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The AER's Peace River Odours and Emissions Report and Response

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Reports commented on: AER Report of Recommendations on Odours and Emissions in the Peace River Area, March 31, 2014, [2014 ABAER 005](#); [AER Response](#), April 15, 2014

For a long time now residents in the Peace River area (Three Creeks, Reno and Seal Lake) have complained about hydrocarbon odours and emissions from oil sands / heavy oil developments in this part of the province. Some residents have complained of health effects and some have found conditions intolerable and have moved off their properties. Pressure to deal with this has grown and the Alberta Energy Regulator (AER) has responded by endorsing a comprehensive set of recommendations designed to:

- reduce and virtually eliminate all hydrocarbon emissions that contribute to odour events, nuisance, and environmental and potential health impacts for residents of the Peace River area; and
- increase the conservation of gas resources in the Peace River area. (Response at 11)

The process

Under the new rules of the *Responsible Energy Development Act*, SA 2012, c R-17.3 an inquiry into any matter may be triggered under s.17 which provides that:

17 The Regulator may, on its own initiative, and shall, in accordance with any request of the Lieutenant Governor in Council,

(a) conduct inquiries and prepare studies and reports in respect of any matter relating to energy resources or the injection of substances into underground formations, and

(b) recommend to the Lieutenant Governor in Council any measures it considers necessary or advisable related to a matter referred to in clause (a).

The inquiry however is actually performed by a panel of hearing commissioners:

(2) Where the Regulator is to conduct an inquiry under this Act or any other enactment, the Chief Executive Officer may arrange for the inquiry to be conducted on behalf of and in the name of the Regulator by a panel of one or more hearing commissioners selected by the chief hearing commissioner from the roster established under section 11.

Thus the procedure followed in this case was the creation of a panel of hearing commissioners to conduct the inquiry and make a report to the AER followed, two weeks later, by a response from the AER endorsing and establishing a timetable for implementing all of the recommendations which fell within the AER's jurisdiction.

The inquiry engaged several independent experts and attracted participation from a number of parties including area residents and several of the main operators in the area notably Baytex and Shell. Some other major operators in the area did not show up including Murphy and Husky. Another party that did not participate was Tervita which operates a waste facility in the area which was potentially the source of some odours (Panel report at para 135).

The findings of the Panel and the AER's responses

The Report contains sections on geology, health, operations, monitoring and modelling, regulatory and stakeholder engagement. I will focus on the section on geology because of its pivotal importance and then refer to the health, operations and regulatory sections.

The oil sands production in the subject area principally uses a technique referred to as CHOP or cold heavy oil production. In other words (and by contrast with other in situ projects which involve thermal heating of the resource in place) the technique used here involves more conventional production methods with vertical and horizontal wells. The produced oil is then heated in production tanks on the surface before being transported by truck for further processing. Some gas is produced along with the heavy oil and further gas is given off from the production tanks. The gas may be vented, incinerated or flared or in some cases captured and conserved.

Production occurs from a particular source rock the Gordondale Member and Exshaw Formation. This formation is not productive of bitumen in other oil sands areas. The Gordondale bitumen is distinctive because of its very high sulphur and aromatic hydrocarbon content, including volatile sulphur. Remarkably, and notwithstanding the long standing concerns of area residents, the Panel noted (at para 30) that while "Gordondale-sourced bitumen in the western Peace River oilsands area ... may contain more volatile compounds than in bitumen produced from other Alberta oil sands areas. To date, no analyses have been completed on what volatile compounds may be present in the original bitumen or in the produced crude bitumen and heavy oil that are brought to surface."

The Panel addressed this deficiency by suggesting (at para 36) that the AER (or the operators as required by the AER) prepare a geochemical analysis of the volatile compounds from the heavy oil sourced from the Gordondale. The AER has accepted this proposal and will put most of the onus for discharging this task on the operators.

The health concerns of residents were of course crucial and a key driver that led to the inquiry being called in the first place, but the results of the inquiry were somewhat inconclusive given the lack of quality data. In the end therefore the Panel was reduced to concluding (at para 88)

“that heavy oil operations are causing odours in the area and that these odours have the potential to cause some of the symptoms of area residents. Therefore, the Panel finds that odours need to be eliminated to the extent possible.” This in turn led to a recommendation of the need for further research. The AER itself ducked the issue noting that it has no jurisdiction over health-related matters. Accordingly on what was arguably the most important matter addressed by the inquiry the result is unsatisfactory.

On the operations side of things the Panel heard a lot about the different practices of the operators in the area but also of the potential for better management of emissions and venting. Here the Panel proposed moving quite aggressively proposing that all tank top gas should be captured using a vapour recovery unit and that venting be prohibited from all facilities. In the case of emergencies or upset situations the facility should be shut in. The Panel also recommended that the AER require “by October 31, 2014, operators, either collectively or independently, provide a feasibility study to the AER into options and timelines to conserve all gas at sites in the Peace River area (at para 144, recommendation # 5). The Panel expects that the AER, after considering the information in the feasibility study, will require operators to implement an appropriate conservation plan.” The AER has accepted the recommendation.

On the regulation side of things the Panel noted that there was a gap in the AER’s regulatory framework because of the focus on particular compounds. The Panel put it this way (at para 193):

The current edition of *Directive 060 [Upstream Petroleum Industry Flaring, Incinerating and Venting]* allows the AER to take enforcement action for off-lease H₂S odours. *Directive 060* also prohibits operators from exceeding the AAAQOs [Alberta Ambient Air Quality Objectives] for specific compound such as H₂S and SO₂. Therefore, the AER can monitor and compare ambient concentrations of these compounds against the AAAQOs and take appropriate enforcement action if exceeded. However, there are no AAAQOs for total hydrocarbons and the AER does not currently have a regulatory tool to enforce against off-lease hydrocarbon odours from compounds other than H₂S. The Panel finds that this has created a regulatory gap that prevents the AER from enforcing against most hydrocarbon odours.

The Panel accordingly recommended that Directive 60 be amended to close this gap noting as well (at para 197) that as of March 31st 2014 the AER would acquire additional authority under s116 of the *Environmental Protection and Enhancement Act*, RSA 2000, c E-12 to deal with odours and to require operators to take remedial action. More generally, and perhaps therefore more importantly, the Panel recommended that the AER apply a “resource play” approach to the challenges posed by the unique feature of the Peace River area heavy oils. See my post on “A new approach to regulating unconventional resource plays in Alberta: the ERCB takes a bold step forward Document commented on: ERCB Discussion Paper, Regulating Unconventional Oil and Gas in Alberta, 2012” [here](#). The AER’s response endorsed all of these recommendations.

Conclusions

This inquiry was a long time in coming. However, once things were in motion the inquiry itself proceeded expeditiously and the AER has responded swiftly and positively to the Panel’s recommendations. While there will be work to do in implementing these decisions over the next few months the result should be tangible improvements in air quality in the Peace River area. It

remains to be seen if any of the “no-show” operators attempt to delay implementation. The one weak area in terms of response relates to the health issues identified by the Panel where there remain significant uncertainties. The weakness in the AER’s response is justified on jurisdictional grounds but it does mean that attention must now turn to Alberta Health to ensure that it does not the ball. The record of that agency over the last few years is hardly encouraging but there must be some retired executive from that agency looking for a new gig! Or I suppose there’s always the option of pushing the single window idea a little further It’s OK folks I’m not serious, I’m actually a single window sceptic as noted in my first post on what was to become the AER, see [here](#).

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