

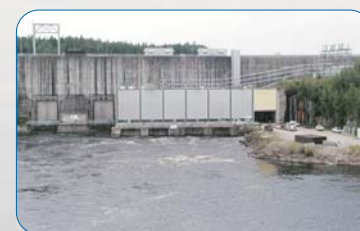
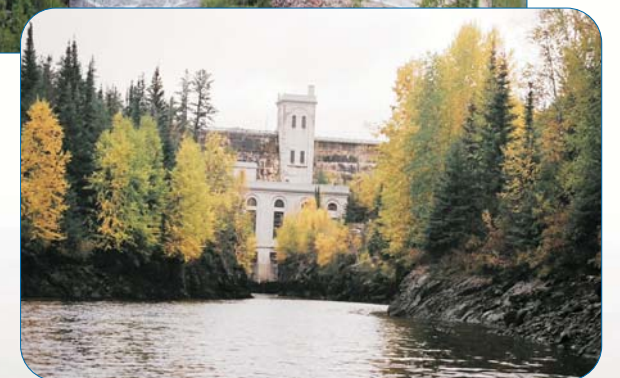
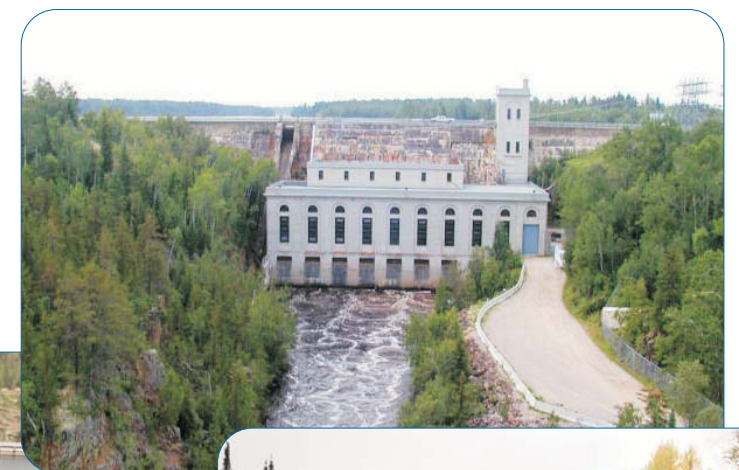
Public Information Centre

Lower Mattagami River Project

Comprehensive Study Report

2009

ONTARIO**POWER**
GENERATION



 **HATCH**TM
energy 

Background

Location

The Mattagami River is located in the Moose River Basin in northeastern Ontario. It flows in a northerly direction from its headwaters at Mesomikenda Lake and is approximately 418 km long, covering a drainage basin area of 35,612 km². The Mattagami River is generally a shallow and slow-flowing river with a seasonal flow regime, characteristic of rivers in the Moose River basin.

About 85 km southwest of Moosonee, the Missinaibi and Mattagami Rivers join to form the Moose River, which flows northeast to James Bay. Major tributaries of the Mattagami River include the Groundhog River, and the Kapuskasing River.

Existing Generating Stations

The Lower Mattagami River (LMR) Hydroelectric Complex is comprised of four hydroelectric generating plants, including Smoky Falls Generating Station (GS), Little Long GS, Harmon GS, and Kipling GS. These facilities are located approximately 90 km north of the Town of Kapuskasing, Ontario, and are owned and operated by Ontario Power Generation Inc. (OPG).

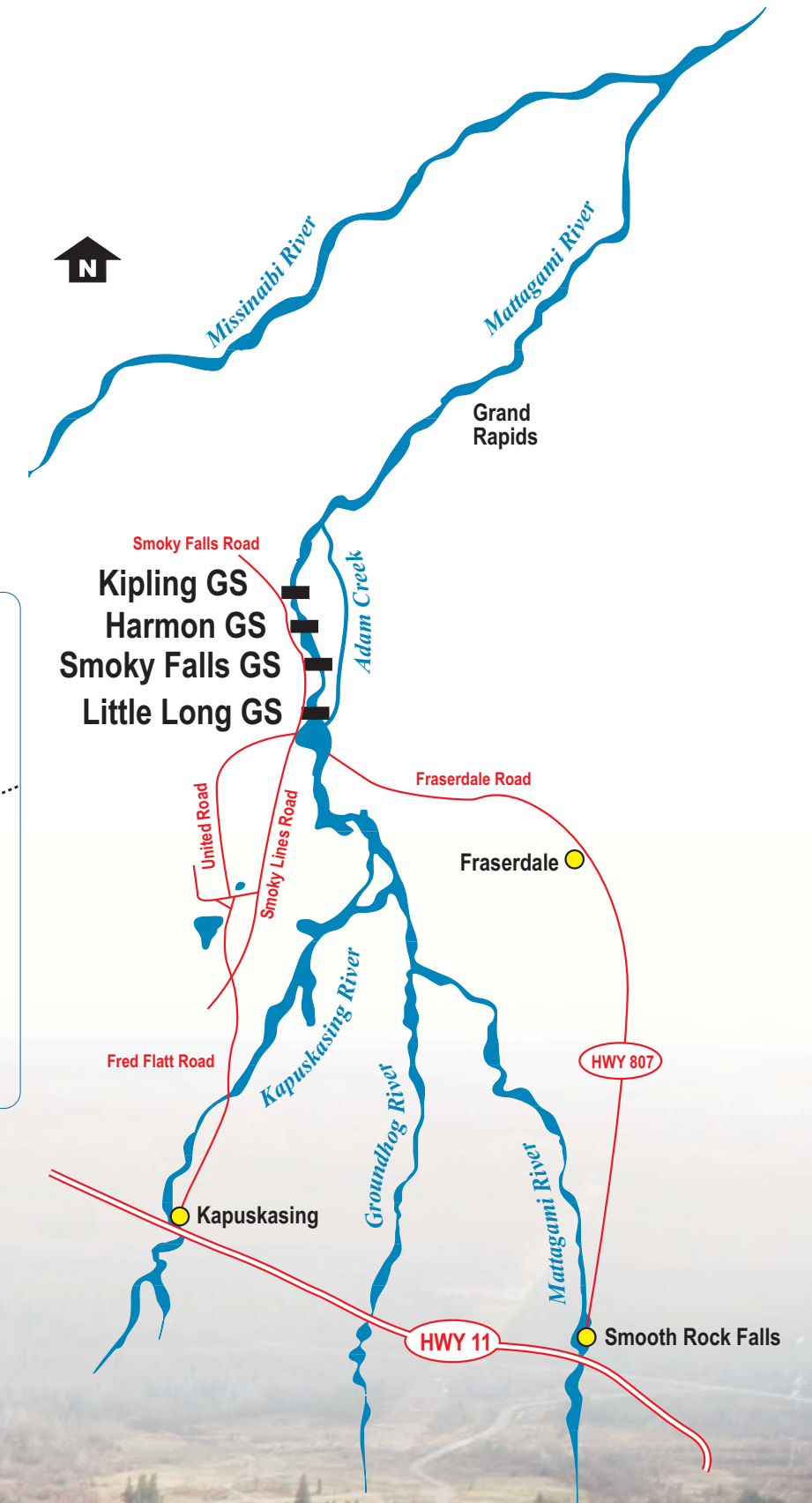
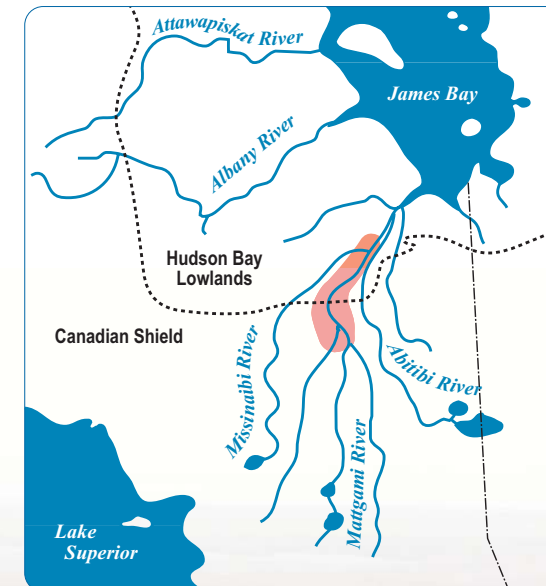
Smoky Falls GS has a capacity of 52 MW. Little Long GS, Harmon GS and Kipling GS operate as peaking stations with station capacities of 136 MW, 140 MW and 156 MW respectively. Smoky Falls GS was the first to come in service in 1931 while Little Long GS, Harmon GS and Kipling GS all came into service between 1963 and 1966.

