NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

July 13, 2022

Mr. Roy Jones, Chair
NERC Member Representatives Committee

Dear Roy:

I invite the Member Representatives Committee (MRC) to provide policy input on a matter of particular interest to the NERC Board of Trustees (Board) as it prepares for its August 17-18, 2022, meetings in Vancouver, BC, Canada. In addition, policy input is requested on any items on the preliminary agendas for the quarterly Board, Board Committees, and MRC meetings. The preliminary agendas are included in the MRC Informational Session agenda package (see Item 1) and are attached hereto (**Attachment A**). The MRC's August agenda includes an opportunity for MRC members to provide additional input to the Board on the final agenda and materials. **As a reminder, please include a summary of your comments in your response (i.e., a bulleted list of key points) for NERC to compile into a single summary document to be provided to the Board for reference, together with the full set of comments.**

2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations
NERC recently released its 2022 Summer Reliability Assessment in May 2022 which brought awareness and focus to the challenges triggered by extreme weather and environmental conditions with the changing resource mix. The assessment has sparked interest throughout North America, and has been covered by a number of news outlets that reached beyond industry-focused coverage.

This awareness has also triggered a very constructive conversation between government and industry on deliberate actions to mitigate the 2022 summer reliability risks, including the following:

- Use of emergency authorities to facilitate electricity production by lifting some water use and emissions limitation restrictions;
- Facilitating inter-agency dialogue on reliability implications of agency actions; and
- Reinforcing the importance of public participation through conservation calls to ride-through tight energy conditions.

From a long-term perspective, addressing these risks has highlighted the need for, and significance of, infrastructure and technology development (e.g., electric and gas transmission, batteries, and other energy storage technologies). It has also highlighted the importance of flexibility and keeping some back-stop capacity available during this transition to backstop energy-constrained resources impacted by extreme weather and environmental conditions creating a bridge until other integrating technologies are deployed at scale.

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The upcoming winter assessment will raise similar issues on resource availability during extreme weather conditions, especially with increases in energy prices driven by concerns over Liquefied Natural Gas prices and availability due to the war in Ukraine, coal supplies and inventory, and supply chain challenges that are likely to hinder seasonal preparations. The dependence on a fuel delivery system to energy-constrained resources, whose output is affected by widespread, long-term extreme cold/heat and other weather/environmental patterns, creates uncertainty in a number of areas as well. It is vital that industry is in front of key issues and focused on actions.

The ERO documents industry's preparation for the upcoming season in its seasonal assessments, such as the 2021-2022 Winter Reliability Assessment. The ERO assists industry in adjusting focus toward the winter season and provides supporting information for cold weather preparation through webinars and training materials. Further, to gauge industry readiness for the winter of 2021-2022, NERC issued a Level 2 Alert on Cold Weather Preparations for Extreme Weather Events. This Alert focused on preparations by Reliability Coordinators, Balancing Authorities, Transmission Operators, and Generator Owners to gauge readiness for the 2021/2022 winter. NERC and the Regional Entities vetted the responses, and many organizations were contacted based on their responses for clarification and provision of additional guidance. Further, the Regional Entities held workshops, virtual and on-site plant visits, and built awareness across industry groups. This process continued through February of 2022.

NERC expects to replay this activity for the 2022/2023 Winter Season as the development of a number of extreme weather preparation and energy-related standards continues, and the implementation of the initial set of Cold Weather Standards is set for April 2023.

Further, especially in certain market areas, the 2023 Summer Season looks equally, if not more, challenged than the 2022 Summer Season. These issues will also be highlighted in the upcoming 10-year Long-Term Reliability Assessment with NERC's repeat calls for the electricity eco-system to manage the pace of change in the transformation of the grid to ensure the reliable operation of the bulk power system.

The Board requests MRC policy input on the following:

1. **Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?**
2. **What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?**
3. **For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system[1], robustness of resource adequacy assurance and availability mechanisms across state authorities,**

[1] NERC Rules of Procedure (Section 802)

industry resource and bulk transmission system readiness, and required industry/governmental partnerships?

Written comments in response to the input requested above, the preliminary agenda topics, and on other matters that you wish to bring to the Board's attention are due by **August 3, 2022,** to Kristin Iwanechko, MRC Secretary (Kristin.Iwanechko@nerc.net). The formal agenda packages for the Board, Board Committees, and MRC meetings will be available on August 4, 2022, and the presentations will be available on August 11, 2022. The Board looks forward to your input and discussion of these matters during the August 2022 meetings.

Thank You,

Kenneth W. DeFontes, Jr., Chair
NERC Board of Trustees

cc: NERC Board of Trustees
Member Representatives Committee

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Member Representatives Committee (MRC)

Pre-Meeting and Informational Webinar
July 20, 2022

RELIABILITY | RESILIENCE | SECURITY




Objectives – Pre-Meeting and Informational Session

- Review schedule and preliminary agenda topics for the August 2022 Board, Board Committees, and MRC meetings
- Review policy input letter topic
  - 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations

Upcoming Dates

- **July 13:** Policy input letter issued
- **August 3:** Written comments due on policy input topics and preliminary agenda topics
- **August 4:** Board and MRC agenda packages and policy input letter comments posted
- **August 11:** Board and MRC presentations posted
- **August 17-18:** Board Committee, Board, and MRC open meetings

Schedule of August 17-18 Board and MRC Open Meetings

Wednesday, August 17, 2022	
9:15 a.m.-10:15 a.m.	Technology and Security Committee Meeting—**Open**
10:30 a.m.-12:00 p.m.	Finance and Audit Committee Meeting—**Open**
1:00 p.m.-4:00 p.m.	Member Representatives Committee Meeting —**Open**
4:30 p.m.	Reception
Thursday, August 18, 2022	
8:30 a.m.-12:00 p.m.	Board of Trustees Meeting—**Open**

**All times Pacific*

Technology and Security Committee
9:15 a.m. – 10:15 a.m., August 17

- E-ISAC Operations Update
- ERO Enterprise Business Technology – Scope and Focus 2023-2025

Finance and Audit Committee
10:30 a.m. – 12:00 p.m., August 17

- Second Quarter Statement of Activities
  - NERC Summary of Results as of June 30, 2022
  - Total ERO Enterprise Summary of Results as of June 30, 2022
  - Regional Entity Variance Reports as of June 30, 2022
- NERC and Regional Entity Proposed 2023 Business Plans and Budgets and Associated Assessments

Member Representatives Committee
1:00 p.m. - 4:00 p.m., August 17

- Future Meetings
- Schedule for MRC Officer and Sector Elections
- General Updates and Reports
  - Board of Trustees Nominating Committee Update
  - Business Plan and Budget Input Group Update
  - Regulatory Update
- Policy and Discussion Items
  - Responses to the Board's Request for Policy Input
    - 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations
  - Additional Policy Discussion of Key Items from Board Committee Meetings
  - MRC Input and Advice on Board Agenda Items and Accompanying Materials

