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**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**NORTH AMERICAN ELECTRIC                    )**       **Docket No. RR10-1-\_\_**  
**RELIABILITY CORPORATION                 )**

**ANNUAL REPORT OF THE NORTH AMERICAN ELECTRIC RELIABILITY  
CORPORATION ON WIDE-AREA ANALYSIS OF TECHNICAL FEASIBILITY  
EXCEPTIONS**

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September 30, 2013

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## I. INTRODUCTION

The North American Electric Reliability Corporation (“NERC”)<sup>1</sup> hereby provides the 2013 Annual Report on Wide-Area Analysis of Technical Feasibility Exceptions (“TFEs”) in compliance with Paragraphs 220 and 221 of FERC’s Order No. 706,<sup>2</sup> FERC’s January 21, 2010 Order Approving TFE Procedures and Ordering Compliance Filing,<sup>3</sup> and Appendix 4D of the NERC Rules of Procedure, *Procedure for Requesting and Receiving Technical Feasibility Exceptions to NERC Critical Infrastructure Protection Standards* (“TFE Procedure”).

In Order No. 706, NERC was directed to submit an annual report to the Commission that provides a wide-area analysis of the use of the TFEs (an “Annual Report”) and the effect on Bulk-Power System reliability. In the January 21 Order, the Commission renewed its directive and ordered NERC to modify Appendix 4D of the NERC Rules of Procedure to direct the inclusion of specific criteria in the Annual Report. Appendix 4D of the NERC Rules of Procedure requires NERC to submit Annual Reports at one year intervals.<sup>4</sup>

On September 3, 2013, FERC issued an Order approving amendments to the NERC Rules of Procedure, Appendix 4D.<sup>5</sup> While FERC approved the proposed amendments, FERC directed limited revisions to Appendix 4D, including modifications to: 1) specify a time frame for reporting Material Changes to TFEs upon identification and discovery; and 2) require the

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<sup>1</sup> The Federal Energy Regulatory Commission (“FERC” or “Commission”) certified NERC as the electric reliability organization (“ERO”) in its order issued on July 20, 2006 in Docket No. RR06-1-000. *North American Electric Reliability Corporation*, “Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing,” 116 FERC ¶ 61,062 (July 20, 2006).

<sup>2</sup> Mandatory Reliability Standards for Critical Infrastructure Protection, 122 FERC ¶ 61,040 (January 18, 2008) (“Order No. 706”).

<sup>3</sup> *Order Approving Technical Feasibility Exception Procedures and Ordering Compliance Filing*, 130 FERC ¶61,050 (January 21, 2010) (“January 21 Order”).

<sup>4</sup> The first Annual Report was submitted on September 28, 2011, in Docket No. RR10-1-000, covering the initial period from January 1, 2010 through June 30, 2011. The second Annual Report was submitted in Docket No. RR10-1-001 on September 28, 2012, covering the period from July 1, 2011 through June 30, 2012. This Annual Report covers the period from July 1, 2012 through June 30, 2013.

<sup>5</sup> *North American Electric Reliability Corporation*, 144 FERC ¶ 61,180 (2013) (“September 3 Order”).

annual TFE report to include information on Material Change Reports and TFE expiration dates. NERC's compliance filing is due December 2, 2013. Changes to the Annual Report as a result of the September 3 Order and the compliance filing will be reflected in future reports.

## **II. NOTICES AND COMMUNICATIONS**

Notices and communications with respect to this filing may be addressed to:

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## **III. DISCUSSION**

### **A. Background**

In Order No. 706, FERC approved eight Critical Infrastructure Protection (“CIP”) Reliability Standards and directed NERC to develop a set of conditions or criteria that a Responsible Entity must follow when relying on a TFE contained in a specific Requirement of the CIP Reliability Standards.<sup>6</sup> The criteria to determine a TFE are based on “long-life

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<sup>6</sup> Order No. 706 at P 178.

equipment in place that is not readily compatible with a modern environment where cyber security issues are an acknowledged concern.”<sup>7</sup>

Order No. 706 requires that an Annual Report be submitted on the use of TFEs. The order states:

The annual report must address, at a minimum, the frequency of the use of such provisions, the circumstances or justifications that prompt their use, the interim mitigation measures used to address vulnerabilities, and efforts to eliminate future reliance on the exception. . . [T]he report should contain aggregated data with sufficient detail for the Commission to understand the frequency with which specific provisions are being invoked as well as high level data regarding mitigation and remediation plans over time and by region . . . .<sup>8</sup>

The criteria for the Annual Report are outlined in Sections 11.2.4 and 13 of Appendix 4D. Each of these criteria is addressed below.

