US Magnesium LLC & Pioneer Ridge LLC

Transmission Working Group Report On Transmission Related Issues - 11/21/05

1. Line losses – Line losses are reductions in delivered electrical energy that occurs between the source of the electric energy and the point of consumption. Losses occur from the conversion of electrical energy to heat that occurs when power flows through conductors. The amount of loss is generally dependent on the distance of power flow and the amount of current flowing and voltage.

   FERC in its statutes regarding avoided cost rates for qualifying facilities states the following

   FERC regulation 293.303

   (e) Factors affecting rates for purchases. In determining avoided costs, the following factors shall, to the extent practicable, be taken into account;

   (1)…
   (2)…
   (3)…
   (4) The costs or savings resulting from variations in line losses from those that would have existed in the absence of purchases from the qualifying facility, if the electric utility would have generated an equivalent amount of energy itself or purchased an equivalent amount of electric energy or capacity.

   FERC regulations say that losses should be taken into account. It does not make sense to arbitrarily dictate that one type of resource should be eligible and another type not. Such a determination would be discriminatory and act as a barrier to the development of resources that benefit the system by not incurring losses that do nothing but heat the environment. As Utah Code 54-12-1 (2) states, we should "…conserve our finite and expensive resources and provide for their most efficient and economic utilization."

   For example consider three facilities; a firm resource, a non-firm resource and a wind resource.

   i. Firm QF resources

   Consider that a firm sales QF facility is located nearer the load center than the proxy plant that determines the firm resource capacity payment. Assume that the QF facility operates in a base load schedule. In this example assume that in the absence of the QF operating it is determined that there would be 4% line losses for energy transmitted to the load center. Now assume that the QF has located half way between the load center and the resource that would be operating such that when the QF operates the

line losses in moving power to the load center there is only 2% line losses. The QF pricing based on the factors should take into account the 2% savings that the utility has determined resulted from the QF operation. This is based on the 4% that would have occurred less the 2% that occurs when the QF operates.

ii. Non-firm QF resource

Consider now the exact same resource but that the resource decided to be a non-firm resource because it cannot provide millions of dollars of security demanded by the utility to be considered a "firm QF". The facility operates in exactly the same base load schedule. Again the same 2% line loss savings should be taken into account for the operation of the non-firm QF. Because it has a different financial arrangement and does not receive a capacity payment does not alter the fact that line losses are avoided.

iii. Wind Resource

Consider that the QF resource is now a wind resource. Consider that the QF wind resource is located at the same point one half way between the market proxy wind resource that the contract pricing is based on and the load center. Again assume that the utility determines that there is a 4% line loss if the market proxy wind resource operates and electrical energy is delivered to load. When the QF wind resource operates there will be 2% less line losses to move the power to load. The Wind resource should have a 2% line loss adjustment to take into account the reduced line losses.

Providing consistent determinations of line loss will send the right economic signal. It will encourage development such that energy losses are minimized. It is important to send this signal no matter what differences exist. Also, it is important to identify if a QF has increased line losses. If so, then that increase in costs should be taken into account in the QF rate as well. The US Magnesium and Desert Power QF contracts had line loss calculations performed in this manner.

2. Transmission capacity

If a QF displaces or defers a resource and that resource had transmission associated with it then there should be consideration in the same way the generation capacity costs are considered. For example if capacity costs for a $400 million dollar planned resource included required transmission upgrades of $40 million then the capacity costs for deferring or avoiding that plant including its transmission cost should include all capital costs. For a wind resource that has been contracted by the company as the winning bidder in an RFP, the price paid to the RFP bidder that has become the market proxy will include all transmission cost if the utility did not provide any upgrades. If there were costs borne by the utility to interconnect to the RFP market proxy wind resource they should be taken into account and added to that market proxy price. If the RFP winning

resource was a company built option then the transmission upgrade costs associated with the utilities build cost should be included.

Transmission system impact studies have been proposed as a method to determine avoided transmission costs in some manner. PacifiCorp has indicated that this would likely add at least a month to the system impact study time frame. System impact studies are complicated and the time to perform these studies can take significantly longer than the 120 days discussed in their Open Access Transmission Tariff. To add this additional already complicated and drawn out process creates concerns. Any part of any new burden added to PacifCorp Transmission responsibilities should be done separately and not in a manner that delays the identification costs from the impact study that potentially could delay project online dates. The study results should be provided first and then any extra localize or global transmission avoidance cost study should be done after the specific study. Also, this aspect of avoided cost pricing should not delay the indicative pricing or contract price determinations.