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BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke  
Energy Ohio, Inc. for Approval of Proposed  
Reliability Standards

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Case No. 09-0757-EL-ESS

PUCO

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COMMENTS  
OF THE STAFF OF  
THE PUBLIC UTILITIES COMMISSION OF OHIO

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Background

On June 29, 2009, the amended Chapter 4901:1-10 of the Ohio Administrative Code (O.A.C.), entitled the Electric Service and Safety Standards (ESSS) went into effect. The amended O.A.C. 4901:1-10-10 (B) changes the previous requirement that each electric utility have performance targets to the more stringent requirement that each electric utility shall have minimum performance standards. Previously, a miss of the targets themselves was not considered to demonstrate that the utility was providing service below minimally acceptable levels. The amended ESSS rules state that a failure to meet a performance standard for two consecutive years shall constitute a rule violation. While the Commission expects the companies to continue to provide reliable service, in recognition of the changed emphasis to minimum service standards, it directed the companies to file a proposal for minimum service standards within sixty days of the effective date of the amended rules.

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O.A.C. Rule 4901:1-10-10(B) requires electric utility applications to include: a proposed methodology for establishing reliability standards, proposed company-specific reliability performance standards for each service reliability index based on the proposed methodology, and supporting justification for the proposed methodology and resulting performance standard. The rule further requires that performance standards reflect historical system performance, system design, technological advancements, service area geography, and customer perception survey results. In addition, the rule requires that performance data resulting from major events and transmission outages be excluded from the calculation of historical performance and proposed standards.

In an entry issued on July 29, 2009, the Commission directed Staff to post on the PUCO website a list of guidelines for electric utilities to use in developing their reliability standards applications. These guidelines included the following points:

- That the average of historical performance for the customer average interruption duration index (CAIDI) and the system average interruption frequency index (SAIFI) should be used as the baseline for adjustments that would result in a proposed standard;
- That the historical system performance should cover at least a five-year period; and
- That the application should address all factors affecting performance and separately quantify each adjustment to the historical average.

The guidelines also provided a detailed listing of required working papers to support the application.

On August 28, 2009, Duke Energy Ohio (Duke) filed an application to establish reliability standards in Case No. 09-0757-EL-ESS.

### **Staff's Analysis of Companies' Application**

The objective of Staff's analysis is to determine whether the Company:

- Correctly calculated their historical performance and major event exclusions;
- Selected the appropriate years of historical performance to include in the historical average;
- Allowed for a reasonable amount of variability above the average; and
- Included appropriate adjustments to the historical average to produce a reasonable reliability standard.

Each of these topics is discussed below.

**Accuracy of historical data** – O.A.C. Rule 4901:1-10-10(B)(4)(a) requires electric utility requested standards to reflect historical performance. Duke's proposed methodology included historical performance for the years 2004 through 2009 ending September 30. Staff reviewed Duke's submitted historical data to ensure that only major events and transmission outages were excluded from the calculation of the historical performance for the years 2004 through 2008. Staff further reviewed the companies' methodology for calculation of major event thresholds to ensure that its methodology complies with the definition of a Major Event as stated in O.A.C. Rule 4901:1-10-1(Q). Based on its review, Staff calculated the following historical performance:

<b>CAIDI Historical Performance</b>						
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>5-year Average</b>
Staff Calculated	86.70	81.22	87.60	88.60	98.67	88.56
Duke Calculated	84.01	82.20	87.81	97.07	98.31	89.88

<b>SAIFI Historical Performance</b>						
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>5-year Average</b>
Staff Calculated	1.28	1.44	1.49	1.33	1.32	1.37
Duke Calculated	1.35	1.49	1.48	1.33	1.33	1.40

**Selection of years for the historical average** -- O.A.C. Rule 4901:1-10-10(B)(3)(a) requires electric utilities to file with the Commission an application with a proposed methodology to establish reliability standards. Duke's proposed methodology first calculates an average over a period of five years and 9 months (2004- September 2009) for the customer average interruption duration index (CAIDI) and then adds two standard deviations. Historically in general Staff has viewed the most recent full five calendar years of system performance as a reasonable basis for calculating the historical average and plans to continue this practice.

