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**PUC PROJECT NO. 53401**

<b>ELECTRIC WEATHER</b>	<b>§</b>	<b>PUBLIC UTILITY COMMISSION</b>
<b>PREPAREDNESS STANDARDS</b>	<b>§</b>	
<b>PHASE II</b>	<b>§</b>	<b>OF TEXAS</b>

**LOWER COLORADO RIVER AUTHORITY’S COMMENTS ON THE PROPOSAL  
FOR PUBLICATION OF REPEAL OF 16 TAC §25.55 AND REPLACEMENT WITH  
PROPOSED NEW 16 TAC §25.55**

TO THE HONORABLE PUBLIC UTILITY COMMISSION OF TEXAS:

The Lower Colorado River Authority (LCRA) respectfully submits the following comments on the Proposal for Publication (PFP) proposing the repeal of 16 Tex. Admin. Code (TAC) §25.55 relating to Weather Emergency Preparedness and the adoption of new 16 TAC §25.55 relating to Phase II of Weather Emergency Preparedness as approved at the May 26, 2022 Open Meeting.

**I. GENERAL COMMENTS**

LCRA appreciates Commission Staff’s work in developing a set of “all seasons” preparation standards for generation and transmission facilities. These preparation standards build on the important work the Commission has already done to ensure that the lessons learned from the 2011 and 2021 severe weather events are translated into mandatory requirements designed to increase the resiliency of the ERCOT grid.

LCRA emphasizes, however, the continuing need for these rules to be considered and enforced as preparation standards. This rule should not be construed as a mandate for generation facility owners to retrofit existing plants with any particular controls or equipment. As the Commission is aware, specific performance requirements, when applied retroactively—like the EPA’s currently pending cross-state air pollution control rules—can have significant, negative consequences for reliability in ERCOT. Requiring more extreme winter weatherization for existing units presents the very same problems as retroactively requiring environmental controls equipment. Every degree that a resource is required to winterize below its current design imposes more costs on the resource owner—with no guarantee that this investment will increase the unit’s

reliability during extreme events like Winter Storm Uri.<sup>1</sup> On the contrary, mandating these types of costs will only increase the risk of units seasonally mothballing during winter.

As LCRA has explained in prior comments, the cost to retrofit an *existing* unit to operate under more extreme weather conditions than it was designed for is significantly greater than the cost to design and build a *new* facility to operate in those same extreme conditions. Therefore, LCRA encourages the Commission to develop rules that impose more stringent requirements for all types of new generation resources before they are in commercial operation. As the Commission is working diligently to develop and implement reforms to the wholesale market to incentivize more dispatchable generation, it should clearly identify the level of weather resiliency it expects from new resources. Strict, forward-looking weather resiliency standards are a key component of the long-term solution for resource adequacy in ERCOT.

## **II. DOES PROPOSED 25.55(e) AND PROPOSED 25.55(h) APPROPRIATELY DEFINE “REPEATED OR MAJOR WEATHER-RELATED FORCED INTERRUPTIONS OF SERVICE”?**

The proposed definitions of “major weather-related forced interruption of service” and “repeated weather-related forced interruption of service” in subsections 25.55(b)(5) and (6), as applied to generation facilities under proposed subsection 25.55(e), and as modified by the definition of “weather emergency” in subsection 25.55(b)(11), are not clear and should be further explained.

- To constitute a “major” weather-related forced interruption, over what timeframe must the loss of 7,500 megawatt-hours (MWh) of generation service occur?
- Is the 7,500 MWh metric event-based? Or is it supposed to be calculated cumulatively, over all weather-related events occurring within a month, or a year, or some other timeframe?
- If this metric is to be applied on a per-event basis, the duration of the weather event is likely to dictate whether the loss of generation meets the proposed trigger—even if the unit was just derated rather than forced offline. For example, a loss of generation during an event like Winter Storm Uri, which lasted over a week, would result in a large

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<sup>1</sup> As LCRA has previously commented, field testing once a unit is operational is infeasible, unless and until the conditions being tested for are actually experienced; no simulation can replicate the effects of freezing temperatures, high winds, and freezing precipitation.

duration multiplier (i.e., even a relatively small MW derate, if it persisted for long enough, would meet the 7,500 MWh trigger for a larger unit). Is this the Commission's intent?

- Do all weather-related forced interruptions count—including extreme events like Winter Storm Uri when weather conditions exceeded the design parameters of some (if not all) of the units that tripped or were derated? What about other (non-summer or winter) weather-related events like floods, earthquakes, tornadoes, and hurricanes?
- Is the 7,500 MWh trigger intended to be applied by unit, or by plant, or across an entity's total generation portfolio?

