

**Global First Power
Micro Modular Reactor Project at Chalk River
Community Telephone Town Hall
November 16, 2021**

Neal Kelly:

Good evening, everyone. And thank you for joining us tonight. I'm Neal Kelly and I'm happy to be your host for tonight's Global First Power Telephone Town Hall. Global First Power is an Ontario-based energy company that is proposing to construct and operate a small modular reactor, or more commonly called an SMR, at the Chalk River Laboratories site near Deep River, Ontario.

This is the third town hall hosted by Global First Power. They hosted sessions in spring 2020 and March of this year.

Now, before we get started, let me explain how this Telephone Town Hall works. Right now, residents from across the Ottawa Valley are answering their phones and connecting to this discussion.

This is just like a traditional town hall, where guests arrive and file in through the front door. Except in place of a front door, there are thousands of phones ringing in people's homes, inviting them to join us. So people will continue to join us over the next few minutes. This format is live and interactive, and allows us to talk with people from the comfort of their homes.

Folks, we do have the ability to show you images. If interested, you can go to www.access.live/gfp. There, you will see a box that will display a presentation. If you can't do that currently, no problem. When you have the chance, you can review materials on gfpcleanenergy.com. More on that website a bit later on.

Now tonight, we are joined by representatives from Global First Power who are ready to take your questions, and share information about their proposed Small Modular Reactor Project at the Chalk River Laboratories site. We are also joined by a representative from Canadian Nuclear Laboratories, the company that manages the Chalk River site. We have about one hour together.

Now, for anyone who has just joined us, I want to say again, welcome to the Telephone Town Hall with Global First Power. And again, for those who just joined, you may also log onto www.access.live/gfp to see images of the project.

Now, before I turn things over to the Global First Power team, a couple of housekeeping notes. Should we experience any technical difficulties, please bear with us and we'll work through them.

Also, tonight's session is being conducted in English. However, we can respond in French. And, the full transcript of tonight's session will be available in English and French on the Global First Power website in the coming week or so.

Moving along, I want to introduce our speakers. Tonight we're joined by Dominique Minière, president and chief executive officer of Global First Power. Rose Allen, the project director for the project at Chalk River; Eric McGoey, engagement, and communications director for Global First Power.

We are also joined by Keyes Niemer from Canadian Nuclear Laboratories, should there be questions about CNL's Small Modular Reactor Program.

Here's what you need to know to participate in this evening's call. If you have any questions for the panel, please press star three to get in line to ask your question. An operator will take down your question live. You will still hear the town hall conversation while you are waiting. And when I call your name, you will be able to ask your question live on air. So that's star three to get in line to ask your question.

We are also going to ask you to get involved by responding to some poll questions. I will provide instructions on that in a little bit. Lastly, and this for those who may have just joined, you may also want to log onto www.access.live/gfp. There you'll find that we're sharing some visuals.

Now, this evening's agenda is straightforward. First, Dominique Minière and Rose Allen will be providing an overview of Global First Power's Small Modular Reactor Project at Chalk River. After that, you'll have a chance to ask questions. If we don't get to your question tonight, you can leave us a message after the call, and the GFP team will get back to you.

Now, before I turn things over to GFP, just a reminder: If you want to ask a question to one of our speakers now or any time during the call, press star three. And for anyone who has just joined us on the line, welcome to the Telephone Town Hall with Global First Power.

Now I will turn it over to Rose Allen, the project director at Global First Power. Take it away, Rose.

Rose Ahlan:

Thanks, Neal. Hi everyone. And thanks for taking the time to join us this evening. Your time is valuable, so we appreciate your participation.

Before we begin, GFP acknowledges the location of its proposed project is within the traditional unceded territories of the Algonquin Nation. GFP also respectfully acknowledges that the Algonquin peoples are the original stewards and caretakers of the territory, and that they continue to maintain their responsibility to ensure its health and integrity for generations to come. Meegwetch.

Now to set the stage for tonight: It's helpful to recap what our project is, and who we are. Global First Power, or GSP, is an Ottawa-based company that is jointly owned by Ontario Power Generation and Ultra Safe Nuclear Corporation.

GSP generates about half of Ontario's electricity, and has safely operated nuclear reactors for 50 years, in addition to owning and operating many of the hydroelectric facilities in the Ottawa Valley.

And Ultra Safe Nuclear Corporation is the developer of the technology we are proposing to build at Chalk River: the micro modular reactor design.

Now, on to our project. We're excited to share the progress that we've been making on this project at Chalk River. And in particular, the progress being made in support of the Environmental Assessment.

As Neal mentioned at the start of the call, we're proposing to construct and operate a small modular reactor, or SMR, at the Chalk River Laboratories site. Using Ultra Safe Nuclear Corporation's patented micro modular reactor design, our proposed plant would provide approximately 15 megawatts of heat energy. That'd be used to generate approximately five megawatts of electricity.

