

**1991 VTA IGAP Definition
Draft Interpretation
Burlington Electric Department Proposal**

IGAP Definition from Article IV

Purchaser's Internal Generation Adjustment, expressed in kilowatts, to be calculated for the second previous month for the Purchaser, which shall equal 50% of the Purchaser's entitlement to NEPOOL accredited generation capacity installed on, or directly connected to the system of any Purchaser on July 1, 1990, plus Purchaser's entitlement to NEPOOL accredited generation capacity installed after 7/1/90 which is connected, with associated load, to the system of any Purchaser, to the extent that such capacity, in addition to previously installed capacity, does not exceed the historical peak load of such associated local load. If the Purchaser sells, for a full month to an out-of-state purchaser an entitlement to internal generation for which an Internal Generation Adjustment would otherwise be granted, the Adjustment shall be retained by the seller.

VELCO's Current Interpretation of IGAP Credit Implementation

~~Any generator connected to the Vermont sub transmission system and "NEPOOL accredited" qualifies for an IGAP credit. In this context "NEPOOL accredited generation capacity" is interpreted by VELCO to mean the monthly Seasonal Claimed Capability (SCC) of a unit as reported by ISO NE. In response to the Operating Committee initiating this discussion VELCO recently added a requirement that any new generation be attached to an equivalent amount of load. In this context load is interpreted by VELCO to mean the load on the sub transmission system between the generator and the sub transmission system's point(s) of interconnection with the VLEOC transmission system.~~

Historical Context

The VTA drafters made an Explanatory Statement filing with FERC in support of the VTA Tariff submittal in March, 1993 which explicitly addressed the IGAP credit, and why it should be approved by FERC. The section related to IGAP states:

3. Reasonableness of Credit for Generation in Vermont

The Internal Generation Adjustment (IGAP) is intended to recognize and account for the fact that internal generation, by supplying load locally, relieves burdens on the VELCO transmission system.

The IGAP applies both to in-state generation and to external sources of supply – e.g. Citizens Utilities' block-loaded supply from Hydro Quebec, which is discussed below – that are directly connected to a Purchaser's system. It adjusts a Purchaser's peak demand by one half of the accredited capacity of internal

generation or directly connected supply that can serve local load without using the VELCO system, with the adjustment capped at one-half of the billing peak of the Purchaser in question.

While all parties participating in the development of the 1991 Agreement agreed that it would be equitable to provide an adjustment for internal generation, it was readily apparent that an absolutely accurate accounting would be impossible or would be so administratively complex as to be impracticable. The VELCO system is dynamic, as flows change with each change in generation and load, both within and without the system. Furthermore, different kinds of internal generation have different effects on the system. Some, such as dispersed hydro, operate fairly regularly. Even so, they operate at varying levels of output. Others, such as peaking units, operate infrequently. Off system, but directly connected sources, might be unavailable when their capacity is most needed.

Given these complexities, the parties decided to adopt a formula that does not purport to be completely scientific (i.e., does not attempt to achieve the unachievable) but that was agreed to represent an equitable recognition of the contribution of internal generation. In other words, the parties concluded that whether or not the IGAP precisely captures the effects of internal generation, it is markedly preferable to failing to recognize those effects at all or adopting a system that would be excessively expensive and time-consuming to operate and control.

Parsing of IGAP Definition Requirements

Per the parsed language in the VTA IGAP definition to receive an IGAP credit a resource must be either:

- 1) Installed on, or directly connected to, the system of any Purchaser on or before July 1, 1990, and
- 2) is NEPOOL accredited generation capacity.

Or,

- 1) Installed after 7/1/90, and
- 2) is NEPOOL accredited generation capacity, and
- 3) is connected, with associated load, to the system of any Purchaser, and
- 4) does not exceed the historical peak load of such associated load when evaluated in conjunction with previously installed generation.

Clarifying Meaning of Terms in IGAP Definition in Light of Historical Context

“Associated Load” means load, installed on or connected to the system of any Purchaser under the 1991 Transmission Agreement at voltages below those provided by VELCO (i.e. below 115 kV).

“Associated Local Load” means Associated Load ~~connect~~ installed on or connected to the same section of a Purchaser’s sub-transmission system as the unit or unit(s) receiving, or proposed to receive an IGAP credit. This is ~~the load~~ whose energy and demand requirements can be supplied by resources within the same geographic zone as the “associated load”, that can potentially be removed from VELCO’s system from the units installed on or connected to the same section of a Purchaser’s sub-transmission system. To determine “associated local load” VELCO has elected to use the load zone map adopted by the Vermont System Planning Council (VSPC). VELCO understands the load zones may change over time because, as the 1993 explanatory statement noted, the system is dynamic. VELCO reserves the right if the revised VSPC load zones change in a manner that is not consistent with the intentions of the IGAP credit to select load zones that are consistent.

“Historical Peak Load” means the highest documented annual peak Associated Local Load. This is intended as a proxy for the load level that the VELCO transmission system has been designed to serve.

“Previously Installed Capacity” means 100% of any capacity installed on a Purchaser’s system (measured as the SCC for the same month as the Historical Peak Load on same section of a Purchaser’s sub-transmission system containing the unit proposed to receive an IGAP credit) prior to the generator seeking IGAP.

