Hollydale Project
115 KV Transmission Line &
New Pomerleau Lake Substation
Docket No. E002/TL-11-152

Public Information and Environmental Scoping Meeting

October 26, 2011

Introduction

The proposed Hollydale Project begins at the existing Great River Energy (GRE) Medina Substation, connects to the existing Xcel Energy Hollydale Substation, extends to the existing GRE Plymouth Substation, and ends at the proposed new Xcel Energy - Pomerleau Lake Substation at Substation Site A.

On June 30, 2011, Xcel Energy and GRE jointly filed a Route Permit Application (RPA) with the Minnesota Public Utilities Commission (PUC) for a route permit for the Hollydale Project.

The RPA was accepted as complete by the PUC on August 25, 2011.

The PUC authorized creation of an Advisory Task Force (ATF) to assist the PUC with the Project. The ATF first met on October 18, 2011, and it will meet again on November 1, 2011.

Project Description

The Project includes:

- rebuilding approximately 8 miles of existing 69 kilovolt (“kV”) transmission line to 115 kV;
- constructing up to approximately 0.8 miles of new 115 kV transmission line;
- constructing a new 115 kV substation (to be called Pomerleau Lake Substation); and
- modifying associated transmission facilities located in cities of Medina and Plymouth, Hennepin County, Minnesota.

Proposed Substation Locations

Two locations in Plymouth are proposed for the new Pomerleau Lake Substation:

- Substation Site A is located just southwest of the intersection of Schmidt Lake Road and Interstate Highway 494 (“I-494”)

- Substation Site B is located approximately one quarter mile west of the intersection of Fernbrook Lane and the railroad (or “Canadian Pacific Railway”) tracks.

Substation Site A is the preferred location because of its proximity to existing utility and road right-of-way, the existing GRE transmission line (“WH-PB”) and future Xcel Energy transmission lines that will be connected to the new substation, and I-494.

