

FERC Order 719 Response regarding Small Customer Aggregation

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Agenda

- ◆ FERC Order 719 reference to Small DR Resources
- ◆ Order 719 Response topics
- ◆ Draft definition for Small Demand Response
- ◆ Interaction with Reliability Organizations
- ◆ Communication with DSASP aggregations
- ◆ Market Rules

Smaller DR Resources in Ancillary Services Markets

- ◆ FERC Order 719 - Paragraph 97:
 - *Assessment of technical feasibility and value of smaller DR Resources providing ancillary services within one year of the Order (due Oct 28, 2009)*
 - Report findings on whether (and how) smaller DR Resources can reliably and economically provide operating reserves
 - Need for M&V and definition of what constitutes a “small demand response resource”

Order 719 Response Topics

- ◆ Proposed definition for Small Demand Resources
- ◆ NYISO elected not to have a pilot for small demand resources to provide ancillary services
- ◆ Interaction with reliability monitoring entities (NPCC, NYSRC) regarding aggregations of small resources to provide ancillary services
- ◆ Communication path requirements and issues

Draft Definition: Small Demand Resource

- ◆ A demand resource with load reduction capability that does not meet the individual reduction threshold required to participate in the demand response program in which it wishes to enroll.

Integrating Small DR into NYISO Ancillary Services Market

- ◆ NYISO elected not to have a pilot for small demand resources to provide ancillary services
 - *Clarification required from regional reliability organizations*
 - *Market integration*
 - Concerns over dispatching of resources for real-time products without operational visibility
 - If resources in pilot were not modeled in MIS, a different trigger would need to be developed for the pilot
 - Alternate trigger may not reflect requirements of actual market participation
 - Frequency of dispatch
 - Communication path of dispatch instruction and response
 - *Without integration into the market, pilot resources could not receive payments under tariff*

Reliability Organizations

- ◆ Interaction with reliability monitoring entities (NPCC, NYSRC) regarding aggregations of small resources to provide ancillary services
 - *Presentation to NPCC Task Force on Coordination of Operation*
 - September 24-25
 - No issues raised
 - *Request a place on NYSRC Reliability Rules Subcommittee agenda to present concept of aggregation of small resources to provide operating reserves*
 - Next two RRS meetings
 - November 5 or December 2
 - Subsequent presentations may be required
 - When proposed market rules have been fully developed
 - If changes to any reliability rules are required based on proposed market rules

