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PROJECT NO. 51840

**RULEMAKING TO ESTABLISH
ELECTRIC WEATHERIZATION
STANDARDS**

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**PUBLIC UTILITY COMMISSION

OF TEXAS**

**ENBRIDGE, INC.’S RESPONSE
TO STAFF’S DISCUSSION DRAFT AND QUESTIONS FOR COMMENT**

Enbridge, Inc. (“Enbridge”) appreciates the opportunity to submit its comments on Commission Staff’s July 19, 2021 discussion draft of the proposed new 16 Texas Administrative Code (“TAC”) § 25.55 and related questions, and is prepared to respond to further inquiries by Staff or comments submitted by other stakeholders. Enbridge is a leading energy infrastructure entity in Texas. We have over 1,400 Houston-based employees and provisioned contractors, and we own and operate significant oil and gas assets in Texas, as well as three wind generation facilities we operate with our partners (Chapman Ranch Wind I, Keechi Wind and Magic Valley Wind). Enbridge would be directly impacted by the proposed regulations.

I. EXECUTIVE SUMMARY

- Senate Bill 3 (“SB 3”) called on the Commission to establish a reliability-based standard to minimize the number and/or duration of outages during extreme weather events.
- North American Electric Reliability Corporation’s (“NERC”) Reliability Standards¹ provide a regulatory framework for weatherization standards that would meet the objectives of SB 3.
- No equipment is made to perform 100% of the time, which makes performance-based or availability standards impractical to comply with and unlikely to achieve the desired effect of establishing a more resilient grid.
- Cost-recovery mechanisms should be included in the rule, and adhering to key principles in establishing the reliability standard can help to mitigate the costs of compliance while supporting a more resilient grid.
- In establishing reliability standards, the Commission should consider commercially available technologies, existing resources’ warranties with manufacturers, and technical barriers to retrofitting equipment, to ensure that new standards do not unnecessarily add costs to the Electric Reliability Council of Texas (“ERCOT”) market

¹ See e.g., NERC Standard EOP-011-2.

or prematurely retire capacity from the market.

II. INTRODUCTION

Enbridge supports the ongoing success of the ERCOT market and the establishment of a reliability standard, as set out in Senate Bill 3 of the 87th Texas Legislature, which will help foster a more resilient grid.

Specifically, Enbridge agrees with the Advance Power Association (“APA”) and American Clean Power (“ACP”) comments, dated June 23, 2021,² which highlighted reliability standards approved by NERC as providing a reliable regulatory framework for weatherization standards that will meet the objectives of SB 3. These standards are focused on maintaining weather preparedness plans based on geographical location and plant configuration and require annual inspection and maintenance of any cold weather measures and plans established. NERC’s reliability standards will help limit the duration and/or frequency of outages during extreme weather conditions and will help guide generator operators in evaluating and implementing preparedness measures. We submit that adoption of NERC standards will help improve the reliability of the ERCOT market.

However, rather than establish a reliability-based standard, the discussion draft of the proposed new rule appears to envision a performance-based or availability standard, under which resources would be required to provide service during specific extreme weather conditions. Enbridge agrees with Exelon’s June 23, 2021 comments in which it said, “SB 3 did **not** attempt to establish a **performance** standard that sets temperature and other conditions under which a generator would have an absolute obligation to perform.”³

No equipment is designed to operate 100% of the time. There may be equipment malfunctions, fuel supply interruptions (whether fossil fuel or environmental fuel), or other rare but unavoidable circumstances that prevent equipment from providing service, such as heavy icing. It is not feasible for generators to ensure that a resource can provide service under any particular weather conditions at all times. Enbridge supports the Texas Legislature’s recognition of this operating reality in calling on the Commission to instead establish reliability standards.

In this context, Enbridge offers the following responses to the questions posed by Commission Staff in its July 19, 2021 pleading.

² Advanced Power Alliance and American Clean Power Association Comment (June 23, 2021).

³ Comments of Exelon Generation Co. at 5 (June 23, 2021) (emphasis in original).

