

# Bipole III Transmission Project

Clean Environment Commission  
Public Hearings  
Fall 2012

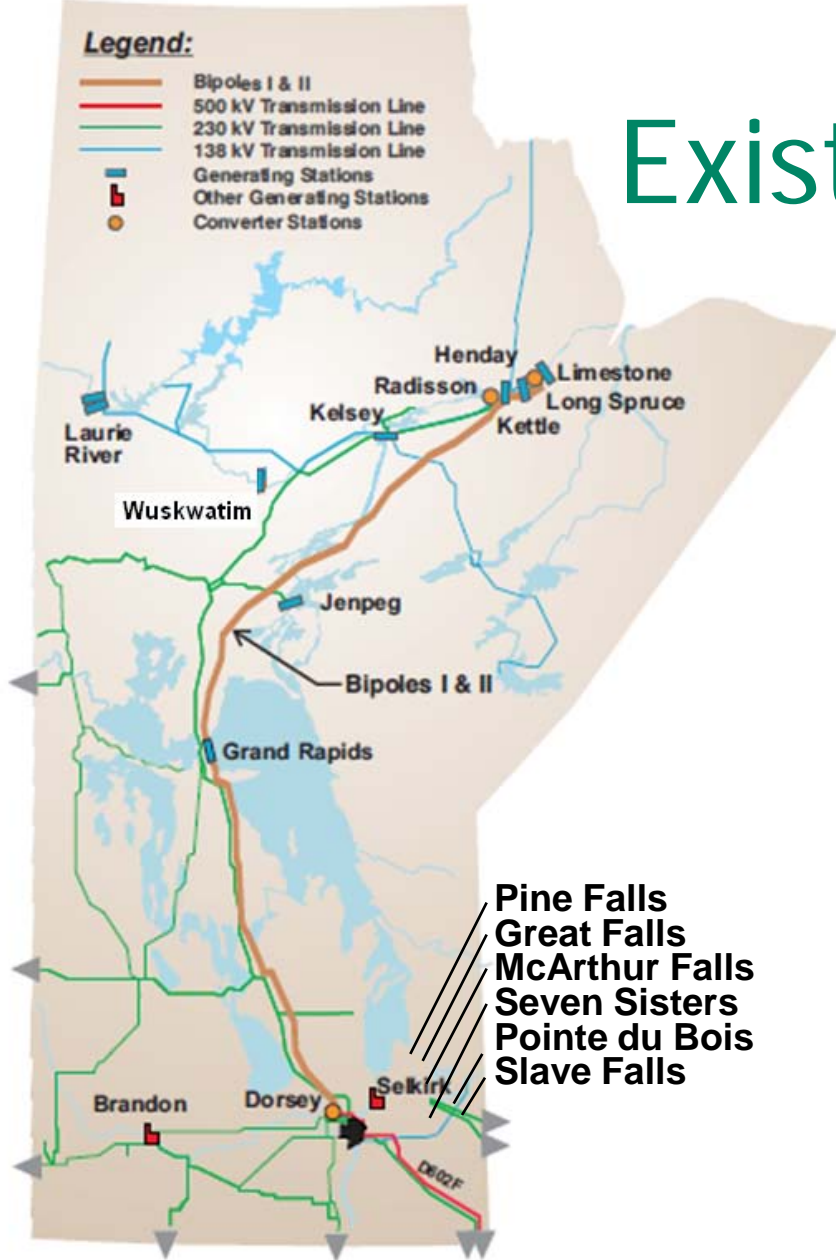
*System Design*  
*Gerald Neufeld*

# Overview

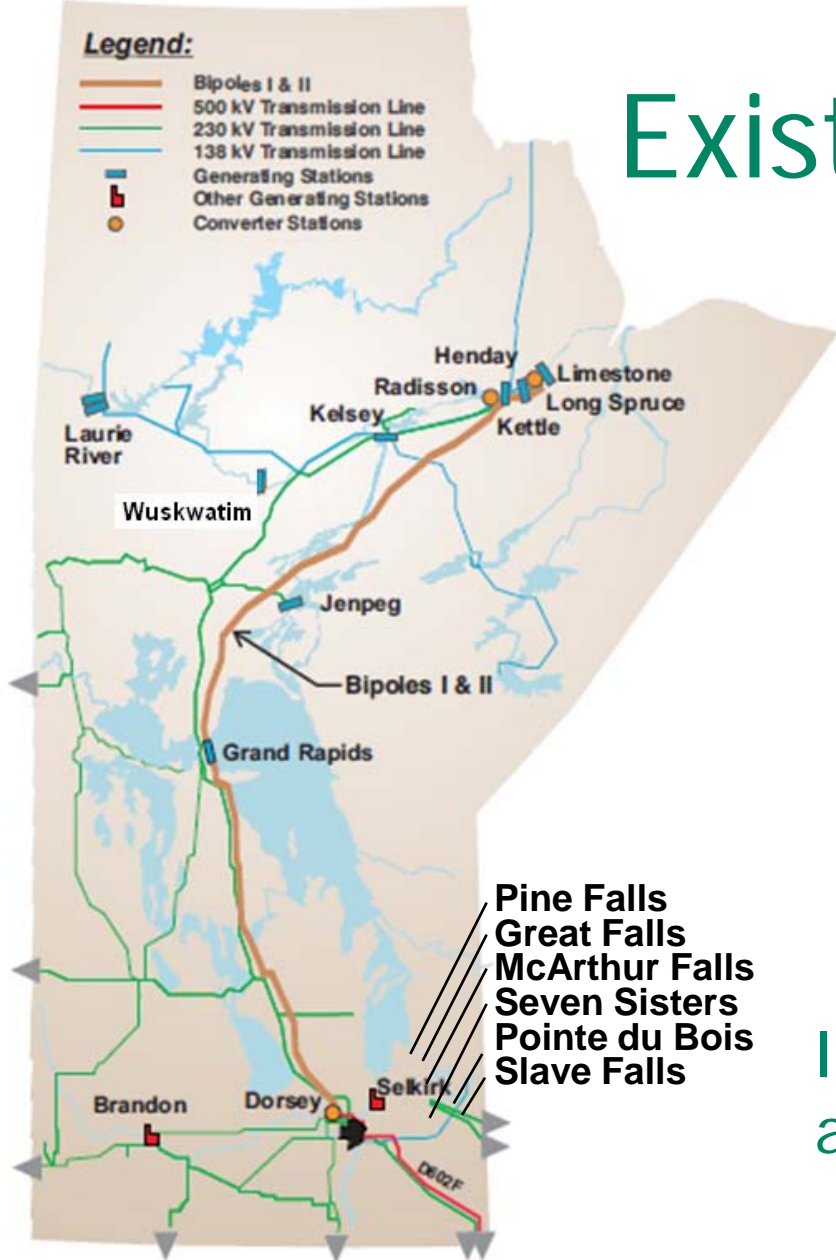
- Existing System
- Project Description
- Environmental Assessment Process
- Sustainable Development
- Construction Planning
- BPIII: Solution to our Energy Shortfall Problem

# Existing System

High level - how it works



# Existing System



- High Voltage Transmission Lines**
- 500 kV HVDC: 1843 km (blue) –BP I & II
  - 500 kV AC: 209 km (red)
  - 230 kV AC: 5000 km (green)
  - 138 kV AC: 1400 km (light blue)
  - 115 kV AC: 2900 km (orange)
- Interconnections**
- Saskatchewan:
    - 3x230 kV & 2x115 kV
  - Ontario:
    - 2x230 kV & 1x115 kV
  - United States:
    - 1x500 kV & 3x230 kV

Installed 18,500 kilometres (km) of ac transmission lines from 33 kV to 500 kV in last 60 years

