

***Consideration of Impacts on Modeling
External ICAP Imports on Installed
Reserve Margin***

**Greg Drake/Tracy Landers
System Resource Planning
New York Independent System Operator**

NYSRC Installed Capacity Subcommittee

Date: March 4, 2009

Draft- For Discussion Purposes Only

Concern

- ◆ The amount of forecasted external imports included in the model may be limiting the amount of available emergency assistance and thus impacting the expected IRM and LCRs.

Background

- ◆ 2008/2009 Capability Year
 - *Sensitivity Case ran without External Imports included resulted in no impact on the LOLE*

- ◆ 2009/2010 Capability Year
 - *Sensitivity Case ran without External Imports included resulted in a lower LOLE.*
 - *The results indicated that the imports were impinging on the amount of available emergency assistance.*
 - *Although this impingement was relieved during the External ICAP Allocation Study, it was decided that further investigation was necessary.*

Process Consideration

- ◆ NYSRC Rules and Policy
 - *NYSRC Rule A-R1 sets the LOLE criteria, including external assistance, to 0.1 days/year when establishing the Installed Reserve Margin.*
 - *NYSRC rule A-R3 states that ICAP from external sources is permitted to the extent that rule A-R1 is satisfied.*

Process Consideration

Policy 5-2

- ◆ *To avoid overdependence on the Outside World Areas for emergency capacity support, the following rules are applied:*
 - *An Outside World Area's LOLE cannot be lower than its own LOLE criterion;*
 - *its isolated LOLE cannot be lower than that of the NYCA;
and*
 - *its IRM can be no higher than that Area's minimum requirement.*
- ◆ *External Control Areas may need to be adjusted, by increasing/decreasing their load, until they meet the above rules.*
- ◆ *Applying these rules creates external Control Area models that can provide realistic levels of emergency assistance on NYCA peak load days.*

Study Process

- ◆ Installed Reserve Margin Study
 - *Interface Ties Comprised of:*
 - Grandfathered Contracts
 - Emergency Assistance
 - External Imports

 - *Imports Modeling*
 - Interface tie capabilities are reduced to account for the amount of forecasted External Imports.
 - This process may inhibit the emergency assistance availability and thus may affect the IRM.

Study Process

- ◆ Locational Capacity Requirements Study
 - *determines the minimum LCRs (MLCRs) for specific zones that have been identified as “Localities” .*

- ◆ External ICAP Allocation Study
 - *determines the maximum amount of external ICAP that is allowable for the NY ICAP market and the maximum ICAP limit for each eligible CA.*
 - *the interface ties are restored to their full rated value less the grandfathered contracts to allow the full amount of available emergency assistance to flow into NYCA.*

Evaluation

- ◆ A full IRM-LCR curve was developed without any External Imports modeled (*i.e.* Interface Ties were restored to their full value less grandfathered contracts.)
- ◆ The resulting curves in Figures 1 and 2 show that eliminating the External Imports shifts the knee of the curve upwards and toward the left. That is, the elimination reduces the required NYCA IRM while increasing the LCRs.

