TIE BENEFITS AND HQICCS- AN IRH PERSPECTIVE AND RESPONSE TO NEPGA

Presented by the IRH Management Committee Chair

to the NEPOOL Markets Committee

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INTRODUCTION

- **The Interconnection Rights Holders (IRH) are the entities that pay for all the costs of the 2,000 MW HVDC US transmission facilities that interconnect New England and Quebec (all the transmission facilities on the US side are referred to herein as Phase II). The IRH include incumbent Transmission Owners and many of the public power entities in New England.**

- **The costs of Phase II include all ongoing O&M costs and all new investment costs, which are substantial. The IRH are currently considering major investments in the facilities to extend their useful life.**

- **The IRH are providing this background and perspective on tie benefits and Hydro-Quebec Interconnection Capability Credits (HQICCs) now because of the recent NEPGA discussion of these topics at the March 12 Markets Committee meeting.**

- **This presentation provides discussion of tie benefits, the Phase II transmission facilities, and HQICCs.**

TIE BENEFITS BACKGROUND

- As ISO-NE explained in its October 19, 2023 (October 19 Presentation), tie benefits presentation to the PSPC: "Tie benefits reflect the assumed amount of emergency assistance from neighboring Control Areas that New England could rely on, without jeopardizing reliability in New England or the neighboring Control Areas, in the event of a capacity shortage in New England." The ISO-NE October 19 Presentation is available here: https://www.iso-ne.com/static-assets/documents/100004/a05_tie_benefits_methodology_evaluation.pdf

- Tie benefits are not a market product and do not receive market revenues. They are the reasonably assumed reliability benefits that come from transmission infrastructure that enables emergency assistance between regions.

- Network Load customers pay for all the tie benefits that come from the PTF ties through regional transmission rates. In return, load receives the benefit of a lower ICR and less need to procure capacity to meet the ICR. Additionally, the IRH pay for the tie benefits that come from Phase II and receive capacity credits (HQICCs) to reflect the fact that they alone pay for the costs of Phase II in accordance with their percentage interests under Support Agreements.

TIE BENEFITS BACKGROUND

- **Reliance on ties between control areas for emergency energy assistance (i.e., "tie benefits") has been a fundamental feature of NEPOOL and ISO-NE operations and planning since at least the mid 1980s when Phase I went into service and 1990 when Phase II went into service.**

- **Incorporation of tie benefits into the calculation of capacity obligations to reliably serve load has been a fundamental feature of NEPOOL/ISO-NE resource adequacy planning since before the creation of ISO-NE in 1996/1997. The FCM settlement in 2006 recognized tie benefits as an essential feature of resource adequacy planning and capacity obligations in New England.**

- **During all the period that New England has relied on tie benefits, it has had a history of strong reliability. There has been no resource adequacy-based loss of load resulting from use of tie benefits in planning and operations, including in the calculation of the ICR and the resulting capacity procurements.**

TIE BENEFITS BACKGROUND

- **Use of tie benefits is a fundamental feature of both resource adequacy planning under the ISO Tariff (see especially Section III.12) and operations under OP-4 to address capacity deficiencies.**

- **Consideration of tie benefits in resource adequacy and operations is required by the NPCC. For example, NPCC Directory 1 requires the ISO in its resource adequacy evaluation to "Make due allowances for demand uncertainty, resource variability, scheduled outages and deratings, forced outages and deratings, assistance over interconnections with neighboring Planning Coordinator Areas, transmission transfer capabilities, and capacity and/or load relief from available operating procedures."**

- **NPCC reviews Interconnection Assistance Reliability Benefits on an annual basis. In doing so, NPCC provides an assessment of whether each region's evaluation of tie benefits is reasonable and not an overstatement of those reliability benefits. To our knowledge, NPCC has never found New England's assumed tie benefits to be an overstatement of reasonably assumed reliability benefits.**