### **B. Annual Report**

In accordance with Appendix 4D of the NERC Rules of Procedure, Regional Entities submitted confidential quarterly reports to NERC regarding the types of Covered Assets for which TFE requests are approved. In addition to providing quarterly reports, each Regional Entity submitted responses to the eight criteria identified in Section 13 of Appendix 4D to be included in the Annual Report. NERC has compiled and analyzed the TFE data provided by the Regional Entities in preparation for this Annual Report.

The following is a summary of the TFE data reported by each Regional Entity for the eight criteria.

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<sup>7</sup> *Id.* at P 180.

<sup>8</sup> *Id.* at P 220.

1. *Criterion (i): The frequency of use of the TFE Request process, disaggregated by Regional Entity and in the aggregate for the United States and for the jurisdictions of other Applicable Governmental Authorities, including (A) the numbers of TFE Requests that have been submitted, accepted/rejected, and approved/disapproved during the preceding year and cumulatively since the effective date of this Appendix, (B) the numbers of unique Covered Assets for which TFEs have been approved, (C) the numbers of approved TFEs that are still in effect as of on or about the date of the Annual Report; (D) the numbers of approved TFEs that reached their Expiration Dates or were terminated during the preceding year; and (E) the numbers of approved TFEs that are scheduled to reach their Expiration Dates during the ensuing year;*

The Regional Entities processed a large number of newly submitted TFE requests at the beginning of the TFE process, which was reflected in the 2011 Annual Report. Since NERC’s submittal of the 2011 Annual Report, the quantity of new TFE requests has decreased and begun to level off. As a result, the number of TFE requests categorized as being in the “initial review” category, as of July 1, 2013, is negligible, as was reported in the 2012 Annual Report.

Therefore, this category is not included as part of this 2013 report.

During the current report period of July 1, 2012 through June 30, 2013, the total number of TFE requests that have been submitted is 2,542. A breakdown of the total aggregate number of TFE requests is detailed in Table 1, below. The aggregate column includes TFEs submitted since the implementation of the TFE program.

TABLE 1: AGGREGATE – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4	1	6	1	4	2	1	0	2	17	88
005 R2.6	2	10	5	53	15	11	6	17	119	489
005 R3.1	1	0	0	1	1	0	0	2	5	48
005 R3.2	2	5	3	0	16	3	3	6	38	254
006 R1.1	1	5	0	47	6	0	1	1	61	146
007 R2.3	22	9	3	52	10	3	6	34	139	579
007 R3.2	1	4	5	52	8	3	0	21	94	207
007 R4	21	44	26	345	107	21	56	188	808	3031
007 R5.3	22	12	23	222	50	10	18	32	389	1136
007 R5.3.1	2	1	5	16	28	4	8	31	95	475
007 R5.3.2	10	13	21	117	55	14	14	19	263	1077
007 R5.3.3	10	16	10	54	31	15	3	42	181	661
007 R6	10	7	7	85	46	2	16	80	253	994
007 R6.3	6	6	5	22	15	0	1	25	80	527
<b>Totals</b>	<b>111</b>	<b>138</b>	<b>114</b>	<b>1070</b>	<b>390</b>	<b>87</b>	<b>132</b>	<b>500</b>	<b>2542</b>	<b>9712</b>

A TFE request may be initiated as a new request or as an amendment to an existing request. In either case, the process during the report period for the receipt and disposition of TFE requests was the same. Table 2 reflects the total number of TFE requests that were accepted by Responsible Entities during the report period. The aggregate column includes TFEs accepted since the implementation of the TFE program.

