

Bulletin 2011-10

April 18, 2011

Use of C-Rings for Storage Systems in the Upstream Petroleum Industry

Alberta's oil and gas industry is applying or adapting new technology and practices to initiate production from unconventional oil and gas resources and to improve recovery from mature reservoirs. The Energy Resources Conservation Board (ERCB) supports these innovative and flexible approaches, provided that they do not compromise public safety and environmental protection.

The ERCB has become aware that certain operators have been using c-rings to store large volumes of fluids associated with hydraulic fracturing operations. C-rings consist of a synthetically lined corrugated steel ring system. The liner covers the area within the steel ring, extends up the wall of the steel ring, and is keyed onto the outside of the wall. The ERCB recognizes that c-rings have been used in other jurisdictions as an alternative to maintaining large numbers of conventional tanks to store fluids on site and that c-rings may assist in addressing surface footprints and managing water and waste.

Section 8.030 of the *Oil and Gas Conservation Regulations* requires materials that are used, produced, or generated at a well site or facility, other than fresh water or inert solids, to be stored in accordance with ERCB *Directive 055: Storage Requirements for the Upstream Petroleum Industry*. Currently, c-rings are not classified as tanks and are not an approved storage system under *Directive 055*. Hence, operators that propose to use c-rings to store fluids other than fresh water or inert solids must first obtain ERCB approval to do so. Upon reviewing an application, the ERCB may approve the use of c-rings under *Directive 055* if the applicant can demonstrate that the level of environmental protection and site safety provided by the proposed system is at least equivalent to that set out in *Directive 055*. ERCB staff have already been in direct contact with a few companies, asking for such supporting information.

The ERCB requests industry's cooperation in identifying and disclosing where they are using c-rings in their operations. The ERCB also requests that industry assist the ERCB in its assessment and analysis of the use of c-rings as a fluid storage alternative. In that regard, the ERCB requests operators to disclose the following information:

- Each surface land location on which one or more c-rings are located and the licence number of any associated well or facility, as well as the name of the licensee and contact information.
- A description of the use and design of the system, including date of installation, dimensions, capacity, and construction materials, along with the proximity of each c-ring to other equipment on the site and offset land features.
- A description of any mitigative measures implemented by the operator to enhance worker and/or public safety and environmental and wildlife (e.g, migratory birds) protection.

- A description of the materials being stored in each c-ring, including the chemical compositions of the materials.
- A description of the operational objectives and benefits the operator expects to achieve through the use of c-rings as compared to standard *Directive 055* storage systems.

Operators currently using c-rings without written ERCB approval and who are not currently in communication with ERCB staff regarding this issue must disclose and e-mail the requested information in a Word file to Directive_055-StorageApps@ercb.ca by **June 20, 2011**. C-rings that are not disclosed and that are found through inspections, audits, or other means will be subject to ERCB enforcement pursuant to *Directive 019: Compliance Assurance*.

This bulletin serves as notice to all ERCB licensees and prospective licensees that effective immediately c-rings are not permitted for storage of fluids without prior ERCB approval.

ERCB staff will review all applications received for the use of c-rings. ERCB staff also intend to examine *Directive 055* to determine whether changes are required.

Directive 055 is available on the ERCB Web site www.ercb.ca under Industry Zone : Rules, Regulations, and Requirements : Directives. Printed copies of the directive may be purchased from ERCB Information Services, 10 Floor, 250 – 5 Street SW, Calgary, Alberta; telephone: 403-297-8311; fax: 403-297-7040; e-mail: infoservices@ercb.ca.

<original signed by>

Stephen Smith
Executive Manager
Applications Branch