# Existing System

Line or Site Designation	PROJECT	Licence Number	Date Issued
KN36	Kettle - Limestone 138 kV Line	1209	1988 07 29
SK1	Seven Sisters - Star Lake 138 kV Line	1225	1988 09 09
A3R Tap to Silver	A3R to Silver 230 kV Line	1238	1988 11 18
R29H	Reston-Virden 230 kV Line	1277	1989 07 10
Nelson River Crossing	Bipole II Backup - Nelson River Crossing	1479	1991 06 10
RF58, FC56	Flin Flon Ross Lake - Cliff Lake 115 kV Line	1555	1992 05 19
KS37	Split Lake 138 kV Line (INCL Split Lake Stn & Distribution)	1579	1992 07 29
B69R, B70H	Raven Lake - Birtle - Virden 230 kV Line	1674	1993 05 25
GG64, GW62, HG61, KH38	North Central Project (138 kV) (incl Stns.)	1741	1994 02 07
H59C	Stall Lake - Flin Flon 230 kV Line	1843	1994 06 06
SG12	ST2-Beausejour East Station 115 kV Line	2045	1995 06 02
D54C	Winnipeg-Neepawa-Brandon 230 kV Line	2120	1995 10 02
VT63	St. Vital - Ile des Chenes (TCPL) 115 kV Line	2237	1996 12 20
S65R	Rosser - Silver 230kv T/Line	2347	1998 07 28
BD52, BK41	BD52 / BK41 Rebuild	2357	1998 10 01
HS 15	Flin Flon Improvements	2386	1999 03 03
D72V	Dorsey - St. Vital 230 kV T/Line	2433	1999 11 17
G82R	Glenboro - Rugby 230kv T/Line	2529	2001 11 19
W73/74H, H75P, B76W	Wuskwatim Transmission Lines	2700	2006 06 21

**Environment Act proclaimed in force March 31, 1988.**

- **Requires assessment of transmission lines 115kV and over.**
- **Licensing & Environmental Assessment Dept.**
  - **10 professionals**
  - **Expert consultants**

# Project Description

- Northern Converter
  - Keewatinoow CS
    - 79 km from Gillam
    - Converts AC power to DC (rectifier)
- Southern Converter - Riel CS
  - just outside Winnipeg
  - Converts DC power to AC (inverter)
- Keewatinoow – Riel dc transmission line

