

# CNSC/NRC Cooperation in Pre-application Review Activities Pertinent to GE Hitachi's Boiling Water Reactor X-300 (BWRX-300) – Containment and Reactor Building Structural Design

## **Objective/Scope**

To share regulatory experiences and insights for the BWRX-300 SMR design. Specifically, the scope of work is to perform a collaborative review of a whitepaper on BWRX-300 Containment and Reactor Building Structural Design (Advance Construction Technique using Steel Bricks). An exchange of information between the CNSC and USNRC will cover safety review methodologies, regulatory approaches, and treatment of unique aspects of the BWRX-300 Advance Construction Technique. The sharing of experiences and insights would not affect the schedule for USNRC and CNSC licensing reviews.

## **Context/Background**

This project involves the USNRC and CNSC discussing processes and approaches that will be used in reviewing a whitepaper on BWRX-300 Advance Construction Technique for Containment and Reactor Building Structures as discussed and decided by both agencies. CNSC and USNRC will receive same information at similar timeframes and have agreed to facilitate information flow to support cooperative activities.

## **Relevance to Memorandum of Cooperation**

This project supports MOC 2.a. [1] "Development of shared advanced reactor and SMR technical review approaches that facilitate resolution of common technical questions to facilitate regulatory reviews that address each Participant's national regulations."

This project is also supportive of MOC 2.b. "Collaboration on pre- application activities to ensure mutual preparedness to efficiently review advanced reactor and SMR designs."

## **Expected Outputs**

To the extent practicable, the working group will explore and identify common areas of regulatory alignment or differences and determine suitable products for communicating results of collaborative activities to the vendor, utilities and the public. A joint document and/or a joint assessment will be prepared which is expected to document:

- alignment on key technical areas that will summarize the findings of the CNSC and USNRC collaborative work and states items of mutual understanding/ agreement that could be used in each regulator's review process
- areas of regulatory alignment
- identification of any regulatory issues which will require clarification
- key differences in methodologies

- lessons learned from this cooperative initiative and areas for improvement to inform future cooperative work

## **Work Process**

The USNRC and CNSC will form a working group to accomplish this project. Both CNSC and USNRC staff will collaborate on the review of the BWRX-300 Advance Construction Technique for Containment and Reactor Building Structures equally. The review will be performed by technical reviewers from both agencies. Information provided to one regulator will be shared with the other regulator by the submitter. Additionally, the submitter will need to address or highlight unique aspects of regulatory requirements between the two countries.

## **Milestones**

Project schedule will be dependent on submission(s) timeframe and on the sufficiency of technical information provided.

Working group formation – August 2022

White Paper-submitted Oct 14, 2022

USNRC Public meeting (with CNSC staff participation) to discuss White Paper – November 17, 2022

Joint report – March 31, 2023

## **Interaction with Stakeholders**

The working group will interact with GEH/OPG/TVA as needed. Multi-party interactions between the working group and GEH/OPG/TVA, as needed, will use protocols established that comport with the regulatory framework for both regulators.

## **Points of Contact**

Questions/inquiries regarding this project should be directed to:

Getachew Tesfaye  
Project Manager  
U.S. Nuclear Regulatory Commission  
Getachew.tesfaye@nrc.gov

George Stoyanov  
Project Manager  
Canadian Nuclear Safety Commission  
George.Stoyanov@cnsccsn.gc.ca