UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Reliability Technical Conference	**)**	**Docket No. AD17-8-000**

Statement of Steve Wright
General Manager, Chelan County Public Utility District No. 1
On Behalf of the Large Public Power Council

Reliability Technical Conference
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I. INTRODUCTION AND GENERAL COMMENTS

Thank you for the opportunity to speak with you today. I am Steve Wright, the General Manager of Chelan County Public Utility District No. 1 (Chelan), and I am speaking today for Chelan and on behalf of the Large Public Power Council (LPPC). LPPC is an association of the 26 largest state-owned and municipal utilities in the nation. Its members own and operate more than 71,000 MW of diverse generation capacity, and approximately 90% of all transmission owned and operated by non-federal public power systems.[1] The provision of reliable, reasonably-priced electric service is the core business of LPPC members. It is what our customers expect, and a duty we take seriously.

I want, first, to thank the Commission and senior FERC staff for the opportunity to exchange ideas in this forum. Having participated in the first and second of these annual state of

[1] LPPC's members are: Austin Energy, Chelan County Public Utility District No. 1, Clark Public Utilities, Colorado Springs Utilities, CPS Energy (San Antonio), ElectriCities of North Carolina, Grand River Dam Authority, Grant County Public Utility District, IID Energy (Imperial Irrigation District), JEA (Jacksonville, FL), Long Island Power Authority, Los Angeles Department of Water and Power, Lower Colorado River Authority, MEAG Power, Nebraska Public Power District, New York Power Authority, Omaha Public Power District, Orlando Utilities Commission, Platte River Power Authority, Puerto Rico Electric Power Authority, Sacramento Municipal Utility District, Salt River Project, Santee Cooper, Seattle City Light, Snohomish County Public Utility District No. 1, and Tacoma Public Utilities.

reliability conferences, I commend the Commission for continuing to engage on this important subject. The framework established by Congress to manage electric reliability carefully balances reliance on both government and industry to work collaboratively to establish mandatory standards. Congress clearly relied upon the goodwill of government and industry officials to work cooperatively. This conference has proven to be an important element of engaging FERC, NERC and the industry to not just review history, but also to help chart the future. I hope FERC will continue to provide this forum as an avenue for working together on strategic focus.

In the comments below, I would like to focus principally on the evolution of NERC's compliance and enforcement program to a risk-based format, and on related efforts to reform and streamline the reliability standards themselves. I will also speak to the industry's ongoing efforts to respond to the Commission's directive to formulate a reliability standard for Bulk Electric System (BES) cyber systems that would require each affected entity to develop and implement a plan that includes security controls for supply chain risk management for industrial control system hardware, software, and services associated with BES operations. Finally, I will address ongoing efforts in the Western U.S. to deal with an increasingly dramatic load profile (reflected in the "duck curve") that is stressing the grid and calling for new resources in order to manage renewable and distributed energy generation and customer needs reliably.

II. COMMENTS

A. NERC's Risk-Based Compliance Monitoring and Enforcement Program Has Proven Useful in Focusing the ERO Enterprise's Resources, But Has Been Ineffective in Helping Registered Entities to Achieve Needed Efficiencies and Cost Savings.

NERC's risk-based compliance monitoring and enforcement program (Risk-Based CMEP) was presented to the Commission in a November 2014 filing, in which NERC presented

an overview of what was then known as the Reliability Assurance Initiative (RAI).[2] RAI was the vehicle developed by NERC to transition the ERO enterprise to a risk-based approach for compliance monitoring and enforcement, enabling the ERO, Regional Entities and Registered Entities to focus time and effort on higher-risk issues.[3] LPPC worked closely with NERC and others across the industry to shape the concepts underlying NERC's RAI proposal. The program was accepted by the Commission with certain conditions in February of 2015, its features were subsequently incorporated into revisions to the CMEP provisions of NERC's Rules of Procedure,[4] and the program was renamed the Risk-Based CMEP.