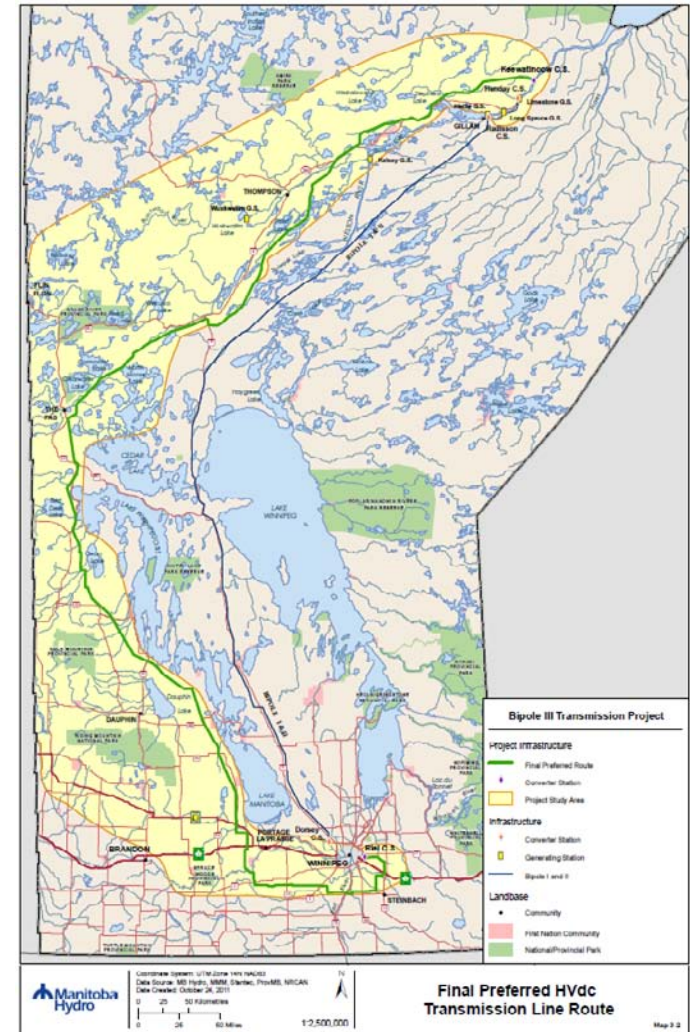




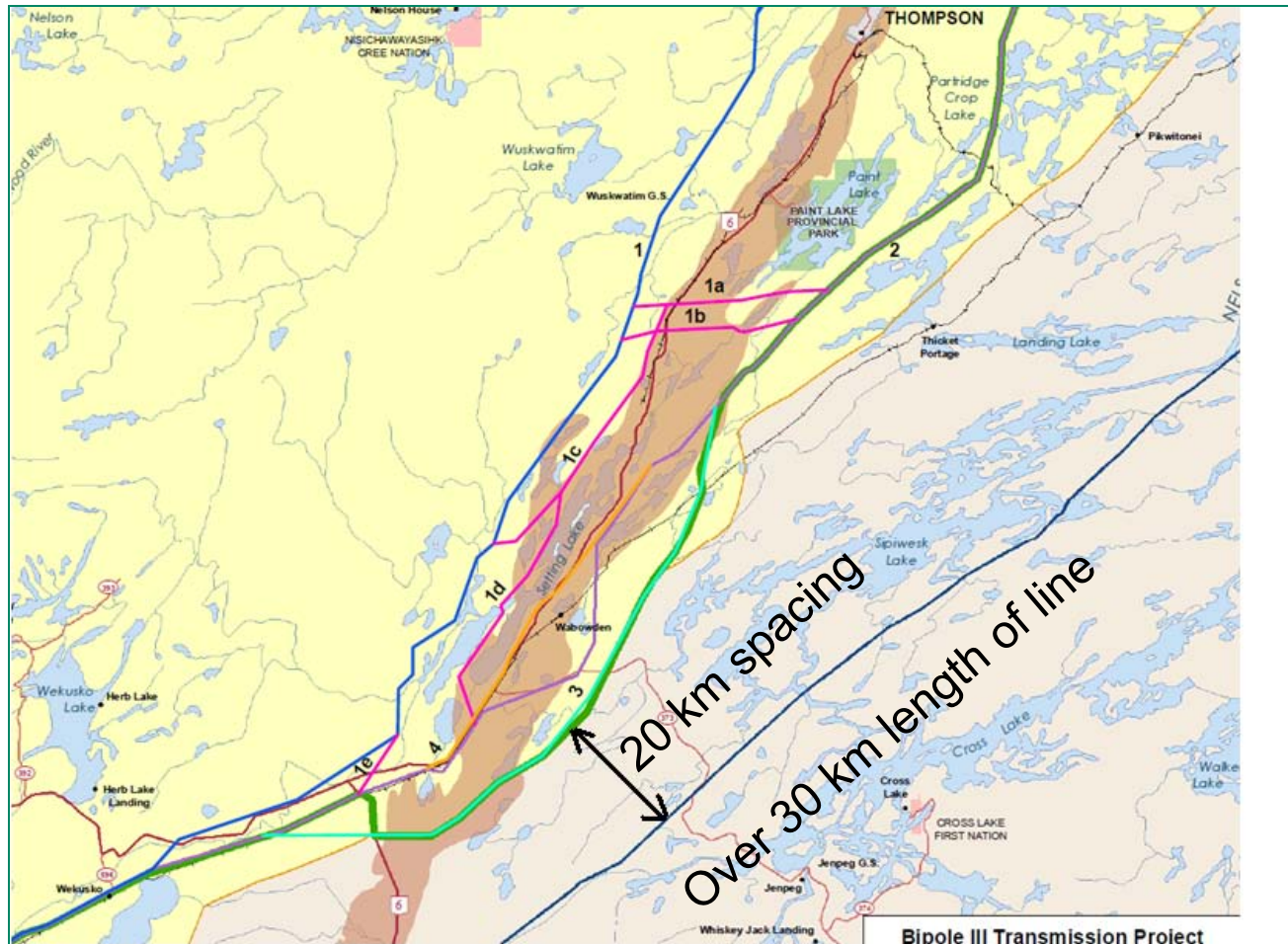
# Environmental Assessment Process

## Final Preferred Route

- Length of line: 1,384 km
  - Right-of-way width: 66m
  - Crown lands: 931 km (67%)
  - Private lands: 454 km (33%)
- 436 private landowners

