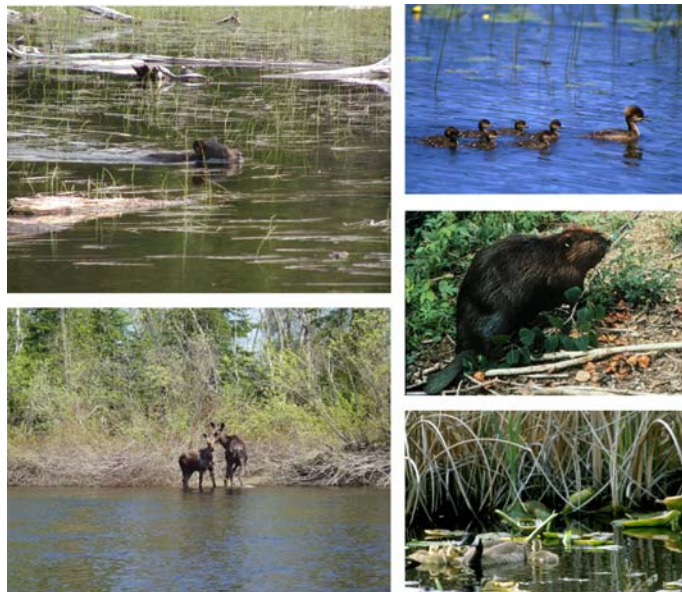


# WELCOME

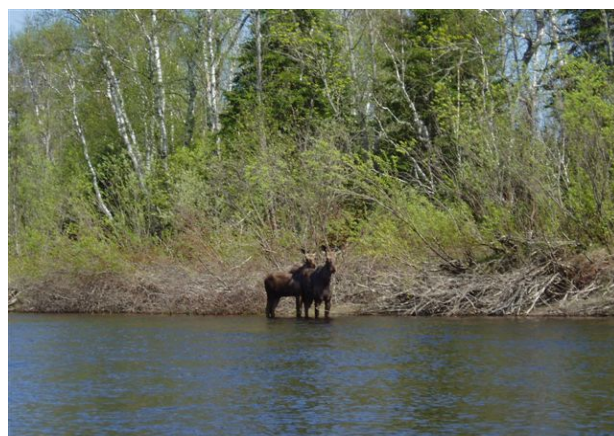
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- Thank you for taking time to visit this Open House
- Please fill out a Comment Sheet and leave it with use, or take it home and return it later to the address provided
- A project representative would be glad to answer your questions and if we don't know the answer we will try to get you an answer
- We value your comments and questions



# Upper Mattagami Redevelopment Environmental Assessment

Public Open House - 2006





# Purpose of this Open House

Public Open House - 2006

- To update you on Ontario Power Generation's (OPG) small hydro redevelopment plans for Wawaitin, Sandy Falls and Lower Sturgeon Generating Stations
- To update you on the status of the environmental assessment process
- To provide you with our summary findings from our field environmental studies and the environmental assessment



# Who is Ontario Power Generation?

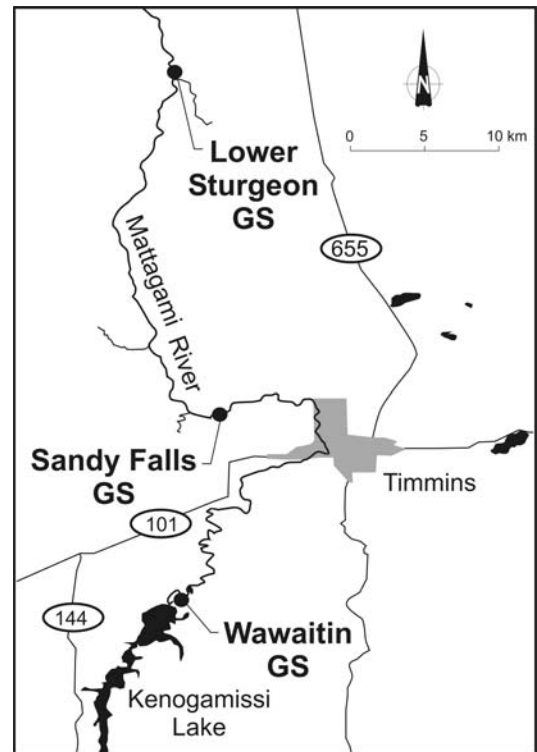
Public Open House - 2006

- Ontario Power Generation Inc. (OPG) is an Ontario-based electricity generation company whose principal business is the generation of electricity in Ontario
- OPG focuses on the efficient production of electricity from our generation assets, while operating in a safe, open and environmentally responsible manner
- OPG is a commercial company, owned by the Province of Ontario – its sole shareholder
- Ontario needs more electricity and OPG has been given a mandate from the Province of Ontario to develop and expand its hydroelectric capacity
- This will provide more clean renewable environmentally friendly electricity for Ontario

