

A new approach to regulating unconventional resource plays in Alberta: the ERCB takes a bold step forward

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ERCB Discussion Paper, [*Regulating Unconventional Oil and Gas in Alberta, 2012*](#)

In the weeks before Christmas the Energy Resources Conservation Board (ERCB) released a number of documents all dealing with aspects of the development of unconventional resources. The documents included two inquiry reports dealing with serious incidents in relation to horizontal wells ([here](#) and [here](#)) and multi-stage fracturing, a [draft Directive on Hydraulic Fracturing](#) and the document which is the focus of this post, the Discussion Paper, *Regulating Unconventional Oil and Gas in Alberta*. The release of this paper is a welcome development because it provides a practical example of how a regulator can take the initiative in trying to manage cumulative impacts and the risks associated with the application of known technologies to new challenges. It is fully consistent with the planning approach espoused by the *Alberta Land Stewardship Act*, SA 2009, c A-26.8 and the Land-use Framework. And for once it demonstrates the ability of the Board to lead and get out in front of its critics – ironically, precisely at the moment when it is about to be replaced by new Energy Development Authority (I was going to title this blog “The ERCB and the Owl of Minerva” but thought that some might infer from that title that it was a post on species at risk).

What are unconventional resources and why should their development require a different regulatory approach?

The term “unconventional resources” as used in the discussion paper principally refers to oil and natural gas that are found in *source* rocks, such as shales, rather than in a reservoir accumulation. The discussion paper puts the distinction between conventional and unconventional this way:

In conventional oil and gas, hydrocarbons are expelled from a source rock and, given their buoyancy, migrate through reservoir rock until they become trapped. Most unconventional resource development targets the source rock itself, which can cover very large areas in the subsurface. [At 9 – 10]

The chemical composition of unconventional oil and natural gas are essentially the same as their conventional counterparts; the term “unconventional” simply refers to how they are produced and the types of rock in which they are found. [At 2]

The hydrocarbons in these source rocks have not been exploited until recently because these source rocks are much less permeable than the formations of conventional reservoirs.

Exploitation of source rocks has been made possible by the development of horizontal well technology and the application of multi-stage hydraulic fracturing to those wells. For a useful recent account see Keith Luft et al., “Regulatory and Liability Issues in Horizontal Multi-Stage Fracturing” (2012), 50 *Alberta Law Review* 403.

The discussion paper does not deal with that other large unconventional resource, the oilsands.

The need for a different regulatory approach is largely explained by two factors, the geography or scale of development (since operators are no longer targeting a reservoir and the source formations cover large areas) and the application of hydraulic fracturing. The scale of unconventional resource plays gives rise to concerns about cumulative impacts while hydraulic fracturing technology gives rise to a broad suite of concerns. These concerns include water usage (where water is the preferred fluid), well integrity (and associated concerns for potable groundwater and communication between offsetting energy wells), disclosure of fracture fluids (addressed by another Board initiative also announced just before Christmas ([here](#))), disposal of waste fluids, induced seismicity (see BC Oil and Gas Commission, *Investigation of Observed Seismicity in the Horn River Basin*, August 2012, available [here](#)), gas flaring and venting (e.g. flaring and venting associated with the Bakken development has caused US emissions to increase in the last year “World Bank See Warring Sign in Gas Flaring Increase”, World Bank Press Release, July 3, 2012 ([here](#))) and the surface issues associated with the truck traffic required to support fracturing operations.

The current regulatory approach

The biggest difference between the current regulatory approach and what is proposed here is that, by and large, the current approach is based on the licensing of individual activities in relation to individual pools. Furthermore, the regulatory scheme is premised on the competitive development of pools and places little emphasis on cooperative development. The approach is exemplified by the Board’s practice in relation to rateable take decisions, (see e.g. [ERCB 2003-016](#)) and the absence of compulsory unitization legislation in the province (on the books but never proclaimed, and see my earlier ABlawg post [here](#)).

It is true that there are exceptions to this general approach. The exceptions include the Board’s policies in relation to non-proliferation of facilities, special rules in relation to the Battle Lake Region (see section 8 of [Directive 56](#)), and special rules in relation to developments on the East Slope of the Rockies, ERCB Information Letter, [IL 93-09](#). This Letter, for example, requires applicants to submit their proposals “as a part of a ‘development plan’ rather than on a piece-meal or single-well approach.” It also contemplates cooperation between operators: “Operators proposing developments within the Eastern Slopes area would be expected to consolidate efforts, to whatever degree possible, involving sharing seismic or reservoir/test data, pooling efforts and resources, and use of common roads, pipeline and utility right-of-ways, and general infrastructure with efforts aimed at minimizing surface impacts and disturbances.”

The organizing idea of the ERCB’s proposal for unconventional resources is that the regulatory framework should be based upon the recognition of a resource play. This will allow the Board to develop an appropriate regulatory response to the generic risk profile presented by the characteristics of the particular play (at 10). Further, (at 9) “The new unconventional oil and gas framework is based on two principles: risk-based and play-focused regulation.”

