

Joseph Vigder
Project Manager, Atlantic Region
Impact Assessment Agency of Canada

November 10, 2022

via email Reactor-Reacteur@iaac-aeic.gc.ca

Re: Support for Designation Request to enable an Impact Assessment for the Small Modular Reactor Demonstration Project in New Brunswick (IAAC Reference No. 83998)

The Canadian Environmental Law Association (CELA), together with Dr. M. V Ramana, Simons Chair in Disarmament, Global and Human Security at the University of British Columbia, welcome this opportunity to voice our support for the request from the Coalition for Responsible Energy Development in New Brunswick (CRED-NB) to designate the small modular reactor (“SMR”) demonstration project in New Brunswick for an impact assessment (IA) under section 9(1) of the *Impact Assessment Act (IAA)*.¹

While CELA has also expressed its support for this designation request by way of letter dated June 30, 2022,² we wish to reiterate our continued support in light of the Impact Assessment Agency of Canada’s determination to begin the designation process.³ We understand that by January 2, 2023, Minister of Environment, Climate Change Canada will respond with a decision either granting or denying the request for an IA.

About Us

CELA is a non-profit, public interest law organization. It is funded by Legal Aid Ontario as a speciality legal clinic to provide equitable access to justice to those otherwise unable to afford representation for environmental injustices. For over 50 years, CELA has used legal tools to

¹ Coalition for Responsible Energy Development, “Small Modular Reactor Demonstration Project, New Brunswick – Request for Designation under s. 9 of the *Impact Assessment Act*” (4 July 2022), online: <https://www.ceaa-acee.gc.ca/050/evaluations/document/145163> [CRED-NB Request]

² CELA’s Letter of Support (30 June 2022) is attached at **Appendix A**

³ IAAC, “Small Modular Reactor Demonstration Project, New Brunswick and the Impact Assessment Act” (2022), online: <https://crednb.files.wordpress.com/2022/10/letter-to-crednb-notice-of-designation-request-process.pdf>

advance the public interest, through advocacy and law reform, in order to increase environmental protection and safeguard communities across Canada. CELA has written extensively about our concerns regarding SMRs.⁴

M. V. Ramana, Professor and Simons Chair in Disarmament, Global and Human Security at the School of Public Policy and Global Affairs (SPPGA), University of British Columbia, has extensive knowledge of small modular nuclear reactor designs, focused specifically on the proliferation and safety risks associated with these designs. Ramana has published several peer-reviewed papers and reports on SMRs.⁵

1. Request for Project Designation

Under the *Impact Assessment Act's* (IAA) *Physical Activities Regulations*, more commonly known as the Project List, new nuclear reactors with less than 200 MWt (megawatts-thermal) of generating capacity, or 900 MWt if on an existing nuclear site, are excluded from IA review.⁶ Many small modular reactors (SMRs) are expected to come under this classification and escape review unless designated by the Minister under section 9(1) of the IAA.

While many SMR designs are being talked about, only a few are being considered actively for potential construction. One of these is the sodium-cooled SMR design from Advanced Reactor Concept (ARC) proposed by New Brunswick Power (NB Power) for construction at the Point Lepreau site on the Bay of Fundy in New Brunswick. This reactor was also the focus of CRED-NB's designation request. Even though the ARC reactor is designed to produce between 286 and 489 MWt, it would not require review because it is proposed for construction on a site with existing nuclear reactors, unless explicitly designated by the Minister.

Because of the unique accident and multi-generational safety risks posed by nuclear reactors and radioactive wastes, coupled with the historical record of commercial failure demonstrated by sodium-cooled fast reactors globally,⁷ the ARC nuclear project is well suited to the IA process which allows for an upfront examination of the cumulative socio-economic, environmental and sustainability impacts of the project resulting from its construction, operation, and eventual decommissioning.

⁴ CELA's collection of materials on SMRs can be found on our website here: <https://cela.ca/law-reform-climate-action-nuclear-energy-case-against-smrs/>

⁵ See online: <https://sppga.ubc.ca/profile/m-v-ramana/>

⁶ *Physical Activities Regulation* (SOR/2019-285), s 26 - 29

⁷ IPFM. 2010. "Fast Breeder Reactor Programs: History and Status." Princeton: International Panel on Fissile Materials. https://fissilematerials.org/blog/2010/02/history_and_status_of_fas.html.

We submit that due to the likelihood that the project will cause adverse direct, incidental and cumulative impacts upon various areas of federal jurisdiction and the lack of equivalent federal or provincial laws to evaluate and mitigate such impacts, it would be in the public interest for NB Power's proposed ARC SMR to be designated as a project for the purposes of the IAA.

