



UNPROTECTED/NON PROTÉGÉ

ORIGINAL/ORIGINAL

CMD: 20-H102

Date signed/Signé le : 29 APRIL 2020

Request for a Commission Decision on the Scope of an Environmental Assessment for

Demande de décision de la Commission sur la portée d'une évaluation environnementale pour ce qui suit

**Global First Power**

**Global First Power**

**Micro Modular Reactor at Chalk River**

**Microréacteur modulaire à Chalk River**

Hearing in writing based solely on written submissions

Audience fondée uniquement sur des mémoires

Scheduled for:  
June 2020

Prévue pour :  
Juin 2020

Submitted by:  
CNSC Staff

Soumise par :  
Le personnel de la CCSN

**Summary**

This Commission Member Document (CMD) pertains to a request for a decision regarding:

- the scope of the factors to be taken into account in the environmental assessment under the *Canadian Environmental Assessment Act, 2012* being conducted for Global First Power's Micro Modular Reactor Project at Chalk River

The following actions are requested of the Commission:

- determine the scope of the factors to be included in the environmental assessment for this project

The following items are attached:

- disposition table of public and Indigenous groups' and organizations' comments on the project description for the Global First Power's Micro Modular Reactor Project at Chalk River
- project description
- regulatory basis for the recommendations
- environmental assessment process map

**Résumé**

Le présent document à l'intention des commissaires (CMD) concerne une demande de décision au sujet de :

- la portée des éléments à prendre en compte dans l'évaluation environnementale effectuée en vertu de la *Loi canadienne sur l'évaluation environnementale (2012)* pour le projet microréacteur modulaire à Chalk River de Global First Power

La Commission pourrait considérer prendre les mesures suivantes :

- déterminer la portée des éléments de l'évaluation environnementale

Les pièces suivantes sont jointes :

- tableau des réponses aux commentaires du public et des groupes et organisations autochtones sur la description du projet microréacteur modulaire à Chalk River de Global First Power
- description du projet
- fondement réglementaire des recommandations
- diagramme du processus d'évaluation environnementale

**Signed/signé le**

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Michael Rinker

**Director General**

Directorate of Environmental and Radiation Protection and Assessment

**Directeur général**

Direction de l'évaluation et de la protection environnementales et radiologiques

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## EXECUTIVE SUMMARY

The purpose of this Commission Member Document (CMD) is to request that the Commission determine the scope of the factors to be taken into account for the environmental assessment (EA) of the proposed Micro Modular Reactor (MMR) Project by Global First Power (GFP) for a single small modular reactor at Chalk River Laboratories in Renfrew County, Ontario [1]. The decision in this matter is to be made pursuant to the *Canadian Environmental Assessment Act, 2012* and will not represent a licensing decision.

In March 2019, GFP submitted a licence to prepare site application and project description for the MMR Project; a proposed reactor facility. The scope of the proposed project consists of two major components, a nuclear plant, containing a MMR high temperature gas-cooled reactor, and the adjacent plant which will house equipment and systems that convert the process heat to electrical power or other forms of energy.

In July 2019, Canadian Nuclear Safety Commission (CNSC) staff reviewed a revised project description for the MMR Project and confirmed that the project description is complete and in accordance with the *Prescribed Information for the Description of a Designated Project Regulations* under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). CNSC staff also concluded that the project meets the definition of a “designated project” in the *Regulations Designating Physical Activities* (SOR/2012-147) and therefore requires an EA under CEAA 2012.

As per the transition provision, section 182 of the *Impact Assessment Act, 2019* (IAA), the MMR Project commenced under CEAA 2012 and will continue to be completed under this legislation.

CNSC staff notified relevant federal and provincial authorities of the EA and requested information on their potential participation in the EA and/or interest in receiving further information. Federal departments that have confirmed their participation as a federal authority include Environment and Climate Change Canada, Health Canada, Natural Resources Canada, Parks Canada, Fisheries and Oceans Canada and Transport Canada.

On July 15, 2019, CNSC staff issued a Notice of Commencement of the EA and posted the project description on the Canadian Impact Assessment Registry website (Public Registry) and initiated a 30 day period to seek public and Indigenous peoples’ comments on the project description in order to inform the conduct of the EA. As well, Indigenous groups and organizations identified as potentially having an interest in the project received the notice and project description by email. The comment period was extended until September 14, 2019 for the public and September 23, 2019 for Indigenous peoples, in response to requests to allow for better participation and in recognition of the pressures associated with consulting in the summer period. Comments on the project description that were within scope were posted on the Public Registry, as well as CNSC staff’s detailed responses to comments. The comments and the responses were also shared with all commenters.

Future participation opportunities for the public and Indigenous peoples for the project include the review of the draft environmental impact statement (EIS), EA report and

licensing Commission Member documentation, as well as participation in the public hearings. Participant funding will be offered to facilitate Indigenous peoples, members of the public, and stakeholders throughout all the stages of the EA and licensing processes, and to bring value-added information to the Commission through informed and topic-specific interventions. All EAs under CEAA 2012 are required to consider certain factors listed under paragraphs 19(1)(a) to (h) of CEAA 2012, including the purpose of the project, alternative means of carrying out the project, environmental effects, the significance of these effects, and comments from the public and Indigenous peoples. Paragraph 19(1)(i) of CEAA 2012 also requires the Commission to consider any relevant regional study conducted by a committee established by the Minister of the Environment and Climate Change Canada. Under paragraph 19(1)(j), the Commission has the discretion of taking into account any other matter relevant to the EA that the CNSC, as the Responsible Authority, requires to be taken into account.

Taking into account public and Indigenous groups' and organizations' comments and CNSC staff's review of the project description, CNSC staff recommend to the Commission that the scope of factors to be considered include the factors mandated in paragraphs 19(1)(a) to (h) of CEAA 2012 and that no other factors need to be considered in this EA.

Referenced documents in this CMD are available to the public upon request.



