NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Operating Reliability Subcommittee

May 8, 2018 | 1:00 – 5:00 p.m. CDT
May 9, 2018 | 8:00 a.m. – 12:00 p.m. CDT

ERCOT Office
800 Airport Drive
Taylor, Texas

Dial-in Number: + 1-415-655-0002 US Toll (Canadian Toll) + 1-416-915-8942

Meeting Number (access code)

- May 8, 2018: 730 406 508 | Password: 246810 | Join WebEx meeting
- May 9, 2018: 735 929 920 | Password: 246810 | Join WebEx meeting

Call to Order

Introductions and Chair's Remarks

NERC Antitrust Compliance Guidelines and Public Announcement

Agenda

1. **Administrative Matters**
   a. Arrangements, Safety Briefing and Identification of Exits – Jimmy Hartmann
   b. Announcement of Quorum – **Secretary**
      i. Operating Reliability Subcommittee (ORS) Roster*
   c. Parliamentary Procedures* – **Secretary**
   d. Balancing Authority-to-Reliability Coordinator Mapping* – **Secretary**
   e. Future Meetings – **Secretary**
      i. September 5 - 6, 2018 – Eagan, Minnesota (hosted by MISO)
      ii. November 7 - 8, 2018 – Charlotte, NC (hosted by Duke)
      iii. February 5 - 6, 2019 – Tampa, FL (hosted by FRCC)
      iv. Schedule future meetings
2. **Meeting Minutes* – Approve – Chair Devereaux**
   a. Minutes of February 6 – 7, 2018 Operating Reliability Subcommittee Meeting
   b. Minutes of April 5, 2018 Operating Reliability Subcommittee Executive Meeting
3. **Reliability Plans* Chair Devereaux**

a. Periodic Review of Reliability Plans
   i. Guideline for Approving Regional and Reliability Coordinator Reliability Plans* -
b. New or Revised Reliability Plans for Endorsement
   i. PJM Reliability Plan Clean* Chris Pilong
   ii. MISO Reliability Plan* Mike McMullen

4. **Resources Subcommittee update to ORS – Brad Gordon/Tom Pruitt**
5. **Operating Committee (OC) work plan update* – Steve Crutchfield**
6. **NERC OC update/ ORS work plan* March ORS Update to OC*– Chair Devereaux**
7. **Operations Review* – All**
   a. Operations Review
   b. Use of Proxy Flowgates
   c. Energy Emergency Alert Level 3 – Discuss EEA3/EEA2/EEA1 postings
8. **Interconnection Frequency Monitoring***
   a. Frequency Monitor Reports and Frequency Excursions
      i. Eastern – Joel Wise
      ii. ERCOT – Jimmy Hartmann
      iii. Western – Tony Burt
      iv. Quebec – Francis Monette
   b. Review of Frequency Monitor Criteria – Chair Devereaux
9. **TOP-001-4 task investigate rationale behind R10.3 and 10.6 – Chris Pilong**
10. **BAL-004 Retirement update - Howard Gugel**
11. **SPP Changes across RC footprint - Bryan Wood**
12. **Peak RC Changes across RC footprint – Tony Burt**
13. **California ISO RC Certification - Tim Beach**
14. **NERC BPSA Daily Report Sharing with RCs – Darrell Moore**
15. **ORS Scope document update* - All**
16. **Summer Reliability Assessment* - Bill Lamanna**
17. **Round table discussion (variable/renewable generation) – Dave Devereaux**
18. **Draft Reliability Coordinator Reliability Plan Reference Document* – Joel Wise**
19. **Status Report of the EIDSN Association – Don Reichenbach**
20. **Parallel Flow Visualization Reliability Metrics Task Group Report – Don Reichenbach**

*Background materials included.

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Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.

Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

Operating Reliability Subcommittee

Chair	Dave Devereaux Senior Manager Operations	Independent Electricity System Operator 2635 Lakeshore Road West Mississauga, Ontario L5J 4R9	905-855-6439 David.devereaux@ieso.ca
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Parliamentary Procedures

Based on Robert's Rules of Order, Newly Revised, 1990 Edition

Motions

Unless noted otherwise, all procedures require a "second" to enable discussion.

When you want to…	Procedure	Debatable	Comments
Raise an issue for discussion	Move	Yes	The main action that begins a debate.
Revise a Motion currently under discussion	Amend	Yes	Takes precedence over discussion of main motion. Motions to amend an amendment are allowed, but not any further. The amendment must be germane to the main motion, and cannot reverse the intent of the main motion.
Reconsider a Motion already approved	Reconsider	Yes	Allowed only by member who voted on the prevailing side of the original motion.
End debate	Call for the Question *or* End Debate	No	If the Chair senses that the committee is ready to vote, he may say "if there are no objections, we will now vote on the Motion." Otherwise, this motion is debatable and subject to 2/3 majority approval.
Record each member's vote on a Motion	Request a Roll Call Vote	No	Takes precedence over main motion. No debate required, but the members must approve by 2/3 majority.
Postpone discussion until later in the meeting	Lay on the Table	Yes	Takes precedence over main motion. Used only to postpone discussion until later in the meeting.
Postpone discussion until a future date	Postpone until	Yes	Takes precedence over main motion. Debatable only regarding the date (and time) at which to bring the Motion back for further discussion.
Remove the motion for any further consideration	Postpone indefinitely	Yes	Takes precedence over main motion. Debate can extend to the discussion of the main motion. If approved, it effectively "kills" the motion. Useful for disposing of a badly chosen motion that cannot be adopted or rejected without undesirable consequences.
Request a review of procedure	Point of order	No	Second not required. The Chair or secretary shall review the parliamentary procedure used during the discussion of the Motion.

Notes on Motions

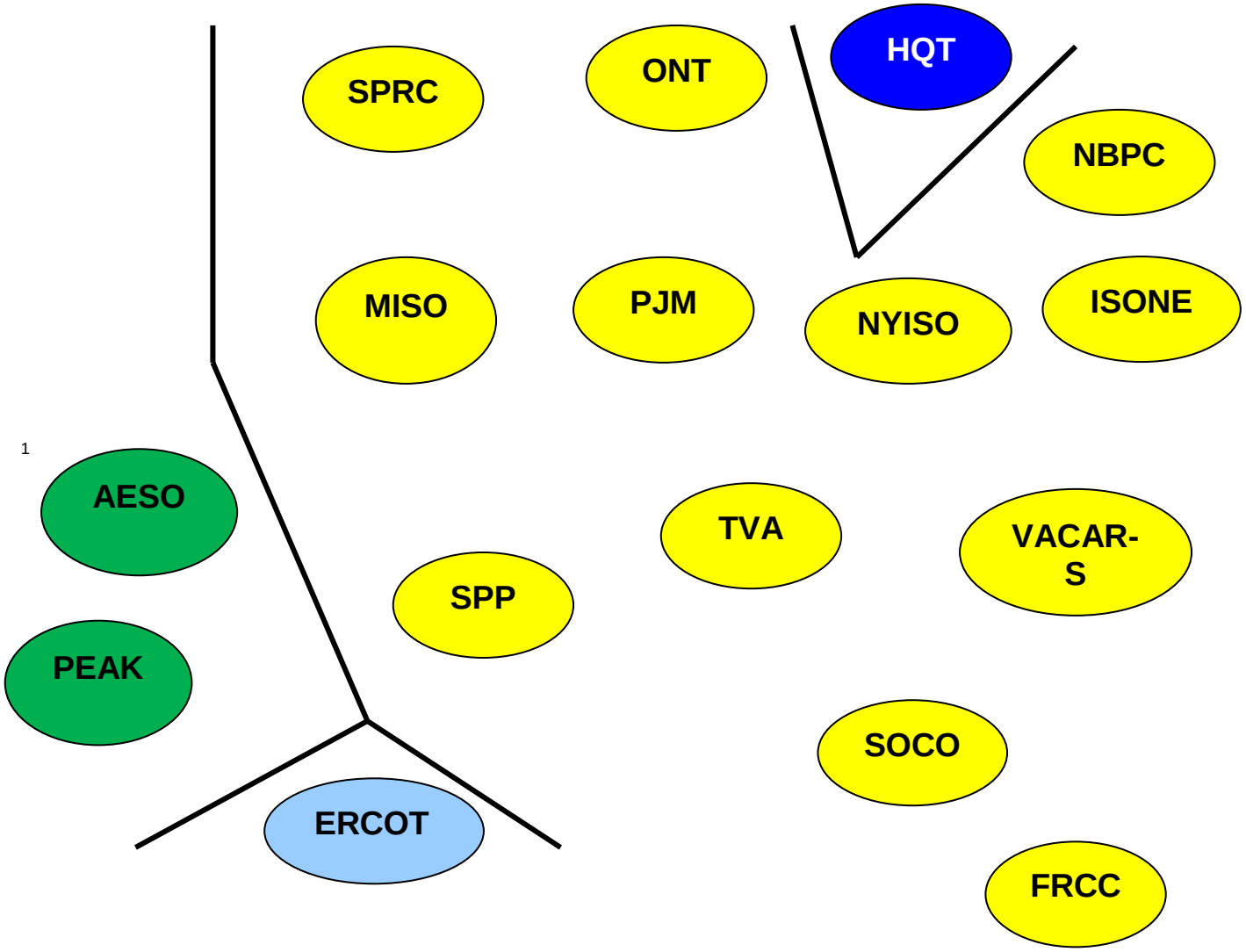
Seconds. A Motion must have a second to ensure that at least two members wish to discuss the issue. The "seconder" is not recorded in the minutes. Neither are motions that do not receive a second.