With regard to the proposed triggers for “repeated” forced interruptions, LCRA echoes TPPA's comment that several of these trigger events may occur during the same weather emergency. Should each “occurrence” of a derate or failed start be counted, even if they were part of the same weather event? Would a failed start followed by a successful start-up that does not result in the unavailability of the unit also count toward a generation owner's “three strikes”?

LCRA's comments on this specific section below provide additional details and rationales for LCRA's proposed changes to these definitions.

### **III. COMMENTS BY SECTION**

#### **Subsection (a) Application**

Under proposed subsection (a)(2), a new generation resource that is scheduled to begin commercial operations during the summer season or winter season must meet the requirements of this section prior to the commercial operations date. LCRA supports this language but respectfully suggests that the Commission consider, as part of a future phase of its weatherization rulemaking efforts, identifying more stringent criteria for all new generation resources. Strict, forward-looking weather resiliency standards are a key component of the long-term solution for resource adequacy in ERCOT.

#### **Subsection (b) Definitions**

As discussed above in response to Commission Staff Question 2, LCRA requests that the Commission modify the definitions in subsections **(b)(5)** and **(b)(6)** to clearly describe which forced interruptions of generation service will trigger 16 TAC § 25.55(e). As part of this effort,

LCRA recommends separating generation and transmission-related outages into distinct definitions.

**25.55(b)(5) - Major weather-related forced interruption of service.**

As set forth in proposed subsection 25.55(e), the purpose of this definition is to determine when a generation entity with a resource that experiences major weather-related forced interruptions of service must undergo an independent review of its weather emergency preparation measures, plans, procedures, and operations. For LCRA's generation portfolio, these measures, plans, procedures, and operations are unit-specific. Similarly, the substantive requirements in subsection 25.55(c) of the proposed rule address the measures taken for *each resource* under the entity's control. Accordingly, a "major" weather-related forced interruption of generation service should be calculated on a per-unit basis, not across a resource entity's entire generation portfolio.

In addition, LCRA recommends that the 7,500 MWh trigger be applied on a per-event basis, rather than tallied cumulatively across multiple months or seasons. In other words, the Commission should clarify that a generating unit experiences a major weather-related forced interruption only if a weather-related forced outage or derate results in the loss of 7,500 MW of net generation capacity from that unit.

LCRA also requests that the Commission explicitly define that, in determining whether a "major" weather-related forced interruption of service has occurred, any loss of generation be calculated based off the resource's seasonally adjusted High Sustained Limit (HSL). Routine, high temperature related HSL adjustments should not be counted as a "derate." Similarly, the Commission should acknowledge in its final rule that any derates required for compliance with environmental permits are not "weather-related" and do not count toward calculating either a "major" or a "repeated" weather-related forced interruption of service.

Finally, LCRA suggests that the Commission's definition should focus on the most critical times when weather-related failures are most likely to negatively impact electric consumers—namely, ERCOT-declared Emergency Conditions. Per the ERCOT Protocols, an Emergency Condition is an "operating condition in which the safety or reliability of the ERCOT System is compromised or threatened, as determined by ERCOT."<sup>2</sup> In anticipation of a possible Emergency Condition, ERCOT issues specific communications, beginning with an Operating Condition

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<sup>2</sup> ERCOT Nodal Protocols § 2 (eff. June 1, 2022).

Notice (OCN).<sup>3</sup> When ERCOT is actually operating in an Emergency Condition, it then issues an Emergency Notice.<sup>4</sup> Focusing this rule on weather-related forced interruptions that occur during a clearly delineated timeframe (e.g., upon ERCOT’s issuance of an OCN or Emergency Notice) will ensure that Commission resources are devoted to the most meaningful events, while dramatically reducing the number of other instances that will have to be examined.

On any given day, ERCOT reports dozens of individual unit outages and derates; in many cases, information regarding the cause is unknown at the time of the report.<sup>5</sup> Efficiently sorting through those rows of data, verifying their accuracy, and issuing potentially thousands of requests for information to determine which of those forced interruptions are weather-related in order to classify them as “major” weather-related forced interruptions of service would be a fairly monumental undertaking.<sup>6</sup>

To account for all these issues, LCRA proposes modifying subsection **(b)(5)** and renumbering the definitions section to create a new, separate definition for generation-specific major weather-related interruptions of service as follows:

Major weather-related forced interruption of generation service -- The loss of 7,500 megawatt-hours of net generation capacity service from a generation resource or transmission capability occurring as a result of a single weather emergency during an ERCOT-declared emergency condition. A loss of net generation capacity shall be calculated from the Seasonal High Sustained Limit (HSL) of the resource.

**25.55(b)(6) – Repeated weather-related forced interruption of service.**

Like major weather-related forced interruptions, “repeated” interruptions should also be applied *by unit*—rather than *by resource entity*. The “three strikes” rule should also be applied only when the weather-related interruption actually results in a loss of generation service. Not all failed starts do. If a unit experiences a failed start initially but then has a successful startup, that instance should not be counted toward that resource’s three-event tally. The Commission should delete “failed start” from the proposed rule, since a persistent startup failure leading to a loss of

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<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> See generally ERCOT’s Reports on Unplanned Outages (last accessed June 19, 2022), available at <https://www.ercot.com/misapp/GetReports.do?reportTypeId=20466/>.