# What is OPG Proposing to Do ?

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- Ontario Power Generation is proposing to redevelop the Wawaitin, Sandy Falls and Lower Sturgeon Generating Stations on the Upper Mattagami River
- These are existing run-of-the-river hydroelectric generating stations that are approximately 100 years old and are at the end of their service life
- The redevelopment of these facilities is subject to a provincial class environmental assessment





# Why Redevelop These Facilities ?

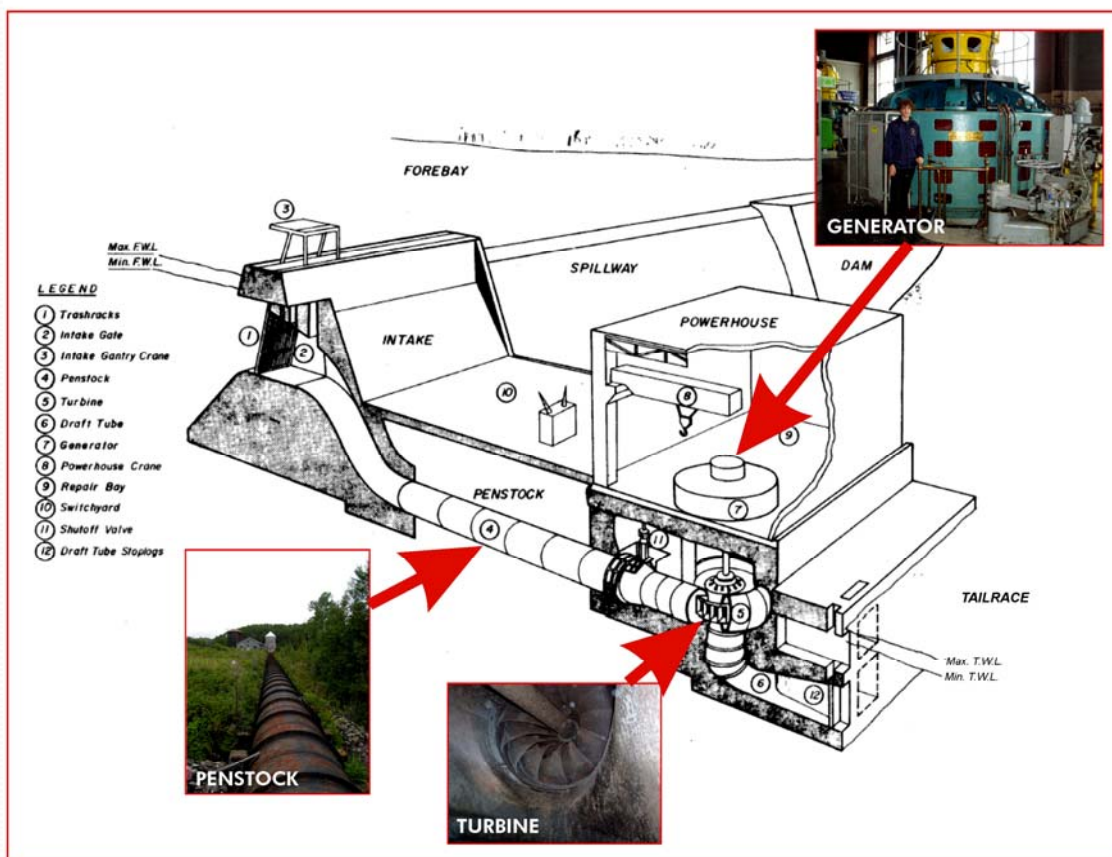
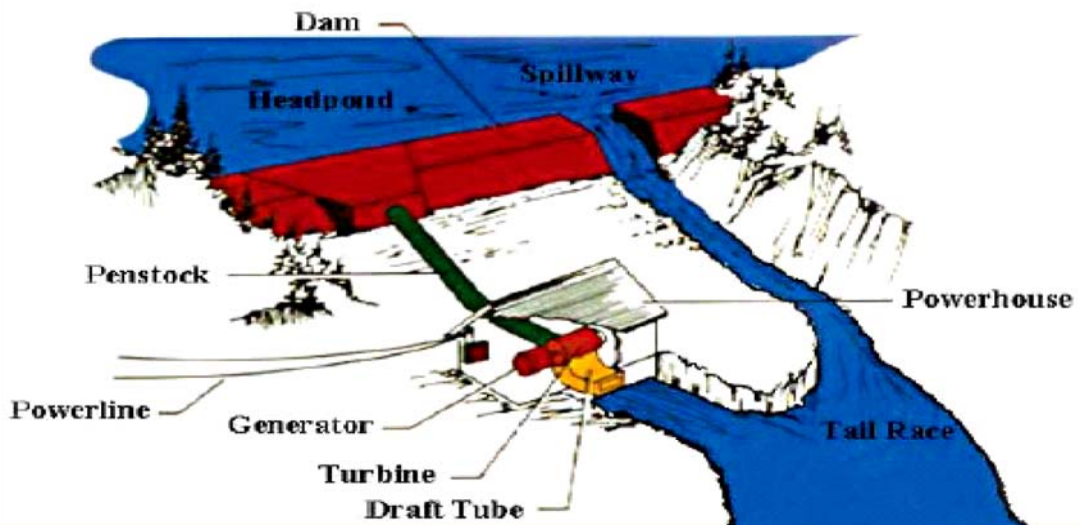
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- All three generating stations are at the end of their current service life and require replacement
- These stations produce power at 25 cycles, however the Timmins area can no longer use 25 cycle power
- Ongoing maintenance of the generating stations will not provide a long-term reliable solution
- The redevelopment of these stations can continue to provide Ontario with a reliable, clean and renewable energy resource
- There is an opportunity to increase the power produced at these stations without changing the operating regime (water levels and flows) as described in the Mattagami River System Water Management Plan

