

Bulletin 2009-32

October 1, 2009

New Version of ERCBH2S Available for Testing and Feedback and Implementation Plan for *Directive 071*

The Energy Resources Conservation Board (ERCB) announces the release of an updated version of ERCBH2S (Version 1.20 Beta), available on the ERCB Web site page for *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry* for testing until November 13. Feedback is requested to be sent by e-mail to directive071@ercb.ca. A finalized Version 1.20 will be released after feedback has been assessed. Information on the changes made to the ERCBH2S computer software to calculate the emergency planning zone (EPZ) for sour operations is in Attachment A.

ERCB *Bulletin 2008-15: New Edition of Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry Issued* (April 2008) granted temporary exemption to existing sour production facilities. The ERCB has now completed a province-wide impact study on these facilities and advises licensees and other stakeholders of the following.

The ERCB has released *EnerFAQs 13: Emergency Response Preparedness in the Energy Industry*, which is available on the ERCB Web site www.ercb.ca, as well as in print from Information Services, 640 – 5 Avenue SW, main floor; telephone: 403-297-8311; fax: 403-297-7040; e-mail: infoservices@ercb.ca.

As well, a new revised draft of *Directive 071* is expected to be released for stakeholder comment in early 2010.

Once the 2010 edition of *Directive 071* is finalized and issued, existing sour production facilities currently operating under the 2005 edition of *Directive 071* must revise and submit required emergency response plans (ERPs) to the ERCB's Emergency Planning and Assessment section within two years of date of issuance. See Attachment B for further detail. **Licensees are reminded that some facilities that did not require an ERP may be so required under the new requirements in 2010.**

Comments or questions regarding this bulletin should be sent to EPAssessment@ercb.ca or called into the EPA Helpline at 403-297-2625 (business days 8:30 a.m. – 4:00 p.m.).

<original signed by>

Roy Graves
Acting Executive Manager
Field Surveillance and Operations Branch

Attachments

Attachment A: EPZ Calculation Discussion

In April 2008, the ERCB released the modelling program ERCBH2S, used by licensees to calculate emergency planning zone (EPZ) sizes. The EPZ is the basis for planning emergency response to a sour gas release. In ensuring an appropriate level of planning, preparedness, and response capability, it is important for licensees to properly characterize the hazard and the distance within which initial and priority-based response actions would occur.

This ERCBH2S model was developed based on a number of conservative assumptions, including regarding dispersion conditions and the type of release.

The ERCB's current approach is to calculate the EPZ radius based on the worst-case combination of many elements, including the dispersion conditions (stable low wind vs. neutral high wind, etc., in 54 different cases) and the type of accidental release (guillotine rupture vs. small hole, horizontal vs. vertical release, etc.).

The resulting worst-case scenario may be useful for determining how severe an emergency situation might be; however, this scenario has a very low probability of occurrence. The ERCB has determined that this does not properly characterize the hazard and should not be the basis on which emergency response planning is developed.

The version of the ERCBH2S model being released for testing calculates the EPZ size based on the weighted probability of occurrence of the dispersion conditions. The model uses historical data from Alberta Environment to determine the fraction of time that each of the dispersion conditions occurs and weights the values to produce the expected EPZ.

It is important to recognize that this new definition of the EPZ continues to use the worst-case release scenario, but factors in the expected dispersion conditions for pragmatic emergency response planning.

Highlights

- 1) The calculated EPZ is a planning tool only. Companies are required to respond to the full extent of any emergency, even if it extends beyond the calculated EPZ.
- 2) In the past, EPZs were calculated using a nomograph, which used release rate or release volume as the only data input. The ERCBH2S model uses more input data (including H₂S information, operating conditions, pipeline and wellbore size, etc.) to calculate EPZs. With better input data, the model provides more accurate information and, therefore, much higher quality emergency response plans.
- 3) The ERCB has always used a conservative approach when calculating EPZ sizes. Although meteorological weighting reduces EPZ sizes from previous versions of the model, the EPZs calculated are still very conservative.
- 4) Many agencies do not plan for emergencies based on an absolute worst-case scenario. To use a typical urban centre as an example, planning for an absolute worst-case scenario could result in a stop light on every corner and a fire hall on every block. Instead, it makes sense to plan for what may be reasonably expected to happen. This results in more realistic EPZs and a better-managed response, which allows companies to focus resources where they are required.

