Manitoba Minnesota Transmission Project

Round 2

Refined Alternative Routes and Preferred Border Crossing

Spring 2014

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Project Need

- Export electric power based on current sales agreements
- Increase access to markets in the United States
- Improve reliability and import capacity in emergency and drought situations

This project is part of Manitoba Hydro's preferred development plan

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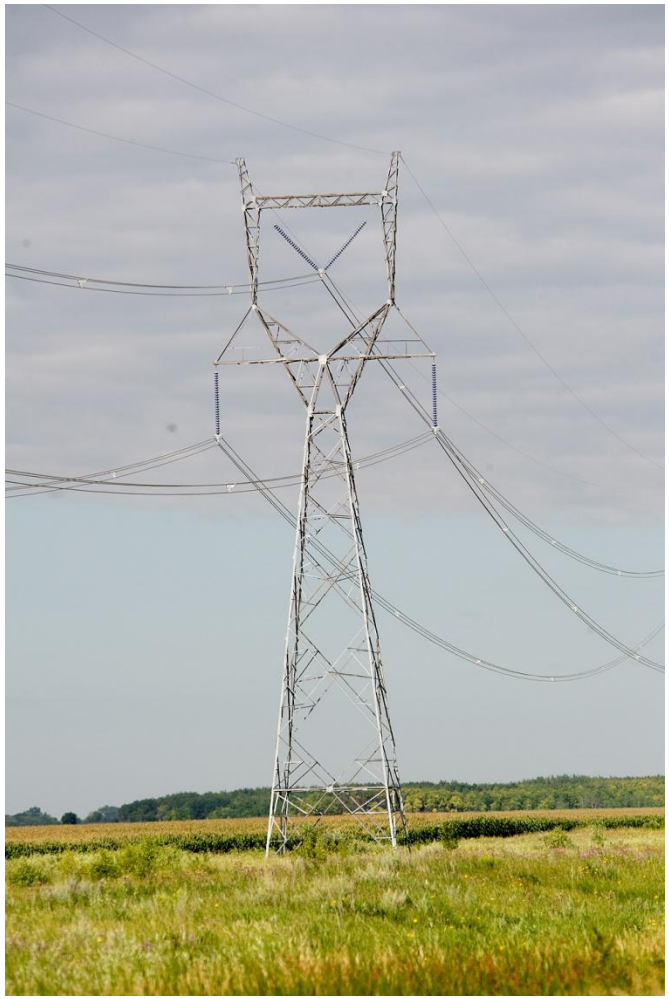
Current System



- 4 existing transmission lines to U.S
  - (3 – 230 kV and 1 – 500 kV)
- MMTP would be the second 500 kV AC line to the US (D602F existing)

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Project Description

- Will connect to the Great Northern Transmission Line, constructed by Minnesota Power south of Piney, Manitoba
- Anticipated in-service date is 2020.
- Estimated cost is $350 million.

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Project Description

- Improvements to three stations (Dorsey, Riel, Glenboro)
- 500 kV AC Transmission Line
- From Dorsey Station to MB-MN Border
- Anticipated tower heights: 40-60 m
- Anticipated Right-of-way: 80-100 m
- Anticipated tower spacing: 400-500 m (typical 450 m)

