

# TYPE OF EMERGENCY RESPONSE PLAN (ERP) TO USE

## for Drilling / Completions / Well Servicing / Workovers

**ALBERTA**

**STEP 1**  
Release Rate (RR)

• Determine H<sub>2</sub>S Release Rate (RR) by conducting a release rate determination report (D56 Regulated)<sup>1</sup>

**STEP 2**  
H<sub>2</sub>S Percentage (%)  
Sweet vs. Sour

Less than 0.01% H<sub>2</sub>S Concentrations

H<sub>2</sub>S Concentrations of 0.01% or Greater<sup>2</sup>

**SWEET**

**SOUR**

**STEP 3**  
Critical vs. Non-Critical

**NON-CRITICAL WELL**

- RR < 2.0 m<sup>3</sup>/s
- RR ≥ 0.3 m<sup>3</sup>/s < 2.0 m<sup>3</sup>/s beyond 5.0km of urban centre
- RR ≥ 0.1 m<sup>3</sup>/s < 0.3 m<sup>3</sup>/s beyond 1.5km of urban centre
- RR ≥ 0.01 m<sup>3</sup>/s < 0.1 m<sup>3</sup>/s beyond 500m of urban centre

**CRITICAL WELL**

- RR ≥ 2.0 m<sup>3</sup>/s
- RR ≥ 0.3 m<sup>3</sup>/s < 2.0 m<sup>3</sup>/s within 5.0km of urban centre\*\*
- RR ≥ 0.1 m<sup>3</sup>/s < 0.3 m<sup>3</sup>/s within 1.5km of urban centre\*\*
- RR ≥ 0.01 m<sup>3</sup>/s < 0.1 m<sup>3</sup>/s within 500m of urban centre\*\*

\*\*Proximity Critical Wells

**STEP 4**  
Emergency Planning Zone (EPZ) Determination

**RUN ERCBH2S MODEL TO CALCULATE EPZ**

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**STEP 5**  
Required vs. Non-Required

• No surface developments in EPZ  
• No Egress issues  
\*must use a developed survey plan or ground truthing of the EPZ to determine.

• Surface developments in EPZ, & / or  
• there are Egress issues  
\*must use a developed survey plan or ground truthing of the EPZ to determine.

**REQUIRED ERP**  
(Contact H<sub>2</sub>Safety Services Inc.)

**NON-REQUIRED ERP**

**REQUIRED ERP**  
(Contact H<sub>2</sub>Safety Services Inc.)

**STEP 6**  
Type of ERP to use

**CORPORATE ERP**

**SUPPLEMENT TO SOUR OPERATIONS ERP (with exceptions)<sup>3</sup>**

**SITE SPECIFIC ERP**

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Submit the ERCB Application Form for ERP Review & Approval (Routine or Non-Routine)<sup>4</sup>

Submit the ERCB Application Form for ERP Review & Approval (Automatically deemed Non-Routine)<sup>5</sup>

**Reference Documents:**

ERCB Directive 71 – November 2008 (includes Nov 24, 2009 Errata)  
ERCB Directive 56 – June 2008 (includes Nov 24, 2009 Errata)

1 \*ERCB requires an applicant to conduct an H<sub>2</sub>S release rate assessment for all Category C, D or E well(s). The ERCB strongly encourages the filing of a presubmission H<sub>2</sub>S release rate assessment to its Geology and Reserves Group for review prior to the submission of an application.

2 All wells with H<sub>2</sub>S Concentrations of 0.1 moles per kilomole (mol / kmol) (0.0001 mole fraction) (100 ppm) (0.01%) or greater, the licensee must use ERCBH2S model calculation properly to calculate the size of the EPZ, prior to filing an ERP

3 For a Non-Critical sour well where the sour well EPZ falls entirely within the sour operations EPZ and a surface development is within the well EPZ; then, wellhead on, no supplement required, but wellhead off, supplement is required. If the sour well EPZ falls entirely within the sour operations EPZ and NO surface development within the well EPZ; then, wellhead on/off, no supplement required. Licensees are required to submit a new site specific ERP instead of a supplement if the following cannot be met; the sour operations ERP does not have the required information, the entire well EPZ is not included within the sour operations ERP EPZ; an exception to this would be if there is no surface development in the portion of the non-critical well EPZ that lies outside of the sour operations ERP EPZ, must ensure that a copy of the approved sour operations ERP and supplement is onsite during all operations, must ensure that all required plan holders have a copy of the approved supplement and a copy of the current sour operations ERP.

4 Licensees are required to use the application form to apply for approval of an ERP. Responses to questions on the form will determine whether the application is considered routine or non-routine. Applications may be audited and if found to be noncompliant, the applicant will be subject to enforcement action.

5 Critical wells are automatically deemed non-routine. (May go through an extensive review and approval process by the ERCB Emergency Planning & Assessment Group)