

Aggregators of Retail Customers (ARCs) in the Midwest ISO

17 May 2010

Questions to be Answered

- What is an ARC?
- Who can be an ARC?
- Are ARCs allowed everywhere?
- How do ARCs work with Midwest ISO markets?
- What requirements must ARCs meet?
- How are ARC load reductions measured and verified?
- What information is shared and with whom?
- How are ARCs compensated?
- How are LSEs protected?
- Why are ARCs important to the market?

Agenda

- Basis for ARCs: FERC Order 719, 719-A
- ARCs in the Midwest ISO:
from 'bid-to-bill' -- (Registration through Settlement)
- Revisions made to Midwest ISO Tariff to accommodate FERC Orders
- Rationale for ARCs in the market

Order 719

ARC Compliance Requirements & Guidelines

- Equal Treatment and Requirements
 - Comparison: other LSEs or large industrial customer
 - M&V: transparency, documentation, compliance
- ARCs are only provided an opportunity to offer demand response - no guarantee of selection.
- ... on behalf of only one retail customer or multiple retail customers.
- An individual customer may serve as an ARC on behalf of itself and others.

Order 719

ARC Compliance Requirements & Guidelines

- “Relevant Electric Retail Regulatory Authority” means the entity that establishes the retail electric prices and any retail competition policies for customers, such as the city council for a municipal utility, the governing board of a cooperative utility, or the state public utility commission.
 - Except when the laws and regulations of the RERRA do not permit a retail customer to participate, there is no prohibition on who may be an ARC.
 - The market rules shall allow bids from an ARC unless this is not permitted under the laws or regulations of the RERRA.

Order 719

- RTO/ISO Requirements:
 - Registration, creditworthiness, and certification that participation is not precluded by the RERRA.
 - Membership (if membership is a requirement for other bidders)
 - Single aggregated bids from a single area, reasonably defined
 - To avoid double-counting

Order 719-A

- Added two more compliance items:
 - Threshold for small utilities
 - 4 million MWh (distributed by utility)
 - “Large” (>4) “ in unless specifically out ”
 - “Small” (<4) “ out unless specifically in ”
 - Information Sharing
 - Notify an affected utility: the expected level of that participation for each enrolled resource
 - Address the expressed concerns regarding:
 - double counting
 - verification procedures
 - deviation charges

ARCs in the Midwest ISO (proposed)

1. Scope of ARC's Participation in Midwest ISO Markets

- a) DRR (Energy & Operating Reserves; Capacity)
- b) LMR (Emergency Energy; Capacity)
- c) EDR (Emergency Energy)

2. Eligibility Requirements

- a) $X > 4$ m MWh distributed previous fiscal year: allowed unless RERRA specifically denies
- b) $X < 4$ m MWh distributed previous fiscal year: denied unless RERRA specially allows

ARCs in the Midwest ISO (proposed)

3. Registration Requirements

- a) Certification of eligibility of retail customers to participate, through an ARC, in the Midwest ISO's markets
- b) Identity of the utilities/LSEs serving the retail loads that the ARC proposes to curtail
- c) Identity of the RERRA(s) having jurisdiction over the utilities/LSEs serving the ARC customers
- d) Identity of LBA where the ARC customers' loads are located
- e) M&V methodology selection, as specified in the Business Practices Manuals
- f) List of retail customer accounts, including names and addresses
- g) Expected level of participation of each registered resource
- h) For each identified LSE, RERRA, and LBA, the names of relevant contact persons or entities, postal and e-mail addresses, and telephone and fax numbers
- i) The applicable MFRR for each identified demand response asset, with a continuing duty to update this information if there are any subsequent changes by RERRA

ARCs in the Midwest ISO (proposed)

4. Modeling

- a) DRR Type II – included in Network Model
- b) Unique CP Node or EP Node

5. Offer Requirements

- Same requirements as a demand response offer from any other Market Participant
- Treated no differently than demand response offers from other MPs
(unit dispatch software will not be able to distinguish any difference)
- ARC MP has only an opportunity to offer, not a guarantee of selection
- ARC MP can offer demand response for 1 retail customer or multiple retail customers
- Individual customer may serve as an ARC on behalf of itself and others
- Single aggregated offers consisting of sets of resources, limited to within an LBA area
- Restrictions to avoid double-counting the same demand response resource

ARCs in the Midwest ISO (proposed)

6. Compensation for ARCs

a) Will be paid $LMP - MFRR$

- $MFRR$ = Marginal Foregone Retail Rate
- $MFRR$ set by RERRA when RERRA specifically allows or determines
- $MFRR$ set by ARC and LSE when RERRA is silent (“large” distributor)