Proposed Route

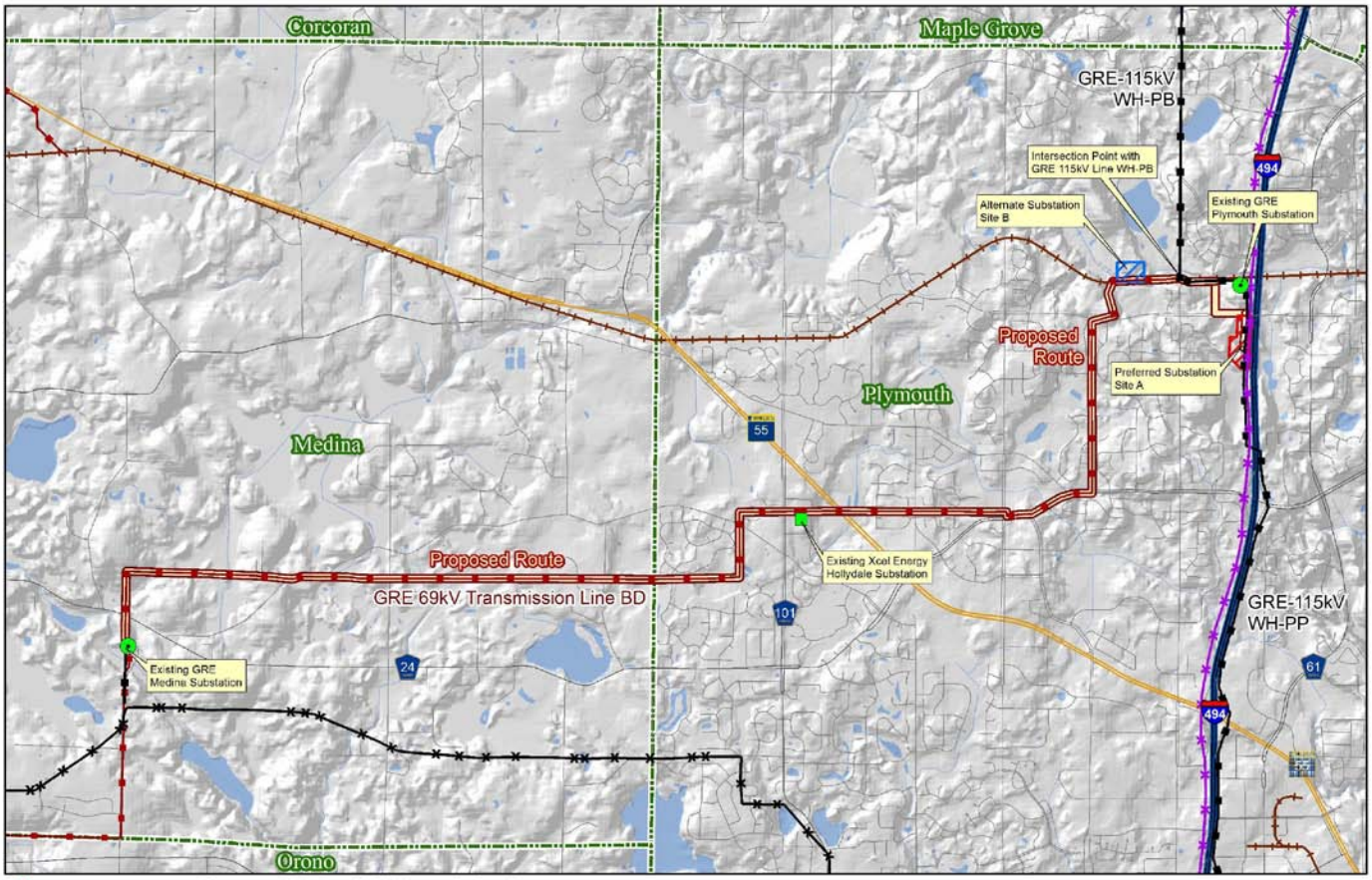


Figure 2

PROPOSED ROUTE
Hollydale Project

Proposed Project

The proposed Project includes:

- rebuilding approximately 8 miles of existing GRE 69 kV transmission line (Line BD) to a 115 kV transmission line (the proposed transmission line runs from the existing GRE Medina Substation to the existing Xcel Energy Hollydale Substation, to the intersection with existing GRE 115 kV transmission line WH-PB located north of Fernbrook Lane turnaround and north of the Canadian Pacific Railway);
- constructing a new 115 kV transmission line on new right-of-way from the above described existing GRE line intersection location, which completes the connection of the rebuild line to the proposed new Pomerleau Lake Substation;
- constructing the proposed new Pomerleau Lake Substation;
- constructing new transmission line terminations within the proposed new Pomerleau Lake Substation for an in-out for existing GRE 115 kV transmission line WH-PP to connect this line with the Pomerleau Lake Substation; and
- modifying the existing Medina and Hollydale substations to accommodate the proposed 115 kV transmission line rebuild.

Proposed Substation

Land area required for proposed new Pomerleau Lake Substation is approximately 8 to 10 acres.

It includes:

Initial fenced area approximately 371 by 378 feet (~3.2 acres).

Future fenced area approximately 426 by 903 feet (~8.8 acres).

Initial Electrical Equipment Enclosure ("EEE") approximately 25 by 41 feet (installed within the fenced area)

Future EEE would measure approximately 25 by 82 feet.

25-foot wide access road approximately 500-700 lineal feet required from Schmidt Lake Road to the fenced area.

A stormwater pond that has not yet been sized or designed.

The proposed new Pomerleau Lake Substation includes a 115 kV, 63 kiloampere ("kA") transmission substation with the following initial equipment:

- **a 4-position ring bus configuration;**
- **four 115 kV transmission line terminations and motor-operated transmission line switches;**
- **a number of single-phase coupling capacitor voltage transformers ("CCTVs");**
- **a 3000 amp ("A") wave trap and line tuner;**
- **three 76 kV maximum continuous operating voltage ("MCOV") station class surge arresters;**
- **115 kV circuit breakers and associated disconnect switches;**
- **an Electrical Equipment Enclosure ("EEE") with control panels, battery, charger, programmable logic controller ("PLC"), terminal cabinets, furniture, heaters, alternating current ("AC") and direct current ("DC") cabinets, lighting, telephone, telephone control, and cable control;**
- **a 115 kV service station voltage transformer ("SSVT") for primary station auxiliary power and local distribution for emergency auxiliary power; and**
- **all bus work, cable, controls and relaying, steel structures, trenching, foundations and fencing for the above installations.**

The proposed new Pomerleau Lake Substation terminates at the Hollydale Substation and the existing GRE 115 kV transmission Line WH-PP.

