



FREQUENTLY ASKED QUESTIONS

WHO IS GFP?

Global First Power (GFP) is a joint venture between Global First Power Limited, Ontario Power Generation (OPG) and USNC-Power, a wholly owned Canadian subsidiary of Ultra Safe Nuclear Corporation (USNC). GFP is proposing to construct and operate Canada’s first small modular reactor, a UNSC-designed Micro Modular Reactor® (MMR).

WHAT IS THE PROJECT?

GFP proposes to construct and operate Canada’s first MMR, designed by USNC, with the aim of providing an alternative to fossil fuel generation for small applications, such as industrial sites, remote communities and data centres.

This will be a demonstration project and will involve the preparation of a suitable site, construction of one MMR and supporting infrastructure. The MMR is a 45-megawatt (MW) thermal, approximately 15-MW electrical reactor, with a lifespan of 40 years. The project will generate low carbon, clean, reliable energy.

WHY BUILD AN MMR?

If the technology can be proven and commercially deployed, it has the potential to help address serious, urgent issues like climate change and energy equity.

It could help to decarbonize remote industrial activities and energy-intensive operations like data centres. It could also provide a reliable alternative to diesel for remote communities. One MMR has the potential to replace 1.2 billion litres of diesel fuel.

WHAT IS THE APPROVALS PROCESS?

In Canada, the use of nuclear energy is regulated by the Canadian Nuclear Safety Commission (CNSC). Our project is a class 1 nuclear facility and, as such, is subject to the laws and regulations applicable to this class of reactor, including the Nuclear Safety and Control Act and all applicable CNSC regulations and REGDOCs.

In particular, the regulations will require our project to obtain five different licences over its lifespan. This includes licences to: prepare site, construct, operate, decommission and abandon the site – which means it is returned to its original state.

An environmental assessment is also required as part of the first licensing gate – site preparation. This assessment looks at the whole life cycle of the project.

WHAT WERE THE RECENT UPDATES TO THE DESIGN?

The recent updates to the design were largely to increase the output and lifecycle of the MMR. This change allows for greater flexibility. Now, the MMR can be built to operate at an output anywhere between 15 and 45 WM thermal. It can also now run for a period of up to 40 years rather than 20 years.

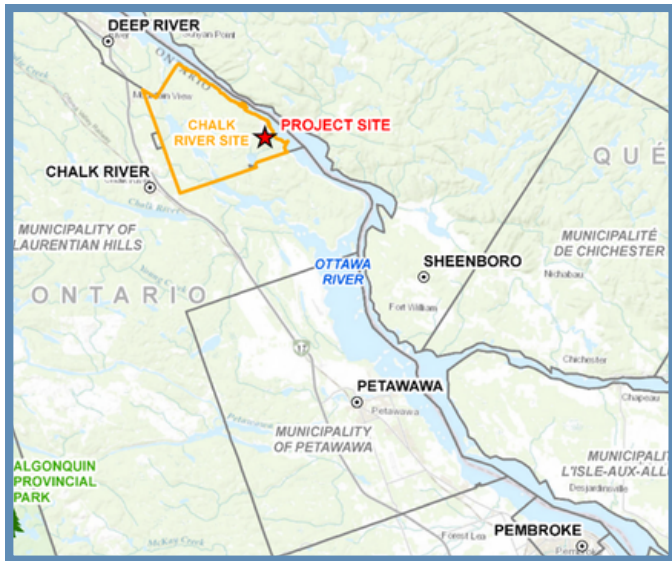
These changes allow us to provide a wider range of capacity options to serve a broader range of potential clients – from those who might have very limited power needs to those that need much more. The more applications we can serve, the wider our impact could be when it comes to addressing urgent, serious issues like climate change and energy equity.

DESIGN UPDATES

	Original design	Updated design
Output	15MW thermal, 5 MW electrical	45MW thermal, Up to 15 MW electrical
Service life	20 years	Up to 40 years
Refueling	No	Yes
Fuel assembly	Indirect cooling	Direct cooling
Onsite fuel storage	No	Short-term
Core shielding	Yes	Yes, increased capability

WHERE IS THE PROJECT TAKING PLACE?

The project will be located on the Chalk River site in Renfrew County, Ontario, on the southwest shore of the Ottawa River. It is federal land owned by Atomic Energy of Canada Limited (AECL) and operated by Canadian Nuclear Laboratories (CNL).



WHY IS CHALK RIVER THE SITE FOR THE PROJECT?

Canadian Nuclear Laboratories (CNL) has established an SMR program in which they seek to advance Canada’s SMR industry by hosting a demonstration unit on the CNL-managed site. We responded to an invitation from CNL to be a part of this program and our project was selected.

Chalk River was established as a nuclear site in 1944 and, as a result, its baseline conditions are well characterized and understood. It also has the infrastructure and services to support a project like ours.

For decades, the Chalk River site has hosted many nuclear projects and activities that provide precedents for developing technology and collecting data that is relevant to licensing and building a demonstration reactor.

HOW DO I PROVIDE FEEDBACK OR GET ANSWERS TO MY QUESTIONS?

From November 29 – December 13, 2023, we will be conducting a feedback survey, which you can access [here](#).

You can also always connect with us at:

- info@globalfirstpower.com
- 1-800-892-9504.

TARGET PROJECT SCHEDULE