III. RESPONSES TO QUESTIONS

1. *What is the availability of statistically reliable weather information from, e.g. the American Society of Heating, Refrigeration and Air Conditioning Engineers; National Weather Service; or other sources for the ERCOT power region? Please share the source of that information.*

Enbridge relies on weather information from National Aeronautics and Space Administration (“NASA”) MERRA-2, the National Weather Service (“NWS”), and the National Oceanic and Atmospheric Administration (“NOAA”) to inform real-time operational decisions and long-term management of our wind generation facilities in Texas.

We cannot verify that these weather information sources are statistically reliable, but we submit that they would be useful to ERCOT and the Office of the Texas State Climatologist in preparing the weather study set out in the Commission’s discussion draft. Enbridge further notes that all weather forecasts come with tolerances and inevitable uncertainty, especially over a five-year period as proposed in the discussion draft. Forecasts can help inform weather preparedness decisions to comply with a reliability standard but are not definitive enough to establish absolute mandates of any kind, particularly not performance-based or availability standards, which are not possible to comply with in any case, as noted above.

Enbridge submits that the weather study sources should be the same as the weather forecasting information that ERCOT uses to plan load, demand, and dispatch in the market, so that there is a consistent view as to anticipated weather conditions.

2. *Do existing market-based mechanisms provide sufficient opportunity for cost recovery to meet the weather reliability standards proposed in the discussion draft? If not, what cost recovery mechanisms should be included in the proposed rule?*

As discussed below, a true reliability standard, and not a performance standard, must first be established, thus our response below first focuses upon the standard, and then cost recovery.

Current Operations

There are practical problems with establishing a performance standard that may be impossible for a generating facility to meet. The International Electrotechnical Commission (“IEC”) is an international standards body that has established design considerations for wind turbines to be deployed in standard climates and in cold climates. Manufacturers will make their own design decisions based on their operating experience and research, but the IEC’s standards serve as reasonable guidelines for the global industry. The IEC states in its standards document

that, for design purposes, a low ambient temperature in standard climates would be -10 degrees Celsius (roughly 14 degrees Fahrenheit) under normal conditions, and -20 degrees Celsius (roughly -4 degrees Fahrenheit) for extreme temperature conditions in those climates.⁴ The coldest temperatures experienced in Texas during the February Winter Storm were generally in line with the IEC's guidance for extreme temperatures⁵ and in most cases were well within the limits set out in the guidance.

There are additional considerations in the IEC guidance for cold weather climates, and many wind turbine manufacturers offer cold weather packages to support performance in those more frigid conditions, but they are not viable options at all sites. For example, one of the differences in a cold weather package is the type of steel used, which may not be appropriate in areas that are far more likely to experience extreme hot weather than extreme cold conditions. As NextEra noted, while it has installed cold weather packages on its assets in Canada and other northern areas with prolonged extreme cold periods, it has typically not installed these packages on its assets in Texas due to the weather patterns in the state.⁶

In any case, even turbines with cold weather packages already installed would have experienced challenges during the February storm. As Siemens Gamesa Renewable Energy ("Siemens") indicated in its June 23, 2021 comments, cold weather packages would not have had a material impact on turbine performance during the February winter storm due to the extensive icing that also occurred in February.⁷

GE Renewable North America, Vestas American Wind Technology, and Siemens all stated in their comments that they do not offer hardware retrofit technology to prevent ice from forming on turbine blades (anti-icing) or to remove ice build-up once it occurs (de-icing), nor do they provide blade coatings.⁸ This means that icing is unavoidable in certain extreme conditions. There are also limits as to how icing can be addressed in real-time, e.g., icing conditions can be dangerous

⁴ IEC 61400-1 Edition 4.0 Section 6.4.

⁵ See *Arctic Outbreak 2021*, National Weather Service, available at <https://www.weather.gov/shv/ArcticOutbreak2021>.

⁶ See Initial Comments of NextEra Energy Resources, LLC at 3, 6 (June 23, 2021).

⁷ See Comments of Siemens Gamesa Renewable Energy, Inc. on Rulemaking Establishing Electric Weatherization Standards at 1 (July 14, 2021).

⁸ See Initial Comments of GE Renewable North America, LLC (June 23, 2021); Initial Comments of Vestas – American wind Technology, Inc. (June 23, 2021); Comments of Siemens Gamesa Renewable Energy, Inc. on Rulemaking Establishing Electric Weatherization Standards at 1 (July 14, 2021).

for field personnel, so it may not be safe for them to immediately approach frozen equipment. Personal safety should remain a critical aspect of meeting any reliability standard.

