



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

Your file - Votre référence
2BE-KIG1823
Our file - Notre référence
GCDocs#108536685

January 06, 2023

Robert Hunter
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
E-mail: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada's Review of the
Renewal Application for the Kiggavik Project, Type B Water Licence No. 2BE-
KIG1823**

Dear Robert,

Thank you for the November 30, 2022, invitation to review the referenced licence renewal application, submitted by Orano Canada Inc. for Type B Water Licence No. 2BE-KIG1823.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

If there are any questions or concerns, please contact me at (867) 975-3877 or Joyce.Demers@rcaanc-cirnac.gc.ca or Andrew Keim at (867) 975-4550 or Andrew.Keim@rcaanc-cirnac.gc.ca.

Sincerely,

Joyce Demers, B.Sc.,
Industrial Coordinator



Technical Review Memorandum

Date: January 06, 2023

To: Robert Hunter – Licensing Administrator, Nunavut Water Board

From: Joyce Demers – Industrial Coordinator, CIRNAC

Subject: Crown-Indigenous Relations and Northern Affairs Canada's Review of
the Renewal Application for the Kiggavik Project, Type B Water Licence
No. 2BE-KIG1823

Region: ☐ Kitikmeot ☒ Kivalliq ☐ Qikiqtani

A. BACKGROUND

Orano Canada Inc is applying for a five-year type B water licence renewal for their Kiggavik Project, water licence 2BE-KIG1823. The submitted application is for an exploration and camp use and is consistent with the previous license.

The project is a uranium surface exploration project with a temporary exploration camp located approximately 80 km west of Baker Lake, at the geographical coordinates: latitude 64° 26' 29" N and longitude 97° 39' 34" W. The project location spans three different sites running approximately north/south. The sites are;

- Sissons site which is to the south of the Kiggavik site;
- Kiggavik in the center; and,
- St. Tropez site to the north of the Kiggavik site.

The project currently remains in it's Care and Maintenance Phase, with no active field work or on going presence in the camp.. However, the project may change to its Exploration Phase if the economic conditions become more favorable for the company. The exploration phase includes: prospecting, geological mapping, ground geophysical surveys, environmental baselines studies, drill core logging, sampling and diamond drilling (exploration and geotechnical).

CIRNAC provides the following comments and recommendations pertaining to the application package. A summary of the subjects of recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments can be found in Section C.



Table 1: Summary of Recommendations

Recommendation Number	Subject
R1	Amendment Application Form Missing
R2	Variety of Identified Plans or Documents Missing or Uncompleted Sections
R3	Radioactive Storage Compound Measures Description Missing
R4	Infrastructure Locations in Relation to Water Bodies Not Clear
R5	Missing MSDS
R6	Single Chamber Incinerator Used
R7	Inspection Schedule Not Clear
R8	No Mention of Procedure When Artesian flow is Encountered
R9	Storage of Hazardous Materials Other Than Radioactive Materials and Fuel Cache not Identified
R10	Waste Storage Location Not Identified
R11	Confirmation That All Activities Respect a Minimum of 31 Meters Boundary From Any Water Body

B. DOCUMENTS REVIEWED AND REFERENCED

The following table (Table 2) provides a list of the documents reviewed under the submission and reference during the review.

Table 2: Documents Reviewed and Referenced

Document Title	Author, File No., Rev., Date
221129 2BE-KIG1823 Orano Kiggavik Exploration Licence Cover Letter-ILAE	Stephanie Forseille, November 29, 2022
221129 2BE-KIG1823 Orano Kiggavik Project Renewal Application-ILAE	Stephanie Forseille, November 29, 2022
221130 2BE-KIG1823 Abandonment and Restoration Plan_V9_sf-ILAE	Orano Canada Inc., December 2020
221130 2BE-KIG1823 Noise Abatement Plan_V7-ILAE	Orano Canada Inc., November 2019
221130 2BE-KIG1823 Orano Kiggavik Project Renewal Dist Review-ILAE	Stephanie Forseille, November 30, 2022
221130 2BE-KIG1823 Orano Kiggavik Project Renewal Public Notice-ILAE	Nunavut Water Board, November 30, 2022
221130 2BE-KIG1823 Radiation Protection Plan_V9-ILAE	Orano Canada Inc, November 2019
221130 2BE-KIG1823 Spill Contingency Plan_V10-ILAE	Orano Canada Inc., November 2019
221130 2BE-KIG1823 Uranium Exploration Plan_v7-ILAE	Orano Canada Inc., November 2019
221130 2BE-KIG1823 Waste Management Plan_V9-ILAE	Orano Canada Inc., November 2019



Document Title	Author, File No., Rev., Date
221130 2BE-KIG1823 Water Licence Renewal Application Email Dist-OLAE	Robert Hunter, November 30, 2022
221130 2BE-KIG1823 Wildlife Mitigation and Monitoring Plan_V8-ILAE	Orano Canada Inc., November 2019



C. RESULTS OF REVIEW

1. Amendment Application Form Missing

Comment:

The applicant states, in the Orano Kiggavik Exploration Licence Cover Letter and in the Orano Kiggavik Project Renewal Distribution Review documents, that there was an amendment application form submitted. This is a concern as there were no amendments identified in any other document but rather only a renewal application.

