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July 23, 2015

**NPCC Task Force on System Protection (TFSP) Response to Comments Received during the Open Process Posting of Directory #4 *System Protection Criteria*.**

The TFSP would like to thank those who provided comments on the proposed revisions to Directory #4 posted from May 26<sup>th</sup>, 2015 through July 10<sup>th</sup>, 2015.

The Task Force responses to individual comments are provided below.

***Comment #1:***

***Comment – Orange and Rockland Utilities:***

1. 5.4.2 should be deleted as described in the email below. The position or state of control devices that can disable protections are not normally monitored and annunciated. To accomplish this would entail not only wiring modifications, but possibly significant changes to monitoring and annunciating equipment as well. Positions or states of control devices can be “monitored” during periodic routine checks of the appropriate panels. The positions of these control devices should not be changed after they have been restored to service after being operated during testing by testing and maintenance personnel.

2. In addition, 5.15 Breaker Failure Protection Criteria the following needs to be clarified: • Is separation in the trip-coil circuit for System 1 and System 2 breaker failure protection required? Can the re-trip function trip both trip coils of the circuit breaker?

**Task Force response:**

- 1. Requirement 5.4.2 is not new but rather a clarification and an enhancement of the existing Requirement 5.4.2 in Directory 4. To be consistent with past practice, TFSP believes that monitoring and alarming of these devices that can disable protection systems warrants prompt attention. Note that the intent of this requirement excludes blocking switches (for example, FT switches) used to**

**isolate inputs and outputs to a relay. Please also note that the D4 criteria only apply when a BPS protection system is modified or replaced.**

- 2. Yes, system 1 breaker failure protection shall only operate system 1 trip coil and system 2 breaker failure protection shall only operate system 2 trip coil. In answer to your second question: No, the re-trip function must follow the same rule described above if redundant breaker failure protections are used. Requirement 5.15.3 was added to clarify this.**

*Comment #2:*

*Comment – Massachusetts Municipal Wholesale Electric:*

1. 2.18.6.3 refers to Directory #3 which I think has been retired.
2. Typo in Appendix A 3.1: I think that "flowing" should be "following"

**Task Force response:**

- 1. Comment accepted. 2.18.6.3 has been deleted.**
- 2. Comment accepted.**

*Comment #3:*

*Comment – NPCC Task Force on Infrastructure Security and Technology:*

Members of TFIST are submitting these consensus comments on the second open process posting of Directory# 4 *Bulk Power System Protection Criteria*.

The draft expands criteria for the 61850 implementation and includes language for Local Area Networks.

The draft carries over language in the existing Appendix A guideline related to cyber security that may no longer be necessary given developments in the NERC standards.

Specific comments are as follows:

1. Criteria Related to Local Area Networks:

a. Consider adding criteria for Wide Area Network

In the Main document the following criteria mention Local Area Network: 5.4.3, 5.16.2, 5.16.3, 5.16.6, 5.20.3 and 5.20.4. TFIST requests TFSP to consider whether this criteria should also include Wide Area Networks. The IEC 61850 protocol can be utilized across a WAN.

b. 5.16.3 requires a dedicated and secure means to connect to the LAN for testing, troubleshooting and operational purposes. TFIST agrees that a dedicated and secure connection is required to access the LAN. We are concerned that as written the requirement implies the requirement of an out-of-band management connection.

c. 5.16.6 requires Network monitoring tools to be deployed to facilitate trouble shooting and maintenance. The word “Network” is capitalized. TFIST suggest including what is being monitored such as traffic rates, message rates, loss of communication, sample stream.

2. Appendix A –Section 3.0 – Guideline for Application to Remote Access to Protection System:

TFIST questions the need for this guideline in light of the fact that A-10 Transmission and Generation Facilities are subject to NERC CIP standards. The CIP Version 5 Standards are effective in April 2016 and create three tiers of security: High, Medium and Low.

TFIST believes that this guideline is not providing requirements or guidance above and beyond the CIP Version 5 Standards.

The provided guidance in this section is very simplistic. TFIST recommends eliminating this section or in the alternative simply provide a reference to the NIST Cyber Security Framework and allow the Member to choose a security approach that conforms to the framework.

**Task Force response:**

**1.a TFSP agrees that 61850 protocol can be used over WAN. However, this utilization is at its infancy and more practical experience is required prior to criteria being developed. TFSP will address WAN requirements in a future revision of D4.**

**1.b TFSP believes that the requirement as written provided the entity latitude on how they wish to accomplish LAN connectivity for testing. It's not the intent of D4 to prescribe methods to achieve CIP standard compliance.**

**1.c The intent of this requirement is not to prescribe real time LAN monitoring requirements but rather ensure the entity provides monitoring tools that will be used for troubleshooting protection and control system performance.**

**2. Comment accepted. Section 3 of Appendix A has been deleted.**

**Comment #4:**

**Comment – United Illuminating Company:**

Section	Page	
2.0	6	Remove sentence “The following revision to NPCC definition for <b>“protection system”</b> are also proposed from final version.
2.0	6	In definition of Protection System - Terminal Basis remove the phrase “as above”. It no longer fits in after the proposed changes to Protection System – Element Basis
4.0	7	Where does the reference to A-15 come from? Nothing in the document looks to reference to A-15 or DME.
5.1	7	“Bulk Power System” is capitalized and not capitalized. Proper technique, I think, for NPCC Directories is not to capitalize.
5.1	7	“Protective relay” – The P is capitalized. Should be lower case.
5.2.4	8	After the word “blind spot” there is a period. This should be a comma.
5.13	14	I will note the change in language structure in this section. The use of the “Each TO, GO, and DP” is not aligned with the rest of the directory.
App A 2.4.9	A-3	The word “their” is bolded.
App A 2.18.6.3	A-11	Reference to Directory 3 and the entire section removed.

**Task Force response:**

**Section 2, page 6. Once approved by NPCC Members and definitions moved to the NPCC Glossary of Terms, the sentence and definitions will be removed from the final version.**

**Section 2, page 6. Comment accepted. The phrase “as above” has been removed.**

**Section 3, page 7. The intent of this section is to list other documents associated with relay protection, not necessarily referenced in D4.**

**Section 5.1, page 7. Comments accepted.**

**Section 5.2.4, page 8. Comment accepted.**

**Section 5.13, page 14. Comment accepted. “Each TO, GO, and DP” is replaced with “An entity” to be consistent with Section 6.**

**App A 2.4.9, page A-3. Comment accepted.**

**App A 2.18.6.3, page A-11. Reference to Directory 3 and the entire section was removed.**