Our Commercial Demonstration Project is how we plant on proving that our technology is an economically competitive alternative to diesel. Heavy industries like mining and remote communities are two examples of where diesel is commonly used. Our solution could provide power to those locations and industries without greenhouse gas emissions, and with a much smaller environmental footprint.

We have applied to the Canadian Nuclear Safety Commission, or CNSC, for the first in a series of regulatory licenses that would be required. We've also started our Environmental Assessment process.

The location of the project is a paved parking lot at Chalk River Laboratories. This site was selected because it's close to infrastructure that our facility would connect to, and is already a disturbed site. What I mean by that is it's not a forest we would have to clear to site the project at the location.

If you're wondering what the facility would look like, go to www.access.live/gfp, if you can now, to check out these images. If you can't go there right now, no problem. We have this image at gfpcleanenergy.com, our Environmental Assessment–focused website. Again, gfpcleanenergy.com, and you can check it out when you have a moment.

The facility will have two main parts: the nuclear plant and the adjacent plant. The nuclear plant will generate heat, which will be sent to the adjacent plant. The adjacent plant will use the heat provided by the nuclear plant to generate electricity, or convert it to other forms of heat for either district heating or industrial purposes.

The facility is still in the design stage. But based on current assumptions, the facility footprint is expected to be no more than about 31,000 square meters. That's less than two Olympic-size running tracks.

This image that either you're looking at, or will look at later when you visit gfpcleanenergy.com, is an illustrative example of a typical site for a single reactor unit facility. This is not representative of the Chalk River site itself, but will give you an idea of a typical layout.

Let's talk about the timeline now. According to current plans, we expect to be operational around 2026. We are currently seeking a License to Prepare Site. In 2022, we'll start working on the work we need to do to prepare for our construction and operating license applications.

The construction license application may be submitted in advance of actually receiving the License to Prepare Site. What I mean by that is that the licensing processes may be occurring in parallel, but a staggered fashion.

There is still a lot of work to do, and our schedule will continue to evolve, especially after we have an approved Environmental Assessment and License to Prepare Site.

To acquire these two things, there's lots of opportunity for public input, which is very important to us. And because of this, timelines are estimated.

Engagement with indigenous communities and the public is a key part of any project. And we're pleased to have this opportunity to engage with the community tonight.

Right now we're busy with our Environmental Assessment, or EA. EA will consider effects of the project on various features of the environment, which we call Valued Components, or VCs.

VCs are defined as environmental and social features that may be affected by a project, and that have been identified to be of concern by the proponent; in our case, GFP; government agencies, indigenous people, or the public.

Again, the purpose of the VCs is to focus the EA for the project. These VCs have been informed by baseline studies of the site; our other EAs at the Chalk River site; input shared by indigenous communities and the public to date; and the scope of factors for the EA provided by the CNSC.

The VCs we are studying fall under three categories. And under these categories, there are specific items. The three categories are physical environment, biophysical environment, and human environment.

Under physical environment, we're studying surface water quantity and quality, noise, air quality, groundwater quantity and quality, greenhouse gas emission, and geology and soil. Under the biophysical environment, we'll be looking at aquatic and terrestrial environment.

Lastly, under the category of human environment, the VCs are human and ecological health, land and resource use, socioeconomics, and very importantly, the interests of indigenous people.

We have been busy completing and working on the various related studies, and have completed environmental baseline studies, completed public attitude research; started the assessments of the biophysical, physical, and human environments; and the gathering of traditional knowledge from indigenous communities is in progress.

In addition to tonight, we're also currently hosting a Virtual Open House. So until November 30th, you can visit our Open House website, where you can find more information about the project, provide valuable input on some key aspects of our Environmental Assessment work so far, and submit questions. You can visit the Open House by going to the website gfpcleanenergy.com. Again, www.gfpcleanenergy.com. We'll remind you of that website later in the session as well.

And just as a reminder, we have some visuals on screen now, if you wanted to follow along with us. And that is accessible right now at www.access.live/gfp.

So that's a general overview. But before I throw it back to Neal, I'd like our president and CEO, Dominique Minière, to say a few words. Over to you, Dominique.

Dominique Minière:

Thank you, Rose. That's a great overview. We are excited to take your questions, but before we do that, I want to speak to why we are excited about this project.

I also want our friends on the line to know that they can ask questions in French [inaudible 00:13:48] here. And if you don't mind, I will share some of my thoughts on this project in French as well.

[French 00:13:56]

First, this project excites me because it will provide a solution to help with Canada's energy needs, specifically for heavy industries, mining and remote locations, while also supporting Canada's environment and climate change goals.

[French 00:14:53]

And second, our project could serve as a model for the future, and be a solution that provides clean, affordable energy to support Canada's heavy industry and mining applications for far north or remote communities.