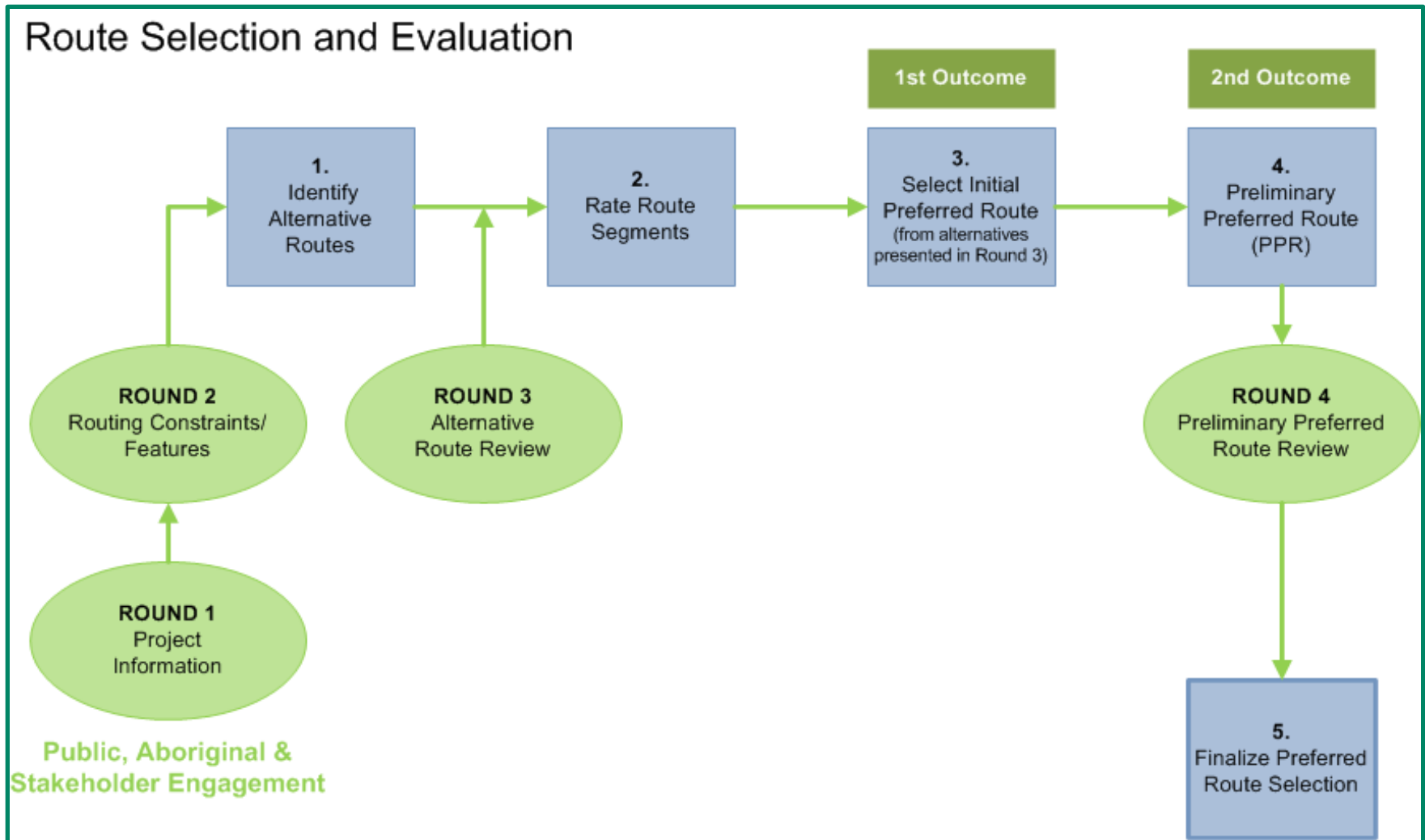


# Environmental Assessment Process





# Environmental Assessment Process



# Sustainable Development

- Manitoba Hydro

- Committed to incorporating sustainability into all aspects of its operations
- Meets the needs of the present without compromising the future

