NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Physical Security Reliability Standard Implementation

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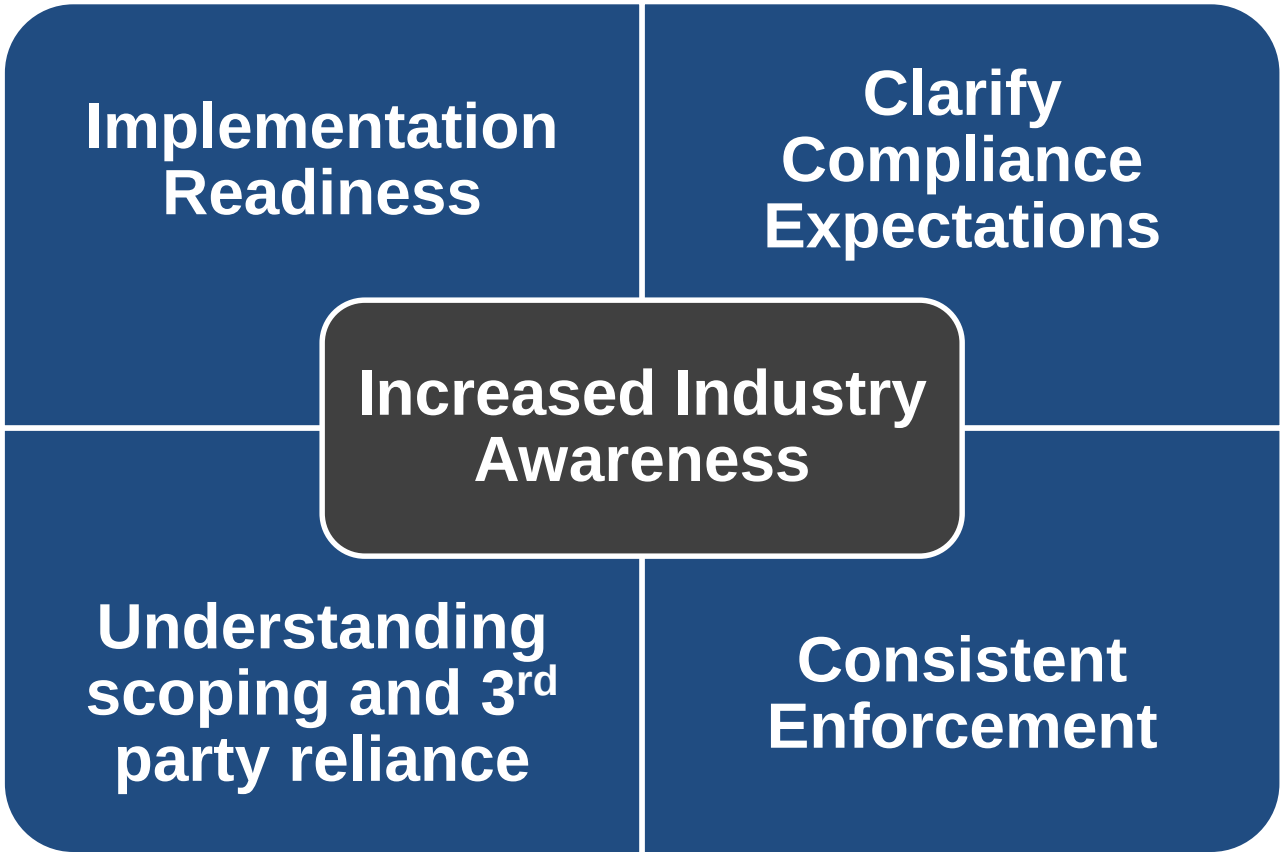
RELIABILITY | ACCOUNTABILITY




CIP-014 Implementation Program



"Support all entities in the timely, effective, and efficient implementation of CIP-014"

FERC Order 802

- Order 802 directed NERC to address the following:
  - Remove the term “widespread” in Requirement R1
  - Informational filing to assess whether “High Impact” control centers should be protected under CIP-014-1
- Standard drafting team
  - Met face-to-face in January 2015
  - Anticipated posting of revised standard in late February 2015

Increasing Industry's Understanding

- Key enforcement dates:
  - Requirement R1 is enforceable on October 1, 2015
  - Requirements R2 through R6 must be completed after R1 according to the timelines specified in the standard
- Collaboration with NATF and other groups on guidance*
- Expected guidance posting dates:
  - February 2015: R1, R2, R3 (Risk Assessment and Verification)
  - April 2015: R4 and R5 (Threat Evaluation / Physical Security Plans)
  - July 2015: R6 (Threat and Evaluation / Security Plan Verifications)