Member Representatives Committee
1:00 p.m. - 4:00 p.m., August 17

- Technical Updates
  - Identifying Emerging Issues in the 2022 Long-Term Reliability Assessment
  - Plan to Strengthen Industry Action to Address Emerging Risks
  - Update on FERC Reliability Matters
  - Bulk Power System Situation Awareness Update (*for reference in agenda package only*)

Board of Trustees
8:30 a.m. - 12:00 p.m., August 18

- Report on the August 12 and August 18, 2022 Closed Meetings
- Board Committee Reports
  - Accept Second Quarter Statement of Activities
  - Approve NERC and Regional Entity Proposed 2023 Business Plans and Budgets and Associated Assessments
- Standards Quarterly Report and Actions
  - Adopt Project 2020-06 Verifications of Models and Data for Generators
  - Cold Weather Standard Development Update
  - Standards Process Improvement Opportunities
  - Critical Infrastructure Protection Board Resolution Update

Board of Trustees
8:30 a.m. - 12:00 p.m., August 18

- Other Matters and Reports
  - Discuss Policy Input and MRC Meeting
  - Semi-Annual Review of the Achievements of the ERO Enterprise Work Plan Priorities Update (*for reference in agenda package only*)
  - Risk Registry Update (*for reference in agenda package only*)
- Committee, Forum, and Group Reports

Questions and Answers

MEMORANDUM

TO: Ken DeFontes, Chair
NERC Board of Trustees

FROM: Jack Cashin, Director, Policy Analysis and Reliability Standards, American Public Power Association
John Di Stasio, President, Large Public Power Council
Terry Huval, Executive Director, Transmission Access Policy Study Group

DATE: August 3, 2022

SUBJECT: Response to Request for Policy Input to NERC Board of Trustees

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The American Public Power Association, Large Public Power Council, and Transmission Access Policy Study Group concur with the Policy Input submitted today by the State/Municipal and Transmission Dependent Utility Sectors of the Member Representatives Committee, in response to NERC Board Chair Ken DeFontes July 13, 2022 letter requesting policy input in advance of the August 2022 NERC Board of Trustees meetings.

NERC Board of Trustees Policy Input – Q3 2022

Electricity Canada appreciates this opportunity to provide policy input to the NERC Member Representatives Committee ("MRC") and Board of Trustees ("Board").

Summary of Key Points:

- Electricity Canada supports NERC's attention to seasonal reliability assessment and extreme weather preparation.
- Mutual assistance is a beneficial resource to the resilience of the integrated North American grid, and there may be value for upcoming seasons in industry reviewing their applicable emergency assistance agreements to de-risk as much as possible against reliability issues.
- We do not offer further suggested actions for NERC to take beyond a review of emergency assistance agreements, and those actions described by NERC in the policy input letter, though we appreciate other stakeholders may offer additional recommendations according to their circumstances.
- Regional realities must be taken into account for any NERC efforts; efforts should leverage work underway in different jurisdictions; and efforts should not add unnecessary administrative burden.
- Furthermore, care should be taken to avoid overly prescriptive criteria which may not allow for regional variations in defining extreme weather, or already-developed preparation processes.

2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations

NERC's summer reliability assessment and recent state of reliability report underscored the importance of ensuring a reliable and resilient grid. The electricity industry is facing increasingly severe and frequent extreme weather events, alongside a changing resource mix and evolving security threats. Working together to protect the grid against these challenges is necessary.

Canadian and U.S. entities support each other in times of need, serving load and offering mutual assistance when needed. For example, in January, Canadian crews stepped up to help when a Nor'easter led to outages in Massachusetts and Rhode Island. Similarly, after a May derecho badly damaged the grid in Ontario and Quebec, American crews travelled across the border in the same spirit. This mutual coordination is beneficial and helps strengthen the integrated North American grid.

Electricity Canada supports and appreciates NERC's attention to seasonal reliability assessment and extreme weather preparation. A proposed recommendation for the upcoming winter and summer seasons is for industry to review their applicable emergency assistance agreements, to ensure they de-risk, to the extent possible, the potential for the reliability issues raised.

Beyond this proposed action and those outlined in the policy input letter, we do not make additional recommendations at this time, though we appreciate that other stakeholders may offer other actions

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for consideration according their situations and needs. In that spirit, we are supportive of the ISO/RTO Council's ("IRC") recommendation related to temporarily delaying unit retirements where necessary for Bulk Power System ("BPS") reliability, and its recommendation supporting additional investment in conservation.

Of note, Electricity Canada stresses that any NERC actions regarding extreme weather preparation should recognize regional variation, and support tailoring to regional circumstances. This would include both ensuring that NERC efforts align where appropriate with local, state/provincial and regional efforts, and supporting utility preparedness without inadvertently adding unnecessary administrative burden.

Furthermore, some regions are experienced with weather conditions which would be considered extreme in other regions, and have developed mature plans and processes to help ensure reliable service in these circumstances. For example, in many cases in Canada, equipment and planning may already have winter readiness 'built in'. Care should be taken to avoid any prescriptive or highly specific criteria that should be met across all regions. If criteria to meet should become specific, how companies can prove they have considered appropriate preparations without undergoing major changes should be considered.

Electricity Canada appreciates the ongoing stakeholder engagement regarding this issue, and looks forward to further discussion at the upcoming NERC Board meeting in August.

Dated: August 3, 2022

Contact:
Francis Bradley
President & CEO
Electricity Canada
Bradley@electricity.ca

Edison Electric INSTITUTE

Power by Association

Policy Input for the NERC Board of Trustees Provided by the Edison Electric Institute August 3, 2022

On behalf of our member companies, the Edison Electric Institute ("EEI") appreciates the opportunity to provide the following policy input for the NERC Board of Trustees to review in advance of the August 17 - 18, 2022, meetings. EEI perspectives on bulk-power system ("BPS") reliability are formed by our CEO Policy Committee on Reliability, Security, and Business Continuity and the Reliability Executive Advisory Committee with the support of the Reliability Technical Committee.

In the July 13, 2022, policy input letter, NERC Board of Trustees Chair, Kenneth W. DeFontes, Jr., seeks stakeholder input on how the ERO Enterprise and industry can address BPS grid challenges triggered by extreme weather and environmental conditions with the changing resource mix. EEI offers the following input.

