



Keeyask Generation Project

Environmental Impact Statement

Supporting Volume
Public Involvement



June 2012

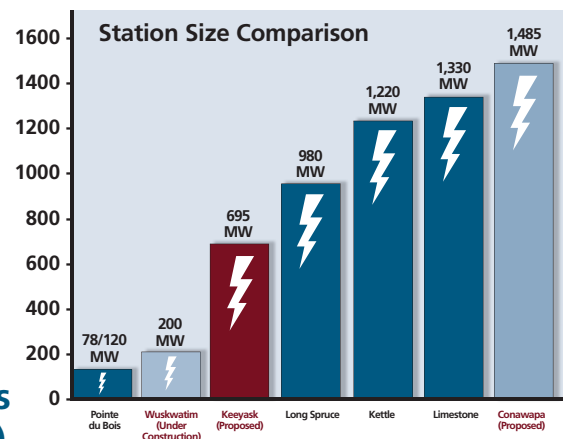
Proposed Keeyask Generation Project

- The Keeyask Project is being studied for possible hydroelectric development in the foreseeable future. The Keeyask Project is in the Split Lake Resource Management Area. The Fox Lake Resource Management Area is downstream; the largest portion of the York Factory Resource Management Area is also downstream; a smaller portion is generally within the boundaries of the Split Lake Resource Management Area
- The project is still at a planning and discussion stage
- No decision has been made to go forward with the project
- Planning and environmental studies have started for the project with data collection and analysis
- While additional transmission capacity would be required to transmit power from Keeyask, planning for the transmission project is proceeding independently of the generation project for reliability and security of the electrical system
- The Conawapa Project is also being studied for possible hydroelectric development, but is not part of the current process. The Conawapa Project is in the Fox Lake Resource Management Area. The Split Lake Resource Management Area is upstream; the largest portion of the York Factory Resource Management Area is also downstream; a smaller portion is generally within the boundaries of the Split Lake Resource Management Area



Keeyask Project - Overview

- Keeyask would be the fourth largest of Manitoba Hydro's current generating stations
- Approximate generating capacity:
 - Nominal capacity: 695 megawatts
 - Average annual energy production: 4,400 gigawatt hours
- Generator units: 7
- Flooded land area: 45 square kilometers (may gradually increase due to erosion)
- Total reservoir area of Keeyask Generating Station: 93 square kilometers
- Length of reservoir: Approximately 40 kilometers
- Construction period: Approximately 7 to 8 years
- Construction completed: 2020