TIE BENEFITS BACKGROUND

- **There are contractual obligations supporting mutual emergency assistance over each of the New England ties. These obligations are consistent with NPCC requirements.**
- **For example, ISO-NE has a contract with Hydro-Quebec TransEnergie (Interconnection Operators Agreement), under which the parties each have an obligation to provide emergency assistance to the extent each can do so without jeopardizing its own region's reliability. Although these obligations are not firm capacity contracts, they are significant obligations.**
- **Contrary to some arguments, an expectation of emergency assistance is reasonable even when interconnected regions have similar weather conditions at the same time. Weather conditions can be similar, but it is likely there will be different system conditions (outages) in different regions, allowing one region to support the other with emergency energy.**

TIE BENEFITS BACKGROUND

- **In a 2011 order FERC determined that ISO-NE's current tie benefits calculation methodology is just and reasonable. (See *ISO New England Inc.*, 134 FERC ¶ 61,144 (2011) in Docket No. ER11-2580).**
- **The ISO has used that methodology and the resulting tie benefits in the calculation of ICR since. That use has been explained in a Section 205 filing for every set of ICR and HQICC values filed each year. Each year the FERC has accepted those ICR and HQICC values as just and reasonable for use in the capacity auctions.**
- **ISO-NE is not alone as a region that uses tie benefits in resource adequacy planning and determination of capacity obligations. As shown in the ISO-NE October 19 presentation several other ISOs/RTOs use tie benefits for those purposes (see especially Summary Table in October 19 Presentation at 75-77).**
- **NERC also has recently highlighted the importance of ties and emergency assistance between regions for maintaining reliability of the bulk power system, including the need for additional interregional transfer capability. See e.g., 2024 NERC Interregional Transfer Capability Study. https://www.nerc.com/pa/RAPA/Pages/ITCS.aspx**

TIE BENEFITS BACKGROUND

- **Aside from the reliability benefits, use of tie benefits in the calculation of the ICR results in load, which pays for the ties, needing to procure less capacity to meet resource adequacy requirements. The greater the tie benefits, the less capacity load in the region must procure. In addition to the reliability benefit, the ties also allow for lower cost energy to flow into New England, much of it from renewable hydro-electric generation.**

- **In 2023/2024, the ISO undertook a broad evaluation of its use of tie benefits and concluded in a June 2024 memo, among other things, that its "underlying methodology is robust and thorough in the capacity quantification of tie benefits and is representative of the reliability contributions of our neighbors to reduce our Installed Capacity Requirements. However, as noted, the ISO is looking at potential improvements to better incorporate future winter conditions in the modeling assumptions." See ISO-NE Evaluation Summary Memo here: https://www.iso-ne.com/static-assets/documents/100012/final_tie_benefits_evaluation_memo_6_26_2024.pdf**

HQICCS

- **HQICCs are simply the capacity credits that go to the financial supporters of Phase II to recognize the reliability (tie) benefits that Phase II provides to New England. They are the method used to reflect the specific contractual percentage interests of the IRH in the transmission facilities, which percentages are different than the load ratio shares that apply to the PTF ties.**
- **HQICCs are allocated to the IRH based on individual percentage interests that each IRH has under Support Agreements to pay for and use Phase II.**
- **The capacity credits reflected in HQICCs reduce the need for customers to pay for unnecessary capacity. For HQICCs, the relevant customers are those for which the IRH or their affiliates have a load obligation.**
- **HQICCs have been a fundamental feature of the ISO-NE Tariff and, before that, the Restated NEPOOL Agreement for more than three decades.**
- **Changes to tie benefits that reduce HQICCs will adversely impact the IRH and the load that benefits from the HQICCs.**

HQICCS

- **The Commission has repeatedly recognized the reliability benefits of the Phase I/II tie and, accordingly, has affirmed the appropriateness of crediting HQICCs to the IRH. *See New England Power Pool*, 104 FERC ¶ 61,204, at P 2 (2003) (*New England Power Pool*); see also *PG&E Nat'l Energy Group, et al. v. ISO New England Inc.*, 99 FERC ¶ 61,187, at PP 28, 29 (2002) (*PG&E*).**

