

COMPLETED DRAFT CARIS PROCEDURE
ESPWG - 12/2323/09

ADDITIONAL BENEFIT/~~COST~~ METRICS FOR CARIS STUDIES
(ATTACHMENT Y: SECTION 11.3.d)

Tariff Requirement:

11.3.d In conducting the CARIS, the NYISO shall conduct benefit/cost analysis of each potential solution to the congestion identified, applying benefit/cost metrics that the NYISO will develop in conjunction with ESPWG. The principal benefit metric for the CARIS analysis will be expressed as the present value of the NYCA-wide production cost reduction that would result from each potential solution.

Additional benefit metrics shall include estimates of reduction in losses, LBMP load costs, generator payments, ICAP costs, Ancillary Services costs, emission costs, and TCC payments. The NYISO will work with the ESPWG to determine the methodology and models needed to develop and implement those additional metrics, and also to determine the most useful metrics for each CARIS, given overall NYISO resource requirements.

Proposed mMethodology:

The additional metrics will estimate the benefits of the potential solutions to the congestion identified for information purposes only. All the quantities, except ICAP, will be the result of the forward looking production cost simulation. The additional benefit metrics will be determined by measuring the difference between the CARIS base case fully constrained system value and a system value when the potential generic solution is added. All three resource types will be considered as potential generic solutions to the congestion identified~~transmission constraint under study is removed-~~, such as generation, transmission, and/or demand response. The additional metrics will be expressed as the Present Value by using the following formula: *Present Value in year 1 = Sum of the Present Value from each of the 10 years of the Study Period.* The discount rate to be used for the present value analysis shall be the current weighted average cost of capital for the NY Transmission owners.

The definitions of the LBMP load cost metric, generator payments metric, reduction in losses metric, ancillary services costs metric, and TCC payments metric are set forth below.

LBMP load costs:

This metric measures the change in total load payments and unhedged load payments. Total load payments will include the LBMP payments (energy, congestion and losses) paid by electricity demand (forecasted load, exports, and wheeling). Exports will be

consistent with the input assumptions for each neighboring control area. Unhedged load payments will represent total load payments minus the TCC ~~payments. hedge.~~

Reduction in losses:

This metric will measure the change in marginal losses payments. Losses payments will be based upon the loss component of the zonal LBMP load payments.

Generator payments:

This metric measures the change in generation payments. Generation payments will include the LBMP payments (energy, congestion, losses), and ancillary services payments made to electricity suppliers. Ancillary Services costs will include payments for Regulation Services and Operating Reserves, including 10 Minute Synchronous, 10 Minute Non-synchronous and 30 Minute Non-synchronous. Thus, generator payments will be ~~It is~~ the sum of the LBMP payments and ancillary services ~~these~~ payments to generators and imports. Imports will be consistent with the input assumptions for each neighboring control area.

~~**Reduction in losses:**~~

~~This metric will measure the change in losses payments. Losses payments will be based upon the loss component of the zonal LBMP load payments.~~

~~**Ancillary Services costs:**~~

~~This metric will measure the change in payments to generators for Regulation Services and Operating Reserves, including 10 Minute Synchronous, 10 Minute Non-synchronous and 30 Minute Non-synchronous.~~

TCC (Transmission Congestion Contracts) payments:

This metric will measure the change in congestion hedging derived from multiplying the TCC MW owned times the congestion component of the LBMP difference between the TCC contract point-of-withdrawal (POW) minus point-of-injection (POI). POI will represent the location where the energy is purchased, and POW will represent the location where the energy is supplied. There is no adjustment in this calculation for different owner types (i.e., all TCC revenue is attributed to load), nor for the variety of ~~grandfathered~~ TCC contracts. For zonal TCC attributions, the TCC is credited to a zone based on its POW.

Emission metric:

This metric will measure the change in CO₂, NO_x, and SO₂ emissions in tons on a zonal basis. Emission costs will be reflected in the development of the production cost curves of capacity resources. ~~This metric will measure the change in CO₂, NO_x, and SO₂ emissions.~~

ICAP costs:

The measurement of this metric is highly dependent on the rules and procedures guiding the calculation of the IRM and LCR, both for the next capability period and future

capability periodseapacity market. Therefore, for the first CARIS cycle, the NYISO will use the MW impact methodology described below.

The MW impact methodology:

1. Determine the horizon year LOLE (e.g. 2018 LOLE 0.02)
2. Add a potential generic solution to congestion identified
3. Calculate the delta in the LOLE between the base system and a system when a potential generic solution is added.
4. Scaling:

← - - - - Formatted: Bullets and Numbering

a) If the reserve margin in Zone J or Zone K is in excess (greater than currently approved LCR), scale generation down in Zone J or Zone K local capacity regions until we get to the base system LOLE level or the currently approved LCR level.

OR

b) If the reserve margin in both Zones J&K is in excess (greater than currently approved LCR), scale the generation down together proportionally to relative load levels until we get to the base system LOLE level or the currently approved LCR level.

← - - - - Formatted: Bullets and Numbering

c) If base system LOLE has not been reached, scale generation down in all NYCA until the base system LOLE is reached.

← - - - - Formatted: Bullets and Numbering

NYISO suggests that this metric be postponed until after the NYISO future capacity market is fully developed.