UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability)	
Corporation)	Docket No. RM13-13-000
)	

INFORMATIONAL FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION AND WESTERN ELECTRICITY COORDINATING COUNCIL REGARDING REGIONAL RELIABILITY STANDARD BAL-002-WECC-2

The North American Electric Reliability Corporation ("NERC") and the Western Electricity Coordinating Council ("WECC") hereby submit this informational filing ("Informational Filing") to the Federal Energy Regulatory Commission ("Commission") as directed in this proceeding in Order No. 789. In Order No. 789, the Commission approved regional Reliability Standard BAL-002-WECC-2 and directed NERC "to submit an informational filing two years after implementation of regional Reliability Standard BAL-002-WECC-2 that assesses whether the new methodology for calculating minimum contingency reserve levels has had an adverse impact on reliability in the Western Interconnection[,]" and whether Contingency Reserves are adequate. As detailed in this Informational Filing and supported by **Appendices 1 and 2**, Contingency Reserves in the Western Interconnection remain adequate, demonstrating that the BAL-002-WECC-2 methodology for calculating minimum Contingency Reserve levels has not adversely impacted reliability in the Western Interconnection. Interconnection.

¹ Regional Reliability Standard BAL-002-WECC-2 – Contingency Reserve, Order No. 789, 145 FERC \P 61,141 78 Fed. Reg. 71448 (2013).

Id. at P 36. See also, id., at PP 2 and 26 (directing an informational filing, "that addresses the adequacy of contingency reserve in the Western Interconnection.").

Appendix 1 reflects the downward trend in reportable DCS events and Appendix 2 reflects the adequacy of reserves as demonstrated by actual reserves compared with required reserves in the Western Interconnection.

I. NOTICES AND COMMUNICATIONS

Notices and communications regarding this filing may be addressed to the following:⁴

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II. <u>HISTORY OF THE PROCEEDING</u>

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On April 12, 2013, NERC and WECC requested Commission approval of BAL-002-WECC-2.⁵ Regional Reliability Standard BAL-002-WECC-2 is intended to specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions. The standard requires Balancing Authorities ("BAs") and Reserve Sharing Groups

Persons to be included on the Commission's service list are identified by an asterisk. NERC and WECC respectfully request a waiver of Rule 203 of the Commission's regulations, 18 C.F.R. § 385.203 (2014), to allow the inclusion of more than two persons on the service list in this proceeding.

Joint Petition of North American Electric Reliability Corporation and Western Electricity Coordinating Council for Approval of WECC Regional Reliability Standard BAL-002-WECC-2 - Contingency Reserve, Docket No. RM13-13-000 (filed Apr. 12, 2013).

("RSGs") to maintain minimum Contingency Reserves, except under limited circumstances.

Requirement R1 of the standard establishes the methodology that BAs and RSGs should use to calculate minimum Contingency Reserves.

Specifically, BAL-002-WECC-2 calculates minimum Contingency Reserve "based on the greater of the most severe single contingency or the sum of three percent of load plus three percent of net generation." In Order No. 789, the Commission approved BAL-002-WECC-2. The Commission stated that:

[t]he method for calculating minimum contingency reserve in the regional Reliability Standard is more stringent than ...BAL-002-1 because it requires minimum contingency reserve levels that will be at least equal to the NERC Reliability Standard minimum (i.e., equal to the most severe single contingency) and more often will be greater.⁷

Order No. 789 also directed "NERC to submit an informational filing after the first two years of implementation of the regional Reliability Standard that addresses the adequacy of contingency reserve in the Western Interconnection[,]" and whether the methodology to calculate minimum Contingency Reserve has had an adverse impact on reliability in the West.⁸

Order No. 789 explained that the Commission's Notice of Proposed Rulemaking ("NOPR") stated that NERC and WECC should assess minimum Contingency Reserve levels in the West following implementation of the standard. The Commission summarized that:

[t]he NOPR stated that the informational filing should assess whether the new methodology for calculating minimum contingency reserve levels has had an adverse impact on reliability in the Western Interconnection and should include the data that NERC and WECC use to assess the sufficiency of the minimum contingency reserve levels under the new methodology. The NOPR stated that such data could include, but need not be limited to an increase or decrease in the 'Average Percent Non-Recovery Disturbance Control Standards (DCS) Events,' an increase or decrease in the average Contingency Reserve Restoration Period, an increase or decrease in the number of events larger than the minimum

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Order No. 789, at P 28 (summarizing the standard).