The solution that contributes almost no greenhouse gas emissions or smog, and a solution to support Canada environmental and climate change growth and build prosperity.

[French 00:15:18]

Okay. You have all been very patient. So let's turn this over to you, the participants. Neal, please, take it away.

Neal Kelly:

Okay. Thanks very much, Dominique and Rose. Lots of information there that I think will provide participants with an overview of your project.

Just before we start getting to questions, just a reminder. If you have a question that you'd like to ask our panel, press star three at any time. That's star three, and you'll be added in the queue to ask your question.

So we're going to take our first question. It's [Liese 00:16:21] in Mansfield, Quebec. Liese, you're on the air. Please go ahead.

Lise:

Okay. Okay. It's concerning the project, but of course you've answered a little bit of the question right now by explaining. [French 00:16:42]

Eric McGoey:

Yep. [French 00:17:10]

Really, climate change is the driver behind this project. What we're trying to demonstrate is that we can use small modular nuclear reactors in a way that's cost competitive with diesel generation.

So we're proposing to do that at Chalk River as a commercial demonstration to show that this exciting technology is safe and it's economically competitive.

Now, we don't expect you to just take our word for it. There is a very involved process that includes an Environmental Assessment and licenses from the Canadian Nuclear Safety Commission. We are in the process right now of working on our Environmental Assessment. And you can get more information about that at www.gfpcleanenergy.com.

We're also working on the first of three licenses that we need to get from the CNSC, before we're allowed to construct and operate our reactor. So right now we've applied for a license to prepare the site.

After that, if we're successful, we're going to apply for a license to construct, then finally a license to operate our reactor. And it won't be until after the CNSC is satisfied with that, with our preparations, with our safety case, with all of these environmental mitigations and measurements that we're proposing, that we might be issued a license to operate the reactor.

[French 00:19:43]

Neal Kelly:

Okay. Thanks very much, Eric. And thank you very much for the question, Liese.

Just a reminder, if you do have a question, please press star three to ask your question to anybody on the panel, and you'll be added into the queue to ask your question.

I think at this point, I think we'll go ahead and we'll go to our first poll question of the evening. The first question is: Before tonight's town hall, had you heard of Global First Power and the proposed project at Chalk River?

Press one if this is the first time you've heard about the proposed project.

Press two if you know a little bit about the project and want to know more.

Please press three if you already know a lot about the project and have specific questions you would like to get answered.

Once again, our question is: Before tonight's town hall, had you heard of Global First Power and the proposed project?

Press one if this is the first time you've heard about the proposed project.

Press two if you know a little bit about the project and want to know more.

Press three if you already know a lot about the project and have specific questions you would like to get answered.

Thanks to everyone who participated in the poll, and we'll have the results in a little bit.

I think the first thing we want to do now is we want to go to Eva. Eva's on the line, and Eva is in Deep River. So take it away, Eva, you're live on the Telephone Town Hall.

Eva:

Yes, I noticed as I was surfing the web that are lot of proposals for small modular reactors, all different types and that. I was wondering what are the advantages of the one that you are proposing at Chalk River? What makes it stand out or whatever?

Also, with so many competing projects, and this being very important for global warming, it would stand to have an international consortium develop a generic one that would be licensed quickly and that people could use. Is there any initiative on something like that?

Neal Kelly:

Eric?

Eric McGoey:

Yeah. Eva, what a great question. Absolutely, let me try to tackle the first part of the question first, then we'll go on to the international consortium question.

You're right. There are a lot of different designs. In fact, Ontario Power Generation, which is one of the co-owners of Global First Power, is actually looking at some of the larger SMRs, what we call Grid Scale, large enough to replace a coal plant, for example, in some of the jurisdictions that are looking to move off of coal. They're doing that at their Darlington site.

But what's really interesting about the project that we're doing at Chalk River is that it is quite small, compared to most of the nuclear operators we see operating ... or nuclear reactors, pardon me, that we see operating in the world today.

That is, it produces heat energy, which could be used by a mine or a greenhouse or for district heating. Or you can convert that heat energy into steam, and use that to power a turbine, which generates electricity. That would generate about five megawatts of electricity, which is the equivalent electricity you would need to power a town of about 5,000 people.

So what's interesting about this design is that it's built on technology that has been well studied and understood for many years in the world already. We're not trying to do something brand new that's never been done before.

We're just essentially trying to do a smaller version of these gas reactors that have been operating in the world already. And we think that it's particularly well suited for remote areas that are not connected to the provincial electricity grid.

So if you think about the vastness of Canada, and you think about where mines and resource projects are located, most of the mineral potential that's located near existing highways and electricity infrastructure has already been mined out. So when we're finding new deposits, it's often far from roads and far from provincial transmission grids.