2. Project poses adverse effects to areas of federal jurisdiction

There is a strong likelihood the proposed SMR project will result in adverse effects to areas of federal jurisdiction, including impacts to the rights of Indigenous peoples, and direct or incidental effects to fish and fish habitat, federally protected species and migratory birds. As set out by CRED-NB in their designation request, the Passamaquoddy Recognition Group and the Wolastoq Grand Council are among those asking for an IA, recognizing that the process would allow for more in-depth consultation and further rights of engagement and accommodation.⁸

Impacts to fish and fish habitat, species at risk, migratory birds and transboundary effects are also highly likely given the site's location on the Bay of Fundy, which is a designated UNESCO Biosphere Reserve and Nature Reserve.⁹ Four decades of nuclear operations at the Point Lepreau site, absent any authorization under the *Fisheries Act*, means this proposed project may cause additional ancillary and cumulative radiological and non-radiological contaminants to the Bay of Fundy.¹⁰ There is also the potential for impacts to federally protected species at risk, including the North Atlantic right whale, blue whale and fin whale.¹¹ Furthermore, an IA would allow priority migratory species to be identified and seasonal migratory data, both on land at sea, to be comprehensively review.

3. There is no legislative equivalent to the IAA

Impact or environmental assessment (EA) became law throughout the 1970s and 80s and now, is among the most widely practiced environmental management tools in the world. Initially, EA was meant to ensure the environmental consequences of major development proposals were considered before any development occurred. Now, as the very definition of "environment" within the IAA recognizes – IA must also consider the interactions among associated ecological

⁸ CRED-NB Request, p 16, 44 and 48

⁹ United Nations Educational, Scientific and Cultural Organization, "Biosphere Reserves – Fundy" (2022) online: <https://www.fundy-biosphere.ca/en/>; Nature Conservancy of Canada, "Musquash Estuary Nature Reserve" online: <https://www.natureconservancy.ca/en/where-we-work/new-brunswick/featured-projects/bay-of-fundy/musquash-estuary/>

¹⁰ Canadian Nuclear Safety Commission, "Public Hearing – Transcript of May 12th, 2022," online: <http://nuclearsafety.gc.ca/eng/the-commission/pdf/Transcript-May-12-Hearing-e.pdf>, p 73, 74

¹¹ Species at Risk Public Registry, "North Atlantic Right Whale" (2022); Species at Risk Public Registry, "Blue Whale Pacific" (2022); Species at Risk Public Registry, "Fin Whale Pacific" (2022)

systems and contribute to sustainability, which encompasses the environmental, social and economic well-being of present and future generations.

This foundation is unique to IA law and not captured within more narrowly defined regulatory proceedings, such as the licensing process before Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC). Subsequently, the adverse effects within federal jurisdiction noted above cannot be adequately evaluated, and mitigated under other federal or provincial laws, including the *Nuclear Safety and Control Act*.

Both federal decision-makers would greatly benefit from an IA process where decisions on a variety of criteria are forced to be open, well-informed and justified. Of particular importance is the economic feasibility of the project, which is required to be assessed under the IA process, but not captured in licensing by the CNSC. An IA's review of economic feasibility would allow for an upfront evaluation of development costs, financial burdens for the management of new forms of radioactive wastes that will be generated by the ARC SMR, and additional costs which may be incurred for additional safety and emergency response measures needed to deal with possible multi-reactor accidents at the Point Lepreau site.

4. Designating the project for an IA is in the public interest

Impact assessments are recognized as an appropriate means of enhancing the democratic legitimacy of decision-making and producing outcomes that are more socially just and suited to the needs of a community. As a multi-staged, public proceeding that reviews the project against numerous desired outcomes, such as its purpose or need, and cumulative effects, while also comparing the project with potential alternatives, an IA provides a forum to examine the assumptions underlying any proposal, in this case, to build the ARC SMR, including its purported passive safety features and cost effectiveness. Thus far, what has been seen in the public are mostly claims made by proponents for these technologies, without any independent evaluation of these claims.

Such an evaluation of this technology fits perfectly within the ambit of the IA process. The two core purposes of IA law are (1) to strengthen Canada's progress towards sustainability, including through positive contributions to lasting socio-economic and biophysical wellbeing, while avoiding and mitigating adverse environmental effects; and (2) to enhance the transparency and accountability of decisions, through a participatory and impartial review process.¹²

The ARC SMR project at Point Lepreau ought to attract the most rigorous form of public review, with inputs from multiple stakeholders with different forms of expertise and outlooks, led by a review panel that is not solely constituted by personnel from the CNSC.