What is OPG Proposing to Do?

Smoky Falls GS is smaller than the other three stations and as a result is required to pass water without generating electricity. OPG would like to replace the existing powerhouse at Smoky Falls GS with a new one with a capacity of 264 MW (270 MW installed turbine capacity) that could use all of the available water efficiently. New manmade structures such as an approach channel, intake and tailrace would also be constructed. The old dams and spillways for the station would remain. OPG is also proposing to add a third unit to Little Long GS, Harmon GS, and Kipling GS increasing installed capacity to 200, 235 and 235 MW respectively for a total of approximately 450 MW of additional Power.

Benefits

The LMR Project allows a significant amount of new energy to be produced without creating new dams on other rivers. This will reduce the environmental impacts that would otherwise be caused by new developments. In addition to the electricity that will be provided, new development on the Lower Mattagami offers the potential for employment and a commercial relationship with the Moose Cree First Nation.



Purpose of This Open House

- Provide the public with an understanding of the requirements of the federal environmental assessment process
- Present OPG's conceptual design for the proposed LMR Hydroelectric Complex Project at Smoky Falls GS, Little Long GS, Harmon GS and Kipling GS
- Provide background information concerning the study area (i.e. hunting and trapping areas, wildlife trails, locations of important fish spawning areas, heritage sites, etc)
- Give the public an opportunity to give any comments they might have regarding the proposed project, environmental issues or the comprehensive study report findings.

Public Input

Public participation is an important component in the environmental assessment process. Please:

- Review the information provided on the subsequent information boards
- Feel free to discuss and/or ask questions of the OPG, Hatch Energy and SENES representatives concerning the project
- Let us know what you think in the Comment Sheet provided and return it to us before you leave today or by mail or fax before February 9, 2009, Your opinions are important to us!

For more information see **www.lowermattagami.com**



Proposed Project - Smoky Falls Generating Station

The main objective of this project involves replacing the existing Smoky Falls Powerhouse with a larger one that can make better use of the water passing between the other Generating Stations.

The redevelopment of Smoky Falls GS will include:

- construction of a 3-unit powerhouse with a station turbine installed capacity of 270 MW immediately adjacent to the existing plant facility
- rehabilitation of existing water retaining structures, including the east earth-fill west dam, west concrete dam and spillway structure
- retirement of the existing Smoky Falls 52 MW plant facility.

The following civil construction works will be undertaken at the Smoky Falls GS:

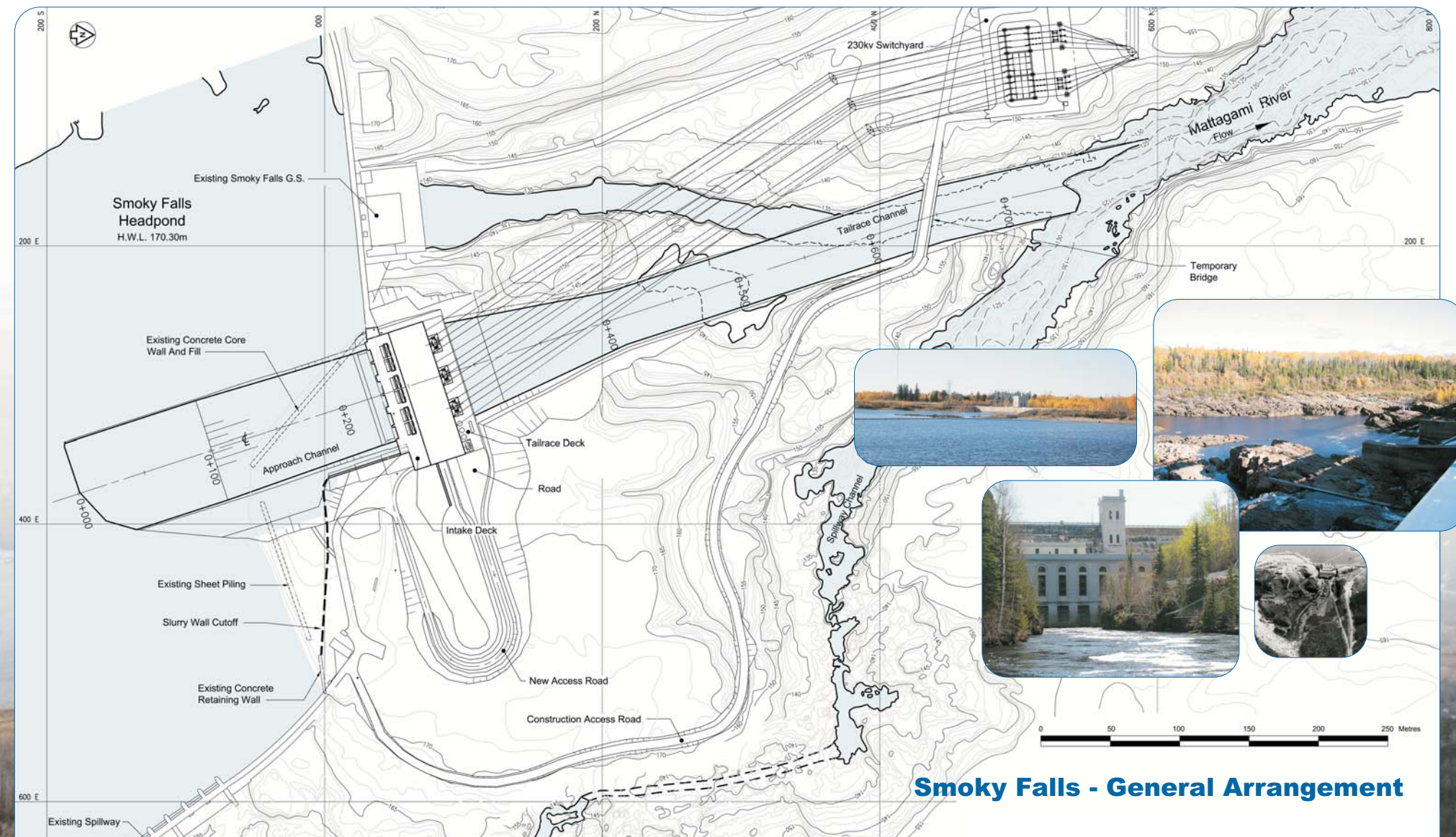
- permanent roads to the powerhouse, intake, spillway and switchyard facilities will be established
- construction vehicle access to the proposed powerhouse and intake will be provided by new roads on Smoky Falls Island and a proposed bridge crossing the existing tailrace
- an approach channel to the proposed intake structure (approximately 230m) will be constructed and designed to permit thermal ice cover formation during winter operations
- the intake structure will convey water flows to the powerhouse through concrete and steel-lined water passages, equipped with trashracks, main gates and bulkhead gates
- a new surface type powerhouse will be constructed within a bedrock excavation on the island to the east of the existing powerhouse and will include a service bay, station auxiliaries and a control room
- the existing Smoky Falls GS powerhouse will be retired, involving the rehabilitation of the west concrete gravity dam and sealing the main water passages
- a tailrace channel will be constructed, extending from the proposed powerhouse about 300m downstream to a point where it meets the existing tailrace channel.

The following rehabilitation is proposed for existing water retaining structures:

