



SOUTHWESTERN FEDERAL HYDROPOWER CONFERENCE

**Tulsa, Oklahoma
June 10 – 11, 2009**



**NERC Requirements for Generator Owner and Operator
Sarah M. Blankenship, NERC Compliance Officer**



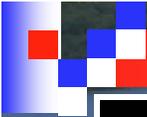
**Kansas City
Board of Public Utilities**



How do we create a culture that combines **Processes, Policies and Procedures, PEOPLE and Technology?**

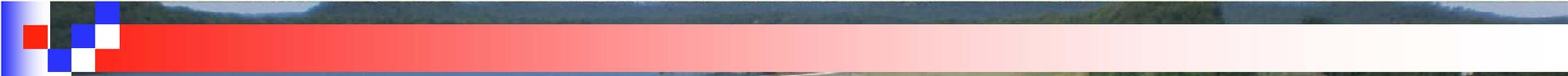
Development of an Internal NERC Compliance Program





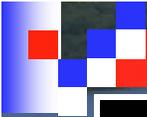
Applicable NERC Requirements for Functions GOP GO

- BAL-005-0 R1
- CIP-001-1 R1R2 R3R4 (Sabotage Reporting)
- COM-002-2 R1 (Communications)
- EOP-004-1 R2 R3 (Disturbance Reporting) Can be combined into an Integrated Plan with CIP-001-1 and CIP-008-1.
- EOP-009-0 R1 R2 (Regional Black Start Capability Plan)



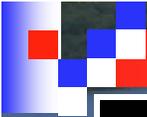
Applicable NERC Requirements for Functions GOP GO

- FAC-002-0 R1R2 (Coordination of Plans for New Facilities)
- FAC-008-1 R1 R1.1R1.2 R1.2.1R1.2.2 R1.3 R1.3.1R1.3.2 R1.3.3R1.3.4 R1.3.5 R2 R3 (Facilities Ratings)
- FAC-009-1 R1R2 (Communication of Facility Rating Information)
- IRO-001-1 R8 (Comply with SPP RC Directives)
- IRO-004-1 R4 (Next-day Contingency Analyses)
- MOD-010-0 R1R 1.31R2



Applicable NERC Requirements for Functions GOP GO

- MOD-011-0-R1
- MOD-012-0 R2
- PRC-001-1R1R2 R3 R3.1 R5 R5.1 (Protection Systems)
- PRC-004-1R2 R3 (Protection System Misoperations/ Corrective Actions)
- PRC-018-1 R1R2 R3 R4 R6 (Disturbance Monitoring Equipment)



Applicable NERC Requirements for Functions GOP GO

- TOP-001-1 R3 R6 R7 R7.1 R7.3 (Clear Decision-Making Authority and Capabilities)
- TOP-002-2 R13 R14 R14.1R14.2 R18 R3 (Normal Operations Planning)
- TOP-003-0 R1R2 R3 (Planned Outage Coordination)
- TOP-006-1 R1(Monitoring System Conditions)
- VAR-002-1 R1 (Voltage Control)
- VAR-002-1 R2 R4 R5 (SWPA (TO) Exempted Hydro Plants?)

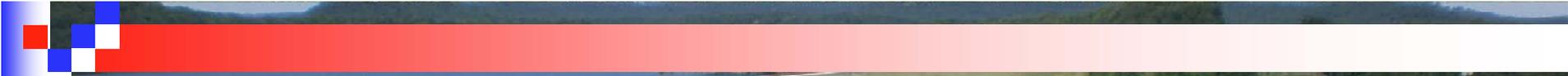
Kansas City Board of Public Utilities NERC Compliance Program

KCBPU Registered Functions

- (BA) Balancing Authority
- (DP) Distribution Provider
- (GOP) Generator Operator
- (GO) Generator Owner
- (LSE) Load-Serving Entity
- (PSE) Purchasing-Selling Entity
- (RP) Resources Planner
- (TO) Transmission Owner
- (TP) Transmission Planner
- (TOP) Transmission Operator

(Over 264 requirements to comply with)





KCBPU NERC Compliance Officer's Responsibilities

Oversee the creation and compilation of documentation that verifies compliance with NERC standards and SPP criteria.

