ONTARIO POWER GENERATION

Refurbishment Work on Bark Lake Control Dam 2011

History of the Bark Lake Control Dam

Bark Lake Control Dam is located in Jones Township Concession I lots 12 & 13 on the Madawaska River in Northeastern Ontario. The original dam was an 84m long timber crib dam built in 1880 by a logging company. The dam was purchased and repaired by Ontario Hydro in 1929 and rebuilt in 1942. The reservoir created by the construction of the dam flooded 1700 ha of additional land and raised the level of Bark Lake 7.6m above the operating maximum of the original dam. The re-construction of the dam required relocating 24 km of highway including a bridge, movement of several buildings in the Town of Madawaska, reconstruction of a rail bridge and removal of railway facilities including a round house.

Bark Lake Dam Specifications and Water Management

The Bark Lake dam consists of a main dam 20m high by 300m long for water control with five log sluices and four valves and one log chute. Each of the log sluices are 4.9 m long with a sill elevation of 307.85. The structure also has a decommissioned log chute that is 3m long with a sill elevation of 309.37 m. The total discharge capability of the Bark Lake Dam is 730 m^3/s. A water level gauge is installed at the dam.

The operation of the Bark Lake dam is based on an annual cycle. The lake is lowered prior to the spring melt and refilled during the spring. Operation of the dam takes into consideration energy demands, flood control on the Madawaska and Ottawa Rivers, recreational opportunities as well as spawning activities by walleye and other species of fish.

Refurbishment Work at the Bark Lake Control Dam

Phase two of construction at OPG's Bark Lake Dam mobilized on-site January 24, 2011and will not affect water levels this spring. The work is being carrying out in a controlled and safe environment. OPG has taken seasonal changes in water levels and flows into consideration when planning the work at the facility. The work on the dam will continue through the summer and is scheduled for completion in late summer 2011.

The work OPG is doing at the Bark Lake Control Dam is an investment to strengthen the structure and increase lifespan for decades to come.

During construction, workers will repair deteriorated concrete and replace the current wooden stop-logs found in the existing sluices with a proven steel log design. In addition, the existing butterfly valves located at the base of the dam, are being replaced with new slide-gate valves that are more reliable and will provide more precise water regulation.

The Madawaska River Water Management Plan

The Madawaska River is managed in accordance to the Madawaska River Water Management Plan. This water management plan sets out legally enforceable provisions for the management of water levels and flows on this river within the values and conditions identified in the Water Management Plan.

To access the Revised Madawaska Management Plan please click the link below:

http://www.opg.com/pdf/mrwmp_final_2010.pdf

OPG's Madawaska Plants Provide Clean, Renewable Electricity

OPG hydro generating stations and structures are an important source of clean, renewable electricity for Ontario and the work at Bark Lake Dam is an investment that will help ensure its safe, reliable operations for decades to come.

OPG's hydro stations are heritage assets, with an average age of over 70 years. OPG continues to invest in these treasured assets and as a result they continue to be a major source of clean renewable energy for Ontario. In addition, these investments ensure that these facilities meet all dam safety requirements and standards.

Bark Lake Dam plays an important role in managing water levels and flows along the Madawaska River to support the range of uses, from generating electricity and flood control, to recreational and tourism activities.

On the Madawaska River OPG owns and operates five generating station: Mountain Chute (170 MW), Barrett Chute (176 MW), Calabogie (5 MW), Stewartville (182 MW) and Arnprior (82 MW).

Together the Madawaska plants have a capacity of 615 MW, and produce about 1 billion kilowatt-hours of clean, renewable energy every year.