TABLE 2: ACCEPTED – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4		1	1	1	2			1	6	29
005 R2.6		3	2	12	10	4	1	11	43	266
005 R3.1					1			1	2	16
005 R3.2		1	3		13	1	2	4	24	111
006 R1.1				15	5				20	85
007 R2.3	3	3	1	11	7	2	2	12	41	305
007 R3.2		2	1	13	1	2		8	27	118
007 R4	3	19	7	83	48	14	18	71	263	1786
007 R5.3	6	3	8	55	24	8	11	10	125	693
007 R5.3.1		1		3	9	1	3	12	29	224
007 R5.3.2		6	6	24	22	8	4	2	72	611
007 R5.3.3		4	2	8	20	8		16	58	322
007 R6	2	3	3	18	20	2	4	39	91	582
007 R6.3	2	3		4	5			22	36	305
<b>Totals</b>	<b>16</b>	<b>49</b>	<b>34</b>	<b>247</b>	<b>187</b>	<b>50</b>	<b>45</b>	<b>209</b>	<b>837</b>	<b>5453</b>

The Regional Entities report that the initial rejection of TFE requests has become less common. This is due to experience that the Responsible Entity and Regional Entity personnel have obtained in handling TFE requests. The total number of TFE requests that have been rejected is 19, as compared to 126 rejected requests in the 2012 report. A breakdown of TFE requests rejected by each Regional Entity is provided in Table 3, below. The aggregate column includes TFEs that were rejected since the implementation of the TFE program.

TABLE 3: REJECTED – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4									0	20
005 R2.6									0	17
005 R3.1									0	18
005 R3.2							1		1	28
006 R1.1					1				1	5
007 R2.3					1				1	42
007 R3.2									0	3
007 R4					2			2	4	100
007 R5.3	1				4				5	46
007 R5.3.1									0	62
007 R5.3.2					1		1		2	103
007 R5.3.3								1	1	81
007 R6					1			1	2	44
007 R6.3					2				2	24
<b>Totals</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>19</b>	<b>593</b>

The total number of TFE requests that have been accepted and approved during the report period is 724, compared to 1,305 in last year's report. A breakdown of the TFE requests accepted and approved by each Regional Entity is provided in Table 4, below. As reflected in previous years, TFEs for CIP-007, R4, are the most frequently accepted and approved TFEs. The aggregate column includes TFEs accepted and approved since the implementation of the TFE program.

TABLE 4: APPROVED – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4		3		1					4	33
005 R2.6	2	5	3	12	1	1	3	2	29	275
005 R3.1	1								1	17
005 R3.2	2	3			3			1	9	122
006 R1.1		3		15			1	1	20	78
007 R2.3	11	4	2	11	2		3	11	44	278
007 R3.2			3	13	3			10	29	127
007 R4	16	14	18	83	28	1	29	41	230	1785
007 R5.3	11	3	13	55	10	1	4	13	110	633
007 R5.3.1	2		3	3	9	2	3	10	32	229
007 R5.3.2	9	5	13	24	14	2	5	7	79	610
007 R5.3.3	5	7	7	8	5	4	3	14	53	329
007 R6	5	2	4	18	14		9	13	65	544
007 R6.3	3		5	4	4		1	2	19	338
<b>Totals</b>	<b>67</b>	<b>49</b>	<b>71</b>	<b>247</b>	<b>93</b>	<b>11</b>	<b>61</b>	<b>125</b>	<b>724</b>	<b>5398</b>



The total number of TFE requests that have been accepted and disapproved is 14, as compared to 124 reported as disapproved in the 2012 report.<sup>9</sup> As stated previously, the decrease in disapproved requests as compared to the prior year is due to experience that Responsible Entity and Regional Entity personnel have obtained in processing TFE requests. A breakdown of the TFE requests that were initially accepted and disapproved by Regional Entity is reflected in Table 5. The aggregate column includes TFEs initially accepted and disapproved since the implementation of the TFE program.

TABLE 5: DISAPPROVED – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4									0	5
005 R2.6									0	63
005 R3.1									0	4
005 R3.2									0	34
006 R1.1	1								1	15
007 R2.3	1	1							2	79
007 R3.2									0	15
007 R4								1	1	220
007 R5.3					1				1	109
007 R5.3.1					1				1	67
007 R5.3.2					1				1	85
007 R5.3.3	1				1				2	62
007 R6	2				1			1	4	95
007 R6.3					1				1	67
<b>Totals</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>14</b>	<b>920</b>

During the current report period, a significant portion of TFE requests were amendments for previously submitted requests. The quantity of amendments is reflected in Table 6, below.

