must include:

- Procedures for contacting the affected parties within the Hazard Response Zone (HRZ) (as applicable):
  - At the beginning of drilling and initial completion operations,
  - 24 hours before entering the sour zone,
  - At the conclusion of drilling and initial completion operations,
  - At the beginning and conclusion of other operations, including workovers, flaring, fracking, etc.,
- Procedures for contacting and communicating with affected parties within the Hazard Planning Zone (HPZ) during an emergency,
- Information to disseminate to the sheltered or evacuated public during an incident:
  - Type of incident,
  - Status of the incident,

- Location and proximity of the incident to residents,
- Public protection measures for responding to an incident, including: sheltering and evacuation instructions and any other emergency response information, such as the location of the reception center,
- Actions being taken to respond to the situation, including anticipated time period,
- Contacts for additional information,
- Description of the products involved and their short-term and long-term effects,
- Potential effects of the incident on people in the area and what the affected public must do if they experience adverse effects,
- Areas impacted by the incident,
- Information disseminated to the evacuated or sheltered public post-incident:
  - Status of recovery,
  - Financial reimbursement information, and,
  - Contact for additional information.

### General Public

Communication plans for the general public should include:

- Procedures for who will release what information to the general public, when and how. Information released to the general public must include:
  - Location of the incident,
  - Areas affected by the incident,
  - Confirmation that the permit holder is responding to the incident,
  - Contacts for additional information,
- All media releases should be submitted to the Regulator before release, and,
- How information will be communicated to the public:
  - Describe procedures that will be used to inform and update the media and disseminate factual and timely messages to the public.

## **Internal Communications**

### Permit Holder Communications

Internal communications plans for permit holders should include:

- Procedures for controlling and disseminating internal information about an emergency,
- Forms to be used, when and by whom, recorded for documentation purposes, and,
- How information will be communicated effectively.

## **Media Relations**

Media Communication plans must include:

- Procedures for how permit holders will manage the media,
- Pre-scripted statements,
- Procedures for contacting and coordinating with government agencies after contacting the media (e.g., local authorities, the Regulator, etc.),
- Internal communication flow to identify the Information Officer. This communication must reach responders such as reception centre, roadblock crews, incident commander, company front desk, etc., , and,
- Media center set-up, if applicable.

## 6. Incident Command System

### Organizational Charts

- ICS organizational charts must be included in the plan and should use the ICS standards for colour coding.
- The roles in the Incident Command System (ICS) chart are roles focused on activities in the field. Roles in the Emergency Operation Centre (EOC) chart are focused on activities in the centre.

### Roles and Responsibilities

The permit holder should identify the roles and responsibilities required to effectively respond to an emergency. Responsibilities for all roles in the expanded ICS and EOC organizational charts should include:

- The role,
- Responsibilities,
- Who the role reports to (chain of command),
- Forms required, and,
- The location of role (ICP, EOC, etc).

### Response Goals

The plan should include the response goals used to determine priorities in responding to an incident:

1. Safety and health of all responders.
2. Save lives.
3. Reduce Suffering
4. Protect public health.
5. Protect critical infrastructure.
6. Protect property.
7. Protect the environment.

## Emergency Management Centres & Other Areas

Emergency Management Centers and other centers should be defined and included in the ERP.

The types of Emergency Management Centres and their functions include:

- Emergency Operations Centre (EOC): A designated facility established by the permit holder to support incident command. It might be located at the head office or at a regional office.
- Incident Command Post (ICP): A designated place where the Incident Commander and staff is located. The ICP should be located outside the HRZ, but close to the incident. The ICP may be a vehicle, trailer, fixed facility or any location suitable to accommodate the function.
- Reception Centre:
  - A location outside the HRZ, where evacuated residents report to, to ensure they have safely evacuated the hazardous area and to provide contact information. Include procedures for activating the reception centre.
  - The reception centre will typically provide:
    - A secure and comfortable place for residents to wait,
    - Lodging and food, if required,
    - A place to request counselling, if required,
    - Information and updates related to the incident, and,
    - Answers to any resident's questions.

**Please note:** A Group Lodging Facility can be different than the reception center in that it is the place where public can be lodged.

- If a planned evacuation of residents is required, the permit holder must:
  - Ensure the reception centre identified is located outside the HRZ,
  - Ensure company representative is available at the reception center,
- Staging Area: A location set up near an incident, in a safe area, where resources can be staged while awaiting a tactical assignment. Staging areas are managed by a staging area manager under the operations section.
- Muster Area: A safe location set up at an incident where on-site personnel can meet for a head count and be assigned responsibilities.