Attachment B: *Directive 071* 2010 Implementation Plan

In conjunction with the April 8, 2008, release of an updated version of *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry*, the ERCB also released *Bulletin 2008-15*, which stated:

Licensees must recalculate all well and pipeline EPZs within existing facility ERPs and submit the results to the ERCB's Emergency Planning and Assessment (EPA) Section. The ERCB's EPA Section will assess the EPZ information submitted and provide a full implementation plan by July 2, 2009, for updating existing facility ERPs.

The ERCB further clarified this requirement in *Bulletin 2008-33*, released on July 9, 2008, which stated:

Existing sour production facility ERPs may be temporarily exempt from the *Directive 071* July 2008 edition requirements, as set out in *Bulletin 2008-15*. However, licensees are required to recalculate EPZs associated with these facilities and submit the information in Comma Separated Value (CSV) format by December 31, 2008, by e-mail to Directive71@ercb.ca. This is to allow the ERCB, along with industry, to assess the EPZ information submitted and determine the implications of the changes. This will be considered in development of a full implementation plan that will be provided by July 2, 2009, for updating existing facility ERPs.

- Licensees are not required to calculate every well and pipeline EPZ within a facility ERP. Licensees are required to submit calculations for a sample that is representative of the licensees' entire operations. The licensee is expected to provide a justification to defend the sample provided. The licensee should also include a discussion of the impacts the potential change in EPZ size would have on the rewrite of its ERPs.

The EPA Section of the ERCB used the above information submitted by industry to develop the following implementation plan.

Licensees will be given two years to bring existing infrastructure into compliance with *Directive 071*. Given that the ERCB is currently making revisions to *Directive 071*, the two-year timeframe for compliance will begin on the date the next revision of *Directive 071* is released in 2010. Full compliance with *Directive 071* means that all companies will

- meet all requirements in *Directive 071* (2010 edition);
- use the ERCBH2S model to calculate EPZ sizes for all existing infrastructure in Alberta with an H₂S content greater than 100 parts per million;
- complete consultation and update existing ERPs to meet all requirements in *Directive 071* (2010 edition);
- determine whether ERPs are required for areas where they previously were not required when using the nomograph method of EPZ calculation; if they are required, complete consultation and submit the ERPs to EPA for review;
- determine whether ERPs are no longer required in some areas; if after calculating all EPZs using ERCBH2S, it is determined that an ERP is no longer required, the company must
 - notify all parties previously included in an EPZ and plan holders that the ERP is no longer required, and
 - notify the ERCB that the plan is no longer required; include confirmation that all affected parties have already been notified, as well as submitting applicable .csv files to justify that the ERP is no longer required; and

- update all corporate ERPs to meet all requirements in *Directive 071* (2010 edition).

While the ERCB gives licensees two years to come into compliance with *Directive 071*, it is strongly recommended that licensees prioritize their operations and stagger their ERP submissions throughout the two-year timeframe. **Extensions to this deadline will not be considered by the ERCB.** If licensees do not bring their ERPs into compliance with *Directive 071* within the two-year timeframe, enforcement action will be taken. All ERPs submitted to the ERCB under the 2010 edition of *Directive 071* will undergo an audit to ensure compliance. The ERCB strongly encourages licensees to provide EPA with a schedule for submission of updated ERPs.

The ERCB understands that the use of the ERCBH2S models results in changes to existing EPZ sizes. To assist licensees in explaining this to the public, the ERCB has developed EnerFAQs 13 on the topic of emergency response planning, which will assist licensees in their consultation. This EnerFAQs will be required to be offered to all potentially affected parties by all licensees when they are conducting *Directive 071* consultation or notification programs with the public.

While reviewing the data provided as a result of *Bulletin 2008-15*, the ERCB noted that use of the ERCBH2S model was resulting in some pipelines that previously did not have a calculated EPZ now having a small EPZ. The ERCB acknowledges that due to egress issues, this has the potential to result in a large number of ERPs that were not previously required. Because of this, the ERCB has determined that an ERP will not be required for those pipeline operations where the EPZ is less than or equal to 30 m and where the only trigger for an ERP is egress. If a surface development falls within an EPZ that is less than or equal to 30 m, an ERP must be developed in accordance with *Directive 071*.

The ERCB notes that pipeline and well tie-ins have the potential to affect EPZ sizes downstream in the gathering system. For pipeline and well tie-in supplements, licensees are only required to calculate the EPZ for the segment being added and are not required to recalculate the entire system at the time the supplement is submitted. Licensees are required to recalculate all operations if a pipeline or well tie-in has been added or if operating conditions have changed on an annual basis. This will ensure that EPZ sizes are reflective of operations while minimizing the frequency in which operations will need to be recalculated.