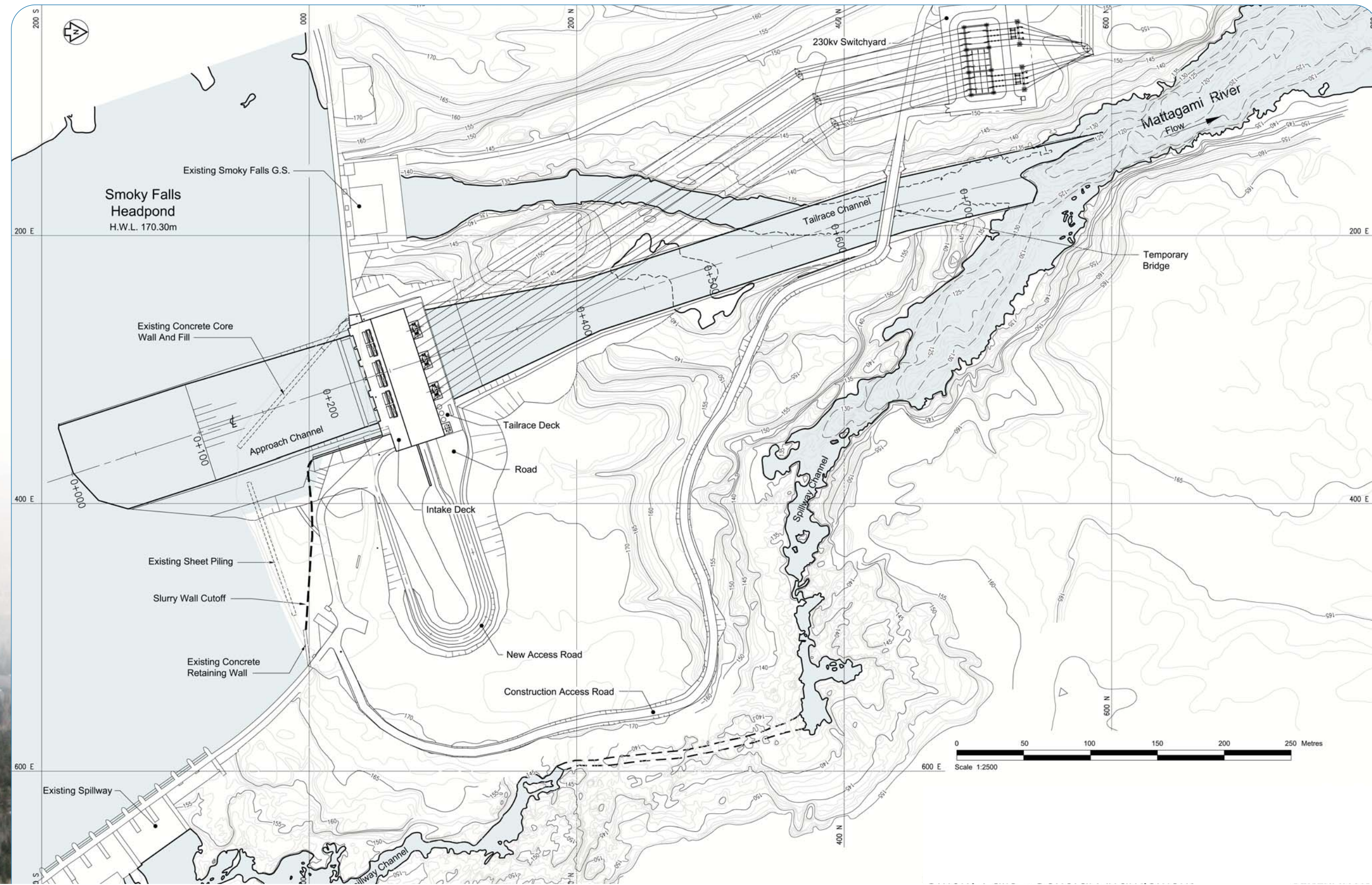
- if necessary the east earth-fill dam rehabilitation will be completed and works would include placement of rock fill and pressure relief drains at the downstream toe of the dam
- the west concrete dam containing the intake for the existing Smoky Falls GS powerhouse may receive surficial concrete repairs to spalling and cracks on the downstream face of the dam and remedial stabilization anchoring throughout the dam from the crest
- the spillway structure will be rehabilitated and one of the unused gates will be replaced with a new gate and hoist to ensure that the required spillway flow can be accommodated.

The following electrical and mechanical works are proposed:

- Hydro One Networks Inc. will be responsible for building a new double circuit 230 kV line (approximately 4 km) along the existing 115 kV corridor from the Smoky Falls GS to the existing double circuit 230 kV line
- the new station will require generator step-up transformers for each new unit (3) along with new protection and control equipment
- new 230 kV switchyard located to the west of the existing tailrace
- auxiliary and balance of plant systems will include grounding systems, excitation systems, voltage regulations, bus duct equipment, switchgear, monitoring equipment, Supervisory Control and Data Acquisition (SCADA) systems, compressed air, fire protection systems (detection and suppression) and station service electrical systems.



Proposed Project - Smoky Falls General Arrangement



Proposed Project - Smoky Falls Generating Station



Existing Project Site



Visualization of Proposed Project



Hydroelectric Operations

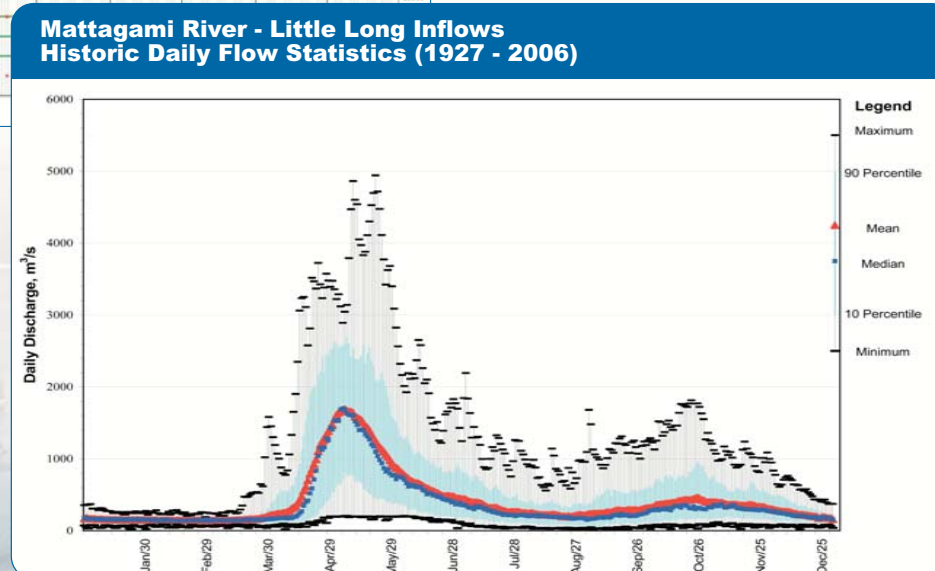
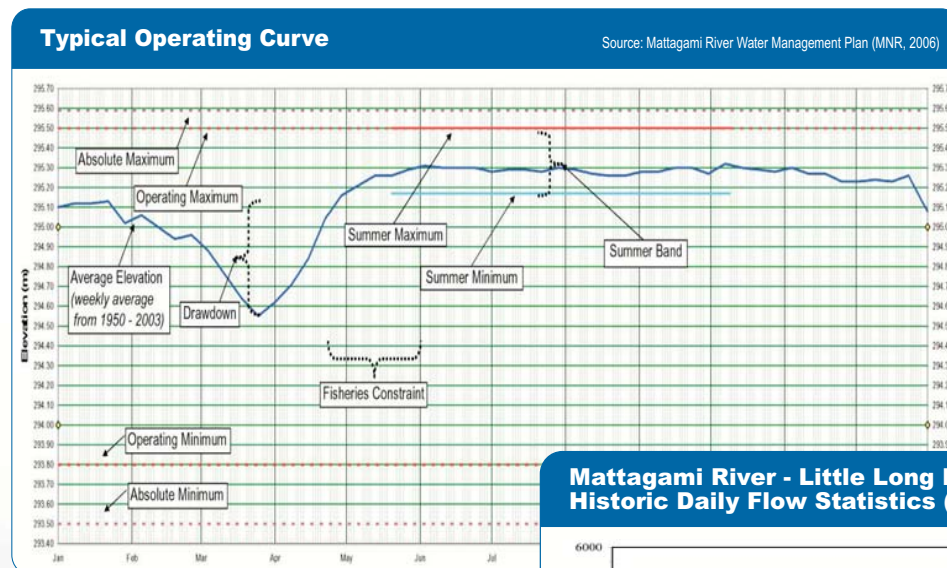
General Hydroelectric Operations at Peaking Stations

- Peaking stations may operate 16 hours a day or less depending on inflow to the station. Generation is used to support "peak" load during the day.
- Peaking stations require some storage to capture inflow when the station is not operating.
- Hydroelectric units can start quickly and provide immediate power and energy and allow the control centre to match generation to load.

