

# Manitoba-Minnesota Transmission Project

## Route Selection Process

January 2015

### How do we select a preferred route?

Manitoba Hydro is using a process based on the EPRI-GTC (Electric Power Research Institute-Georgia Transmission Corporation) Overhead Electric Transmission Line Siting Methodology.

This process:

- incorporates routing preferences from internal and external stakeholders that considers built human, natural, and socio-economic perspectives;
- uses these perspectives in the route planning process to help minimize impact on people and the environment.



### Has this process been used elsewhere?

Manitoba Hydro first applied this methodology in 2013 on the St. Vital Transmission Complex. It has been used on over 200 transmission projects across North America. The utility is working with Quantum Spatial Inc. (previously PhotoScience Inc.), who have many years of experience in high-voltage transmission line siting and are one of the developers of the methodology.

### What are the timelines for route selection?

The timelines of route selection are closely associated with public engagement and environmental assessment activities. Assessment activities are undertaken by discipline specialists including biologists, archaeologists and engineers throughout the route selection process.

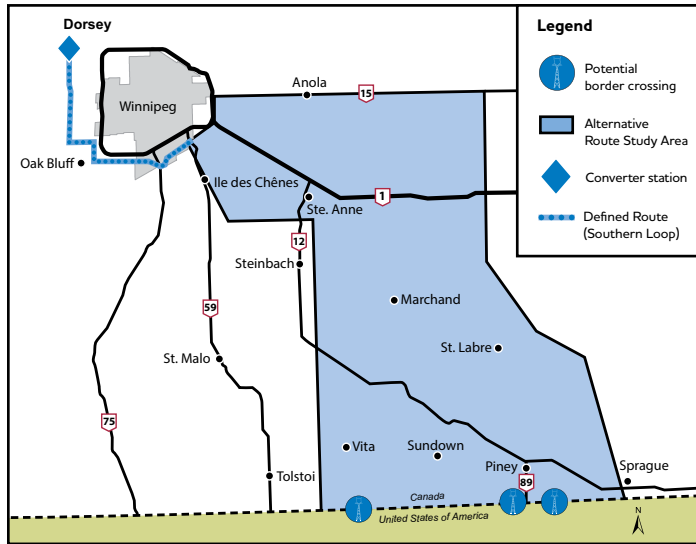
The timeline consists of:

- **Round 1** - fall 2013: alternative routes and three potential border crossing areas;
- **Round 2** - spring 2014: refined alternative routes and a preferred border crossing area;
- **Round 3** - January 2015: preferred route;
- **Environmental impact statement submission** (summer 2015): final preferred route.

# What are the steps in the route selection?

Manitoba Hydro undertakes various stages in the route selection process. The following five stages outline how a route study area with multiple possible end points will lead to a final preferred route.

## 1. Route Study Area and three border crossing areas



- Start and end points are determined and a broad alternate route planning area is defined by considering constraints and opportunities on the landscape.

## 2. Alternative routes and three border crossing areas

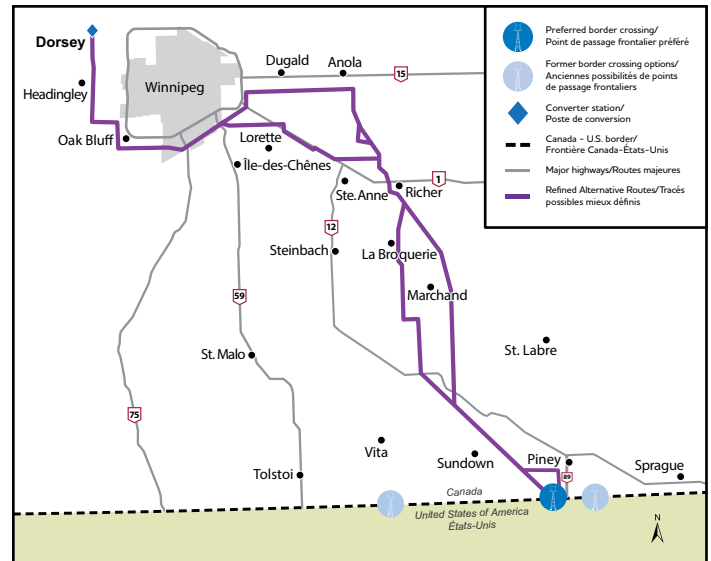
With an understanding of the existing landscape and gathering more detailed opportunities and constraints, alternative routes are developed to the alternative border crossings.