<sup>9</sup> “Accepted and disapproved” means that the proposed TFE met the initial filing requirements for acceptance, but upon subsequent detailed review was determined not to qualify.

TABLE 6: AMENDED – ALL REGIONS (U.S. ENTITIES ONLY) - 2013									
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals
005 R2.4		2		2		1		1	6
005 R2.6		2		15	4	6		4	31
005 R3.1				1				1	2
005 R3.2		1				1		1	3
006 R1.1		1		1					2
007 R2.3	7	1		23		1	1	11	44
007 R3.2	1	2		17	3			3	26
007 R4	2	9		109	29	6	7	73	235
007 R5.3	4	6		47	10	1	2	9	79
007 R5.3.1				4	9	1	2	7	23
007 R5.3.2	1	2		58	15	4	3	8	91
007 R5.3.3	3	1		30	5	3		8	50
007 R6	1	2		35	10		2	26	76
007 R6.3	1	1		8	3			1	14
<b>Totals</b>	<b>20</b>	<b>30</b>	<b>0</b>	<b>350</b>	<b>88</b>	<b>24</b>	<b>17</b>	<b>153</b>	<b>682</b>

Table 7 identifies existing TFEs that were terminated during the 12 month reporting period. The aggregate column includes TFEs that were terminated since the implementation of the TFE program. No TFEs were reported as terminated due to a material misrepresentation by the Responsible Entity as to the facts relied upon by the Regional Entity in approving the TFE.

TABLE 7: TERMINATED – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4	1								1	6
005 R2.6				14			2		16	43
005 R3.1									0	2
005 R3.2						1			1	30
006 R1.1		1		16					17	26
007 R2.3				7					7	33
007 R3.2			1	9	1	1			12	30
007 R4		2	1	70			2		75	191
007 R5.3			2	65	1		1		69	111
007 R5.3.1			2	6				2	10	37
007 R5.3.2			2	11	2		1	2	18	53
007 R5.3.3	1	4	1	8				3	17	43
007 R6				14			1		15	69
007 R6.3		2		6					8	47
<b>Totals</b>	<b>2</b>	<b>9</b>	<b>9</b>	<b>226</b>	<b>4</b>	<b>2</b>	<b>7</b>	<b>7</b>	<b>266</b>	<b>721</b>

Data pertaining to TFEs that are currently active is provided in table 8, below. The aggregate column includes TFEs from prior reporting periods.

TABLE 8: ACTIVE – ALL REGIONS (U.S. ENTITIES ONLY)									2013	Aggregate
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Totals	Totals
005 R2.4	0	12	2	8	4	2	0	4	32	52
005 R2.6	4	20	10	78	30	22	8	34	206	385
005 R3.1	2	0	0	2	2	0	0	4	10	22
005 R3.2	4	10	6	0	32	4	5	12	73	139
006 R1.1	1	8	0	62	11	0	2	2	86	130
007 R2.3	43	17	6	90	19	6	12	68	261	438
007 R3.2	2	8	8	86	14	4	0	42	164	233
007 R4	42	84	50	550	212	42	108	373	1461	2825
007 R5.3	43	24	42	314	93	20	34	64	634	1072
007 R5.3.1	4	2	6	20	55	8	16	58	169	317
007 R5.3.2	20	26	38	212	104	28	25	34	487	953
007 R5.3.3	17	24	18	92	61	30	6	77	325	548
007 R6	18	14	14	142	90	4	30	158	470	838
007 R6.3	12	8	10	32	27	0	2	50	141	382
Totals	212	257	210	1688	754	170	248	980	4519	8334

The vast majority of active TFEs are open ended (*i.e.*, there is no specific date established for their expiration/termination). Thus, only a small minority of active TFEs have definite schedules for reaching their expiration dates during the ensuing year. In accordance with the September 3 Order, a breakdown of this information will be provided in future reports.