# Small Run-of-the River Hydroelectric Generating Stations

Public Open House - 2006

## COMPONENTS OF A HYDRO SYSTEM



# Wawaitin Generating Station

Public Open House - 2006

## Existing

- Wawaitin Generating Station is owned and operated by OPG
- Built in 1912 by The Northern Ontario Power Company. The powerhouse has 4 generating units with a maximum output of 10.4 megawatts
- Located within the City of Timmins municipal boundaries approximately 25 kilometres southwest of the urban centre



## Proposed

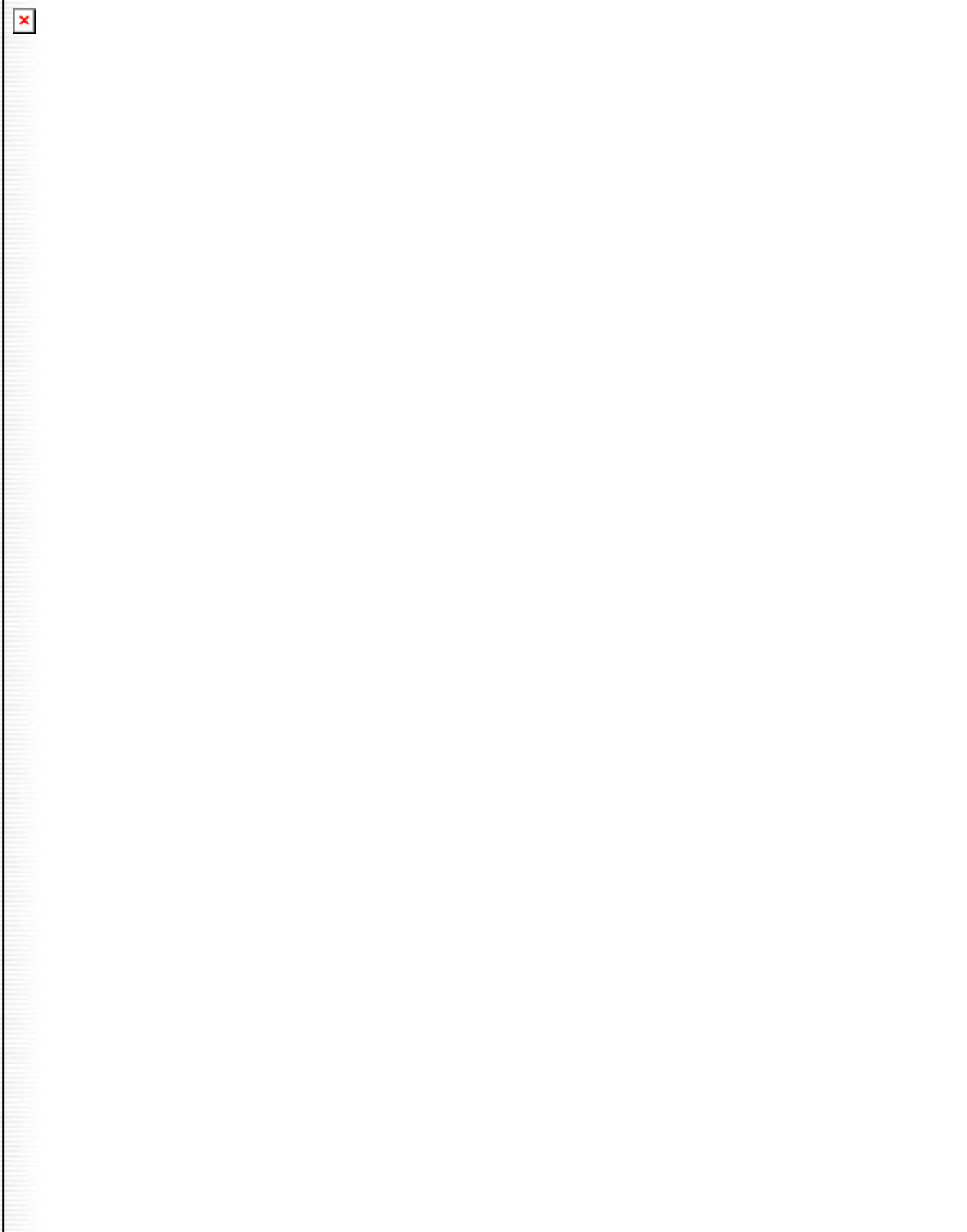
- Wawaitin Generating Station is planned to be located adjacent to the existing powerhouse, with an expected total capacity of approximately 15 megawatts
- Water in the existing intake canal would be conveyed through a new intake structure via a new steel penstock
- Refurbishments to the existing civil structures will include any modification necessary to meet dam safety and long-term operability requirements
- No changes to water levels and flows





# Wawaitin Generating Station

Public Open House - 2006



# Sandy Falls Generating Station

Public Open House - 2006

## Existing

- Sandy Falls Generating Station built in 1911
- The generating station has three generating units that have a maximum rating of 3 megawatts
- Located within the City of Timmins municipal boundaries approximately 10 kilometres northwest of the urban centre accessed by municipal roads
- Water levels in the headpond are controlled by plant operation, in conjunction with a 216 metre long spillway weir across the Mattagami River
- Water levels are guided by the Water Management Plan and maintained to provide sufficient water for Timmins