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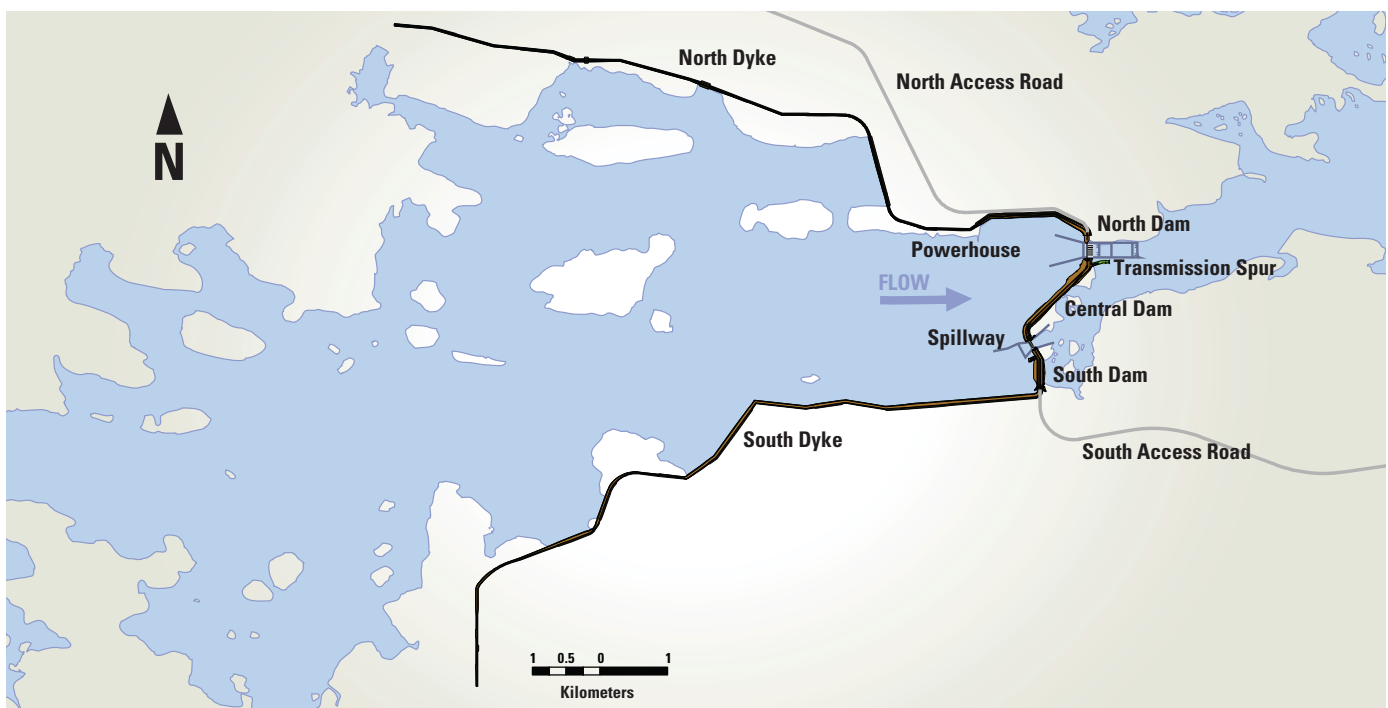
Keeyask Project Components and Construction Activities

Principal Structures

- Powerhouse
- Spillway
- Dams – central, north, and south
- Dykes
- Transmission tower spur

Supporting Infrastructure

- Access roads
- Cofferdams
- Worker accommodations
- Storage areas
- Offices



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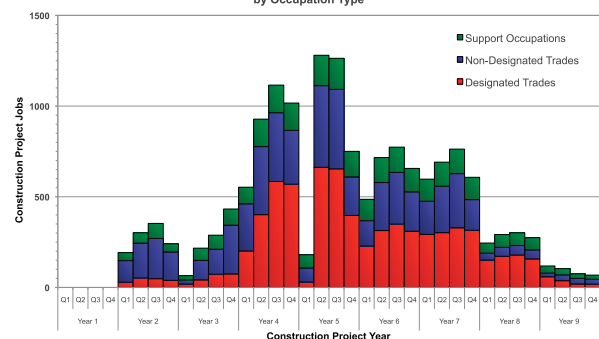
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Keeyask Construction Employment

- **Estimated 4500 total person-years of employment**
- **Total of 7 to 8 years of construction**
- **Construction occupations include:**
 - *Designated trades (e.g., electrician, plumber)*
 - *Non-designated trades (e.g., heavy equipment operator, truck driver, labourer)*
 - *Support occupations (e.g., clerks, cooks/ catering, security)*
- **Pre-project training of Aboriginal people under the Hydro Northern Training and Employment Initiative for the Wuskwatim and Keeyask Projects* has resulted in:**
 - *1402 trainees participated in 3272 training activities*
 - *627 individuals completed project-related trades or occupational training*
 - *Of the 627, there are 13 certified journeypersons, 135 active apprentices and 97 pre-apprenticeship trainees*
 - *Aboriginal partners report 267 individuals employed in jobs related to training completed, as well as other occupations*