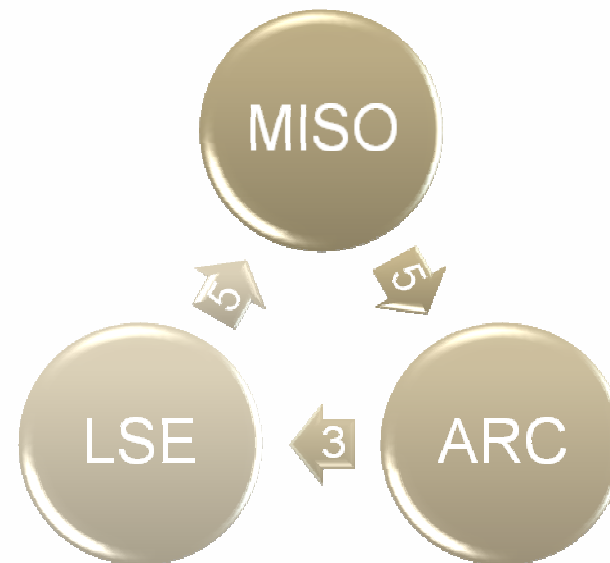
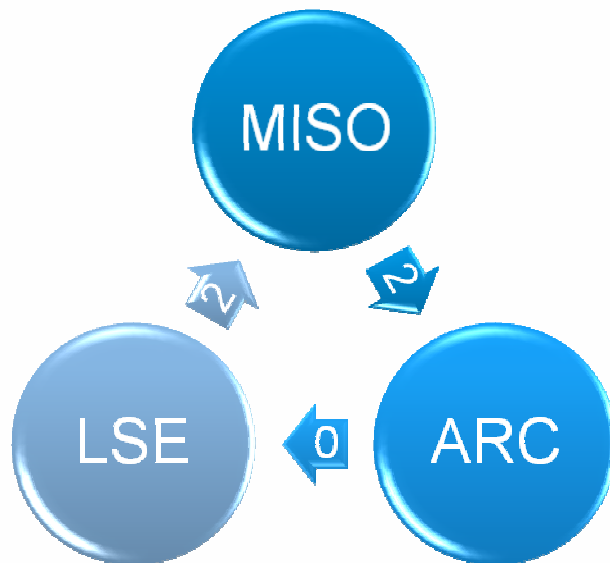
b) Explanation of payment logic

- Total payment by Midwest ISO = LMP
- $LMP - MFRR \rightarrow ARC$; $MFRR \rightarrow LSE$

ARCs in the Midwest ISO (proposed)

7. Recovery of ARC's Compensation

- a) Net (LMP – MFRR) paid to ARC
- b) Identical amount charged to LSE
- c) Equivalent to paying full LMP to ARC and receiving full LMP from LSE, with MFRR paid by ARC to LSE



ARCs in the Midwest ISO (proposed)

8. Settlement Process

- a) Energy settled as described above
- b) Reserves settled without any MFRR
- c) Capacity settled without any MFRR

9. Communication Protocols

- a) Notification of affected LSEs
- b) Registration process to avoid double-counting
- c) Deviation charges eliminated by re-constitution of load for LSEs
- d) Phantom energy reductions avoided by M&V protocols

10. Measurement and Verification

- a) NAESB framework and guidelines adopted
- b) Relaxation of Host Load Zone requirement

Revisions Made to Tariff

- Module A: Market Participant that is an ARC has been defined.
- Module C:
 - Defines the role and responsibilities of an ARC
 - Registration requirements
 - Modeling requirements
 - Relationship between the ARC and LSE
 - Assets ARC can represent
 - Certification requirements (RERRA)
- Metering requirements
 - Now allow hourly measurements (energy) and 5-minute measurements (contingency reserve provision)
 - Regulation reserve requirements remain unchanged

Revisions Made to Tariff

- Host Load Zone restriction relaxed.
- Forecasting (Load Zone Dispatch Interval Demand Forecast) eliminated, replaced with M&V protocols, adopting the framework and guidelines adopted by NAESB.
- ARCs will offer / schedule DRR assets already included in the Tariff:
 - ARC's offer will meet the same requirements as a demand response offer from any other Market Participant.
 - ARC's offer will be treated no differently than demand response offers from other MPs (unit dispatch software will not be able to distinguish any difference).
 - ARC bidder has only an opportunity to offer, not a guarantee of selection
- As part of the registration process
 - ARC can offer demand response for 1 retail customer or multiple retail customers
 - Individual customer may serve as an ARC on behalf of itself and others

Questions at this workshop

- How concept of ARC participation in Midwest ISO markets works
- Reliability impacts
- Costs/benefits
- What does it mean when an ARC clears?
- Ratepayer and end-use customer roles
- Lessons learned in other RTOs
- Issues/concerns with different ARCs operating in same service territory

ARC-economics

- Why are ARCs important to the market?
 - ARCs provide load reduction
 - Load Reduction may be more cost-efficient than generation (new or existing)
 - Hourly energy possibilities, especially at higher LMP
 - Operating Reserve possibilities, reducing the need for seldom-used capacity
 - Emergency reductions potentially avoids need to drop firm loads
 - Capacity provided reduces the need for new generation
 - ARCs are specialists
 - Developed skills in locating, aggregating
 - Specialized skills in billing, marketing
 - Specialized knowledge of market (offers, structure)
 - Energy-dominant Market: role played by demand response