Ensure all national and regional compliance activities by developing an in-house program for the Utility to track NERC and SPP compliance.

Ensure the increase awareness of compliance standards and document compliance by working with other departments within the Utility and leading compliance workshops.

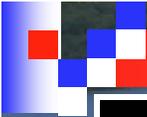


KCBPU NERC Compliance Officer's Responsibilities

Oversee NERC and SPP audits by serving as departmental liaison for the Utility.

Responsible for the tracking and reporting quarterly compliance reports to SPP through web-based reporting tools. Additionally, Spot Checks, Self-Certifications, Data Submittals, and other reporting requests.

Ensure Utility policies and procedures comply with all compliance standards by staying informed of industry changes by attending compliance workshops and related meetings.



KCBPU NERC Compliance Officer Qualifications

Bachelor of Science degree in business, engineering or a related field from an accredited college or university with a minimum of three (3) years related work in electric supply operations, regulatory compliance program development and execution, report preparation and compliance documentation.

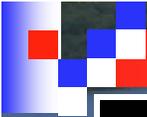
In lieu of a college degree, ten (10) years of related experience will be accepted. The candidate may be required to enter a college degree program.

Strong knowledge of NERC standards and CIPS preferred. The incumbent must have demonstrated strong technical writing skills and advanced knowledge in spreadsheet, data base preparation and development of well organized administrative records.



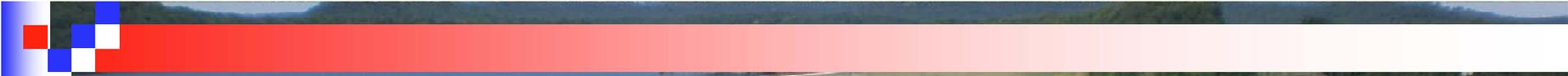
KCBPU NERC Compliance Program Objectives

- Appointment of a compliance officer to oversee compliance efforts. The Compliance Officer's responsibilities will include the development, implementation and management of a program of action designed to effectively document all compliance measures being implemented by the Board of Public Utilities and to communicate compliance program updates to involved personnel.
- The compliance plan will include the continual assessments, investigations, evaluations, and conducting internal audits and gap analysis in order to maintain compliance with NERC standards.
- Conducting an effective education and training program to employees and the Board of Directors as well as the communication of NERC Standards, and BPU policies and procedures to all employees and contractors/vendors responsible for conducting business on behalf of the BPU.



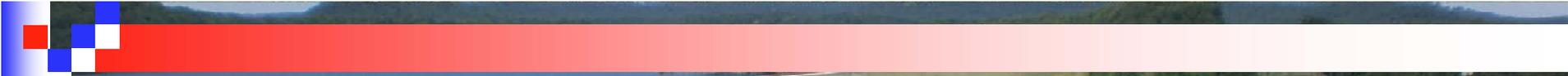
KCBPU NERC Compliance Program Objectives

- Monitor changes in NERC Standards and provide a proactive approach to Standards Under Development.
- Consistent enforcement of compliance with standards, specifically the Critical Infrastructure Standards, through the development of rules and restrictions and appropriate disciplinary mechanisms to follow.
- Provide direction to senior management to ensure budget inclusion and efficient utilization of public funds to supply adequate funding for measures that need to be taken for compliance with certain NERC Standards.
- Competently address any potential non-compliance issues by developing corrective mitigating actions to take to preserve bulk power system reliability.



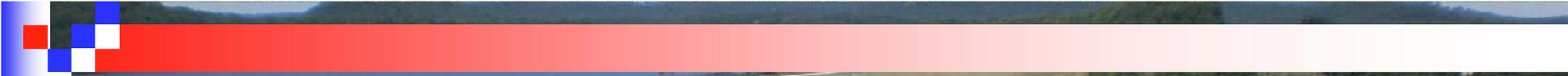
Results of an Effective Compliance Program

- Ensures new regulations are implemented
- Reduces future fines
- Minimizes adverse publicity
- Promotes compliance requirements thorough out the organization