## Proposed

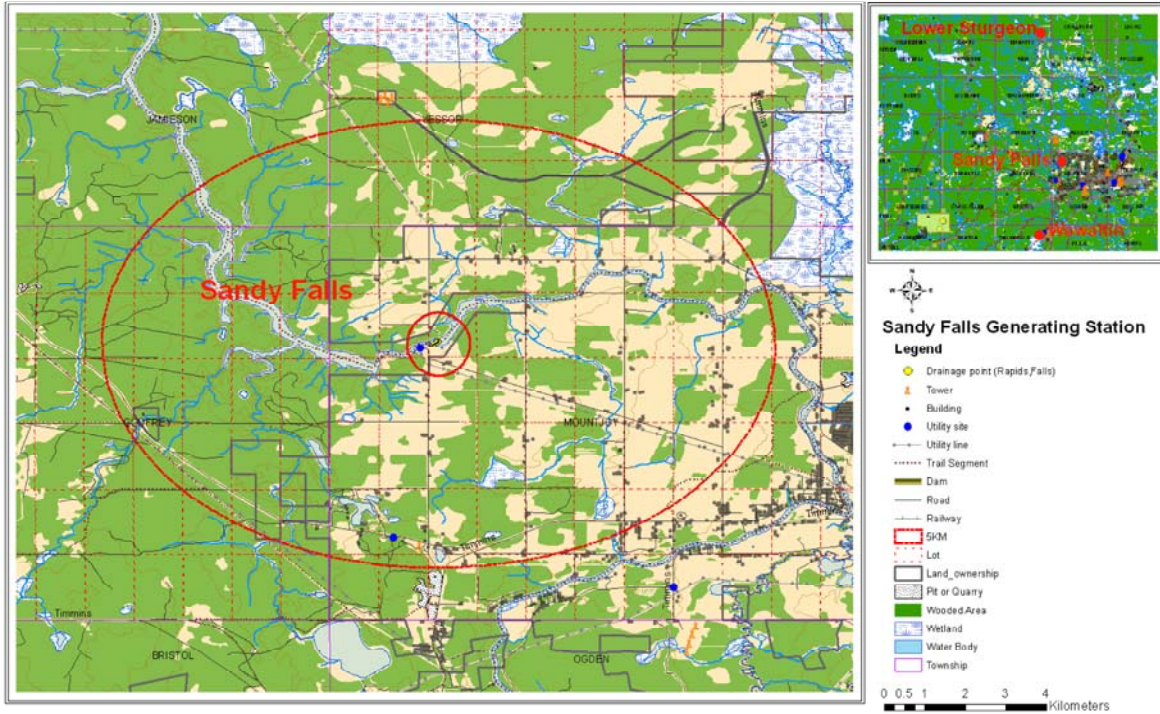
- Sandy Falls Generating Station is planned to be located adjacent to the existing powerhouse
- New powerhouse is expected to enclose one generating unit with an expected capacity of about 6 megawatts
- The intake structures and weir dam will need to be refurbished. The structures will be anchored and concrete surfaces repaired.
- No changes to water levels and flows





# Sandy Falls Generating Station

Public Open House - 2006



# Lower Sturgeon Generating Station

Public Open House - 2006

## Existing

- The Lower Sturgeon Generating Station was built in 1923
- The generating station has two units with a maximum output of 6 megawatts
- Located approximately 48 kilometres north of the City of Timmins, accessed by a road west of Highway No. 655
- A run-of-the-river plant, the facility operates according to the levels and flows identified in the Water Management Plan

## Proposed

- Lower Sturgeon Generating Station is planned to be located on the same footprint as the existing powerhouse
- New powerhouse will have an expected station capacity of approximately 14 megawatts
- No changes to water levels and flows
- Some of the civil structures will be rehabilitated to meet dam safety and life expectancy needs