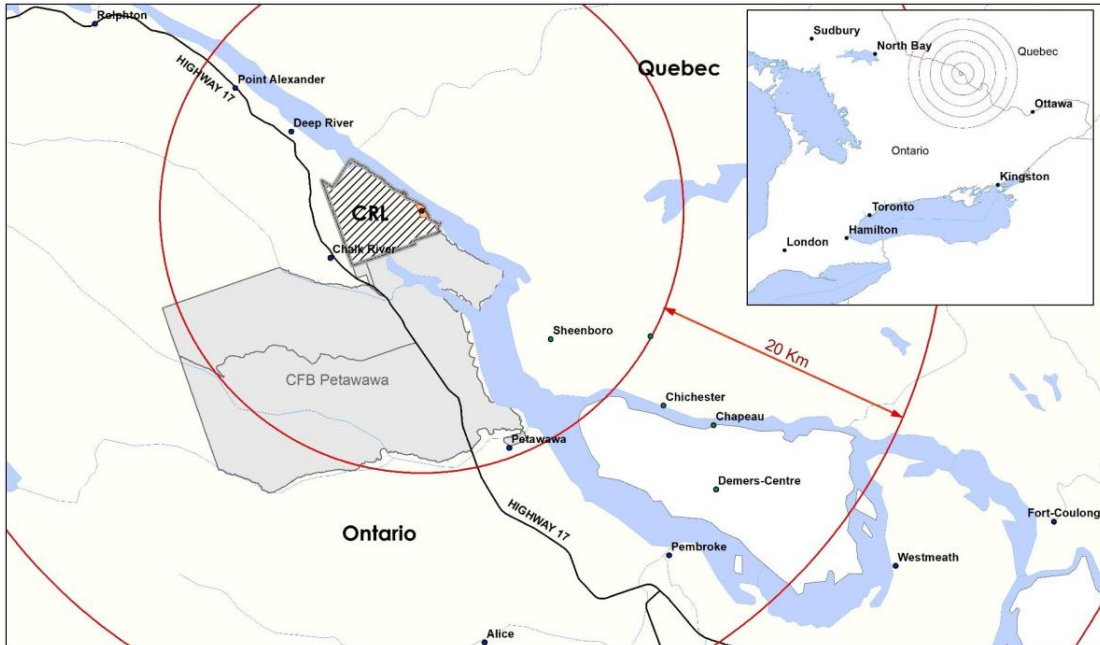
# 1 OVERVIEW

## 1.1 Background

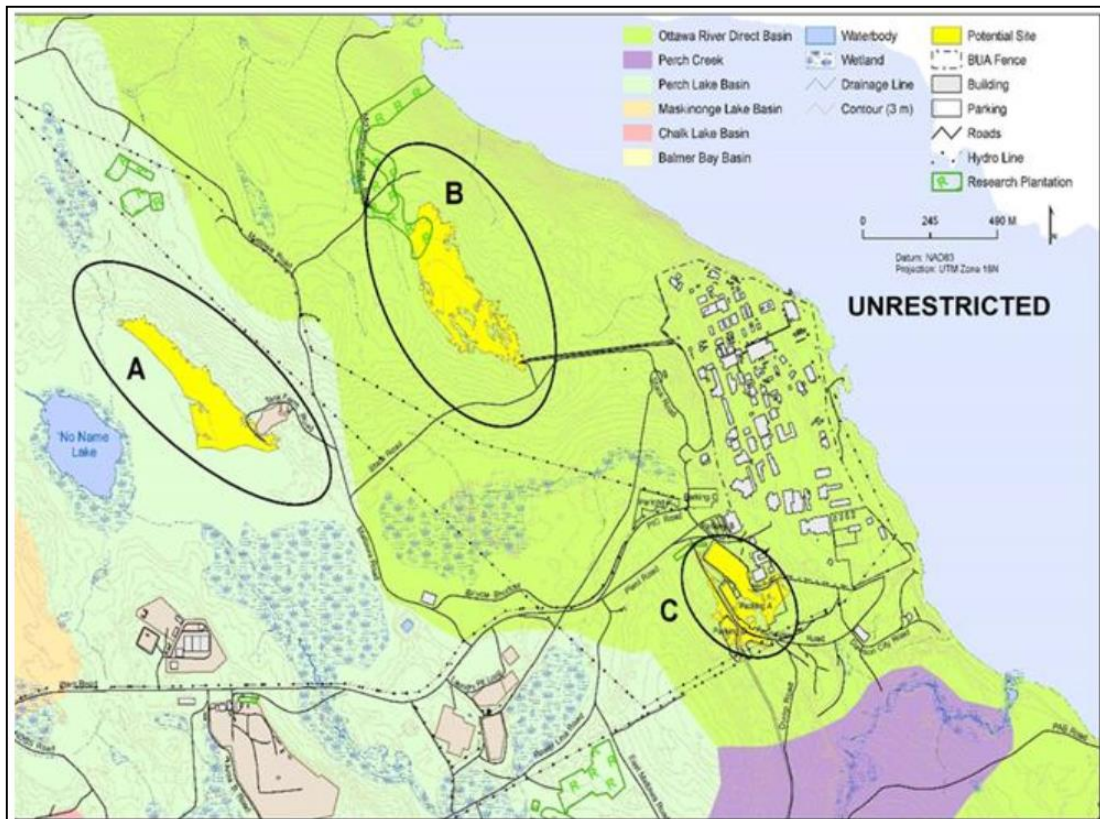
In July 2019, the Canadian Nuclear Safety Commission (CNSC), as the sole Responsible Authority in accordance with paragraph 15(a) of CEAA 2012, received a revised Global First Power's (GFP) project description for the Micro Modular Reactor (MMR) Project at Chalk River (henceforth known as the MMR project) [1] (see Appendix B). The MMR Project is a proposal to prepare site, construct, operate and decommission a new single small modular reactor (SMR) using MMR technology, located on the Chalk River Laboratories (CRL) site in Renfrew County, Ontario. The CRL site is located in southern Ontario, approximately 200 km northwest of Ottawa (see figure 1). For the proposed MMR Project three suitable candidate sites have been identified (see figure 2).

The MMR Project has proposed to use a High Temperature Gas Reactor (HTGR), which would provide process heat to an adjacent plant via molten salt. The process heat would then be converted into approximately 15 Megawatt (thermal) of steam that could be converted to electrical power and/or heat for the CRL site, or supply electrical power to the local power grid. The anticipated life span of the proposed project would be 20 years of reactor operations.