Order No. 789, at P 26.

⁸ *Id.; and id.* at PP 32 and 36.

contingency reserve levels, and any other information that NERC or WECC deem relevant. 9

NERC committed to submit the proposed informational filing, supported by data used to assess BAL-002-WECC-2. Order No. 789 adopted the NOPR"s proposal and required NERC to submit an informational filing, in consultation with WECC, two years after implementation of BAL-002-WECC-2, "assess[ing] whether the new methodology for calculating minimum contingency reserve levels has had an adverse impact on reliability in the Western Interconnection[,]" and the adequacy of Contingency Reserves. This informational filing is submitted to comply with that directive.

III. IMPLEMENTATION OF THE REGIONAL RELIABILITY STANDARD

WECC data demonstrates that regional Reliability Standard BAL-002-WECC-2 has not adversely affected reliability in the Western Interconnection, by establishing that Contingency Reserve levels remain adequate in the West. First, the WECC Compliance Department confirms that since October 1, 2014 when BAL-002-WECC-2 became effective, there have been no reported violations of the BAL-002-1 Disturbance Recovery Criterion or the Recovery Period, and no violations have been identified in any Compliance Audits. As a result, this indicates that BAs and RSGs met the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances and there were no non-recovery DCS events. 12

⁹ *Id.* at P 32.

¹⁰ *Id.* at P 33.

¹¹ *Id.* at P 36. *See also*, *id.* at PP 2 and 26.

The Disturbance Recovery Criterion is defined in Reliability Standard BAL-002-1 as "R4.1. A Balancing Authority shall return its ACE to zero if its ACE just prior to the Reportable Disturbance was positive or equal to zero. For negative initial ACE values just prior to the Disturbance, the Balancing Authority shall return ACE to its pre-Disturbance value. R4.2. The default Disturbance Recovery Period is 15 minutes after the start of a Reportable Disturbance.").

Further, data summarized in **Appendix 1** reflects a downward trend in reportable DCS events. **Appendix 1** shows that between October 1, 2012 and September 30, 2014, there were 183 reportable DCS events less than the Most Severe Single Contingency ("MSSC") in the Western Interconnection. In contrast, **Appendix 1** reveals that between October 1, 2014 and June 30, 2016 (after effectiveness of BAL-002-WECC-2) there were 121 reportable DCS events less than the MSSC in the Western Interconnection. This reflects more than 30% decrease in reportable DCS events less than MSSC. Additionally, **Appendix 1** demonstrates that the number of DCS events greater than MSSC declined from six during the two-year period immediately preceding the effective date of BAL-002-WECC-2 to four during the period that BAL-002-WECC-2 has been effective. Such evidence regarding the lack of non-recovery DCS events and the reduction in events larger than MSSC reflect the type of data that the NOPR contemplated could be used to establish that BAL-002-WECC-2 has not adversely affected Contingency Reserve levels or, by extension, reliability. ¹³

Moreover, information on reserve levels captured in WECC Daily Reports underscore the continued existence of adequate Contingency Reserve levels in the Western Interconnection.

WECC's Daily Reports provide information on (i) daily required and projected reserve levels and (ii) actual reserves from the prior day. Appendix 2 compares actual and required reserves from 101 Daily Reports dated from October 1, 2014 through August 31, 2016. The raw reserve data and graph in Appendix 2 show that actual reserves have been substantially higher than required levels throughout the period that BAL-002-WECC-2 has been effective. Thus, WECC data regarding (i) the lack of non-recovery DCS Events, (ii) the decreasing number of events

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¹³ Id. at P 32 (quoted above at *supra*, n. 9 and accompanying text).

See, e.g., WECC Daily Status Reports, available at, https://www.wecc.biz/EventAnalysisSituationalAwareness/Pages/default.aspx.

larger than MSSC, and (iii) sufficiency of actual reserves all demonstrate that BAL-002-WECC-2 has not adversely impacted reliability.

IV. <u>CONCLUSION</u>

Wherefore, for the foregoing reasons, the methodology implemented under regional Reliability Standard BAL-002-WECC-2 for calculating minimum contingency reserve levels has not adversely impacted reliability in the Western Interconnection and Contingency Reserve levels remain adequate. NERC and WECC respectfully request that the Commission accept this informational filing as compliant with the Commission's directive in Order No. 789.

Respectfully submitted,

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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 3rd day of October, 2016.