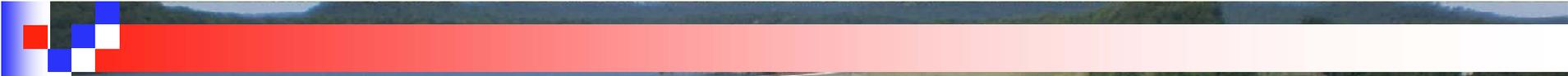
Important Components of a Compliance Culture

- (1) The role of senior management in fostering compliance
- (2) Effective preventive measures to ensure compliance
- (3) Prompt detection, cessation, and reporting of violations
- (4) Remediation efforts



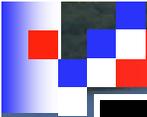
FERC Compliance Program Recommendations and Compliance Program Evaluation Criteria

- Provide sufficient funding for the administration of compliance programs by the Compliance Officer
- Promote compliance by identifying measurable performance targets
- Tie regulatory compliance to personnel assessments and compensation, including compensation of management



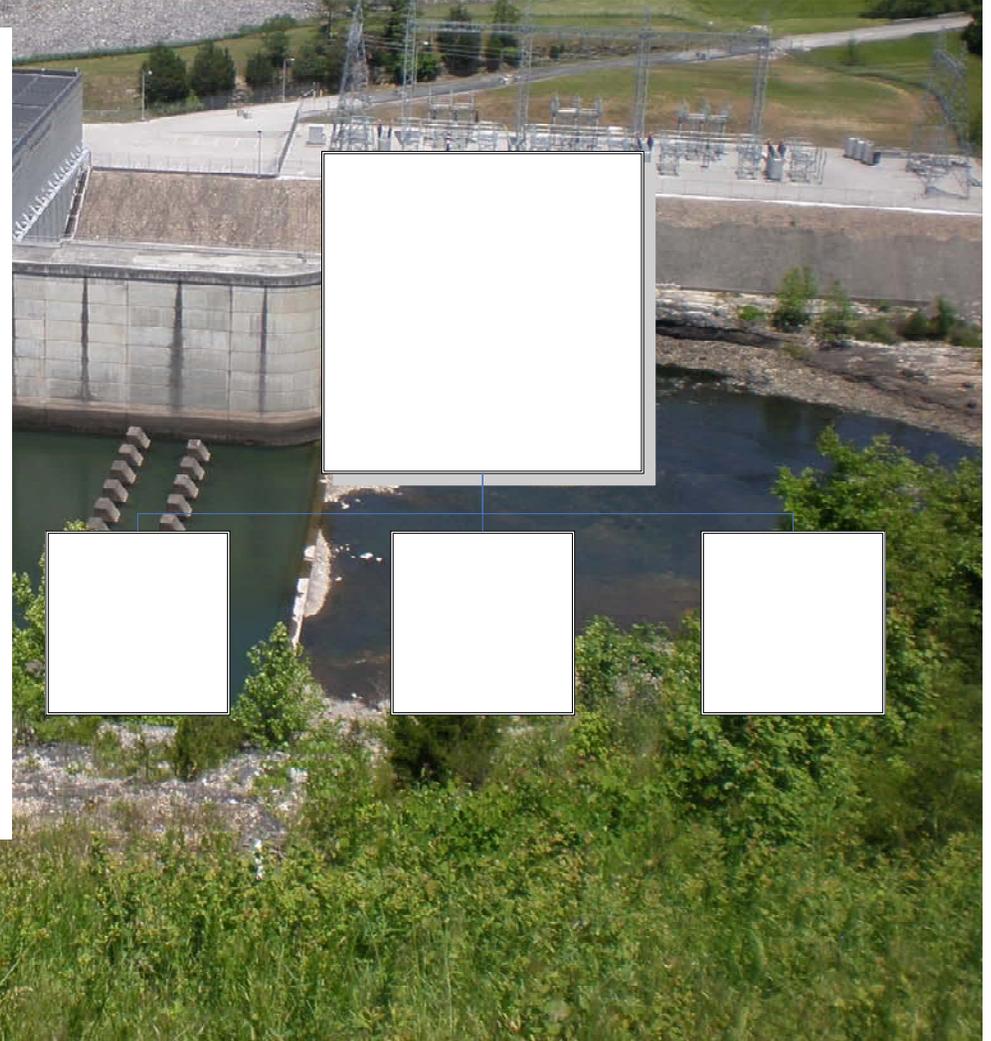
FERC Compliance Program Recommendations and Compliance Program Evaluation Criteria