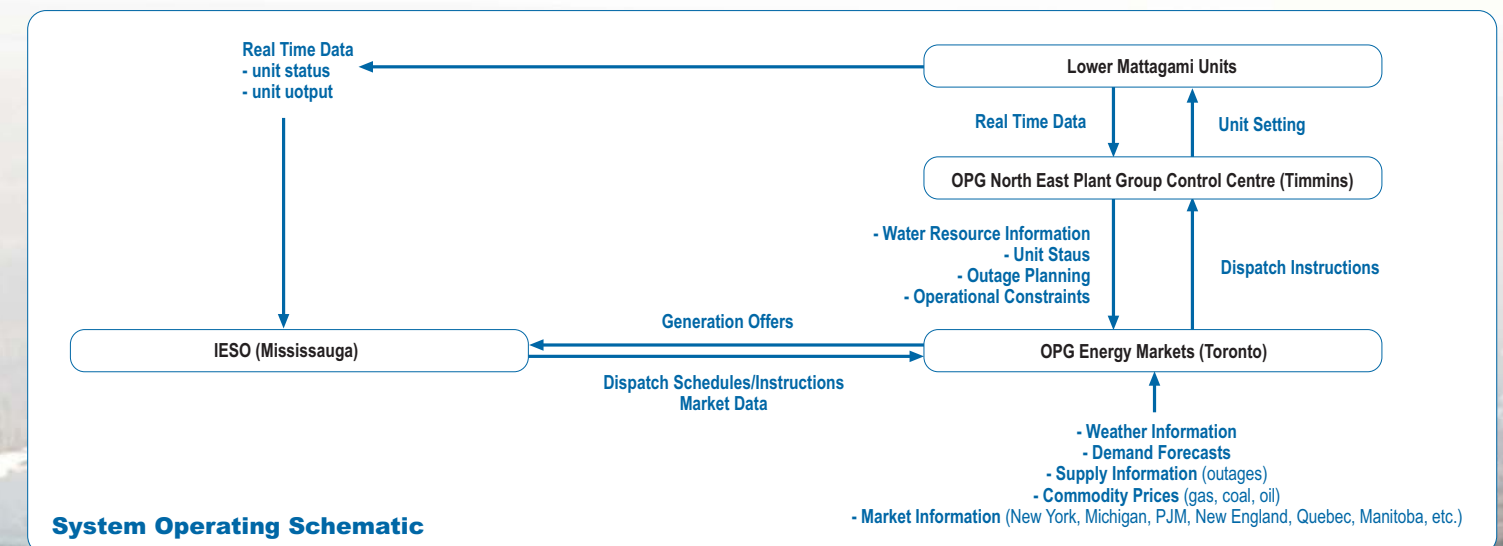
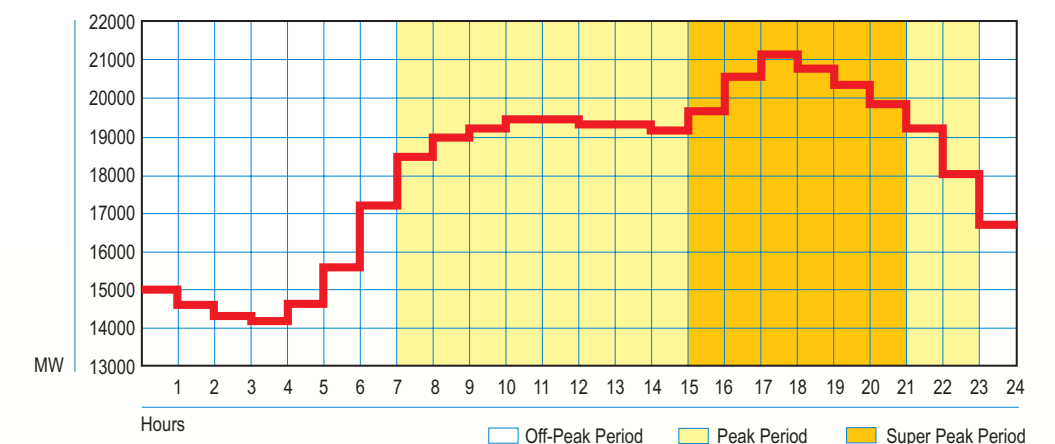
The Lower Mattagami River Hydroelectric Operations

- OPG operates the LMR Complex generating stations to optimize power production into the hours of the day when demand is at its highest. To achieve this, OPG operates the stations based on a number of factors which include the availability of water (i.e., electrical supply), electricity demand (i.e., system electrical load requirements), energy pricing (i.e., open market conditions) and operating in accordance with the Water Management Plan.
- Little Long Reservoir acts as the primary storage reservoir and serves to provide inflows to the Little Long, Smoky Falls, Harmon and Kipling GSs.
- The Smoky Falls GS was constructed in early 1930 and operates with significantly less generating capacity than the other stations. Smoky Falls GS has four generating units and is operated as a baseload station effectively 24 hour a day with a total rated flow capacity of 188 m³/s.
- The other three stations each have two units that can pass flows that range from 525 to 585 m³/s. These three stations are operated as peaking stations for various durations depending on available inflows.

- The different operating patterns require that Smoky Falls GS, Harmon GS and Kipling GS head pond water levels fluctuate daily. The Smoky Falls GS head pond is drawn down approximately 3 m to receive the peak discharge from Little Long GS. In turn, the Harmon and Kipling head ponds are drawn down to accommodate the discharge from the Smoky Falls GS.
- When flows exceed 583 m³/s, excess water that cannot be utilized by the four generating stations is diverted to Adam Creek, which returns the flow into the Mattagami River approximately 17 km downstream of Kipling GS. The average peak daily flows in Adam Creek during the spring freshet average around 1500 m³/s but may vary considerably from year to year.



Typical Weekday Energy Demand Profile for Ontario



Environmental Assessment Processes and Regulatory Requirements

Provincial

- The Provincial Environmental Assessment (EA) process for the Lower Mattagami River Project was started in the late 1980's.
- In 1990, the EA was submitted to the Ontario Ministry of the Environment (MOE).
- On December 15, 1994, MOE issued Notice of approval to Proceed with the Undertaking and Order in Council that provided approval to proceed with the project subject to terms and conditions. Construction was required to commence prior to December 1999.
- In 1999, OPG requested to MOE an extension of the construction start date . In December 1999, MOE issued a Declaration Order and Order-in-Council to extend the construction start date to June 15, 2005.
- In 2004, OPG submitted to MOE an EA Status Report and requested an extension of the construction start date to 2010. On June 13, 2005, MOE informed OPG of the approval of the EA Status Report and that the Declaration Order termination date had been extended on an interim basis to December 15, 2005.
- On December 14, 2005 MOE extended the date of termination to June 15, 2010.
- OPG is currently in the process of satisfying the Terms and Conditions of EA Approval.

Federal

- In 1996, Canadian Coast Guard completed a federal environmental screening review of the project and informed OPG that it had completed its requirements under the existing environmental assessment review process.
- In June 2006, OPG submitted the Project Description to the Canadian Environmental Assessment Agency.
- In 2006, Fisheries and Oceans Canada (DFO) determined that some of the components of the updated Project, in particular Smoky Falls GS, differed from the one originally reviewed in 1995/6. DFO, therefore, required a new Federal environmental assessment of the Project that includes the redevelopment of Smoky Falls GS and the associated changes to the operating regime of the Lower Mattagami River (LMR) Complex.
- The EA will be conducted at a Comprehensive Study assessment level.
- On February 21, 2007, a Notice of Commencement of an Environmental Assessment was posted on federal Canadian Environmental Assessment Registry (CEAR).
- In April 2007, the federal government posted the Scoping Document for the Project on the CEAR.
- In June 2008, OPG submitted the draft EA Report to the federal government.
- Next steps in the process include public and First Nation consultation, revisions to the draft EA Report and further consultation with the agencies, review of revised Comprehensive Study Report and EA decision.

Other Environmental Regulatory Requirements

The following are the potential environmental permits and approvals to meet regulatory requirements which will be obtained during the planning and construction phases:

- Navigable Waters Protection Act clearance from Transport Canada (TC) to ensure navigation interests are considered.
- Letter of Advice or Authorization under the Fisheries Act from DFO outlining how we will undertake work in a manner to protect fisheries.
- Explosives Transportation permit under the Transportation of Dangerous Goods Act from Transport Canada.
- Certificates of Approval (C of A) (Air and Noise) under the Environmental Protection Act from MOE to ensure air quality and noise levels remain acceptable.
- Permits to Take Water under the Ontario Water Resources Act from MOE to protect water resources.
- Work Permits under the Public Lands Act from Ministry of Natural Resources (MNR) to cover clearing, drilling and excavation.
- Location Approval and Plans and Specification Approval under the Lakes and Rivers Improvement Act from MNR to protect river resources.
- Amendment to Waterpower Lease Agreement under the Public Lands Act from MNR to address changes required in land tenure of associated facilities.
- Approval for Harvesting unscaled Crown forest resources under the Crown Forest Sustainability Act from MNR.
- Amendment to the existing Mattagami River Water Management Plan as required by MNR's Water Management Plan Planning process.



