

# 2015 CARIS 1 Open Discussion Items: Scenarios and Additional Metrics

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*KCC*



# Target Schedule

## ◆ March 2015

- *Review Assumptions Matrix (3/20/2015) (completed)*
- *Initiate Collection of Generic Cost data (3/20/2015) (in progress)*

## ◆ April 2015

- *Presentation of Benchmarking/Alignment Results (4/7/2015; 4/22/2015)*
- *Identification of Additional Metrics (4/7/2015; 4/22/2015)*
- *Identification of Scenarios (4/7/2015; 4/22/2015)*

## ◆ May 2015

- *Review CARIS-related Gold Book Data (5/4/2015)*
- *Present Historic and Forecasted Congestion Analysis (5/4/2015)*
- *Initial Discussion of Generic Solutions (5/4/2015)*
- *Initial Discussion of "Study Cases" (5/4/2015)*
- *Finalize Generic Solutions (5/21/2015)*
- *Finalize "Study Cases" (5/21/2015)*

# Scenarios

- ◆ **Attachment Y, Section 31.3.1.5, reads as follows:**
  - ***The ISO, in consultation with the ESPWG, shall develop congestion and resource integration scenarios addressing the Study Period. Variables for consideration in the development of these congestion and resource integration scenarios include but are not limited to: load forecast uncertainty, fuel price uncertainty, new resources, retirements, emission data, the cost of allowances and potential requirements imposed by proposed environmental and energy efficiency mandates, as well as overall ISO resource requirements. The ISO shall report the results of these scenario analyses in the CARIS.***

# 2013 CARIS 1 Scenarios

Scenario	Variables
Implementation of Cross-State Air Pollution Rule	Increases in NOx and SOx costs as projected by EPA
Higher Load Forecast	4% higher (referred to as the economic forecast in the 2013 Gold Book)
Lower Load Forecast	5% lower (reflects EEPS Goals achievement)
Full Main Tier RPS and Full EEPS Goals Achievement	Add renewables from interconnection queue and reduce 2015 coincident peak load to 32147 MW
Athens SPS Out of Service	2013-2022
Higher Natural Gas Prices	One standard deviation
Lower Natural Gas Prices	One standard deviation
Lower CO <sub>2</sub> Emissions Cost	\$5/ton ceiling
Higher Natural Gas Prices in Mid-State	Midstate & New England / Upstate differential doubled
No National CO <sub>2</sub> program	CO <sub>2</sub> Allowance Costs for non-RGGI states set to \$0

# Proposed 2015 CARIS 1 Scenarios



Scenario	New/Previously Studied	Variables
Higher Load Forecast	Previously Studied	5% higher
Lower Load Forecast	Previously Studied	5% lower
Athens SPS Out of Service	Previously Studied	2013-2022
Full NY-Sun Attainment	New	3,000 MWs of Solar-PV (distributed state-wide) by 2024
Higher Natural Gas Prices	Previously Studied	One standard deviation
Lower Natural Gas Prices	Previously Studied	One standard deviation
Higher CO <sub>2</sub> Emissions Cost	New	Increase growth rate for CO <sub>2</sub> Allowance Costs
Higher Natural Gas Prices in Mid-State	Previously Studied	Midstate & New England / Upstate differential doubled

# Feedback on Scenarios

- ◆ **Are the proposed Scenarios relevant?**
- ◆ **Are there alternative Scenarios that are more relevant?**
- ◆ **Are there proposed modifications to the draft CARIS 1 Scenario parameters?**

## Additional Metrics

- ◆ **Per Attachment Y, Section 31.3.1.3.5**
- ◆ **Reduction in Losses**
  - *This metric calculates the change in marginal losses payments. Losses payments are based upon the loss component of the zonal LBMP load payments.*
- ◆ **LBMP Load Costs**
  - *This metric measures the change in total load payments. Total load payments include the LBMP payments (energy, congestion and losses) paid by electricity demand (load, exports, and wheeling). Exports will be consistent with the input assumptions for each neighboring control area.*
- ◆ **Generator Payments**
  - *This metric measures the change in generation payments by measuring only the LBMP payments (energy, congestion, losses). Thus, total generator payments are calculated for this information metric as the sum of the LBMP payments to NYCA generators and payments for net imports. Imports will be consistent with the input assumptions for each neighboring control area.*

## Additional Metrics

### ◆ ICAP Costs

- *The latest available information from the installed reserve margin (IRM), locational capacity requirement (LCR), and ICAP Demand Curves are used for the calculation. The NYISO first calculates the NYCA MW impact of the generic solution on LOLE. The NYISO then forecasts the installed capacity cost per megawatt-year point on the ICAP demand curves in Rest of State and in each locality for each planning year. There are two variants for calculating this metric, both based on the MW impact. For more detail on this metric see the Section 31.3.1.3.5.6 of the Tariff.*

### ◆ Emission Costs

- *This metric measures the change in the total cost of emission allowances for CO<sub>2</sub>, NO<sub>x</sub>, and SO<sub>2</sub>, emissions on a zonal basis. Total emission costs are reported separately from the production costs. Emission costs are the product of forecasted total emissions and forecasted allowance prices.*

### ◆ TCC Payments

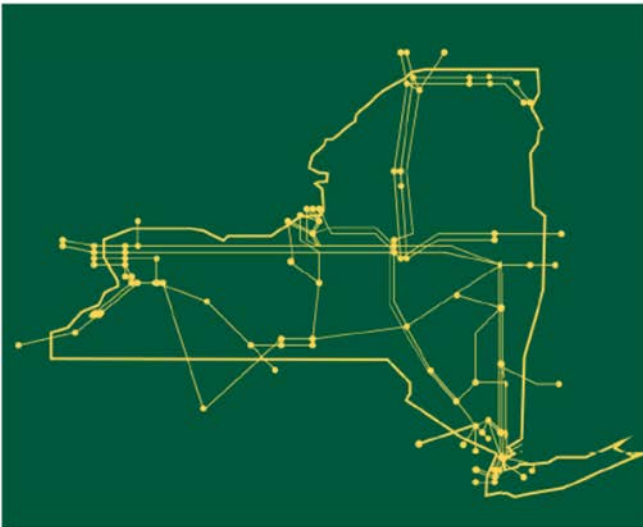
- *The TCC payment metric is calculated as the change in load payment minus the sum of the generator payments and the net import payments. This is not a measure of the Transmission Owners' TCC auction revenues.*



# Next Steps

- ◆ **NYISO will review feedback and develop final draft set of Scenarios for ESPWG review and comment.**
- ◆ **Additional comments can be provided to [lbullock@nyiso.com](mailto:lbullock@nyiso.com).**

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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