- Provide for disciplinary consequences for infractions of Commission requirements
- Provide frequent mandatory training programs, including relevant 'real world' examples and a list of prohibited activities
- Implement an internal Hotline through which personnel may anonymously report suspected compliance issues
- Implement a comprehensive compliance audit program, including the tracking and review of any incidents of noncompliance, with submission of the results to senior management and the Board."



Critical Infrastructure Protection Standards

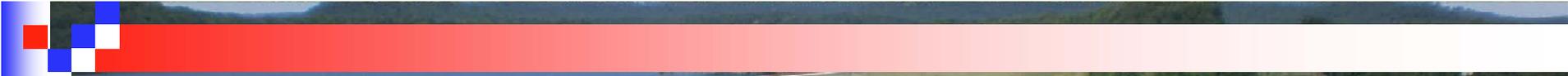
CIP-003-1 R2.
Leading and
Managing KCBPU's
Implementation of,
and Adherence to,
Standards CIP-002
through CIP-009



Critical Infrastructure Protection Standards

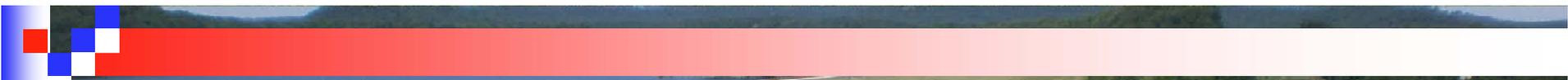


- **CIP-002-1-** The risk-based assessment shall consider the following assets:
 - R1.2.4.** Systems and facilities critical to system restoration, including black start generators and substations in the electrical path of transmission lines used for initial system restoration.
 - R1.2.7.** Any additional assets that support the reliable operation of the Bulk Electric System that the Responsible Entity deems appropriate to include in its Assessment.



The Future of the CIP Standards??

Annual application of critical asset and critical cyber asset identification, collective interpretations, formal review of the policies and procedures developed to address the requirements, documentation of implementation, updates of changes to the Standards, and current legislative activity including an appointment of a Cyber Security Czar and four Cyber Security Bills introduced into the House/Senate.



Compiling CIPS Information from Existing ACOE Documents

FERC Division of Dam Safety and Inspections FERC Security Program for Hydropower Projects

DRAFT – April 17, 2009

- Lists of Restricted Areas (CIP-002-1)
- Lists of Critical Assets (CIP-002-1)
- Physical Security Description/Layout/Inventory (CIP-006-1)
- Security Operational Procedures (employee duties/education/document control) (CIP-003-1, CIP-004-1)
- Procedures to address site access and key control (employees and visitors) (CIP-006-1)



Compiling CIPS Information from Existing ACOE Documents

FERC Division of Dam Safety and Inspections FERC Security Program for Hydropower Projects

DRAFT – April 17, 2009

- Response to Bomb Threats (CIP-001-1)
- Threat Level Contingency Planning (actions to adjust security posture rapidly) (CIP-001-1, CIP-008-1, EOP-004-1)
- Communication Procedures and Redundancies (COM-001-1, COM-002-2)
- Information Technology/SCADA (CIP-002-1 thru CIP-009-1)

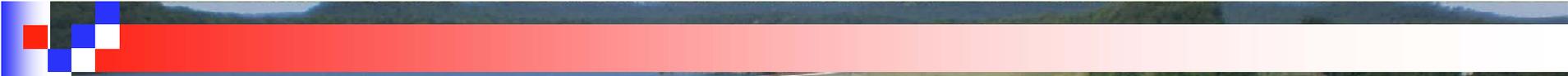


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FERC Division of Dam Safety and Inspections FERC Security Program for Hydropower Projects