**Up to March 2007*

Keeyask Construction Workforce Requirement by Occupation Type



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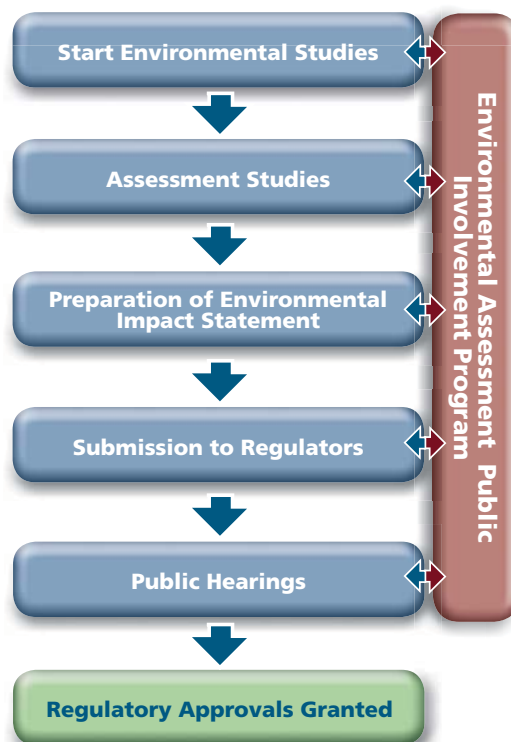
Potential Keeyask Project Partnership

- Manitoba Hydro is exploring the potential of a partnership with in-vicinity Keeyask Cree Nations (KCN) – Tataskweyak Cree Nation and War Lake First Nation (acting as the Cree Nation Partners), Fox Lake Cree Nation and York Factory First Nation
- The parties are currently negotiating a Joint Keeyask Development Agreement (JKDA) or agreement that would govern how the project would be developed, as well as setting out understandings related to potential income opportunities, training, employment, business opportunities and other related matters
- Keeyask would proceed at this time only with a positive vote on the JKDA by the KCN represented by a majority of the population



Environmental Approvals

- **An environmental assessment will be completed for the project to:**
 - *Identify potential effects the project may have on the environment and people*
 - *Determine ways to avoid, reduce or mitigate potential negative effects*
 - *Determine ways to enhance potential positive effects*
 - *Develop follow-up and monitoring programs*
- **An environmental impact statement will report on the results of these studies and will be available to the public**
- **The project is subject to review under the Canadian Environmental Assessment Act and the Manitoba Environment Act, as well as other federal and provincial legislation. Public hearings are anticipated**

