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Renewable
Northwest
Project

Date: January 31, 2014

To: Northern Tier Transmission Group, Transmission Planning Committee
Submitted via email at info@nttg.biz

RE: Colstrip Retirement--Wind Replacement Transmission Study Request

RNP would like to request a sensitivity study in NTTG's 2014 planning cycle. RNP would like to understand the transmission impacts associated with retiring 1) Colstrip units 1&2 and 2) Colstrip units 1, 2, 3, & 4 and replacing the respective amounts of capacity with proportional amounts of wind capacity in Montana.

The public policy justifications for this transmission study request include:

- 1) Clean Air Act Section 211(a) and compliance with the EPA Regional Haze Program.
- 2) Renewable Portfolio Standard requirements in California, Washington and Oregon.
- 3) Integrated Resource Planning requirements for least cost procurement under the Washington Utility and Transportation Commission.

Study Details:

- 1) Retire Colstrip units 1 & 2 (716 MW) and replace with 716 MW of wind in Montana.
 - a. Assume that 50% of the 716 MW of new Montana wind sinks to PSE and 50% sinks at Northwest market hub.
 - b. Assume the wind has a capacity factor of 40%.
 - c. Assume the wind is located at the Broadview 500kv transmission bus.
 - d. Assume this occurs in 2020.
- 2) Retire Colstrip units 1, 2, 3, & 4 (2,272 MW) and replace with 1,930 MW of wind in Montana.
 - a. Assume that 30% of the 1,930 MW of the new Montana wind sinks to Northwest market hub, 25% to PSE, 20% to PGE, 15% to Avista, and 10% PAC.
 - b. Assume the wind has a capacity factor of 40%.

- c. Assume the wind is located at the Broadview 500kv transmission bus.
- d. Assume this occurs in 2027.

Please conduct the study in two phases. The first phase assuming that Colstrip units 1&2 are retired and replaced with equal amounts of wind. The second phase assuming that all Colstrip units are retired and replaced with a total of 1,930 MW of wind. We are interested in understanding the transmission implication of using the existing transmission lines to transmit wind energy instead of energy from the Colstrip units. We are not interested in planning for new transmission lines to carry this wind, but rather, we are interested in understanding what enhancement, protocols and upgrades might be necessary to the existing transmission system in order to maintain the current carrying capability of Path 8. We are aware that there is an Automatic Trip Relay associated with the Colstrip units that will need to be accounted for and we are interested in understanding what fixes would be available if the Colstrip units were replaced with wind.

Thank you for considering this request. Please do not hesitate to contact me with any questions.

/s/
Cameron Yourkowski
Senior Policy Manager