Sector 8 Policy Input for the NERC Board of Trustees & Member Representatives Committee May 10-11, 2017 Meetings in St. Louis MO

ELCON, on behalf of Large End-Use Consumers, submits the following input for consideration of NERC's Board of Trustees (BOT) and the Member Representatives Committee (MRC). It responds to BOT Chairman Roy Thilly's April 6, 2017 letter to John Twitty, Chair of the MRC.

SUMMARY

Item 1: Special Reliability Assessments Under Consideration

The proposed special reliability assessments that have ELCON's highest priorities are (1) Accelerated Nuclear Retirements, (2) Contingency Response for Distributed Energy Resources (DER) and Other Inverter-Based Resources and (3) Changing End-Use Load Characteristics and Dynamic Load Modeling. The issues or concerns at hand in each of these assessments hopefully will illuminate future impacts to the adequate provision of Essential Reliability Services (ERS). ERS adequacy is extremely important for the safe and reliable operation of industrial process equipment such as high-voltage motors. If damaged, the repair or replacement of the equipment can result in months of lost production.

Item 2: Application of Cost Effectiveness Methods for Standards Development

ELCON sees the need for the cost-effectiveness program to transition to the next level of detail. We believe that the appropriate entities can and should provide cost estimates to the level of detail requested by NERC. Notwithstanding the flexibility inherent in many Standards, each standards drafting team will consider several of the most common strategies that entities will employ to assure compliance. Cost can be used as guidance in drafting the Standard. Identifying the societal benefits of reliability requirements can be reasonably achieved because such benefits are correlated to the sizes of penalties assigned to violations. Certainly avoiding a seven-digit fine is an indication of a significant societal benefit.

SECTOR 8 POLICY INPUT

Item 1: Special Reliability Assessments Under Consideration

In addition to the long-term and seasonal reliability assessments, NERC conducts special assessments on emerging issues and trends that will influence future bulk power system planning, development, and system analysis. NERC leverages the technical expertise of industry experts as it develops its independent reliability assessments. In the past, special reliability assessment topics have included analysis of operational risks, evaluation of emergency response preparedness, adequacy of fuel supply, and topics related to the changing resource mix.

The ERO Enterprise maintain a list of assessment topics that are regularly reviewed in consideration for the development of special assessments. They were included in Attachment A of Chairman Thilly's letter request. The assessments are:

Special Assessments Currently Under Development:

- NERC Special Assessment: Natural Gas-Electric Interdependency – Single Point of Disruption (SPOD)

Special Assessments Under Consideration:

- Accelerated Nuclear Retirements
- Contingency Response for Distributed Energy Resources and Other Inverter-Based Resources
- Changing Resource Mix Impacts on Demand and Variable Resource Forecasting
- Changing Resource Mix Impacts on Planning and Operational Reserves
- Evaluation of Resource Adequacy Approaches
- Capacity Value for Generation with Non-Firm Fuel
- Changing End-Use Load Characteristics and Dynamic Load Modeling

NERC and Regional Entity staff receive input on this list from various sources, including, but not limited to, NERC's technical committees, the MRC, the Long-Term Reliability Assessment, the State of Reliability Report, various Regional studies, and NERC's Reliability Issues Steering Committee. NERC coordinates with the Regional Entities to develop a scope for each potential assessment, determine data collection needs and requirements, and identify technical groups and stakeholders that would ultimately support the development of the assessment.

Using the list provided in Attachment A as a starting point, the Board is requesting the MRC members prioritize three special assessment topics with an explanation of their importance.

ELCON Response: ELCON strongly supports the ERO Enterprise conducting special assessments in order to identify and understand emerging risks to the reliability of the bulk power system. Petroleum refineries, chemical plants, automotive plants, steel mills, and many other types of manufacturing facilities all require large amounts of reliable electricity in order to conduct their business. An unreliable bulk power system can have major negative consequences for individual

large electricity users. Impacts are not limited to inconvenience or mere loss of production but also include damaged products and processes, high repair and restart costs, and potentially significant safety and environmental consequences.