- Discipline specialists evaluate route options.
- Feedback is gathered during Round 1 public engagement.

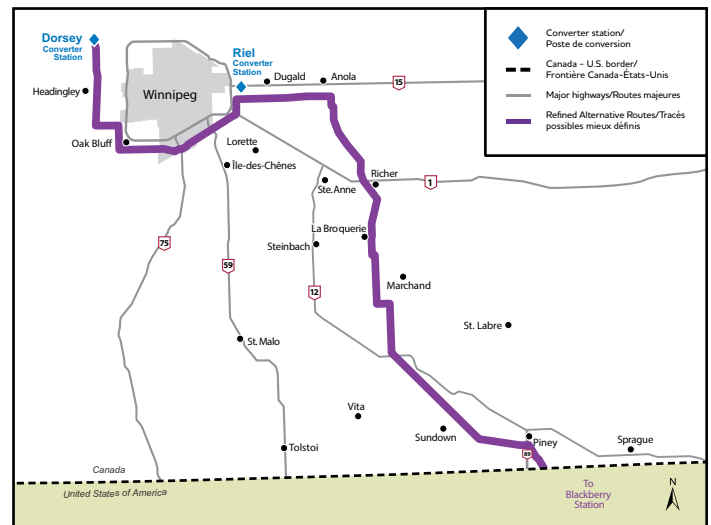
## 3. Preferred border crossing and refined alternative routes

Based on information from Round 1 and discipline specialists, routes were compared and a preferred border crossing was determined.



- Route segments are removed and others added based on feedback from the public and discipline specialists.
- Discipline specialists focus their evaluations to a more defined area and feedback received is considered.

## 4. Preferred Route



- Based on information from Round 2 and discipline specialists, routes will be compared and a preferred route determined.
- Discipline specialists are now focused on a specific location for assessment and Round 3 is undertaken to gather information from the public to enhance their assessment.