The two principal features of NERC's Risk-Based CMEP – a mandatory Inherent Risk Assessment (IRA) and a voluntary Internal Controls Evaluation (ICE) – facilitate a review by Regional Entities of potential risks posed by Registered Entities to Bulk-Power System reliability (the IRA), with an evaluation of the effectiveness of a Registered Entity's internal controls to detect, correct, and mitigate entity-specific reliability risks (the ICE). The IRA and the ICE are designed to enable Regional Entities to tailor compliance oversight plans for any given Registered Entity to that entity's risk profile, resulting in a narrower scope of reliability standards against which the entity may be audited. This tailored audit scope does not relieve a Registered Entity of the responsibility and accountability to maintain documented compliance with all of the standards applicable to their specific registrations.

At my utility, we chose to make a significant investment in IRA and ICE. Our audit scope was reduced by about 86% in comparison to previous audits and we were identified as a

[2] *See* NERC, Informational Filing Regarding RAI Implementation, Docket No. RR15-2 (filed Nov. 3, 2014). https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13676969.

[3] *North American Elec. Reliability Corp.*, 150 FERC ¶ 61,108 at 7 (2015).

[4] *North American Elec. Reliability Corp.*, 150 FERC ¶ 61,108 (2015).

top tier performer in the West. Completion of the IRA/ICE processes along with a successful audit enabled our utility to develop a Regional Entity-Specific Compliance Oversight Plan. This plan identified four requirements that we could apply for the self-logging program. By way of contrast, Chelan continues to be responsible for 1,236 reliability requirements and sub-requirements that are applicable due to our NERC functional registrations. While participation in this program significantly reduced our audit scope and likely made our system more reliable, the effort required to prepare for the audit has not resulted in a change in workload.

NERC's Risk-Based CMEP also includes reform of its enforcement processes, including the successful pre-existing Find-Fix-Track and Report (FFT) program, and programs proposed in NERC's November 2014 filing that allowed, with the approval of the Regional Entity, Registered Entity self-logging for minimal risk violations, and a "compliance exception" process for confirmed violations (generally minimal risk violations). That program provides Regional Entities with the discretion to refrain from triggering an enforcement action in certain circumstances.

In its February 21, 2017 Annual Report and Petition, NERC proposed to expand the use of compliance exceptions from minimal to moderate risk compliance incidents, if shown evidence of mitigating factors, including a Registered Entity's internal compliance program and relevant corrective processes and procedures.[5] NERC further proposed to eliminate public posting for self-logged compliance exceptions, and to provide related information to FERC only non-publicly.[6]

[5] *See* NERC's February 21, 2017 filing, Docket No. RR15-2, at pp. 7-13 (February 21 Filing).

[6] *Id.*, p. 5.

When I testified at the Commission's reliability technical conference in 2015, I voiced LPPC's support for NERC's Risk-Based CMEP framework, and for the conceptual basis upon which this approach rests.[7] LPPC continues to support the risk-based CMEP program. LPPC members see added potential in the recently proposed expansion of the compliance exception process to moderate risk incidents. As NERC reasonably explained in its February 21 Filing, the expansion of the compliance exception program enables the NERC enterprise and Registered Entities to recognize the value of strong management practices that are the key to compliance exception treatment, while relieving these same entities of the often unproductive focus on enforcement actions in instances where underlying issues are addressed effectively.

Having said this, the experience in my organization and feedback from other LPPC members suggests that these programs can be further improved in several respects that would help create Registered Entity efficiencies and cost savings – something our members report they see only on a limited basis. First, I would note that our experience has been that IRA and ICE evaluations vary widely across regions and can be improved. The labor intensity and lead time for the conclusion of these processes varies dramatically, as do outcomes in such areas as the list of requirements for which self-logging for violations may be available and the scope of audits. Our experience is confirmed by the results of the December 2016 NERC Compliance and Certification Committee Report on the ERO Enterprise Effectiveness Survey.[8] That survey highlights the varied quality of the IRA and ICE assessments, and points to inconsistent training of audit teams (particularly CIP teams), a substantive contributing factor. Among other things,

[7] *See Reliability Technical Conference*, Statement of Steve Wright on behalf of LPPC, Docket No. AD15-7 (June 4, 2015).