Risk Assessment Guidance

- Industry must assess the loss of certain substations (R1)
  - To start, entities must identify in-scope substations. Assess:
    - Transmission Facilities at 500 kv or higher
    - Substations exceeding the "aggregate weighted value" of 3000
    - Substations identified by RCs, PCs or TP that are critical to IROL derivations
    - Essential to meeting Nuclear Plant Interface Requirements
  - From there, various processes can be used to determine the list:
    - Entities may reference the NATF R1 approach
    - Entities may reference the method in the Guidelines and Technical Basis
    - Entities may use the process described in TPL-001-4 R4 and R6

- To be compliant, the industry must demonstrate:
  - A transparent process that can be validated by their CEA
  - The resulting list is commensurate with their process and BES risks

Performing the Risk Assessment

- Numerous assessment methods are available. The February guidance references the following:
  - Guidelines and Technical Basis (pgs 22 – 26 of the standard)
    - (a) Thermal overloads beyond facility emergency ratings;
    - (b) Voltage deviation exceeding ± 10%; or
    - (c) Cascading outage/voltage collapse; or
    - (d) Frequency below under-frequency load shed points
  - TPL-001-4 R4 and R6
  - Considerations of critical load is **not required** but will be viewed as consistent with the standard's intent.

NATF Guidance

- February guidance memo references the North American Transmission Forum Guidance as a means to perform R1:
  1. Identify stations to analyzed based on 4.1.1
  2. TO identifies cases/system conditions to be analyzed
     - summer peak vs. winter peak load levels
     - shoulder peak load levels with system transfers
     - alternative generation dispatch assumptions
     - alternative load models (i.e., different penetration of inductive load)
  3. Define the nature of initiating event and how it will be modeled in assessment.
     - Event over several minutes
     - Instantaneous event (such as an explosion)

NATF Guidance (cont.)

- February guidance references the North American Transmission Forum Guidance as a means to perform R1:
  4. TO is responsible for documenting the criteria for instability, uncontrolled separation or Cascading, based on engineering knowledge or judgment.
  5. TO performs steady-state power flow or stability analysis.

R2 – 3rd Party Verification

- Requirement R2 mandates that an unaffiliated third-party verify the result of the risk assessment performed under Requirement R1. The third-party for Requirement R2 must be either:
  - A registered Planning Coordinator, Transmission Planner, or Reliability Coordinator; or
  - An entity that has transmission planning or analysis experience.

- Pages 26-28 of the Guidelines and Technical Basis section (Section 4) of the standard provides additional guidance on selecting a third-party verifier, stating that entities should consider the following characteristics (see next slide):

R2 – 3rd Party Verification

3rd party verifier characteristics:

- Registered entity with applicable planning and reliability functions.
- Experience in power system studies and planning.
- The third-party's understanding of the MOD standards, TPL standards, and facility ratings as they pertain to planning studies.
- The third-party's familiarity with the Interconnection within which the Transmission Owner is located.

Compliance Expectations

- TO's must demonstrate the appropriate rigor and analysis when performing R1 and R2. Consider how the following questions can be answered:
  - Why certain stations or substations are identified to meet the criteria in Requirement R1
  - Similarly, why certain stations or substations were not identified by Requirement R1
  - What are defining characteristics of stations and substations identified by Requirement R1
  - How the third party verifying the risk assessment meets the qualifications in Requirement R2 and the means the third party used to ensure effective verification

ERO to Monitor Implementation

- Number of assets critical under the standard
- Defining characteristics of the assets identified as critical
- Scope of security plans
- Timelines for implementing security and resiliency measures
- Industry's progress in implementing the standard

Key Dates

CIP-014-1 Implementation Timeline			
Activity	**Implementation**	**Not Later Than**	**Total**
R1 Assessment	Effective Date	10/1/2015	0 Days
R2 Verification	Effective + 90	12/30/2015	90 Days
R2.3 Address Discrepancies	R2.2 + 60	2/28/2016	150 Days
R3 Notify Control Center	R2 + 7	1/6/2016	157 Days
R4 Threat and Vulnerability Evaluation	R2 + 120	6/27/2016	270 Days
R5 Security Plan	R2 + 120	6/27/2016	270 Days
R6 Review	R5 + 90	9/25/2016	360 Days
R6.3 Address Discrepancies	R6.2 + 60	11/24/2016	420 Days

Questions and Answers

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