Announcement by the Chair. The Chair should announce the Motion before debate begins. This ensures that the wording is understood by the membership. Once the Motion is announced and seconded, the Committee "owns" the motion, and must deal with it according to parliamentary procedure.

Revisions. Technically, revisions to the main motion are accomplished by the Amend procedure. However, immediately after making the motion, and before it is announced by the Chair, another member may ask that the motion be revised. If the original "motion-maker" agrees to the revision, then the revised motion will be the one debated. The original "seconder" need not be consulted, because the original "motion-maker" plus the "reviser" constitute a motion and a second.

NERC RELIABILITY COORDINATOR AREAS

Effective: August 15, 2016



Future

[1] AESO is currently providing their own Reliability Coordinator services consistent with Alberta legislation.

NERC RELIABILITY COORDINATOR DESKS

Effective: August 15, 2016

CURRENT RELIABILITY COORDINATOR	FUTURE RELIABILITY COORDINATOR	COMMENT
HQT	Same	
ONT (IESO)	Same	
ISONE	Same	
NBPC	Same	
NYISO	Same	
PJM	Same	
MISO (Carmel, Eagan, Little Rock)	Same	
SPRC	Same	
VACAR–S	Same	
TVA	Same	
SOCO	Same	
FRCC	Same	
SPP	Same	
ERCOT	Same	
PEAK (Loveland, Vancouver)	Same	
AESO RC[2]	Same	

[2] AESO is currently providing their own Reliability Coordinator services consistent with Alberta legislation.

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BALANCING AUTHORITY TO RELIABILITY COORDINATOR MAPPING
August 15, 2016

This table indicates the Reliability Coordinators associated with each Balancing Authority within each Interconnection.

Current Reliability Coordinator	***Balancing Authority***	***Local Balancing Authority***	***Future Reliability Coordinator***	***Regional Entity***	***Expected Date For Change***
HQT	HQT			NPCC	
ISONE	ISNE			NPCC	
NBPC	NBPC			NPCC	
	NSPI			NPCC	
NYISO	NYIS			NPCC	
ONT	ONT			NPCC	
PJM	PJM			RF	
VACAR-S	DUK			SERC	
	SCEG			SERC	
	SC			SERC	
	CPLW			SERC	
	YAD			SERC	
	CPLE			SERC	
TVA	LGEE			SERC	
	TVA			SERC	
	AECI			SERC	
	EEI			SERC	
SOCO	SOCO			SERC	
	SEPA			SERC	
	AEC			SERC	
FRCC	FMPP			FRCC	
	FPC (DEF)			FRCC	
	FPL			FRCC	
	GVL			FRCC	
	HST			FRCC	
	JEA			FRCC	
	NSB			FRCC	
	SEC			FRCC	
	TAL			FRCC	
	TEC			FRCC	

Current Reliability Coordinator	*Balancing Authority*	*Local Balancing Authority*	*Future Reliability Coordinator*	*Regional Entity*	*Expected Date For Change*
MISO	MISO			RF	
		MECS		RF	
		BREC		SERC	
		CIN		RF	
		HE		RF	
		IPL		RF	
		DECO		RF	
		NIPS		RF	
		SIGE		RF	
		AMIL		SERC	
		AMMO		SERC	
		CWLD		SERC	
		ALTE		MRO	
		ALTW		MRO	
		CWLP		SERC	
		MGE		MRO	
		SIPC		SERC	
		UPPC		MRO	
		MIUP		RF	
		WEC		RF	
		WPS		MRO	
		GRE		MRO	
		MDU		MRO	
		MEC		MRO	
		MP		MRO	
		MPW		MRO	
		NSP		MRO	
		OTP		MRO	
		CONS		RF	
		SMP		MRO	
		DPC		MRO	
	MHEB			MRO	
	OVEC			RF	
		EES		SERC	
		CLEC		SPP	
		LAFA		SPP	
		LEPA		SPP	
		LAGN		SERC	
		SME		SERC	
AESO[3]	AESO			WECC	
PEAK	GWA			WECC	
	WAUW			WECC	
	AVA			WECC	

[3] AESO is currently providing their own Reliability Coordinator services consistent with Alberta legislation.

Current Reliability Coordinator	*Balancing Authority*	*Local Balancing Authority*	*Future Reliability Coordinator*	*Regional Entity*	*Expected Date For Change*
	BCTC			WECC	
	BPAT			WECC	
	CHPD			WECC	
	DOPD			WECC	
	GCPD			WECC	
	IPCO			WECC	
	NWMT			WECC	
	PGE			WECC	
	GRMA			WECC	
	PACW			WECC	
	PSEI			WECC	
	SCL			WECC	
	WWA			WECC	
	TPWR			WECC	
	PACE			WECC	
	TIDC			WECC	
	CISO			WECC	
	CEN			WECC	
	LDWP			WECC	
	SMUD			WECC	
	GRIF			WECC	
	AZPS			WECC	
	EPE			WECC	
	DEAA			WECC	
	IID			WECC	
	PNM			WECC	
	NEVP			WECC	
	PSCO			WECC	
	SRP			WECC	
	TEPC			WECC	
	WACM			WECC	
	WALC			WECC	
	HGMA			WECC	
	GRID			WECC	
SPRC	SPC			MRO	
ERCOT	ERCO			Texas RE	
SPP	SWPP			SPP	
	SPA			SPP	

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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Meeting Minutes
Operating Reliability Subcommittee

February 6-7, 2018

FRCC Office
3000 Bayport Drive
Tampa, FL

The Operating Reliability Subcommittee (ORS) met on February 6-7, 2018 in Tampa, FL. The meeting agenda and the attendance list are affixed as **Exhibits A and B,** respectively.

ORS Chair Dave Devereaux convened the meeting at 1:00 p.m. EST. Secretary Darrell Moore announced that a quorum was present, read the Notice of Public Meeting and referred the subcommittee to the NERC Antitrust Compliance Guidelines.