The substation site will be designed with room for line terminations for a future 115 kV transmission line section between the Pomerleau Lake Substation and a future Meadow Lake Substation.

The substation site will be large enough for a future 345 kV substation yard that will allow the Pomerleau Lake Substation to connect with the existing Parkers Lake to Creek 345 kV line and the Parkers Lake to Dickenson 345 kV line.

A new EEE will be installed within the fenced area at the new Pomerleau Lake Substation site. The EEE will contain all the control equipment and systems for the substation.

Need

The Project is needed to address electric distribution concerns, to provide increased distribution capacity, and to avoid feeder circuit overloads in the Plymouth area distribution delivery system.

The Project will provide increased distribution capacity and avoid feeder circuit overloads in the Plymouth area distribution delivery system.

The Project will also provide the most benefits to the long term transmission system. It will improve the reliability of electric transmission by providing voltage support outside of the 345 kV transmission loop for a 115 kV double circuit loss between Gleason Lake and Parkers Lake Substations and it will reduce loading on the two existing transmission lines between Parkers Lake and downtown Minneapolis.

Routing Criteria

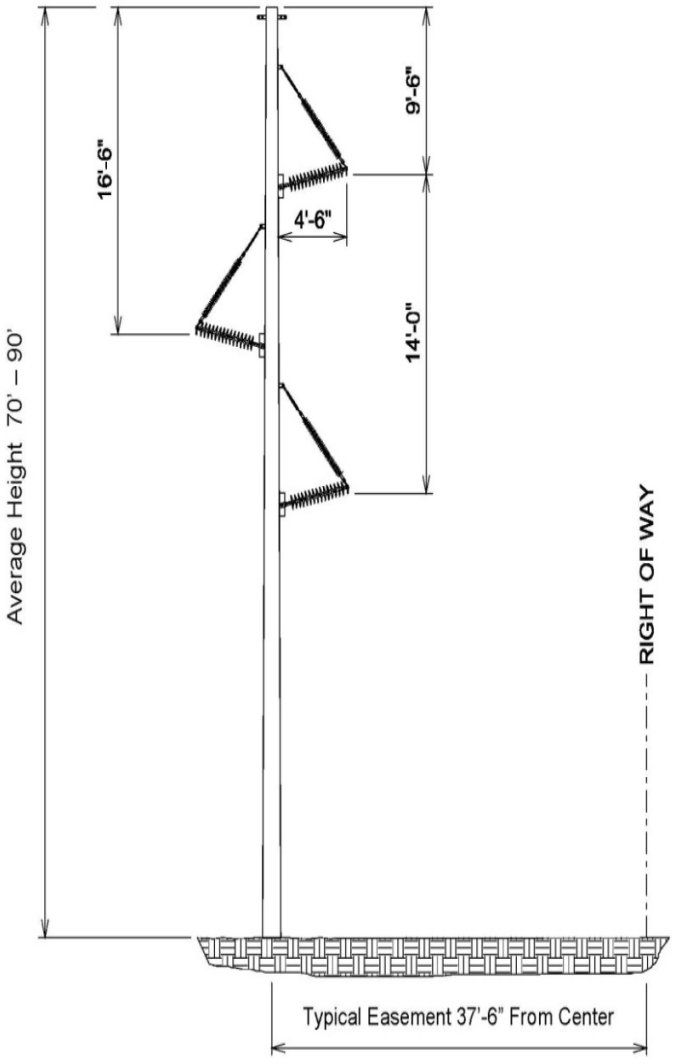
The Proposed Route was developed with the following objectives:

- maximize the use of existing transmission line alignments and rights-of-way;
- minimize land use impacts by routing along existing utility routes and roads to reduce the amount of new right-of-way required;
- minimize use of new right-of-way by locating proposed transmission facilities near existing transmission and transportation alignments;
- minimize impacts to residences; and
- minimize impacts to environmental and sensitive resources.

