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Market Power Mitigation: Narrow Constrained Areas – Analysis

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Purpose

- To provide updated analysis based on data from 2019-2020 regarding Narrow Constrained Areas in the Market Power Mitigation (MPM) Framework to satisfy stakeholder requests communicated in detailed design
- This information in this presentation is most relevant to dispatchable participants in the Ontario Market, and those who are subject to MPM
- The information in this presentation is for illustrative purposes only. This presentation does not communicate designations of NCAs

Agenda

- Stakeholder feedback from detailed design
- Refresher - constrained areas in the market power mitigation framework
- Summary of hypothetical narrow constrained areas in Ontario

Stakeholder Feedback on Detailed Design

During detailed design, stakeholders requested that the IESO provide information on which locations of the IESO-Controlled Grid would be considered to be 'constrained areas' for the purposes of market power mitigation.

In response to that request the IESO committed to provide information on which area(s) of the grid would have been considered as a Narrow Constrained Area (NCA), based on historical data.

Market participants can study trends in positive congestion in historical shadow price data to understand where BCAs and DCAs may occur in the future.

This information is being provided for illustrative purposes only and will not constitute a designation for use in the future market.

Refresher – What is a Narrow Constrained Area (NCA)

An NCA is an area on the grid in which binding transmission constraints can reduce competition to meet local load.

NCAs will be determined based on the frequency that a given set of constraints are binding over a period of one year. That frequency is 4% of hours (~1 hour per day) in a given year. This 4% threshold is consistent with the approach used in other jurisdictions.

Refresher – What Does it Mean to be in an NCA?

Given the frequency when competition is limited (on average one hour each day), locational prices or make-whole payments are more susceptible to being increased as a result of offers that are not consistent with short-run marginal costs within an NCA. These increases could have a material impact on the cost of meeting load.

NCAs have lower conduct and impact thresholds compared with other locations on the grid to manage the increased risk of uncompetitive offers driving higher costs.

Conduct and Impact Thresholds for Resources in NCAs

Dispatch Data Tested	Conduct Threshold when NCA conditions ARE met	Conduct Threshold when BCA conditions are met
Energy offer	Offer price is greater than the lesser of 50% or $25/MWh above reference level value; offers below $25/MWh are excluded from economic withholding tests.	Offer price is greater than the lesser of 300% or $100/MWh above reference level value; offers below $25/MWh are excluded from economic withholding tests.
Start-up offer	Start-up offer is greater than 25% above reference level.	Start-up offer is greater than 100% above reference level.
Speed no-load offer	Speed no-load offer is greater than 25% above reference level.	Speed no-load offer is greater than 100% above reference level.

Price Impact Tested	Impact Threshold when NCA conditions ARE met	Impact Threshold when BCA Conditions are met
Locational Marginal Price (LMP) for Energy	Energy LMP in the as-offered step of the relevant calculation engine is greater than the energy LMP from the reference level pricing step by the lesser of 50% or $25/MWh.	Energy LMP in the as-offered step of the relevant calculation engine is greater than the energy LMP from the reference level pricing step by the lesser of 100% or $50/MWh.

Methodology

Data from 2019-2020 was used to estimate areas that exhibit the characteristics of NCAs. The IESO used congestion data from currently available nodal/shadow prices; this data is NOT currently used for settlement.

The methodology for determining NCAs in the future market will be described in the Market Power Mitigation market manuals. The IESO will start engaging with stakeholders on these manuals in September of this year.

Results

Our estimate suggests that there would have been five NCAs, based on 2019-2020 data. Two in the Northeast zone and three in the Northwest zone.

Note: the list of facilities within each NCA does not include wind and solar resources. These resources are unlikely to be impacted by NCA designations due to their offer behaviour.

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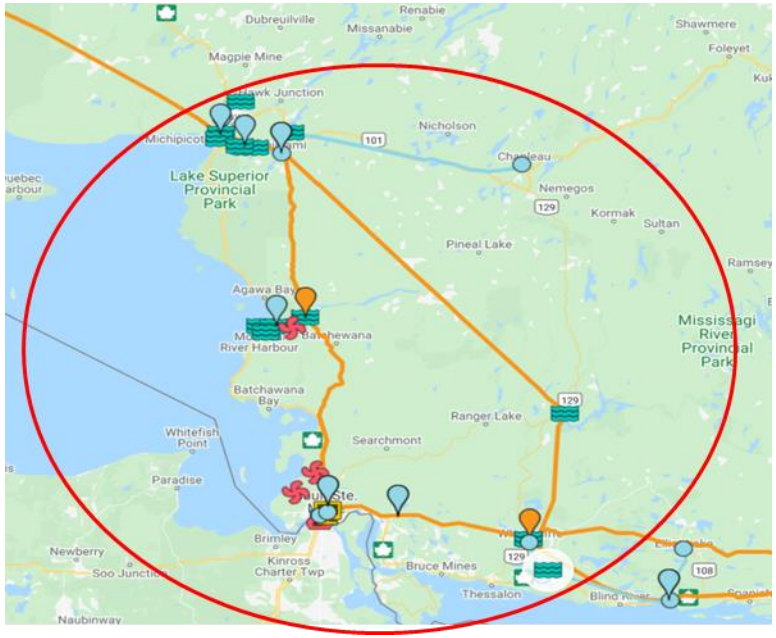
Northeast – NCA 1