# Lower Sturgeon Generating Station

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# Environmental Assessment Process

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- Conducted according to OPG's Class Environmental Assessment for Modifications to Hydroelectric Facilities under the Ontario *Environmental Assessment Act (EA Act)*
- Class EA Process is a three phase process
  - ◆ Phase 1 Involves the identification of the need or problem, analysis of alternatives and an assessment of the advantages and disadvantages of the alternatives
  - ◆ Phase 2 Involves the detailed environmental assessment. Studies are carried out on the natural, social and economic implications of the project
  - ◆ Phase 3 Is project implementation. The project is implemented and monitoring is carried out to ensure conformance with mitigation commitment and predicted environmental effects.



# Fisheries and Aquatic Studies – Wawa

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## Studies

- Spawning and Habitat Assessments completed in 2005 and 2006
- Bathymetry (river profile) completed in 2006

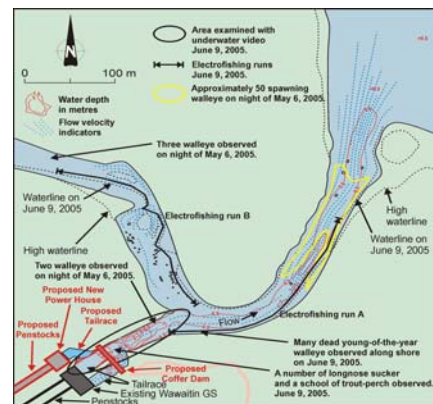
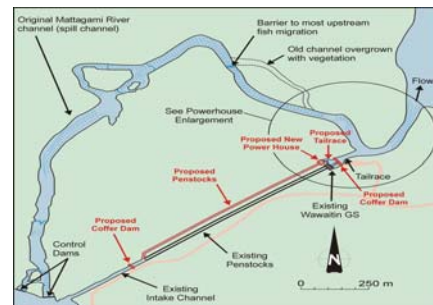
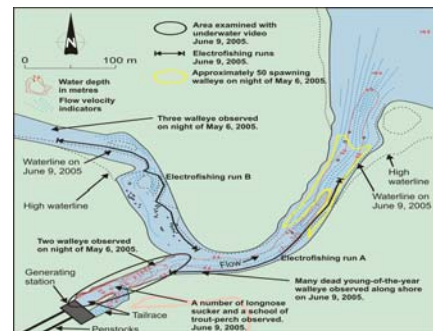