Structure Design Summary

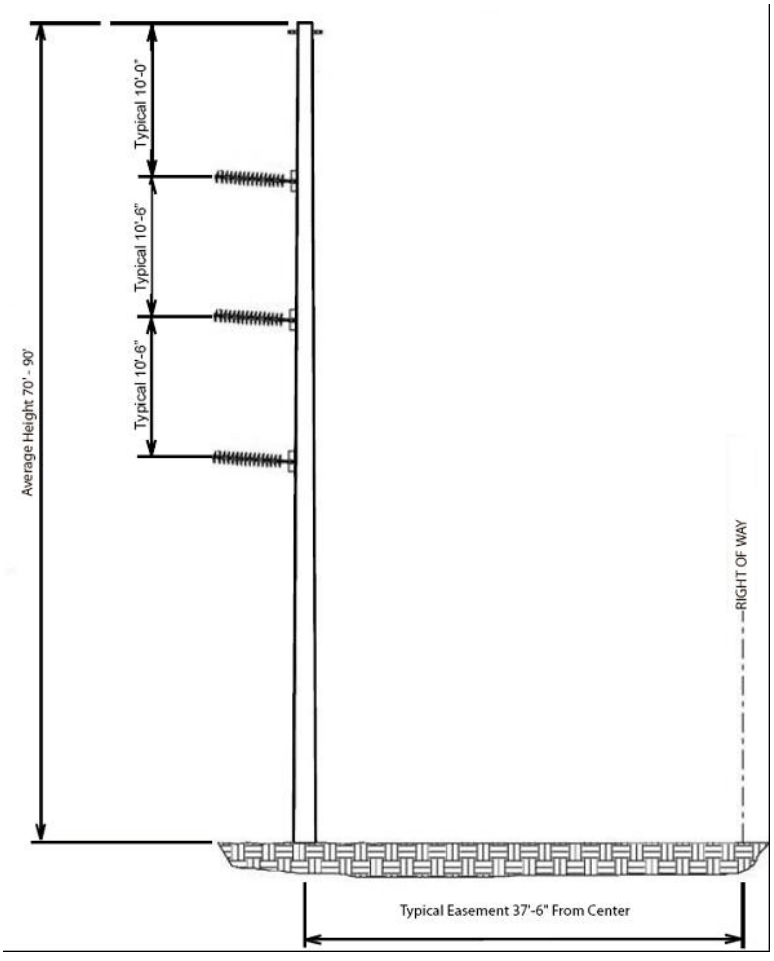
Line Type	Structure Type	Structure Material	Typical Right-of-way Width (feet)	Structure Height (feet)	Structure Base Diameter (inches)	Foundation Diameter (feet)	Span Between Structures (feet)
Single Circuit 115 kV	Single Pole Braced Post (for longer spans)	Galvanized Steel or Weathering Steel	75	70 to 90	24 to 42: tangent structures 36 to 72: angle structures	Direct embedded in 4 foot culvert	300 to 500
Single Circuit 115 kV	Single Pole Horizontal Post (all one side)	Galvanized Steel or Weathering Steel	75	70 to 90	24 to 42: tangent structures 36 to 72: angle structures	5 to 6	300 to 500
Single Circuit 115 kV	Single Pole Horizontal Post	Galvanized Steel or Weathering Steel	75	70 to 90	24 to 42: tangent structures 36 to 72: angle structures	Direct embedded in 4 foot culvert	300 to 500
Single Circuit 115 kV	Single Pole, Cross Arm, Y-Frame	Galvanized Steel or Weathering Steel	75	70-90	36 to 72	5 to 8	500 to 1,200
Double Circuit 115/115 kV	Single Pole, Davit Arm	Galvanized Steel or Weathering Steel	75	75-105	Direct embedded or 4 foot diameter culvert or 6 to 8 foot concrete	Direct embedded for tangents and self-supporting for angle/ dead-end and switch structures 6-8	300 to 500