[8] NERC, Compliance and Certification Committee Report on the ERO Enterprise Effectiveness Survey (Dec. 2016), *available at* http://www.nerc.com/comm/CCC/Related%20Files%202013/CCC%20Report%20on%20the%20ERO%20Enterprise%20Effectiveness%20Survey%20Final.pdf.

the survey revealed that "*FERC Order 706 audits are perceived to be less organized than FERC Order 693 audits, and audit personnel may be in need of additional technical training and experience*" (emphasis added). There seems clearly to be room for improvement here.

Second, I suggest that the next logical step in obtaining efficiency and cost savings associated with the IRAs would be to enable Registered Entities to remove from the list of standards for which compliance must be maintained those that the IRA indicates are not needed for grid reliability. Currently, while an IRA may result in a reduced audit scope, a Registered Entity must nevertheless maintain documented compliance with all reliability standards and requirements that are applicable to its registered functions, thus triggering all applicable compliance and record-keeping obligations. For that reason, the efficiencies and cost savings that might be associated with the IRA cannot be fully realized.

Because NERC does not have the ability to waive the applicability of standards, I understand that working with the Commission toward this objective is important. Where an IRA supports the conclusion that the application of certain standards and/or requirements to any given entity are not necessary to assure grid reliability, good judgment and policy support an approach that would empower the Regional Entities and NERC to secure their waiver. This approach would require an enhanced level of collaboration between Registered Entities, NERC and FERC, but offers the potential for improved focus on reliability activities that really matter, while reducing associated costs.

B. NERC's Initiative to Evaluate the Cost-Effectiveness of Reliability Standards Can Be Improved.

NERC's ongoing effort to evaluate the cost-effectiveness of proposed standards (the "Cost Effective Analysis Process," or "CEAP" effort)[9] has been a useful initiative, though it can be improved. As to existing standards, LPPC believes that a look at cost-effectiveness will be useful, particularly for the Critical Infrastructure Protection (CIP) standards, though we would recommend waiting some period of time before undertaking that effort, in view of the relatively recent implementation of Versions 5/6 of the CIP Standards.

The CEAP program introduced cost consideration into the development of new and revised standards, theoretically affording NERC and the industry an opportunity to examine how best to achieve reliability objectives while minimizing implementation costs and resource expenditures. The program appropriately calls for industry input on potential cost impact at the Standard Authorization Request (SAR) stage and during the ensuing work undertaken by the Standards Drafting Teams. At the SAR stage, input is received regarding cost impact on an "order of magnitude" level. During the drafting stage, surveys are undertaken to evaluate the technical feasibility and effectiveness of the proposed requirements and input is sought regarding potentially more cost-effective alternatives.[10]

While well-intentioned, LPPC's experience has been that CEAP has not been optimally effective for several reasons. First, while survey-driven industry input regarding the standards under development is useful, the process would benefit from the active engagement of NERC staff and the application of more rigorous, objective criteria for estimating cost impact. Second,

[9] *See* NERC, Cost Effective Analysis Process (CEAP) for NERC ERO Standards, *available at* http://www.nerc.com/pa/Stand/Pages/Cost-Effective-Analysis-Process-CEAP-for-NERC-ERO-Standards.aspx.

[10] *Id.*, pp. 3-5.

to date, the program has been applied on a pilot basis only to two standards under development: PRC-025-1 and PRC-002-2.[11] And third, the program would be substantially more beneficial if extended to include an evaluation of standards following their implementation, when the full cost-impact and an understanding of potential alternatives may be more evident than in the development stage. In each of these areas, LPPC is committed to working with NERC to further improvement in this program.

Looking at the full range of existing standards, LPPC can envision a productive review within the next two to three years, following the conclusion of the current audit cycle examining industry performance under the CIP Versions 5/6. LPPC has endorsed the State/Municipal and Transmission Dependent Utilities (SM-TDU) Sector's recent policy input letter to NERC's Board of Trustees asking NERC to undertake a formal initiative to evaluate the cost-effectiveness of all new and existing standards. That recommendation also endorsed the use of an independent panel of subject-matter experts to review the body of currently-effective standards.[12]

Assuming NERC heads down this path, it will be critical for NERC to establish clear criteria by which cost-effectiveness will be measured. Recognizing that the effort could falter over complicated and somewhat academic discussion of the broad economic benefit of reliability generally, I suggest that the effort focus on how we can do things <u>better</u>, given identified objectives. I note that an effort to approach the issue in this way was articulated by the National

[11] Information Report to Member Representatives Committee (MRC) by NERC Staff, "Application of Cost Effectiveness Approaches in Standards Development," May 10, 2017.

