NORTHWEST TERRITORIES
LEGISLATIVE ASSEMBLY
TERRITOIRES DU NORD-OUEST
ASSEMBLÉE LÉGISLATIVE

Return to Written Question
Retour à la Question écrite

No./Nu. 28-19(2)

THE HONOURABLE DIANE ARCHIE
MINISTER RESPONSIBLE FOR THE NORTHWEST TERRITORIES POWER CORPORATION

Taltson Hydroelectric Expansion Project

Mr. Speaker, I have a Return to Written Question asked by the Member for Frame Lake on March 30, 2021, regarding the Taltson Hydroelectric Expansion project.

I will focus the first part of my response on the Phase One elements of the proposed Taltson Hydro Expansion, which is the addition of 60MW of generation next to the existing 18MW facility and a transmission intertie between the Snare and Taltson systems. Phase One is the primary focus of all federal funding and work to date to advance this Government's long-term vision as set out in the *2030 Energy Strategy*.

The construction timeline for power generation, water-to-wire and control structure elements of the project and transmission line intertie are currently estimated to take four to five years to complete. Timelines will ultimately depend on the procurement approach and preferred transmission line route selected.

In terms of financing for the project, it remains a work in progress. The project is currently in a pre-construction phase, which is being funded by the federal government in the amount of $18 million dollars.

It is estimated that over $1 billion dollars will be needed to finance the total construction costs of the project. A key area of focus is on these cost estimates

that will be further refined, as the project advances and more feasibility work is completed. An investment of this magnitude will require support from the Government of the Northwest Territories and the federal government, and financial support will need to be confirmed in the future. Further, the project will require reasonable certainty that industrial growth and corresponding increases in power demand will be in place by 2029 to cover the long-term costs of these investments. We are leveraging advisory services from the Canada Infrastructure Bank to explore commercial structure and financing opportunities that align with public sector interests and our Indigenous partners. These discussions are ongoing.

Mr. Speaker, in terms of customers for this expanded renewable energy source, the project will support a more drought resilient, stable and integrated hydro system that connects the 10 communities in the Great Slave Lake area. The project will also need to rely on two to three industrial customers per decade, depending on the size and operating life of those specific developments. We are in the process of engaging with nine existing and potential mining customers in the Northwest Territories to understand mine development plans and estimate revenue potential up to 2029 and beyond. We are not yet in a position to specify who will ultimately sign on for power from the project in 2029.

Future phases of the Taltson Hydro Expansion, including timeframes for construction, project financing and energy customers, will be informed by current work on Phase One.

Regarding the Member's question on power generation and whether any additional impoundment or flooding will occur, Phase One will provide a 60-

megawatt expansion with no new flooding and an upgrade to the existing control structure at Nonacho Lake.

Phases Two and Three power generation requirements will depend on the energy demand at the time. We have on the order of 122 megawatts of hydro potential at six discrete sites on the Taltson River. Some flooding potential would need to be considered in future evaluations of these projects. Each future phase of work will be subject to its own regulatory review and approval.

Regarding the question about greenhouse reductions, Phase One of the Taltson Hydro Expansion could displace greenhouse gas emissions by 224 kilotonnes a year in the Territory.

In Phases Two and Three, depending on the nature of demand, final installed hydro capacity, and the type of fossil fuel displaced, we could add an additional 448 kilotonnes a year of greenhouse gas emission reductions by displacing diesel fuel.

The Canadian carbon tax system takes a user pay approach to carbon emissions, so the credit for greenhouse gas reductions would belong to industrial consumers in the jurisdiction where it resides. In the case of the Phase Three project, with an interconnection to either Alberta or Saskatchewan, consumers in these high carbon jurisdictions would be the beneficiaries of the clean energy, and subsequent reduction in carbon taxation.

Mr. Speaker, regarding the question on the calculated costs for each phase, Phase One work to date is relying on an AACE Class 3 cost estimate for the power

generation, water-to-wire package, and Nonacho control structure designs. These cost estimates were originally completed in 2010 and updated in 2017.

In terms of transmission line costs, three primary routing options are currently being studied, at a concept level, to assess technical risks and costs. The estimates fall in the range of AACE Class 4 or 5. Work commenced in 2019 and is ongoing. The detailed capital costs for the hydro expansion and transmission line intertie are confidential but estimated at over $1 billion dollars. We can commit to sharing high level estimates in confidence with Standing Committee in the near future. The transmission line options and associated costs are a key area of focus and these preliminary estimates are subject to further refinements.

No all-season roads are currently contemplated for any new hydro developments on the Taltson River. Transmission line spur locations in the Northwest Territories will be dependent on the location of specific energy demand locations that emerge over the next 30 years.

Phase Two includes the creation of an infrastructure corridor that would support a road, communications network, and hydro transmission line into the mineral rich Slave Geological Province. The hydro line portion of that project is envisioned to take place from 2029 to 2035. Having a clean energy option for industrial development is a key component of maintaining and growing the NWT economy in a sustainable way, while advancing our climate change commitments. No recent work has been done on this phase of the project.

Phase Three of the project goes beyond 2035 and is a long-term vision to connect the Northwest Territories to the continental electricity grid, either through

Alberta or Saskatchewan. No recent work has been done on the estimated timelines for construction of the Phase Three vision.

Quyanainni, Mr. Speaker.