Minutes
The subcommittee approved the minutes of the November 8-9, 2017 ORS meeting. Richard McCall made a motion that minutes be approved as amended.

Future Meetings
The schedule of future subcommittee meetings includes:

1. May 8 - 9, 2018 - Taylor, TX (hosted by ERCOT)
2. September 5 - 6, 2018 - Eagan, Minnesota (hosted by MISO)
3. November 7 - 8, 2018 - Charlotte, NC (hosted by Duke)
4. February 5 - 6, 2019 - Tampa, FL (hosted by FRCC)

Balancing Authority-to-Reliability Coordinator Mapping
Vice Chair Chris Pilong provided an update for the integration of Ohio Valley Electric Corporation (OVEC) BA into PJM's footprint. The transition will result in minor changes to the Reliability plans for MISO and PJM.

Resources Subcommittee (RS) update
Tom Pruitt provided an update for the Resources Subcommittee (RS) noting that the RS does not have any pending documents for Operating Committee (OC) approval. Tom provided an overview of the largest frequency events across all the interconnections. The RS will continue to monitor Time Error (TE) and Inadvertent. The RS is currently working on a reference document for Balancing Authorities (BAs) and noted that the draft will be sent to the ORS for review as well.

Operating Committee (OC) update
Steve Crutchfield provided an update on leadership changes and OC membership. Steve reviewed the Reliability Reference Plan review cycle, reliability guidelines and the OC work plan. The OC will be asking

each subcommittee to develop a summary and provide a webinar for changes and updates to reference documents.

NERC OC update/ORS work plan

Chair Devereaux provided an overview noting that last year several guidelines were approved by the OC. The Reliability Guideline for Operator Recognition Intrusion into Operating System was posted for public comment following the December OC meeting. Chair Devereaux also said that the Inverter Task Force provided a good review of their work during the OC meeting. The ORS will assist E-ISAC with their GridEx IV after action report and assist with the development of GridEx V as requested.

Operations Review

Reliability Coordinator (RC) members of the subcommittee discussed operating events that occurred within their reliability footprints during Winter 2018. The BES performed well throughout the cold weather with no issues. Several RCs reported setting new peaks due to the extreme cold weather during the months of December and January. Some RCs implemented their cold weather procedures during the extreme cold weather. Peak RC experienced fires that caused some local transmission issues. No other abnormal events and weather was seasonal as expected.

Use of Proxy Flowgates

No proxy flowgates to discuss

Energy Emergency Alert Level 3

Peak-RC declared an Energy Emergency Alert 3 (EEA3) for Western Area Lower Colorado (WALC) due to insufficient reserves. FRCC declared an EEA3 for JEA due to transmission related congestion followed by capacity deficiency. 80MWs of firm load was shed during the EEA3 event for JEA.

Frequency Monitor Reports and Frequency Excursions

Eastern – Joel Wise: Nothing to report.
ERCOT – Jimmy Hartmann reported one event on November 25th. Frequency fell to 59.728Hz during the event, but recovered with DCS timelines.
Western – Tony Burt: Nothing to report.
Quebec – Francis Monette: Nothing to report.

EA Reference Document "Risk and Mitigations for Losing EMS Functions" - Hassan Hamdar

Hassan provided a high-level discussion on EMS and the various functions of EMS. Hassan identified and discussed the risk of losing EMS functionalities. Hassan also explained the causes of EMS events reported through the Electric Reliability Organization (ERO) Event Analysis Process (EAP). Several mitigation strategies used to reduce these risks were shared.

Real-Time monitoring and analysis implementation TOP-010- IRO 018-1 - Saad Malik

Saad provided an overview of TOP-010 noting that two new reliability standards were approved in 2016 to address operator monitoring analysis capabilities. IRO-018-1 is applicable to RCs and TOP-010-1 is applicable to Transmission Operators (TOPs) and Balancing Authorities (BAs).

GridEx IV Lesson Learned - Jake Schmitter
Jake provided updates on GridEx IV noting that this was the largest GridEx ever. Jake described the steps starting at zero and progressing through the entire exercise. Some of the major objectives of GridEx IV included; exercising incident response plans, expanding local and regional response, engaging critical interdependencies, improving communication, gathering lessons learned and engaging senior leadership. GridEx IV's scenario was largely focused on Cyber and Physical attacks.

Draft Reliability Coordinator Reliability Plan Reference Document
The ORS will work with NERC staff to ensure that the Reference Document aligns with the NERC Registration "Assessment Master (AM)." A motion was made by Don Reichenbach to amend the motion to take the Reliability Reference Plans before the OC in March. A new motion was made by Don Reichenbach to bring the Reliability Reference Plans back before the ORS during the May meeting for review and then take the Reference Plans to the OC for approval in June.

Carter Edge informed the group that the checklist has been renamed to AM. There is not a timeline on having a final AM document for the ORS to review but Carter did recommend interested parties participate in the NERC Organization Registration and Certification subcommittee (ORCS) to inject comments as this document will not be posted for public comment. The ORS agreed to decouple the AM from the Reliability Plan Reference Document and proceed with completing the Reliability Reference Plan document for final OC review and approval in June.

COM-002-4 R5/R6 discussion - Chris Pilong
Vice Chair Pilong reviewed the requirements and definitions of Emergency, Energy Emergency and Capacity Emergency as they pertain to the issuance of Operating Instructions. Several RCs provided examples of how they have defined what constitutes an emergency within their organizations. Some RCs have developed lists for their BAs, and TOPs to help manage emergencies the list of emergency vs normal Operating Instructions.

DOE Final Order on Grid Security Emergency Procedures - Fritz Hurst
Fritz Hurst Director of Legislative and Regulatory Affairs provided an update on the final DOE order on Grid Security. Fritz noted that this is a broad and limited authority, the orders are very short, lasting only 15 days, although the orders can be extended. The ESCC will help manage the process with the help of their playbook for grid emergencies.

Status Report of the IDC Association and Parallel Flow Visualization Reliability Metric.
Don Reichenbach provided an overview and noted that on December 5-6, there was a problem with the data in the IDC, which caused questionable results. The PFV testing is proceeding well and the team is working with OATI to get the data needed. The goal is to have draft reports in April. The team is also looking at flowgates that do not match real-time data. The tool is now in the evaluation period for 18 months. On March 31st, 2018 the distribution shift factor tool will be turned off. EIDSN is working on having a framework in place to receive and share data.

Status Report - Net Actual and Net Scheduled Interchange
Mike McMullen – Mike noted that this item should come off the agenda and EIDSN should be put on the agenda to provide updates.

Next Meeting
The next meeting of the ORS will be May 8 - 9, 2018 in Taylor, Texas

Adjourn
Chair Dave Devereaux adjourned the meeting on Wednesday, February 7, 2018 at 10:30 a.m. EDT.

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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Guideline for Approving Regional and Reliability Coordinator Reliability Plans

The framework for approving Regional and Reliability Coordinator Reliability Plans

Version 1

Approved by the Operating Committee: March 21, 2007

Prepared by the
Operating Reliability Subcommittee

Introduction

The Regional Reliability Plan Guideline provides a framework for the Regional Reliability Organization to use when developing its regional reliability plan (RRP). This guideline document outlines the process to be followed by the Regional Reliability Organization or by a Reliability Coordinator for submitting its RRP or Reliability Coordinator reliability plan (RCP) to NERC for approval.

The Regional Reliability Organization will submit its RRP or the Reliability Coordinator will submit its RCP to NERC for review and acceptance. The NERC Operating Committee will review for acceptance the operating section of the RRP and the RCP and the NERC Planning Committee will review for acceptance the planning sections. This process for the standing committees will focus on the completeness, feasibility, and adequacy of the Regional Reliability Organization's or Reliability Coordinator's reliability plan.