I. SUMMARY OF COMMENTS

- EEI recommends that the ERO Enterprise issue a report describing what issues have been identified and the corresponding actions generators have taken to address performance issues in response to previous cold weather events.
- EEI recommends the ERO Enterprise develop/update "Lessons Learned" that shares information, experiences and discussions on the successes and failures of generators during extreme weather conditions.
- EEI suggests that NERC share the results of the previous winter readiness Alert to help industry prepare for the upcoming winter.
- EEI requests more information on what activities NERC is considering in regard to potential new and evolving electricity market practices impacting reliability and how it is different from or complements FERC's oversight role over energy and capacity markets.
- EEI proposes that NERC collaborate with stakeholders and re-visit the BES definition to evaluate the need for changes in light of the rapidly changing resource mix.
- With the proliferation of inverter-based resources, coordination and collaboration with the organizations that can and are addressing these issues is critical (IEEE, FERC, etc.) to ensure there are not gaps and that NERC is not duplicating efforts.

- EEI recommends that the ERO Enterprise share lessons learned about inverter-based resource performance during previous extreme weather events and how those issues were addressed.
- With the critical role of identifying and prioritizing emerging risks and supporting reliability, resilience, and security, NERC should review the Reliability Issues Steering Committee ("RISC") process to determine if the bi-annual activities are sufficient.

II. COMMENTS

The Board of Trustees seeks policy input on how the ERO Enterprise and industry can address BPS grid challenges triggered by extreme weather and environmental conditions with the changing resource mix. Ensuring the continued reliability and resilience of the electric grid when faced with a changing resource mix and increasingly impactful extreme weather events is of vital importance to electric companies and the customers they serve. EEI members seek ways to adapt to and address these challenges in light of the rapid pace of change to the energy grid.

In response to the Board of Trustees' questions regarding actions that NERC and the ERO can take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability challenges related to grid transformation and for the 2023 season, we support the actions identified by the Electricity Subsector Coordinating Council ("ESCC"). These include utilizing emergency authorities, such as "202c waivers," and streamlining processes to bring generation assets online during an emergency. Additionally, the ESCC is working closely with government to identify authorities and capabilities, including the Defense Production Act, that can address supply chain constraints, as well as broader federal agency participation and stronger interagency coordination to address challenges to the reliability and preparedness of the energy grid and grid operators.

In addition to the activities identified by the ESCC, EEI suggests the following:

EEI recommends the ERO Enterprise issue a report identifying actions generator owners have taken to address performance issues from previous extreme cold weather events and information on where corrective actions by generator owners could not be taken to support BPS reliability. The ERO Enterprise also could review plans for generators that have successfully operated in extreme weather and develop/update "Lessons Learned" which share information, experiences and discussions on the successes and failures of generators.

EEI also suggests that NERC share the result of the previous winter readiness Alert to help industry prepare for the upcoming winter.

Regarding actions NERC should consider in connection with potential impacts of electricity market practices, resource adequacy assurance, system readiness, and industry-government partnerships, EEI requests more information on what NERC envisions and how it is different from or complements FERC's oversight role over energy and capacity markets. We recommend that any efforts in this area first be coordinated with FERC to ensure efforts are not duplicated. EEI further asks that NERC detail where any such actions fit in the RISC's BPS risk prioritization in accordance with the Framework to Address Known and Emerging Reliability and Security Risks.

III. OTHER POLICY INPUT

BES Definition Review

Given the rapidly changing resource mix and that the current BES definition could not contemplate these changes when it was revised nearly a decade ago, EEI proposes that NERC and stakeholders collaboratively re-visit the BES definition. Likewise, EEI recommends that NERC and stakeholders re-visit the Statement of Compliance Registry Criteria to account for new categories of Users, Owners and Operators of the BES. We recommend that NERC organize an industry task force to evaluate the need to revise the BES definition and Registry Criteria including, among other things, conducting a technical analysis to determine the scope of changes needed to address the new grid and a potential reporting threshold based on the risk to the BPS. EEI would be pleased to partner with NERC and the other stakeholders to begin this effort.

Inverter-based Resources Specifications, Settings, and Performance Prioritization

With the proliferation of inverter-based resources, an increased focus on their impact to the grid is necessary to ensure BPS reliability. Coordination and collaboration with the organizations that can and have made significant progress in addressing performance of inverter-based resources is critical (IEEE, FERC, states, etc.). Coordination, including updates on the activities among the various groups is of the utmost importance to ensure there are not gaps or conflicts with other non-ERO documents in the Reliability Standards and that we are not duplicating efforts. Additionally, we recommend the ERO Enterprise share lessons learned from follow-up with the generator owners whose inverter-based resources did not perform as expected during previous events to understand how those issues were resolved.

Finally, given the amount of NERC's effort devoted to analyzing recent system events involving inverter-based resource performance, EEI recommends that NERC continue to prioritize inverter-based resource activities and coordinate with FERC on ongoing efforts to address inverter-based resources to avoid duplication and potential conflicts.

RISC Focus

EEI supports use of the Framework to Address Known and Emerging Reliability and Security Risks to identify, prioritize and address risks appropriately. The RISC is charged with identifying risks, recommending mitigations and prioritizing those risks and mitigating activities and is integral to a disciplined and efficient process for addressing new or emerging risks. In light of the increasing velocity of change to the grid, NERC should review the RISC process to determine if the bi-annual activities are sufficient. For example, the committee could engage in risk registry discussions more frequently to identify and prioritize rapidly emerging risks and work with the other NERC Committees to take actions, as appropriate, between issuance of the RISC Reliability Risk Priorities Report.

Thank you for the opportunity to provide policy input.

TO: Kenneth W. DeFontes, Jr., Chair
NERC Board of Trustees

FROM: Edison G. Elizeh
Federal Utility/Federal PMA Portion Sector 4

DATE: Aug. 3, 2022

SUBJECT: Response to Request for Policy Input to NERC Board of Trustees

The Portion of Sector 4 representing the Federal Utilities and Federal Power Marketing Administrations (Federal PMAs), appreciate the opportunity to respond to your July 13, 2022 letter to Mr. Roy Jones, Chair NERC Member Representative Committee, requesting input on certain policy issues. The Federal PMAs appreciates the opportunity to provide comments on the policy input of particular interest to the NERC Board of Trustees (Board) for their May 2022 meeting.

- The Federal PMAs have no further input on the Board and MRC's agenda. The items listed in draft agenda adequately represent the issues the Board and MRC need to discuss and approve.
- Federal PMAs share the concerns the Board and ERO Enterprise have for the upcoming winter 2022/2023, and for summer 2023. The summer 2022 Reliability Assessment report highlighted a few facts and steps taken by the ERO to mitigate risks. Similar steps are needed for the upcoming winter 2022/2023 and summer 2023.
  For the long term we would encourage NERC and the ERO Enterprise plan to look into the resource adequacy by focusing on all three components:

    a. Load forecast and methods used to forecast load during all capacity critical hours, not just the peak load,
    b. Factoring in the generation resource adequacy and identifying methods on their actual contribution to energy production (fuel supply and fuel delivery is factored in) during the capacity critical hours, and identifying the characteristics of their performance for system stability and dynamic performance. And,
    c. Transmission adequacy from the generation resources to the load, and reliance on the imports from other regions in order to meet the forecasted load requirements across all capacity critical hours.