And there's a couple of things that make this technology that we're using from USNC quite attractive. One is that you only need to fuel the reactor once, and then it can run for 20 years. That allows you to avoid burning the equivalent of 200 million liters of diesel over the course of that 20-year reactor life.

That obviously simplifies things tremendously if you're a mining company. Instead of having to move large quantities of diesel over the course of the life of your mine up to your remote site, you could just get all of that same amount of energy from one reactor that only needs to be fueled once. So that's pretty exciting.

The other piece that's really neat is that we do not require external power or water to operate the reactor. It's relatively self-contained and independent, and that makes it really good for remote sites.

Now, I'll quickly turn to the second part of your question about an international consortium. You're absolutely right. There is a bit of a global race on SMRs right now. And I think what's fair to say is you've got Russia and China working on their own technologies, and they're going to use those in the places that they already have strong partnerships.

But in the rest of the world, I think there is a strong appetite for either a European or Canadian, American, North American kind of technology. So we think the partnership between a Ontario utility, OPG, and a U.S.-based technology company, Ultra Safe Nuclear Corporation, is in some ways that first step towards that international cooperation that is needed to really address climate change.

Neal Kelly:

Okay. Thanks very much, Eric. And thank you for the question, Eva.

Just a reminder, if you have a question and you'd like to ask our panel, press star three at any time. That's star three, and you'll be added in the queue to ask your question.

I'm going to go to an online question from Joanna. And Eric, I'm going to go back to you. Here's the question:

"Can you really claim SMRs are clean? What about uranium mining, enrichment of uranium, all the transportation that will be involved in building this reactor, the buildings that have to be built, and most importantly, the radioactive waste or byproducts that will remain at site?"

Eric McGoey:

Well, thanks, Joanna. That's a good question, and a very fair question. I think we need to acknowledge that all forms of energy generation, all forms of electricity generation do produce some byproducts, some waste products.

For example, fossil fuels, you burn the energy from fossil fuels, send your waste up the chimney, then it becomes someone else's problem. Or as we've come to learn in the last few decades, it becomes all of our problems in the form of global warming and climate change. So we know that's not sustainable.

Then you can look at other technologies. Hydro power is a very good one, when you have those hydro resources in provinces like Quebec, Manitoba, Newfoundland, Labrador, BC. We wouldn't expect those provinces in Canada to turn to large-scale nuclear, or even SMRs, probably anytime soon because they have such rich hydro resources.

But then, the other thing that a lot of people are excited about, and rightly so, is renewable generation, particularly backed up with battery storage. And there have been tremendous progress made on solar panels. They've come down in cost a lot. Wind generation has been increasingly popular.

But both of those forms of renewable generation are intermittent. That is, there's times where the sun's not shining or the wind's not blowing. And we don't yet have batteries that are large enough to last more than a few hours.

So you have a battery that works fine if a cloud passes between your panel and the sun. Over a 10-minute period, your battery can continue to provide power. But over days or months, there aren't batteries that are larger or powerful enough yet. So SMRs can be very useful in bridging that gap, and enabling some of those renewable solutions.

But make no mistake, there will be waste produced, absolutely. It's a relatively small volume of waste. And that's one of the reasons we're so excited about this particular technology, and the fact that the reactor's fueled once, runs for 20 years, and then is decommissioned.

Essentially, you take the reactor core out of the plant and you leave the fuel in the core. Which means that you can decommission the site, send that used fuel off to long-term storage at the Nuclear Waste Management Organization's long-term facility for used fuel. And you can decommission the site, and return it to pre-project state with no nuclear materials left on site.

So we think when we look at the challenge of climate change, and the need for all hands on deck from a technology perspective, we think that this reactor is a good fit, and worth the trade offs when you have to consider waste.

We understand, of course, that other people have different opinions. And that's a perfectly fair debate to have.

Neal Kelly:

Thank you, Eric. And thank you very much for the question, Joanna.

Rose, I'm going to go to you next. There's an online question from, I believe the Mayor of Deep River, Sue D'Eon. And Sue has asked the question ... well, she makes a statement: "Clean energy, like nuclear, is very important for our future. What are the current plans for the heat and/or electricity from the SMR?" And secondly, she says, "How will the energy produced be used?" Rose?

Rose Allen:

Thanks for that. It's a good question, and I appreciate the comment as well.

The plans for the heat and electricity from this micro modular reactor, the process is in discussion with Chalk River and CNL. It could be a combination of process heat, district heating, district cooling, and electricity. The exact ratio of how we convert the reactor power for an end user like Chalk River is still to be discussed.

Neal Kelly:

Okay. Thanks very much, Rose. And thank you for the question and your comment, Madame Mayor.

I'm going to go back to Rose with an online call, Ian in Petawawa. Ian, you're live on the Global First Power Telephone Town Hall. Please go ahead.