## 7. BCER Incident Classification and Reporting

The plan should include:

- A copy of the BCER Incident Classification Matrix (found at [www.bc-er.ca](http://www.bc-er.ca) website).
- Procedures for using the matrix to determine the risk score and incident/emergency level.
- Procedures for notifying the Regulator for each level of incident/emergency in the form and manner required.
- Procedures to escalate, downgrade, or stand-down an emergency.
  - The Regulator must be notified as soon as possible of any change to the emergency status.
  - The permit holder must consult with the Regulator for downgrading or stand-down of an incident.

The permit holder must determine appropriate actions to take during the emergency, depending on the associated hazards and risks. Sample action list is available below:

<b>SAMPLE Response Actions Checklist</b> <b>(Actions to be considered during an emergency at any level)</b>		
<b>Actions</b>	<b>Considerations</b>	
A. Investigate situation	Consider/request backup	
B. Size up Situation	Conduct a rapid and preliminary assessment of: <ul style="list-style-type: none"> <li>• The estimated nature of the emergency</li> <li>• What hazards are present (on or off site)</li> <li>• What are the risks to response personnel and the public</li> <li>• What are the number and extent of any injured personnel or public who need to be treated or assisted</li> <li>• What medical facility/person is responding to the injuries</li> <li>• If there are any nearby public</li> <li>• Are public warnings required (evacuate, shelter)</li> <li>• How large is the area involved</li> </ul>	<ul style="list-style-type: none"> <li>• Has or will the area be isolated</li> <li>• Appropriate staging area</li> <li>• Appropriate entrance/exit route (equipment and personnel)</li> <li>• Wind direction and speed</li> <li>• What resources are on site</li> <li>• What resources are needed (where will they be obtained and how long will it take to obtain them)</li> <li>• Has there been any media interest</li> <li>• What may have caused the incident to occur (accident, corrosion, sabotage, and or other)</li> <li>• What could happen to make the situation worse</li> </ul>
C. Take appropriate on site actions	<ul style="list-style-type: none"> <li>• Activate Emergency Response Plan</li> <li>• Sound alarms</li> <li>• Muster on site personnel to safe area</li> <li>• Hazard analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Consider/request backup</li> <li>• Secure area of impact if safe</li> <li>• Set up command posts</li> </ul>
D. Fill ICS Roles	<ul style="list-style-type: none"> <li>• Establish Command Posts</li> <li>• Ensure positions perform role</li> <li>• Use checklists</li> </ul>	<ul style="list-style-type: none"> <li>• Use forms</li> <li>• Establish Action Plan</li> <li>• Determine required resources</li> </ul>

E. Determine size of HRZ	<ul style="list-style-type: none"><li>Determination is based on the hazard and responder and public safety (H<sub>2</sub>S hazard is pre-determined)</li></ul>	
F. Isolate HRZ	<ul style="list-style-type: none"><li>Roadblock</li><li>Rivers</li><li>Railways</li><li>Trails</li></ul>	<ul style="list-style-type: none"><li>Airstrips</li><li>Closure Order</li><li>NOTAM Order</li></ul>
G. Review inventory of HRZ	<ul style="list-style-type: none"><li>Industrial operators</li><li>Rights holders</li><li>Residences</li><li>Public facilities</li><li>Railways</li><li>All roads and trails</li></ul>	<ul style="list-style-type: none"><li>Topography</li><li>Waterways</li><li>Schools</li><li>Businesses</li><li>First Nations</li><li>Recreational areas</li></ul>
H. Determine/initiate appropriate public safety actions such as:	<ul style="list-style-type: none"><li>Evacuation - Conduct tactical evacuation, Coordinate planned evacuation with local authority</li><li>Sheltering</li><li>Public Notification<ul style="list-style-type: none"><li>➤ Residents</li><li>➤ Schools</li><li>➤ Businesses</li><li>➤ Other Operators</li><li>➤ Rights Holders</li></ul></li></ul>	
<div>SAMPLE Response Actions Checklist</div> <div>(Actions to be considered during an emergency at any level)</div>		
Actions	Considerations	
	<ul style="list-style-type: none"><li>➤ Landowners</li><li>➤ First Nations Reserve</li><li>• Ignition</li><li>• Roving HRZ by land/air for:<ul style="list-style-type: none"><li>➤ Recreational Users</li><li>➤ Transients</li><li>➤ Industry operators</li><li>➤ Rights holders</li></ul></li><li>• Roving Considerations:<ul style="list-style-type: none"><li>➤ River</li><li>➤ Railway</li><li>➤ Trails</li><li>➤ Dead end roads</li><li>➤ Security of evacuated homes/buildings</li></ul></li><li>• Air monitoring<ul style="list-style-type: none"><li>➤ Hand Held monitoring</li><li>➤ Mobile Air monitoring</li></ul></li></ul>	
I. Determine level of emergency	<ul style="list-style-type: none"><li>Establish level using Risk Matrix</li><li>Confirm with OGC</li></ul>	<ul style="list-style-type: none"><li>Communicate Level to ICS and EOC Team</li></ul>