Figure 1: Locality J

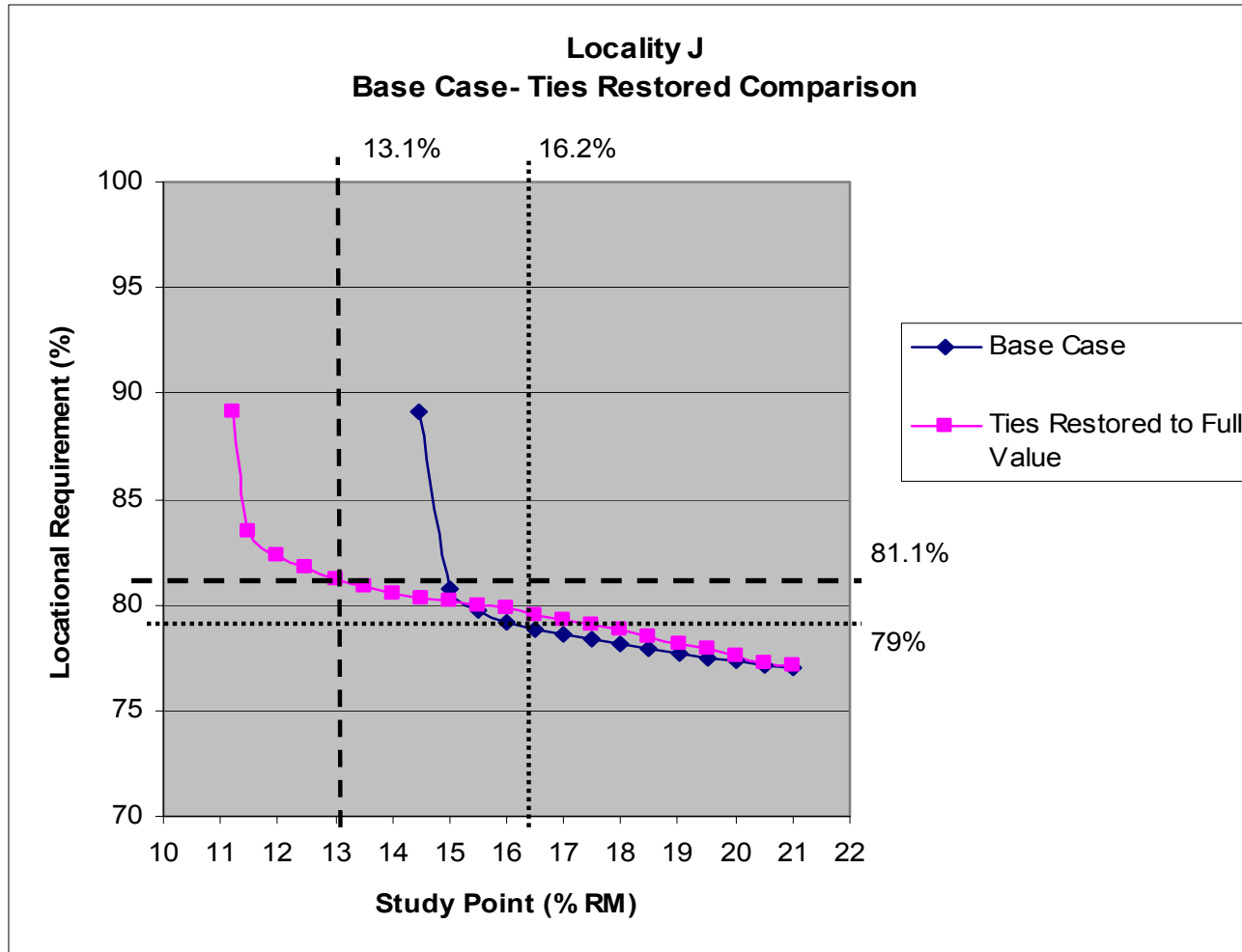
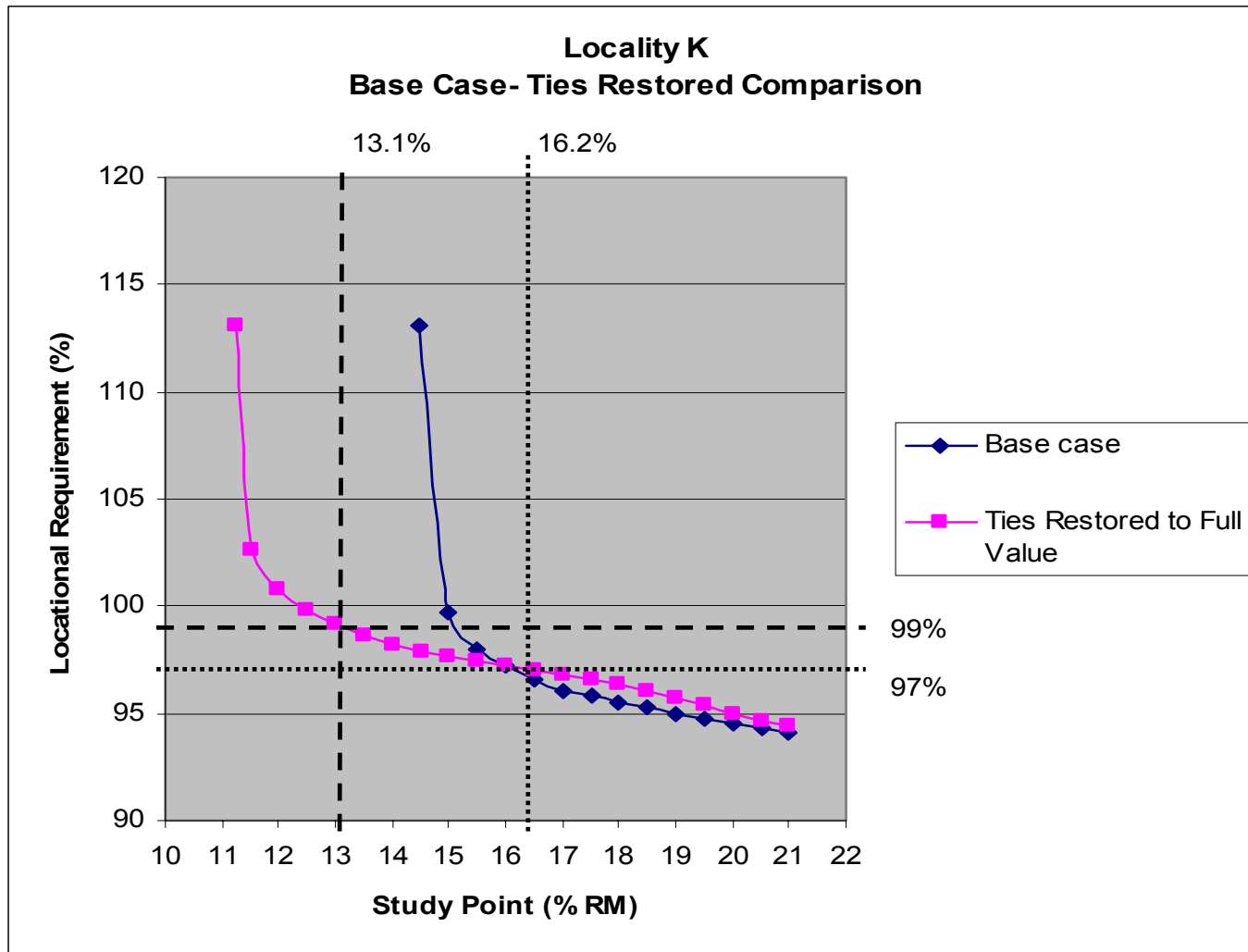


Figure 2: Locality K



Regression Analysis

	IRM	Locality J LCR	Locality K LCR
Base Case	16.2%	80.0%	97.5%
No External Imports*	13.1%	81.1%	99.1%

***This should not imply that the 2009 Installed Reserve Margin would have been lower. When replacing the external Control Areas, the ICS did not know that assistance was being impinged upon.**

Conclusion

- ◆ If External ICAP imports are allowed to be forecast during the setting of the IRM, they could impinge on the level of emergency assistance.
- ◆ Because the NYSIO resets the imports before conducting the Imports study, this impingement is relieved, and the LOLE criterion is ensured.
- ◆ Even so, the setting of the IRM, and in particular the establishment of realistic levels of emergency assistance, can be jeopardized when the NYISO forecasts high levels of External ICAP imports.

Recommendation

- ◆ It is therefore recommended that forecasted External ICAP Imports should not be modeled during the establishment of the IRM.
- ◆ The grandfathered contracts should continue to be modeled, as they are established by tariff.

The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and provides comprehensive reliability planning for the state's bulk electricity system.

www.nyiso.com