Stakeholder Feedback and IESO Response

IESO Reliability Standards Review – December 14 webinar

Following the December 14, 2020 webinar where the IESO discussed previous feedback received and presented the proposed non-firm import methodology, the IESO received feedback from participants on the proposed methodology and approach outlined in the presentation with respect to intertie support (non-firm imports).

The IESO received feedback from:

- APPrO
- Capital Power
- Evolugen
- Market Surveillance Panel
- Northland Power
- Ontario Power Generation
- TC Energy

This feedback has been posted on the Reliability Standards Review webpage.

Notes on Feedback Summary

The IESO appreciates the feedback received from stakeholders on the methodology and approach. The feedback has been noted and was considered as the methodology and approach were finalized. The IESO has provided a summary below, which outlines specific feedback or questions for which an IESO response was required at this time.

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Intertie Support (Non-Firm Imports):

Feedback on the areas of consideration

Two stakeholders provided feedback on the areas of consideration included in the proposed methodology.

APPrO recommended the IESO review additional aspects of the resource adequacy standard, and requested the IESO provide details on how and when they will be reviewed. Previous feedback from APPrO recommended the IESO review the demand assumptions relating to ICI and climate change, forecasting changes to forced and planned outage rates, and incorporating planned transmission outages into adequacy assessments.

TC Energy reiterated their recommendation that demand uncertainty be included as an additional area of focus. Further, TC Energy recommended including the potential for increasing unpredictable temperature extremes in the criteria when assessing the appropriate level of non-firm imports.

IESO Response

IESO is continually evaluating and looking for ways to improve its resource adequacy assessment methodology.

- IESO is currently undergoing a review of how weather is modeled in its various demand forecasts; once this review is complete (expected late 2021/early 2022), the updated methodology will be shared with stakeholders.
- Planned outage rates and assumptions are based on data submitted by market participants; no change to this process is anticipated.
- IESO agrees that historical performance may not be entirely predictive of future forced outage rates; however, attempting to predict future forced outage rates may introduce as much or more uncertainty into resource adequacy modeling. Future performance is a function of asset age, current condition, future operation and future maintenance investments. At present, no existing model can accurately combine all those elements into an accurate predictive model of future performance.
- For long-term resource adequacy assessments used for system planning, it is highly unlikely that planned transmission outages are known beyond one-year out. Planned transmission outages are normally considered for adequacy assessments performed in the 18-month timeframe for the Reliability Outlook to inform outage management decisions.

Feedback on the approaches for forecasting real-time market imports

Stakeholder submissions generally indicated support for the approaches described for forecasting real-time market imports. Three stakeholder submissions indicated that being able to see the underlying data and analysis would further stakeholders' understanding of the methodology and enable them to provide more meaningful feedback.

APPrO noted that using historical data in the calculations could create uncertainty for market participants if the underlying historical data is subject to change.

Three stakeholders provided comments on the IESO using the 90th percentile dependable flow in the top 5% HOEP hours to calculate the capacity to be used from non-firm imports:

- OPG supports the approach used by the IESO to calculate non-firm import capacity.
- The Market Surveillance Panel suggested the IESO use a metric grounded in supply and demand to estimate the amount of non-firm imports available during periods of capacity scarcity rather than using real-time prices as a gauge.
- With respect to Imports likely to flow under tight supply conditions, Evolugen recommended the IESO replacing the top 5% of HOEP hours with the associated shadow prices.
- OPG cautioned that peak import flow has not been well correlated to high HOEP in the past several years and noted that using high demand as an indicator for high imports would be a good alternative for now.

With respect to the historical analysis approach to forecasting Ability to manage non-discretionary outages, TC Energy provided additonal considerations to test the reasonableness of the results, including: sensitivity testing on the historical supply availability combined with forward-looking demand projections incorporating demand uncertainty as well as adding new resources to the future supply stack that can be reasonably expected to be procured, combined with a forward demand forecast that includes potential future demand uncertainty.

IESO Response

Other than offer data, which will not be the most binding constraint in the methodology, all the data and inputs into the methodology are based on publically available information. NPCC Interconnection Assistance reports are available on the NPCC website. IESO regularly publishes transmission interface and intertie documents. Historical HOEP, demand, and import flow data are available on the IESO website, as are weekly summaries for the Reliability Outlook.