Facility	Congestion Frequency
DA Watson Harris Hollingsworth Mission Steephill Andrews Gartshore Hogg Mackay Clergue Wells Aubrey Falls	11%



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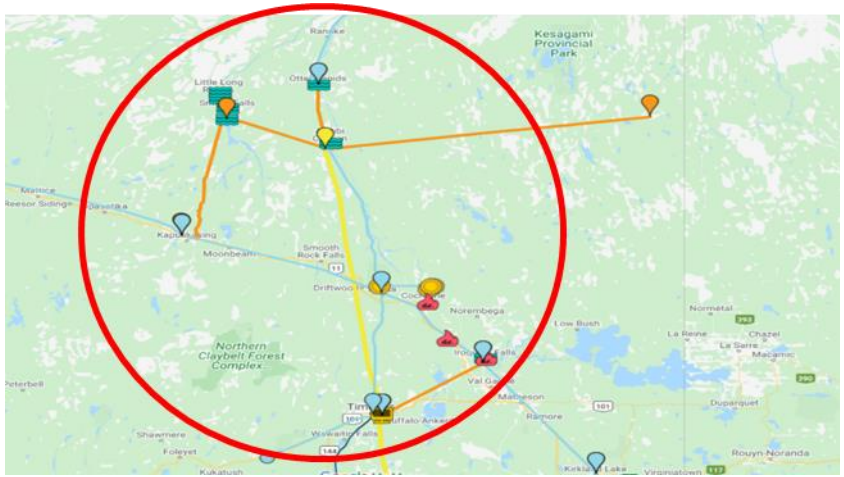
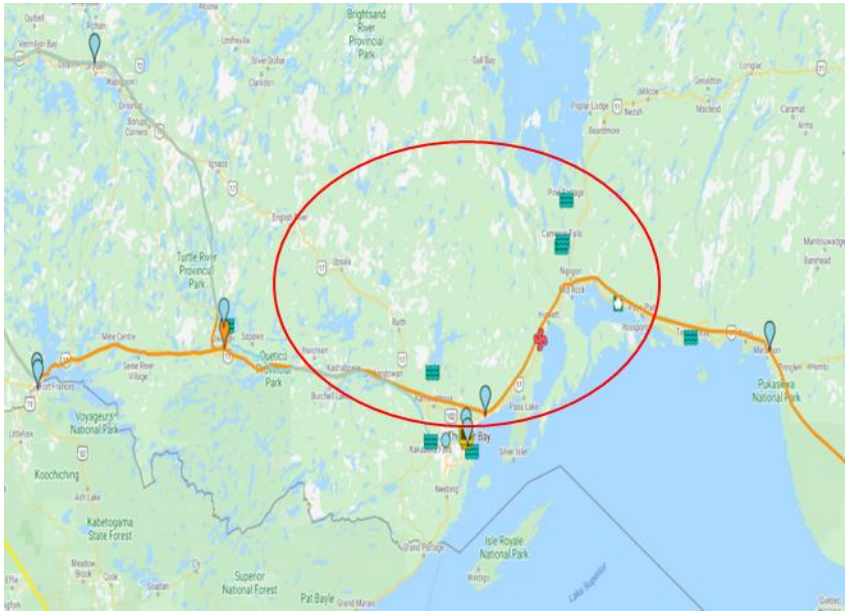
Northeast – NCA 2

Facility	Congestion Frequency
Harmon	
Kipling	
Smoky Falls	
Canyon	
Otter Rapids	10%
Little Long	
AP Iroquois Falls	
NP Iroquois Falls	
Tunis	



Northwest – NCA 3

Facility	Congestion Frequency
Aguasabon Silver Falls Alexander Cameron Falls Nipigon Pine Portage	16%



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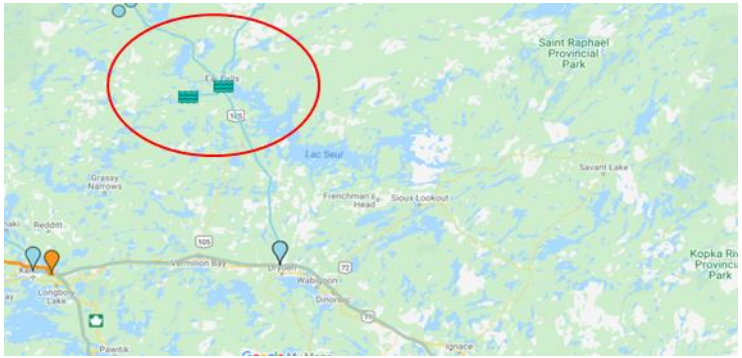
Northwest – NCA 4 and 5

Facility	Congestion Frequency
Ear Falls Manitou Falls	17%



Facility	Congestion Frequency
Caribou Falls Whitedog	15%

Next Steps

- September 2021: Start of engagement on Market Power Mitigation market rules and manuals.
- February 2023: IESO will publish the NCA designations that will be used for go-live in November 2023. These designations will be updated annually on an ongoing basis.

Thank You

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