Building the Energy Markets of Tomorrow . . . Today

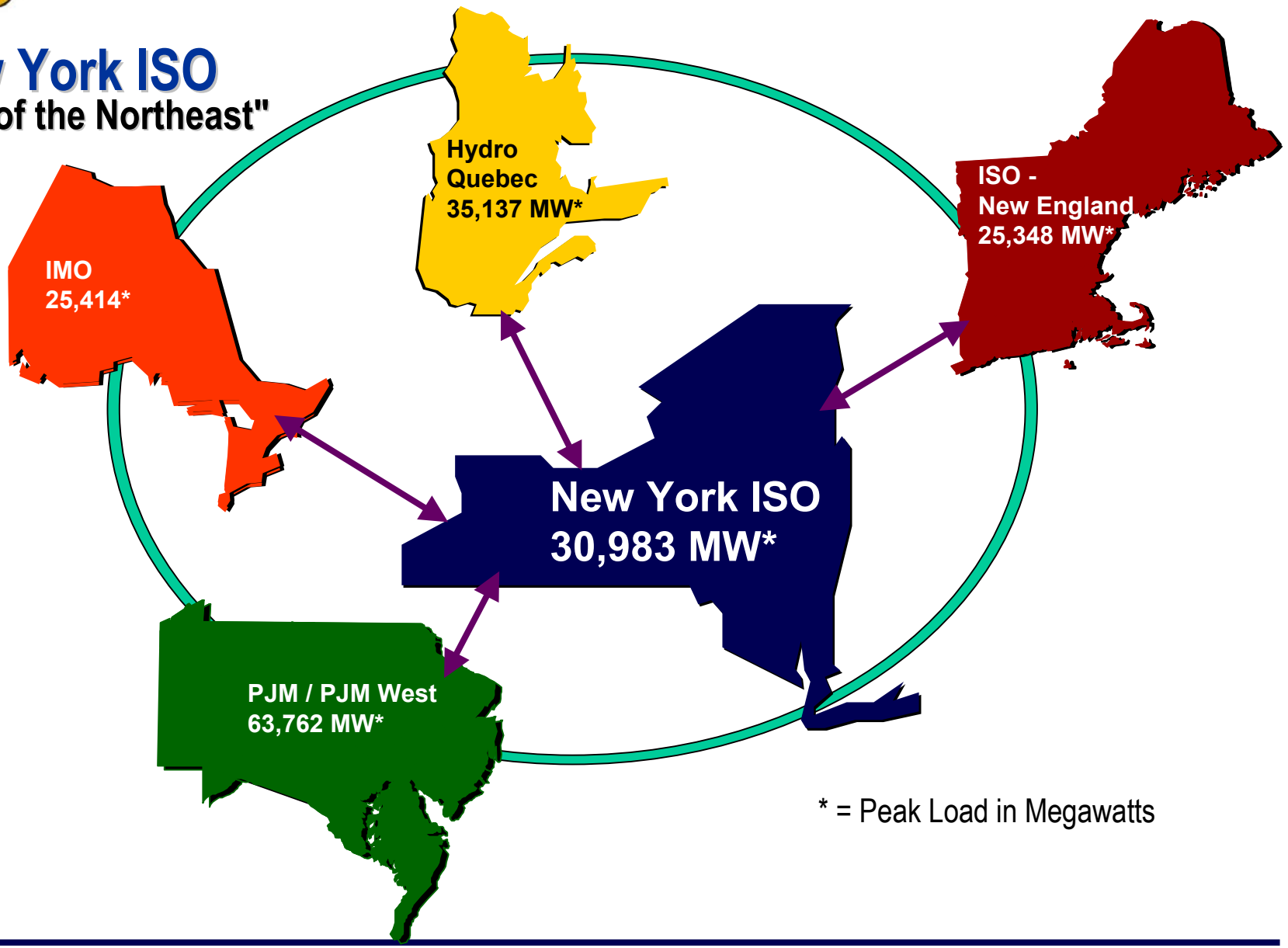
Grid Stability – Next Steps
Session W4

William J. Museler, President & CEO