- Federal PMAs recognize the challenges of State & local government jurisdictions vs. Federal jurisdiction. However it is becoming a more important topic that the NERC and the ERO Enterprise along with the industry need to reach out to appropriate

regulatory bodies. The focus of such outreach should be overcoming any obstacles might be out there. We much closer coordination and collaboration in planning, design and operation of the system as a whole with the grid transformation and resource mix. The traditional jurisdiction by jurisdiction Integrated Resource Planning approach is no longer the best model to meet reliability and security of service to load. Transmission vs distribution vs customer side generation is no longer a clear line. All have implications on bulk power systems reliability and security. The ERO educational program and sharing information could help in reaching common goals and objectives among all involved.

- In addition, NERC needs to review the current standards and put in place appropriate standards that recognize the generation mix regardless of the jurisdictional lines. These standards must be technically sound, clearly written, implementable, and enforceable. The applicability of the standards need to be applied to the components/sectors of the industry who are in the best position to address the particular risk and not to put the burden on a particular sector that has no direct control over the issue.

The following are more specific responses to questions asked by the Board in the Policy Input Letter;

1. **Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?**

   The Federal PMAs agree with actions the ERO Enterprise is planning to take for this coming 2022/2023 winter season. The actions below helped for the 2022 summer season and clearly showed that increased public awareness of reliability issues in general will help.

   - Use of emergency authorities to facilitate electricity production by lifting some water use and emissions limitation restrictions;
   - Facilitating inter-agency dialogue on reliability implications of agency actions; and
   - Reinforcing the importance of public participation through conservation calls to ride-through tight energy conditions.

2. **What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?**

   In addition to what stated above the Federal PMAs recommend;

   - Collecting and analyzing the regional and sub-regional load forecasting methodologies and reasoning across a set of defined

capacity critical hours. The focus needs to change from planning for peak load to planning for all hours that are critical. The growth in rural area load is changing to more of a data center load or crypto data mining load while the urban area load growth continues to be population growth with commercial & light industrial type load. Such a shift potentially will change the dynamic performance of the system. And,

- Much better understanding of generation type, its fuel requirements (supply & delivery) and its energy production profile or its capacity contribution during all critical capacity hours. NERC should facilitate determination of such capacity critical hours for all regions. And,
- The transmission availability and access, and generation surplus availability for export to other regions. And,
- Overall dynamic performance of the system.

3. **For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships?**

The Federal PMAs believe the focus on resource adequacy and aligning the federal, states & local governments on jurisdictional issues are becoming very important to meeting the common goals of reliability and security of our national grid. The current and future resource mix does not distinguish the same jurisdictional lines of demarcation as we had before. The increase in customer generation, beyond the meter generation, and the current move to greater use aggregators are playing a more significant role in our industry. This is brining benefits and possible implications to the reliability of the bulk power system. NERC needs to take much more active role in this area.

NERC needs to develop the appropriate standards for resource adequacy. Three areas should be considered:

i. Load forecasts and methods used to forecast load during all capacity critical hours not just the peak load,
ii. Factoring in the generation resource adequacy and identifying methods to identify their actual contribution to energy production (fuel supply and fuel delivery is factored in) during the capacity critical hours, and identifying the characteristics of their performance for system stability and dynamic performance. And,
iii. Transmission adequacy from the generation resources to the load, and reliance on the imports from other regions in order to meet the forecasted load requirements across all capacity critical hours.

In addition, NERC needs to review the current standards, and put in place appropriate standard, that recognize the generation mix regardless of jurisdictional boundaries. These standards must be technically sound, clearly written, implementable, and enforceable. The applicability of the standards needs to be applied to the components/sectors of the industry that are in the best position to address the particular risk and not to put the burden on a particular sector that has no direct control over the issue.

The Federal PMA appreciate the opportunity to provide this policy input to the NERC Board of Trustees.

ISO/RTO Council's (IRC) Policy Input to Board of Trustees

August 3, 2022

The ISO/RTO Council[1] (IRC) appreciates the opportunity to respond to the Board's request for policy input. The IRC offers the following input to the Member Representatives Committee (MRC) in response to Mr. Kenneth W. DeFontes, Jr.'s, letter dated July 13, 2022 on the 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations.

As ISOs/RTOs we plan and operate the Bulk Power System (BPS) with increasing reliability risks brought about by extreme weather events and the changing resource mix. While the most recent Reliability Assessments show that there are challenges to be met in the near- and long-term, we believe we can take actions to allow us to operate the BPS reliably.

Summary Comments

The IRC believes, in addition to the activities taken by NERC and the Regional Entities to prepare for the upcoming winter and summer, several short-term solutions would improve the ability to operate the BPS reliably:

- Improve communication protocols with generator resources and transmission operators
- Survey generators on fuel procurement, fuel inventory management and supply chain logistics
- Improve near-term energy adequacy forecasts by incorporating the effects of intermittent generation and the electrification of heating and transportation
- Work with distribution companies to improve the proficiency of manual load shedding instructions during emergencies
- Retain firm-fueled resources where necessary
- Adjust planning reserve margins based on seasonal requirements
- Issue NERC Alerts for winter weather actions that can be implemented in a short time frame
- Continue to encourage early implementation of Cold Weather Standards
- Support additional investment in conservation, including both active and passive demand side measures; improve ability for demand side programs to respond to bulk power system conditions
- Where necessary for BPS reliability, temporarily delay unit retirements

With an eye towards long-term objectives, the IRC also urges NERC to work with stakeholders to assess the limitations of the current Loss of Load Expectation (LOLE) metric for assessing resource adequacy and capacity-based reserve margin requirements. Reflecting the implications of the changing resource mix, NERC should lead an effort to develop additional energy adequacy metrics and requirements.

IRC Responses to Specific MRC Policy Input Questions

[1] The IRC is comprised of the Alberta Electric System Operator (AESO), the California Independent System Operator Corporation (California ISO), Electric Reliability Council of Texas, Inc. (ERCOT), the Independent Electricity System Operator of Ontario, Inc., (IESO), ISO New England, Inc. (ISO-NE), Midcontinent Independent System Operator, Inc., (MISO), New York Independent System Operator, Inc. (NYISO), PJM Interconnection, L.L.C. (PJM), and Southwest Power Pool, Inc. (SPP).