Recommendation:

(R-01) CIRNAC recommends that the applicant confirm if a renewal application (which was submitted in the Orano Kiggavik Project Renewal Application and called Application for Water Licence Renewal form) was all that was intended or if an amendment application was also to have been submitted with this package.

2. Variety of Identified Plans or Documents Missing or Uncompleted Sections

Comment:

Below is a list of plans, documents and sections missing from the application which were identified by the applicant as being part of the submission:

- A. EXP-740, Routine Radiological Monitoring Schedule and Associated Work Instructions (mentioned in the Radiation Protection Plan)
- B. Error messages appearing throughout the Spill Contingency Plan
- C. Appendix C Site Maps Missing (mentioned in the Spill Contingency Plan)
- D. Emergency Response Manual (mentioned in the Radiation Protection Plan)
- E. Emergency Response and Assistance Plan (ERAP) (Mentioned in the Radiation Protection Plan)
- F. Winter Road Plan (mentioned in the Spill Contingency Plan)
- G. EXP-740-05, Management and Disposition of Radioactive Drill Cuttings Document (mentioned in the Waste Management Plan)

This missing information around plans, documents or sections of the application are a serious concern.. Some of these plans are directly involved in the event of a spill and must be reviewed in the application renewal process.

Recommendation:

(R-02) CIRNAC recommends that the applicant submit the missing plans, documents and finish the uncompleted sections for review prior to a renewal license being issued.



3. Radioactive Storage Compound Measures Description Missing

Comment:

There is no mention of the measures in place, within the radioactive storage compound area, on how the radioactive materials are contained. This is a concern due to possible contamination spread into the environment and making its way into water bodies.

Recommendation:

(R-03) CIRNAC recommends that the applicant describe the radioactive storage compound and confirm what measures are in place to ensure that contaminants are contained and remain within the radioactive storage compound.

4. Infrastructure Locations in Relation to Water Bodies Not Clear

Comment:

The location of the infrastructure in relations to water bodies is not clear (note that there is a list of infrastructure in the Abandonment and Restoration Plan section 2.3 and also mention of sea containers for example, however this is not an exhausted list). This is a concern because of possible contamination making its way into water bodies.

Recommendation:

(R-04) CIRNAC recommends that the applicant confirm that all infrastructure remains a minimum of 31 meters from any normal high-water mark of all surrounding water bodies.

5. Missing MSDS

Comment:

There were no provided MSDS in the Spill Contingency Plan. This is a concern because the MSDS provide valuable information on how to clean up spills.

Recommendation:

(R-05) CIRNAC recommends that the application provide the MSDS for all hazardous materials brought to the camp, such as, but not limited to: the different kinds of fuels, oils/lubricants and cleaning products be submitted in the final version of the Spill Contingency Plan.



6. Single Chamber Incinerator Used

Comment:

In the Abandonment and Restoration Plan (under section 3.3 waste) the applicant states that they plan on using a single chamber incinerator. This is a concern due to the possibility of incomplete combustion and the release of dioxans and furans, which may allow contaminants entry into adjacent water bodies.

Recommendation:

(R-6) CIRNAC recommends that the applicant use at least a dual chamber incinerator.

7. Inspection Schedule Not Clear

Comment:

In the Abandonment and Restoration Plan (under section 1 preamble) the applicant states that the site has demonstrated site stability and that they will therefore only be inspecting the site once every five years. However, in the Spill Contingency Plan (under section 1 introduction), it states that the site will be inspected yearly. This is a concern due to the lack of consistency within the documents. A clear schedule is needed to ensure that the site is being monitored regularly.

Recommendation:

(R-7) CIRNAC recommends that the applicant clarify their proposed inspection schedule.

8. No Mention of Procedure When Artesian flow is Encountered

Comment:

There is no mention of what the procedure would be if an artesian flow is encountered during exploration. This is a concern due to possible contaminates making its way into water bodies.

Recommendation:

(R-8) CIRNAC recommends that the applicant provide information of the procedure if artesian water is encountered during drilling operations. .

9. Storage of Hazardous Materials Other Than Radioactive Materials and Fuel Cache not Identified

Comment:

The location and how the applicant plans on storing hazardous material other than fuel (diesel and Jet A) and radioactive material was not identified. This is a concern due to the



possibility of spillage of hazardous materials going unnoticed which can possibly make its way into the surrounding water bodies.

Recommendation:

(R-9) CIRNAC recommends that the applicant state where and how they plan on storing other hazardous materials such as, but not limited to, lubricating oils and cleaning products.

10. Waste Storage Location Not Identified

Comment:

The waste storage location (such as but not limited to hazardous waste, non-hazardous waste, bulky items, ash, plastics, and scrap metal) was not identified. This is a concern due to the possibility of waste making its way into water bodies.

Recommendation:

(R-10) CIRNAC recommends that the applicant confirm that the waste storage location is a minimum of 31 meters away from any normal high water body mark of all surrounding water bodies.

11. Confirmation That All Activities Respect a Minimum of 31 Meters Boundary From Any Water Body

Comment:

It is unclear that all activities will be conducted a minimum of 31 meters away from any normal high-water mark. This is a concern due to the increased possibility of contamination making its way into water bodies.

Recommendation:

(R-11) CIRNAC recommends that the applicant confirm that all activities will be conducted a minimum of 31 meters away from any normal high-water mark.