

MAYO B / CARMACKS-STEWART TRANSMISSION PROJECT STAGE 2



Planning for Yukon's Future

Yukoners are using more electricity than ever before. That, coupled with the fact that at least two new mines are expected to open in the next few years, means that Yukon Energy must find new sources of renewable, clean energy. Without new renewable power, we will be forced to burn diesel, which is not good for your pocketbook or the environment.

This need for clean electricity is why Yukon Energy is moving forward with work on the Mayo Hydro Enhancement Project (Mayo B) and the second stage of the Carmacks-Stewart Transmission Project (CSTP). While we must still obtain various permits and approvals before proceeding too far with these projects, we do have permissions in place to do some of the necessary preparatory work.

The Mayo B project, if approved, will provide more than five megawatts of additional hydro power and will offset greenhouse gas emissions of up to 25,000 tonnes a year.



Proposed location for the new powerhouse. Photo: Yukon Energy



Aerial view of existing plant downstream from the Wareham Dam Spillway. Photo: Karl Scheifer

The CSTP Stage 2 project will connect Yukon's two established hydro-based transmission systems, the Whitehorse-Aishihik-Faro grid and the Mayo-Dawson system. CSTP Stage 1 was completed in November 2008. With CSTP Stage 2 in place, renewable power generated anywhere on these two systems will be able to serve loads throughout the integrated Yukon grid.

The Government of Canada has committed up to \$71 million to Mayo B and CSTP Stage 2 as part of its Green Infrastructure Fund (GIF). The total estimated cost of Mayo B and CSTP Stage 2 is \$160 million. We are currently working to secure the rest of the funding needed to complete these projects. In keeping with the funding agreement with the Federal government, construction of the projects must be complete by March 31, 2012.

Both initiatives have achieved significant steps forward in recent months.

Mayo B Update

The Mayo B project involves enhancements to Yukon Energy's existing Mayo hydroelectric facilities to increase renewable power production, without the need for a new dam.

Mayo B project planning continues to move forward to target an in-service date of late 2011. To meet this schedule, the environmental review must be completed in time to allow construction of Mayo B to begin by next summer.

Environmental Review

The Mayo B project proposal was submitted to the Yukon Environmental and Socio-Economic Assessment Board (YESAB) in late February of this year. YESAB's initial review (known as an adequacy review) indicated that one aspect of the proposed project needed more field study before it could be assessed (a proposal to change the water license to permit the use of Mayo Lake for added water storage).

To accommodate YESAB's requirements while still keeping within the construction time period required, Yukon Energy has revised the Mayo B project proposal to remove the Mayo Lake enhanced storage component. This change does not modify the proposed Mayo B construction, and allows the YESAB review of all Mayo B construction components to proceed on the basis that Mayo Lake will continue to be operated as currently licensed.

As a result of this revision, YESAB on August 7 concluded that the information provided for the amended Mayo B project is adequate for YESAB now to proceed with its



Wareham Dam. Photo: EDI Environmental Dynamics Inc.



Installing nets for collection of invertebrates on the Lower Mayo River.

Photo: EDI Environmental Dynamics Inc.



Working with NND to capture Whitefish in Mayo Lake for research purposes. Photo: EDI Environmental Dynamics Inc.

screening, including the opportunity for public comment. YESAB's review of the project is anticipated to continue into early 2010, with project permits to be in place by the late spring as needed to allow the start of construction. License changes will need to be approved by the Yukon Water Board before any construction work begins that affects any waters or the current plant.

After the YESAB review of Mayo B is concluded, and the required Mayo Lake field work information is available, Yukon Energy will consider filing a new project proposal relating specifically to enhanced storage at Mayo Lake.



Lithic flake found in the test area. Photo: Ecofor

First Nation of Na-cho Nyak Dun

Yukon Energy and the First Nation of Na-cho Nyak Dun (NND) have agreed to negotiate a project agreement in regard to the amended Mayo B project and the subsequent Mayo Lake enhanced storage project. This agreement will include an opportunity for NND to invest in the projects. Yukon Energy and NND have also agreed to specific studies to be led by the First Nation in areas of concern related to the future Mayo Lake project.