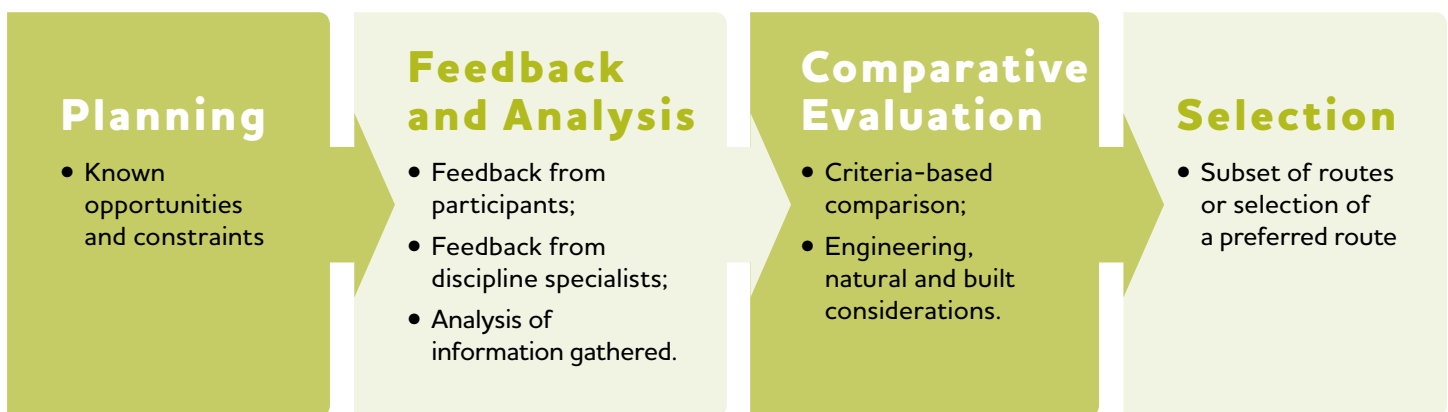
## 5. Final Preferred Route

- With feedback received from Round 3, proposed modifications to the preferred route will be considered.
- Manitoba Hydro's final preferred route is presented in the EIS submitted to regulatory authorities.
- Documentation of the route selection process and the environmental assessment undertaken on the preferred route will be available for review and comment during the regulatory review process with both Manitoba Conservation and Water Stewardship and the National Energy Board. Public hearings may also take place.

## How do we move between each stage?

Manitoba Hydro undertakes planning, collection of feedback, analysis and evaluation throughout each stage of route selection. The diagram below outlines the process in which we make decisions regarding routing. This cycle is repeated

each round until a final preferred route is determined. Total feedback gathered from the public and throughout the environmental assessment process increases as the location and area of analysis narrows.



## What criteria are used for the comparative evaluation?

A set of criteria, determined by stakeholder and public feedback as well as discipline specialists, is used to provide a method to compare all routing options. Criteria based on natural, built and engineering perspectives are used to review the options and see where strengths and weaknesses exist. Examples of the criteria include:

- Natural: acres of natural forest, acres of wetland area, stream and river crossings;
- Engineering: project cost, existing transmission line crossings, length;
- Built: proximity to residences, land use & capability, historic resources, public use areas.

Further comparison is undertaken prior to determining a subset of routes or a preferred route. Comparative values include:

- cost;
- reliability;
- community considerations;
- risk to schedule;
- built environment and the natural environment.

## How is public input incorporated into the route selection process?

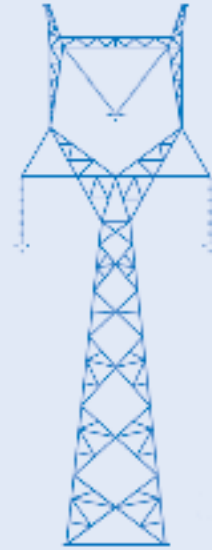
Public input is collected and considered throughout the route selection process.

- Site specific issues are documented, route alterations are brought forward to the project team, concerns and preferences are compiled and general transmission line routing feedback is considered in the decision making process.
- Information collected from the public is provided to discipline specialists to enhance their assessments of the preferred route.
- Local feedback and knowledge will assist in final design and placement, such as route modifications and tower placement.
- Information and knowledge collected assists in determining mitigation measures to minimize potential impacts to people and the environment.

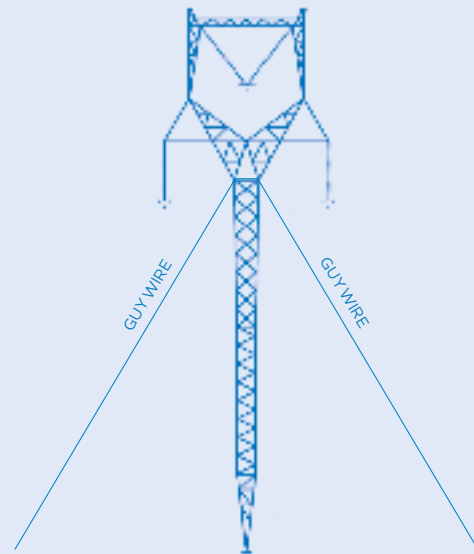
## Where can I get more information on the route selection process?

- Visit [www.hydro.mb.ca/mmtp](http://www.hydro.mb.ca/mmtp) for a detailed outline of the stages of the EPRI-GTC methodology.
- Speak with a Manitoba Hydro representative by phoning the Manitoba-Minnesota Transmission Project information line at **1-877-343-1631** (toll-free) or emailing [mmtp@hydro.mb.ca](mailto:mmtp@hydro.mb.ca).

### Preliminary tower design



500-kV Self-Supporting Lattice Steel Tower



500-kV Guyed Suspension Steel Tower  
(Towers are not drawn to scale — conceptual only.)