It is true that using historical data could create uncertainty for market participants if the underlying historical data is subject to change. From the IESO's perspective, this is one of the benefits of the proposed methodology. If system conditions and operating practices are changing, IESO needs to be able to update its inputs to reflect those conditions.

With the introduction of a new change to the resource adequacy process, IESO endeavoured to take a conservative approach to non-firm imports, based on previous internal and external stakeholder feedback. As with any resource adequacy decision, there is a balance that must be struck between potential cost-savings and increased reliability risk. For now, IESO believes the 90th percentile dependable flow during the top 5% of HOEP hours provides that balance. This assumption may be reviewed in the future as more experience with non-firm imports is gained.

IESO will review the recommendations for improving the forecasting ability for managing non-discretionary outages.

General/Other Feedback:

Feedback

The following general points of feedback were included in stakeholder submissions:

- APPrO recommended the IESO provide more data and detail around the analysis used to allow participants to understand the IESO's rationale for certain decisions, such as using 90th percentile dependable values (two other stakeholder submissions indicated that the provision of additional underlying data would be helpful as well).
- OPG suggested it would be beneficial if the IESO provided timing details on when alignment of resource adequacy methodologies between planning and operation planning timeframes may occur.
- Northland Power suggested that to enable competition between domestic resources and firm imports, the IESO should increase the quantity of firm imports it will accept in the capacity auction, up to 250 MW.
- TC Energy suggested the IESO provide further details on plans for reviewing and adjusting data analysis on a go-forward basis.
- TC Energy also suggested there may be merit to establishing a prudent upper bound to the levels of non-firm imports relied upon in order to avoid, for example, the occurrence of a few years of unusually temperate weather to result in the undue relaxation of standards.
- Several stakeholder submissions referenced further details of the methodology to be provided in Resource Adequacy Methodology documentation:
    - APPrO would like to see firm dates for reviews and providing transparency around these assumptions.
    - Capital Power expects this detail to include but not be limited to the methodology and assumptions guiding the IESO's analysis of the following:
        - forecasted intertie congestion and forecasted internal Ontario transmission congestion
        - anticipated carbon pricing and policies, and corollary expectations for import economics
        - the forecasted effects of Market Renewal on intertie pricing
        - the effects of climate change on weather normalized demand and price forecasts
        - the processes by which the IESO both (i) forecasts firm imports, and (ii) incorporates this forecast into its analysis of whether capacity/economic incentives remain for non-firm imports

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IESO expects to bring forward details on aligning methodologies between the Reliability Outlook and the Annual Planning Outlook in late 2021 with the potential for full implementation in mid-2022.

With the introduction of a new change to the resource adequacy process, IESO endeavoured to take a conservative approach to non-firm imports, based on previous internal and external stakeholder feedback. As with any resource adequacy decision, there is a balance that must be struck between potential cost-savings and increased reliability risk. For now, IESO believes the 90th percentile dependable flow during the top 5% of HOEP hours provides that balance. This assumption may be reviewed in the future as more experience with non-firm imports is gained.

The amount of firm imports acquired in a capacity auction is an issue best addressed through the Resource Adequacy Engagement.

Moving forward, IESO plans to update the non-firm import capacity assumption using the most recent four years of data. For the 2021 Annual Planning Outlook, this will include data from 2017-2020. The values published in the December Stakeholder Engagement session were based on data from 2016-2019. There is no timeline at this point for reviewing or updating the methodology itself.

Due to the conservative nature of the methodology assumptions itself (90th percentile dependable flows), IESO doesn't anticipate setting an upper bound on non-firm imports. A significant increase in non-firm import capacity at this percentile would be a function of changing underlying operating conditions, as opposed to a few years of temperate weather.

IESO publishes a Methodology Document as part of the Annual Planning Outlook. As methodology improvements are made, the IESO will update this document accordingly.

Given the conservative initial non-firm import assumption, IESO doesn't anticipate internal transmission or intertie congestion to pose a deliverability issue for non-firm imports. Given the multiple potential import pathways and small non-firm import capacity, IESO has determined that internal transmission studies are not a necessary component of the non-firm import methodology.

Since the non-firm import methodology is based on recent data (the previous four years) and most marginal capacity procurements (e.g. Capacity auction) are conducted for a few years into the future, it is not expected that system conditions will change so dramatically that price forecasts are required as part of this assessment. In any modeling process, some judgment must be applied in narrowing down the set of parameters for evaluation. While IESO agrees that more parameters could be evaluated, it is not expected that additional parameter evaluation would change the final study results.