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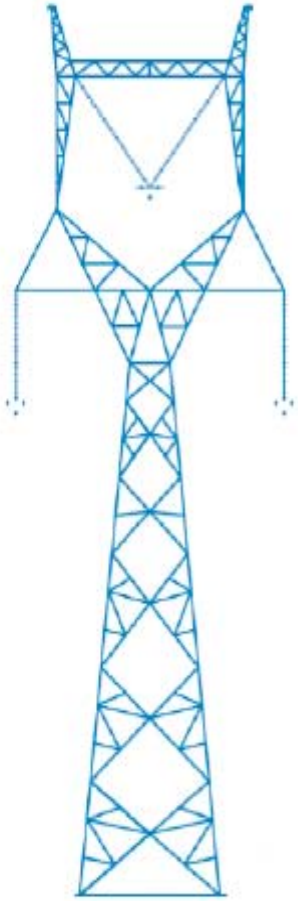
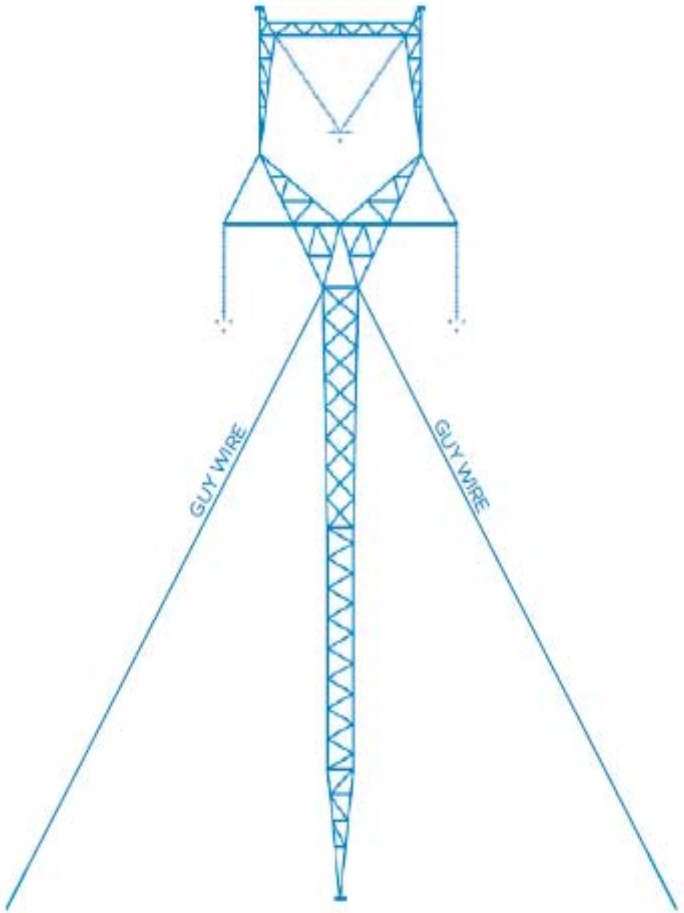
Preliminary Tower Design



500-kV Self-Supporting Lattice Steel Tower

(Towers are not drawn to scale — conceptual only.)



500-kV Guyed Suspension Steel Tower

(Angle of guy wires depicted on tower are not accurate — conceptual only.)

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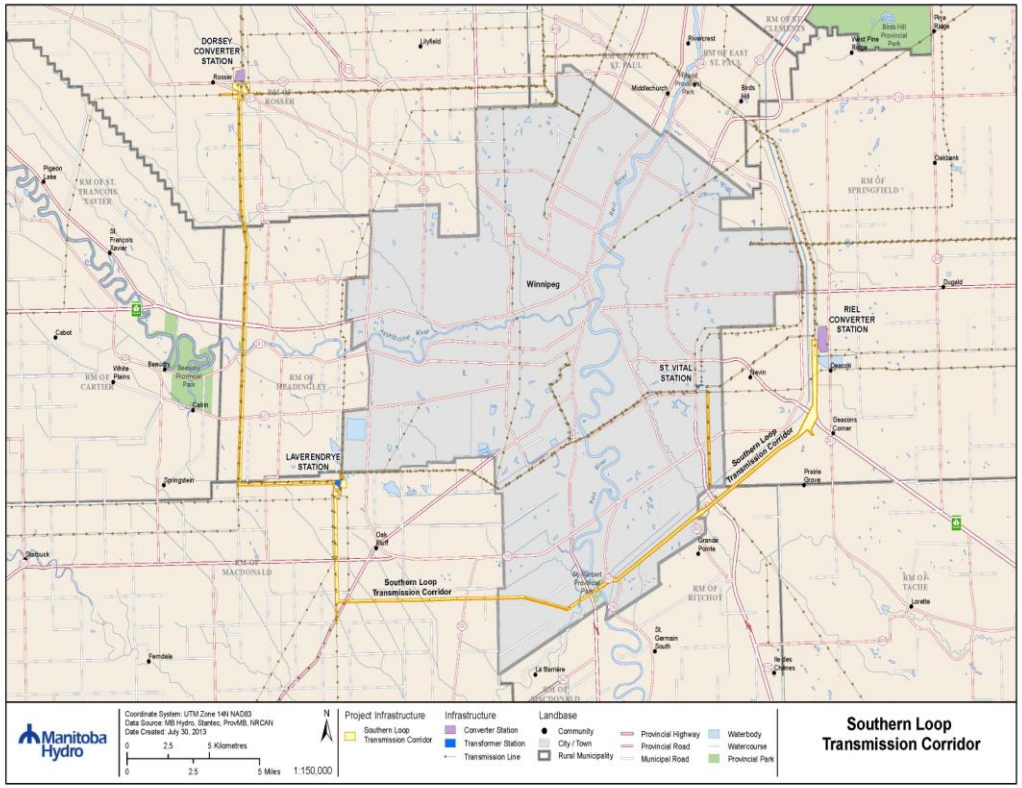
Southern Loop Transmission Corridor

