

Boumhounan NewsFlash

Eastmain-1-A Powerhouse and Rupert Diversion

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With the environmental impact assessment for the Eastmain-1-A powerhouse and Rupert diversion project now complete, the members of the Boumhounan Committee would like to inform you of the findings of the impact assessment, as well as the mitigation measures proposed. The project is currently in the government approvals phase, and Hydro-Québec expects to obtain the required authorizations in spring 2006.

In this first issue of the *Boumhounan NewsFlash*, we will start by providing a brief overview of the project's main components.

Eastmain-1-A powerhouse

Eastmain-1-A powerhouse will be constructed close to the Eastmain-1 facility. The purpose of this 768-MW generating station will be to turbine the inflow channelled into Eastmain 1 reservoir by the Rupert diversion.

Sarcelle powerhouse

Under the terms of the *Boumhounan Agreement*, the Crees could exercise one of two options: an additional gate, or construction of a new powerhouse at the Sarcelle site. In 2004, the Crees exercised their option to have a 120-MW powerhouse erected next to the existing control structure. Opinaca reservoir will provide the water to operate the facility.

Workcamps

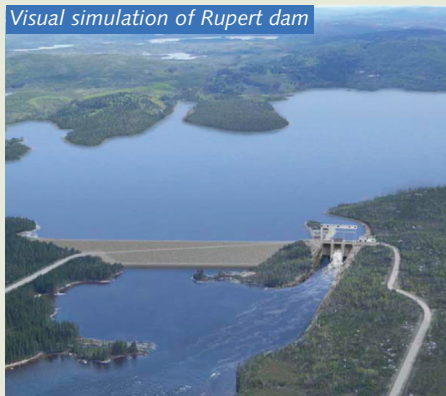
Seven or eight workcamps will be required for construction of the project, and will be used for a period of 30 months to five years, as the case may be. The main facilities are the Rupert, Eastmain and Nemiscau workcamps.

The workers who will operate the generating facilities will be lodged at the Hydro-Québec residences at Nemiscau.

Rupert diversion bays

The partial diversion of the Rupert River involves building a series of structures designed to channel the flow northward and contain the diverted waters. These structures, which will form the Rupert forebay and tailbay (also known as diversion bays), include 4 dams, 4 instream flow release structures, 8 canals and 75 dikes. A tunnel approximately 2.9 km long will transfer the flow from forebay to tailbay. The structures are designed to minimize the land areas flooded.

Visual simulation of Rupert dam



Instream flow

In order to protect fish habitat and allow species that reproduce in fast-flowing water to spawn, an instream flow regime is to be implemented downstream of Rupert dam (KP 314). A spillway will release a continuous instream flow, which will be modulated according to four main biological fish cycles: spring spawning, summer feeding, fall spawning and winter incubation.

Instream flow release structures in the Lemare and Nemiscau rivers will help maintain the same annual flows as under present conditions.

Flow in the Rupert River

- Mean diverted flow: 452.6 m³/s
- Future mean annual flow at KP 314: 184.7 m³/s (29% of present mean annual flow, which is 637.3 m³/s)
- Future mean annual flow at the river mouth: 422.8 m³/s (48% of present mean annual flow, which is 874.7 m³/s)

Sakami structure

In order to minimize the rise in level of Sakami Lake due to the inflows from the Rupert River, a canal will be excavated at the lake's outlet to increase its discharge capacity.

Structures on the lower Rupert River

As a result of discussions held with the Crees, hydraulic structures (i.e., weirs, rock blankets and a spur dike) will be built between the dam and the mouth of the Rupert, at KP 20.4, 33, 49, 85, 110.3, 170, 223 and 290. The structures will substantially maintain water levels along nearly half the river's length, thus mitigating the impacts on fish, navigation, fishing, goose hunting, trapping and the landscape.

Project Overview



- ### Other works
- New drinking-water treatment plant in Waskaganish
 - Permanent Muskeg–Eastmain-1 road
 - Stabilization of riverbanks near the Waskaganish water intake
 - Stabilization of riverbanks between La Grande-1 and the mouth of the Grande Rivière

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