The CNSC is still in the process of developing the regulatory processes necessary to oversee SMRs technologies – which comprise multiple reactor designs, each with their own fuel, radioactive waste and accompanying accident risks. Some examples of accidents specific to reactors like the ARC SMR include core disassembly accidents and sodium leaks.¹³ Thus, carrying out an IA could also inform the licensing process by helping, for example, to clarify the technical challenges and safety risks associated with the specific design, and to force consideration of the mandates of other federal departments that may be implicated by this proposed reactor. Despite Canada’s long history of building nuclear reactors, no design similar to the proposed ARC SMR has ever been built in the country.

Conclusion

Excluding SMRs from the impact assessment process unless designated by the Minister, has deleterious implications for environmental governance and public participation in Canada. Impact assessment should not be side-stepped leaving the CNSC as the only institutional check for deploying what is a first-of-its-kind reactor.

On this basis, we offer our full support for CRED-NB’s request for designation and strongly encourage the Minister to designate NB Power’s ARC SMR project for impact assessment.

Regards,

Kerrie Blaise
Legal Counsel
Canadian Environmental Law Association

M. V. Ramana
Simons Chair in Disarmament, Global and
Human Security and Director of the Liu
Institute for Global Issues at the School of
Public Policy and Global Affairs, University
of British Columbia

cc The Honourable Steven Guilbeault
Minister of Environment and Climate Change

¹³ Kumar, Ashwin, and M. V. Ramana. 2008. “Compromising Safety: Design Choices and Severe Accident Possibilities in India’s Prototype Fast Breeder Reactor.” *Science and Global Security* 16: 87–114; Pillai, S. Rajendran, and M. V. Ramana. 2014. “Breeder Reactors: A Possible Connection between Metal Corrosion and Sodium Leaks.” *Bulletin of the Atomic Scientists* 70 (3): 49–55. <https://doi.org/10.1177/0096340214531178>.

Appendix A



The Honourable Steven Guilbeault
Minister of Environment and Climate Change

June 30, 2022

BY EMAIL

Dear Minister Guilbeault,

**Re: Letter of Support from the Canadian Environmental Law Association
Request to Designate NB Power SMR Demonstration Project for Impact Assessment**

Please accept this letter as confirmation of the Canadian Environmental Law Association's ("CELA") full support for the request to designate the small modular reactor ("SMR") demonstration project at the Point Lepreau nuclear site for a federal impact assessment, as filed by the Coalition for Responsible Energy Development in New Brunswick (CRED-NB).

CELA is a non-profit, public interest law organization. CELA is funded by Legal Aid Ontario as a speciality legal clinic to provide equitable access to justice to those otherwise unable to afford representation for environmental injustices. For over 50 years, CELA has used legal tools to advance the public interest, through advocacy and law reform, in order to increase environmental protection and safeguard communities across Canada.

CELA has a direct interest in this matter based on our decades-long experience intervening in the public interest on nuclear projects. On numerous occasions, CELA has appeared before the Canadian Nuclear Safety Commission on licensing matters and we remain active in federal environmental assessments, including the proposed micro-modular SMR at Chalk River, Ontario and the *in situ* decommissioning of the Whiteshell reactor in Pinawa, Manitoba (both of which are proceeding under predecessor IA legislation, the *Canadian Environmental Assessment Act, 2012*). We have also sought to uphold high standards for environmental protection and nuclear oversight in appeals before the Federal Court and Federal Court of Appeal.

As a result of changes to Canada's federal environmental assessment law in 2019, new-nuclear projects below a certain megawatt threshold no longer require impact assessment (IA) review.

Canadian Environmental Law Association

T 416 960-2284 • 1-844-755-1420 • F 416 960-9392 • 55 University Avenue, Suite 1500 Toronto, Ontario M5J 2H7 • cela.ca

Impact assessment promotes a ‘look before you leap’ approach to decision-making so that independent reviews of risk and harm, alternatives to the project, the purpose of the project and impacts on social, economic, Indigenous and environmental values can be duly evaluated. With SMRs being exempt from this process – and there being no equivalent process required by any of Canada’s other environmental laws – there is a pressing need to designate this project for an IA.

It is of critical significance that the public, including remote and Indigenous communities who have been targeted for SMR use and the affected public, who will live far into the future with the radioactive legacy of Canada’s nuclear industry, have access to an independent IA process and the participatory rights and cumulative assessment review of social, economic, and environmental affects it provides.

On this basis, we offer our full support for CRED-NB’s request for an impact assessment of the proposed SMR demonstration project at the Point Lepreau nuclear site in New Brunswick.

Regards,

<Original signed by>

CANADIAN ENVIRONMENTAL LAW ASSOCIATION

Theresa McClenaghan

Executive Director & Legal Counsel