- Dedicated transmission corridor
- Accommodates multiple transmission lines
- Consolidates transmission line rights-of-way on the landscape.



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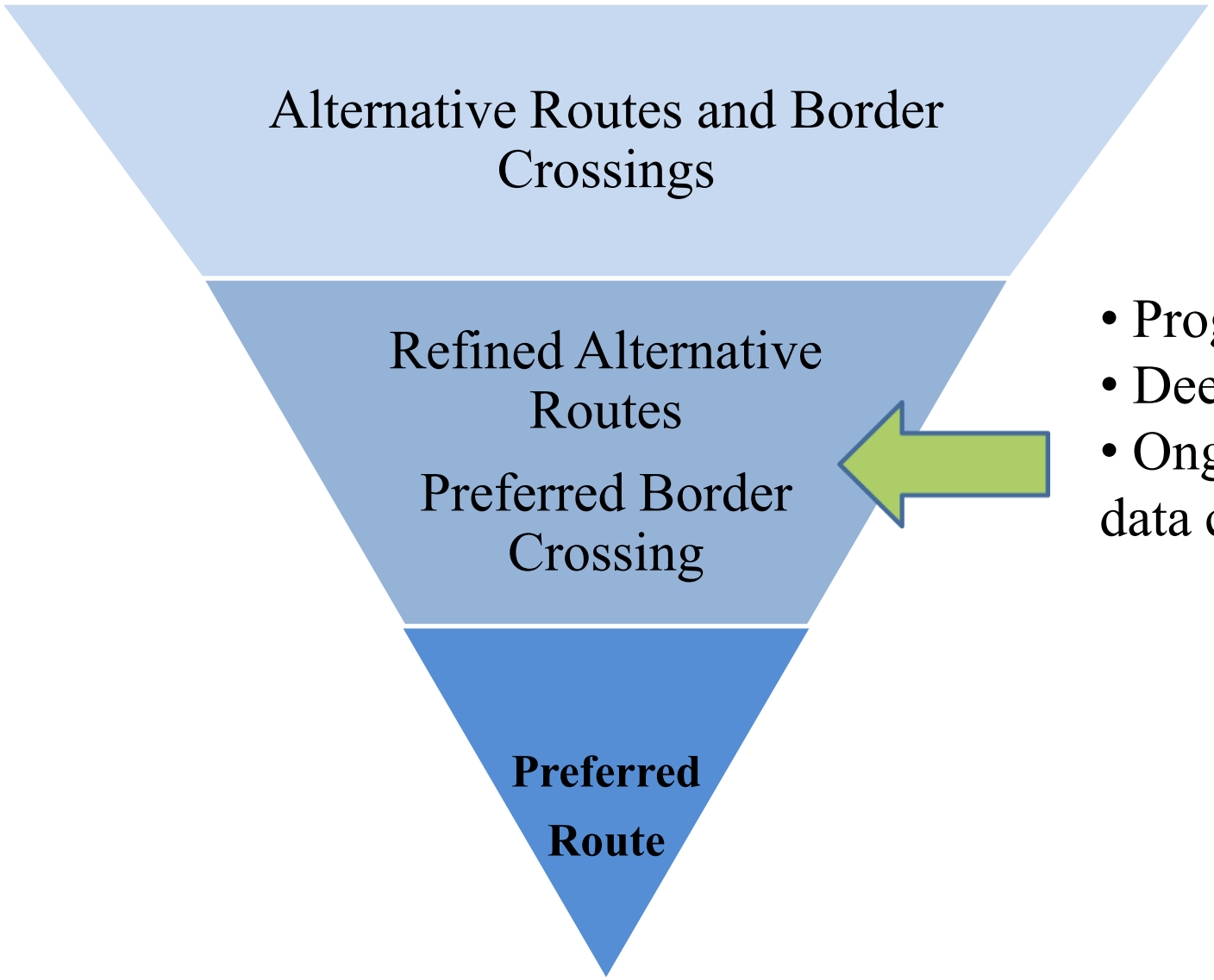
Routing Process



