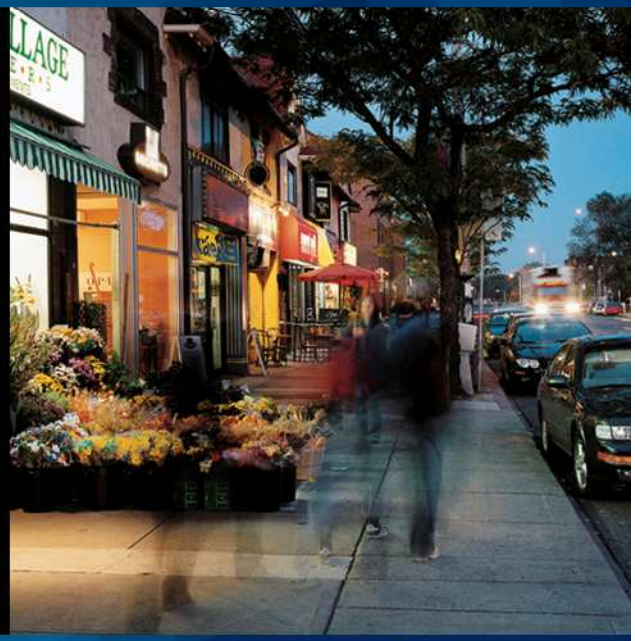
ieso
Power to Ontario.
On Demand.

Shared Activation of Reserve (SAR)

Market Pricing Working Group Meeting 44 – 23 Aug 07



What is it?

- What is Shared Activation of Reserve (SAR)?
  - follows a generation loss >= 500 MW (IESO, ISO-NE, NYISO, PJM) or >=300 (Maritimes)
  - may also be used to address mismatches of load and generation, transmission overloads, low voltage, or other abnormal conditions which may not be relieved by normal reserve pick-up response
  - contingent area provides 50% of the reserve response, the remaining 50% is shared between available areas

Why have it?

- Why do we have SAR?
  - more quickly relieve the initial stress placed on the interconnected transmission system following a large loss of generation or energy purchase.
  - improve reliability by faster recovery
  - assist in achieving compliance with the NERC Disturbance Control Standard (DCS)
  - provide relief for transmission overloads, low voltage, or other abnormal conditions which might not otherwise be relieved by normal reserve pickup response

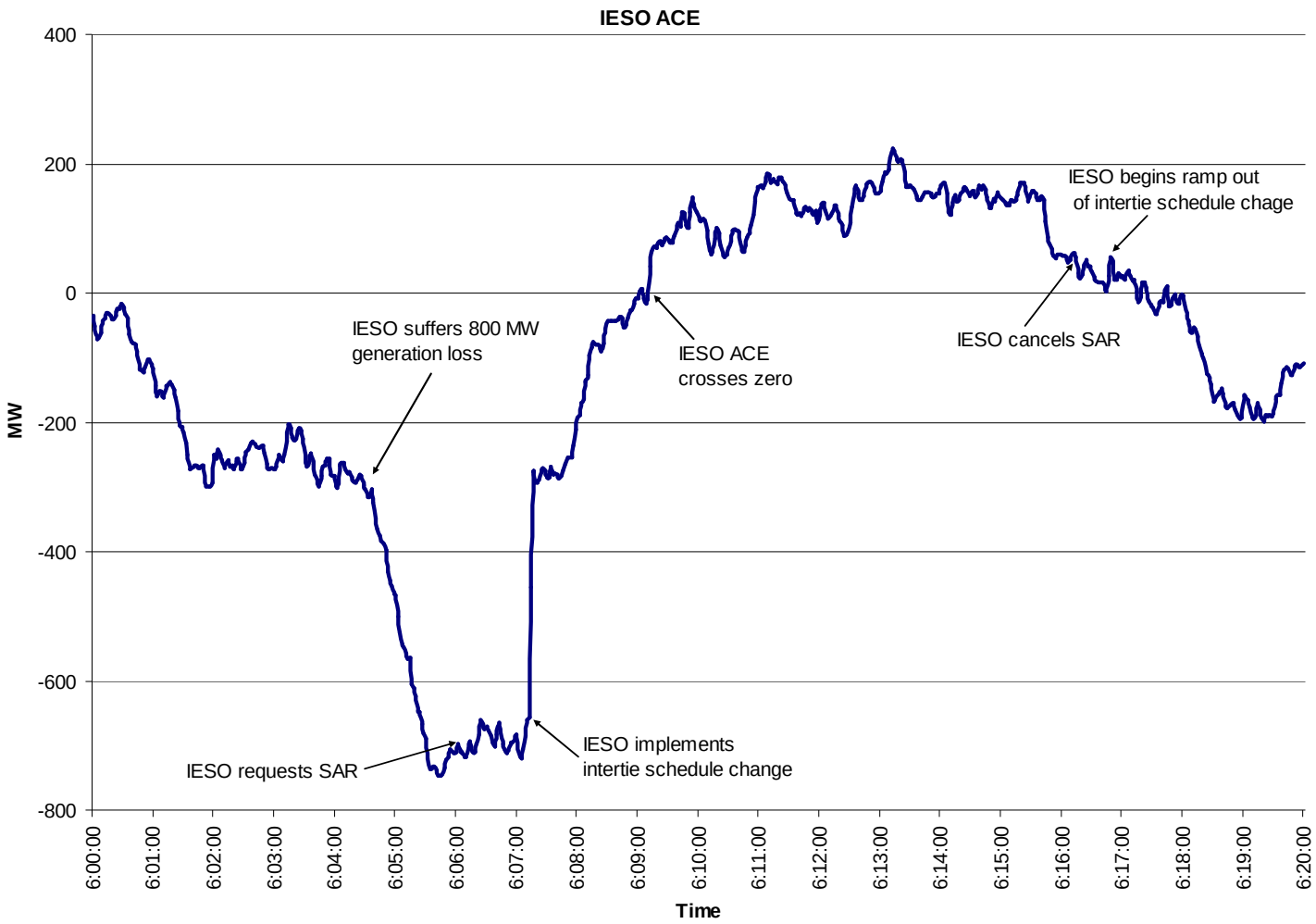
How does it work?

- Contingent area activates reserves to cover 50% of the magnitude of the contingency
- Contingent area notifies NYISO Shift Supervisor (NYISO-SS) within 5 minutes of contingency with:
  - Magnitude (MW)
  - Resource or location
  - Exact time of loss (T=0)
  - Any restrictions to the required amount of assistance
- NYISO-SS declares the time at which areas must implement the intertie schedule changes to reflect their participation

How does it work? (2)

- Participating areas (including contingent area) adjust intertie schedules with zero ramp rate to facilitate the flow of MW into the contingent area
- After recovery is achieved, contingent area notifies NYISO-SS, who informs participating areas of time to begin ramping assistance out over a ten-minute period (usually T+15 minutes)
- If required, SAR may be retained for up to 30 minutes, in which case it is ramped out at normal ramping rates

SAR vs. Emergency Energy

- SAR
  - Non-financial transaction but affects the Market Schedule
  - Inadvertent MW are added to the IESO general inadvertent balance
  - These MW are not subject to unilateral payback, but are manually paid back once the general inadvertent balance reaches a threshold and again affects the Market Schedule accordingly
  - The transmission service is not prescheduled or reserved
- Emergency Energy Purchases
  - Payback is a financial transaction and does not affect the MS when receiving but does when providing
  - Paid back to assisting area at agreed-to price (via the interconnection agreement)
  - The transmission service is not prescheduled or reserved

SAR Example 1