Ian:

Yes. I was just wondering what fuel type you're going to be using in this reactor. Seeing as how you have a 20-year lifespan, it certainly won't be natural use. So you've got to have a source for something else. Can we comment on the fuel type? Whether it's an oxide or a metal, or how much of an enrichment or whatever?

Rose Ahlan:

Thanks, Ian, thanks for the question. The fuel type that we'll be using here is a USNC product as well, Fully Ceramic Microencapsulated fuel, or FCM fuel. That is a new approach to fuel and inherent reactor safety.

The USNC FCM pellet design consists of TRISO, or TRI-structural ISO-tropic fuel. And it's dispersed in a matrix of silicon carbide. It's a very dense fuel kernel, which is then coated with layers of graphite and silicon carbide, making the particles themselves extremely robust and able to withstand very intense heat and pressure.

The one particle is about the size of the tip of a ballpoint pen. Then these FCM pellets are stacked, and these stacks of pellets are then placed into the graphite core, graphite fuel block.

Neal Kelly:

Okay. Thanks very much, Rose. Thank you very much for the answer.

Before we get to our next question. I'd like to go back to the poll question and give you some results. Our first poll question was before tonight's town hall: Had you heard of Global First Power and the proposed project at Chalk River?

35% of you said this is the first time you've heard about the proposed project.

45% said you know a little bit about the project, and want to know more.

20% said you already know a lot about the project, and are well versed on the topic.

So Eric, I'm going to throw you next. I'm going to ask Barbara, who's on the line. Barbara, I believe, is in Renfrew, and you have a question. Please go ahead, Barbara.

Barbara:

Yes, you've answered most of what I wanted to know. I have another question, which goes back to when I was actually very young. I asked somebody there at the nuclear plant some of these questions, then.

The Chalk River nuclear waste has been seeping into our Ottawa River since the '50s. And there has been no data, at least I haven't heard of any data, on the cleanup initiatives, if any. And I believe the damage may not be reversible. I've never heard about what they've done with the nuclear waste. I know it probably is still seeping into the river.

When I was only 14, I asked the scientists there about the earthquake; it's an earthquake zone. Okay? And they buried the waste in these sort of concrete, I think, pillars or something like that in the ground.

So if an earthquake erupted in the area, it would break these concrete pillars or whatever. And the waste would go down the Ottawa River, towards Ottawa and poison the surrounding area. That's what I asked when I was 14, way back when.

Neal Kelly:

Okay- [crosstalk 00:35:24]

Barbara:

So I'm still concerned about that.

Neal Kelly:

Okay. Thanks. Thanks very much for the question, Barbara. I'm going to go to Eric first, and then we'll go to CNL. Go ahead, Eric.

Eric McGoey:

Yeah. Thanks very much, Barbara. Yeah, it's a very fair question. And I think it's the kind of thing that people worry about when they hear about new proposals, particularly for technology that people might not be as familiar with.

That's why I think it's important to remember that we can't do any of this project without going through some pretty serious scrutiny in the form of both the Environmental Assessment, which is underway right now, and which covers the entire life cycle of the project: from the very beginning of site preparation, construction, operations, and ultimately decommissioning.

We will not get our licenses from the Canadian Nuclear Safety Commission if they are not satisfied that we have a safe project and a safe plan to operate that protects human health, the environment, and of course, the Ottawa River.

I think it's fair to hold our feet to the fire on that, and to make sure that the regulator is doing that. Ultimately, we have to convince the regulator that our plans are safe.

And one of the reasons we're doing this kind of public engagement is because we want to hear from you about what your concerns are, so that we know that we're measuring the right thing.

And so, because you had a question about some of the existing projects at Chalk River, I want to give my colleague Keyes Niemer a chance to jump in as well, if he's able.

Neal Kelly:

Keyes, do you want to-

Keyes Niemer:

Yeah, yeah. Thanks, Neal. Thanks Eric, and thank you for the question. It really is a great question. It's absolutely a concern of all of us at CNL right now today, and it has been for many, many years.

There is a substantial effort underway by CNL, Canadian Nuclear Laboratories, to address Canada's legacy waste liabilities at our CNL-manned sites, which includes Chalk River. This includes work on decommissioning of aging structures, conducting environmental remediation sites which were contaminated through past practices.

We're currently working towards a near-surface disposal facility, which will provide a permanent disposal for some of the low-level waste that's generated through this environmental cleanup. Thank you.

Neal Kelly:

Okay. Thanks very much, Keyes, for the answer. And thank you, Eric.

We're going to stay online here with a question from Mike. Mike in Pembroke, do you have a question? You're on the Global First Power Telephone Town Hall. Please go ahead.

Mike:

Hi, good evening. Thanks for taking my question.