## Spawning

- Walleye spawn downstream of the tailrace and in the lower portion of the spillway by migrating from downstream areas
- Walleye cannot access the upper 3/4 of the spill channel due to a waterfall
- The location of the proposed works will not impact the existing spawning areas, and therefore the project will have no impact on spawning habitat

## Habitat

- One upstream and one downstream cofferdam will need to be used for demolition and construction activities
- Downstream cofferdam will result in only a temporary (12-14 months) loss of 0.1 hectares of habitat
- Upstream cofferdam will result in temporary (less than 6 months) loss of 0.06 hectares of habitat
- Fish will be transferred from cofferdam areas to the main channel during the de-watering



# Fisheries and Aquatic Studies – Sandy Falls

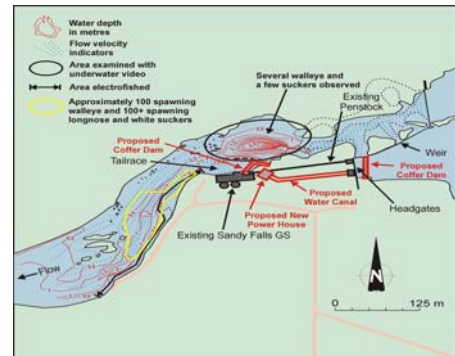
Public Open House - 2006

## Studies

- Spawning and Habitat Assessments completed in 2005 and 2006
- Bathymetry (river profile) completed in 2006

## Spawning

- Walleye spawning area downstream of the existing powerhouse
- OPG had originally planned to locate the powerhouse downstream of the existing powerhouse but moved it immediately upstream to proposed location in order to avoid impacts to the spawning habitat
- The location of the proposed powerhouse and cofferdam will not impact spawning habitat



## Habitat

- One upstream and one downstream cofferdams will need to be used for construction and demolition
- Downstream cofferdam will result in only a temporary (12-14 months) loss of 0.05 hectares of habitat.
- Upstream cofferdam will result in temporary loss of 0.09 hectares of habitat.
- Fish will be transferred from cofferdam areas to the main channel during the de-watering





# Fisheries and Aquatic Studies – Lower Sturgeon

Public Open House - 2006

## Studies

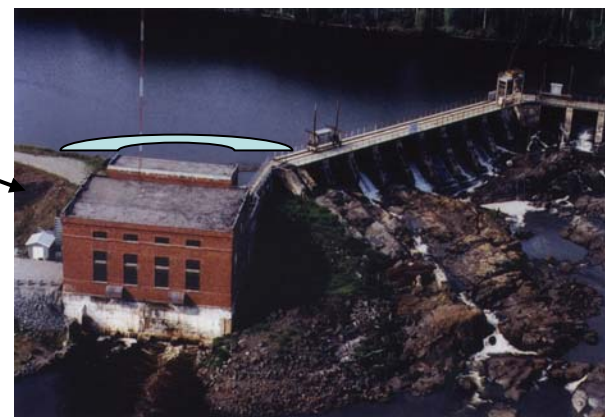
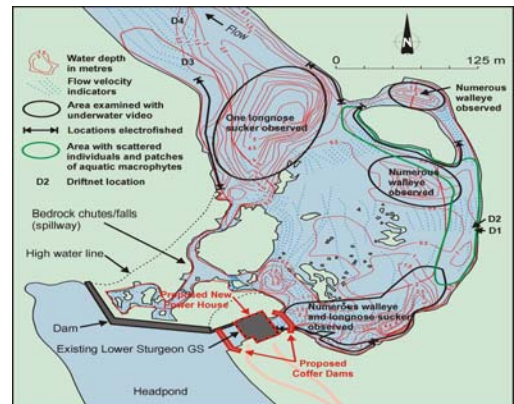
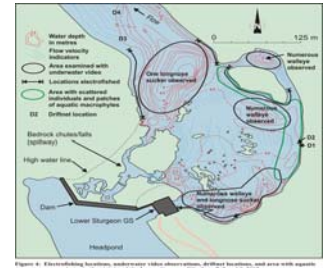
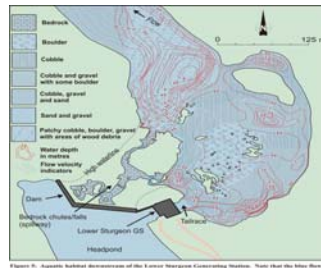
- Spawning and Habitat Assessments completed in 2005 and 2006
- Bathymetry completed in 2006