The flowchart illustrates the Canadian Environmental Assessment Act (CEAA) process, organized into five main phases:

- Phase 1: Prepare Project Description/ Determine if the Act Applies**
 - Prepare Project Description
 - Is there a Project?
 - No: Act does not apply
 - Yes: Is the Project excluded?
 - No: Is there a Federal Authority?
 - No: Is there a Trigger?
 - No: Act does not apply
 - Yes: Act Applies
 - Yes: Is the project described in the Comprehensive Study List Regulations?
 - No: Prepare Screening
 - Yes: Proceed through Comprehensive Process

- Phase 2: Scoping & Ministers Track Decision**
- Determine and document the scope of the EA and ascertain the factors to be considered and the scope of those factors
- Publish Notice to obtain public and Aboriginal peoples comment (30 day review period) and conduct public and Aboriginal Peoples information sessions
- Prepare Track Report and recommendation for the Minister
- Minister reviews Track Report and decides (with recommendation from the RA) either 1 or 2.
 - 1. Refer Project to Mediator or Review Panel (Separate process)
 - 2. Continue with Comprehensive Study – Publish Notice of Decision
- Phase 3: Conduct Analysis and Prepare Comprehensive Study Report**
- Compile existing Information
- Prepare need, purpose, alternatives to and alternative means of carrying out the project, capacity of natural resources to meet future needs
- Determine the environmental effects of the project including the effects of malfunctions and accidents and cumulative effects
- Establish mitigation measures
- Evaluate the significance of those environmental effects
- Develop follow-up program
- Phase 4: Comprehensive Study Review**
- Proponent submits Comprehensive Study Report to RA and Federal Authorities (FA) to review
- Conduct public and Aboriginal Peoples information sessions
- In consideration of public, Aboriginal Peoples and agency comments, Comprehensive Study Report is revised and resubmitted to RA and FAs
- Public and Aboriginal Peoples Consultation on Comprehensive Study Report (30 day review period)
- Phase 5: The Minister's Decision**
- The Comprehensive Study Report and public comments/concerns are presented by RA to the Minister for review and decision
 - If public concerns have not been addressed or additional information is necessary, the report is sent back to the RA to act and address accordingly
 - If the project is likely to cause significant adverse environmental effects, project may not proceed
 - If the project is unlikely to cause significant adverse environmental effects, the project may proceed based on the Comprehensive Study Report commitments and required mitigation measure and follow-up program
- Publish Notice of Minister's Decision and proceed to implementation of project, mitigation measures and follow-up program
- Post Notice of RA's Decision and their course of action

Participant Funding Canadian Environmental Assessment Agency

- Formation of Participant Funding Committee
- Notice – Availability of Participant Funding
- Application Submissions
- Participant Funding Committee Review of Applications
- Publish Notice – Participant Finding Committee Review Report – Allocation of Funds

Natural Environment

The Canadian Environmental Assessment Act requires an examination of how a project may cause change to the environment. In order to do this an understanding of the existing natural environment is imperative. The following summarizes what we have found:

Aquatic

- The Lower Mattagami River areas consist primarily of exposed bedrock, boulder and rubble with occasional deposits of gravel and sand.
- Fish communities within the Moose River Basin vary from south to north due to impassable barriers (e.g., large rapids, falls and dams) and differences in habitat suitability. At least 36 species occur in the Moose River Basin and at least 28 of these are commonly found in the Mattagami River.
- Walleye, northern pike and suckers (longnose and white) are generally the most common species found during the field studies although lake sturgeon (which are listed as Special Concern by COSEWIC) are found above and below the LMR Complex.
- Adam Creek is a diversion channel with water flows during the spring freshet that may be as high as 3000 m³/s. The downstream portion of the creek is populated by fish that swim up from the Mattagami River and may spawn in Adam Creek.

Terrestrial

- Terrestrial habitat present within the project area include mixedwood forest, conifer forest and rocky rivershores. Typical tree species include trembling aspen, black spruce, white spruce, poplar, alder and jack pine interspersed with lichen and moss-covered rock outcrops.
- No vegetation 'species at risk', as defined under federal and provincial law, are known to occur in the study area.
- Three wildlife 'species at risk' are known to occur in the area: bald eagle, common nighthawk, and woodland caribou (however, they will not be impacted by the project).
- Common wildlife species in the study area include moose, black bear, beaver and a variety of small game.
- A great blue heron colony is found on an island between Smoky Falls and Harmon GSs.



Socio-Economic and Cultural Heritage

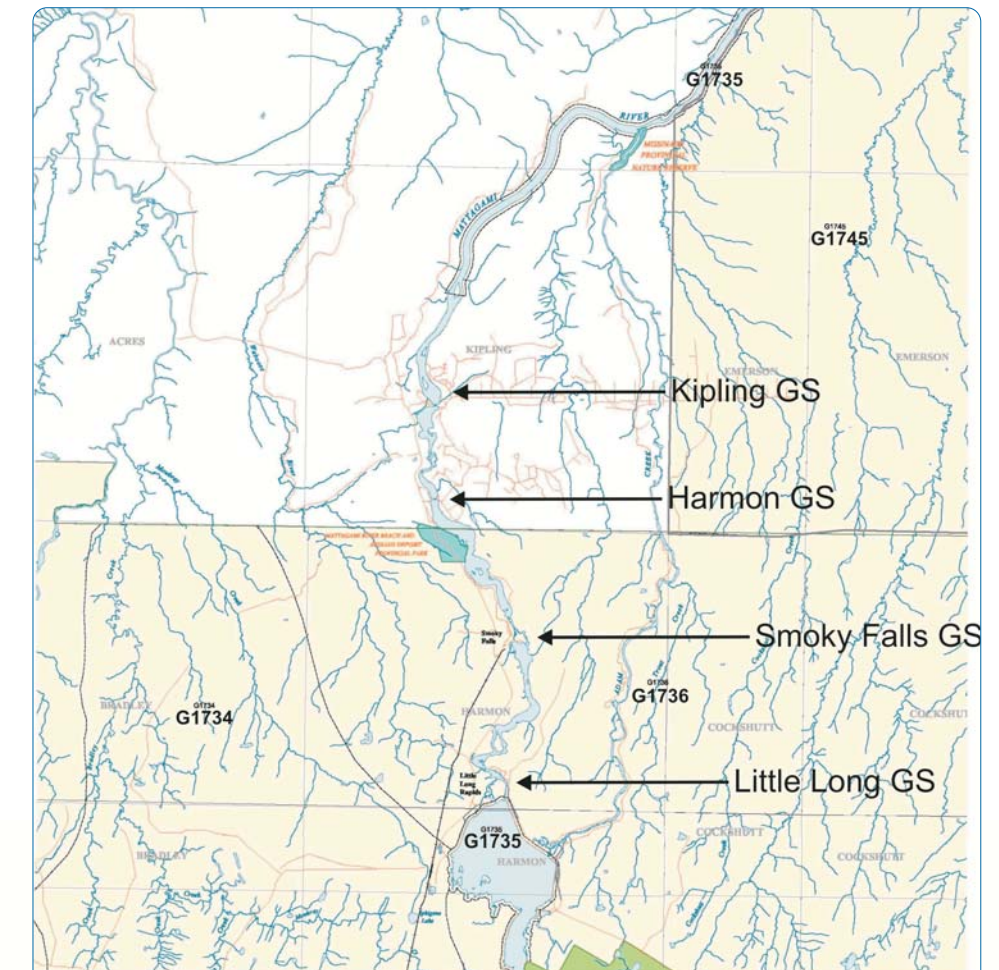
The Canadian Environmental Assessment Act requires the examination of how a project may cause a change in the environment, including any effect of such change on socio-economic and cultural heritage conditions. In order to do this, an understanding of the existing socio-economic environment is imperative. The following is what we have found:

Socio-Economic

- The Lower Mattagami River Complex is located on Crown land in an area known as the Kapuskasing Resources Extraction Area. Management priorities in this area include forest management, commercial fur management, mineral and aggregate permits and water storage for hydroelectric power generation.
- Two all season road corridors link Highway 11 with the LMR Complex. All roads in the vicinity are accessible by the public. Typical vehicles include logging trucks, gravel trucks and other vehicles associated with quarry operations and other public recreational uses.
- Forestry is the dominant resource activity in the area and the southern portion of the LMR Complex is located within the northern section of the Gordon Cosens Forest, licenced to Spruce Falls Inc. (Tembec).
- A number of traplines occur in the regional study area around the Lower Mattagami Complex. The key furbearers are: beaver, mink, marten, otter, fisher, muskrat, racoon, red squirrel, lynx, timber wolf, coyote, skunk, weasel, grey fox and coloured fox.
- The main recreational activities in the region include Crown land hunting and fishing and canoeing along the Mattagami River.
- For safety reasons, OPG does not allow public access between the four generating stations for any recreational activity.
- Fishing primarily for walleye and pike is a popular activity in the Little Long Reservoir and a boat launch is available to the public downstream of the most northerly GS (Kipling).
- Aggregate pits are located along Fred Flatt Road, the Fred Flatt Extension Road and the Little Long Road. According to the MNR, aggregate deposits in the general area are abundant.