I don't know if you covered this or not. I spoke to your operator there a minute ago, and I missed part of what you were saying. But the part about being the remote sites communities, I've had some experience in some remote First Nations in Northern Ontario.

This sounds exciting to me, because I was thinking I know the way that they use diesel generators, and many of them to power communities. I'm just wondering if these projects might be useful to them in the future to power their communities in remote First Nations up in northern Ontario and northern Quebec, northern Manitoba, et cetera.

And secondly, just a quick question on the competitive nature of the projects. It sounds to me like that might be a good thing, like engineering projects at university, working on a problem where the competitive nature of the process, I guess, with other projects produces a better mousetrap. Just want you to comment on that idea. Anyway, thanks.

Eric McGoey:

Well, thanks. Thanks, Mike. I think those are great questions, and I guess maybe I'll answer the second part first.

You're quite right about the competitive nature of this. We are essentially in a global race to see who can bring cost-competitive, safe, effective, replicable SMR technology to the global market first. And we think, frankly, there's a first-mover advantage to being able to do that.

We are Canada's first SMR project. We are the only SMR project in Canada that is actively undergoing an Environmental Assessment with a licensed application into the CNSC. We think that our competitors are couple of years, at least, behind us, probably two, three years. So we're trying to make the best use we can of that time.

And when you think about the bigger picture; not just the small reactors like ours, but the grid scale reactors; if Canada is going to meet our climate change targets, which includes retiring coal fire generation in places like Saskatchewan, Alberta, New Brunswick; if we're going to do that in the early 2030s, we've essentially got two options.

Either SMRs are going to be ready in time and allow you to close a coal plant and replace it with clean, non-emitting SMR technology. And if you are able to do that, have it ready in time for those coal retirements, you can retrain a portion of your existing workforce. You can use some of the existing transmission infrastructure, those connected to those coal plants. And you can minimize the disruption.

Or if they're not ready, what will happen is most of those jurisdictions will probably build natural gas generating stations. And those stations will have to run for 25 years to justify the capital cost of building them. So what we really need to do is make sure that SMRs are a real option for jurisdictions that have to close their coal plants.

Now, I'm going to turn to the question you had about indigenous and northern communities, because I think it's a really good one.

I think that the most honest answer we could give is from a technological perspective: absolutely. We think that these reactors are a really good fit for remote communities, including indigenous communities. But we can't get too far ahead of ourselves.

The nuclear sector in Canada was mostly built out decades ago in a completely different legal, judicial, social, and regulatory environment where we did not build the kind of relationships with indigenous communities that I think we now understand are so important.

So we've got a lot of work to do working with our indigenous partners, working with indigenous communities to make sure that they understand the technology, that they're open to it being used in their traditional territories, and explore are potential business partnerships that could allow the communities to benefit directly from some of the energy produced in the traditional territory.

Neal Kelly:

Okay. Thanks very much, Eric.

I want to get to our second poll question before we get to more participant question. The question is: Do you believe nuclear energy and small modular reactors are an important part of providing a clean energy mix in Canada?

Press one if you think nuclear energy is a very important part of the energy mix.

Press two if you think nuclear energy is somewhat important.

Press three if you think it's not important at all.

Press four if you are not sure.

Once again, the question is: Do you believe nuclear energy and small modular reactors are an important part of providing a clean energy mix in Canada?

Press one if you think nuclear energy is a very important part of the energy mix.

Press two if you think nuclear energy is somewhat important.

Press three if you think it's not important at all.

Press four if you are not sure.

Thanks everyone, for participating in the poll. We'll have your results a little bit later.

I'm going to go back to the phone lines. I have R. [Lean 00:43:50]. I don't know R's first name, but if you want to, you're on the air, on the Global First Power Telephone Town Hall. Please go ahead.

Ron:

Yeah, it's Ron. In fact, I just wanted to look at your system. Is your nuclear system requiring operators to operate it?

I mean, I'm used to hydro systems, and we had to have all kinds of relay protection and all the rest. My question would be, is it economical to run a unit that's less than 10 megawatts?

Hydro Quebec closed all their generator stations below 10 megawatts years ago because it wasn't practical. I just don't understand how you could do it remotely. So that's my question.

Neal Kelly:

Thank you, Ron. Rose, you want to go ahead?

Rose Ahlan:

Yeah. Thank you very much. Thanks, Ron. And thanks for your patience as well. I know you were waiting for quite a while to ask your question.

For the Chalk River project, there will be a control room on site, and the facility will be staffed with the required number of trained individuals stipulated by our license.

The CNSC, Canadian Nuclear Safety Commission, issues us the operating license. And that will stipulate the required number of trained individuals. There will always be an operator present, although operator actions will not be required for the safe shutdown of the reactor.

Future versions of the MMR could incorporate the ability to remote monitor, subject, of course, to regulatory approvals by the CNSC. However, the Chalk River project will have a control room on site.