Approval Process

Each Regional Reliability Organization or Reliability Coordination will submit its respective RRP or RCP to the Operating Committee's Operating Reliability Subcommittee (ORS) for initial review and approval. The ORS shall follow the process as outlined below and as illustrated in the "Approval Process Flow Chart" section when reviewing a RRP or a RCP:

1. **Regional Reliability Organization Review and Approval of RRP or RCP.** The Regional Reliability Organization (RRO) shall review and approve its Regional Reliability Plan before it is submitted to NERC for review and approval. The Reliability Coordinator shall submit its Reliability Plan to all Regional Reliability Organizations within which it operates for their respective review and approval before such plan is submitted to NERC for review and approval.

2. **ORS Review.** ORS endorsement of the RRP or RCP is based upon its assessment of the Regional Reliability Organization's or the Reliability Coordinator's ability to meet NERC reliability standards. To aid in this assessment, the ORS may request an operational review (reliability readiness evaluation) of the Reliability Coordinator.

3. **Reliability Readiness Evaluation.** At the request of the ORS, NERC will conduct a reliability readiness evaluation of an existing or prospective Reliability Coordinator. The reliability readiness evaluation may contain recommendations which the RC must implement prior to the Reliability Coordinator beginning operations. In this instance the Reliability Coordinator will develop a mitigation plan that addresses the recommendations. The reliability readiness evaluation team will present the evaluation and mitigation plan, if any, to the ORS.

4. **ORS Endorsement of RRP or RCP.** Following its review of the RRP or RCP (and the reliability readiness evaluation), the ORS will decide whether to endorse the RRP or RCP for presentation to the Operating Committee. If the ORS cannot endorse the RRP or RCP, the subcommittee will indicate its objections to the Regional Reliability Organization or the Reliability Coordinator.

5. **Operating Committee Approval of RRP or RCP.** The ORS will present its endorsement of the RRP or RCP to the Operating Committee for action.

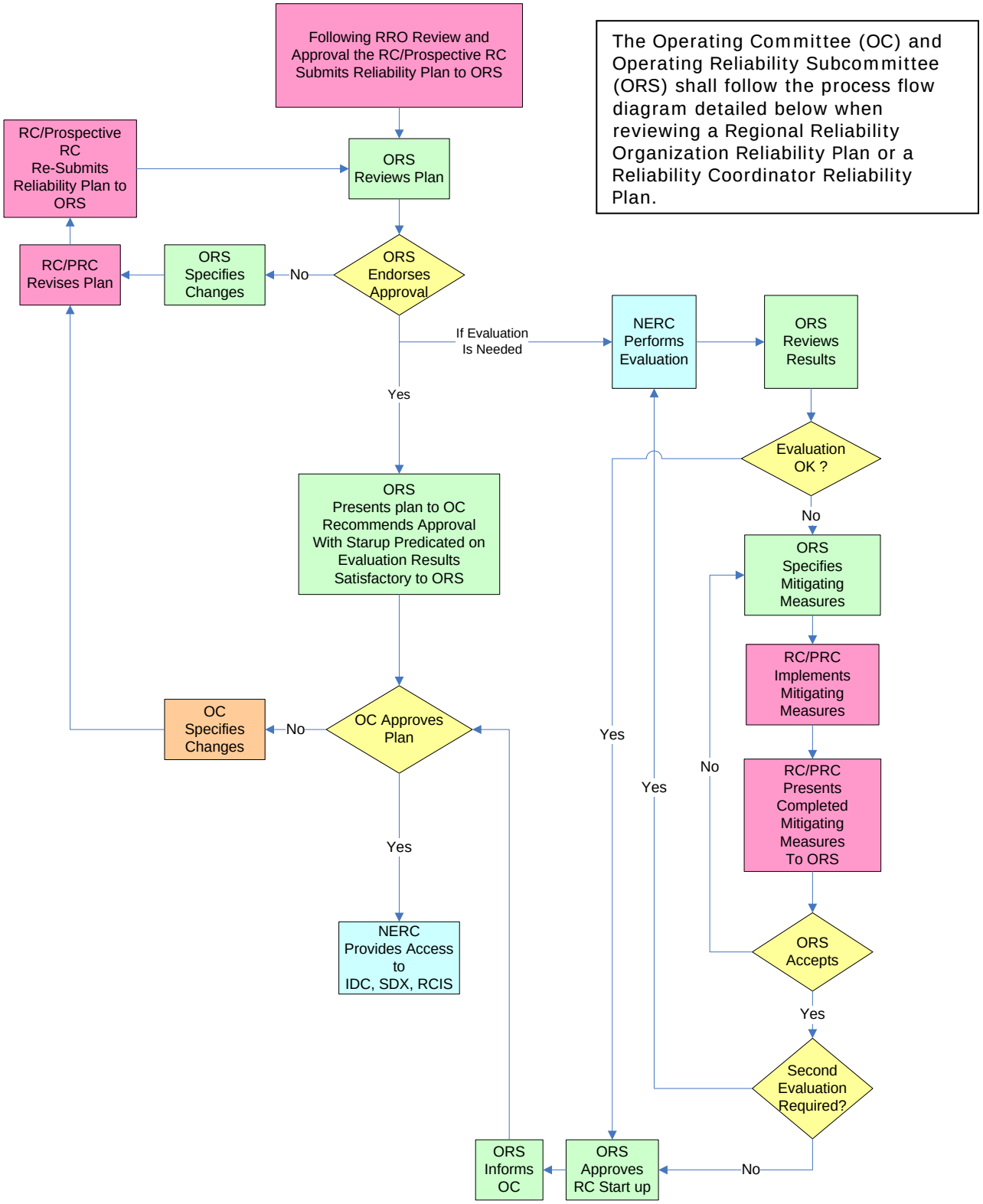
6. **Approval of Minor Revisions to a RRP or RCP.** The Operating Committee delegates the approval of minor revisions to a RRP or RCP (e.g., reliability plan "footprint" change) to the ORS.

7. **Posting of an Approved RRP or RCP.** NERC shall post approved Regional Reliability Plans and Reliability Coordinator Reliability Plans on its Web site.

8. **Access to NERC Reliability Tools.** Reliability Coordinators are required to sign the Reliability Coordinator Standards of Conduct and the Confidentiality Agreement for Electric System Operating Reliability Data before NERC can grant access to the Reliability Coordinator reliability tools. Furthermore, NERC shall not grant access to some reliability tools (e.g., the Interchange Distribution Calculator), with the exception of granting access to the training environment of such tools, until the Reliability Coordinator receives approval to begin operation.

9. **RRP or RCP Periodic Review.** The Regional Reliability Organization or Reliability Coordinator shall review its respective RRP or RCP at least every three years and notify the ORS of the results of such review.

Approval Process Flow Chart



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Operating Reliability Subcommittee Scope

Purpose

The Operating Reliability Subcommittee (ORS) assists the NERC Operating Committee (OC) in enhancing Bulk Electric System (BES) reliability by providing operational guidance to the industry; by providing oversight to the management of NERC-sponsored information technology tools and services which support operational coordination and by providing technical support and advice as requested.

Functions

The ORS will:

1. Develop guidelines and programs to facilitate operating reliability coordination. Included among the processes supported by ORS are those related to:
   a. Real-time communications among registered entities, especially Reliability Coordinators.
   b. Exchange of operational data and modeling data among registered entities.
2. Disseminate operational information among the Reliability Coordinators and other reliability entities.
3. Provide oversight to the management of NERC-sponsored information technology tools and services that facilitate operational reliability coordination.
4. Respond to requests for technical input and guidance from the Operating Committee.
5. Review reliability plans, including:
   a. Approval of minor revisions
   b. Review other revisions and provide recommendations to the Operating Committee
6. Provide a forum for coordinating system operating procedures in all four Interconnections, including:
   a. Coordinate operating reliability standard implementation to promote consistency across the Interconnections.
   b. Prepare for the upcoming operating peak demand season.
   c. Review system disturbances and transaction curtailments for "lessons learned."
   d. Review Interconnection frequency events at each meeting.
7. Provide coordination between the IDC Tools Member Association and the Operating Committee regarding the applications managed by the Association.
8. Provide a forum for coordination of TLR business practices and reliability standards.
9. Provide oversight and guidance on aspects of interchange scheduling, including dynamic transfers, as it applies to impacts on reliable operations.