Cultural Heritage and Archaeological Resources

- Archaeological and historical assessments were carried out at the Lower Mattagami Hydroelectric Complex in the late 1980s, according to the Ministry of Culture Guidelines.
- Subsequent to that work the old Smoky Falls Colony was decommissioned.
- Beyond the Smoky Falls Colony, other areas to be used for the new Smoky Falls GS were determined to have low archaeological potential.
- Further desktop and fieldwork archaeological and historical assessments were carried out as part of the current project in 2008. This work is being conducted in conjunction with the Moose Cree First Nation.
- Based on the criteria for archaeological assessments no further assessments are required.



Crown Land Use Designations
Désignations d'aménagement des terres de la Couronne

General Use Area Zone de ressources diverses	Recommended Conservation Reserve Réserve de conservation recommandée
ANSI Resource Management Zone Zone de gestion ZINS	Forest Reserve Réserve forestière recommandée
ANSI Core Protection Zone Zone de protection ZINS	Enhanced Management Area Zone de gestion valorisée
Existing Provincial Park Parc provincial existant	Wilderness Area Zone sauvage
Recommended Provincial Park Parc provincial recommandé	Overlay Designation Désignation secondaire
Existing Conservation Reserve Réserve de conservation existante	

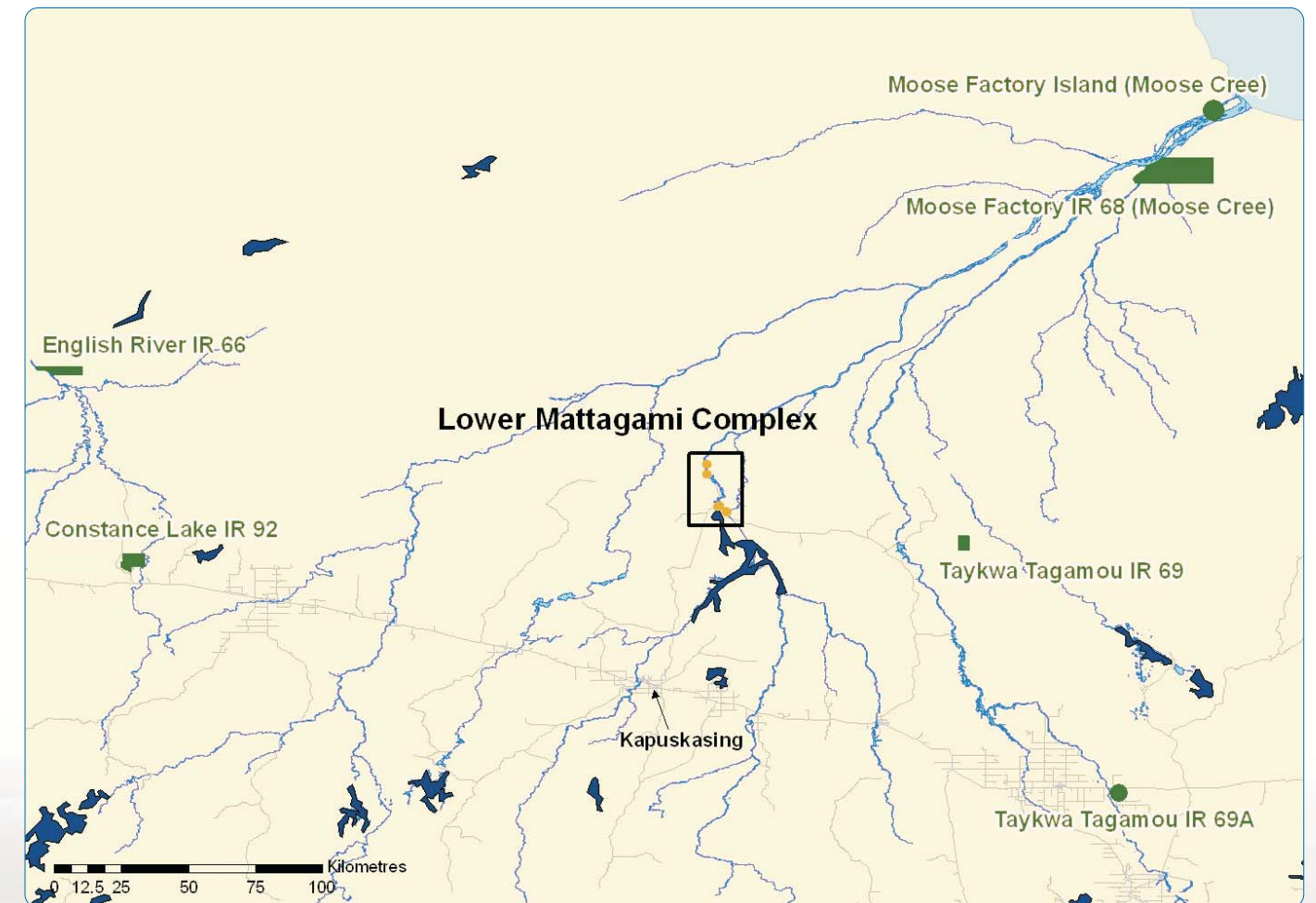
Other Land Uses and Symbols
Autres utilisations et symboles

Existing National Park Parc national existant	Indian Reserve Réserve indienne
Private/Proven Land Terres Privées/Provenées par lettres patentes	Other Land Autres terres
Roads Routes	Transmission Lines Lignes de transmission
Railways Lignes de chemin de fer	Townships Cantons

Aboriginal Interests

- Aboriginal interests considered in the assessment include those of the Moose Cree First Nation located on Moose Factory Island near James Bay, the Taykwa Tagamou First Nation located near Cochrane and the MoCreebec community located at Moosenee/Moose Factory and Métis people in the region.
- The area of the LMR Complex is considered to be within the traditional territory of the Moose Cree First Nation.
- The Moose Cree First Nation is located on Moose Factory Island approximately 200 km downstream of the LMR Complex. The MoCreebec Community is also located on Moose Factory Island or at Moosenee. The Taykwa Tagamou Nation is located about 150 km to the southeast near Cochrane. Taykwa Tagamou also has a second uninhabited reserve located near the Abitibi River about 50 km to the east.
- The Aboriginal people of Northeastern Ontario undertake a wide variety of traditional land and resource use activities including: trapping, hunting, fishing, plant collection, berry picking and timber extraction. While the Aboriginal population is generally concentrated on Reserves or in communities in the region, a percentage of the population continues to reside "on the land" for significant portions of the year. The use of the land maintains their sacred and spiritual connection to the land, rivers and lakes that have been important links to family hunting territories and histories.
- Most of the resource activities, except for trapping, are of a non-commercial nature and are an important part of their identity, history, culture and traditional lifestyle. Harvested resources are often an important part of the First Nations diet or provide other resources important to their lifestyle (e.g., medicinal plants and timber for heat and hides for clothing).
- The Moose Cree Traditional Territory stretches from the shores of James Bay to Quebec in the east to south of the LMR Complex. This traditional territory or homeland contains the hunting territories of families who comprise the modern day Moose Cree First Nation. Today, the traditional territory is still used by Moose Cree members for a wider variety of traditional uses.

- While there are no known traditional Aboriginal activities within the immediate vicinity of the Lower Mattagami Complex, there are traplines in the regional area. It is likely that while on the trapline these individuals undertake other traditional land and resource activities such as hunting or small scale timber extraction for personal use.
- Subsistence fishing by Aboriginal people for sturgeon generally occurs downstream of Kipling, with the majority of harvesting occurring at or near the confluences of the Abitibi and Moose Rivers, while limited quantities are harvested from the Little Long headpond. The full extent of subsistence fishing by Aboriginal people is not well known.
- Identified Aboriginal values and resources of significance that could be potentially impacted by the project will be protected.



Effects and Mitigation Measures

Environmental assessment of the proposed Project has resulted in the identification of preliminary issues that will require mitigation during the construction and operation of the Project. These include, but are not limited to, the following:

Terrestrial Environment

- Conversion of approximately 24 ha of vegetation and wildlife habitat primarily on Smoky Island will occur.
- 46 ha of vegetation wildlife habitat will be temporarily disturbed during construction and require restoration after construction.
- Dewatering of portions of the river during construction may result in the temporary loss of aquatic habitat for waterfowl and aquatic furbearers.
- General construction activities, including blasting and clearing, and the presence of the construction workforce may result in a temporary disturbance to wildlife.
- Reduced fluctuation of water levels in the Harmon GS, Smoky Falls GS and Kipling GS headponds is expected to result in the establishment of shoreline and wetland vegetation while the potentially elevated water levels downstream of Kipling GS may result in recession of shoreline vegetation and wildlife habitat.
- To mitigate any potential effects to terrestrial habitat during construction work will be restricted to identified work areas, work areas will be placed within previously cleared areas wherever possible and sensitive areas will be flagged and access to these areas by the work force will be prohibited.