Neal Kelly:

Okay. Thanks very much, Rose, and thanks for the question, Ron.

I want to take an online question from Gordon. Eric, I'm going to throw Gordon's question your way. Gordon asks: "Large-scale implementation of nuclear power, small or large, requires policy support from the federal government. What initiatives are in place to support your project?"

Eric McGoey:

Thanks, Neal. Thanks, Gordon. It's a great question.

You're right, the federal government has been very involved in nuclear throughout the entire history. When you think of development of CANDUs and Atomic Energy of Canada Limited, who still owns the Chalk River site, for example, that Canadian Nuclear Laboratories operates.

I think there is absolutely an ongoing role for the federal government from a policy perspective. And from, obviously, a regulatory perspective when you think about the role that the CNSC plays.

Where it looks like the federal government is thinking right now is they don't want to rule any technologies off the table. So I think it would be fair to say that the federal government isn't championing nuclear over hydro or renewables.

I think they recognize that there is no path to net zero without nuclear energy. So the federal government has said that publicly a number of times, which is reassuring, just to see that they understand how important nuclear is.

If I think about Ontario's experience, for example, closing the coal plants that we used to operate here; that was only possible because of nuclear reactors coming back into service and allowing us to move off coal without any disruptions to the electricity system.

And to the point that now, 60% of the electricity we use in the province of Ontario comes from nuclear reactors, including the ones that OPG operates at Pickering and Darlington, as well as the Bruce Station that we own, but is leased to Bruce Power. Only about 25% of our electricity comes from hydro, with the rest coming from a mixture of solar, wind, biomass, and some gas as well.

So I think it's a bit of an open question, Gordon, what exactly the federal government sees as their role. They have made some limited investments into some SMR development projects, with some funding for terrestrial energy, for example, and Moltex energy.

We know that there are other developers who have put in applications for federal funding through the Strategic Infrastructure Fund, and we could see more funding. There's definitely a policy role to play.

I think the CNSC has been quite candid about the fact that they understand that they're going to have to adjust the way that they regulate, and the process of regulation, to scale it a little bit differently.

Because we're not talking about these gigawatt-class reactors that provide enough energy ... Darlington alone makes 20% of the energy that Ontario consumes, or enough energy to power the entire city of Toronto.

Licensing a five-megawatt reactor of the kind that we're proposing to build at Chalk River, as if it's as large as Darlington with 3,000 people and very large units, probably doesn't make sense.

So in the short term, I think one of the key roles that the government is going to play from a policy perspective is going to be making sure that the CNSC is taking that graded approach, and making sure that we're not putting regulatory obstacles into the development of SMRs.

While of course, making sure that we're really clear about protecting public safety and the environment in the way that we always have. Because Canadians should be very proud of our nuclear sector.

In the history of the nuclear sector operating in Canada, we have not had a fatality from nuclear involving a member of the public or an employee. That is a safety record that pretty much any industry would envy.

We have a lot to be proud of, and we're determined to continue that proud history, and make sure that nuclear continues to be safe, well-regulated, and appropriately regulated.

Neal Kelly:

Okay. Thanks very much, Eric.

I want to get to the results of the second poll question. The question again is: Do you believe nuclear energy and small modular reactors are an important part of providing a clean energy mix in Canada?

63% of you said you think nuclear energy is a very important part of the energy mix.

15% said you think nuclear energy is somewhat important.

7% said you think it's not important at all. And 15% of you said you are not sure. So that is the results of the second poll question.

Let's get to another call here. We have Glenn on the line. Glenn's in Deep River. Glenn, you're on the Global First Power Telephone Town Hall. Please go ahead.

Glenn:

Yeah, thank you very much. I'd like to go back to the topic of waste.

Often we hear that the opposition to nuclear is related to waste, and that we don't have a solution for waste. I know you covered this a little bit, but I wonder if you could go in a little bit deeper and to explain what will be done with the waste at the end.

We know that NWMO has the mandate to deal with high-level waste in this country. And I guess expanding on that, how much discussions have you had with NWMO to deal with the waste at the end of the life of one of these reactors? Thank you.

Eric McGoey:

Well, thank you very much, Reeve Doncaster. It's great that you are able to join us today.

I understand that it can always be dangerous answering an expert question. Because of course, Reeve Doncaster's on the board of the Nuclear Waste Management Organization, and therefore, probably is the person most expert in nuclear waste of everyone in this phone call.

I don't want to tell you things that you already know, but for the sake of the other callers, I would want to make a couple of points. One is that we had a couple of different folks talk about the Ottawa River. And we want to be really clear here.

We have no intention of taking any water from, or putting anything in, the Ottawa River. Our Environmental Assessment is very clear that we are not going to do anything to affect the Ottawa River watershed.