**Figure 1. MMR project and CRL location on the Ottawa River in Southern Ontario [1]**



**Figure 2. Proposed MMR project candidate sites within the CRL site [1]**



As provided in GFP's project description, the MMR project includes two facilities proposed in the scope of the project:

- The Nuclear Plant, includes:
  - The Citadel Building, a vertical cylindrical concrete structure (see figure 3), which would contain the nuclear heat supply system (see figure 4), including the reactor and the intermediate heat exchanger, as well as the nuclear plant molten salt system.
  - The Nuclear Building, constructed on top of the Citadel Building and would contain the main control room and security room, heating ventilation, air conditioning and electrical equipment room, the radiation change over area and change room, and the waste storage and decontamination area.
- The Adjacent Plant, consists of:
  - power generation system and steam turbine generator
  - adjacent plant molten salt system and steam cycle (see figure 5)
  - main and auxiliary grid connection and equipment to interface with any customer end-use facilities
  - offices, MMR operator training centre and visitors centre

**Figure 3. Cross-section of a typical Citadel Building [1]**

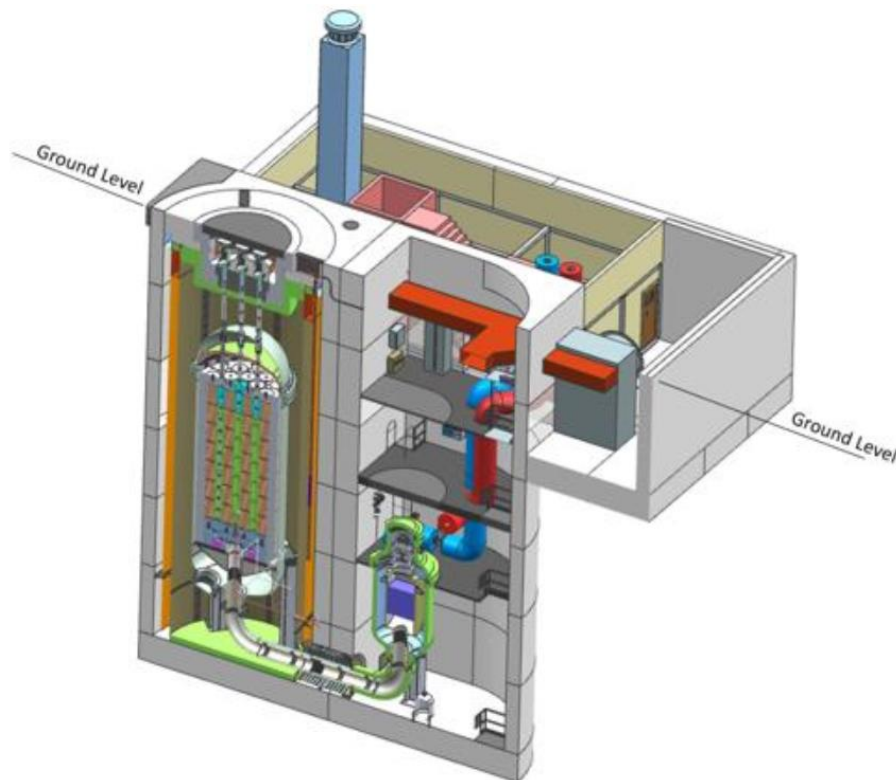


Figure 4. Nuclear Plant – Simplified Process Diagram [1]

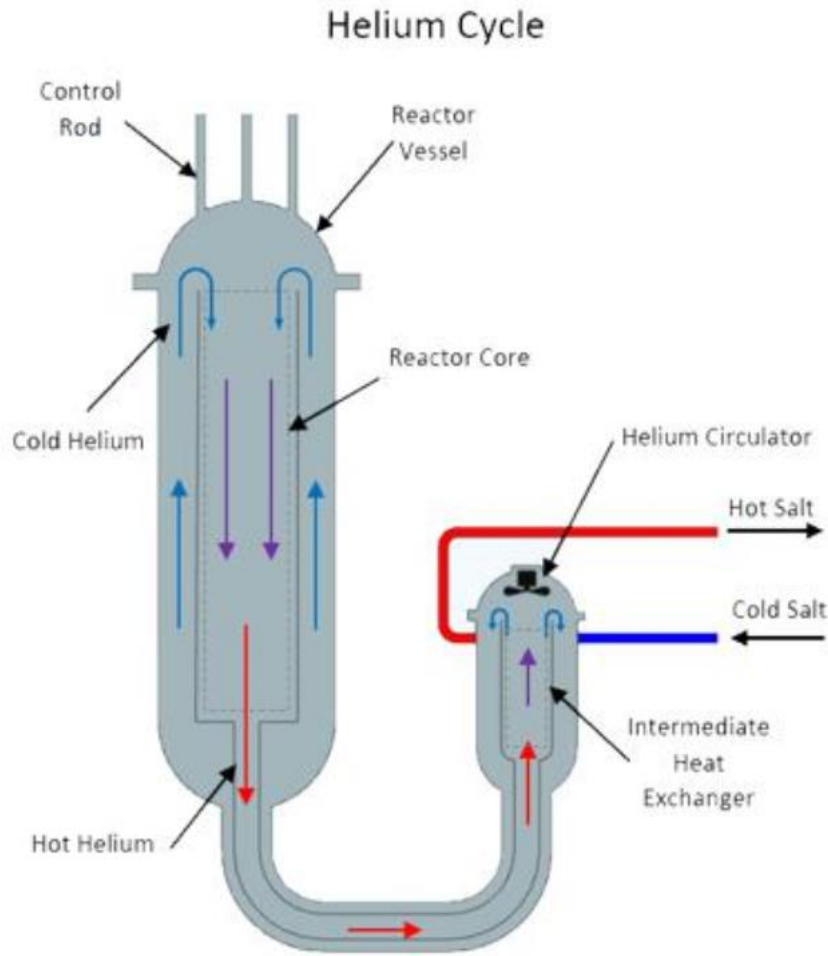
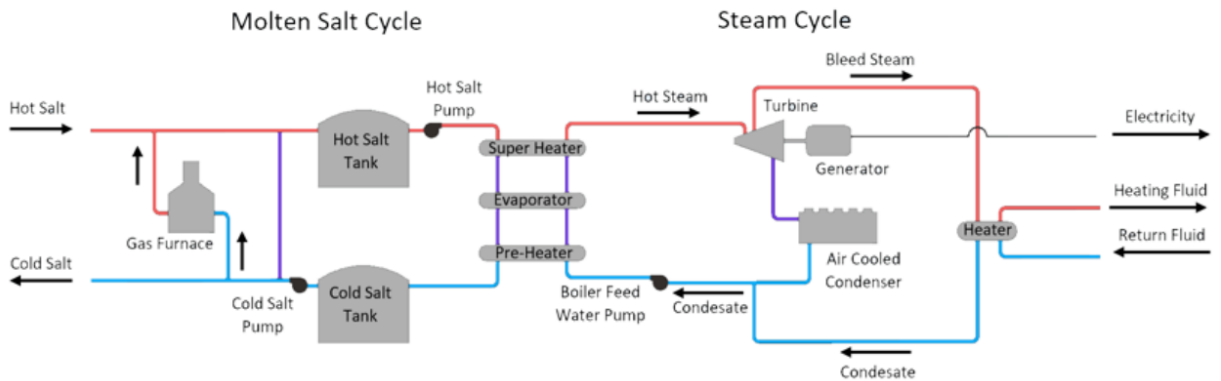