## Spawning

- Walleye spawn downstream of the powerhouse
- The location of the proposed works will not effect the area and therefore the project will have no impact on spawning habitat

## Habitat

- One upstream and one downstream cofferdam will need to be used for demolition and construction
- Downstream cofferdam will result in only a temporary (12-14 months ) loss of 0.11 hectares of habitat
- Upstream cofferdam will result in temporary loss of 0.05 hectares of habitat
- Fish will be transferred from cofferdam areas to the main channel during the de-watering





# Terrestrial Ecology Study

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## Studies

- Biologist visited the three sites to identify any habitat, vegetation and plants of significance

### Wawaitin

- Areas to be used during construction (new powerhouse location and construction staging areas) are largely cleared areas occupied by existing infrastructure
- An area with tree cover of less than one hectare will be cleared for the new powerhouse
- The primary tree cover in this area is balsam poplar. The area has been previously used for construction activities and has no ecological significance



### Sandy Falls

- Areas to be disturbed during construction (new powerhouse location and construction staging areas) are largely cleared areas occupied by existing infrastructure
- An area with partial tree cover of less than one hectare will be cleared for the new powerhouse
- The primary tree cover in this area is mixed forest along with some typical vegetation associated with a riparian area



### Lower Sturgeon

- Site has been cleared and vegetation is limited to grasses. Construction laydown area will occur on cleared/grassed areas
- Powerhouse will be built on existing site and therefore no tree/vegetation removal required



# Archaeological and First Nations Value Studies

Public Open House - 2006

- Stage 1 Archaeological Assessment was carried out for Wawaitin, Sandy Falls and Lower Sturgeon Generating Stations according to the Ministry of Culture Guidelines.
- Sites where disturbance will occur had low archaeological potential
- Based on the criteria for archaeological assessments no further assessments were required for Sandy Falls and Lower Sturgeon
- A Stage 2 archaeological assessment has been undertaken for Wawaitin and will not result in any additional work
- Mattagami First Nation values specialist was retained to identify any values at or near the three sites. None were identified
- Overall assessment is that there is no impact on archaeological or Mattagami First Nations values



# Cultural Heritage Resource Assessment Study

Public Open House - 2006

## Studies

- The study was carried out according to the *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* and *Guidelines on the Man-Made Heritage Component of Environmental Assessments*

## Significance

- A study undertaken in the early 1980s called, *Planning for Hydroelectric Generating Station as a Cultural Resource*, provided a preliminary ranking of Class A, B or C for the hydroelectric generating stations now owned by OPG. Class A stations were deemed to be those of the greatest heritage importance, Class B a good example of a type and Class C a fair example. Sandy Falls was identified as a Class C structure. Wawaitin and Lower Sturgeon were not identified in the study
- All three of the GSs meet three of eight provincial criteria for significance





## Impact and Mitigation Measures

- While retention of the powerhouses could not be considered for several factors including cost, constructability, liability, public safety and security, aesthetics and recreation and risk to the natural environment, OPG is committed to recognizing these facilities and is therefore recommending the following mitigation measures:
- Maintaining the general location of infrastructure elements (roads, transmission lines, dams, general location of penstocks and powerhouses) in the same location as old elements and thereby maintaining the cultural heritage landscape;
- Retaining some equipment and offering it to the local museum or other heritage institutions; and,
- Collecting and preparing documentation on the history of the facilities.