New York Independent System Operator

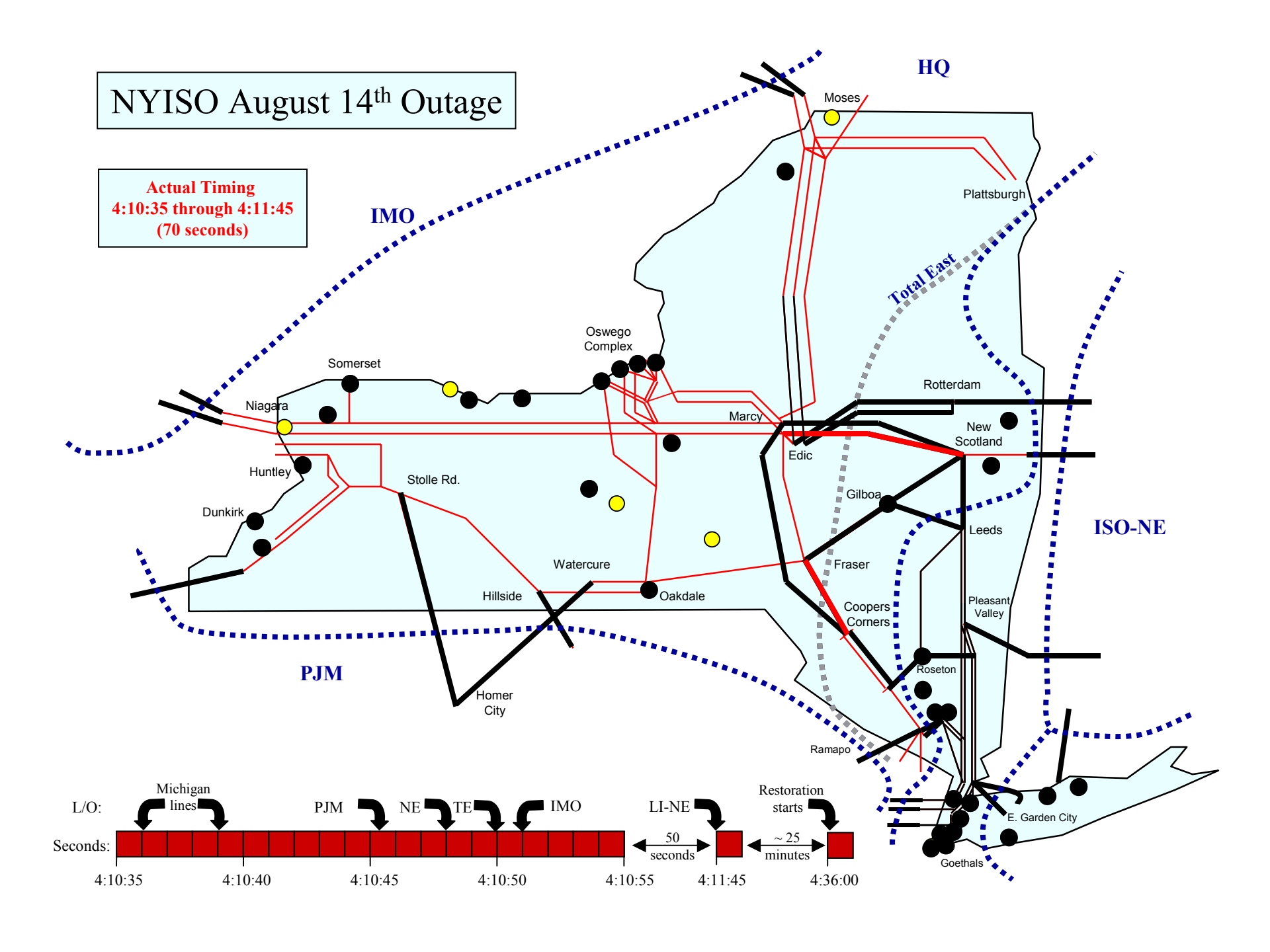
NRC – 2004 Regulatory Information Conference
March 10, 2004