Deliverables

- Provide subcommittee report for the regularly scheduled Operating Committee meetings
- Endorse or approve as applicable revisions to Reliability Plans
- Develop comments on the annual State of Reliability report
- Develop comments on Adequate Level of Reliability metrics
- Develop recommendations to the Operating Committee on reliability guidelines
- Develop responses to other directives and requests of the Operating Committee

Reporting

The ORS reports to the OC and shall maintain communications with the Planning Committee (PC) and other groups as necessary on relevant issues.

Officers

The NERC OC Chair appoints the ORS officers (Chair and Vice Chair) for a specific term (generally two years). The subcommittee officers may be reappointed for additional terms. The ORS officers are considered members of the subcommittee and may vote. The ORS may recommend officer candidates for the OC Chair's consideration following a supporting motion. Both officers must be Reliability Coordinator representatives.

Membership

1. One member from each Reliability Coordinator.
2. One additional non-Reliability Coordinator member from each region.
3. No single company may have multiple non-Reliability Coordinator members
4. Current non-Reliability Coordinator ORS members will be grandfathered as a member of the subcommittee and the subcommittee roster will indicate this grandfather status
5. Once the current grandfathered members resign their position on the committee then the ORS will receive applications for non-Reliability Coordinator membership based on the criteria in number two above. The selection process will be determined by the ORS.

As outlined in the OC's "Subcommittee Organization and Procedures," the ORS shall have sufficient expertise and diversity to be able to speak knowledgably for the industry and provide meaningful and useful guidance to assist the industry in the carrying out of its reliability responsibilities.

Executive Committee

The Executive Committee of the ORS is empowered by the ORS to act on its behalf between subcommittee meetings on matters where urgent actions are crucial and full subcommittee discussion is not practical. Ultimate ORS responsibility resides with its full membership whose decisions cannot be overturned by the Executive Committee, but retains the authority to ratify, modify or annul Executive

Committee actions. The Executive Committee will be comprised of the ORS Chair, Vice Chair, along with three at large members. The Executive Committee members are elected by the ORS for a two year term. The Executive Committee members may be re-elected.

Meeting Procedures

1. Quorum: 50 percent of subcommittee members eligible to vote
2. All other procedures follow those of the "Organization and Procedures Manual for the NERC Standing Committees."

Confidential Sessions

The chairman of the subcommittee may limit attendance at a meeting or portion of a meeting, based on confidentiality of the information to be disclosed at the meeting. Such limitations should be applied sparingly and on a non-discriminatory basis as needed to protect information that is sensitive to one or more parties.

> Example: The Reliability Coordinators may hold meetings in closed session when discussing reliability issues that they deem security, compliance, or commercially sensitive.

Subgroups

The ORS may form working groups, task groups, and task forces as needed to assist the subcommittee in carrying out standing or ad hoc assignments. Task group chairs (or delegates) are expected to attend the regular subcommittee meetings to report on assignments or provide a summary report of the group's activities at a minimum.

1. Data Exchange Working Group (DEWG) – Responsible for supporting the data needs of Reliability Coordinators and developing a comprehensive Interregional Security Network (ISN) to facilitate the exchange of real-time, modeling, and other operational data to help ensure reliable electric power system operations.
2. Telecommunications Working Group (TWG) – Responsible for developing standards and practices used to plan, implement, operate, and maintain telecommunications facilities for the Interregional Security Network (ISN) and other interregional communication applications.

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Implementation of Modified TOP and IRO Standards

Standards and Compliance Workshop
July 12, 2017

RELIABILITY | ACCOUNTABILITY




Modified TOP and IRO Standards

- FERC approved two Reliability Standards on April 17, 2017 addressing TOP and IRO directives from Order No. 817
  - IRO-002-5 – Reliability Coordination – Monitoring and Analysis
  - TOP-001-4 – Transmission Operations

- IRO-002-5 effective October 1, 2017
- TOP-001-4 effective July 1, 2018

Project 2016-01 Background

- Modifications address three objectives from Order No. 817 :
  - Transmission Operator monitoring of some non-BES facilities
  - Redundancy and diverse routing of data exchange capabilities
  - Testing for data exchange capabilities used in primary control centers

- Applicable to Reliability Coordinators (RC), Transmission Operators (TOP), and Balancing Authorities (BA)

Monitoring Non-BES Facilities

- **Directive:** Modify requirements to address monitoring non-BES facilities within or outside the TOP area as necessary for determining System Operating Limit (SOL) exceedances
  - Addresses potential gap during BES exception processing, or situations where some non-BES facilities should be monitored for reliability purposes
  - Brings TOP requirements in line with monitoring requirements for RC's

- TOP-001-4 Requirement R10 addresses the directive

TOP-001 Requirement R10

R10. Each Transmission Operator shall perform the following for determining System Operating Limit (SOL) exceedances within its Transmission Operator Area:

10.1 Monitor Facilities within its Transmission Operator Area;

10.2 Monitor the status of Remedial Action Schemes within its Transmission Operator Area;

10.3 **Monitor non-BES facilities within its Transmission Operator Area identified as necessary by the Transmission Operator**;

10.4 Obtain and utilize status, voltages, and flow data for Facilities outside its Transmission Operator Area identified as necessary by the Transmission Operator;

10.5 Obtain and utilize the status of Remedial Action Schemes outside its Transmission Operator Area identified as necessary by the Transmission Operator; and

10.6 **Obtain and utilize status, voltages, and flow data for non-BES facilities outside its Transmission Operator Area identified as necessary by the Transmission Operator**.

Determining Non-BES Facilities to Monitor

- The objective is to monitor all facilities necessary for **determining SOL exceedances**

- Examples of analyses performed by TOPs to identify non-BES facilities that should be monitored:
  - Operational Planning Analysis (OPA);
  - Real-time Assessments (RTA);
  - Analysis performed by the TOP as part of BES Exception processing for including a facility in the BES; and
  - Analysis which may be specified in the RC's outage coordination process that leads to the identification of a non-BES facility that should be temporarily monitored for determining SOL exceedances.

Data Exchange Redundancy

- **Directive:** Modify standards to include requirements for redundancy and diverse routing of data exchange capabilities used by RC, TOP, and BA

- IRO-002-5 Requirement R2 and TOP-001-4 Requirements R20 and R23 address the directive

IRO-002-5 Requirement

R2. Each Reliability Coordinator shall have data exchange capabilities, **with redundant and diversely routed data exchange infrastructure within the Reliability Coordinator's primary Control Center**, for the exchange of Real-time data with its Balancing Authorities and Transmission Operators, and with other entities it deems necessary, for performing its Real-time monitoring and Real-time Assessments.

Data Exchange Redundancy Rationale

- Redundant and diversely routed data exchange capabilities **preclude single points of failure** in primary Control Center data exchange infrastructure from halting the flow of Real-time data.
  - Instantaneous fail-over of data exchange capabilities is not required
  - Provides for continued data exchange functionality during outages, maintenance, or testing of data exchange infrastructure. For periods of planned or unplanned outages of individual data exchange components, the proposed requirements do not require additional redundant data exchange infrastructure components solely to provide for redundancy.