Figure 5. Adjacent Plant – Simplified Process Diagram [1]



The following phases and components are proposed for this project:

#### Project Development

Currently in progress, this phase was formally initiated with the submission of the project description and includes the following activities needed to complete the environmental assessment and impact studies:

- identification and assessment of potential environmental impacts of the project
- site characterization and site survey activities

#### Site Preparation and Construction

This phase is estimated to be carried out over two years, with the main activities described below.

Site preparation main activities would include:

- construction of site access control measures
- clearing and grubbing of vegetation
- excavation and grading of the site to a finished elevation
- installation of services and utilities required to service the future project facilities (e.g., domestic water, fire water, sewage, electrical, communications, natural gas)
- construction of support buildings inside the site, if required
- construction of required environmental monitoring and mitigation systems
- construction of required flood protection and erosion control measures
- demolition and removal of existing structures, if required
- construction/paving of parking area(s), access ways and roads
- drilling and installation of support pilings
- excavation of the Citadel building foundation
- erection of temporary storage and laydown areas as well as a construction yard including handling of commodities and tools

Construction main activities would include:

- concrete structures - off-site pre-cast concrete structures will be used. In-situ concrete will either be delivered to site pre-mixed or will be mixed on site
- preparation of building foundations
- construction of waste management facilities for the segregation and temporary storage of stockpiles of construction waste on the Project site

- excavation and preparation of the concrete base for the Citadel Building
- construction of the main structures and buildings
- assembly of the pre-fabricated modules of the Nuclear Plant and Adjacent Plant and installation of Nuclear Plant and Adjacent Plant main systems
- installation of required fencing

#### Plant/Facility Operation

Operation of the proposed facility is anticipated to span 20 years once the reactor has been constructed and commissioned. Operation and maintenance activities can be categorized into the following activities:

- commissioning of the facility and verification of performance
- operation of the Nuclear Plant and Adjacent Plant systems
- verification, sampling, testing and maintenance during operation
- inspections
- maintenance, repairs and cleaning during planned shutdowns and outages
- processing and handling of waste on the project site, including radioactive and hazardous waste, and the preparation for shipping off-site to an appropriate licensed facility
- environmental monitoring, including follow-up on performance predictions, and radiation protection at the Nuclear Plant
- decontamination work during planned shutdowns and outages of the Nuclear Plant

#### Decommissioning and Abandonment

The Nuclear Plant will be designed to support immediate dismantling and decommissioning, beginning as soon as possible after the permanent shutdown of the plant. The decommissioning phase will take approximately two to three years, with all radioactive material above a specified level identified and removed to ensure the project site or facility can be cleared or used without any regulatory restrictions. General decommissioning activities include:

- Dismantling – Equipment within the plant may be dismantled; equipment within the buildings that are non-radioactive can be removed for possible re-use, and the buildings dismantled.
- Interim storage of used fuel – A purpose-built storage cask can be used to contain the reactor vessel with the used fuel inside in a dry-storage configuration. This will be either stored on the Nuclear Plant site or transferred to an interim storage facility. An alternate option to the purpose-built storage casks is to leave the reactor vessel with the used fuel inside in-situ within the Citadel Building, which will serve as a protected below ground storage cask.

- Final disposal of used fuel – Should the Adaptive Phased Management facility be commissioned by the Nuclear Waste Management Organization, the reactor vessel may be opened, and the graphite blocks containing the used fuel (i.e., fuel elements) may be transferred to this facility. GFP will have to indicate how all waste streams will be managed in the EIS and licence application submissions. This includes making arrangements with NWMO for the long-term management of used fuel.
- Demolition and project site clearance – When the final stage of dismantling is complete, all remaining buildings will be demolished, and radioactive wastes removed to storage or disposal facilities. The MMR Project site is to be cleared and restored. Site monitoring will be conducted until the site's radiation levels are demonstrated to meet all regulatory requirements and the site will then be available for re-use.
- Abandonment - Once satisfactorily decommissioned, GFP will apply to the CNSC for a Licence to Abandon, and if a licence is issued, would release the site from CNSC regulatory control for future use as a green field or brown field site.

As per REGDOC-2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures* [2] the CNSC must make an EA decision in accordance with the CEAA 2012, before a licensing decision can be made under the *Nuclear Safety and Control Act* (NSCA) to allow the project to proceed, see Appendix C for the Regulatory Basis for the Recommendations. An applicant may choose whether to complete an EA under CEAA 2012 via an integrated approach with the CNSC licensing process, or a sequential approach. At this time, GFP has chosen an integrated approach and is proceeding with both the EA and licensing processes concurrently. An EA decision, affirming that the proposed activities will not cause significant adverse environmental effects, is required before the CNSC can make a licensing decision on this proposal.

## 2 MATTERS FOR CONSIDERATION

### 2.1 Environmental Assessment Determination

In March 2019, GFP submitted a license to prepare site application as per section A.1 of REGDOC 1.1.1, *Site Evaluation and Site Preparation for New Reactor Facilities* [3] and a project description addressing the requirements under CEAA 2012 for the MMR Project (see Appendix B) [1]. CNSC staff reviewed the project description in accordance with the *Prescribed Information for the Description of a Designated Project Regulations* made under CEAA 2012.

In April 2019, CNSC staff requested changes to the project description and GFP submitted a revised project description. In July 2019, CNSC staff determined that the revised project description was complete and contained sufficient information to make an EA determination (please refer to Appendix D for a general process map of the CNSC's CEAA 2012 EA process).