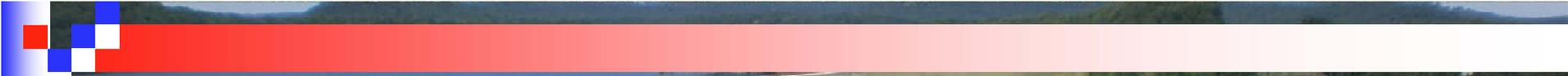
DRAFT – April 17, 2009

- Security Maintenance, Testing, and Resource (Operation and Maintenance) (CIP-005-1, CIP-007-1)
- **(NEW)** Internal Emergency Response and Rapid Recovery (coordination with the Emergency Action Plan)(CIP-009-1)
- Perform background checks (level of detail determined by the licensee/exemptee) on any employees who could affect hydropower operations. (CIP-004-1)



Compiling CIPS Information from Existing ACOE Documents

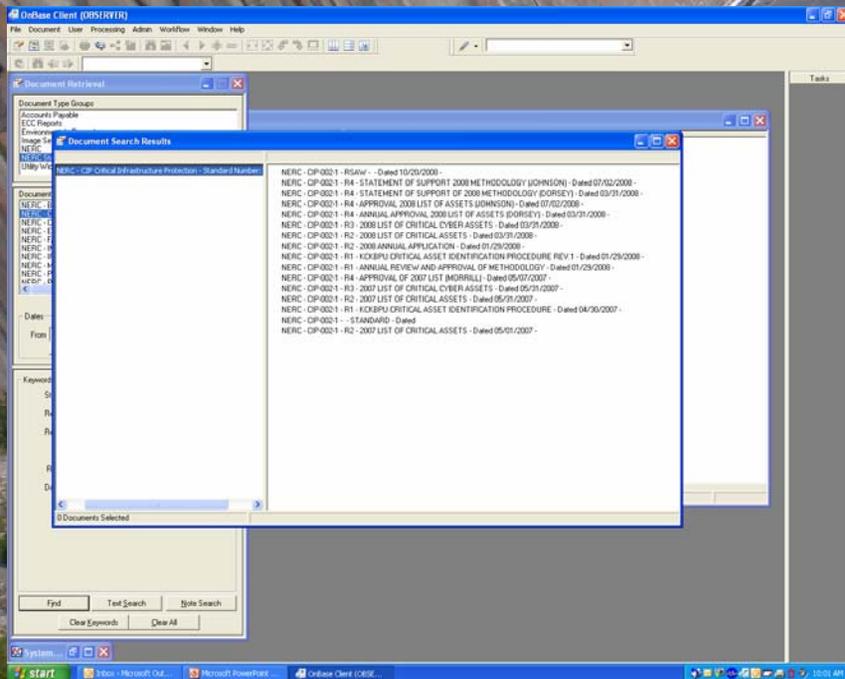
The FERC Office of Electric Reliability also requires adherence to the North American Electric Reliability Corporation's (NERC) Standards Critical Infrastructure Protection, CIP-002-1 through CIP-009-1 which are outside the purview of the D2SI program. These standards are to be incorporated into the security plans as they pertain to the hydropower project in general, and to SCADA protection in detail.



