

BY E-MAIL ONLY

October 31, 2019

Nick and Christine Andrushuk

**CANADIAN NATURAL RESOURCES LTD. (CNRL)
APPLICATIONS NO.: 1919206, 1919208, 1919209
STATEMENT OF CONCERN NO. 31474**

Dear Nick and Christine Andrushuk:

You are receiving this letter because you filed a statement of concern about applications No. 1919206, 1919208, 1919209. The Alberta Energy Regulator (AER) has reviewed your statement of concern, along with the applications and all associated documentation, the applicable requirements, other submissions or information about the applications and the feedback you provided during the Regulator Initiated Dispute Resolution process (RIDR), including your emails in response to CNRL's comments on your RIDR package.

The AER has decided that a hearing is not required under an enactment, or necessary, to consider the concerns outlined in your statement of concern.

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

- The applications meet all of the AER's technical requirements
- You do not own the lands where the proposed project is located. Your residence is located approximately 1.1 km from the closest proposed well, not 800 m (1/2 mile) as noted in the statement of concern.
- With respect to the agreement between you and Elan Energy Inc., the AER has no jurisdiction over private agreements.
- To address your concerns with noxious odors and emissions related to your health concerns, it is our view that CNRL's applications meet AER requirements and CNRL has provided sufficient mitigation measures to reduce the emissions, such as:

- Implementation of solution gas conservation if volumes exceed AER limits. The proposed design includes the installation of gas compression to provide fuel for the engines and heaters, which will reduce the venting.
- Monitoring and regulating temperatures of the tanks to ensure reduction of emissions and odours.
- CNRL must comply with the AER emissions requirements in accordance with the AER's *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting*. The AER does not require operators to install tank top Vapour Recovery Units (VRU) for cold heavy oil production in the Bonnyville area with sweet heavy oil and sweet solution gas. The Peace River area requires vapour recovery units due to the offensive odour caused by reduced sulphur compounds in the tank top gas.
- The AER has limits on the venting rate of solution gas (casing and tank top gas) that CNRL will meet. Venting limits for this site will decrease from 500 to 100 m³/d in 2022. Casing gas will be conserved by using it as fuel gas for the well pump engines and tank heaters. Propane will also be used if there is insufficient casing gas. Vented tank top gas of 60 m³/d represents about 2 per cent of the solution gas. Tank top gas consists mainly of water vapour and methane which do not have an odour. Trace amounts of heavier hydrocarbons from the heated oil may be noticed as an odour near the tanks.
- AER is aware that in the past, VRU's were installed in the Bonnyville area but none are currently operating according to CNRL. Prior to meeting you on site, the AER conducted site visits where a VRU and an incinerator/flare were previously installed, but none were operating. This is consistent with CNRL's response that VRU's are: expensive to set up and operate; subject to cold weather issues such as lines freezing; and require a combustion device. CNRL has stated that it has no plans to install a flare stack at this location. If required to meet venting limits, CNRL's preference is to use enclosed combustors which are more efficient at combusting tank top gas. This is acceptable and preferred by the AER.
- With respect to Inter Pipelines Cold Lake pipeline system, it is the largest transporter of Cold Lake area bitumen production. The producers' bitumen is mainly from thermal in-situ projects that produce sour oil and is blended with diluent. In 2018, the Cold Lake pipeline system transported approximately 579,000 b/d. The facility requires a vapour recovery system due to the sour nature of the bitumen and to treat the volume of tank top gas displaced as the fluid level changes in the tanks. For comparison, the proposed CNRL multi-well battery is designed for 750 b/d.
- Ambient air quality in the Bonnyville region is monitored by the Lakeland Industry & Community Association (LICA). Casing gas and tank top gas emissions in the air shed are monitored by continuously measuring ambient

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concentrations of methane, total hydrocarbons, non-methane hydrocarbons and total reduced sulphur compounds. Also, integrated monitoring of Polycyclic Aromatic Hydrocarbons and Volatile Organic Compounds occurs every six days. Monitoring results from 2018 do not raise concerns with the AER. Venting of casing and tank top gas from facilities in the area do not appear to have a detrimental effect on air quality.

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- Similarly, CNRL must comply with the AER noise requirements in accordance with the AER's *Directive 038: Noise Control*. CNRL committed to installing "quiet-style" drive-heads and noise attenuation buildings over its motor skids.
- To address your concerns with water well monitoring, CNRL committed to conducting pre-drilling testing of your water well by a contractor of your choice.
- CNRL has indicated in its applications that wells proposed to be drilled from a pad at surface location 04-33-063-05W4M will be designed to determine the productivity and geological viability of the CNRL's main target, as well as formations deeper than CNRL's main target within the Cretaceous and the Colony Formation. The AER accepts this as a course of normal energy development.
- In order to move surface location further away from your residence, CNRL can drill horizontal wells as per your suggestion, but the lateral section of wells is going to target only one formation, so CNRL will not be able evaluate all three prospective formations by drilling horizontal wells with a single lateral. Your proposed alternate drilling locations may impede CNRL's geo-technical objectives and the project economics.
- The AER has not received sufficient information to demonstrate a direct link between your health concerns and emissions from the proposed multi-well heavy oil battery.

Based on the above, the AER has not received information to demonstrate that you may be directly and adversely affected by approval of the applications or that the AER should hold a hearing before making its decision on the application. The AER has issued the applied-for licences, and this is your notice of that decision. Copies of the licences are attached.

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 Energy 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, <http://www.aer.ca/applications-and-notices/appeals>.

If you have any questions, contact Ali Ansell via e-mail Ali.Ansell@aer.ca

Sincerely,

<original signed by>

P. Ferensowicz

Senior Advisor, Strategic Delivery

Enclosure (3): **(facility and well licences)**

cc: Vovel Gapaz, CNRL
Adele Reed, CNRL
Heather Sampson, CNRL
AER SOC Coordinator
AER Bonnyville Field Centre

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