New York ISO

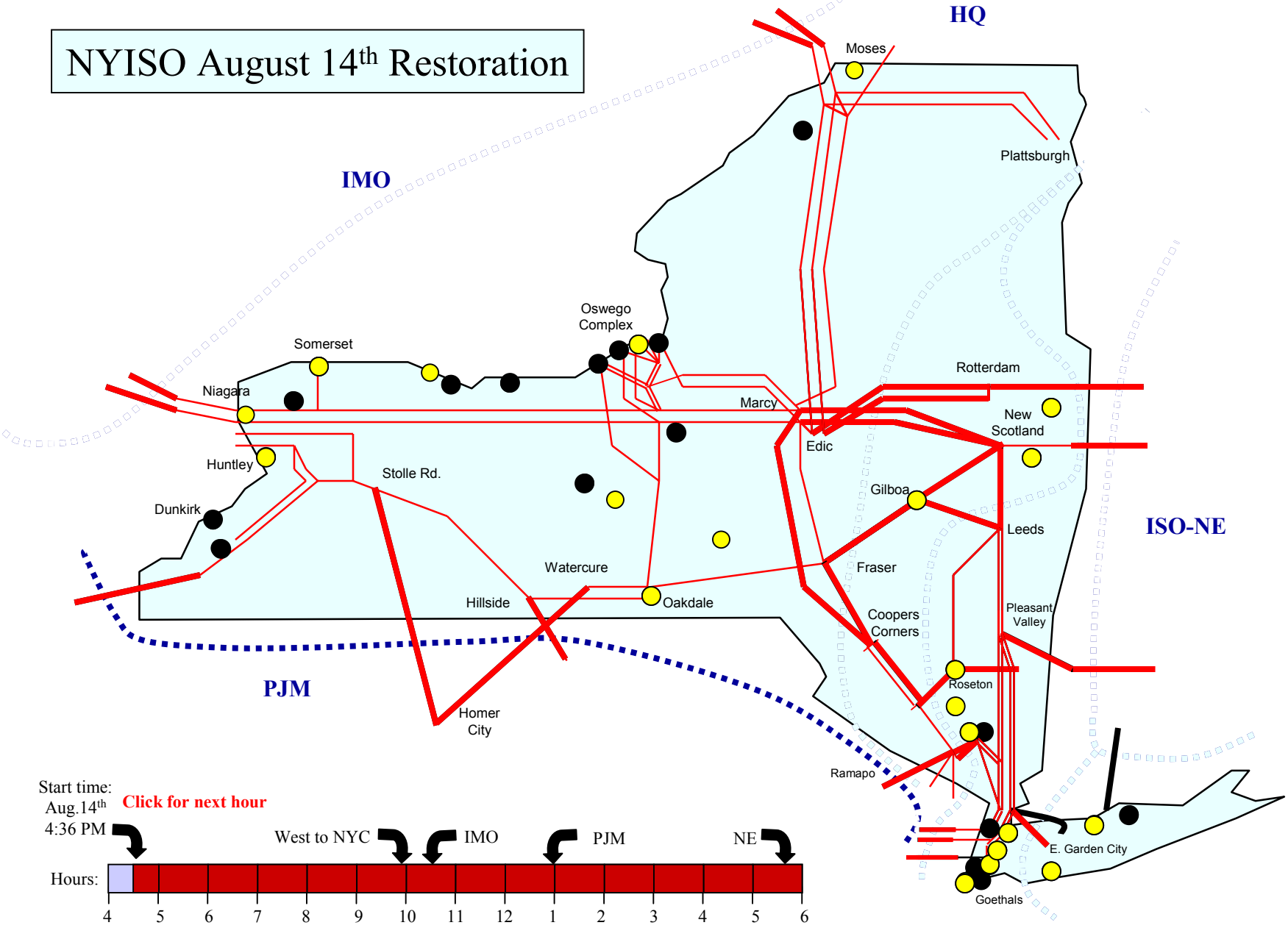
"Hub of the Northeast"