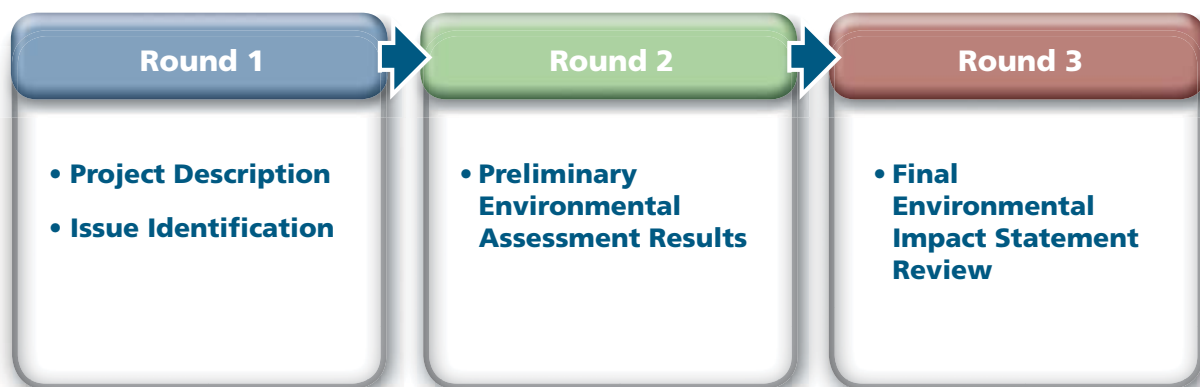


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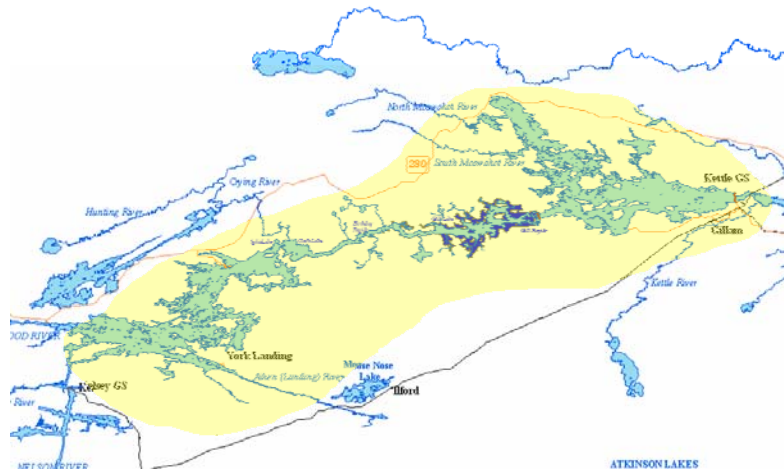
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Public Involvement Opportunities

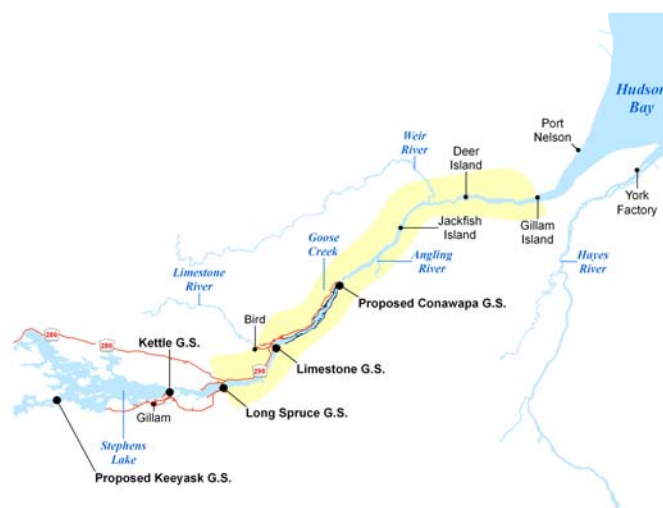
- Public involvement is a key element of the Environmental Impact Assessment (EIA) activities for the project
- Round 1 of the Public Involvement Program will introduce the project and begin the process of public involvement – this will be followed by further opportunities to review information and to provide input



Keeyask G.S. Hydraulic Zone of Influence



Conawapa G.S. Hydraulic Zone of Influence



Round 1 Consultation

Purpose

- To introduce the Keeyask Generation Project to the public
- To learn about any issues or concerns that the public may have about the project
- To hear from the public how they wish to be consulted in further rounds of the Public Involvement Program

Variety of Methods

- Meetings, workshops, open houses
- Newsletter, information panels
- Website



Target Audiences

Those potentially affected by or interested in the proposed project:

- **Communities**

- *Focus on Churchill-Burntwood-Nelson area*
- *Other First Nations beyond the KCN*
- *Gillam, Thompson*
- *Northern Affairs communities*

- **Organizations**

- *Manitoba Keewatinowi Okimakanak*
- *Keewatin Tribal Council*
- *Manitoba Métis Federation*
- *Northern Association of Community Councils*
- *Environmental non-government organizations*
- *Interested groups/organizations (e.g., outfitters/lodge operators)*
- *General public*



Keeyask Environmental Studies

- Since 2001, Manitoba Hydro has been working with local Cree Nations to collect information that will contribute to the environmental assessment study of the project
- So far, studies of the existing environment have considered:
 - *Physical environment*
 - *Terrestrial and aquatic environment*
 - *Heritage resources*
 - *Resource use (started 2007)*
 - *Socio-economic environment (started 2007)*
- In addition, the Keeyask Cree Nations have been undertaking their own community studies
- Manitoba Hydro and its potential Cree Nation partners are committed to using both western science-based knowledge and traditional knowledge in the Keeyask Environmental Impact Statement



Do You Have Questions, Concerns or Issues about the Proposed Project?