The proposal for regulating unconventional oil and gas developments in Alberta

In developing its regulatory response to a new play the Board has identified three key challenges and a set of seven regulatory outcomes. The challenges are expressed as follows (at 8):

- management and protection of water,
- performance assurance of multistage hydraulic fracturing technology, and
- regional effects of activities on the landscape.

The desired outcomes are these:

- Water management

Maintain a sustainable level of nonsaline water use.
Maintain quality of surface water and nonsaline groundwater.

- Waste management

Conserve resources, minimize waste, prevent pollution, and protect the environment and the public.

- Air quality

Ensure that the public and the environment are not measurably affected by adverse air quality.

- Conservation

Maximize economic recovery of reservoir fluids and conservation of gas.
Ensure equal opportunity for all resource owners in receiving an equitable share of production.

- Orderly development

Minimize issues of a regional nature and cumulative effects of oil and gas development

- Public safety

Ensure that oil and gas activities do not compromise public safety.

- Information and advice

Understand and disseminate information on the extent of resources in the play, production capacity, reserves volumes, and other geological and reservoir characteristics.

In order to achieve these outcomes the Board envisages flexible performance based regulation based on the formal declaration of a play and (at 12) “increased emphasis on planning and

collaboration among operators in a play.” To that end (at 13), “the ERCB will strongly encourage all operators within a desired play to establish a play-focused operators group ... to work on the play development plan” (PDP). The PDP should address what the Board has identified as the five principal issues associated with unconventional resource development (at 13 – 14): (1) protection and efficient use of water resources, (2) minimize surface disturbance of all kinds, (3) maximize resource recovery and identify opportunities for enhanced recovery, (4) proactive engagement of local communities and stakeholders from play development to abandonment, and (5) life-cycle well-bore integrity management. The Board envisages that the PDP will be submitted to the Board for approval and that it may be subject to further public review. An appendix to the discussion paper offers detailed and useful guidance as to how the PDP should address the key issues. For example, with respect to maximizing resource recovery, the Appendix provides that a PDP should consider and address the following matters (at 26 – 27):

- how contiguous mineral rights ownership will be optimized through use of holdings or unitization to maximize the productive land base, optimize well spacing and production, and minimize the area lost to spacing boundary setbacks
- indicate the optimum horizontal well length, orientation, spacing, construction, and completion techniques that will optimize ultimate economic recovery and maintain equity between different owners
- opportunities to share data and knowledge to benefit the overall development of the play
- effects of early production rates and pressure drawdown on the flow of reservoir fluids and hydrocarbon recovery
- conservation of associated gas production with commencement of oil production or as soon as possible thereafter
- the potential for enhanced recovery and primary production operations to jeopardize or improve opportunities for future enhanced recovery
- provisions for gathering data of sufficient type and quantity to fully understand geological characteristics, understand reservoir performance, optimize hydrocarbon recovery, and provide for in-place resource and recoverable reserves assessments
- assessment of opportunities for operators to collaborate on development and production strategies that would increase operational efficiency, particularly where enhanced recovery may be feasible

There are good reasons for thinking that it will not be easy to secure this level of collaboration and cooperation. The Board acknowledges this noting (at 3) that “each operator may undertake development at a different pace, have different capital budgets, and use different approaches”

Where it is not possible to achieve collaboration between operators the Board anticipates that operators will be required to submit project plans for their respective lease holdings (at 14). At a minimum this will allow the Board to bundle approvals together (and one specific proposal is the introduction of a pad approval which would (at 16) allow “multiple activities to occur over an extended period”). More aggressively (at 15)

...companies with adjoining leases will be encouraged to submit joint or complementary project plans. The ERCB may specify that a project area be of a minimum size or that adjacent projects be consolidated to avoid “piecemeal”

development that might prevent a proper understanding of overall effects and frustrate rationalization with other projects developing in the play.

The Board anticipates implementing the new framework by focusing on a key play such as the Duvernay (at 18)

The discussion paper does not address what *legal* techniques the Board plans to use to implement the new approach although the paper does address (at 16) compliance assurance and the possible need to increase audit requirements given the emphasis on performance based regulation. I infer from this that the Board believes that it will be able to accomplish all of its objectives by way of new Directives or amendments to existing Directives. This is probably a reasonable starting point and may even work provided that the Board obtains the degree of collaboration amongst operators that it envisages. But I am none too sanguine that that will happen absent some big sticks available to the Board or a cultural change within Alberta's highly competitive oil patch. From this perspective a useful adjunct to this discussion paper would be a legal assessment of the big sticks available to the Board (or the new regulator) to require operators to achieve the coordinated development on which the desired outcomes are premised. It may be that the Board needs additional powers to achieve these outcomes – that the willingness to use its authority (existing or to be conferred) to protect the various public interests in maximizing recovery from these resources with minimal surface disturbance.