MA Access to PJM Systems

• Access to PJM systems through PJM vendor Citrix environment

• Access to specific data is granted through standard PJM access management procedure

• Annual access review to verify access still needed
Data Sharing

- Exchange of data between PJM and MA occurs via a data exchange server hosted by PJM
- Connectivity is through dedicated fiber lines
- Data exchange server sits in DMZ with firewalls on each side
- Access to data exchange server is restricted to IT personnel at MA and PJM
PJM Data Copied to MA

- Markets
- Settlements
- GADS
- EDART
- OASIS
- DRHUB
- SRCM
- Ad hoc data following data request procedure defined in Service Level Agreement
MA Data Copied to PJM

- Calculated results
  - Frequently mitigated units
  - FTR forfeitures
- Fuel policies
- MIRA energy market offer data
- Ad hoc data following data request procedure defined in Service Level Agreement
Physical Security

• Monitoring Analytics office expansion completed in June 2014
• Plans reviewed by PJM and security consultant prior to construction
  • Placement/types of cameras
  • Location of badge readers
  • “Six-wall” security in data center
• Badging and camera systems upgraded during construction
• Systems inspected annually
MA System and Data Security

- Access control via Windows Active Directory and Oracle database roles
- Patching of all systems monthly, or as patches are released
- Facilities for virus/malware interception
- System event logging for forensic investigation
- Periodic internal and external penetration testing by independent security vendor
MA Staff and Data Security

- Social engineering penetration testing by independent security vendor
  - Trash review
  - Email phishing drills
- Security training in addition to annual PJM training
- Process for password protecting confidential documents exchanged with participants