CNSC staff then reviewed the proposed activities in the project description and determined that the project meets the description of a "designated project" under section 31 of the *Regulations Designating Physical Activities*, and therefore that the project requires an EA under CEAA 2012.

CNSC staff posted a Notice of Commencement of an EA on the Canadian Impact Assessment Registry on July 15, 2019, as per section 17 of CEAA 2012. The EA for the MMR Project effectively began on this date.

The *Impact Assessment Act* (IAA) came into force on August 28, 2019. Section 182 of the IAA stipulates a transitional provision aimed at the CNSC and relevant to this EA:

**182** *Any environmental assessment of a designated project by the Canadian Nuclear Safety Commission or the National Energy Board commenced under the 2012 Act, in respect of which a decision statement has not been issued under section 54 of the 2012 Act before the day on which this Act comes into force, is continued under the 2012 Act as if that Act had not been repealed.*

The MMR Project is a designated project and had its Notice of Commencement issued on July 15, 2019, under CEAA 2012, and prior to the coming into force of the IAA. No decision statement has been issued for this project under section 54 of the CEAA 2012. Therefore, in accordance with the transitional provision section 182 of the IAA, the EA for the MMR Project is continued under CEAA 2012. On August 29, 2019, the CNSC issued a letter to GFP advising that as per the transition provision of IAA, the MMR Project commenced under CEAA 2012 will continue and be completed under this process. This letter was also posted on the Canadian Impact Assessment Registry.

In 2016, the CNSC published the *Generic Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012* (the EIS Guidelines) [4] that apply to any nuclear



“designated project” under CEAA 2012. The EIS Guidelines provide proponents with the information required for the preparation of their technical studies, i.e., the EIS, including sufficient guidance on the scope of the factors to be considered in the EA.

## 2.2 Indigenous Consultation

The common law duty to consult with Indigenous peoples applies when the Crown contemplates actions that may adversely affect potential or established Indigenous and/or treaty rights. The CNSC ensures that all of its EA and licensing decisions under CEAA 2012 and the NSCA uphold the honour of the Crown and consider Indigenous peoples’ potential or established Indigenous and/or treaty rights pursuant to section 35 of the *Constitution Act*, 1982.

### CNSC Indigenous Consultation Activities

CNSC staff have identified First Nation and Métis groups and organizations who may have an interest in the project and provided each identified group with a Notice of the Commencement of the EA and a copy of the project description for comment.

The identified Indigenous groups and organizations for the MMR Project are the following:

- Algonquins of Ontario
  - Antoine
  - Bonnechere
  - Greater Golden Lake
  - Kijicho Manito Madaouskarini (Bancroft)
  - Mattawa/North Bay
  - Ottawa
  - Shabot Obaadjiwan (Sharbot Lake)
  - Snimikobi (Ardoch)
  - Whitney and Area
- Algonquins of Pikwakanagan First Nation
- Algonquin Anishinabeg Nation Tribal Council
- Conseil de la Première Nation Abitibiwinini
- Communauté anicinape de Kitcisakik
- Nation Anishnabe du Lac Simon
- Long Point First Nation
- Timiskaming First Nation

- Kitigan Zibi Anishinabeg First Nation
- Kebaowek First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Hiawatha First Nation
- Curve Lake First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoliel First Nation
- Anishinabek Nation
- Algonquin Nation Secretariat
- Chiefs of Ontario
- Métis Nation of Ontario

CNSC staff provided the identified groups and organizations with the project description by e-mail on July 15, 2019 and followed up with phone calls to ensure that they received the information and to answer any questions that they may have. Please refer to Appendix A for a complete table of comments and CNSC responses.

All identified Indigenous groups and organizations also received an email notification regarding the 30 day extension for the comment period for the review of the project description. CNSC staff are also open to consulting with additional Indigenous groups and organizations who express an interest in the project.

CNSC staff and GFP offered to meet with the identified Indigenous groups and organizations who expressed an interest. Meetings that have been held to date are outlined in table 1.

**Table 1. Meetings held to date between CNSC staff and identified Indigenous groups and organizations on the MMR Project**

Indigenous Group or Organization	Date	Activity
Algonquins of Ontario	April 8, 2019	CNSC staff met with representatives to discuss the ongoing CNSC-led EAs of interest, including an introduction to the MMR project.
Algonquins of Ontario	May 14, 2019	CNSC staff, with representatives from Atomic Energy of Canada Limited (the CRL site owners), Natural Resources Canada, and Canadian Nuclear Laboratories, provided

Indigenous Group or Organization	Date	Activity
		information on SMRs and the roles and responsibilities of the different organizations.
Algonquin Anishinabeg Nation Tribal Council	May 27, 2019	CNSC staff met with representatives to discuss the ongoing CNSC-led EAs of interest, including an introduction to the MMR project.
Algonquins of Pikwakanagan First Nation	May 30, 2019	CNSC staff met with representatives to discuss ongoing CNSC-led EAs of interest and to introduce the MMR project.
Curve Lake First Nation Hiawatha First Nation Mississaugas of Scugog Island Chippewas of Rama First Nation	June 6, 2019	CNSC staff met with representatives to discuss ongoing CNSC-led EAs of interest, including the MMR project.
Algonquins of Pikwakanagan First Nation	August 26, 2019	CNSC staff met with Chief and Council to discuss the ongoing CNSC-led EAs of interest, including an introduction to the MMR project.
Anishinabek Nation	September 30, 2019	CNSC staff participated in a teleconference to discuss ongoing CNSC-led EAs of interest, including an introduction to the MMR project.
Alderville First Nation Curve Lake First Nation Hiawatha First Nation	October 29, 2019	CNSC staff met with representatives as follow up to the June 6, 2019 meeting and provided further information on ongoing CNSC-led EAs, including the MMR Project.
Algonquins of Pikwakanagan First Nation	November 6, 2019	CNSC staff attended a community meeting and provided an overview of the CNSC, updates on the MMR project and other ongoing CNSC-led EAs of interest, as well as how the CNSC considers Indigenous knowledge in its regulatory activities.
Kebaowek First Nation	November 7, 2019	CNSC staff met with a representative to provide an overview of the CNSC, the MMR project and the other CNSC-led EAs of interest including the MMR project.
Kitigan Zibi Anishinabeg First Nation	November 21, 2019	CNSC staff met with representatives to discuss the ongoing CNSC-led EAs of interest including the MMR project.
Algonquins of Ontario	December 9, 2019	CNSC staff met with representatives to provide updates on ongoing CNSC-led EAs of interest including the MMR project.
Chippewas of Rama First Nation Beausoleil First Nation	January 21, 2020	CNSC staff met with representatives to discuss ongoing CNSC-led EAs of interest, including the MMR project.