Even in the unlikely event of any accident, there is no reason to believe that any nuclear waste products would end up in the Ottawa River. So I really want to reassure people on that.

In terms of the level of engagement we've had with the Nuclear Waste Management Organization, I think it would be best categorized as relatively early in terms of the engagement in the relationship between the NWMO and Global First Power.

We understand that the NWMO is working really hard to find a long-term solution for the existing waste that we've produced from our CANDU units over the last 50 years. That is understandably the NWMO's top priority.

What we want to do is work with the NWMO to make sure that we understand each other. And any waste that we generate will be safe to store, and safe to transport, to the NWMO's long-term facility when it is ultimately selected and built.

So we're going to continue those discussions. I don't want to mischaracterize anything, or suggest that we've finalized any sort of arrangements with the NWMO. Those are still ongoing discussions that will become all the more important as we move through the licensing process.

Again, to call back to the timeline that Rose Allen was talking about, we're not talking about getting a site license for this project, a license to prepare the site for another couple of years yet. And then we wouldn't get a license to construct until after that. We're not planning to turn on this reactor and get power from it until 2026, at the earliest.

We're out here early so that we can engage with the public, engage with indigenous communities, hear concerns from stakeholders, and understand what we need to measure, what we need to worry about, from the perspective of being a good neighbor and sharing information that's going to reassure all of our partners and neighbors that we've got a good, safe, economically competitive plan to operate this reactor.

Neal Kelly:

Okay. Thanks very much, Eric. We're coming down to our last few minutes. I want to get to an online question, and I want to bring in Keyes from CNL. The question's from Ryan. "Are there any provincial government roadblocks that groups could assist GFP with?" Keyes?

Keyes Niemer:

Very good question. Most of the work, there's a lot of provinces are definitely in support. There's been a MOU signed by, I believe, four provinces in Canada in supporting, I believe, it's Ontario, New Brunswick, Saskatchewan and ... Eric, maybe you could help me out here on the fourth.

Eric McGoey:

Yeah. Alberta is the fourth, Keyes.

Keyes Niemer:

The provinces are very interested in this new technology, or this technology. I don't see any roadblocks from my perspective, but Eric, you may have a better perspective.

Eric McGoey:

No, I think that's absolutely right, Keyes. The provinces that you mentioned have signed this Memorandum of Understanding on SMR development and deployment.

What those four provinces are really trying to do is make sure that each of their respective plans; be that a micro reactor at Chalk River or a grid-scale reactor at Darlington, or some really exciting advanced reactor, next-generation nuclear in New Brunswick; that all of those plans knit together in a Pan-Canadian strategy that could benefit, for example, Saskatchewan and Alberta, as they look to move off coal.

So it's been really interesting watching from a policy perspective, how this file has moved over the last few years. Back in 2018, I think the federal government was really driving with their SMR roadmap. That had a lot of help from the provinces, but it was really the federal government in the driver's seat.

Then after the roadmap was released, I think it's fair to say things got a little bit quieter from the federal government. And the provinces stepped in to carry the torch a little bit.

So now I think we're in a really good position where the provinces have a clear understanding of how nuclear could help them meet their climate change goals. And the federal government has that understanding, too.

I could talk about this for much longer, but I know we're running tight on time. I can see Neal giving me the hook. So I'll turn it back over to you, Neal.

Neal Kelly:

Okay. Thank you, Eric. And thank you, Keyes.

We are out of time. Time is our enemy. It's coming to a close. The hour's gone by very quickly. I'd like to thank everybody for participating this evening.

To our callers, if you would like to leave a message for Global First Power, you will be able to do so at the end of this call. Or if you have a question that didn't get answered, leave a message along with your callback number at the end of the call, and Global First Power will get back to you.

Dominique, before we go, do you have any final comments?

Dominique Minière:

Oh, thanks, Neal. I just want to say a big thank you to everyone who participated tonight. To all the people in the room, but also to you, the audience. Because I have spent a lot of time to listen to you and you have good questions, whatever questions [inaudible 00:59:04] or concerns. And thank you to our [inaudible 00:59:06] also concern is very important to us. [French 00:59:07]

I would like to invite everyone to visit our Virtual Open House, which is open right now until November 30. Visit our Open House website to get more information about the project, provide

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valuable input on some key aspect, or our Environmental Assessment work so far. And submit any questions you have that may not have been answered tonight. Please, do so.

Visit Open House by going to the website, www.gfpcleanenergy.com. We really look forward to continuing the conversation with you.

Neal Kelly:

Merci beaucoup. Thank you, Dominique, and thank you to all our speakers. But most of all, thanks to all of you for participating this evening.

Again, if your question did not get answered, stay on the line to leave your question for Global First Power and callback number. Thank you very much for participating, and please enjoy the rest of your evening.