Large End-Use Consumers understand the importance of a reliable bulk power system and often invest substantial amounts of capital in order to procure the required level of reliability for their operations. Any issue that might reduce the reliability of the bulk power system is a concern. The majority of the issues listed by the ERO Enterprise seem to be related to resource adequacy and balancing. Even though these are of high importance, ELCON would like to emphasize the importance of Essential Reliability Services to large manufacturers.

For example, the manufacturing processes of refineries and chemical plants often require the installation of very large high voltage motors, sometimes in excess of 20,000 HP. Any change in voltage or frequency supplied to these machines can increase the risk for damage. These assets are not only expensive in themselves but are also critical to operations and if damaged, result in months of lost production while waiting for repair or replacement. Major voltage events are of concern as well as smaller voltage dips and transients. This is due to the fast-acting motor protection systems installed to prevent unnecessary damage and extended outages. In fact, a large portion of the impacts to large electricity users are not due to total power loss but to an inability of the bulk power system to quickly respond to and correct changes to system voltage and frequency.

ELCON sees a top priority to be the topic of Accelerated Nuclear Retirements since removing large amounts of synchronized, baseload generation could potentially have the largest impact on Essential Reliability Services. ELCON also sees value in the Contingency Response for DER and other Inverter-Based Resources and Changing End-Use Load Characteristics and Dynamic Load Modeling topics in understanding how Essential Reliability Services might be impacted in the future, with the clarification that any information gathering or modeling should be limited in scope to resources or technologies that are rapidly increasing and that could collectively have an influence on the bulk power system.

Item 2: Application of Cost Effectiveness Methods for Standards Development

Federal, state and provincial regulatory authorities, the Board, Regional Entity Boards, and many industry stakeholders have expressed interest in the identification and evaluation of costs incurred from implementing NERC Reliability Standards compared to risks they address. The goal is to ensure that these elements are appropriately considered during the Reliability Standards development and revision process. This objective is clearly important and also presents a difficult challenge since the costs may vary significantly from entity to entity and the risk addressed may be low but the potential impact very substantial. Those who will be subject to a proposed standard are in the best position to identify and quantify potential costs of the standard and to identify alternative approaches to achieving the standards goals at a lower cost. The same is true when evaluating costs after a standard has been in effect to learn from actual experience. It is very important to the success of this initiative that registered entities comment as specifically as

possible during the standard authorization request, standards development and periodic review processes on this issue.

NERC staff and the Standards Committee are committed to continuing to develop ideas and approaches to consider cost effectiveness of Reliability Standards. Efforts to address costs have included the initial version of the NERC Cost Effective Analysis Process (CEAP) and a proposed cost effectiveness method. The Standards Committee and NERC staff have included questions that seek public comment on the cost effectiveness of existing Reliability Standards during periodic reviews. These questions help capture implementation and compliance costs for entities, providing a more complete picture of costs incurred that may be helpful in terms of modifying the standard and in developing other standards. Additionally, standard drafting teams will now include questions seeking specific comments on cost effectiveness considerations, including lower cost alternative approaches that achieve the reliability object of the proposed standard, during public comment periods of proposed new and revised Reliability Standards and ask for specific examples that can be used to support decisions in the development of the standard. These comments will be identified in the presentation material provided to the Board when the standard at issue is presented for adoption. An overview of these initiatives will be presented at the MRC Informational Session on April 13, 2017, and is included in the posted agenda package.

The Board requests MRC policy input on the current and proposed cost-effectiveness activities, including whether they are sufficient or if additional approaches should be considered.

ELCON Response: ELCON appreciates the opportunity to offer our feedback on NERC's cost-effectiveness program from the perspective of Large End-Use Consumers. We have always maintained that there is a fundamental need to balance the cost of every reliability requirement against its benefit. This is consistent with a basic economic law that every business must adhere to – or risk bankruptcy by attempting to maintain programs whose costs are unsustainable.