1**. Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?**

Due to the short time left to prepare for the 2022/2023 winter season, it is unlikely that entities who have not yet acted will be able to act quickly enough to aid in winter preparedness. However, process and communication improvements can effectively reduce risks for the upcoming winter. In response to Winter Storm Uri and other major winter events, NERC should continue to encourage industry to implement and support measures and initiatives to address lessons learned such as: making changes to communication protocols and notices to generator and transmission operators, surveying generators on fuel procurement, fuel inventory and supply chain logistics, utilizing energy adequacy forecast tools, preparing distribution companies through table-top load shedding exercises, and where necessary, retaining firm-fueled resources. Other initiatives that NERC could support include adjusting the planning reserve margin for seasonal requirements, although major changes to the capacity and reserve requirements will likely take longer to implement than the upcoming winter season. We believe industry can take these and similar actions to further strengthen our ability to operate reliably during the 2022/2023 winter season.

As noted in the July 13 policy input request, NERC and the Regional Entities took a number of actions ahead of the 2021-2022 winter including conducting webinars workshops and generator virtual and on-site plant visits. NERC also issued a Level 2 Alert to gauge winter preparedness. We support NERC's continuation of these activities for the 2022/2023 winter season. NERC should also consider issuing Alerts as appropriate for any other winter preparation activities it believes could be implemented in a short timeframe, such as those identified in the FERC/NERC Winter Storm Uri Report for training and communication to the Balancing Authority, among others. Along with these activities, NERC should continue to encourage early voluntary implementation of the Cold Weather Standards in advance of the effective implementation date of April 2023.[2]

2**. What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season**?

Traditionally, much of the emphasis to plan and prepare for extreme events and grid transformation focuses on generation and transmission activities. However, load can, and should, proactively participate in the solution. While each ISO/RTO has integrated demand response into its market, additional conservation remains an available tool, including active demand response and passive energy efficiency measures. We ask NERC to encourage the states to pursue additional conservation measures, including communications with state and local agencies to develop programs that encourage end users to adjust their consumption based on BPS conditions. Doing so will become more and more important as transportation and heating rely more and more on electricity as the primary energy source. BPS operators have limited, or no, visibility into the charging/discharging behavior of electric vehicles and other energy storage devices on the distribution system. Inadvertent charging at the distribution level during tight system conditions or load shedding events will exacerbate reliability risks. Load-serving entities should communicate to BPS operators all active controllable demand-side management programs and technologies which are outside of the market operator and BPS operator's available data to provide situational awareness of the additional capability. Furthermore, NERC should encourage distribution companies to provide the necessary data for BPS planners and operators to effectively model conservation and demand response programs.

[2] FERC Docket RD21-5-000

Since it is unlikely that generation resources not already accounted for will be added prior to the 2023 summer season, NERC should advocate the benefits of temporarily delaying unit retirements beyond next summer where such retirements may jeopardize BPS reliability. Regulators and markets should be educated about the value of these units and be able to compensate for them accordingly.

3. For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system[1], robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships?

Over the past few years, NERC has brought greater focus on the emerging challenges facing the BPS due to the increasing impacts of extreme weather and a changing resource mix. As markets and policymakers drive greater investment in non-emitting resources, NERC has identified four pillars that are important for policymakers to consider to ensure a reliable transition to clean energy:

1. Ensure sufficient **renewable energy** to achieve policymakers' de-carbonization goals
2. Develop sufficient **transmission** to integrate the renewables and transmit/distribute the clean energy
3. Maintain a robust fleet of **balancing resources**, and
4. Ensure a robust **energy supply chain** for the balancing resources, with sufficient access to stored energy to withstand long-duration, wide-spread extreme weather events.[3]

The Federal Energy Regulatory Commission (FERC), Department of Energy, States/Provinces and NERC are taking a variety of steps in furtherance of these pillars. Recent operating experience shows the importance of supporting a robust energy supply chain and maintaining a robust fleet of controllable balancing resources to avoid undue disruption of electric service. In this regard, FERC's directives for NERC to establish standards addressing cold weather preparedness, and the recently initiated project to evaluate energy adequacy in an environment of constrained resources and establish plans to remedy identified constraints reflect significant steps industry and NERC are undertaking to improve reliability in light of the changing energy resource mix.

To complement these efforts, the ERO Enterprise and stakeholders should also re-visit the Loss of Load Expectation (LOLE) metric underpinning traditional resource adequacy assessments. As laid out by Mr. Lauby at last year's annual Commissioner-led Reliability Technical Conference (AD21-11), ensuring sufficient energy to serve load in light of emerging challenges requires industry and regulators to look at a different type of metric than whether industry can serve peak load under the "one day in ten years" standard. The ERO should promote reliability metrics that measure the total amount of load shed in a given year.

Based on the traditional LOLE metric, industry has planned, built, and operated the BPS to meet capacity-based targets. An evaluation of this capacity-based approach will be required along with a review of the LOLE metric. Grid operators should be able to assess whether the system has a sufficient energy margin to supply forecasted demand while withstanding selected events. However, singular metrics or measures may not translate well across regions. We believe that NERC should lead the development of energy adequacy

[3] *See* Mark Lauby & Matthew Elkins, "Ensuring Energy Availability with Energy-Constrained Resources", presented at WECC Technical Session on Ensuring Energy Sufficiency in the West (Mar. 8, 2022), *available at:* March 2022 Tech Session Book.pdf (wecc.org)

metrics that are broad and flexible enough to accommodate the use of regional methodologies across NERC's footprint.

Lastly, at FERC's reliability technical conference, Commissioner Glick noted the importance of reviewing capacity accreditation metrics as a follow-up to Mr. Lauby's observations. The IRC believes that establishing a forum for developing new metrics to address energy adequacy would not only address long-term issues with the clean energy transition generally, but also complement the types of efforts ISO/RTOs are currently engaged in to evolve wholesale electric market design.

Conclusion

The IRC appreciates the opportunity to provide policy input to the MRC for NERC's upcoming Board meeting. We ask NERC to consider actions that can effectuate our short-term recommendations to improve the ability to reliably operate the BPS this winter and next summer. We hope NERC will create initiatives where we can work with NERC and industry on long-term objectives as we face the challenges brought about by grid transformation and extreme weather events.

August 2, 2022

Cooperative Sector Policy Input to the NERC Board of Trustees

The Cooperative Sector appreciates the opportunity to provide policy input to the NERC Board of Trustees (BOT) regarding 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations**.**

Summary of Policy Input

The Cooperative Sector acknowledges that the rate of transition from the traditional inertia-based generation resource fleet is creating risks to reliability. The Energy Policy Act of 2005 specifically prohibited NERC from requiring generation resource adequacy which limits NERC's role to communicating the reliability risks to policy makers. Thus, NERC needs to continue its efforts to share publicly this issue so that those regulatory bodies with authority (i.e., the states) can address the generation adequacy shortfalls and associated reliability risks. In addition, Cooperatives support the ongoing 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and preparations proposed by NERC. As shared in our August 2021 Policy Input, the ERO should recognize that for most utilities, especially those associated with an RTO/ISO, any activities required for preparedness including weatherization for this upcoming winter have already been planned and will likely be executed by late summer or early fall.