Aquatic Environment

- Modification of potential spawning habitat in some areas of the LMR complex will largely be offset by increases in habitat in other areas due to redirected flows and more stable water levels.
- During construction there is a potential for increased stress on fish and fish habitat due to suspended solids and sedimentation resulting from pumping seepage water from excavations, the removal of a rock plug, construction of a bridge over the Smoky Falls GS tailrace and site runoff. Mitigation measures to reduce potential releases of sediment and suspended solids will include the use of settling ponds to settle sediments before discharge, conducting channel improvements in the dry, installing bridge footings on land as opposed to in-water and using best management practices for sediment control.
- Direct fish mortality due to blasting will be avoided by blasting in the dry (and all blasting will follow Guidelines established by Fisheries and Oceans Canada).
- In order to maintain a minimum average daily discharge of 100 m³/s (or equivalent to the river inflow if it is less than 100 m³/s) will be released in two or more bursts during low flow periods. In addition, water levels below Kipling GS will be maintained at an equivalent of one unit operating 24 hours per day during the sturgeon spawning season (May & early June).
- The amount and duration of water diverted into Adam Creek because of the Project is expected to decrease from the existing conditions. This should result in decreased passage of fish into Adam Creek and a potential decrease in erosion in Adam Creek.



Effects and Mitigation Measures

Socio-Economic Environment

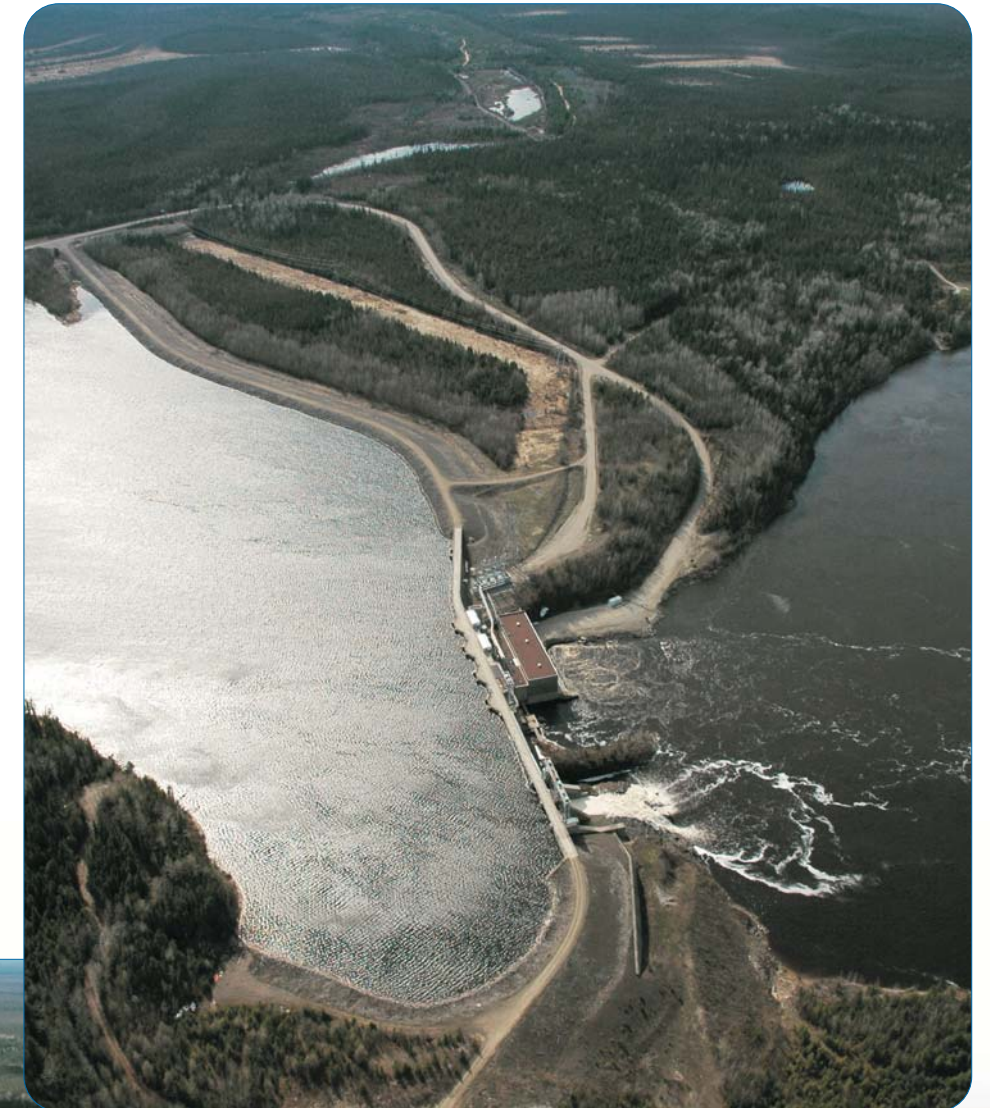
- The proposed Project does not require any formal changes in land use, no effect on current land use will occur and therefore no mitigation measure is required.
- The potential effects of the Project on forest resources will be minor with only seven hectares of forest to be cleared. Any of the wood that is of a commercial quality will be directed to a forest products mill.
- The potential effect of the Project on non-native trapping is considered to be minor because the 24 hectares of vegetation and wildlife habitat that will be lost represents a minor loss of habitat for furbearing species relative to the surrounding area.
- In order to ensure that there is no negative impact on the trap cabins or personal property of trappers, OPG will establish the condition of trapper cabins and other physical property (e.g., marten boxes, personal property in the cabin) belonging to the trappers within a 25 km radius of Smoky Falls GS prior to the commencement of construction activities. In the event of damage caused by Project personnel, compensation will be provided.
- The Project is not expected to have a direct effect on recreational hunting and fishing. While noise and other human activities are likely to deter wildlife from the immediate area, it will have no effect on population levels.
- OPG will be making it a condition of employment for migrant workers at the construction camp not to engage in fishing and hunting during their off-hours.
- The proposed Project is not expected to have an impact on existing recreational uses, such as canoeing, that occur on the Mattagami River.
- Aggregate material (70,000 m³) for the Project will result in a minor depletion of local supplies.

Cultural & Archaeological Resources

- A Stage 2 Archaeological Assessment has been undertaken on all areas potentially impacted by the project.
- Any areas of archaeological resources requiring protection will be reserved from development.
- If during construction there is a discovery of archaeological resources their management will comply with the Ontario Heritage Act .
- The existing Smoky Falls powerhouse is to be retained.

Traffic

- Increased traffic due to construction vehicles may result in safety incidents. OPG will minimize transportation effects by restricting access to personal vehicles of construction workers on site and providing shuttle buses to transport workers from Kapuskasing. In addition, large vehicles will be prohibited from crossing where load and width restrictions are in place and road signage will be installed where necessary.



Effects and Mitigation Measures

Aboriginal Interests

- The area where construction is to occur on the project is wholly contained within the LMR Hydroelectric Complex, which is completely fenced in and not accessible to the public or Aboriginal peoples. No Aboriginal use occurs in this site study area.
- Beyond the LMR Hydroelectric Complex the adjacent crown land still supports various traditional Aboriginal uses such as trapping, hunting, fishing and gathering activities. The Moose Cree First Nation has several individuals in the regional area (10 to 50 km from the site) who have traplines and carry out other traditional activities. The Project is not expected to have any direct effects on existing traplines as construction will occur tens of kilometers from these traplines. However, OPG will consult with the trapline holders to ensure their traplines and trapline resources (e.g., cabins) are protected. OPG will compensate trappers for any damage to trap cabins or properties due to workers associated with the Project. In addition, consultations can occur with any trappers in the area that may have concerns associated with the Project.
- A large workforce is required for the project and many of those workers will live at a camp at the existing Smoky Falls Generating Station. As a condition of employment, these workers will not be allowed to fish or hunt in their free time so as not to impact fish or wildlife populations and impact other resource harvesters.
- As well OPG can look at restricting the use of all-terrain vehicles (ATVs) and snow machines by the construction workforce, stating that these are not permitted in the area of the site, or identified sensitive areas. OPG will commit to a monitoring program on these types of uses.
- During operations there will be no impacts to water quality or quantity as a result of a slightly different operating regime. The Moose Cree First Nation is located downstream of the LMR Complex and is dependent on the river for its drinking water. However, the proposed operating regime for the LMR Complex is predicted to be within the operating regime identified in the MRSWMP and was subject to consultation with the Moose Cree. In addition, mitigation measures are identified to ensure that there is no negative effect on water quality and therefore no impact downstream.
- Archaeological fieldwork has been conducted at the LMR Hydroelectric Complex with the participation of the Moose Cree First Nation. No cultural/historic resources will be impacted by the project.