- Progressive refinement
- Deepening of analysis
- Ongoing analysis and data collection

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How were alternative routes refined?

- Data was developed for each route segment including acres of various farmland classes, proximity to homes, cost, acres of wetland traversed, etc.
- Additional segments were created based on feedback received and considered
- Over 700,000 routes were evaluated from various perspectives and preferred routes were carried forward for further comparison

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Alternative Route Evaluation Criteria

- Developed by Manitoba Hydro
- Informed by stakeholder input
- Used to compare multiple route options against each other
    - Engineering
    - Natural
    - Built

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Alternative Route Selection

- The last stage of alternative route selection for this round compared routes on the basis of:
  - Cost
  - Community Considerations
  - Reliability
  - Natural Environment
  - Built Environment
  - Risk to Schedule

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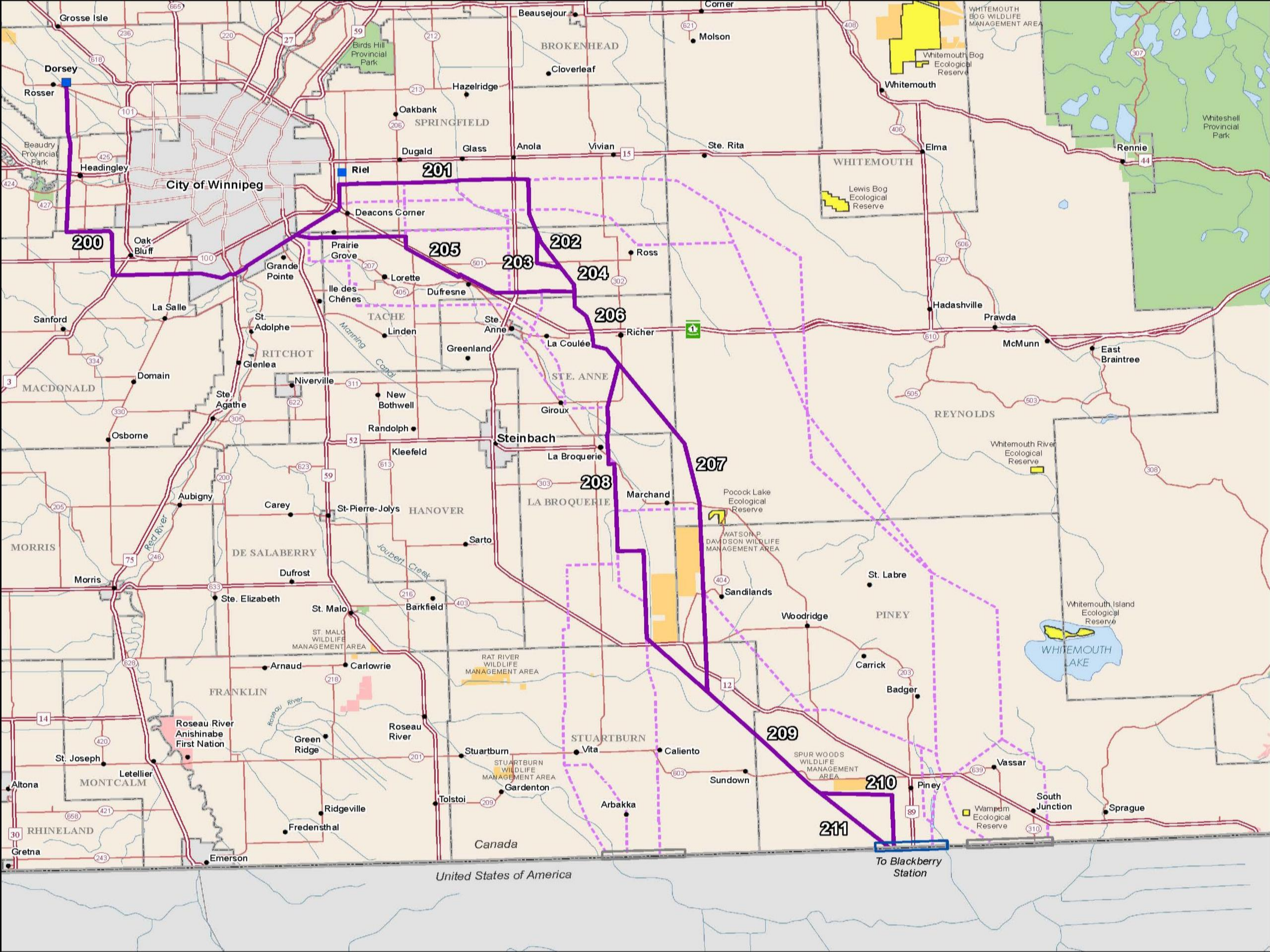
Dorsey
Riel
City of Winnipeg
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211
Steinbach
To Blackberry Station
Canada
United States of America
SPRINGFIELD
BROKENHEAD
WHITEMOUTH
TACHE
RITCHOT
STE. ANNE
MACDONALD
REYNOLDS
HANOVER
LA BROQUERIE
MORRIS
DE SALABERRY
PINEY
FRANKLIN
STUARTBURN
MONTCALM
RHINELAND
Whiteshell Provincial Park
Birds Hill Provincial Park
Beaudry Provincial Park
Whitemouth Lake
Roseau River Anishinabe First Nation

How was a border crossing determined?

- Manitoba Hydro negotiated with Minnesota Power to determine a border crossing area that was acceptable to both parties based on comparison of routes to each border crossing
- Area south of Piney was selected as the preferred border crossing area
- Final centerline placement is not yet determined