Indigenous Group or Organization	Date	Activity
Chippewas of Georgina Island First Nation		

CNSC staff will continue to provide the identified Indigenous groups and organizations with timely project updates and information at key points during the EA and licensing processes including the review of GFP’s EIS, CNSC staff’s EA Report, and CNSC staff’s licensing CMD and related public Commission hearings. CNSC staff will also continue to meet with Indigenous groups and organizations and will conduct additional consultation activities throughout the course of the EA and licensing process, including the development of community specific consultation plans, where appropriate. CNSC staff are committed to working and collaborating with Indigenous groups and organizations to ensure their values, priorities, interests, and concerns are meaningfully incorporated and addressed throughout the regulatory process for the project. Through a meaningful consultation process, CNSC staff will ensure that the honour of the Crown is upheld and that any potential impacts on potential or established Indigenous and/or Treaty rights are appropriately addressed through avoidance, mitigation and/or accommodation measures, as appropriate. Through its Participant Funding Program (PFP) the CNSC will be offering funding to assist Indigenous groups and organizations, and the public throughout all the stages of the EA and licensing processes, including the review of the draft EIS, CNSC staff’s EA report and CMDs, as well as participation in the public Commission hearing.

Further information on Indigenous groups’ and organizations’ participation opportunities and utilization of CNSC’s PFP to date is found in section 2.4 of this CMD.

GFP’s Indigenous Engagement Activities

CNSC’s *REGDOC-3.2.2, Indigenous Engagement* [5], published in 2016 and updated in August 2019, sets out requirements and guidance for applicants whose proposed projects may raise the Crown’s duty to consult. While the CNSC does not delegate its duty, it can delegate procedural aspects of the consultation process to applicants, where appropriate. The information collected and measures proposed by applicants to avoid, mitigate or offset adverse impacts may be used by the CNSC in meeting its consultation obligations.

As per the requirements in *REGDOC-3.2.2*, GFP is required to complete an Indigenous Engagement Report and provide status updates to CNSC staff. GFP submitted a preliminary Indigenous Engagement Report with their project description submission. The report outlines the Indigenous groups and organizations they will engage with and their planned Indigenous engagement activities. GFP has contacted the identified Indigenous groups and organizations to introduce the project and held meetings with some of the groups and

organizations. These meetings served to provide clarification regarding the project as well as engagement in the EA and licensing processes. GFP will continue engagement with the Indigenous groups and organizations through the plan identified in their Indigenous Engagement Report.

GFP has demonstrated to date that they have an Indigenous engagement plan and CNSC staff will work with GFP and will continue to monitor their progress throughout the regulatory review process to ensure compliance with the requirements of REGDOC-3.2.2 and CEAA 2012. It is CNSC staff's expectation that proponents engage with Indigenous groups whose Indigenous and/or treaty rights may be impacted by the project and considers gathering and working with Indigenous Knowledge (IK) as part of their project design and regulatory review process. It is CNSC staff's expectation that the GFP works directly with Indigenous communities and knowledge holders on gathering, incorporating and reflecting IK in their project design, operations, reports and monitoring, where appropriate. It is also CNSC staff's expectation that GFP review and address concerns and requests through ongoing engagement with all identified Indigenous groups and organizations during the development of the draft EIS. GFP is to provide details within the EIS as to how specific requests, issues and concerns raised were addressed and mitigated. The proponent is to provide updates on these activities in the EIS and in future iterations of their Indigenous Engagement Report.

### **2.3 Federal and Provincial Authorities' Participation**

CNSC staff notified relevant federal authorities of the EA in order to confirm their future participation in the EA process as per section 20 of CEAA 2012:

*20 Every federal authority that is in possession of specialist or expert information or knowledge with respect to a designated project that is subject to an environmental assessment must, on request, make that information or knowledge available, within the specified period, to*

*(a) the responsible authority*

As detailed in table 2, six federal departments confirmed their participation as a federal authority and the expertise they can provide to the conduct of the EA, based on their mandate.

CNSC staff also notified the provincial governments of Ontario and Quebec and both provincial authorities confirmed their participation in the EA.

**Table 2. Federal authorities providing expertise to the CNSC for the conduct of the CEAA 2012 EA of the MMR Project**

Federal department	Expertise
Environment and Climate Change Canada	<ul style="list-style-type: none"> <li>• water and air quality</li> <li>• ecological risk assessment</li> <li>• species at risk</li> <li>• wetland conservation</li> <li>• environmental emergencies</li> </ul>
Health Canada	<ul style="list-style-type: none"> <li>• human health risk assessment</li> <li>• contamination of country foods</li> <li>• drinking and recreational water quality</li> <li>• toxicology</li> </ul>
Natural Resources Canada	<ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• seismicity</li> </ul>
Parks Canada	<ul style="list-style-type: none"> <li>• archaeological resources on federal land</li> </ul>
Transport Canada	<ul style="list-style-type: none"> <li>• transportation of dangerous goods</li> <li>• works or activities related to a navigable waterway</li> </ul>
Fisheries and Oceans Canada	<ul style="list-style-type: none"> <li>• fish and fish habitat</li> </ul>

## 2.4 Public and Indigenous Peoples' Participation and Participant Funding

Under section 24 of CEAA 2012, the CNSC must ensure that the public and Indigenous people are provided with an opportunity to participate in the EA.

### Participant Funding Program

As directed under section 58 of CEAA 2012, a Responsible Authority must establish a participant funding program (PFP). The CNSC has its own authority, under paragraph 21(1)(b.1) of the NSCA, to provide funding through its PFP to facilitate Indigenous peoples, members of the public, and stakeholders in participating in the CNSC's EA and licensing processes, and bringing value-added information to the Commission through informed and topic-specific interventions. Funding for this proposed project will be offered in three phases.