J. Source Control/containment	<ul style="list-style-type: none"> <li>Control and containment measures</li> <li>Spill Co-op</li> <li>Depressurizing</li> </ul>	<ul style="list-style-type: none"> <li>Flaring</li> <li>Ignition</li> <li>Shut in</li> </ul>
K. Contact appropriate government agencies	<ul style="list-style-type: none"> <li>Emergency Management BC</li> <li>Local Authority (municipal and/or regional)</li> <li>Regional Health Authority</li> <li>Ministry of Transportation &amp; Infrastructure</li> <li>Public Works and Government Services Canada</li> <li>Ministry of Forests, Lands, Natural Resources Operations</li> <li>RCMP</li> <li>Fire Department</li> <li>Aboriginal Affairs and Northern Development Canada</li> </ul>	<ul style="list-style-type: none"> <li>National Energy Board</li> <li>Ministry of Environment</li> <li>BC Ambulance Service</li> <li>Fisheries and Oceans Canada</li> <li>Environment Canada</li> <li>Ministry of Agriculture</li> <li>WorkSafe BC</li> <li>NAV Canada</li> <li>Transport Canada</li> <li>BC Energy Regulator (BCER)</li> </ul>
L. Media Interaction	<ul style="list-style-type: none"> <li>Media liaison with command posts, roadblocks, reception center, front offices</li> <li>Prepare Media statement in consultation with the Regulator</li> </ul>	

## 8. Mitigation Strategies

Public protection measures depend on the severity of the emergency and/or on the monitored results in the area. The permit holder is responsible for ensuring that appropriate emergency response procedures are outlined in the ERP and ready to be implemented at any time, including procedures for areas of potential impact outside the HPZ.

Common mitigation processes (used at all permit holder locations) should be included in the CORE ERP. Site specific procedures would be included in the appropriate SUPPLEMENTAL ERP.

### Evacuation of Impacted Public

Evacuation is a public protection measure during an emergency if the people can be safely moved from the area. The permit holder must continuously assess and act on the need to expand the evacuation area, based on the specifics of the incident, including harmful levels of hazardous substances, and update the applicable sections of their ERP accordingly.

## SAMPLE Evacuation Guidelines for H<sub>2</sub>S & SO<sub>2</sub> (for use beyond the HPZ)

H <sub>2</sub> S	SO <sub>2</sub>	Requirement
Concentration in parts per million		
1 to 10 ppm	1 to 5 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S or SO <sub>2</sub> must be notified.
10 ppm and above	5 PPM and above	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter.

### Types of Evacuation

#### Tactical Evacuation:

A measure to immediately move people to a safe area as part of emergency response and operations. Does not require approval from local authority but the local authority may enact an evacuation order, if required. The local authority must be advised if a tactical evacuation has occurred.

#### Planned Evacuation:

An evacuation coordinated by local government authority that can authorize evacuation alerts and orders.

#### The plan must include:

- Procedures for when and how the public will be evacuated from, and within, the Hazard Response Zone (HRZ) during an emergency, including how transients (i.e., hunters, trappers, recreational users, non-resident landowners, etc.) will be located and evacuated.
  - Request of early notification, evacuation of special needs public, identification of where to evacuate the public and monitoring of air quality, should be addressed if applicable, etc.
  - Evacuation of the public should begin downwind of the release. The procedures should include: contacting the public by phone, using scripted statements and leaving notices on vacant homes and vehicles.
  - Special procedures may be required for evacuating large industrial operations and public facilities. If high volumes of people are involved, the permit holder must address assistance with transportation (e.g., providing school buses) or changes to the normal notification procedures.
- Procedures for coordinating the impacted public with the local authority.

