

Methodology Used to Develop Effective PTF Pnode List for Seller's Choice Bilateral Contract Administration Purposes

Introduction:

ISO-NE has received a request from several market participants to specify which pricing nodes are on the PTF system and which are on Non-PTF transmission facilities. As we understand it, this request emanated from the need to specify delivery points on the PTF system for Seller's Choice contracts. For several technical reasons related to the modeling of pricing nodes (pnodes) this is not as simple as looking at a pnode and seeing the facility at which the node is located. This paper presents the methodology used by the ISO in determining the attached listing of public pnodes as being either PTF or Non-PTF. The ISO offers this list to market participants for use in the administration of Seller's Choice contracts.

As stated in the Restated NEPOOL Agreement, Section 15.1, the definition of PTF is "PTF or pool transmission facilities are the transmission facilities owned by Participants rated 69 kV or above required to allow energy from significant power sources to move freely on the New England transmission network, and include: 1. All transmission lines and associated facilities owned by Participants rated 69 kV and above, except for lines and associated facilities that contribute little or no parallel capability to the NEPOOL Transmission System (as defined in the Tariff)."

Why is assigning pnodes to PTF or Non-PTF facilities difficult?

Seller's Choice contracts between Participants require that the delivery points are to be on the PTF facilities. Public pnodes are only defined at points of injection (generation) and withdrawal (load). A problem surfaces if we apply the technical definition of PTF as defined above to public pnodes. There are a number of considerations that determine the voltage levels at which load and generation are represented in the network model. To assure accurate network modeling and good state estimator performance, some loads and generator are modeled on the PTF while others are modeled at a low voltage non-PTF bus.

The ISO has developed a modified definition of PTF to use for defining PTF pnodes for the specific purpose of Seller's Choice contract administration.

Approach for defining PTF nodes for Seller's Choice Contracts

We have defined a term - Effective PTF - that recognizes the modeling of facilities located on the PTF system but modeled at voltages levels less than 69 kV.

More formally, the definition of an Effective PTF (EPTF) bus is: a bus in the network model located at the same station as the PTF facility, but at a voltage level technically considered non-PTF.

The simplified diagram shown in Figure 1 below illustrates this definition.

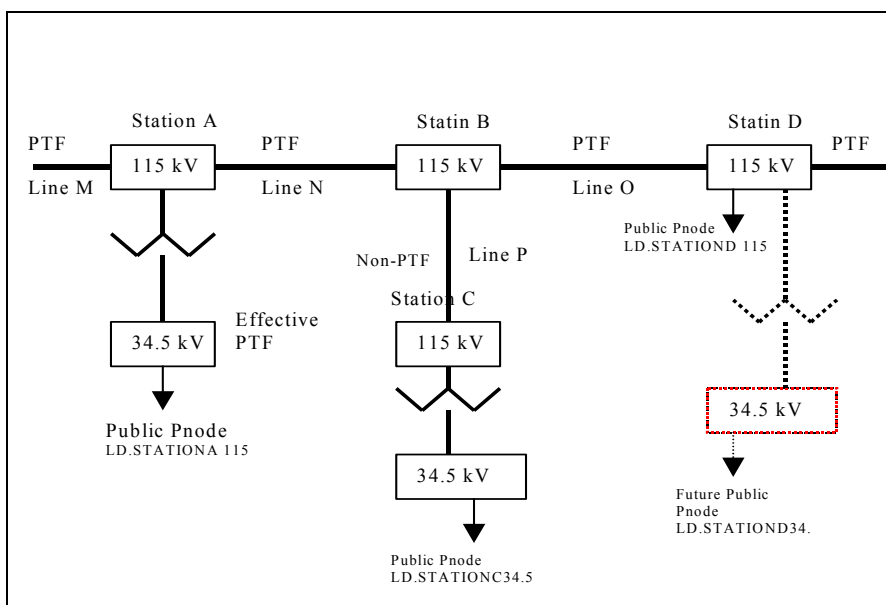


Figure 1 Simplified network diagram

Figure 1 represents multiple PTF lines connecting Station A, B and D. By definition, Station A is considered PTF, but has no public node at this voltage level. The bus injection is represented at the 34.5 voltage and this is where the public node is defined. The definition results in the designation of the public node at Station A 34.5 kV as EPTF for Seller's Choice contracts.

Given that Line M, N and O are PTF facilities, then technically speaking the 115 kV bus at Station A is PTF. Further, if load were located at the 115 kV bus, then its node would be considered PTF. Since the load is modeled at the 34.5 kV bus, node "LD.STATIONA 115" be considered as EPTF for the purposes of Seller's Choice contract administration.

On the other hand, Line P is technically a non-PTF facility and as such Station C is not considered PTF. Therefore, public pnode "LD.STATIONC34.5" is not defined as an EPTF pnode.

The network model will change as we move forward. In setting up Seller's Choice contracts, Participants should recognize that PTF pnodes maybe relocated to EPTF pnodes. This is illustrated above at Station D where at time T_0 the PTF pnode is defined as "LD.STATIOND 115". At a future date, T_1 , the network model maybe updated and the load moved to the 34.5 kV bus, as illustrated by the dotted line and bus. In this case, the PTF public pnode would be moved to the 34.5 kV bus and become an EPTF public pnode named "LD.STATIOND34.5".

The link below will take you to an ISO Web Site location containing Pnode Tables. To view the designation of each public pnode as non-PTF or EPTF, please see the PTF Status column in the most recently posted Pnode Table.

http://www.iso-ne.com/smd/Settlement_Model_Information/