[12] *See* State/Municipal and Transmission Dependent Utilities, Response to Request for Policy Input to NERC Board of Trustees (Apr. 26, 2017), *available at* http://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Policy_Input_Package_May_2017_PUBLIC_POSTING.pdf.

Rural Electric Cooperative Association (NRECA) in its recent policy input letter to NERC's Board of Trustees,[13] recommending that existing standards be evaluated based on three factors:

1. For requirements that prescribe a specific method to achieve a reliability objective, modifications should be proposed that are in line with the results-based standards initiative;
2. For requirements with a defined frequency that could be extended, alternative frequencies should be considered to increase cost-effectiveness; and
3. For requirements in which it is unduly costly to document and demonstrate compliance, subject matter experts should confer with NERC compliance staff to identify alternative, lower cost, methods by which performance can be demonstrated.

I think these or similar criteria hold promise for the review we envision, though I am not wedded to this particular articulation. In any event, the review criteria ultimately agreed upon should be reasonably defined and as narrow as feasible.

This review should also be an important opportunity to transition the reliability standards, wherever possible, toward a performance-based format. By this I mean crafting standards requirements in a way that identifies the specific reliability goal to be achieved, while avoiding needless prescription ("the what, not the how"). The standards should strive to articulate reliability objectives, leaving the technical methodology to the judgment of the relevant experts. CIP-007-6 (System Security Management), Requirement R3, is a good example of such a requirement, calling for Responsible Entities to deploy method(s) to deter, detect, or prevent malicious code and to mitigate it, without being overly prescriptive as to methods employed. Similarly, CIP-014 (Physical Security) adopts a performance-based approach.

[13] *See* National Rural Electric Cooperative Association (NRECA) and Cooperative Sector, Policy Input to the NERC Board of Trustees in advance of its May 2017 meetings (Apr. 26, 2017), *available at* http://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Policy_Input_Package_May_2017_PUBLIC_POSTING.pdf.

I am aware that the Commission invited NERC and industry to undertake a somewhat similar review of the reliability standards a little over five years ago, in connection with the so-called "Paragraph 81" effort."[14] That effort resulted in a group of modest but significant recommendations to retire various reliability standard requirements.[15] But that effort was mounted only five years into the industry's experience under the mandatory reliability regime, and it did not include a review of the CIP suite of standards, which were then at an early stage of development. I believe a fresh look at the standards, especially the CIP standards, would be useful. For that reason, I recommend a review of the CIP standards after all Registered Entities to which the standards apply have been subject to at least one audit of the CIP Versions 5/6 and later standards, with a focus on lessons learned that relate to the costs for obtaining and maintaining compliance versus the actual security benefits. The standards include requirements that are heavy on process and documentation that, in the changing world of cybersecurity, currently are, or are likely to be, less than optimal in terms of costs and security.

C. BES Cyber System Supply Chain Risk Management.

The industry has been wrestling since the issuance of Order No. 829[16] with the development of a standard that addresses cyber risks introduced into the BES by equipment and software vendors. In Order No. 829, FERC directed NERC to develop a new or modified reliability standard addressing the following security objectives: (1) software integrity and authenticity; (2) vendor remote access; (3) information system planning; and (4) vendor risk management and procurement controls.

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[14] See *North American Elec. Reliability Corp*., 138 FERC ¶ 61,193 at P 81 (Mar. 15, 2012).

[15] *See Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards*, Order No. 788, 145 FERC ¶ 61,147 (2013).

[16] *Revised Critical Infrastructure Protection Reliability Standards*, 156 FERC ¶ 61,050 (2016).