Responses to the specific questions asked by the NERC Board

1. Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?
    - The Cooperative Sector believes the activities already identified in previous policy input should provide the ERO Enterprise with adequate assurance that registered entities are prepared for the upcoming winter weather and suggests that NERC keeps focus on Regional Entity coordination to allow for flexibility to address reliability issues to account for historical weather differences within each Region's footprint.
    - The key to successfully managing any system emergency is keeping sufficient generation assets on-line to provide the needed load and generation balance. The gas-electric coordination is therefore key to grid reliability. The ERO and industry must focus their efforts on deliverability of the gas to all units and improve gas-electric coordination as recommended in the NERC 2021 ERO Reliability Risk Priorities Report developed by the Reliability Issues Steering Committee (RISC). In addition, Cooperatives suggest a periodic review be conducted of the NERC Reliability Guideline: Natural Gas and Electrical Operational Coordination Considerations to determine if improvements to this resource are warranted. The guideline can be helpful in developing individual utility coordination plans.
2. What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?
    - The Cooperative Sector believes the ERO should consider modifying the schedule for the 2023 Summer Reliability Assessment to identify concerns earlier and allow applicable

entities to address those concerns prior to the start of the summer season. Advancing the schedule would also provide time to manage the regulatory and public perception of seasonal reliability and resource adequacy issues. We also recommend that NERC improve the messaging on how likely the risks are to materialize. Many in the public believed that we were absolutely going to have blackouts based on some industry communications that discussed the risks but not the likelihood of those risks.

3. For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships
    - The Cooperative Sector believes that the ERO has the tools, processes and ability to identify the resource adequacy and operational concerns for the reliable operations of the bulk power system in place already. The ERO has continued to identify reliability risks from resource adequacy over the last few years in the annual assessments. More recently, the ERO has improved its communication to policy makers on these issues. The ERO needs to continue down this path utilizing its tools, processes, and industry resources such as the RISC to identify new reliability risks, to prioritize recommended actions to address those reliability risks and to communicate to policy makers.

Submitted on behalf of the Cooperative Sector by:
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Sector 8 Policy Input for the NERC Board of Trustees & Member Representatives Committee

August 17-18, 2022 Meetings

ELCON, on behalf of Large End-Use Consumers, submits the following policy input for the consideration of NERC's Board of Trustees (BOT) and the Member Representatives Committee (MRC). It responds to BOT Chair Ken Defontes, Jr.'s July 13, 2022 letter to Roy Jones, Chair of the MRC.

SUMMARY

Large Consumers (Sector 8) support NERC's continued inquiry into issues impacting the reliability of the bulk power system. The BOT requested MRC input on the following questions:

1. **Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?** No. Large Consumers believe NERC's core function of establishing reliability standards—in addition to the informational functions of investigating, assessing, and reporting—lends itself to a long-term focus rather than the short-term focus of the question. Large Consumers believe short-term or emergency action should be taken sparingly and left to operators of bulk power system components or perhaps the Department of Energy. In the event NERC or the ERO Enterprise are
2. **What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?** None. Large Consumers believe NERC's core function of establishing reliability standards—in addition to the informational functions of investigating, assessing, and reporting—lends itself to a long-term focus rather than the short-term focus of the question. Large Consumers believe short-term or emergency action should be taken sparingly and left to operators of bulk power system components or perhaps the Department of Energy.
3. **For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource**

adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships? Large Consumers see a large and increasing role for NERC in ensuring bulk power system reliability through the means identified in the question, among others. There may be a need for NERC to weigh in on topology optimization, capacity accreditation practices, and pending Congressional action.

Assuring Reliable Performance through the 2022/2023 Winter Season and 2023 Summer Season

Large Consumers implore NERC to maintain its focus on developing reliability standards—which is a long-term process by its nature—and assessing long term issues. We support, for example, NERC's efforts to ensure future winter preparedness by implementing new cold weather standards.

To the extent short-term or emergency action needs to be taken this winter or next summer, Large Consumers want operators of bulk power system equipment to have every tool at their disposal. However, to protect consumers from rent-seeking or other opportunistic abuse of reliability authorities by utilities, relevant agencies (such as the Department of Energy) should use existing authorities (such as Section 202(c) of the Federal Power Act) only when necessary.

Further, if NERC or the ERO Enterprise feel the need to be more active in the short term, Large Consumers request that NERC issue its seasonal reliability assessments earlier to highlight any supply issues (as with natural gas or other resources) in time for industry to react. For instance, the 2021-2022 Winter Reliability Assessment was issued in November 2021; the 2022 Summer Reliability Assessment was issued in May 2022. More lead time would enable industry stakeholders to take NERC's seasonal assessments into account.

Actions for NERC's Consideration

Large Consumers urge NERC to continue investigating, assessing, and reporting on (1) the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, (2) the robustness of resource adequacy assurance and availability mechanisms across state authorities, (3) industry resource and bulk transmission system readiness, and (4) required industry/governmental partnerships. Large Consumers address each below.

(1) Potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system

Large Consumers expect that NERC is keenly focused on any potential negative impact of new and evolving electricity market practices. However, there is good news among the growing problems associated with the increased complexity of today's bulk power system. Namely, transmission system topology optimization is a promising grid-

enhancing technology that Large Consumers would like to see implemented more broadly—not just to alleviate real-time reliability concerns but also to reduce congestion costs and perhaps even offer solutions in the planning/resource adequacy time horizon.

(2) Robustness of resource adequacy assurance and availability mechanisms across state authorities

Large Consumers took very seriously the 2022 summer reliability risks highlighted in the recent Summer Reliability Assessment. We would support NERC's engagement with state or federal policymakers in a constructive dialogue about ways to ensure resource adequacy in the regions that were shown to be deficient in the Summer Reliability Assessment.

For example, Large Consumers face risks on both sides of the question of capacity accreditation. Too much credit for resources and we face reliability problems stemming from resource shortfalls. Too little credit for resources and we face economic problems stemming from over-procurement of resources. Given the differences between states and regions in their various approaches to capacity accreditation, there may be a need for NERC to weigh in on this issue.

(3) Industry resource and bulk transmission system readiness

Large Consumers feel we are in front of these key issues, and we are already taking action. Regarding changes to the fuel delivery system to energy-constrained resources, Large Consumers are actively confronting known weatherization challenges and are supportive of reliability standards designed to mitigate these challenges industry-wide in the long term.