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Regulatory

This project is subject to review by the Public Utilities Board as part of the "Need for and Alternatives To" review of Manitoba Hydro's Development Plan

- **Federal :** National Energy Board
  - CEAA 2012 applies (designated activity)
- **Provincial :** Class 3 project under the *Environment Act*
  - Manitoba Conservation and Water Stewardship
  - Manitoba's Clean Environment Commission

- An **Environmental Impact Statement** (EIS) will be developed for use in both processes

<u>More information will be provided as we progress</u>

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Environmental Assessment

The Environmental Impact Statement (EIS) for the project will include:

- **Study area characterization**, obtained through site visits and background investigations
- Documentation of **public engagement**
- Assessment of potential **environmental and socio-economic effects**
- Assessment of **cumulative effects** of the transmission line
- **Mitigation measures and monitoring plans** developed for the Project
- An **environmental protection program**

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Engagement and Route Selection

Round 1: October - November 2013

- Introduce the Project
- Present alternative routes and proposed border crossings
- Answer questions
- Identify and document routing criteria and concerns
- Use input to refine alternative routes and border crossing areas

Round 2: Spring 2014

- Present findings
- Present refined alternative routes and preferred border crossing
- Answer questions
- Identify and document routing criteria and concerns
- Use input to guide preferred route selection

Round 3: Fall 2014

- Present findings
- Present the Preferred Route
- Answer questions
- Identify and document outstanding concerns
- Provide opportunity to discuss potential effects and possible mitigation measures to minimize effects