As a result of these ongoing discussions, NND has indicated its general support for Mayo B, and for Yukon Energy bringing forward a separate future application to YESAB in regards to Mayo Lake.

Construction Planning

Ongoing geotechnical field work continues this summer, including drilling, to help determine engineering design and a more accurate overall cost of the Mayo B project.

In order to involve a construction contractor in the project planning and design stage, and to minimize risks related to project cost and schedule, Yukon Energy entered into a Memorandum of Understanding in June with Peter Kiewit Sons Inc. (Kiewit). Kiewit was hired after Yukon Energy carried out an open, public Request for Proposal process. The company has a strong background building similarly sized hydro facilities, particularly for Independent Power Producers in British Columbia.

During the MOU stage, Kiewit is helping to finalize the most cost-effective and efficient project design. It is also assisting in an early tender process for the turbine/generator package and is working with Yukon Energy to determine firm costs for the Mayo B project. If negotiations with Kiewit are successful, it is anticipated that Yukon Energy and Kiewit will enter into a construction contract before the end of this year. However if negotiations are not successful Yukon Energy has reserved the ability to proceed with a construction tender process in early 2010.



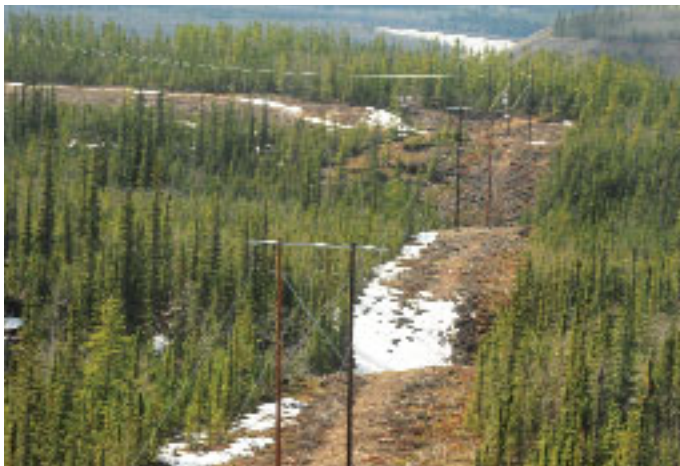
Bedrock drilling is necessary to help determine engineering design for Mayo B.

Yukon Energy and Kiewit will be working with NND, the local Mayo community and others to plan for employment and business opportunities during the construction of Mayo B. Land-based construction of the canal, tunnel and/or penstock components as well as the powerhouse is expected to begin next summer. The water-based work will start during the summer of 2011.

CSTP-Stage 2

CSTP Stage 2 is the final component of the Carmacks-Stewart transmission project. It will connect the two Yukon power systems (Whitehorse-Aishihik-Faro and Mayo-Dawson). Stage 1 of the CSTP Project connected Carmacks with Pelly Crossing in November 2008, along with a spur line to provide power to the Minto mine.

YESAB review of the CSTP Stage 2 project and a Project Agreement with the Northern Tutchone First Nations were completed in 2007. Yukon Energy is now securing final permits and certificates to allow clearing to start this fall. Survey of the line is expected to begin in late September.



A section of the first phase of the Carmacks-Stewart transmission line. Photo: Ron Threkeld



Assembling power poles for stage 1 of the Carmacks-Stewart line. Photo: www.archbould.com

This project involves three main components:

- A new 138 kV transmission line of approximately 74 km in length within a 60 m right-of-way between Pelly Crossing and Stewart Crossing;
- Expansion of the existing Stewart Crossing substation north of the Stewart River to allow the connection of the two grids; and
- Modifications to the existing Carmacks switching station and the Minto Landing substation, and provision of new facilities to serve Pelly Crossing.

A tender has been issued for the Stewart Crossing transformer, for closing this month. It will be awarded by the end of the month. CSTP Stage 2 is expected to be in service in late 2010 or early 2011, depending on when the transformer can be delivered.

Clearing is expected to begin between Pelly Crossing and Stewart Crossing in October and continue through the end of this year. Line construction tendering is scheduled for this fall, with line construction to begin in February 2010. Substation tenders are planned to be issued in March 2010, with contract awards by late April to enable construction to start in May.

Comments? Questions?

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