1. Stewardship
2. Shared responsibility
3. Integration of environmental and economic decisions
4. Economic enhancement
5. Efficient use of resources
6. Prevention and remedy
7. Conservation
8. Waste minimization
9. Access to adequate information
10. Public participation
11. Understanding and respect
12. Scientific and technological innovation
13. Global responsibility

# Sustainable Development

Examples:

## #3 – Integration of Environmental and Economic decisions:

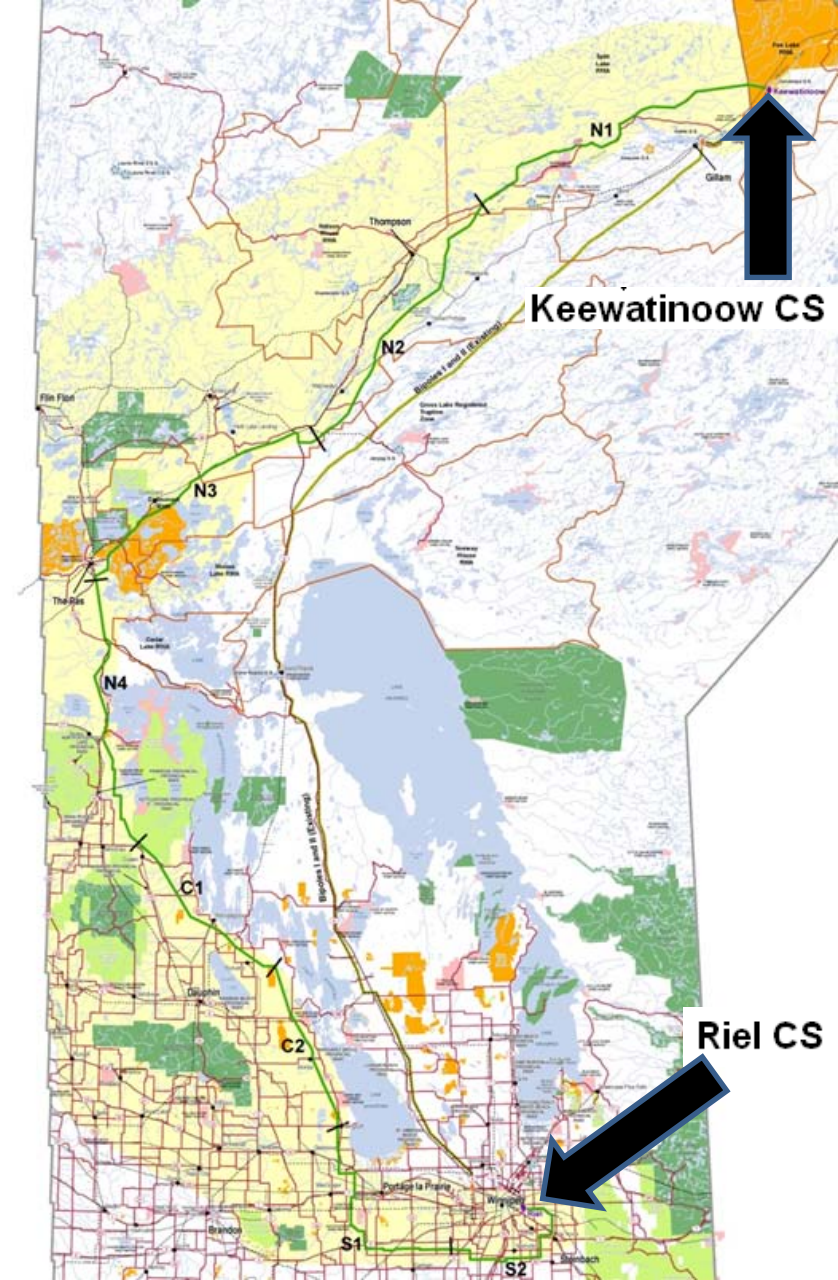
- Goal of site selection process was to balance environmental, economic and social considerations in identifying alternative routes and ultimately selecting the FPR.

## #10 – Public Participation:

- An extensive four round consultation program was undertaken with governments, stakeholders, Aboriginal groups and the public to assist in the selection of the preferred route and to identify issues to be addressed in the environmental assessment of the preferred route.