- **28. With respect to the arguments that the IRHs do not have rights to the HQ credits, we disagree. As early as 1997, the RNA established the appropriate HQ credits to IRHs following the expiration of the Firm Energy Contract.13 Moreover, the HQ credits provide a significant reliability benefit to New England customers. The Commission has recognized that the Support Agreements provide for the parties who pay for the facilities to have "exclusive rights" to the transmission capacity.14 Further, the HQ Interconnection is paid for by the IRHs (through Support Agreements with Asset Owners - not under the NEPOOL tariff).**

- **29. *As to the argument that NEPOOL's tie reliability benefits from the HQ Interconnection depend on outside generation, the HQ Interconnection has become critical to maintaining system reliability*. In fact, an outage of the HQ Interconnection is the single largest loss contingency planned for and secured against by ISO-NE. While it is true that NEPOOL considers the capability of the HQ Interconnection to import power in determining the ICAP requirement for New England, *the reliability benefits that the HQ Interconnection provides exist because of the IRHs contractual obligation to pay for all of the costs of the HQ facilities*.**

THE PHASE II FACILITIES

- **The 690 MW Phase I was first established to link Quebec and New England. Phase II on the Quebec side extended the HVDC line to the massive reservoir and hydro-electric generation at Radisson. On the US side, Phase II extended to the Sandy Pond station in Ayer, MA and increased the rating to 2,000 MW. This extension provided all New England access to the hydro-electric generation in Quebec.**

THE PHASE II FACILITIES

- **Phase II has a long and successful history of having high availability and a low unplanned outage record. This high availability has been the case in both historical New England peak periods (summer months) and Hydro-Québec system peak periods (winter months), providing strong reliability benefits to both neighboring regions.**

- **The high availability of the Phase I/II facilities is essential to New England for both resource adequacy and energy security.**

- **In 2020 the IRH renewed the Support Agreements for an additional 20-year term. They are now considering potential major investments in the facilities. Maintaining tie benefits/HQICCs would enable the IRH to support continued investments in Phase II.**

ADDITIONAL SPECIFIC RESPONSES TO NEPGA

- **NEPGA emphasizes that tie benefits have market consequences. That is true, but so do load forecasts, generator outage history, public policy requirements, transmission constraints, other OP-4 actions, weather, etc. The fact is, tie benefits are not a competing market resource. They are a reasonable and appropriate input into the ICR calculation.**

- **NEPGA emphasizes that tie benefits have consequences for load. That also is true. The main consequence is that load gets the benefits of the ties it pays for in transmission rates through access to emergency assistance and avoided costs for unnecessary capacity procurements.**

- **NEPGA argues incorrectly that IRH receipt of HQICCs creates a subsidization of certain consumers by others in New England. This assertion is incorrect because the HQICCs reflect the value of the Phase II tie benefits paid for by only the IRH on behalf of their customers or those of their affiliates.**

CONCLUSIONS

- The interregional ties are not market resources that receive market revenues, but they provide real and substantial reliability benefits to New England. They have been critically important for decades to successfully maintaining regional reliability.
- Emergency assistance over the ties is subject to NPCC requirements and operating agreements between the applicable system operators.
- The current methodology of using tie benefits in the calculation of ICR has been determined by the FERC to be just and reasonable.
- ISO-NE is not an outlier in relying on tie benefits and emergency assistance to reduce reserve margins and capacity requirements- other regions do so.
- Reliance on tie benefits is appropriate not only for reliability reasons- it also delivers value to load that has paid for the transmission that provides the tie benefits.
- Any change that significantly adversely impacts tie benefits/HQICCs may face challenge as contrary to FERC orders on tie benefits and the HQICCs. Continuation of HQICCs will enable continued IRH-supported investments in Phase II to extend its useful life.