- When and how to evacuate the public outside the HRZ during an incident, including how transients will be located.
  - The HRZ must be expanded to include public who are exposed to any hazard related to the incident.
- The public in the expanded HRZ must be notified and evacuated in conjunction with the local authority responsible for the area.

#### Sheltering of Impacted Public

The plan must include:

- Responder procedures for sheltering of the public during an incident, including telephone scripts.
- Description of when sheltering is an appropriate public protection measure, sheltering criteria and instructions (see Emergency Management Manual for sample guidelines and criteria.
- Sheltering Measures for HVP Product Release if applicable.

#### Isolation of the Hazard Area

The permit holder must ensure that procedures, such as establishing and managing manned roadblocks, are identified in the ERP and are in place to restrict unauthorized entry into the hazard areas during an incident that could potentially jeopardize public safety.

Procedures should include:

- How to determine best placement of roadblock locations (see suggested equipment list)
- Roles of rovers (e.g., helicopter, boats, ATVs, etc.) and equipment.
- Who to contact when closing a road, railway, highway or navigable water course, what kind of order is required and the purpose of the order.
- Communication between roadblock personnel, rovers, air monitoring personnel, emergency management centres, command posts and Public Protection Supervisors.
- Equipment and forms to be used at the roadblock.
- Continuous air monitoring of the LEL, H<sub>2</sub>S or SO<sub>2</sub> at roadblocks for responder safety and to determine if roadblocks need to be moved.
- Hazard monitoring (mobile air monitoring units) to track and record the presence and concentrations of LEL, H<sub>2</sub>S and SO<sub>2</sub> during a release and following the ignition of a release.

- Issuance of a Notice to Airmen to advise pilots of restrictions in the airspace above the HRZ (i.e., no fly zone).
- Special procedures for addressing major highways, navigable water courses, cleared pipeline rights-of-way and railways passing through the HRZ that could be impacted by the hazard.

## Air Quality Monitoring

The ERP should address the use of air quality monitoring equipment to:

- Track/follow the plume.
- Determine if ignition criteria are met.
- Determine if evacuation and/or sheltering criteria have been met – in particular, beyond the HRZ – by measuring the concentrations around the edge of the HRZ.
- Determine concentrations in areas being evacuated to ensure that evacuation is safe.
- Determine roadblock locations.
- Assist in determining when the emergency can be downgraded.

The ERP should provide details on the intended use and procedures for the air monitoring equipment, including when to activate the different monitors (e.g. stationary and mobile air quality monitoring units and personal handheld monitors). The mobile air quality monitoring unit must be equipped to continuously measure and record wind speed and direction and to monitor H<sub>2</sub>S and SO<sub>2</sub> in parts per billion (ppb).

When it is evident that spill control measures are not effective and that a sour product release is likely to occur, mobile air quality monitoring units must be dispatched.

Permit holder personnel will monitor and record the air until a mobile air monitoring unit arrives or until the incident is over. At minimum, these readings must include LEL and H<sub>2</sub>S. See the Ignition as Mitigation section below for more detail.

The decision to downgrade an incident will be based on the air monitoring results.

### HVP Product Release

Monitoring may occur downwind or upwind, depending on how the plume is tracking, with priority being directed to the nearest un-evacuated residence or areas where people may be present.

The permit holder is expected to provide monitored HVP product LEL information on a regular basis for the duration of the incident.

If a sour gas release has been ignited, the permit holder should continue to monitor response zones for H<sub>2</sub>S from incomplete combustion, as well as SO<sub>2</sub>.

## **Ignition as Mitigation**

### Ignition of Flammable Products

In certain circumstances, the ignition of flammable products being released into the atmosphere may be the recommended option for mitigating the risk of human exposure to hazardous substances such as hydrogen sulfide. The following criteria should be considered:

- Safety and health risks to emergency personnel;
- Proximity of release to public areas;
- Availability of air monitoring equipment and personnel;
- Availability of ignition equipment, and training of staff in its use;
- Detectable concentration of H<sub>2</sub>S and/or flammable gases near the source of the release and within the Emergency Planning Zone;
- Weather conditions;
- Duration of the release and potential volume;
- Impacts to livestock; and
- Impacts to other values at risk including property, timber, or infrastructure.