Mailing Address

Keeyask Project
Public Involvement Program
Major Projects Licensing Department
Manitoba Hydro
820 Taylor Ave.
Winnipeg, MB R3C 2P4

Website

www.hydro.mb.ca/keeyask



Keeyask Physical Environment Studies

Studies completed or underway:

- Air quality
- Climate
- Geology and soils
- Water levels and flows
- Thermal regime
- Ice processes
- Erosion and sedimentation
- Debris
- Water quality



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Keeyask Aquatic Studies

Studies completed or underway:

- Aquatic habitat
- Aquatic plants and invertebrates
- Fish community – populations, spawning, and movements
- Lake sturgeon – species of special interest
- Fish quality – mercury



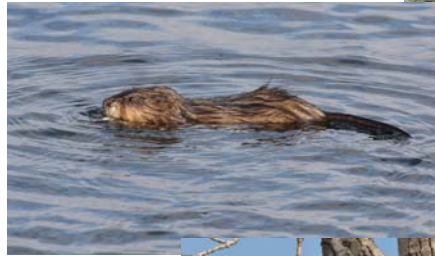
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Keeyask Terrestrial Studies

Studies completed or underway:

- Vegetated habitat classification and mapping
- Rare plants
- Insects
- Amphibians
- Songbirds, raptors and waterfowl
- Small mammals (e.g. voles, rabbits, mice)
- Furbearers (e.g. beaver, muskrat, mink, otter)
- Large mammals (e.g. caribou, moose)



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Keeyask Heritage Resource Studies

Studies completed or underway:

- Burial sites
- Heritage resources, such as pottery or bone fragments from pre-contact to the historic period
- Culturally important sites



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Keeyask Socio-Economic and Resource Use Studies

Studies completed or underway:

- Land and resource use for traditional, recreational and commercial purposes
- Local and regional economy, including employment and business
- Population, housing, infrastructure and services
- Transportation, navigation safety and access
- Outdoor recreation
- Community health
- Culture
- Social well-being and quality of life