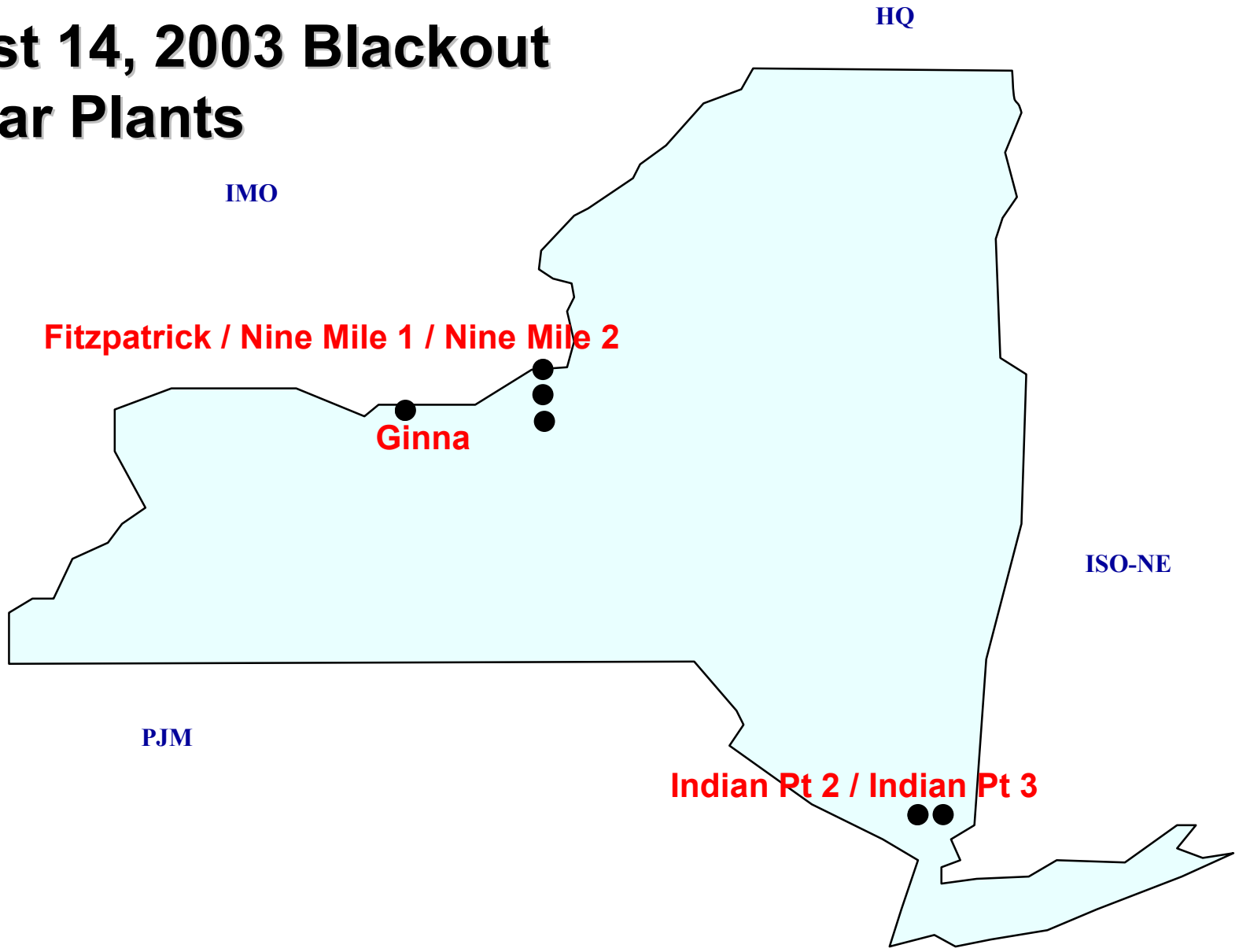
* = Peak Load in Megawatts


NYISO August 14th Outage
Actual Timing
4:10:35 through 4:11:45
(70 seconds)
HQ
IMO
PJM
ISO-NE
Total East
Moses
Plattsburgh
Oswego Complex
Somerset
Niagara
Marcy
Rotterdam
New Scotland
Edic
Huntley
Stolle Rd.
Dunkirk
Gilboa
Leeds
Watercure
Fraser
Hillside
Oakdale
Coopers Corners
Pleasant Valley
Roseton
Homer City
Ramapo
E. Garden City
Goethals
L/O:
Michigan lines
PJM
NE
TE
IMO
LI-NE
Restoration starts
Seconds:
50 seconds
~ 25 minutes
4:10:35
4:10:40
4:10:45
4:10:50
4:10:55
4:11:45
4:36:00

NYISO August 14th Restoration



August 14, 2003 Blackout
Nuclear Plants



What Happened to New York's Nuclear Plants on August 14, 2003?

Plant	Tripped Off – 8/14/2003	Offsite Power Restored	Total MWs	Plant Back On-line
Indian Pt. 2	16:10:51	02:10 8/15/2003	985 MW	00:52 8/17/2003
Indian Pt. 3	16:10:54	02:10 8/15/2003	990 MW	05:03 8/22/2003
Fitzpatrick	16:11:04	00:39 8/15/2003	838 MW	06:10 8/18/2003
Ginna	16:11:09	never lost offsite power	485 MW	20:38 8/17/2003
Nine Mile 1	16:11:54	01:23 8/15/2003	613 MW	02:08 8/19/2003
Nine Mile 2	16:12:02	07:30 8/15/2003	1149 MW	19:34 8/17/2003

NYISO's Emergency Procedures
6.1 Restoration Overview

- ✓ Following a system disturbance affecting the NYS Power System, the Restoration State occurs if either or both of the following conditions exist:
  - *An area within the NYISO Control Area becomes islanded*
  - *Customer load becomes interrupted, following a disturbance affecting the NYS Power System.*
- ✓ Prompt restoration of the NYISO Control Area total customer load is best accomplished by the restoration of the NYS Power System. Some customer load may be picked up during this procedure to maintain stability and voltage levels,but priority must be assigned to the restoration of the major transmission ties.
- ✓ Each Transmission Owner may restore load within its area in accordance with its own restoration plan, but load restoration must not delay the restoration of inter-and intra-area ties.
- ✓ The following operations shall have the highest restoration priority:
  - *Energizing the NYS Power System*
  - *Synchronizing the NYS Power System with the interconnection*
  - *Restoring off-site power supplies to nuclear power plants*
- ✓ The next priority shall be load restoration. If there is limited energy available within the NYISO Control Area, preference shall be given to generating station start-up.

Summary & Conclusions:

- ✓ New York's electric system emergency procedures worked well on August 14, 2003.
- ✓ Direct contact between ISO System Operations and the NRC needs to improve during major system events.
- ✓ Nuclear plant owners should review their back-up and uninterruptible power supply arrangements to ensure adequacy during outages.
- ✓ International Task Force recommendations reinforce the need for mandatory reliability rules and compliance.