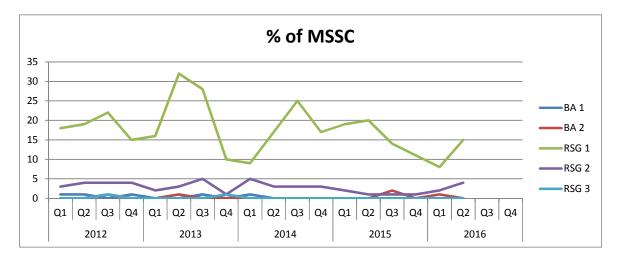
/s/ Candice Castaneda

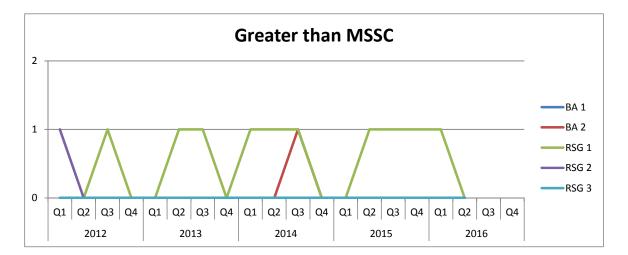
Candice Castaneda Counsel North American Electric Reliability Corporation 1325 G Street, N.W., Suite 600 Washington, DC 20005 (202) 400-3000 candice.castaneda@nerc.net

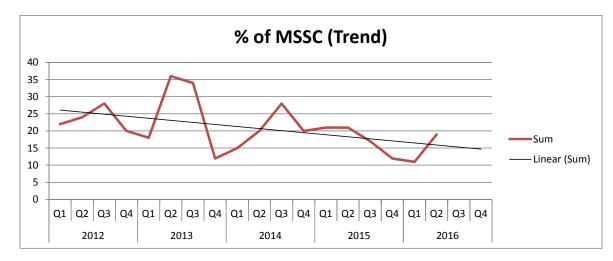
Counsel for North American Electric Reliability Corporation

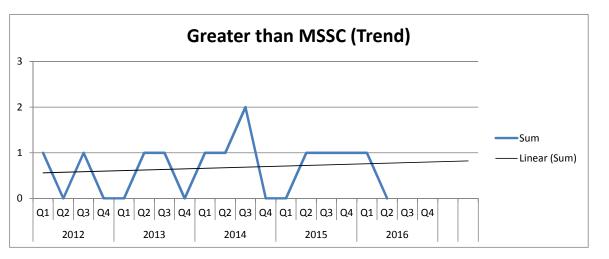
	Greater than MSSC																				
Dogion			2	012			2013		2014			2015				2016					
Region	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
BA 1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
BA 2		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
RSG 1		0	0	1	0	0	1	1	0	1	1	1	0	0	1	1	1	1	0		
RSG 2		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
RSG 3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Su	m		L ()	1 () () 1	1 1	. 0	1	. :	1 2	2 0	0	1		1 1	<u>.</u> L	1	0	•

	% of MSSC																				
Region	2012			2013		2014			2015				2016								
, ne	gion	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
BA 1		1	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0		
BA 2		0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	1	0		
RSG 1		18	19	22	15	16	32	28	10	9	17	25	17	19	20	14	11	8	15		
RSG 2		3	4	4	4	2	3	5	1	5	3	3	3	2	1	1	1	2	4		
RSG 3		0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		
•	Sum	22	24	. 28	20	18	36	34	12	15	20	28	20	21	21	17	12	11	19		









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Region	WECC	Qtr	2	Year	2016	Date	Q2 2016						
				Dist	Disturbance Control Standard								
	Contro	ol Area		Reportable D the most serve contingency	isturbances <= ere single	Disturbances severe single o							
	Contro	31 7 Hea		Number	Average Percent Recovery	Number	Average Percent Recovery						
BA 1				0		0							
BA 2				0	N/A	0	N/A						
RSG 1				15	100.0%	N/A	100.0%						
RSG 2				4	100.0%	N/A							
RSG 3				0	100.0%	0	N/A						

Region	WECC	Qtr	1	Year	2016	Date	Q1 2016					
		-		Disturbance Control Standard								
	Contr	ol Area		Reportable Di the most serve contingency		Disturbances : severe single o						
	Contro	oi / ii cu		Number	Average Percent Recovery	Number	Average Percent Recovery					
BA 1				0		0						
BA 2				1	100.0%	N/A						
RSG 1				8	100.0%	1	100.0%					
RSG 2				2	100.0%	N/A						
RSG 3				0	100.0%	0	N/A					