(4) Required industry/governmental partnerships

The policy input letter notes the need to facilitate "inter-agency dialogue on reliability implications of agency actions" and to "manage the pace of change in the transformation of the grid to ensure the reliable operation of the bulk power system." Large Consumers second these observations but also note that Congress—rather than an agency such as the Environmental Protection Agency—may be the relevant new source of acceleration of the pace of the transition.

Specifically, the budget reconciliation bill presently moving through Congress calls for $369 billion in federal funding to accelerate the energy transition. Large Consumers encourage NERC to increase its engagement on Capitol Hill to educate lawmakers on the reliability implications of this Congressional action.

Thank you for your consideration.

MEMORANDUM

TO: Kenneth W. DeFontes, Chair NERC Board of Trustees

FROM: Michael Moody and Darryl Lawrence – MRC Sector 9 Small End-Use Electricity Customer Representatives

DATE: August 3, 2022

SUBJECT: Small End-Use Sector (9) Response to Request for Policy Input to the NERC Board of Trustees

The representatives to the NERC Member Representatives Committee for the Small End-Use Customer Sector (9) appreciate the opportunity to provide these comments in response to the request in your letter to Mr. Roy Jones dated July 13, 2022.

The NERC Board of Trustees requested MRC sector policy input regarding additional actions related to the 2022/2023 winter season, the 2023 summer season and long-term actions.

The Small End-Use Sector (9) responds to the BoT's specific questions as follows:

The Board requested MRC policy input on the following specific questions:

1. Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?

   Sector (9) response: The members of Sector (9) have no specific response for the upcoming winter 2022/2023.

2. What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?

   Sector (9) response: The members of Sector (9) have no specific response for the upcoming summer 2023.

3. For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships?

Sector (9) response: The members of Sector (9) offer the observation that in the long term the advent of the use of electricity-based technology for transportation and buildings energy needs will likely change the peak demand season from summer to winter in some operating areas. This transition and where it is projected to occur should be highlighted in the next Long-Term Reliability Assessment. An analysis of the implications of the switch to a different peak season should be undertaken to examine the changes in planning and operating practices that will be needed to address this change reliably and resiliently. Once the changes in peak season are made visible for those operating areas through NERC's Assessment, then outreach regarding the implications for resilience and reliability for the affected state and local regulatory authorities should be undertaken.

In addition, recent research has clearly demonstrated that conventional plant outages are affected by weather and are therefore not independent random events. Common probabilistic methods for assessing resource adequacy that assume plant outages are independent events are insufficient. NERC should require more realistic analyses of resource adequacy.

Due to climate change driving increasing frequency of extreme weather and renewable generation being more weather-dependent, summer peak capacity in the power system is becoming less critical to resource adequacy and the ability to meet demand under extreme conditions is becoming more critical. NERC should consider requiring resource adequacy be examined in part through analyses of expected system performance under each of a series of extreme event scenarios. NERC should further consider prescribing at least a partial list of those scenarios and prescribing standards for the full list of scenarios. While such individual extreme events may be relatively rare, the frequency of occurrent of some kind of extreme event is clearly large enough to be a material contribution to power system reliability risks. Analyses of individual scenarios will likely lead toward better emergency management and system resilience planning.

For both planning resource adequacy in a system with high penetration of renewables that might have a high probability of low-impact events and for planning related to low frequency events with very high impact, probability of lost load and its cousin metrics are less informative than measures related to expected unserved energy. NERC should consider recommending either replacing reliability standards based on lost load recurrence with standards based on unserved energy or adding standards based on unserved energy to the traditional standards.

MEMORANDUM

TO: Ken DeFontes, Chair
NERC Board of Trustees

FROM: John Haarlow
Terry Huval
John Twitty
Brian Evans-Mongeon

DATE: August 3, 2022

SUBJECT: Response to Request for Policy Input to NERC Board of Trustees

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The Sector 2 and 5 members of the NERC Member Representatives Committee (MRC), representing State/Municipal and Transmission Dependent Utilities (SM-TDUs), appreciate the opportunity to respond to your July 13, 2022 letter to MRC Chair Roy Jones in which the Board of Trustees (Board) requests MRC input on NERC's 2022-2023 Winter, 2023 Summer, and Long-Term Assessment and Preparations. Specifically, the Board seeks the MRC's views on three questions:

1. Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?
2. What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?
3. For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships?

The SM-TDUs respond to these questions below. We look forward to discussing these issues and other agenda items during the meetings of the Board, Board committees, and the MRC on August 17-18, 2022.

Summary of Comments

- The SM-TDUs agree that the 2022 Summer Reliability Assessment prompted a useful national discussion of reliability challenges. NERC should continue to use its "bully pulpit" to share its insights and potential actions to emphasize important reliability concerns in a rapidly evolving industry landscape. NERC and the industry should use these insights and actions as a starting point for collaboration to identify risks for further investigation, possibly utilizing panel discussions by the MRC and RISC, and by its technical and ad hoc committees.

- NERC assessments should seek to incorporate the latest and best available information about resource additions and retirements, and important reliability impacts should be clearly communicated to stakeholders and policymakers. Similarly, in conducting long-range assessments and analyses, NERC should take a broader perspective in accounting for industry trends and changes. NERC should also conduct post-assessment analyses of its seasonal assessments, in consultation with industry and regulatory agencies, to inform its long-term assessments.
- The SM-TDUs encourage NERC to provide stakeholders with relevant details of NERC's discussions with government authorities. By sharing this information with stakeholders, NERC may be able to leverage a broader industry response to reliability challenges.
- Greater precision is required in referring to the reliability risks posed by "extreme weather."
- SM-TDUs generally agree that NERC could play a valuable role by performing the investigatory, assessment, and reporting functions referenced in Question 3.

General Response

The SM-TDUs provide answers to the Board's specific questions below. We begin, however, with this general response, as certain of the SM-TDUs' observations are not necessarily limited to the winter, summer, or long-term timeframes.

The SM-TDUs agree that NERC assessments are a valuable and credible source of information for industry, policymakers, and the public. NERC's assessments are all the more important at a time when the resource mix is rapidly changing, severe weather events are becoming more frequent, infrastructure and technology enhancements are needed, and supply chain challenges are continuing. Like NERC, the SM-TDUs were pleased by the attention on these and other issues generated by the release of NERC's 2022 Summer Reliability Assessment (2022 SRA), and we are hopeful that future seasonal and long-term assessments similarly help focus policymakers on important reliability challenges. NERC plays a crucial role in using its "bully pulpit" to emphasize important reliability concerns in a rapidly evolving industry landscape. The SM-TDUs remain committed to working collaboratively with NERC and the ERO Enterprise to address these reliability risks.