Document Storage Management Tool

- Central Location for Documentation
- Storage
- Strict Retention Program

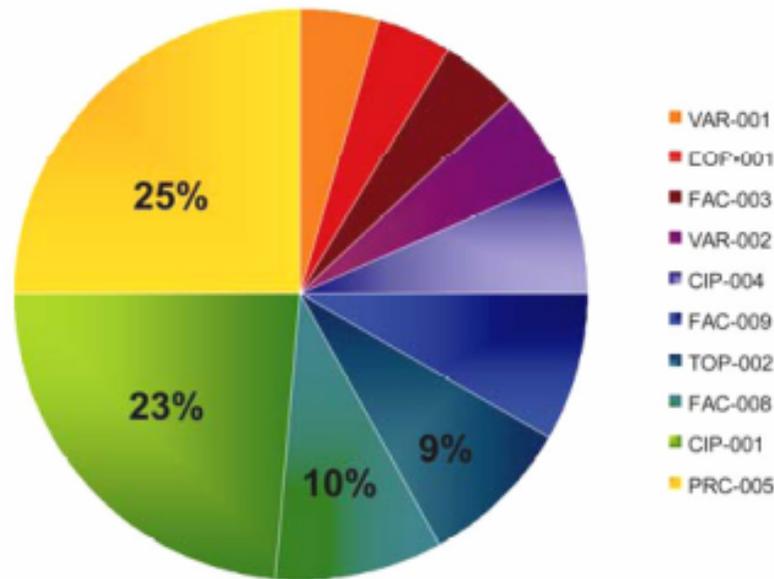
OnBase Document Storage/ Management



- Secure electronic storage of information
- Access control
- Logging of creation, modification, removal or access
- Version control (assignment of version numbering)
- Version history (retention of previous versions of documents)
- Organization of information (such as by standard requiring the documents)
- Collaboration (central repository for teams working on a document)
- Approval workflow (electronically approving documents)
- Scheduled review (for documents that need periodic review and approval)
- Enforce retention policy
- Assist in monitoring and assessing the IP Program

Trends in Violations

2008 Ten Most Violated Reliability Standards



NERC News
February 2009

Violation Severity Levels

A Violation Severity Level is a post-violation measurement of the degree to which a requirement was violated and will be used by NERC and the Regional Entities in the determination of a monetary penalty for the violation.

Complete Violation Severity Level Matrix (EOP)
Encompassing 83 Original Commission-Approved Reliability Standards

Standard Number	Requirement Number	Text of Requirement	Lower VSL	Moderate VSL	High VSL	Severe VSL
EOP-008-0	R1.7	The plan shall be reviewed and updated annually.	The responsible entity's plan was reviewed within 3 months of passing its annual review date.	The responsible entity's plan was reviewed within 6 months of passing its annual review date.	The responsible entity's plan was reviewed within 9 months of passing its annual review date.	personnel are able to implement the contingency plans. The responsible entity's plan was reviewed more than 9 months of passing its annual review date.
EOP-008-0	R1.8	Interim provisions must be included if it is expected to take more than one hour to implement the contingency plan for loss of primary control facility.	N/A	N/A	N/A	The responsible entity failed to make interim provisions when it is took more than one hour to implement the contingency plan for loss of primary control facility.
EOP-009-0	R1	The Generator Operator of each Blackstart generating unit shall test the startup and operation of each system blackstart generating unit identified in the BCP as required in the Regional EOP (Reliability Standard EOP-007-0_R1). Testing records shall include the dates of the tests, the duration of the tests, and an indication of whether the tests met Regional BCP requirements.	The Generator Operator Blackstart unit testing and recording is missing minor program/procedural elements.	Startup and testing of each Blackstart unit was performed, but the testing records are incomplete. The testing records are missing 25% or less of data requested in the requirement.	The Generator Operator's failed to test 25% or less of the Blackstart units or testing records are incomplete. The testing records are missing 25% and 50% of the required data.	The Generator Operator failed to test more than 25% of its Blackstart units or does not have Blackstart testing records or is missing more than 50% of the required data.
EOP-009-0	R2	The Generator Owner or Generator Operator shall provide documentation of the test results of the startup and operation of each Blackstart generating unit to the Regional Reliability.	The Generator Operator has provided the Blackstart testing documentation to its Regional Reliability.	N/A	N/A	The Generator Operator did not provide the required Blackstart documentation to its Regional Reliability.

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Penalties

Enforcement Actions

Date	Regulatory Authority	Regulatory Filing ID	Region	Registered Entity	NCR ID*	Total Penalty (\$)	NERC Violation ID	Reliability Standard	Requirement	Violation Risk Factor
03/31/09	FERC					\$250,000 (Settlement)	SERC200810005	PRC-005-1	1	Medium
							SERC200810006	PRC-005-1	2	Medium
							SERC200810007	CIP-001-1	1	Medium
							SERC200810008	CIP-001-1	2	Medium
							SERC200800129	FAC-009-1	1	Medium
							TRE200700006	FAC-008-1	2	Lower
							TRE200700007	FAC-008-1	3	Lower
							TRE200700008	FAC-009-1	1	Medium
							TRE200700009	FAC-009-1	2	Medium
12/19/08	FERC					\$50,000 (Settlement)	TRE200700010	IRO-004-1	4	High
12/12/08	FERC					\$3,000 (Settlement)	SERC200700008	FAC-003-1	2	High
12/12/08	FERC					\$3,000 (Settlement)	SERC200800091	TOP-002-2	15	Lower
06/04/08	FERC					\$75,000 (Settlement)	MRO200700010	FAC-003-1	2	High