Satisfying SB 3

SB 3 calls on the Commission to establish reliability standards aimed at reducing the frequency and/or duration of outages to improve grid resiliency. The legislation recognizes that no equipment is built to, or capable of, providing service 100% of the time. For example, there may be fuel interruptions (whether fossil fuel or environmental fuel) that could prevent equipment from providing service. There may also be extreme weather conditions, such as icing, that will inevitably lead to rare and temporary outages. So, performance-based or availability standards which require resources to provide service at rated capacity during specific extreme weather conditions are impractical to comply with and are unlikely to result in the improved grid resiliency intended in the legislation and the Commission's work under this docket.

Enbridge supports the Commission's efforts to improve grid resiliency and the reliability of the ERCOT market via establishment of reliability-based standards as set out in SB 3. The standards proposed in the discussion draft appear to be performance-based or availability standards. We propose that the Commission remove the proposed performance-based standards in the draft and instead adopt NERC's reliability standards as they provide a clear regulatory framework for weatherization preparedness that would meet the requirements of SB 3.

Cost-Recovery

In response to the Commission Staff's Question No. 2, Enbridge is not aware of any market mechanisms that would allow for cost recovery of meeting reliability standards.

It is likely that additional cost recovery mechanisms would need to be included in the proposed rule but as the Commission has not yet proposed a reliability standard, it is difficult to propose any specific approach(es). Enbridge agrees with others who have suggested that the following principles should be considered when establishing the reliability standard, which should help minimize compliance costs from the outset,

- Reliability standard should not assume availability of technology that is not yet commercially available and proven,
- Reliability standard should not require retrofits of existing assets where the retrofit is not technically or commercially practical and/or where doing so could void the manufacturer's warranty,

- Reliability standard should focus on limiting outage hours over a period of time, rather than requiring assets to provide service under specific conditions, and should be consistent with existing standards (such as NERC's), and
- Reliability standard should provide generator operators flexibility to adopt weather preparedness measures that they determine best enable their equipment and resources to comply with the standard.

When the Commission has issued a proposed reliability standard, Enbridge will be better able to provide comments on potential cost-recovery mechanisms that might be needed. We look forward to continuing to participate in this important rulemaking.

IV. COMMENTS ON DISCUSSION DRAFT OF RULE

Enbridge proposes the following changes to the proposed discussion draft to establish a reliability standard:

A. Weather reliability standard for a resource. A generation entity must comply with the following standards.

1. Basic weather reliability standard. A generation entity must maintain weather preparation measures that will allow it to comply with NERC Reliability Standards [NTD: need specific reference] ~~reasonably ensure that its resource can provide service at the resource's applicable rated capability as defined by ERCOT under the 95th percentile of each of the~~ with consideration of the extreme weather scenarios specified in the weather study approved by the commission under subsection (c) of this section.

2. Enhanced weather reliability service standard. A generation entity may elect to maintain weather preparation measures that exceed NERC Reliability Standards by X% [NTD: need specific reference] ~~reasonably ensure its resource can provide service at the resource's applicable rated capability as defined by ERCOT under the 98th percentile of each of~~ with consideration of the extreme weather scenarios specified in the weather study approved by the commission under subsection (c) of this section. A resource that meets this standard may qualify to provide an enhanced weather reliability service procured by ERCOT.

3. Black Start Service (BSS) weather reliability standard. For a resource that provides BSS, a generation entity must maintain weather preparation measures that exceed NERC Reliability Standards by Y% [NTD: need specific reference] ~~reasonably ensure the resource can provide service at the resource's applicable rated capability under the 99.7th percentile~~ with consideration of the extreme weather scenarios specified in the weather study approved by the commission under subsection (c) of this section.

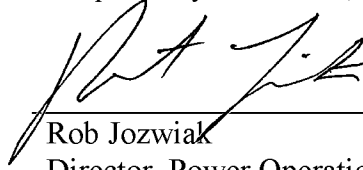
*Note: percentages for Subsections 2 and 3 above to be determined via further consultation with industry.

V. CONCLUSION

Enbridge appreciates the opportunity to submit these comments for the Commission's consideration, and looks forward to continuing to work with all stakeholders in this Project.

Respectfully Submitted,

By:



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