<sup>6</sup> The same analysis would need to be performed to determine which unit derates should be counted toward the tally of a resource’s “repeated” weather-related forced interruption of service.

generation capacity would already be captured by the “forced outage” language in subsection (b)(6).<sup>7</sup>

Further, for the reasons explained above, any loss of generation should be calculated based off the resource’s seasonally adjusted HSL, and any derates required for compliance with environmental permits should not be considered “weather-related” nor count toward a resource’s “three strikes.”

LCRA proposes modifying subsection **(b)(6)** and renumbering the definitions section to create a new, separate definition for generation-specific repeated weather-related interruptions of service as follows:

Repeated weather-related forced interruption of generation service -- Three or more of any combination of the following occurrences by a generation resource as a result of a weather emergency during an ERCOT-declared emergency condition within any three-year period: ~~a failure to start,~~ a forced outage, or a deration of more than fifty percent of the ~~nameplate capacity~~ Seasonal High Sustained Limit (HSL) of a the generation resource or a transmission facility.

**25.55(b)(9) – Transmission facility.**

Both generation and transmission entities may own and operate high-voltage equipment within a substation fence. For the avoidance of doubt and to ensure that entities subject to this rule are responsible for only those facilities that they own and operate, LCRA requests that the Commission modify the definition of “transmission facility” as follows:

Transmission facility -- A transmission-voltage element owned by a TSP inside the fence surrounding a ~~TSP’s~~ high-voltage switching station or substation.

**25.55(b)(11) – Weather emergency.**

**25.55(b)(12) – Weather emergency preparation measures.**

LCRA notes that the proposed definitions of both “weather emergency” and “weather emergency preparation measures” are not specific to any particular type of weather. However, the requirements in the rule regarding when an entity must implement “weather emergency preparation measures” all specifically relate to either hot (summer) or cold (winter) weather. For consistency, LCRA asks the Commission to modify the definitions of “weather emergency” and

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<sup>7</sup> Most (if not all) units in ERCOT are not designed to start up in very cold weather. As a matter of procedure, LCRA starts its units ahead of cold temperatures if they are anticipated to be dispatched. It would be impractical and economically infeasible to require winterization to the degree that units would be capable of starting up under the same conditions under which they would be required to run.

“weather emergency preparation measures” to align with the substantive requirements in the remainder of the rule. In addition, the definition of “weather emergency preparation measures” should be corrected to clarify that such measures are those taken by a generation entity or TSP to support the function of facilities *that it owns*.

As part of its request to align these definitions to the summer and winter weather preparations set forth in the rule, LCRA is seeking specific acknowledgment from the Commission that other types of extreme weather events are beyond the scope of what an entity can reasonably prepare for (e.g., earthquakes, floods, hurricanes, and tornadoes). If, however, the Commission does intend for an entity’s summer or winter weather preparations to address weather conditions that are not specifically tied to the summer or winter season (e.g., drought, as part of summer weather preparations), that clarification in the final order adopting the rule would also be helpful.

LCRA requests that the Commission modify its definitions as follows:

Weather emergency -- A situation resulting from summer or winter seasonal weather conditions that produces significant risk for a TSP that firm load must be shed or a situation for which ERCOT provides advance notice to market participants involving weather-related risks to the ERCOT power region.

Weather emergency preparation measures -- Measures that a generation entity or TSP takes to support the function of ~~a~~its resource or transmission facility during a hot or cold weather emergency.

#### **Subsection (c) Weather emergency preparedness reliability standards for a generation entity**

In this subsection, the proposed rule requires a generation entity to engage in several specific types of winter and summer preparations, perform training, and compile its units’ design and operating parameters each year. LCRA addresses these sub-requirements for winter and summer preparations in turn.

##### **25.55(c)(1) – Winter season preparations.**

For proposed subsection **25.55(c)(1)(A)(iv)**, LCRA proposes the following revision:

Reasonable Assurance of the availability and appropriate safekeeping of sufficient chemicals, auxiliary fuels, and other materials necessary for sustained operations during a winter weather emergency;

To the extent a generation entity must rely on vendors to supply any materials necessary for sustained operations during a winter weather emergency, this requirement should be viewed through a lens of reasonableness, rather than absolute assurance. Given the historic supply chain challenges, labor shortages, and other major geopolitical events of recent months and years, a



generation entity can be asked to take reasonable preparatory measures, but it should not be required to guarantee performance when that is subject to the actions of other parties over whom the generator exercises no control.