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Additional Considerations

- 1) Should a Purchaser be able to seek IGAP credit for generation that was installed prior to 7/1/1990 but which has not previously been NEPOOL accredited?

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The language in the VTA IGAP definition in this regard states: “which shall equal 50% of the Purchaser’s entitlement to NEPOOL accredited generation capacity installed on, or directly connected to the system of any Purchaser on July 1, 1990”.

The question at issue is whether the IGAP definition was intended to only credit those generators which were installed AND NEPOOL Accredited on 7/1/1990, or whether Purchasers should be able to seek IGAP credit at a future date for generators that were installed on or prior to 7/1/1990. Without specific aid in the

historical records it must be concluded that the drafters intended to strike a specific contractual arrangement at the time they agreed to the VTA definition. Those generators which were installed prior to 7/1/1990, but which were not NEPOOL accredited were known to exist, and were presumably factored into to settlement positions of the various parties. To the extent a Purchaser felt they would gain advantage from receiving IGAP for a generator they could have registered it with NEPOOL at the time, so presumably Purchasers that chose not to accredit generation with NEPOOL saw some advantage in not doing so. To now allow Purchasers to change that arrangement and treat generation that was previously “behind the meter” when the VTA was initially agreed to, as an IGAP eligible resource at a later date would change the original negotiated settlement. As such, the definition should be interpreted as intending to apply to those generators which were installed on or prior to 7/1/1990 AND which were NEPOOL accredited at that time. If a generator was installed prior to 7/1/1990 but was not NEPOOL accredited at that time, it should not be eligible for IGAP.

~~2) Should new generation receive a 100% credit, or only 50%?~~

~~A reading of the IGAP definition in the VTA without the historical context would lead to the conclusion that the 50% reduction only applies to generators installed on or prior to 7/1/1990, and that all new generators should receive a 100% IGAP so long as they pass the associated load test. However, in the Explanatory Statement to FERC supporting the IGAP, its drafters went out of their way to explain to FERC that the 50% reduction was associated with the fact that differing generators provide differing benefits. Nowhere in the FERC explanation did the drafters mention providing a 100% credit to new generation. As a result, it must be concluded that all generation (new and old) receives a 50% IGAP so long as it meets the appropriate tests.~~

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~~3) How should re-powered generators be treated?~~

~~The IGAP definition provides little direction related to generators that were installed prior to 7/1/1990 but which have been replaced or refurbished since. As a result treatment of these units should be such that their refurbishment is promoted within the boundaries of the definition. To accomplish this refurbishments should be treated such that any replacement of capacity that was installed prior to 7/1/1990 continues to get IGAP treatment as per the existing generator. To the extent that a refurbishment includes additional capacity beyond that which was installed prior to 7/1/1990 the additional capacity should be treated as new generation and should meet the test for generation installed after 7/1/1990.~~

Implementation

Given the historical context, and resulting clarifying definitions, it becomes clear that IGAP determinations should be implemented as follows:

- 1) VELCO determines if the generator seeking IGAP is installed on a Purchaser's system.
- 2) If it is, VELCO determines if it was installed prior to 7/1/1990.
- 3) If it was, VELCO determines whether it was NEPOOL accredited as of 7/1/1990.
- 4) If items 1 through 3 are answered "yes" it receives an IGAP. If any one of them is answered "no" it does not.
- 5) If VELCO determines that the generator is located on the Purchaser's system in Step 1, but in Step 2 concludes that the generator was installed after 7/1/1990, then VELCO will assess which loads ("associated local load") and generation ("previously installed capacity") exist between the proposed generator and the VELCO system.

6) VELCO will take the highest recorded peak load for the associated local load, and will subtract from it the quantity of previously installed capacity. To the extent the associated local load is greater than the previously installed capacity VELCO will subtract the NEPOOL accredited capacity value for the proposed generator from the remaining associated local load. If the result is greater than zero, then the generator will receive a full IGAP. If the value is less than zero, then the generator will receive a pro rated IGAP based on the load it could remove from the VELCO system.

7) VELCO will administer the IGAP under the assumption that units installed before and after July 1, 1990 receive credit for 50% of their installed capacity. In the Explanatory Statement to FERC supporting the IGAP credit it notes the 50% reduction was associated with the fact that differing generators provide differing benefits. The understanding is a unit (hydro or wind) may not necessarily be able to provide its entire benefit when needed most. The 50% was agreed to in order to simplify the calculation.

8) VELCO will administer the IGAP under the assumption that units that have been replaced or refurbished will continue to receive IGAP treatment up to the capacity replaced of the original IGAP generator. To the extent that a refurbishment includes additional capacity, beyond what was previously installed and receiving IGAP treatment, the additional capacity should be treated as new generation and should meet the test for generation installed after 7/1/1990.

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Future Notes / Issues

Beginning in June 2010, the use of Seasonal Claimed Capability ~~will~~should be replaced by the monthly Qualified Capacity under the Forward Capacity Market, since the term Seasonal Claimed Capability will no longer apply under the new Forward Capacity Market.