2. *Criteria (ii): Categorization of the submitted and approved TFE Requests to date by broad categories such as the general nature of the TFE Request, the Applicable Requirements covered by submitted and approved TFE Requests, and the types of Covered Assets that are the subject of submitted and approved TFE Requests.*

The percentage and types of Covered Assets for which TFEs have been approved has remained generally consistent since the program was initiated. One reporting complexity that has emerged is a result of the growing use of virtualized systems.<sup>10</sup> Devices that are not clearly assigned to a single category have been grouped as “Other” in Table 9, below.

<sup>10</sup> The term “virtualized system” refers to a system that allows multiple component hardware and networks to run at the same time and to operate as a single unit.

<b>TABLE 9: APPROVED COVERED ASSETS – ALL REGIONS (U.S. ENTITIES ONLY) - 2013</b>	
<b>DEVICE</b>	<b>PERCENTAGE</b>
Data Storage Device	0.17%
Digital Protective Control Device	2.06%
Electronic Access Control System	0.06%
Electronic Access Monitoring System	0.02%
Industrial Process Control System	30.09%
Network Data Communications Device	6.96%
Workstation	10.84%
Peripheral Device	1.39%
Physical Access Control System	0.22%
Physical Access Monitoring System	1.29%
Relay	3.52%
RTU	1.51%
Server	5.88%
Telecommunications Device	0.55%
Other	35.43%

CIP-007, R4 continues to be the single requirement with the largest number of TFEs, with over 30% of TFE requests pertaining to that requirement. Table 10 below shows the distribution of TFEs and the associated requirements.

<b>TABLE 10: TFEs BY REQUIREMENT – ALL REGIONS (U.S. ENTITIES ONLY) - 2013</b>		
<b>REQUIREMENT</b>	<b>TOTAL TFEs</b>	<b>PERCENTAGE</b>
005 R2.4	17	0.67%
005 R2.6	119	4.68%
005 R3.1	5	0.20%
005 R3.2	38	1.49%
006 R1.1	61	2.40%
007 R2.3	139	5.47%
007 R3.2	94	3.70%
007 R4	808	31.79%
007 R5.3	389	15.30%
007 R5.3.1	95	3.74%
007 R5.3.2	263	10.35%
007 R5.3.3	181	7.12%
007 R6	253	9.95%
007 R6.3	80	3.15%

3. *Criteria (iii): Categorization of the circumstances or justifications on which the approved TFEs to date were submitted and approved, by broad categories such as the need to avoid replacing existing equipment with significant remaining useful lives, unavailability of suitable equipment to achieve Strict Compliance in a timely manner, or conflicts with other statutes and regulations applicable to the Responsible Entity.*

The categories of circumstances or justifications on which the TFEs to date were submitted and approved include:

- Not technically possible
  - Operationally infeasible
  - Precluded by technical limitations
  - Adverse effect on bulk electric system reliability
  - Cannot achieve by compliance date
  - Excessive cost that exceeds reliability benefit
  - Conflicts with other statutory or regulatory requirement
  - Unacceptable safety risks
4. *Criteria (iv): Categorization of the compensating measures and mitigating measures implemented and maintained by Responsible Entities pursuant to approved TFEs, by broad categories of compensating measures and mitigating measures and by types of Covered Assets.*

As in the 2012 Annual Report, Regional Entities reported that Responsible Entities are employing multiple strategies to protect Covered Assets that are unable to meet applicable Reliability Standards. Typically, more than one strategy is applied to mitigate the risk posed by a TFE. The principal strategies employed include protecting devices with physical and logical security controls. A significant portion of compensating and mitigating measures involved firewalls, the use of Intrusion Detection and Intrusion Prevention systems (“IDS/IPS”), and strong access policies.

The compensating and mitigating measures used most often is an Electronic Security Perimeter (“ESP”). Other significant compensating and mitigating measures deployed include Physical Security Perimeter (“PSP”), Authentication, IDS/IPS, and System Status Monitoring.

Table 11 below describes the common compensating and mitigating measures reported by the Responsible Entities.

