

2006 – 2020 IRP Narrative

OTP's 2006 – 2020 IRP was filed with the Minnesota PUC on June 30, 2005 (Docket E-017/RP-05-968). Copies of the IRP were provided to both the ND PSC and the SD PUC for informational purposes. The initial IRP filing had included a proposed 70 MW wind farm project known as the Enbridge Wind Farm. The plan included in total 110 MW of new wind generation, including the Enbridge Wind Farm.

In April 2006 OTP filed its reply comments with the MN PUC, and included some updated information and additional results due to further modeling. The additional modeling was completed following comments and concerns raised by the Minnesota Dept. of Commerce (now known as the Office of Energy Security). In this supplemental data filing, the amount of new wind generation selected by the model was now potentially up to 200 MW, depending upon how much the wind generation could be backed up by the MISO market instead of by natural gas-fired peaking facilities. Part of the reason for increased wind generation was that OTP had been informed of 23-24 MW of new industrial load with high load factors. OTP indicated in the filing that the optimum amount of new wind generation should be left for the next resource plan filing.

The OTP IRP information was included as part of the hearing process in SD for the siting of the Big Stone Plant II (BSP II) project (Docket No. EL05-022). BSP II was a component of the OTP IRP. These hearings were conducted in June 2006, and the SD PUC did approve the siting permit for BSP II.

In July 2006 the MN PUC met to consider the OTP IRP filing for approval. Just prior to the hearing date the utilities involved with the BSP II project opened bid packages that had been received for the project and discovered that costs were higher than the project consultants had estimated they would be. As a result the MN PUC approved the addition of new wind generation, but requested that OTP conduct new analysis with updated information to the maximum extent possible.

There were several significant areas of new information that were included in the new analysis:

- This was a period of significant cost escalation in a number of areas. The costs of raw materials (steel, copper, concrete, etc.) were increasing significantly. OTP obtained updated capital and operating costs from Black & Veatch for a variety of supply-side resources. OTP had also received bids from 28 different parties on approximately 45 proposals for wind generation. This cost data was used in the updated analysis.
- Several large new industrial loads had been announced in the spring for addition to the OTP system. These loads represented about 23-24 MW of new peak demand with a high load factor.

- Natural gas prices were escalating rapidly and experiencing significant volatility. Otter Tail was an energy deficient utility, relying to some extent on the wholesale market to supply additional energy needs. Natural gas fired generation was the marginal generating resource for most hours during the day, and thus wholesale energy prices were escalating rapidly as well. OTP obtained updated natural gas price forecast data and wholesale market price data.

The new analysis was filed with the MN PUC in October 2006. The updated information and analysis now included 160 MW of new wind generation. Additional wind resources were available to be selected by the planning model, but the model optimized at 160 MW. The increase in the amount of wind generation selected came about because the increased industrial loads reduced the night time minimum load problems that had previously been evident. These minimum load periods had forced the model to sell surplus energy at a loss at times, increasing costs. The higher wholesale market prices also make the wind generation a more cost-competitive option.

The 160 MW of new wind generation has been developed in several components. 60 MW of wind was added as part of the Langdon Wind Farm (40.5 MW owned and 19.5 MW purchased). The Ashtabula project consisted of 49.5 MW of OTP owned wind generation. The Luverne Wind Project added 48 MW of Company-owned facilities. These additions total 157.5 MW. The balance of the wind generation has been added, or is in the process of being added, via small customer-owned wind generation facilities.

The documentation included contains:

- (1) The original public 2006-2020 IRP filing, by section
- (2) The one proprietary section from the 2006-2020 IRP filing.
- (3) The April 2006 reply comments and supplemental information to the MN PUC
- (4) The October 2006 supplemental filing to the MN PUC. (public and proprietary versions)