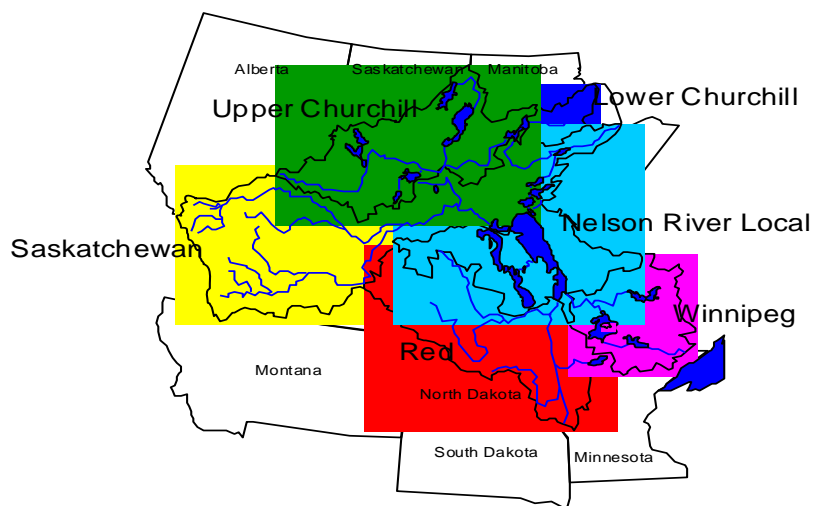
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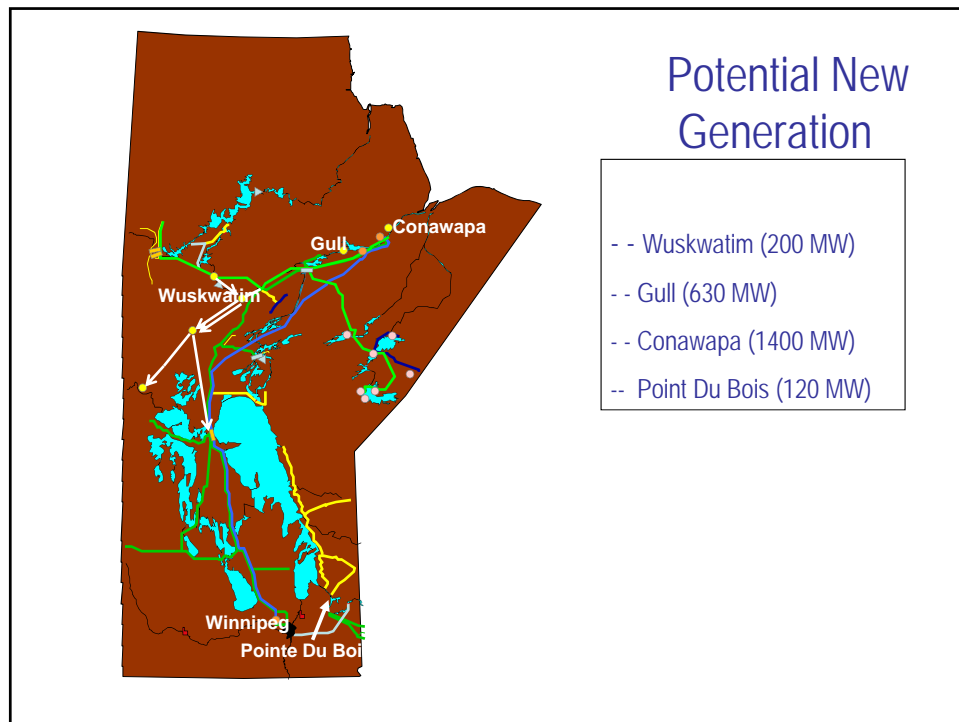
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Article 9 Presentation

May 13, 2009

Nelson - Churchill Drainage Basin





Definition Hydraulic System Effects

Operational changes to major MH
reservoirs which result from a change in
the supply and demand of energy

Supply Changes: Examples

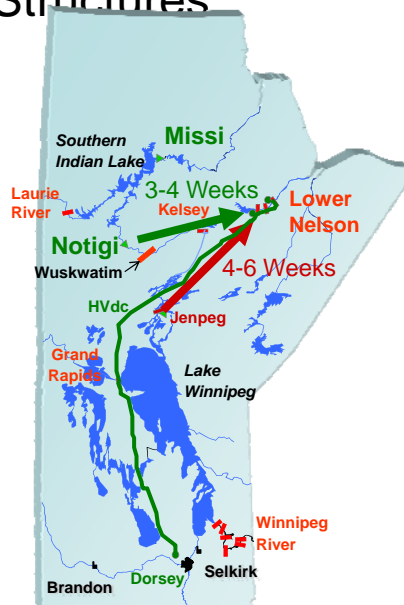
- New generating station (hydro, coal, gas, wind, etc)
- Additional water supply
- Additional reservoir storage
- Enhanced conveyance capacity of river channels
- Import energy supply
 - Availability
 - Cost

Demand Changes: Examples

- Manitoba domestic energy demand
 - Total demand
 - Seasonality of demand
 - Hourly/daily demand
- Export sales
 - Cost of export energy
 - Transmission capability

MH Generating Stations and Control Structures

- **Hydro (4,900 MW)**
 - Winnipeg River
 - Grand Rapids
 - Jenpeg
 - Kelsey
 - Laurie River
 - Lower Nelson
- **Lake Winnipeg Regulation**
 - Jenpeg Control
- **Churchill River Diversion**
 - Notigi Control
 - Missi Control
- **Thermal (500 MW)**
 - Selkirk Gas
 - Brandon Coal and GT



Average Annual Energy (GWh/yr)

