

Northeast 2003 Blackout Impacts for SWAT

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Topics

 **NERC Action**

 **Summary of Disturbance Causes**

 **Responsibility for NERC
Recommendations**

 **WECC/SWAT Impacts**


NERC Action

“...Board is determined to obtain full compliance with all existing and future reliability standards and intends to use all legitimate means available to achieve that end.”

NERC Action

- ✍ Receive specific information on all (Known) violations of NERC standards, including the identities of the parties involved;*
- ✍ Take firm actions to improve compliance with NERC reliability standards*
- ✍ Provide greater transparency to violations of standards,*

NERC Action

 *Inform and work closely with the Federal Energy Regulatory Commission and other applicable federal, state, and provincial regulatory authorities in the United States to ensure public interests are met*

NERC Policy Violations

First Energy

- Did Not Return System to Safe Operating Range within 30 Minutes
- Did not Notify Other Systems
- Analytical Tools Were Not Used Effectively to Assess System
- Inadequate Training for Operators

MISO Did Not Notify Other RCs

Summary of What Went Wrong

 Inadequate Situational Awareness

 Inadequate Tree Trimming

 Inadequate Reliability Coordinator
Diagnostic Support

Recommendation Summary

 14 Recommendation “Areas”

 30 Total Recommendations

 Entities & Number of Associated Recommendations:

- ECAR, First Energy, MISO, PJM – 6
- NERC Administrative – 3
- WECC Currently Accommodated – 8

Correct the Direct Causes of the Blackout

- ✍️ **First Energy, MISO, PJM Take a Whoopin'**
 - **Comply With All NERC Designated Remedial Actions by 6/30/04**

ECAR, First Energy, MISO, PJM

- ✍ Implement Specific Remedial Actions
- ✍ ECAR will Compare Blackout Violations with Previous Audits
- ✍ ECAR Will Review Effectiveness of Its Voltage Procedures
- ✍ Evaluate Black Start and Restoration Efforts on 8/14/04
- ✍ Reevaluate Planning Study Procedures

NERC Administrative

- ✍ Establish Performance Monitoring Function
- ✍ Clarify Responsibilities for Reliability Coordinators and Control Areas, Improve Communication Tools
- ✍ Evaluate Operation Planning and Criteria

WECC

Currently Accommodated

 **Reporting of Non-Compliance**







 **Enforce Corrective Action (RMS)**

 **Vegetation Management**




 **Track Recommendation Completion**

 **Synchronized Recording Device Installation
in Plants and Major Stations on GPS Time**

WECC/SWAT Impacts Near Term

-  **Conform to New Compliance Templates**
-  **More Extensive Audits Including FERC Participation**
-  **Operator Training – 5 Days of Emergency Training for Each Operator**
-  **Evaluate 230kV Zone 3 Relays**
-  **Evaluate Black Start & Restoration Plans**
-  **Benchmark Operating Study Model Data With Actual System Performance.**

WECC/SWAT Impacts Longer Term

-  **Potential Changes to Voltage Management Procedures and Addition of Voltage Control Facilities**
-  **Possible Implementation of Under-Voltage Relaying Scheme**
-  **Possible Installation of Additional Relaying and Other “Safety Nets” to Limit Cascading Outages**

WECC/SWAT Impacts Longer Term

- ✍ Operating Tools Development and
Emergency Backups**
- ✍ Evaluate System Design, Planning,
and Analysis**
 - Includes Evaluation of Transmission
Facility Ratings Methods and Practices,
and Sharing of Consistent Ratings
Information**