Where practicable, the decision to ignite a flammable product should be made in conjunction with the Regulator's EOC Director. However, permit holders should delegate a competent individual on site to make the decision when there is not enough time to consult with BCER officials.

### Ignition for Sour Well Releases

The plan must include criteria and procedures for ignition including field authority to ignite.

### Ignition of HVP Product Releases from a Pipeline or Cavern Storage Facility

Following an incident, the hazard associated with an HVP product release may be controlled or minimized by deliberately igniting the release. Ignition of an HVP product release should occur only after the position of the plume has been defined and it is safe to ignite.

The permit holder must include in the ERP a HVP ignition criteria and procedures that addresses the following:

- How the location of a plume will be identified,
- Items to consider when making the decision to ignite a release, such as changing weather conditions,
- Ignition procedures and a description of the equipment to be used in the event that ignition criteria are met,
- Protocols supporting a decision to ignite a release, which include emergency response procedures for immediate ignition and actions to be taken if the release occurs while personnel are on site,
- Actions required prior to attempting ignition of a dispersing HVP plume (e.g., establishing the perimeter of the dispersing vapour cloud),
- The role of the permit holder to assign decision-making authority to ignite an HVP product release to an on-site permit holder representative, and,
- Description of actions to be taken following ignition.

Before igniting a release, the permit holder should minimize any chance of unplanned ignition in the area and consider the following:

- Increased risk(s) of delayed ignition,
- If the perimeter of the hazard area has been established,
- If the public has been evacuated from the area,
- If ignition will worsen the situation by endangering the public or the environment or damaging the equipment used to control the product,
- If wind direction has been established and is being monitored, and,
- If the possibility of an explosion has been assessed (that is, obstructions or areas of congestion within the perimeter of the dispersing vapour cloud).

The ignition team should be trained in HVP product ignition and be properly equipped to ignite the release within the timelines.

## 9. Supporting Documentation for Incident Response

Core ERPs should define the requirements for the development and management of information and records during and after an emergency. As this incident documentation may be requested as part of an incident investigation, a robust documentation processes should be outlined in the ERP.

Form names and numbers used by the ICS system should be used during an incident. The permit holder may choose which forms to use and insert in the Core ERP, and forms may be adjusted to satisfy the permit holder's needs. The permit holder may add other forms that are not included in the ICS. The additional forms should be numbered, named and referenced in the applicable roles and responsibilities.

The complete list of ICS forms, EOC forms, and display board sample templates can be found at:

- [www.icscanada.ca/en/Forms.html](http://www.icscanada.ca/en/Forms.html),
- [www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/eoc-forms](http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/local-emergency-programs/eoc-forms), or,
- <http://myem.jibc.ca/>.

### **Recommended ICS Forms to be Included in the ERP:**

- EOC 401 – EOC Management Team Briefing Agenda
- EOC 401A – Status Report
- EOC 410 – Contact Directory
- EOC 414 – Position Log
- EOC 420 – Evacuation Plan Message
- EOC 421 – Evacuation Procedures
- EOC 422 – Spokesperson Media Statement
- EOC 423 – Media Enquiry Tracking Sheet
- EOC 424 – Media Conference Attendance Record
- EOC 501 – EOC Situation Report
- EOC 502 – Action Plan (could be enlarged for display board)
- EOC 511 – EOC Check-In/Check-Out
- EOC 514 Resources / Request
- EOC 515 – Resource Planning Worksheet
- EOC 550 – EOC Major Incident Report.
- ICS 201 – Incident Briefing (could be enlarged for display board)

- ICS 202 – Incident Objectives
- ICS 207 – Incident Organization Chart (could enlarge for display board)
- ICS 208 – Safety Message/Plan
- ICS 211 - Check In List
- ICS 215a – Incident Action Plan Safety Analysis
- Action Plan
- Incident Report
- Position Log
- Status Report

### **Industry-specific Forms that must be Included in the ERP**

- Roadblock Record
- Environmental Monitoring Record
- Rover Record
- Expense Claim Form for Evacuees

### **Display Board Sample Templates**

- Priority Issues
- Weather
- Problems/Situations

Permit holders should ensure that all key responders are provided with instructions for reporting and record keeping. All documentation recorded as part of an emergency response, including post incident reports, should be retained and provided to the Regulator upon request.