For the first phase, up to \$30,400 was awarded to five recipients to facilitate with their review of CNSC staff's submission [CMD 20-H102] and associated documents concerning the scope of factors to be considered in the EA. The funding recipients include:

- David Winfield
- Algonquins of Pikwakanagan First Nation
- Algonquins of Ontario
- Canadian Environmental Law Association
- Kebaowek First Nation

Following the Commission's decision on the EA scope, a second phase of funding will be announced offering \$150,000 to facilitate in reviewing GFP's draft EIS. A third phase of participant funding will be announced at a later date offering \$150,000 to facilitate in reviewing the CNSC's EA report and licensing CMD and to participate in the Commission's yet-to-be-announced public hearings.

#### Comments Received on Project Description

The first opportunity for the public and Indigenous peoples' participation was a 60-day comment period on the project description for the MMR project.

In total, 98 submissions were received, only 51 submissions were within the scope of the project EA and posted on the Public Registry (for example, submissions that express general opposition to SMRs are considered out of scope, however, these submissions were acknowledged but were not dispositioned and this was communicated to such commenters).

A complete table of comments and CNSC responses is found in Appendix A. This table has been shared with all commenters and is posted on the Public Registry.

#### Upcoming Participation Opportunities

Future opportunities for the public and Indigenous peoples' participation for the project includes a comment period on the draft EIS, an opportunity to comment on CNSC staff's EA Report and licensing Commission member documentation, as well as participation in the public hearings. Throughout the EA and licensing process, CNSC staff will engage with local communities within the regional project area through open houses, technical sessions, information booths at community events and webinars.

## **2.5 Scope of Environmental Assessment**

As a Responsible Authority, the CNSC must determine the scope of the factors to be considered in the EA through its analysis of proponent submissions and in response to public and Indigenous groups' and organizations' comments. The factors to be considered in the EA are listed in CEAA 2012 and additional factors can be added when warranted. The sections that follow summarize CNSC's staff's analysis of whether any scoping changes are warranted.

### 2.5.1 Scope of the Factors to be Considered

All EAs are required to take into account subsection 19(1) factors of CEAA 2012:

- a) *the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;*
- b) *the significance of the effects referred to in paragraph (a);*
- c) *comments from the public— or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the National Energy Board Act, any interested party — that are received in accordance with this Act;*
- d) *mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;*
- e) *the requirements of the follow-up program in respect of the designated project;*
- f) *the purpose of the designated project;*
- g) *alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;*
- h) *any change to the designated project that may be caused by the environment;*
- i) *the results of any relevant study conducted by a committee established under section 73 or 74; and*
- j) *any other matter relevant to the EA that the responsible authority, or — if the EA is referred to a review panel — the Minister, requires to be taken into account.*

Paragraph 19(1)(i) does not apply for the MMR project EA since there are no relevant regional studies, conducted by a committee established by the Minister, to consider.

Public and Indigenous groups' and organizations' comments received on the project description related to EA factors are captured in paragraphs 19(1) (a-h) of the CEAA 2012 factors and as such, CNSC staff are not recommending any additional factor, as per paragraph (j), to be included in the scope of the factors.

Subsection 19(3) of the CEAA 2012 states that “the environmental assessment of a designated project may take into account community knowledge and Aboriginal traditional knowledge”.

As per the EIS Guidelines, the CNSC, as the Responsible Authority, requires the proponent to consider community and Indigenous knowledge (IK) within the EIS, where available and accessible, taking into account that the project is within the



traditional territory and land claim areas of the Algonquins of Ontario, Algonquins of Pikwakanagan and Algonquin Anishinabeg Nation Tribal Council's member First Nations, as well as within the Williams Treaties territory, and traditional harvesting territory of the Métis Nation of Ontario. IK and cultural context enhances the understanding of potential impacts of projects and strengthens the rigour of project reviews and regulatory oversight.

The CNSC is also committed to collaborating with identified Indigenous groups and organizations to incorporate IK into the EA process, where appropriate and with the consent of the Indigenous groups and organizations.

CNSC staff's recommendation to the Commission is that the scope of the factors for this EA include the factors mandated in paragraphs 19(1)(a) to (h) of the CEEA 2012, and that no additional factors are recommended for consideration.

## 2.6 Next Steps

### Notification of Final Scope

After the Commission makes its EA scoping decision, CNSC staff will post the resulting Record of Decision, including the description of factors on the Public Registry as per paragraph 79(2)(b) of CEEA 2012. The Record of Decision will be distributed to the identified list of Indigenous groups and organizations as well as members of public that have asked to be kept informed.

### Information Package

CNSC staff will provide an information package and notification to GFP of the final scope of factors. Reference material in this package will provide additional clarity on requirements and guidance in the conduct of the technical studies and EIS. Documents in the package may include:

- CNSC REGDOC 2.9.1 *Environmental Protection: Environmental Principles, Assessments and Protection Measures*, Version 1.1 [2]
- CNSC Generic Guidelines for the Preparation of an Environmental Impact Statement pursuant to the *Canadian Environmental Assessment Act, 2012* [4]
- CNSC Guidelines for the Preparation of the Environmental Impact Statement for Ontario Power Generation's Darlington New Nuclear Power Plant Project [6]

The last reference represents the most recent practice in conducting an EIS for a reactor facility project and is intended to provide additional information. This package will be made publicly available on the Public Registry.

### Preparation of an Environmental Impact Statement

GFP is to prepare an EIS for the proposed project, as directed in the information package. While submission timelines are directly controlled by the proponent, it is estimated that GFP's submission of a draft EIS for the proposed MMR Project will be sent to the CNSC in the spring of 2021. Documents supporting the EIS

may also be used to support GFP's licence application. The draft EIS will be made publicly available on the Public Registry.

### **3 OVERALL CONCLUSIONS AND RECOMMENDATIONS**

#### **3.1 Overall Conclusions**

Based on CNSC staff's review of the project description against the *Prescribed Information for the Description of a Designated Project Regulations* under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), and the *Regulations Designating Physical Activities* (SOR/2012-147) under CEAA 2012, CNSC staff concludes:

- The project description is complete for the purpose of making an EA determination.
- An EA under CEAA 2012 is required to be conducted for the MMR project.
- Community knowledge and Indigenous knowledge must inform the EA taking into account that the proposed project is located within the traditional territory and land claim areas of the Algonquins of Ontario, Algonquins of Pikwakanagan and Algonquin Anishinabeg Nation Tribal Council's member First Nations, as well as within the Williams Treaties territory, and traditional harvesting territory of the Métis Nation of Ontario.
- The scope of the factors to be considered in an EA includes the factors of mandated in paragraphs 19(1)(a) to (h) of the CEAA 2012; no other factors are recommended for this project.