Typical Structures & Dimensions



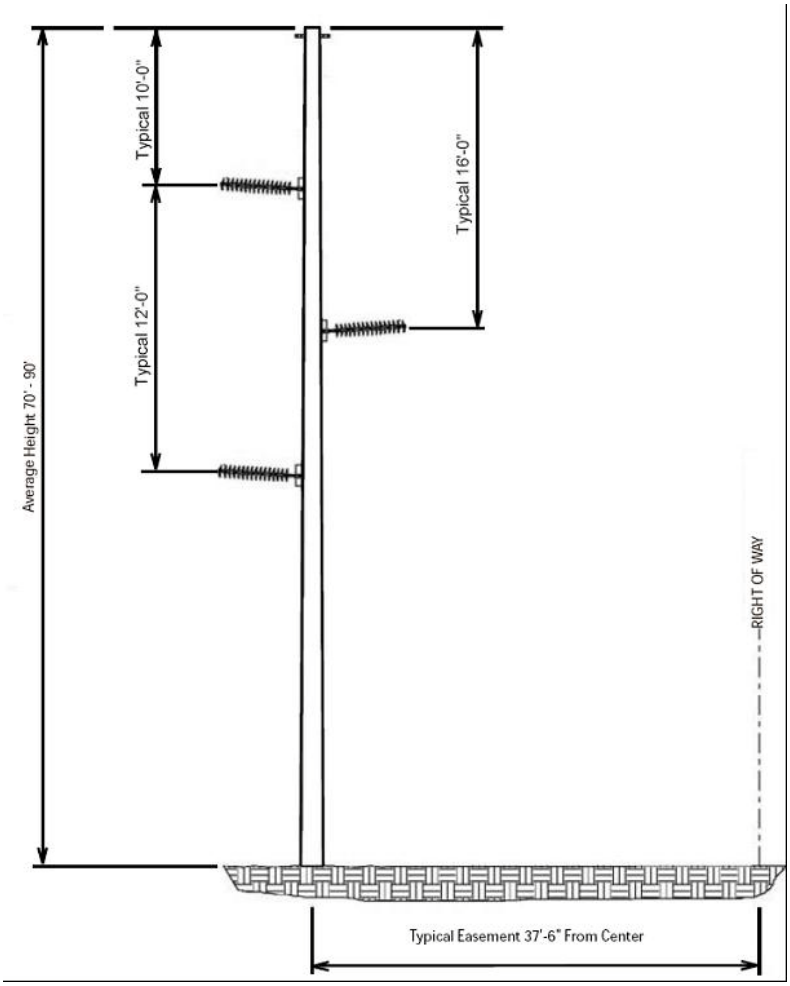
Typical single circuit 115 kV, single pole braced post structure

Typical Structures & Dimensions



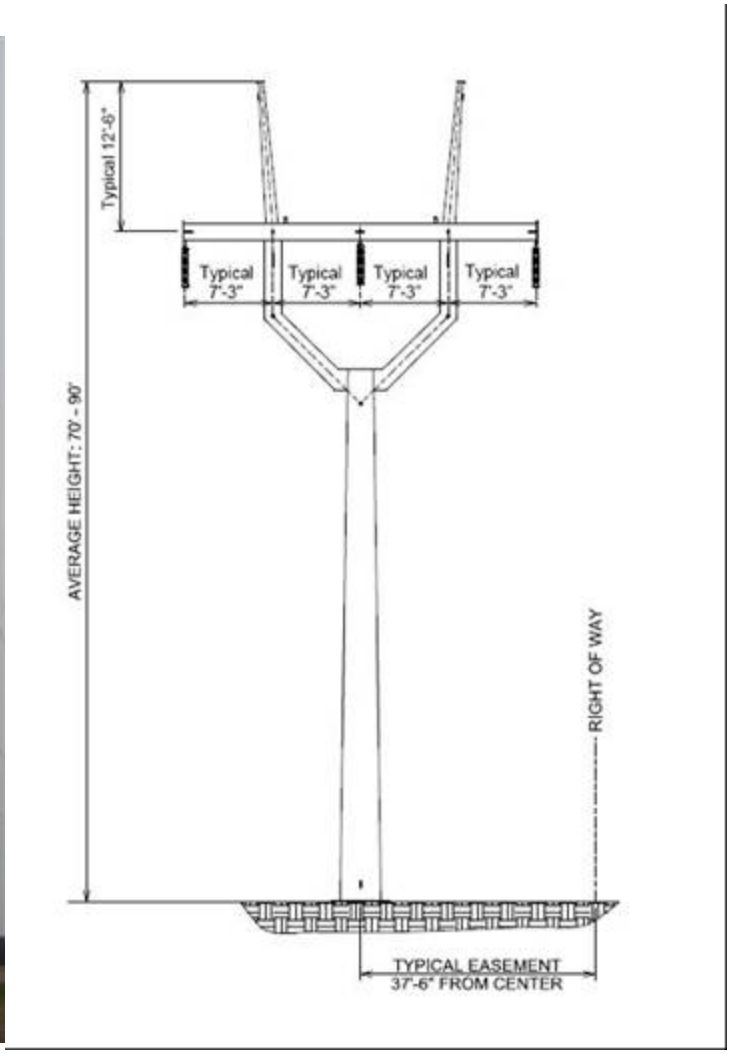
Typical single circuit 115kV, single pole horizontal post (all one side)