# Socio-Economics and Land-Use

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## Land-Use and Social Uses

- Wawaitin and Sandy Falls Generating Stations are within Timmins municipal boundaries and are recognized in the City's Official Plan
- Lower Sturgeon is located in unincorporated land
- As these are existing stations there are no changes with respect to impacts on land use
- Other existing use activities near the stations (e.g., crown land fishing, hunting, canoeing) will not be impacted by the project
- Public access will not change from present

## Economic

- Project will ensure the continuation of permanent employment associated with these facilities
- Construction expenditure of \$29M - \$38M in Northeastern Ontario
- 370 – 490 estimated person years of employment (direct and indirect) in NE Ontario





# Field Investigations

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- A field investigation program looked at soils, bedrock, concrete, bathymetry, topography and diving inspection at all three sites
- The sites were also examined for potential contamination and the acid generation potential of the bedrock
- No impediments to proposed construction have been identified





# Mitigation of Environmental Impacts

Public Open House - 2006

## Environmental Impacts and Mitigation

- As these facilities currently exist and there is no change to the Water Management Plan, new environmental impacts will be associated with construction activities
- These impacts can be mitigated through environmental assessment planning, environmental management of construction and monitoring
- The most important mitigation measures of construction will include the following:
  - ◆ Controlling for erosion and sediment
  - ◆ Proper installation and management of cofferdams.
  - ◆ Waste management and Emergency Preparedness



# Air and Noise Studies

Public Open House - 2006

- **No air impacts associated with operation of generating stations. Noise impacts are mitigated because the equipment is located in the powerhouse**
- **During construction there will be localized noise and minor dust emissions – typical for construction sites**
- **GPS locations of noise/air sources and closest receptors have been identified at each of the 3 generating stations.**
- **Compliance required with local noise requirements**



# What are the Benefits of the Project

Public Open House - 2006

- Adds 16 MW of clean renewable electricity to the Province's supply
- Economic benefit of operation of these stations will continue
- Economic benefits during the construction period to Timmins and Northeastern Ontario economy
- Frees up a Transmission corridor from Timmins to Sudbury
- Environmental impacts are temporary, minor and can be mitigated



# Project – Next Steps

Public Open House - 2006

- Public Comments from 2<sup>nd</sup> Open House (open for comments until end of October)
- Draft Technical Studies and Environmental Assessment Report (October – November 2006)
- Submit to Agencies for Review (December 2006)
- EA Approval (January 2007)
- Retain Design-Build Contractor (May 2007)
- Obtain Permits for Project (May 2007)
- Initiate Construction (Summer 2007)

# We Value Your Opinion

Public Open House - 2006

- Please take the time to ask questions and complete the Comment Sheets

**PUBLIC COMMENT SHEET**  
FOR ENVIRONMENTAL ASSESSMENT OF THE PROPOSED REDEVELOPMENT OF THE  
GENERATING STATION

Do you have any comments about the proposed re-development of the Generating Station?

Are you aware of any significant environmental, social or economic feature or value near these sites that we need to have consideration for?

Do you have any other comments about the project that you would like to identify?

Please provide your contact information below:

Name: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Street Address: \_\_\_\_\_ Email: \_\_\_\_\_  
City: \_\_\_\_\_ Phone number: \_\_\_\_\_  
Fax: \_\_\_\_\_

If you have any questions or comments about the project in the future please contact either:

Ed Dobrowolski, Project Manager 700 University Avenue, H18 C16	Phil Shantz, Senior Planner SENES Consultants Limited
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ONTARIO **POWER**  
GENERATION



# Water Management Planning

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- In 2001, the Ministry of Natural Resources introduced Water Management Planning to Ontario
- This planning is a consultative process that co-ordinates the MNR, OPG and local stakeholders to explore sustainable solutions for water resources management
- In 2002, considerable progress was made in developing water management plans for the provincially regulated river systems
- Inter-provincial and international river systems are governed by other agreements and treaties. As part of the process, Steering, Planning and Public Advisory Committees were established to develop plans for river systems connected to OPG's Northeast Plant Group
- OPG fully supports Water Management Planning and has incorporated this process into its long-term business plans
- The process provides guidelines that will assist OPG in balancing each region's unique social, cultural and recreational interests with OPG's business mandate to generate safe, reliable and economically competitive electricity
- The proposed redevelopment will continue to operate as a run-of-the-river facility and be managed so that there is no change to the water levels and flows