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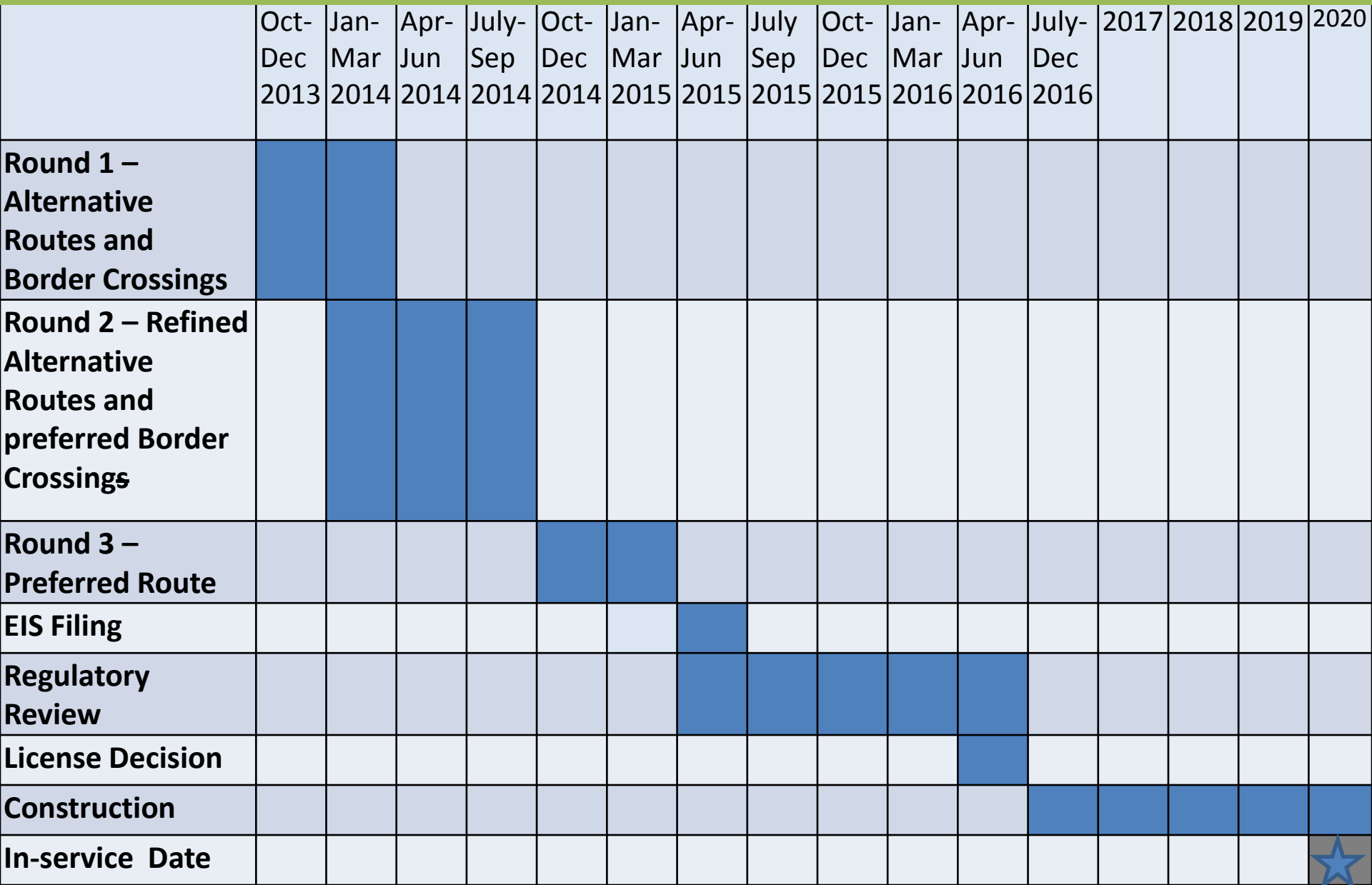
Anticipated Timelines



Questions?

Thank you

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