Region	WECC	Qtr	4		Year	2015	Date	Q4 2015			
				Disturbance Control Standard							
		Control A	ırea		Reportable Di the most serve contingency		Disturbances : severe single c				
		Control	ii Cu		Number	Average Percent Recovery	Number	Average Percent Recovery			
BA 1					0		0				
BA 2					0	N/A	0	N/A			
RSG 1					11	100.0%	1	100.0%			
RSG 2					1	100.0%	N/A				
RSG 3					0	100.0%	0	N/A			

Disturbance Control Standard

Region	WECC	Qtr 3	Year	2015	Date	Q3 2015					
			Disturbance Control Standard								
		Control Area	Reportable Di the most serve contingency		Disturbances severe single o						
			Number	Average Percent Recovery	Number	Average Percent Recovery					
BA 1			0		0						
BA 2			2	100.0%	0	N/A					
RSG 1			14	100.0%	1	100.0%					
RSG 2			1	100.0%	N/A						
RSG 3			0	N/A	0	N/A					

Disturbance Control Standard

Region	WECC	Qtr	2	Year	2015	Date	Q2 2015
				Dist	urbance C	ontrol Stan	dard
		Control A	Area	Reportable Di the most serve contingency		Disturbances severe single c	
				Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0		0	
BA 2				0	N/A	0	N/A
RSG 1				20	100.0%	1	100.0%
RSG 2				1	100.0%	N/A	
RSG 3				0	N/A	0	N/A

Region	WECC	Qtr	1	Year	2015	Date	Q1 2015					
				Disturbance Control Standard								
		Control	Area	Reportable Di the most serve contingency		Disturbances : severe single c						
				Number	Average Percent Recovery	Number	Average Percent Recovery					
BA 1				0		NA						
BA 2				0	NA	0	NA					
RSG 1				19	100.0%	0	100.0%					
RSG 2				2	100.0%	NA						
RSG 3				0	100.0%	0	NA					

Region	WECC	Qtr	4	Year	2014	Date	Q4 2014					
				Disturbance Control Standard								
		Control A	Area	Reportable Di the most serve contingency		Disturbances severe single o						
				Number	Average Percent Recovery	Number	Average Percent Recovery					
BA 1				0	NA	0	NA					
BA 2				0	NA	0	NA					
RSG 1				17	100.0%	0	NA					
RSG 2				3	100.0%	0	NA					
RSG 3				0	NA	0	NA					

Disturbance Control Standard

Region	WECC	Qtr	3	Year	2014	Date	Q3 2014
				Dist	turbance Co	ontrol Stand	dard
		Control A	ırea	Reportable Di the most serve contingency		Disturbances severe single o	
				Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0	N/A	0	N/A
BA 2				0	N/A	1	100.0%
RSG 1				25	100.0%	1	100.0%
RSG 2				3	100.0%	0	N/A
RSG 3				0	100.0%	0	N/A

Disturbance Control Standard

Region	WECC	Qtr	Quarter 2	Year	2014	Date	Q2 2014
				Dist	turbance Co	ontrol Stand	dard
		Control A	Area	Reportable Di the most serve contingency	isturbances <= ere single	Disturbances severe single o	
				Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0	N/A	0	N/A
BA 2				0	N/A	0	N/A
RSG 1				17	100.0%	1	100.0%
RSG 2			_	3	100.0%	N/A	
RSG 3				0	100.0%	0	N/A

Disturbance Control Standard											
Region	WECC	Qtr	Quarter 1	Year	2014	Date	Q1 2014				
				Disturbance Control Standard							
				Reportable Disturbances <= Disturbances > the the most servere single contingency							
				Number	Average Percent Recovery	Number	Average Percent Recovery				
BA 1				1	100.0%	0	N/A				
BA 2				0	N/A	0	N/A				
RSG 1				9	100.0%	1	100.0%				
RSG 2				5	100.0%	N/A					
RSG 3				0	100.0%	0	N/A				

Region	WECC	Qtr	Quarter 4	Year	2013	Date	Q4 2013
				Dist	turbance Co	ontrol Stand	dard
	Contro	ol Area		Reportable Di the most serve contingency		Disturbances > the most severe single contingency	
	Contro	Ji Alea		Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0	N/A	0	N/A
BA 2				0	N/A	0	N/A
RSG 1				10	100.0%	0	N/A
RSG 2				1	100.0%	0	N/A
RSG 3				1	100.0%	0	N/A