## **10. Safety Equipment and Resource List**

Safety equipment noted in the CORE ERP should focus on those resources broadly available across all of the permit holders' operations, such as:



- Air quality monitoring equipment – personal handheld monitors, stationary monitors typically found at processing and storage sites, and specialized mobile units. The permit holder must ensure that detection equipment is operational and meets industry standards for calibration,
- General communication equipment. Other site-specific and backup communication equipment will be listed in the Drilling and Initial Completions or Field Operations Supplemental ERP,
- Vehicles required and for which roles. Other site-specific information must be included in the applicable supplemental plan,
- Ignition kits and road block kits,
- Human resources, including speciality service providers used broadly across permit holder operations, and,
- Firefighting and special equipment (see CSA Z 662, S. 10.2.7.1 and NFPA 600 for guidance).

The permit holder should ensure that company equipment is operational, meets industry standards and worker safety requirements.

The hazard assessment used to guide development of the ERP should also direct the selection of equipment and other resources used to effectively respond to any emergency. Site-specific equipment must be listed in the Drilling and Initial Completions or Field/Facility/Pipeline Supplemental ERP.

## 11. Hazards and Response Procedures

The permit holder must list both the industry caused and naturally occurring hazards, and the applicable response procedures for each as identified in their risk assessments, such as:

- Accidental release or spill of hazardous product,
- Environmental damage or impacts,
- Fire or explosion,
- Structural damage or loss,
- Process or operational failures,
- Severe weather events,
- Forest fires,
- Flooding, and
- Earthquakes (natural or induced).

## Environmental Incidents

The permit holder is required to identify and develop the applicable emergency preparedness processes and response procedures specific to their operations; however, for environmental incidents, the Regulator has developed specific guidelines as described below:

### Preparedness

Permit holders that extract, process, transport, or store hazardous liquids on sites or over roadways permitted by the Regulator must demonstrate within their plan an adequate level of preparedness to effectively respond to spills which could impact public health, livestock, fish and wildlife, personal property, waterways, vegetation, and soils.

Emergency response personnel must be adequately prepared and competent to respond to environmental incidents in a timely and effective manner. Preparedness includes:

- Spill response planning and mitigation.
- Response capacity based upon level of risk.
- Availability of services and/or resources.
- Training of personnel.
- Spill response exercises.

### Planning and Mitigation

Any permit holder which has identified environmental incidents as a risk within their operations must include procedures for responding to such incidents in their plan, including steps to mitigate such risk.

A permit holder must have spill procedures, including response strategy diagrams within their ERP. A list of spill resources is also required.

The Permit holder is required to assess the risk its operations pose to the environment and be prepared to provide an effective response in the event of a spill. The permit holder must ensure personnel are trained on response strategies, procedures and the use of equipment.

## Response

Permit holders must respond to environmental incidents in a timely manner. For land based spills during day time operations, responses must be initiated within six (6) hours from the time spill is discovered. For spills occurring on weekends or during the night, responses must be initiated within twelve (12) hours from time of

discovery. Permit holders must demonstrate they have the capacity, either internally or externally through third party services, to respond effectively.

All permit holders must be able to adequately demonstrate that they have the resources (equipment and personnel) and are capable of responding to any type of hazardous liquid spill associated with their operations. The permit holder must have spill response procedures within their ERP for land based spills and water based spills (if operations cross or are near water).

#### ERP Contents for Spill Response

The permit holder must include the following in their ERPs to address the release of any hazardous liquid product onto land or water within their operating areas (as applicable):

- A description of initial spill-specific emergency response procedures and actions,
- A comprehensive inventory and location of major response equipment caches. Supplemental ERPs would add locally held spill equipment,
- Designated spill control points and maps which include water supply intakes for municipal and industrial operations (or access to these),
- Policies and safety guidelines for worker safety at emergency spill management sites,
- Containment and recovery procedures applicable to the type, volume and nature of the products, and,
- Diagrams of response strategies (i.e. how to trench & berm, setting up a boom, blocking a culvert etc.).

#### Services and Resources

Equipment and response personnel must be readily available. The location of emergency spill response services and equipment must be provided in the permit holder's ERP. This may be a combination of locally-held and regionally accessible equipment.

#### Access to Equipment

Permit holders must have adequate resources, including both equipment and trained personnel to respond to any type of spill associated with their operations. A permit holder must:

- Obtain appropriate spill cleanup equipment, considering the type of operations and terrain in which the permit holder operates.
- Ensure the equipment is in good working order.
- Ensure immediate access to the equipment in the general area where it may be required.