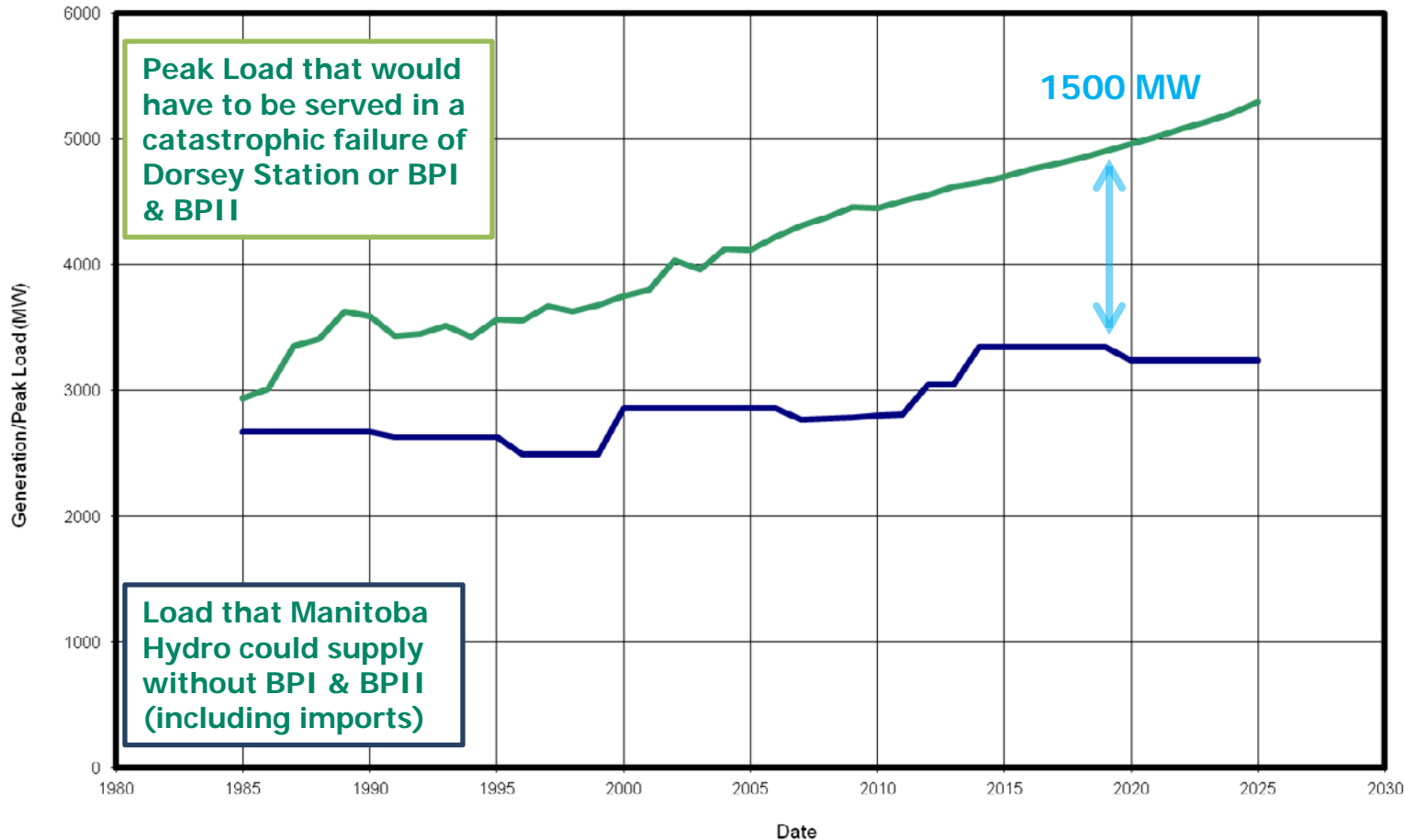
# Construction Planning

- Keewatinooow CS
- Transmission line
  - 8 construction segments
- Riel CS



# Manitoba Needs Bipole III

## Manitoba Load Serving Capability without Dorsey



BPIII:  
solution  
to our  
energy  
shortfall  
problem



# Thank you