



June 16, 2020

Mr. Marc Leblanc
Commission Secretary
Canadian Nuclear Safety Commission
280 Slater Street
Box 1046, Station B
Ottawa, Ontario K1P 5S9

Dear Mr. Leblanc,

Re: McClean Lake Operation - Application to Amend Uranium Mine Operation Licence (UMOL-MINEMILL-McClean.01/2027) – JEB Tailings Management Facility Expansion (TMF) Project

Orano Canada Inc.

817 45th Street West
Saskatoon SK S7L 5X2
Tel.: +1 (306) 343-4500

In accordance with Section 24 of the *Nuclear Safety and Control Act* and Section 6 of the *General Nuclear Safety and Control Regulations*, Orano Canada Inc. (Orano) is making application to the Canadian Nuclear Safety Commission (CNSC) Secretariat to amend Uranium Mine Operation Licence UMOL-MINEMILL-McClean.01/2027 for the McClean Lake Operation. The amendment is requested to approve an expansion of the existing JEB Tailings Management Facility (TMF). The expansion requested will be achieved through the continued construction of an engineered embankment and placement of a bentonite-amended crushed waste rock liner from the currently approved elevation of 457.5 mASL up to an elevation of 468 mASL. The design increases the height of consolidated tailings to an elevation of 462 mASL, corresponding to ground level on the existing high side of the TMF, from 448 mASL, on the existing low side of the TMF.

Background

On August 26, 2011, Orano submitted a Project Description and request to amend the McClean Lake Operation operating licence for the vertical expansion of the JEB TMF to a total elevation of 468 mASL, increasing the height of consolidated tailings to an elevation of 462 mASL ("468 mASL JEB TMF Expansion"). In November 2011, the CNSC determined that a federal screening level environmental assessment (EA) under *Canadian Environmental Assessment Act (CEAA, 1992)* was required for the project, with the EA process overseen by the CNSC. In July 2012, the *Canadian Environmental Assessment Act, 2012* (S.C. 2012, c.19, s. 52) came into force, Orano was notified that an EA would no longer be required and that the project would continue to the licensing process under the *Nuclear Safety and Control Act (NSCA)*. The Project Description advanced through a technical review with the CNSC staff, as Orano continued to conduct engagement with stakeholders.



To: Mr. Marc Leblanc
Re: McClean Lake Operation - Application to Amend Uranium Mine Operation Licence (UMOL-MINEMILL-McClean.01/2027) – JEB Tailings Management Facility Expansion (TMF) Project

In 2014, Orano revised its forecasted mine development plans and removed resources that were at the time no longer included in the forecast, resulting in a reduction in the required forecasted tailings volume. This reduction was significant enough that Orano revisited the alternatives assessment for the long-term management of tailings. The subsequent alternatives assessment confirmed that expanding the JEB TMF remained the preferred option, although with a reduced scope in design. Construction of an embankment was still required, however, to a lower elevation. The Project Description was revised and re-submitted to the CNSC in 2016 as a notification to update the McClean Lake Operation Licence Conditions Handbook (LCH). The project was determined to be within the licensing basis for the McClean Lake Operation. The update to the LCH to expand the JEB TMF allowing for the top of consolidated tailings to be 448 mASL, through the construction of an embankment to an elevation of 457.5 mASL, for the containment of tailings and pond water during operations, was accepted by the CNSC in 2017.

Amendment Request

As processing of ore from the Cigar Lake mine has progressed, the tailings produced from milling Cigar Lake ore used significantly more capacity (per tonne of ore processed) of the TMF than initially expected. In order for Orano to secure future mining plans, adequate tailings capacity must be available. In response in November 2019, Orano provided an updated Project Description to the CNSC describing the need for a further expansion to the JEB TMF from what was accepted in 2017, to the elevation that was previously contemplated, described and reviewed by technical staff and stakeholders from 2011 to 2014, the expansion of the JEB TMF to 468 mASL.

Specifically, Orano is requesting to amend Section G.1 of the LCH, listing the activities to which CNSC staff provide oversight,

from:

“disposal of tailings in the JEB Tailings Management Facility (JEB TMF) up to a consolidated tailings elevation of 448 meters above sea level (mASL), which is the approximate low point of the natural ground elevation”

to:

“disposal of tailings in the JEB Tailings Management Facility (JEB TMF) up to a consolidated tailings elevation of 462 meters above sea level (mASL), which is the approximate elevation of the naturally occurring high side of the pit”

and include the activity:



To: Mr. Marc Leblanc
Re: McClean Lake Operation - Application to Amend Uranium Mine Operation Licence (UMOL-MINEMILL-McClean.01/2027) – JEB Tailings Management Facility Expansion (TMF) Project

“Modify/expand the outer perimeter of the JEB TMF to accommodate disposal of tailings to a consolidated tailings elevation of 462 mASL”

In May 2020, CNSC staff determined that the project results in a change to the existing licensing basis and therefore requires a Commission decision (Fundarek to Laniece, May 12, 2020).

Current mining and milling plans indicate that the existing approved JEB TMF will reach the currently licensed full capacity in approximately 2027, requiring additional capacity to be available in advance to prevent disruptions in production and allow for timely Orano and partners' economic development decisions. Orano is seeking a decision on the project in 2021.

If you require further information please do not hesitate to contact myself or Tina Searcy, Regulatory and Environmental Science Manager at (306) 343-4525 (w), (306) 227-9013 (c) or tina.searcy@orano.group.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vincent Laniece', with a stylized flourish at the end.

Vincent Laniece
Vice President, Safety, Environment and Engineering

cc: Peter Fundarek
Salman Akhter
UMMD Distribution
Alan Merkowsky
Orano Distribution

/TS