- Requirements apply to infrastructure **within the primary Control Center only**

Data Exchange Redundancy Testing

- **Directive:** Modify standards to require testing of alternate data exchange capabilities used by RC, TOP, and BA in primary control centers

- IRO-002-5 Requirement R3 and TOP-001-4 Requirements R21 and R24 address the directive

IRO-002 Requirement

R3. Each Reliability Coordinator shall test its primary Control Center data exchange capabilities specified in Requirement R2 for redundant functionality at least once every 90 calendar days. If the test is unsuccessful, the Reliability Coordinator shall initiate action within two hours to restore redundant functionality.

Redundancy Testing Rationale

- A test demonstrates that data exchange capabilities will continue to operate despite the malfunction or failure of an individual component
  - (e.g., switches, routers, servers, power supplies, and network cabling and communication paths between these components in the primary Control Center).
- Tests do not need to address all failure modes each quarter
  - “An entity's testing practices should, over time, examine the various failure modes of its data exchange capabilities.”

Implementation

- IRO-002-5 effective October 1, 2017 (3 months following regulatory approval)

- TOP-001-4 effective July 1, 2018 (12 months following regulatory approval)
  - Longer implementation period is needed due to new requirement for TOPs to monitor some non-BES facilities (R10)

Questions and Answers

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Reliability Coordinator Reliability Plan Reference Document - Draft

Deleted: - Version 1

Introduction

This reference document provides the framework for the development, update, and endorsement process for Reliability Coordinator Reliability Plans. Changes to this reference document will be at the direction of the NERC Operating Committee (OC) with the participation of the Operating Reliability Subcommittee (ORS).

Reliability Coordinator (RC) Reliability Plans are used by RCs to document each RC's plan for meeting the obligations of the functional area and ensure that the plan is adequately coordinated with the entities within the RC Area and neighboring entities. RCs may develop individual RC Reliability Plans or opt to include multiple RCs, such as RCs of a particular region, within a single Reliability Plan.

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Background

The NERC Standard, IRO-001-1.1 Reliability Coordination - Responsibilities and Authorities, required RCs to comply with Reliability Plans that have been approved by the NERC Operating Committee. The requirement to develop Reliability Plans was retired on April 1st, 2017. The RC Reliability Plan is a valuable tool for coordination within an RC Area and among neighboring RCs and therefore the ORS has developed this Reliability Coordinator Reliability Plan Reference Document in order to maintain a process for RCs to develop, maintain and coordinate their reliability plans, in absence of a formal NERC requirement to do so.

Contents of the RC Reliability Plan

Each RC Reliability Plan will differ based on the way each Reliability Coordinator does business and how that RC interacts with it's member entities and neighboring RCs. Each RC should consider adding the following information to their Reliability Plan. If this information is located in a separate document, the Reliability Plan should reference the document where the information is located.

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- A revision history of changes from previous versions of the document
- A description of RC decision making authority
- An overall description of the RC responsibilities
- List of Balancing Authorities, Local Balancing Authorities (if applicable), and Transmission Operators in the RC footprint
- A description of the RC footprint
- A description of the RCs requirements regarding pseudo-tied generation and load
- A description of the congestion management process the Reliability Coordinator uses to manage congestion. This description should include:
    - How congestion on internal constraints are managed
    - How congestion on external constraints are managed, if applicable

- A list and description of bilateral or multilateral congestion management agreements, e.g. CMP or market to market type agreements

- An overall description of how the RC maintains wide-area visibility, e.g. tools, processes, what is monitored
- A description of processes used to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments
- An overall description of emergency operations plans

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A description of the RCs SOL and IROL methodology and list of current IROLs

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A description of the RC facilities and staffing used to conduct operations¶
A list of associated reference documents, such as the RC restoration plan

RC Reliability Plan Updates and Changes

It is recommended that the RC Reliability Plans be reviewed internally every 3 years for changes to the plan. The Reliability Plan should be updated, re-coordinated and re-endorsed by the ORS for significant changes to the way an RC plans to meet its functional requirements. Changes that are expected to initiate an off-cycle update, re-coordination and re-endorsement can include but are not limited to:

- Significant changes to RC footprint BAs or TOps (excluding new pseudo-ties)
- Significant changes to RC congestion management processes
- Changes that could have a significant impact on neighboring entities

Endorsement of RC Reliability Plan by the NERC ORS

New RC Reliability Plans or updated RC Reliability Plans with significant changes should be submitted to the Regional Entities (RE), if required, for initial review. The plan should then be submitted to the ORS for review and endorsement prior to the effective date of the new or updated RC Reliability Plan. Endorsement of the RC Reliability Plans is a non-binding approval that gives all RCs in the North American power system an opportunity to review each others' Reliability Plans and raise concerns and offer suggested changes.

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The ORS endorsement of the RC Reliability Plan is based upon its assessment of the Reliability Coordinator's ability to carry out the functional requirements of an RC, the ability to meet the NERC Standard Requirements of an RC, and potential impact on the overall system reliability.

Following its review of the RC Reliability Plan, the ORS will decide, through a majority vote, whether or not to endorse the RC Reliability Plan. If endorsement is not achieved, the RC should work with the ORS to revise the plan or develop additional mitigations plans. The results of the final endorsement motion will be communicated to the NERC OC.

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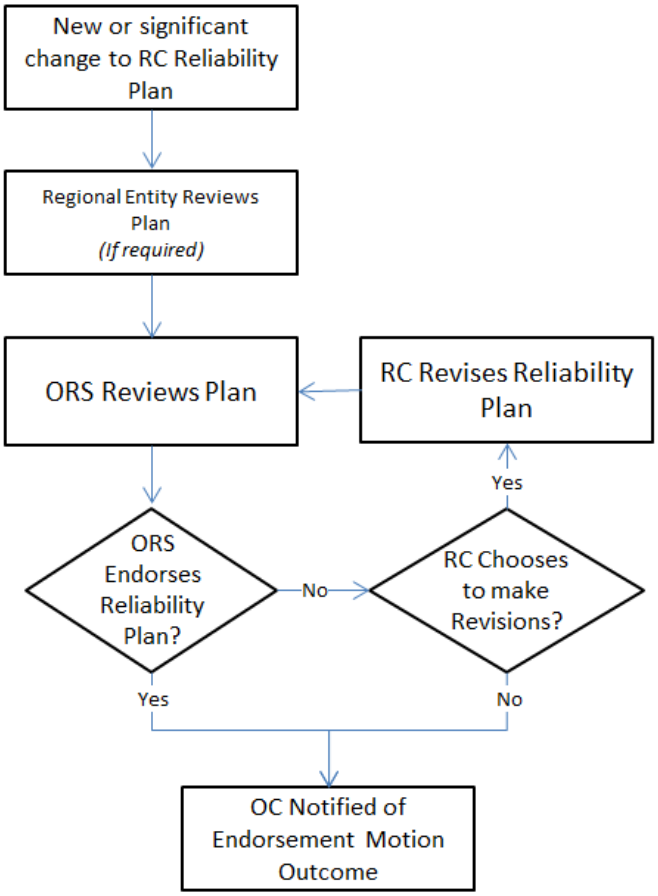
Endorsement Process Flow Chart



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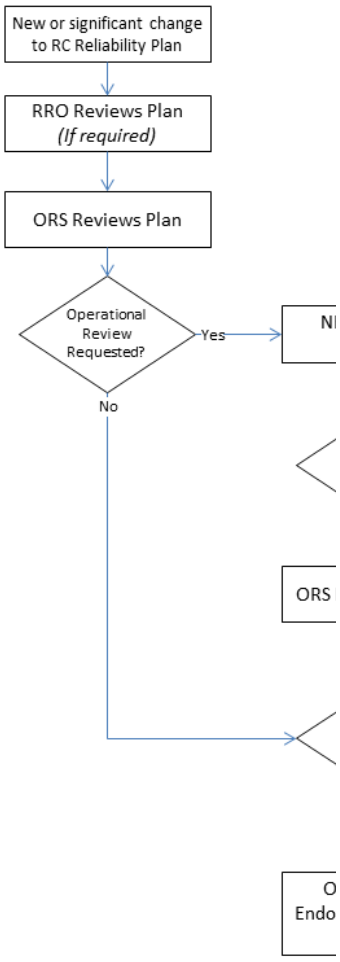

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RC Certification Checklist - Draft

All Registered Entities registered in the NERC Compliance Registry for the Reliability Coordinator (RC), Transmission Operator (TOP), and/or Balancing Authority (BA) functions are to be certified. Section 500 and Appendix 5A to the NERC Rules of Procedure define the process utilized in the Organization Certification Program for certifying a new entity for the RC, BA and TOP functions and for certifying changes to already operating and certified RCs, BAs and TOPs. The Certification process is required to be completed within nine months of the date of acceptance of the application and the Registered Entity is to start operation within 12 months of being NERC certified. Therefore, planning for certification and the certification review should be part of any change management program for changes that required certification.