TABLE 11: RISK MITIGATION/COMPENSATION STRATEGIES FOR APPROVED TFEs - 2013	
<b>Electronic Security Perimeter (ESP)</b>	Covered Assets asserted in the TFE are protected as they reside within a defined ESP and access to/from these assets is controlled via defined access points.
<b>Physical Security Perimeter (PSP)</b>	Covered Assets asserted in the TFE are protected as they reside within a defined PSP and access to these assets is controlled via defined access points.
<b>Status Monitoring</b>	Covered Assets are protected by implementation of System Status Monitoring of all cyber assets residing within a defined ESP. Detection and alerting of system state and condition provides early warning and proactive troubleshooting and corrective action.
<b>Enhanced Authentication</b>	Access to Covered Assets asserted in the TFE and all cyber assets that reside within a defined ESP are protected by multi-factor authentication services (e.g., SecurID, Biometrics).
<b>Intrusion Detection and/Prevention System</b>	Covered Assets asserted in the TFE are protected by network or host based IDS/IPS services. Anomalous data traffic is detected and alerted on and/or prevented from affected Covered Assets.
<b>Training</b>	Covered Assets are protected by general cyber security training and awareness related to CIP-004 or augmented training is provided due to the lack of strict compliance.
<b>Host-Based Malware Prevention</b>	When Covered Assets asserted in a TFE cannot implement AV or anti-malware tools, they are protected by all other cyber assets within a defined ESP having these security controls installed and managed. Propagation of viruses (e.g., Trojans) to CCAs is a low risk.
<b>Physical Monitoring</b>	When other mandatory controls cannot be implemented, Covered Assets and/or access to them are physically monitored by Responsible Entity staff.
<b>Data Encryption</b>	When other mandatory controls cannot be implemented, data is encrypted between cyber assets to protect data confidentiality.

5. *Criteria (v) – For each TFE Request that was rejected or disapproved, and for each TFE that was terminated, but for which, due to exceptional circumstances as determined by the Regional Entity, the Effective Date was later than the latest date specified in Section 5.1.5, 5.2.6, or 9.3, as applicable, a statement of the number of days the Responsible Entity was not subject to imposition of findings of violations of the Applicable Requirement or imposition of penalties or sanctions pursuant to Section 5.3.*

All eight Regional Entities reported that there were no instances of rejection, disapproval, or termination of TFE requests, where the effective date was extended past the latest date specified in Section 5.1.5, 5.2.6, or 9.3, as applicable, of Appendix 4D to the NERC Rules of Procedure.

6. *Criteria 6 - A discussion, on an aggregated basis, of Compliance Audit results and findings concerning the implementation and maintenance of compensating measures and mitigating measures, and the implementation of steps and the conduct of research and analyses to achieve Strict Compliance with the Applicable Requirements, by Responsible Entities in accordance with approved TFEs.*

The TFE Procedure, in conjunction with the Compliance Monitoring and Enforcement Program (“CMEP”), is the framework that Regional Entities utilize to review and audit TFE requests. During a compliance audit where TFEs are in scope, the subject Responsible Entity is *not* evaluated against the applicable Reliability Standard for which a TFE was accepted and approved. Instead, the Responsible Entity is evaluated against the alternative compliance obligations assumed by the Responsible Entity (*i.e.*, compensating and mitigating measures).

All eight Regional Entities have conducted Compliance Audits where approved or terminated TFEs were in scope. Regional Entities have reported that Responsible Entities are managing and maintaining their TFEs within the procedural requirements of Appendix 4D. Regional Entities have also issued audit findings that identify TFEs to be processed as potential violations through the CMEP.

7. *Criteria 7- Assessments, by Regional Entity (and for more discrete areas within a Regional Entity, if appropriate) and in the aggregate for the United States and for the jurisdictions of other Applicable Governmental Authorities, of the wide-area impacts on the reliability of the Bulk Electric System of approved TFEs in the aggregate, including the compensating measures and mitigating measures that have been implemented.*

The Regional Entity representatives who are designated “TFE Managers” meet regularly to discuss various topics, including those pertaining to issues addressed by Criteria 7. The consensus from those discussions is that there have been no negative wide area impacts on the

reliability of bulk electric system as a result of any TFEs. Therefore, the wide-area impact of approved TFEs on the reliability of the bulk electric system, in the aggregate, has been minimal.

