

BY E-MAIL ONLY

July 5, 2016

Lily Lau-Porta
ISH Energy Ltd.

Application No. 1849990 from Canadian Natural Resources Ltd.

Dear Ms. Lau-Porta:

You are receiving this letter because you filed a statement of concern about Application No. 1849990. The Alberta Energy Regulator (AER) has reviewed your statement of concern, along with the application, the applicable requirements, and other submissions or information about the application and has decided to issue the applied-for approval. The AER has determined that a hearing is not required under an enactment or otherwise necessary to make a decision on the application. A copy of the approval is attached.

In its review of your concerns, the AER considered the following:

- At this time, ISH Energy Ltd.'s (ISH) gas wells producing from the Wabiskaw gas Member in Sections 20 and 29-73-8W4M are shut-in as mandated in AER's (EUB) Order 05-001, and production could not be affected by the proposed addition to the water disposal scheme. These wells were shut-in due to Order 05-001 and Decision 2005-122 due to the gas pools being directly over potentially recoverable bitumen.
- The application is for Class 1b disposal into the McMurray Formation.
- ISH does not own the mineral rights for bitumen in the Wabiskaw-McMurray Formation within Sections 20 and 29-073-08W4
- CNRL owns the bitumen above the disposal zone and has an interest in ensuring that the disposal does not adversely affect its bitumen.
- ISH provided limited technical data in support of its position that there is not a sufficient barrier between the disposal zone and the gas zone; in particular, ISH argues that the 11-29 well log shows the muds to be sandy with a 27-30% porosity, which would not be a sufficient barrier to water flow.
- The AER notes that although the McMurray B2 mudstone may show to be sandy within the 11-29 well, the McMurray A2 mudstone exists within the area which provides a barrier between the disposal zone and Wabiskaw gas Member.

- CNRL also provided technical evidence, including well logs in the area and geologic mapping, and referenced past regulatory decisions in support of its position that there are sufficient geologic barriers to protect ISH's gas wells.
- The AER has reviewed the information and notes that there is a shale interval of 1m separating the disposal zone from the overlying bitumen, three silty shale intervals located throughout the McMurray Channel and the McMurray A2 Mudstone separating disposal from the Wabiskaw gas zone, therefore fluid migration to the Wabiskaw gas Member is not expected.
- Further, the AER notes that there is 5m of McMurray bitumen that could act as a baffle or barrier between the disposal zone and Wabiskaw gas Member.
- CNRL's pressure balancing system will ensure reservoir pressure will not reach fracture pressure by keeping the pressure relatively low.
- The applied-for disposal would be for a limited time and the AER has included a condition in the approval to require CNRL to return the pressure in the reservoir back to initial pressure following the disposal, which will further ensure that the gas zone is protected.
- Finally, ISH requested that a separate CNRL well, located at 00/13-20-073-08W4/0, be shut in based on its concerns with insufficient seals. That request is outside the scope of this Application and there is no evidence to support the requested shut in.

Given the above, including the lack of technical evidence to support its position, ISH has not demonstrated that it may be directly and adversely impacted by the AER's decision on the application

Under the *Responsible Energy Development Act* an eligible person may file a request for a regulatory appeal on an appealable decision. Eligible persons and appealable decisions are defined in section 36 of the *Responsible Energy Development Act* and section 3.1 of the *Responsible Development Act General Regulation*. If you wish to file a request for regulatory appeal, you must submit your request in the form and manner and within the timeframe required by the AER. You can find filing requirements and forms on the AER website www.aer.ca under Applications & Notices: Appeals.

If you have any questions, contact Molly Chmelyk at _____ or e-mail _____.

Sincerely,

<original signed by>

Andrew MacPherson
Director, In-Situ Authorizations

inquiries 1-855-297-8311
24-hour
emergency 1-800-222-6514

Attachment 1

cc: Lily Lau-Porta, ISH Energy Ltd,
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