In fact, we believe that out of all the industry segments, the Large End-Use Consumers (who are primarily large manufacturers) are the most sensitive to costs. Our members cannot rely on a base of ratepayers that can absorb the additional costs of reliability deemed necessary by the regulatory community. That burden is taken on by the internal customer – who must meet a corporate rate of return commiserate with the industry they compete in (e.g., petroleum products, specialty chemicals, etc.) If that return is not achievable, new investments (such as cogeneration initiatives) are discontinued.

Over the years, we have witnessed several attempts by NERC to deploy a cost-effectiveness program. Until now, feedback on the results was sparse. In fact, the introductory portion for Agenda Item 2b of the MRC Informational Session was the first time we had seen some tangible findings. Overall, we found some of the findings illuminating – and see some promise in the next steps that NERC proposes to take on the topic. But progress has been too slow, and the challenges continue to mount. Several identified in Agenda Item 2b are addressed in the paragraphs below:

1. **Many entities cannot devote the time to provide cost estimates to the level of detail requested by NERC.** ELCON believes that this is a one-time issue. There are enough

organizations who do respond to the cost requests to populate a spreadsheet or database. Some of our members provided some very detailed information in support of the Cost-Effective Analysis Project (CEAP), but summary results were never posted. No reason was given at the time.

As cost data is accumulated, generic prices can be identified for pieces of equipment, processes, and functions. It may take several iterations before the figures converge within a consistent range, but in the interim the averages should suffice. Furthermore, the data should be kept in a spreadsheet accessible to all Registered Entities – so they may independently evaluate the raw figures and underlying assumptions. Once that happens, most will have enough information to provide useful commentary about the estimated costs for each reliability requirement.

2. **The standards are designed to be flexible. It is counter-productive to determine the most cost-effective solutions – as Registered Entities may choose among a range of solutions which best suit their compliance approach.** This is true, but during the Standards Development process, the project team will consider several of the most common strategies that entities will employ to assure compliance. In fact, ELCON would argue that it is impossible for them to determine the appropriate reliability criteria and measures without doing so. During those discussions, a high-level assessment of the top three approaches could be captured (again on a spreadsheet) and posted for commentary. The figures could then be refined as the initiative progresses.

3. **The societal benefits of reliability requirements are impossible to measure.** This may be the most difficult parameter to quantify, but in a sense NERC has already identified the worth of many requirements by the size of the penalties they assign to violations. For example, a vegetation-related outage or the loss of situational awareness may lead to a five or six figure fine – whereas, penalties for violating the Interchange standards are almost unheard of. As such, it makes sense for NERC's Enforcement database to provide the initial benefit figures.

   ELCON realizes that this approach understates the risk taken on by society when a Registered Entity performs in an unreliable fashion. There are considerations of the damage to life and property that occur when their actions lead to an electric system impairment. But, NERC's outage databases can be used to augment the calculations. It seems to us that the average geographical extent and duration of outages by root cause can be factored into the benefit equations. Once again, the calculations and assumptions could be captured in a spreadsheet for review – and iteratively improved in accordance with the comments returned by the industry.

To summarize, ELCON sees the need for the cost-effectiveness program to transition to the next level of detail. We visualize the ultimate deliverable as a spreadsheet on the project page which captures the costs and benefits of each new or modified reliability requirement. Enough detail should be provided so that Registered Entities may verify the impact to their capital and operations budgets – using the compliance strategy of most interest to them.

As an aside, we believe the Compliance Organization will also benefit from this exercise. Although they strive to adhere to the language and intent of the reliability requirements, Compliance Enforcement Authorities see every kind of implementation, and tend to reformulate their own preferences over time. Should that occur, a well-designed cost/benefit spreadsheet could re-ground them in the approaches the project team considered to be acceptable during the Standards Development process.

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