In Duke's Electric Security Plan (ESP) Case<sup>1</sup>, the company requested approval to deploy SmartGrid across its operating territory. As part of the stipulation approving the SmartGrid plan, Duke agreed to improve its targeted system average SAIFI performance over the SmartGrid deployment years. Duke in this application is requesting that these commitments become performance standards under this rule.

**Variability around the historical average** – In the past performance targets typically were set one standard deviation above the historical average to allow for a reasonable amount of variability from year to year. When analyzing the electric utilities'

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<sup>1</sup> Case No. 08-920-EL-SSO In the Matter of the Application of Duke energy Ohio for Approval of an Electric Security Plan.

historical data in their current applications however, Staff noted that a standard deviation provided little room for variance for those companies with historically consistent performance. In contrast, those electric utilities whose historical performance varied more widely enjoyed an excessive amount of variance for their performance standards.

Staff believes that a more reasonable and uniform approach to account for annual variation in system performance is to use the most recent five year average plus ten percent. This methodology produces a more consistent result across all electric utilities regardless of the range of the variability in the historical data. Under this methodology, the maximum degradation in service the system will experience before the company misses a performance standard will be ten percent when compared to historical experience. Instead of adding two standard deviations, Staff recommends adding ten percent to Duke's five-year CAIDI average as indicated in the table below.

	5 Year Average (2004-2008)	10% of 5 Year Average	5 year Average +10%
CAIDI	88.56	8.86	97.42

**Adjustments to the historical performance** – Duke has proposed to adjust the historical performance for CAIDI to account for the deployment of its SmartGrid. First, Duke is recommending recalculating the historical performance to account for the installation of devices to sectionalize and automate its distribution system. Duke indicates that the installation of this equipment will reduce whole circuit outages (lockouts) by at least fifty percent. The company proposed adjustments to CAIDI are below.

Year	Annual CAIDI Adjustment Reflecting Lockouts reduced by 50%
2004	7.72
2005	10.61
2006	8.03
2007	14.34
2008	9.06
<b>Five Year Average</b>	<b>9.95</b>

In addition, Duke has proposed the following adjustment to account for other factors resulting from its deployment of SmartGrid.

Five Year Average Adjustment Reflecting Reduced Lockouts	9.95
Self Healing Circuit Adjustment	10.00
Smart Meter Customer Interruption Adjustment	4.00
Improved Customer Outage Count Adjustment	3.00
<b>Total Historical CAIDI Adjustment</b>	<b>26.95</b>

The company in its application, Exhibit 1, states as a result of SmartGrid deployment SAIFI will be reduced but CAIDI will go up. Since Duke's SmartGrid will be deployed over several years, and SAIFI improvements are expected to be gradual, Staff believes it is more appropriate to apply the CAIDI adjustments across the SmartGrid deployment years as illustrated below.

Year	2010	2011	2012	2013	2014	2015	2016 Forward
CAIDI Adjustment	4.50	9.00	13.50	18.00	22.50	26.95	26.95

### **Staff's Recommended Standards**

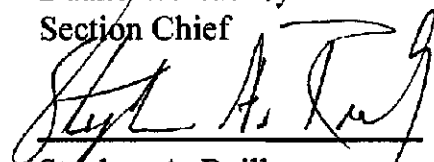
Staff is recommending that the SAIFI performance commitments established in the Stipulation resolving its ESP case. In addition, based on Staff's methodology for calculating performance standards and the CAIDI adjustments discussed above, Staff is recommending the following performance standards for SAIFI and CAIDI.

<b>Performance Standards</b>							
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016 Forward</b>
SAIFI	1.44	1.38	1.31	1.24	1.17	1.10	1.10
CAIDI	101.92	106.42	110.92	115.42	119.92	124.37	124.37

Respectfully submitted,

Richard Cordray  
Ohio Attorney General

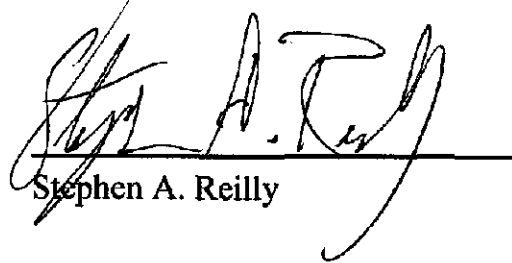
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## CERTIFICATE OF SERVICE

I certify that a copy of the forgoing was served on the following by electronic mail and by regular U.S. mail, postage prepaid, on December 22, 2009.



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