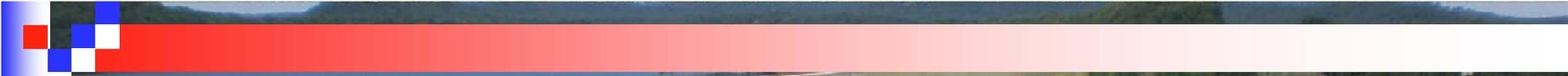
*NERC Compliance Registry Identifier

“The commitment of a company to its compliance program, as shown by its compliance program, “will be one of the most important factors in our determination of civil penalty amounts, along with the seriousness of the offense,” said former FERC Chairman Joseph Kelliher.

Mitigation Plans

Provide a description of actions taken to prevent a recurrence of this violation:

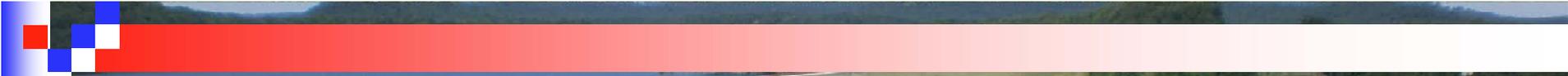
Activity	Target Completion Date
Created internal compliance team for NERC Reliability Standards and have received Executive buy-in.	Completed
Hired Compliance Manager	Completed
Retained third-party consulting support in performing Gap Analysis and support remediation activities	On-Going
Purchased Enterprise-level Compliance Management Software	Completed
Develop internal map of compliance activities and responsibilities	09/01/07
Create Compliance Documentation Templates	10/15/07
Centralize all compliance-related documentation	11/01/07
Finalize Control and Compliance Documentation for 'non-compliant' elements.	12/31/07



Additional Work w/ Mitigation Plans

Note: Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined for not completing work associated with accepted milestones. Plus potential penalties associated with the violation.

Pro-active vs. Reactive



“Lessons Learned”

- Compliance is 1% technical and 99% people issues
- Follow trends in violations
- Effectively communicate expectations
- Audit preparation with personnel
- STAY INFORMED- the Standards are moving targets partly because of lack of concrete definitions and ever-changing Standards
- DOCUMENT-DOCUMENT-DOCUMENT

Questions?



Sarah M. Blankenship, NERC Compliance Officer
KCK Board of Public Utilities

312 N. 65th St.

Kansas City, KS 66102

(913) 573-6823

Fax (913) 573-6809

Cell (913) 645-1668

sblankenship@bpu.com

Sarah Blankenship is the NERC Compliance Officer for the Kansas City Board of Public Utilities. Sarah began her career with BPU as a Senior Environmental Scientist, her educational background is in Biology/Water Chemistry and she has 15 years of progressive professional experience working with regulations, audits, and inspections on the federal, state and local levels.

Education

Biology/ Chemistry with an emphasis in Environmental Management, specifically water quality and NPDES permitting

Professional Background:

Non-Regulatory- Department of Agriculture Assisting individuals with conservation measures to keep them in compliance with the Food Security Act of 1985

Regulatory, (not an enforcement agency) - Initiating grass-roots movements on addressing environmental concerns in the urban core. Clean Water Act

Compliance (Utility- achieve and maintain Environmental and NERC compliance, NPDES permitting, Federal environmental permitting)

The NERC Compliance Officer position was created shortly before the Standards became mandatory and Sarah transferred to the new position.

Sarah became a member of the Critical Infrastructure Protection Working Group in January 2009.

Since the Standards became mandatory, KCBPU first audit is not scheduled until October 2010.