The issues identified by the Regional Entities, as a result of the assessment, include: implementation of anti-virus software and malware prevention tools, as required by CIP-007 R4; implementation of passwords or specific password criteria, as required by CIP-007 R5.3, R5.3.1, R5.3.2 and R5.3.3; and inability to monitor or log system events related to Cyber Security, as required by CIP-007 R6 and R6.3.

Each Regional Entity reported similar experiences with the execution and management of the TFE process. Regional Entities reported that a large majority of Responsible Entities have implemented multiple compensating and mitigating measures for Covered Assets, and, in general, the mitigating and compensating measures of approved TFEs that were implemented in lieu of strict compliance with applicable CIP Reliability Standards accomplished the stated alternate compliance objective. As a result, the level of security for the bulk electric system achieved through the TFE process is comparable to strict compliance with the applicable Reliability Standards.

*8. Criterion 8 - Discussion of efforts to eliminate future reliance on TFEs.*

Regional Entities reported that many efforts are being considered to eliminate future reliance on TFEs, including:

- Upgrading or replacing Covered Assets that will enable implementation of security controls defined in CIP Standards and Requirements
- Removing Critical Cyber Assets that are covered by approved TFEs that reside within defined ESPs
- Retiring legacy systems that are now subject to coverage by an approved TFE
- Implementing previously unused or unidentified functionality on Covered Assets that will achieve Strict Compliance with the Applicable Requirement



Where applicable, upgrades of Covered Assets will result in strict compliance without having to rely on TFEs.

In addition, efforts to better train personnel on the requirements of applicable Reliability Standards and coordination with Regional Entity compliance monitoring and enforcement staff regarding the need for TFEs have led to the continuing decline of devices that rely on a TFE for compliance. Moreover, non-essential devices are also being evaluated for continued inclusion within a defined ESP. Where a device does not need to reside within the ESP for operational necessity, Covered Assets have been relocated outside of the ESP, eliminating the need for a TFE and reducing residual risk to devices remaining within the ESP.

The primary barriers identified by Regional Entities to eliminating TFEs include: 1) CIP Reliability Standards and changing technology and security issues, 2) vendor certifications, and 3) legacy system verification. Specifically, with respect to revising Reliability Standards, Regional Entities note that it can be difficult to provide flexibility for future technology and security changes when developing a standard, thereby making it difficult to eliminate the TFE.

With respect to vendors, the Regional Entities support requirements in the standards to use products that have been independently certified as offering adequate and appropriate security measures. Applying enhanced security features often requires that properly operating equipment be replaced with a more modern, secure models. Therefore, in order to eliminate the need for a TFE, replacement costs may become a barrier to implementing enhanced security features.

### **C. Consistency in Review, Approval and Disapproval of TFE Requests**

Appendix 4D of the NERC Rules of Procedure requires that NERC and the Regional Entities collaborate to assure “consistency in the review, approval and disapproval of TFE Requests....”<sup>11</sup> Also, as noted above, Section 11.2.4 of the NERC Rules of Procedure requires that NERC submit with each Annual Report certain information concerning the manner in which Regional Entities have made determinations to approve or disapprove TFE requests.

NERC has not received any reports of inconsistency either in assessing the accuracy or validity of TFEs submitted by Responsible Entities, or in the decisions approving or rejecting TFEs. The NERC and the Regional Entities TFE Managers review TFE requests for consistency. Primary and alternate representatives from each Regional Entity, facilitated by NERC staff, meet regularly to discuss common issues. Those representatives also led the efforts at their respective Regional Entities for receiving, reviewing, and reporting TFE-related data.

In addition to regularly scheduled conference calls and face-to-face meetings, the TFE Managers communicate regularly by email and in person at workshops and regular meetings with the goal of reaching consistency among the Regional Entities on the pertinent issues.

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<sup>11</sup> Section 11 of Appendix 4D of the NERC Rules of Procedure.

#### IV. CONCLUSION

For the foregoing reasons, NERC respectfully requests that the Commission accept the 2013 Annual Report as compliant with the directives contained in Order No. 706 and Appendix 4D of NERC's Rules of Procedure.

Respectfully submitted,

/s/ Willie L. Phillips

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**September 30, 2013**

**CERTIFICATE OF SERVICE**

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 30<sup>th</sup> day of September, 2013.

*/s/ Willie L. Phillips*

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