OR

- Access to resources may be demonstrated by being a member in good standing in an adequate spill cooperative.

If the permit holder is using a third party spill manual, the permit holder must ensure the manual fulfills all of these requirements.

## Training

Response personnel must be competent in spill response procedures. Training should incorporate:

- HAZMAT awareness and personal safety.
- Product control and containment.
- Reporting requirements.
- Product recovery and disposal.
- Environmental impacts:
  - Wildlife
  - Livestock
  - Water
  - Air
  - Soils
  - Vegetation

### Spill Response

Permit holders must demonstrate adequate preparedness through regularly scheduled training to test response capacity, response times, procedures, coordination, resources, and overall effectiveness. For members of a spill response cooperative, this may be fulfilled through participation in a cooperative annual training and maintaining status as a member of good standing.

## 12. Recovery and Post-Incident Procedures

### Recall of Evacuees

The permit holder's ERP must include procedures for recalling evacuees. The decision will be coordinated by the Regulator's EOC Director in consultation with other applicable government agencies and the permit holder.

The permit holder's plan must describe the procedures for guiding emergency response personnel to bring evacuees into the area (for example, checking homes for H<sub>2</sub>S before returning to residence).

## **Documentation During and After the Incident**

A permit holder's ERP should include procedures for recording and reporting information during and after an emergency. Records may be used for legal, investigation, audits, historical and analytical purposes. A permit holder should ensure that each key responder is provided with instructions for form collection, reporting and record keeping of all documents. All documentation recorded during and following an emergency must be retained for five years and provided to the Regulator upon request. The permit holder should include procedures for the collection of the ICS and EOC forms, and other documentation used at the conclusion of an incident, including the person responsible for the role and how forms will be collected and stored.

## **Critical Incident Stress Debriefing**

The permit holder should include procedures for Critical Incident Stress Debriefing (CISD) for affected persons, including what to watch for, how to forward a recommendation, and who can perform the debriefing.

## **Investigation of Incidents**

Criteria and guidelines for investigating incidents should be included in the ERP.

## **Post-Incident Report**

The permit holder is required to submit the Permit Holder Post-Incident Report (Form D) to the Regulator within 60 days for any of the following occurrences:

- Any Level 1, 2 or 3 emergency,
- Any incident or emergency involving a pipeline, or
- Upon request of a Regulator employee.

## **Incident Debriefing**

The permit holder should include procedures for a post-incident debriefing. The debriefing should consider the following:

- Lessons learned,
- Outcomes,
- Actions resulting from the debrief, including when and by whom they should be carried out, and,
- Necessary changes – corrective actions or revisions to the ERP.

The incident debrief should be documented and records retained.

### **Expense Re-Imbursement Procedures**

Procedures for the re-imbursement of expenses to affected parties.

## **13. Guidelines for Managing Complaints and Threats**

The ERP should contain the following standard guidelines and procedures.

### **Response to Complaints**

Procedures for responding to complaints should include:

- Guidelines for prioritizing complaint calls,
- Procedures for receiving and communicating complaint calls for response,
- Guidelines for responding to complaint calls,
- Guidelines for reporting incidents to the Regulator when the complaint investigation discovers an incident has occurred,
- Procedures for communicating with complainants about response and resolution, and
- Guidelines for complaint documentation.

### **Investigation of Threats**

Procedures for threats received by the permit holder should include:

- Guidelines for threats received by phone and investigation of threats,
- Guidelines documenting threats, and,
- Advising internal and external parties of threats.

## 14. Standard Guidelines and Procedures

### Next of Kin Notification

Procedures for notifying next of kin of employees, contractors, members of the public, etc. for injuries or death should include:

- Procedures for internal notification of injuries or death,
- Guidelines for notifying next of kin, and,
- Procedures for third party notification when applicable.

### Security

Procedures for the security of the area and persons therein should include:

- Security and safety guidelines for the site and potentially affected area,
- Security at roadblocks, reception centres, command posts, staging areas, etc.,
- Security of evidence for investigative purposes, and
- Security of evacuated homes during the incident.

### Hazard Assessment

Procedures for performing hazard assessment at the time of the incident at any location should be included in the ERP to ensure the safety of employees. The assessment procedure will be specific to the permit holder.