The decision to certify changes to an already operating and certified Registered Entity is a collaborative decision between the affected Regional Entities(s) and NERC. NERC has the final authority regarding this decision.[1]

Items to consider for recertification include:

1. Changes to a Registered Entity's Footprint or operational challenges (i.e., TLRs) due to the changes
2. Organizational restructuring that could impact the BPS reliability(how would ts be gauged?)
3. Relocation of the control center
4. Changes to Registered Entity ownership requiring major operating procedure changes
5. Significant changes to JRO/CFR assignments or agreement changes
6. Addition or removal of member JRO/CFR utilities or entities
7. Complete replacement of a Supervisory, Control and Data Acquisition (SCADA)/Energy Management (EMS) System

Changes to a RC, BA, or TOP not only can cause significant changes in how the internal BA or RC is operated (e.g. Market Flow or Network Native Load flows, congestion management, operator responsibility, etc.), but also may impact neighboring entities. Neighboring entities may have to operate with new or different loop flows across their system, need to update their load flow or state estimator models, may require additional data for Operational Planning Analysis, etc.

It is important for the RC contemplating certification process to understand that coordinating activities are expected to occur early in the project such that certification can take into account the coordination that has been established allowing it to remain an end-state validation activity. Planning for the change should occur significantly prior to the Rules of Procedure deadline requirement to notify the Electric Reliability Organization (ERO) of pending certification activity.

[1] NERC Rules of Procedure, Appendix 5A Organization Registration and Certification Manual, Section IV

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Depending on the scope of anticipated changes, the topics below are expected (at a minimum) to have already been resolved within the new RC footprint and between adjacent RC's:

- BPS reliability impacts associated with the change, their identification, coordination, and mitigation
- Applicable Nuclear Plant Interface Requirements
- Nomenclature to be used for interface Elements and Facilities
- Common understanding of Operating Instructions and protocols
- RC Restoration Plan
    - Strategy
    - Processes
    - Reporting requirements
    - Training
- Continuity of Operations for RC Functionality
    - Tools / Applications
    - Data/voice
    - Triggers / Transition
- Understanding of SOL Methodologies in use for operations horizon
    - Including criteria for recognizing IROL limits (voltage; angular stability, etc.)
    - Approach/notification around potential/actual exceedences
    - Most limiting contingencies
- Strategy/philosophy in use around preparing for next contingency
- Strategy/philosophy in use around use of Remedial Action Schemes
- Facilities monitoring capability / specifications
    - Data exchange
        - Element; SPS/RAS; Protection System status impactful to system reliability; communication circuits
    - Alarm management
    - Synchronization
- Strategy/philosophy in use around Congestion Management
- Strategy/philosophy in use around Outage Coordination
- Validation of models to actual system response

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Schweighart, Nathan

From: William Chambliss <William.Chambliss@scc.virginia.gov>
Sent: Friday, June 16, 2017 11:00 AM
To: Schweighart, Nathan
Subject: RE: Request for Comments - RC Reliability Plans

Categories: To Me Only

TVA External Message. Please use caution when opening.

You are welcome. I'd also change "impact" to "impacts" in that sentence, too.

BC

From: Schweighart, Nathan [mailto:naschweighart@tva.gov]
Sent: Friday, June 16, 2017 9:50 AM
To: William Chambliss; Stephen Crutchfield
Cc: david.devereaux@ieso.ca
Subject: RE: Request for Comments - RC Reliability Plans

Ah yeah, good addition. I'll add "by the RC" at the end. Thanks again for reviewing.

The ORS endorsement of the RC Reliability Plan is based upon its assessment of the Reliability Coordinator's ability to carry out the functional requirements of an RC, the ability to meet the NERC Standard Requirements of an RC, and whether any potential adverse impact to overall system reliability have been identified, coordinated, and mitigated by the RC.

From: William Chambliss [mailto:William.Chambliss@scc.virginia.gov]
Sent: Friday, June 16, 2017 9:39 AM
To: Schweighart, Nathan; Stephen Crutchfield
Cc: david.devereaux@ieso.ca
Subject: RE: Request for Comments - RC Reliability Plans

TVA External Message. Please use caution when opening.

The ORS endorsement of the RC Reliability Plan is based upon its assessment of the Reliability Coordinator's ability to carry out the functional requirements of an RC, the ability to meet the NERC Standard Requirements of an RC, and whether any potential adverse impact to overall system reliability have been identified, coordinated, and mitigated (in the Plan)(by the RC).

Nathan, I think adding either of the phrases in the parentheses offered above would make it even clearer.

Thanks,
BC

From: Schweighart, Nathan [mailto:naschweighart@tva.gov]
Sent: Friday, June 16, 2017 8:35 AM
To: William Chambliss; Stephen Crutchfield

Cc: david.devereaux@ieso.ca
Subject: RE: Request for Comments - RC Reliability Plans

Thanks for the comment.

Would this be more clear?

The ORS endorsement of the RC Reliability Plan is based upon its assessment of the Reliability Coordinator's ability to carry out the functional requirements of an RC, the ability to meet the NERC Standard Requirements of an RC, and whether any potential adverse impact to overall system reliability have been identified, coordinated, and mitigated.

Thanks,
Nate

From: William Chambliss [mailto:William.Chambliss@scc.virginia.gov]
Sent: Thursday, June 15, 2017 2:34 PM
To: Stephen Crutchfield
Cc: Schweighart, Nathan; david.devereaux@ieso.ca
Subject: RE: Request for Comments - RC Reliability Plans

TVA External Message. Please use caution when opening.

Here are some suggested edits to the RC reliability plan document

Bill Chambliss

From: Stephen Crutchfield [mailto:Stephen.Crutchfield@nerc.net]
Sent: Wednesday, June 14, 2017 10:11 AM
To: oc@nerc.com
Cc: Schweighart, Nate; Senkowicz, Eric; Darrell Moore; Devereaux, Dave; Pilong, Chris; James Merlo
Subject: Request for Comments - RC Reliability Plans

OC Members:

As requested at the June 7, 2017 OC meeting, the NERC ORS is requesting OC member comments on the attached draft of the *Reliability Coordinator Reliability Plan Reference Document.* The reference document is being developed to replace the existing, NERC OC approved, *Guideline for Approving Regional and Reliability Coordinator Plans* document.

Based on discussions in the NERC ORS and guidance from the NERC OC, the ORS developed a draft reference document, in order to provide a framework for development, update, and endorsement process for the RC Reliability Plans. Although the applicable NERC standard requirement (IRO-001-1.1) to have a NERC OC approved reliability plan was retired in April, the OC ask ORS to develop a replacement process that would promote Interconnection coordination and potentially complement the NERC Registration and Certification process. A "reference document" format was selected in lieu of a guideline because it would be the NERC OC's expectation that the process described within the document would be followed voluntarily by the NERC ORS as well as Reliability Coordinators.