As of the date of this statement, the initial draft standard developed by the industry Standards Drafting Team was dramatically defeated by the ballot body, and a revised draft standard was recently posted for industry balloting and comment ending June 15, 2017. Regardless of whether the draft standard receives approval by the ballot body, it is useful to reflect on the unique challenge this effort presents. To begin with, it may be no more than stating the obvious to note that supplier practices are not directly within the control of Registered Entities. A standard which calls for utilities to involve themselves intimately in processes they do not have the expertise or manpower to control would be a recipe for confusion and ultimately failure, and certainly would not be cost-effective. Having said this, LPPC members are aware that the risks posed here are real, and they have a strong interest in working with the Commission to see that they are managed effectively.

The draft standard now before the ballot body deals with these challenges by permitting Registered Entities to undertake a variety of approaches designed to address procurement risks, investing them with broad discretion in dealing with vendors. The draft does appear to meet two criteria that LPPC considers essential to any standard that LPPC members would consider to be manageable: (1) it is flexible and risk-based, enabling utilities to make informed judgments regarding the risk that upstream assets pose to the BES when incorporated into grid operations; and (2) it does not require active management by utilities of third-party processes, nor hold utilities liable for vendor errors.

Whether the current draft standard is voted out, or some other draft becomes the focus of further discussion, LPPC will continue to consider these criteria to be critical. LPPC also considers critical recognition of the fact that supply chain security poses an economy-wide challenge that is broader than the electric sector itself. Because FERC has authority under

section 215 of the Federal Power Act only over owners, operators and users of the BES, and because the nation has no other mandatory cybersecurity framework, it is no mystery why Registered Entities are the focus of this effort. Having said that, I see value in broader engagement by other governmental authorities, including potentially the Department of Homeland Security and the Department of Energy (DOE), in order to address electric sector supply chain security, as well as for other critical infrastructure sectors, in a manner that fully engages responsible suppliers with whom we and other sectors do business. I can imagine that effort leading to an articulated set of common practices or protocols to which entities in the electric supply chain may subscribe, and upon which the electric sector may rely. By way of reference, I note that before mandatory CIP standards were prescribed for the electric industry, DOE had published its Electric Sector Cybersecurity Capability Maturity Model (C2M2), an aspirational voluntary framework.[17] I can envision something similar applicable to electric sector suppliers.

D. Increasing Variable Energy Resources and Resource Adequacy.

I would like to use this opportunity to focus the Commission's attention on the reliability impact of the evolving mix of generating resources. Particularly in the Western United States, concern over the increasing role of variable energy generation and its impact on the availability of flexible capacity is growing acute, as our generation mix shifts dramatically. I believe this issue must be closely monitored, at least in part to ensure that we attach appropriate value to reliable, flexible capacity needed to meet load and avoid extreme price excursions.

[17] *See* DOE, Cybersecurity Capability Maturity Model (C2M2) Program, *available at* https://energy.gov/oe/cybersecurity-critical-energy-infrastructure/cybersecurity-capability-maturity-model-c2m2-program.

Across the country there has been substantial discussion as to whether the economic incentives are adequate to assure there will be enough capacity and tools (e.g. ramping services) to meet reliability requirements. The vast adoption of variable energy resources along the Pacific Coast provides a test environment that can be illustrative for the rest of the country. The California Independent System Operator (CAISO) has done an excellent job of explaining both current and future challenges associated with a system that will be increasingly operated around the infusion of variable energy resources. In a May 1, 2017 paper, the CAISO articulated current policies that can be modified to provide short term solutions.[18] But the CAISO is also clear that more fundamental reforms are necessary to assure long-term flexible capacity will be available as is necessary to maintain reliability (as well as to avoid price excursions). This is a significant reliability issue that must be addressed.

By way of reference, I note that NERC is currently proposing to study the reliability impact of the recent and anticipated raft of nuclear generation retirements. In the SM-TDU Sector's recent input to the NERC Board of Trustees, LPPC, along with the American Public Power Association, supported a special assessment to cover the cost of this work, and proposed that it be expanded in order to study the impact of the changing resource mix more broadly.

III. CONCLUSION

I would like to thank the Commission for the opportunity to provide this input, and once again commend it for sponsoring this ongoing, important forum.

[18] *See* CAISO, Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2, Revised Straw Proposal – Short Term Solutions (May 1, 2017), *available at* http://www.caiso.com/Documents/RevisedStrawProposal-FlexibleResourceAdequacyCriteriaandMustOfferObligationPhase2.pdf.