CANADIAN NUCLEAR SAFETY COMMISSION (CNSC)

Technical Review Summary Report

Environmental Baseline Program (EBP) design for the Adaptive Phased Management Project (Ignace site) from the Nuclear Waste Management Organization

Report 1: Environmental Media Baseline Program (EMBP)

and

Report 2: Biodiversity Impact Studies (BIS)

March 2021

Ottawa

EXECUTIVE SUMMARY

1.0 Introduction

The Canadian Nuclear Safety Commission (CNSC) regulates the use of nuclear energy and materials to protect health, safety, security and the environment; to implement Canada's international commitments on the peaceful use of nuclear energy; and to disseminate objective scientific, technical and regulatory information to the public.

As a best practice, the CNSC gets involved early in any proposed new nuclear projects, to provide future applicants with information and guidance on the regulatory requirements and licensing process before the submission of a licence application and the initiation of the environmental assessment process.

The Nuclear Waste Management Organization (NWMO) is the implementer for the deep geological repository (DGR) for Canada's used nuclear fuel. No licence application has been submitted at this time. The CNSC signed a service arrangement with the Nuclear Waste Management Organization (NWMO) to provide regulatory guidance in relation to the adaptive phased management (APM) approach.

CNSC staff provide the optional service of a pre-licensing review to future licence applicants. The objective of a pre-licensing review is to increase regulatory certainty while ensuring public safety. This pre-licensing assessment does not involve issuing a licence under the *Nuclear Safety and Control Act* (NSCA), and is not required as part of the licensing process for the DGR. The conclusions do not bind or otherwise influence the decisions made by the Commission.

2.0 Summary

As part of the service arrangement, the NWMO requested a pre-licensing review of the Environmental Baseline Program (EBP) design for the Adaptive Phased Management Project.

The purpose of CNSC staff reviews was to determine whether the submission is consistent at a high level with the CNSC's regulatory framework as well as other guidance and industry best practice.

In general, CNSC staff found both submissions to be consistent with CNSC's framework. However, CNSC staff have identified areas that require further information and/or clarification in the areas of Environmental Protection and Management System.

Environmental Protection:

The submissions did not provide sufficient information and detail on the environmental monitoring program. CNSC staff recommend the following improvements:

- Providing all water sources used for drinking water in the area and plans to collect drinking water samples from nearby drinking water treatment facilities. This will give a better understanding of the drinking water program;
- Improving sample plan design, sample collection, surrogate selection, community and Indigenous engagement, uncertainties, spatial analysis and mapping, as well as QA/QC;
- Including detailed procedural information for sample collection and associated equipment. This will demonstrate a complete understanding of and guidance for the sampling and associated equipment for different environmental media.

Management System:

The submissions did not sufficiently demonstrate how the NWMO would adhere to their management system documentation. CNSC staff recommend:

- Providing consistencies between the two reports from the process point of view. This will help clarify the harmonized instructions to the contractors;
- Completing missing and/or insufficient information. The detailed information will assist NWMO in the planning oversight and verifications of services provided by the contractors; and
- Demonstrating how QA/QC is managed and consistent with its management system's requirements; effective QA/QC processes ensure quality, rigour and consistency of the sample and results. This will help integration of the QA/QC into the NWMO Management System for Environmental Baseline Program design.