The NERC ORS subgroup coordinated the current draft with NERC staff in order to make sure the new reference document worked with any planned changes to the NERC certification process. The ORS wanted to coordinate with NERC in order to ensure that any gaps created with the retirement of the IRO-001 standard requirement and the revised RC Reliability Plan could be mitigated with changes to the certification process. The main concern is making sure that the reliability impacts to neighboring RCs due to significant changes to RC organizations (i.e. RC Area and footprints) are considered and coordinated with neighboring RCs early in any change process.

The redlines in the attached draft are a result of the discussion with NERC. NERC preferred that the certification process be independent of the Reliability Plan process, therefore references to an ORS requested "operational review" was removed. NERC did describe to the ORS their plans to strengthen the certification process, such as creating a check list or other documentation that will convey NERC's expectations of 3rd party notification and inclusion in the process for changes that required re-certification. The draft checklist would NOT be part of the OC approved reference document.

Comments are due to Stephen Crutchfield Stephen.Crutchfield@nerc.net, Schweighart, Nate Schweighart, naschweighart@tva.gov and Dave Devereaux david.devereaux@ieso.ca by Friday July 7, 2017.

Regards,
Stephen

_____
Stephen Crutchfield
Manager of Operating Committee Support
North American Electric Reliability Corporation
3353 Peachtree Road NE, Suite 600 – North Tower
Atlanta, GA 30326
404-446-9646 office | 609-651-9455 cell
stephen.crutchfield@nerc.net

Reliability | Accountability

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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Reliability Coordinator Reliability Plan Reference Document - Draft

Deleted: - Version 1

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Background

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- A description of the RC footprint
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- A description of the congestion management process the Reliability Coordinator uses to manage congestion. This description should include:

- How congestion on internal constraints are managed
- How congestion on external constraints are managed, if applicable
- A list and description of bilateral or multilateral congestion management agreements, e.g. CMP or market to market type agreements

- An overall description of how the RC maintains wide-area visibility, e.g. tools, processes, what is monitored
- A description of processes used to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments
- An overall description of emergency operations plans

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A description of the RCs SOL and IROL methodology and list of current IROLs

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<#>A description of the RC facilities and staffing used to conduct operations¶
A list of associated reference documents, such as the RC restoration plan

RC Reliability Plan Updates and Changes

It is recommended that the RC Reliability Plans be reviewed internally every 3 years for changes to the plan. The Reliability Plan should be updated, re-coordinated and re-endorsed by the ORS for significant changes to the way an RC plans to meet its functional requirements. Changes that are expected to initiate an off-cycle update, re-coordination and re-endorsement can include but are not limited to:

- Significant changes to RC footprint BAs or TOps (excluding new pseudo-ties)
- Significant changes to RC congestion management processes
- Changes that could have a significant impact on neighboring entities

Endorsement of RC Reliability Plan by the NERC ORS

New RC Reliability Plans or updated RC Reliability Plans with significant changes should be submitted to the Regional Entities (RE), if required, for initial review. The plan should then be submitted to the ORS for review and endorsement prior to the effective date of the new or updated RC Reliability Plan. Endorsement of the RC Reliability Plans is a non-binding approval that gives all RCs in the North American power system an opportunity to review each others' Reliability Plans and offer suggested changes.

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The ORS endorsement of the RC Reliability Plan is based upon its completeness in the contents

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Following its review of the RC Reliability Plan, the ORS will decide, through a majority vote, whether or not to endorse the RC Reliability Plan. If endorsement is not achieved, the RC should work with the ORS to revise the plan or develop additional mitigations plans. The results of the final endorsement motion will be communicated to the NERC OC.

Deleted: Through an approved motion, the ORS may request NERC complete an operational review of the existing or prospective Reliability Coordinator. NERC will conduct the operational review of the RC and will develop recommendations which the RC must implement prior to the RC beginning operations. The RC will develop a mitigation plan to address the recommendations. The results of the NERC operational review, including recommendations and mitigation plan, if any, will be submitted to the ORS.¶
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Endorsement Process Flow Chart

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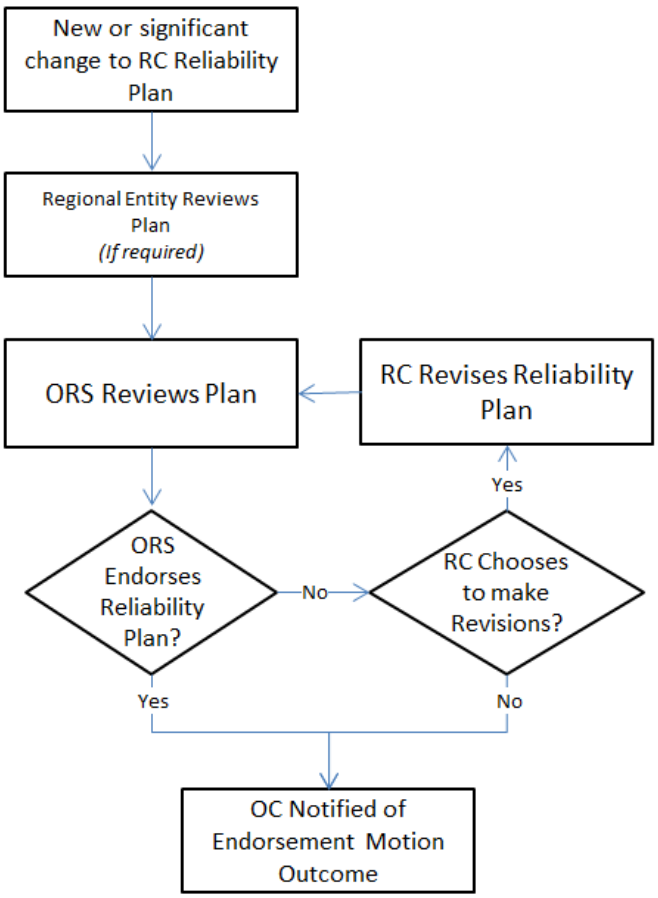
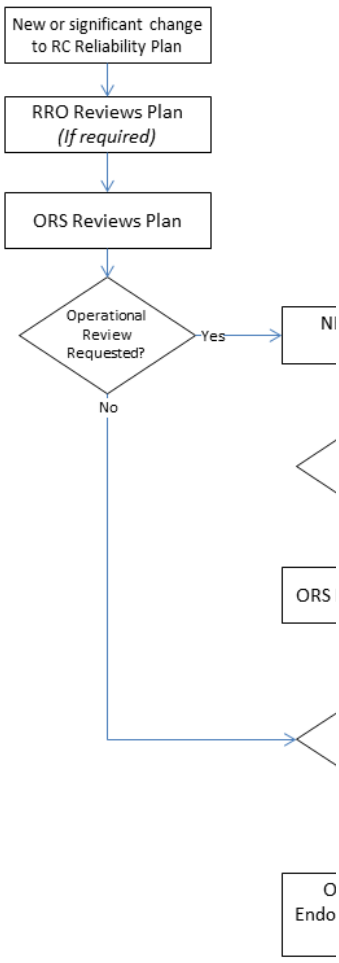

New or significant change to RC Reliability Plan
Regional Entity Reviews Plan
(If required)
ORS Reviews Plan
RC Revises Reliability Plan
ORS Endorses Reliability Plan?
No
RC Chooses to make Revisions?
Yes
Yes
No
OC Notified of Endorsement Motion Outcome


New or significant change to RC Reliability Plan
RRO Reviews Plan
(If required)
ORS Reviews Plan
Operational Review Requested?
Yes
No
ORS
Endo

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