Schedule and Next Steps

Track Report Decision from Federal Government	September 2008
Public and First Nation Consultation Session	Winter 2009
Environmental Assessment Decision	May 2009
Construction Commences	Spring 2010
Construction Completed	2014
Commissioning	2014

Where Do We Go From Here?

- Any Issues Identified by the public will be added to the Project record
- Using existing background data, and the information provided during this consultation session, any additional environmental issues/values and appropriate mitigation measures will be identified
- The Comprehensive Study Report will be prepared and made available for public, agency and First Nation review
- Comments on the report will be accepted for a 4 week review period
- Any identified new or outstanding issues will be resolved
- Final engineering and start of construction of the Project when government reviewers are satisfied the project may receive final approval

Public Comments

Your comments are important to us!

Please fill in the Comment Sheet provided and return it to us either before you leave or by mail or fax before February 9, 2009.



Economic and Employment Benefits

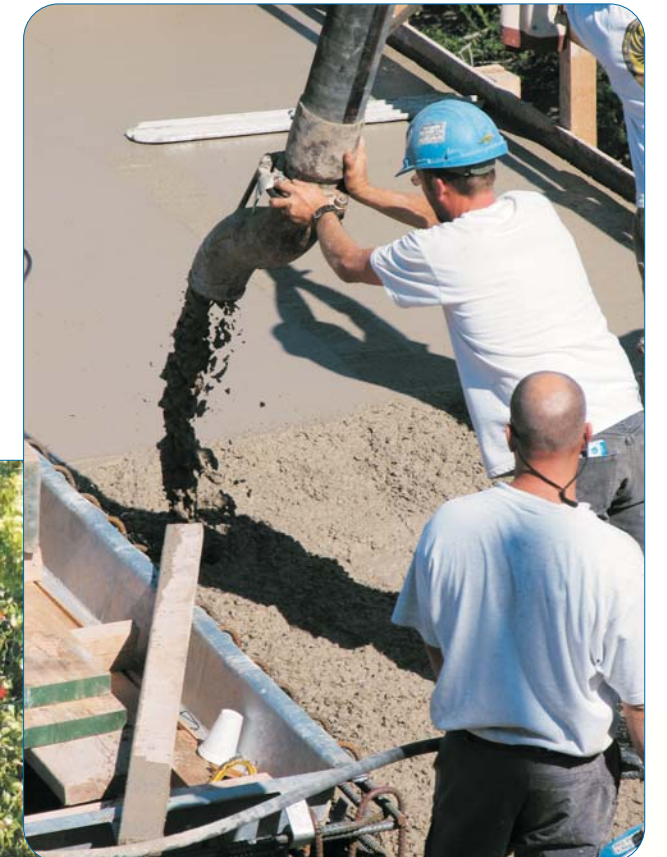
How and When Does the Project Happen?

- Ontario Power Generation will retain one Design Build Contractor with extensive experience in hydroelectric development to build the project.
- The Design Build Contractor will likely partner with a variety of contracting and construction companies in order to execute the project.
- A contract is expected to be signed with a Design-Build Contractor in the fall of 2009.
- Work on Site is Expected to Start in Spring 2010.

Direct Employment and Hiring

- The proposed undertaking is estimated to require a direct workforce equivalent of 594 person years (PYs) of employment for each year of the projected 4.5 year construction schedule.
- This will peak at a projected level of 600 persons.
- The extent to which labour requirements for the Lower Mattagami Project are to be filled by the local labour market will be a function of: union requirements; the match of skill requirements of the project to local labour supply; the proposed Project Agreement between OPG and the Moose Cree First Nation; quantitative labour needs; existence of other projects in the study area; and, the degree of worker interest in being employed on the project.
- The trades and job categories most in demand for the project will include:
 - Form Setters and Cement Workers
 - Heavy Equipment Operators and Drivers
 - Carpenters
 - Drillers and Blasters
 - Labourers
 - Project Support Staff (e.g., camp, catering, administration)
 - Electrical Installation and Electricians
 - Mechanical Installation
 - Engineers, Construction Superintendents and Quality Control Personnel

- OPG requires workers to be unionized as part of the Electrical Power Systems Construction Association (EPSCA).
- EPSCA negotiates and administers construction trade collective agreements on behalf of employers performing construction industry work for the Bulk Electrical System on Ontario Power Generation Inc., Bruce Power LP and Hydro One property.
- EPSCA has collective agreements with all the major trade unions.
- For more information about EPSCA and the agreement with OPG please contact the: EPSCA office (416) 592-2098 (www.epsca.ca); or your local union.



Economic and Employment Benefits



Estimation of the Project Expenditure in Northeastern Ontario*

- We expect that a significant portion of the total cost of the project will likely be spent regionally in Northeastern Ontario. This will be a major construction services expenditure for several years. The balance of the expenditure will occur elsewhere in Ontario, Canada and internationally.
- Main types of economic benefits accruing to Northeastern Ontario and the local 6/70 communities (Kapuskasing, Smooth Rock Falls, Val-Rita Harty, Opasatika, Moonbeam and Farquier Strickland) would include: direct employment opportunities on the project; contracting opportunities on the project; increased levels of business activity (e.g., accommodation services); and, other positive socio-economic benefits.



Business Contracting and Regional Economic Activity (Indirect and Induced)

Some of the more common businesses or economic sectors in the local and regional economies that will benefit from such a project would include:

- Local retail (e.g., convenience stores, grocery stores, drug stores) and food services industries (e.g., restaurants, bars, grocery stores) that will benefit from worker visits to these businesses.
- Other construction and construction supply (e.g., building or aggregate supply) companies.
- Local accommodation suppliers (e.g., motels) as short-term workers on the project visit the area.
- Business, professional and personal services companies that will experience increased levels of activity.
- Transportation related companies (e.g., transport, auto repair shops) that are likely to experience an increased level of business.
- In Northeastern Ontario it is expected that the sales multiplier associated with the project will be \$1.50, that is for every dollar expended on the project another \$0.50 will be spent within Northeastern Ontario.
- It is expected that for every direct job associated with the project another 0.65 person years of employment will be generated elsewhere in Northeastern Ontario.

* The economic impacts as described in this paper are dependent on a series of assumptions. The actual economic impacts accruing to the region will be dependent on: the selected Design-Build Contractor; the mobility of labour; and the readiness of the local and regional businesses and labour to provide suitable goods and services for the project.

Proposed Project - Little Long, Harmon and Kipling GSs

Extension to the Little Long, Harmon and Kipling GSs will involve the addition of a third turbine/generator unit to increase the capacity. The installed capacities are as follows:

- Little Long - from 136 MW to 204 MW
- Harmon - from 140 MW to 240 MW
- Kipling - from 156 MW to 240 MW

Provision for Future Development

- The initial design and construction of Little Long, Harmon and Kipling GSs included the provision for future unit extensions of up to two units, including headworks concrete with intake water passages and head gates, partial penstock concrete, powerhouse excavation, and nominal tie-ins for future timber crib cofferdams.
- Major construction modifications to the existing powerhouses are not required to accommodate the installation of a third unit.

Civil Works at Little Long, Harmon and Kipling GSs

- A temporary masonry block wall just downstream from the head gates currently provides a heated and lit, maintenance free enclosure behind the intake gates. This structure will be removed.
- Trashracks and head gate hoists will be supplied and installed.
- Water passage and penstock sections to the powerhouse will be completed and include a steel liner from the lower penstock bend to the scroll case.
- The powerhouse superstructure and crane rails will be extended to accommodate the new unit, along with auxiliary and service equipment. The tailrace deck will also be extended.

Electrical and Mechanical Works at Little Long, Harmon and Kipling GSs

- Hydro One Networks Inc. will be responsible for adding an additional single-circuit 230 kV line (approximately 4.5 km) from Kipling GS to Harmon GS on to the existing towers.
- The new unit at each facility will require generator step-up transformers along with new protection and control equipment.
- Auxiliary and balance of plant systems will include grounding systems, excitation systems, voltage regulations, bus duct equipment, switchgear, monitoring equipment, SCADA systems, compressed air, fire protection systems (detection and suppression) and station service electrical systems.