In seeking to ensure reliable performance of the BPS seasonally and over the long-term, further enhancements to NERC's assessments could be beneficial. One potential improvement would be for NERC to conduct post-assessment analyses of its seasonal assessments to inform its long-term assessments. SM-TDUs endorse NERC's current focus on conducting seasonal assessments sufficiently in advance of the relevant season to allow some time for industry response and preparation. Such forward-looking assessments can be evaluated after-the-fact to illuminate what the analysis got right, and what it may have gotten wrong, providing an opportunity for these lessons learned to inform future long-term assessments. Robust after-the-fact analysis could also help highlight differences in reliability drivers between seasons and between regions, which, in turn, could help inform decisions about whether a uniform response to a national or international reliability challenge is warranted (e.g., through a generally applicable reliability standard or NERC Alert), or whether a more targeted (e.g., region specific or resource specific) response is warranted.

NERC assessments should also seek to incorporate the latest, and best available information about resource additions and retirements. The SM-TDUs were encouraged by the discussion on the recent NERC Trades/Forums Meeting call about NERC efforts to identify generating resources that are likely to retire when conducting reliability assessments. The SM-TDUs would encourage NERC to work closely with its regional partners in this regard. To the extent that particular generator retirements are identified that could pose reliability concerns, NERC and the regions should take steps to communicate those concerns to relevant policymakers, market operators, and utilities. In a similar vein, where assumptions about potential resource additions require modification, NERC should clearly communicate these changes, such as expected impacts on solar resource deployments in future years as a result of supply chain constraints.

The Board's July 13 Letter observes that the 2022 SRA "brought awareness and focus to the challenges triggered by extreme weather and environmental conditions with the changing resource mix." While weather and environmental conditions can certainly present reliability challenges, SM-TDUs encourage NERC to be judicious in references to "extreme weather" in its reliability assessments. The term is imprecise, and its overuse runs the risk of mislabeling diverse and increasingly common events as "extreme," while at the same time directing focus away from planning for true low-frequency, high-impact events. The NERC's focus should remain on quantifiable and verifiable reliability risks.

The Board's Letter also references constructive conversations between industry and government triggered by the 2022 SRA. The SM-TDUs agree that candid dialogue between industry and government about reliability challenges and potential responses is an essential tool in promoting grid reliability. As the Board's letter indicates, there are existing tools that government and industry can use to promote reliability, and the SM-TDUs encourage NERC to engage on these efforts, to the extent it is appropriate to do so. For example, the Electricity Subsector Coordinating Council (ESCC) has been active on a number of important issues, including working to alleviate the impacts of supply chain constraints, and engaging with DOE and other policymakers concerning the appropriate processes for using DOE's Grid Security Emergency and Federal Power Act section 202(c) authorities if necessary to ensure grid reliability. The SM-TDUs encourage NERC to provide stakeholders with relevant details of NERC's discussions with government authorities. By sharing this information with stakeholders, NERC could leverage a broader industry response to reliability challenges.

Finally, the SM-TDUs observe that the actions that NERC can take in the short-term and long-term to help ensure BPS reliability are constrained by its statutory authority. The statutory provisions governing NERC's authority, including the specific requirement in FPA section 215(g) to conduct periodic assessments, suggest a unique role for NERC in educating and advising policymakers on reliability challenges and potential responses. Nonetheless, in responding to these reliability challenges, it is important to acknowledge the specific statutory limits on the mandatory reliability regime of section 215, including the statute's specific prohibition on FERC or NERC ordering the construction of additional generation or transmission capacity or setting or enforcing reliability standards for the adequacy of electric facilities.

Responses to Specific Questions

1. **Are there other actions NERC and the ERO Enterprise should take to assure reliable performance through the 2022/2023 winter season and other significant systemic winter reliability issues related to the grid transformation?**

   Please see the SM-TDUs' general response.

In addition to these general observations, the SM-TDUs acknowledge NERC's plans to issue a Level 2 Alert to gauge winter readiness for 2022/2023. We support NERC issuing such Alerts, provided the appropriate level is used and the Alerts are clear. In this case, the SM-TDUs believe that use of a Level 2 Alert is appropriate. Advisory Alerts are helpful even though they are not mandatory. NERC has not previously utilized a Level 3 Alert, and were NERC to consider issuing one in the future, it should first consult with industry and carefully assess whether mandatory action is truly required. Although a Level 2 Alert for winter 2022/2023 is reasonable, the SM-TDUs share the concerns expressed on the recent NERC Trades/Forums Meeting call about confusion generated by the questions in last year's Alert and the need for follow-up from the Regional Entities. The SM-TDUs were encouraged to hear that NERC is working to avoid similar confusion with the upcoming Level 2 Alert, recognizing, however, that no set of questions can be entirely immune from differing interpretations.

2. **What actions should NERC and the ERO Enterprise take to assure reliability for the 2023 summer season?**

Please see the SM-TDUs' general response.

3. **For the long-term, what actions should NERC consider taking, including, but not limited to, investigating, assessing, and reporting on the potential impacts of new and evolving electricity market practices related to the adequacy and operating reliability of the bulk power system, robustness of resource adequacy assurance and availability mechanisms across state authorities, industry resource and bulk transmission system readiness, and required industry/governmental partnerships?**

   Please see the SM-TDUs' general response.

In addition to these general observations, the SM-TDUs generally agree that NERC could play a valuable role in performing the investigatory, assessment, and reporting functions referenced in the question. As RTOs/ISOs, utilities, federal and state policymakers, and other stakeholders respond to the evolving resource mix (often while encouraging the evolution) and confront other reliability challenges, it is imperative that electric market policy and design decisions are adequately informed by credible reliability input, which NERC can bring to the table.

Such a market assessment role would likely require collaboration across different areas of expertise, including electric reliability subject matter experts and those with expertise in market design and operations. And given the breadth of issues that such assessments might be required to consider, it may be useful to obtain guidance from FERC for such assessments. The SM-TDUs encourage NERC to open a dialogue with industry and FERC about assessing markets and

reliability rules. Similarly, NERC could engage with NARUC regarding state resource adequacy mechanisms.

The SM-TDUs also encourage NERC, in conducting long-range assessments and analysis, to take a broader perspective in accounting for industry trends and changes that are likely to impact reliability over the longer term, but which may not be plainly evident based on a snapshot reliability assessment. To cite just one example, the growth of electric vehicles and associated charging infrastructure in some regions (e.g., California) could have a tremendous impact on electric demand. NERC should endeavor to assess the impact of such longer-range trends in conducting long-term reliability assessments and it should ensure adequate transparency regarding the assumptions underlying its analysis.