Disturbance Control Standard

Region	WECC	Qtr	Quarter 3	Voor	2013	Dato	Q3 2013
Region	WECC	Ųü	Quarter 3				
				Dist	urbance Co	ontrol Stand	dard
				Reportable Di	sturbances <=	Disturbances	> the most
				the most serve	re single	severe single o	contingency
	Contro	ol Area		contingency			
				Number	Average Percent		Average
						Number	Percent
					Recovery		Recovery
BA 1				1	100.0%	0	N/A
BA 2				0	N/A	0	N/A
RSG 1				28	100.0%	1	100.0%
RSG 2				5	100.0%	0	N/A
RSG 3		•		0	100.0%	0	N/A

Disturbance Control Standard

Region	WECC	Qtr	Quarter 2	Year	2013	Date	Q2 2013	
				Disturbance Control Standard				
	Contr	ol Area		Reportable Di the most serve contingency		Disturbances > the most severe single contingency		
	Contro	OI AICU		Number	Average Percent Recovery	Number	Average Percent Recovery	
BA 1				0	100.0%	0	N/A	
BA 2				1	100.0%	0	N/A	
RSG 1				32	100.0%	1	100.0%	
RSG 2				3	100.0%	N/A		
RSG 3				0	100.0%	0	N/A	

Region	WECC	Qtr	Quarter 1	Year	2013	Date	Q1 2013
				Dist	curbance Co	ontrol Stand	dard
	Contro	ol Area		Kepui table Distui balices \-		Disturbances > the most severe single contingency	
	Contact	3.7 · · · Cu		Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0	100.0%	0	NA
BA 2				0	NA	0	NA
RSG 1				16	100.0%	0	100.0%
RSG 2				2	100.0%	NA	
RSG 3				0	100.0%	0	NA

Region	WECC	Qtr	Quarter 4	Year	2012	Date	Q4 2012
				Dist	turbance Co	ontrol Stand	lard
	Contr	ol Area		Reportable Di the most serve contingency		Disturbances : severe single c	
				Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				1	100.0%	0	NA
BA 2				0	NA	0	NA
RSG 1				15	100.0%	0	NA
RSG 2				4	100.0%	NA	NA
RSG 3				0	100.0%	0	NA

Disturbance Control Standard

Region	WECC	Qtr	Quarter 3	Year	2012	Date	Q3 2012
				Dist	urbance Co	ontrol Stand	dard
	Contro	ol Area		Reportable Di the most serve contingency		Disturbances > the most severe single contingency	
Control Area				Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				0	100.0%	0	N/A
BA 2				1	100.0%	0	N/A
RSG 1				22	100.0%	1	100.0%
RSG 2				4	100.0%	NA	NA
RSG 3				1	100.0%	0	N/A

Disturbance Control Standard

Region	WECC	Qtr	Quarter 2	Year	2012	Date	########
				Dist	urbance Co	ontrol Stand	dard
	Contro	ol Area		Reportable Di the most serve contingency		Disturbances severe single o	
	Contro	01711 Cu		Number	Average Percent Recovery	Number	Average Percent Recovery
BA 1				1	100.0%	0	N/A
BA 2				0	100.0%	0	N/A
RSG 1				19	100.0%	0	N/A
RSG 2				4	100.0%	0	N/A
RSG 3				0	100.0%	0	N/A

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Region	WECC	Qtr	Quarter 1	Year	2012	Date	#######			
				Dist	turbance Co	ontrol Stand	dard			
	Contro	ol Area		Reportable Di the most serve contingency		Disturbances > the most severe single contingency				
	Control Area				Average Percent Recovery	Number	Average Percent Recovery			
BA 1				1	100.0%	0	N/A			
BA 2				0	100.0%	0	N/A			
RSG 1				18	100.0%	0	N/A			
RSG 2				3	100.0%	1	N/A			
RSG 3				0	100.0%	0	N/A			

6/10/2015

6/17/2015 6/24/2015

7/1/2015

7/8/2015

7/15/2015

7/22/2015

7/29/2015

8/12/2015 8/19/2015

8/26/2015

9/16/2015

9/23/2015 9/30/2015

10/7/2015 10/14/2015

10/21/2015

10/28/2015 11/4/2015

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