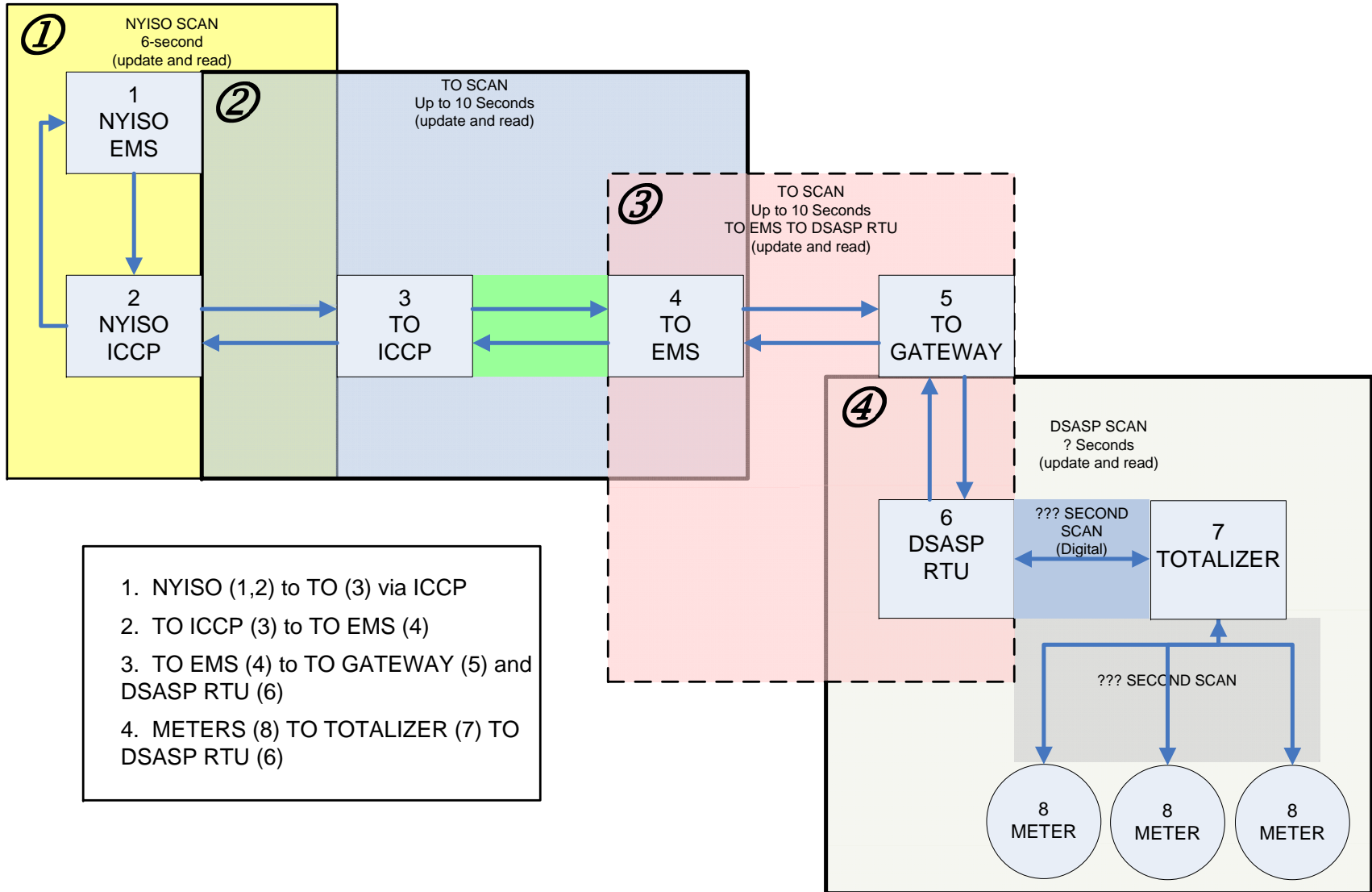
Communications for DSASP Aggregations

- ◆ Initially, ICCP will be the sole technology to communicate to Aggregators
 - *Additional communication protocols may be permitted in the future*
 - Communication protocol development for small resources is underway in the IRC
 - Report is due towards the end of the year
- ◆ Current configuration would still require the signal to go through the TO
- ◆ Aggregator manages communication with its resources
 - *NYISO may need to specify a maximum scan time for transmission of signal to its resources and collection of response*

Communication Timing Issues

- ◆ Telemetry time is an issue for demand resources providing ancillary services
 - *Complete round trip of dispatch signal and response may be up to 30 seconds to a single demand resource*
 - Path from NYISO to resource may span multiple systems, each with different scan rates
 - *Adding another scan for the aggregator to its resources and back may double the complete round trip of the dispatch signal and response*
 - Therefore, the NYISO proposes that initial integration of aggregations of small resources be limited to operating reserves

Sample Communication Path



1. NYISO (1,2) to TO (3) via ICCP
2. TO ICCP (3) to TO EMS (4)
3. TO EMS (4) to TO GATEWAY (5) and DSASP RTU (6)
4. METERS (8) TO TOTALIZER (7) TO DSASP RTU (6)

Market Rules

- ◆ Aggregations of small resources may need to be limited initially to operating reserves
 - *Communication path time delay to aggregations likely to be greater than to individual resources*
 - Aggregations will need to scan multiple meters, totalize meter data and compute response
- ◆ Evaluate whether current rules and procedures are sufficient to accommodate aggregations
 - *Registration*
 - Interaction with other demand response programs
 - Procedures to prevent enrollment by multiple aggregators
 - *Metering*
 - Standards for cycle time from the aggregator to resources and back
 - Acceptable meter configurations
 - *Measurement and Verification*
 - Method for determining the Base Load MW
 - Procedures for verifying response MW calculations for an aggregation
 - *Settlement*
 - Possible changes to performance factor calculation to accommodate acceptable response times
- ◆ Possible tariff and/or software changes

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.

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