Typical Structures & Dimensions



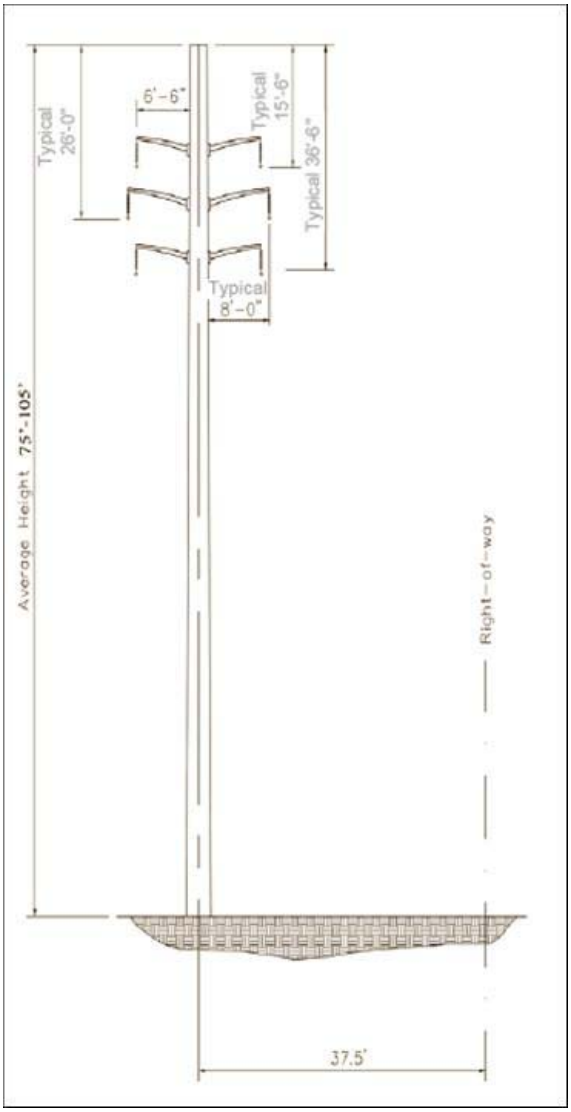
Typical single circuit 115 kV, horizontal post structure

Typical Structures & Dimensions



Typical 115 kV single circuit, single pole, cross arm Y-frame structure

Typical Structures & Dimensions



Typical double circuit 115/115 kV 115/115 kV steel davit arm structure

Route Width and Right-of-Way

Route Width

A Route means the location of a high voltage transmission line between two end points. The route may have a variable width of up to 1.25 miles. The Route Width is an area that is under consideration and being assessed for locating a high voltage transmission line.

For the Proposed Route associated with rebuilding the 8 miles of GRE transmission line, the Applicants request a route width of 100 feet on each side of the existing transmission line route centerline (200 feet total width).

For the approximate 0.8 miles of new transmission route segment proposed along Cheshire Lane and Schmidt Lake Road, the Applicants request a route width of 200 feet on each side of the road centerline (400 feet total width).

Right-of-Way

Right-of-way (ROW) means the land area legally acquired for a specific purpose, such as the placement of transmission facilities and for maintenance access. For the 115 kV rebuild portion of the Project, the existing ROW is sufficient. For the new transmission route, a 75-foot ROW is typical.

Estimated Project Costs

Rebuild and New 115 kV Transmission Line Facilities (Medina-Hollydale-Pomerleau Lake Substations)	$8 million
New Pomerleau Lake Substation	$8 million
Modifications to Existing Medina Substation	$2.6 million
Modifications to Existing Hollydale Substations	$4.5 million
Total Project Cost	$23.1 million

Anticipated Project Schedule

File Route Permit Application with the Commission	2nd Qtr 2011 (completed June 30, 2011)
Route Permit Review Process Complete	4th Qtr 2011 or 1st Qtr 2012
Begin Transmission Line Design & Substation Construction	2nd Qtr 2012
Complete Project and In-service Date	3rd Qtr 2013

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