### **3.2 Overall Recommendations**

CNSC staff recommend the following:

- The Commission determines the scope of the factors of the EA by approving the scope of the factors proposed by CNSC staff. That is, the Commission determine that the scope of the factors for this EA include the factors mandated in paragraphs 19(1)(a) to (h) of the CEAA 2012 and no additional factors.

## REFERENCES

All material referenced in this document are listed below, to assist the Commission with their decision.

1. Global First Power, Project Description for the Micro Modular Reactor™ Project at Chalk River, July 8, 2019 <https://iaac-aeic.gc.ca/050/documents/p80182/130911E.pdf>
2. CNSC, 2017, REGDOC- 2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures*, Version 1.1  
<http://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/published/html/regdoc2-9-1-new-v1.1/index.cfm>
3. CNSC, 2018, REGDOC 1.1.1, *Site Evaluation and Site Preparation for New Reactor Facilities* <http://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/published/html/regdoc-1-1-1/index.cfm>
4. CNSC, 2016, Generic Guidelines for the Preparation of an Environmental Impact Statement pursuant to the *Canadian Environmental Assessment Act, 2012*  
<http://www.nuclearsafety.gc.ca/eng/pdfs/Environmental-Assessments/CEAA-2012-Generic-EIS-Guidelines-eng.pdf>
5. CNSC, 2019, REGDOC-3.2.2, *Indigenous Engagement*, Version 1.1  
<http://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/published/html/regdoc3-2-2-ver1.1/index.cfm>
6. CNSC, 2009, Guidelines for the Preparation of the Environmental Impact Statement for Ontario Power Generation's Darlington New Nuclear Power Plant Project, e-Doc: [3310805](#)

## GLOSSARY

<b>Designated project</b>	<p><i>Designated project</i> means one or more physical activities that</p> <ul style="list-style-type: none"><li>(a) are carried out in Canada or on federal lands;</li><li>(b) are designated by regulations made under paragraph 84(a) or designated in an order made by the Minister under subsection 14(2); and</li><li>(c) are linked to the same federal authority as specified in those regulations or that order;</li></ul> <p>It includes any physical activity that is incidental to those physical activities.</p> <p>Source: definitions listed in <a href="#">subsection 2(1) of CEEA 2012</a></p>
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**A. DISPOSITION TABLE OF PUBLIC AND INDIGENOUS  
GROUPS' AND ORGANIZATIONS' COMMENTS ON THE  
PROJECT DESCRIPTION FOR THE MMR PROJECT**

Public Registry: <https://iaac-aeic.gc.ca/050/documents/p80182/134676E.pdf>

## B. MMR PROJECT – PROJECT DESCRIPTION

Public Registry: <https://iaac-aeic.gc.ca/050/documents/p80182/130911E.pdf>

## C. REGULATORY BASIS FOR THE RECOMMENDATIONS

The regulatory basis for the recommendations presented in this CMD is as follows:

### *Canadian Environmental Assessment Act, 2012* (S.C. 2012)

#### Responsible Authority

**15** *For the purposes of this Act, the responsible authority with respect to a designated project that is subject to an environmental assessment is:*

- (a) *the CNSC, in the case of a designated project that includes activities that are regulated under the Nuclear Safety and Control Act and that are linked to the CNSC as specified in the regulations made under paragraph 84(a) or the order made under subsection 14(2)*

#### Factors to Be Considered

##### **Factors**

**19** (1) *The environmental assessment of a designated project must take into account the following factors:*

- (a) *the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;*
- (b) *the significance of the effects referred to in paragraph (a);*
- (c) *comments from the public — or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the [National Energy Board Act](#), any interested party — that are received in accordance with this Act;*
- (d) *mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;*
- (e) *the requirements of the follow-up program in respect of the designated project;*
- (f) *the purpose of the designated project;*
- (g) *alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;*
- (h) *any change to the designated project that may be caused by the environment;*



- (i) *the results of any relevant study conducted by a committee established under section 73 or 74;*
- (j) *any other matter relevant to the environmental assessment that the responsible authority, or — if the environmental assessment is referred to a review panel — the Minister, requires to be taken into account*

### ***Scope of factors***

- (2) *The scope of the factors to be taken into account under paragraphs (1)(a), (b), (d), (e), (g), (h) and (j) is determined by:*
- (a) *the responsible authority; or*
  - (b) *the Minister, if the environmental assessment is referred to a review panel*

### ***Community knowledge and Aboriginal traditional knowledge***

- (3) *The environmental assessment of a designated project may take into account community knowledge and Aboriginal traditional knowledge.*

### **Federal Authority's Obligation**

#### ***Specialist or expert information***

- 20** *Every federal authority that is in possession of specialist or expert information or knowledge with respect to a designated project that is subject to an environmental assessment must, on request, make that information or knowledge available, within the specified period, to*
- (a) *the responsible authority;*

### **Environmental Assessment by Responsible Authority**

#### ***Responsible authority's obligations***

- 22** *The responsible authority with respect to a designated project must ensure that*
- (a) *an environmental assessment of the designated project is conducted;*  
*and*
  - (b) *a report is prepared with respect to that environmental assessment*

#### ***Public participation***

- 24** *Subject to section 28, the responsible authority must ensure that the public is provided with an opportunity to participate in the environmental assessment of a designated project.*

#### ***Responsible authority's obligation***

- 58** (1) *A responsible authority must establish a participant funding program to facilitate the participation of the public in the environmental assessment of*

*any designated project, for which it is the responsible authority, that meets the following conditions:*

- (a) it includes physical activities that are designated by regulations made under paragraph 84(e) or that are part of a class of activities designated by those regulations*

*Internet Site*

***Contents – responsible authority***

**79** (2) *The responsible authority with respect to a designated project must ensure that the following records and information, relating to the environmental assessment of the designated project that it conducts, are posted on the Internet site:*

- (b) a description of the factors to be taken into account in the environmental assessment and of the scope of those factors or an indication of how such a description may be obtained*

***Regulations Designating Physical Activities (SOR/2012-147)***

**35** *The construction, operation and decommissioning of a new nuclear fission or fusion reactor.*

## D. CEAA 2012 PROCESS MAP

### Canadian Nuclear Safety Commission Environmental Assessment Process under the *Canadian Environmental Assessment Act, 2012*

Ongoing public engagement and Indigenous consultation throughout the EA process