For proposed subsection **25.55(c)(1)(A)(vi)**, LCRA proposes the following revision:

Maintenance of freeze protection equipment for all cold weather critical components, including fuel delivery systems controlled by the generation entity, and testing or verifying the functionality of freeze protection equipment on a monthly basis from November 1 through March 31; and

It is not possible for a generation entity to test the effectiveness of its freeze protection until freezing conditions are experienced. Instead, the entity can only verify that the freeze protection equipment is functioning.

For proposed subsection **25.55(c)(1)(A)(vii)**, LCRA proposes the following revision:

Installation or maintenance of monitoring systems or procedures for all cold weather critical components, including circuitry that provides freeze protection or prevents instrument air moisture;

“Installation” could be interpreted to mean that such monitoring systems are not already in place, or that they must be newly installed on an annual basis. LCRA already has such monitoring systems installed at its facilities, and suggests that the rule be modified to require such existing systems to be “maintained” or “installed.” In addition, some cold weather critical components are not monitored using heat tracing or freeze protection “circuitry.” Instead, a generation entity may have monitoring procedures in place (such as making operator rounds to check wind breaks, insulation, and heat protection equipment). To cover a broader range of cold weather critical components and associated maintenance activities, LCRA suggests modifying the rule to also allow a generation entity to have “monitoring procedures” in place to protect such components.

With respect to proposed subsection **25.55(c)(1)(B)**, LCRA seeks further clarification regarding the meaning of the terms “sustained operation” and “sustained operations.” Given that the proposed rule refers to “the 95th percentile minimum average 72-hour temperature reported in ERCOT’s historical weather study,” is it reasonable to interpret these terms to mean 72 consecutive hours without experiencing a failed start, trip, or derate? Alternatively, should the determination of “sustained operation” be left to the discretion of the generation entity, based on the operational experience of the specific unit and good utility practice? LCRA provides the same comment on subsection **25.55(c)(2)(B)**.

**25.55(c)(2) – Summer season preparations.**

For proposed subsection **25.55(c)(2)(A)(ii)-(iv)**, LCRA asks that the Commission replace all references to requiring an “assurance” with the qualification “reasonable assurance,” for the reasons stated in response to subsection **25.55(c)(1)(A)(iv)** above.

In addition, LCRA recommends that the Commission further modify subsection **25.55(c)(2)(A)(iii)** as follows:

Reasonable Assurance of availability and appropriate safekeeping of adequate equipment to remove heat and moisture to allow for the sustained operation of from all hot weather critical components within their design temperature;

It is not possible to remove all heat and moisture from hot weather critical components if those components are heated beyond their design temperature. At that point, no amount of cooling devices can cool them to function properly. Accordingly, this requirement should be qualified by a reference to the design level of the hot weather critical component.

**25.55(c)(2)(B) – 95th percentile maximum average 72-hour temperature.**

As the Commission is likely aware, ERCOT’s December 2021 final weather study does not include information on the 95<sup>th</sup> percentile maximum average 72-hour temperature by weather zone, even though the draft rule proposes to require a generation entity to implement summer weather emergency preparedness procedures for 2023 based on this information. ERCOT’s December 2021 final weather study does include the 95<sup>th</sup> percentile maximum *daily* and *average 168-hour* temperatures, but it provides no data on the maximum average 72-hour temperature. This information is needed to inform generation entities’ preparations for summer 2023, particularly if it will drive purchasing and maintenance decisions that must begin during this calendar year.

To address this timing problem, the Commission could consider allowing a limited good cause exception (i.e., if, subject to applying the “greater of” metric, an entity is unable to timely implement summer weather emergency preparation measures reasonably expected to ensure sustained operation of the resource during the 95th percentile maximum average 72-hour temperature for the weather zone in which the resource is located as a result in the delay in obtaining this information, such failure may be excused).

**25.55(c)(3) – Declaration of preparedness.**

Proposed subsections **25.55(c)(3)(A)(iv)** and **25.55(c)(3)(B)(iv)** would require the declarations that a generation entity submits to ERCOT to include “any additional information” required by the ERCOT Protocols. The ERCOT Protocols change frequently, with new versions

of different sections becoming effective each month. It is possible that an entity could submit its winter declaration, for example, on November 1, only to have a relevant section of the Protocols be amended effective November 2.

Also, the current set of Protocols is 2,018 pages. At a minimum, the rule should clarify which section of the ERCOT Protocols could potentially require additional information to be included as part of the generation entity's declaration of winter and summer weather preparedness, and a time certain by which such Protocols changes must be in effect in order to require the additional information to be submitted as part of that season's declaration. ERCOT should also be required to issue a market notice and make a filing at the Commission timely and clearly notifying affected market participants of any such changes. If the Commission does not delete these subsections in their entirety, they should at least be modified as follows:

*For the winter declaration required under 25.55(c)(3)(A)(iv):*

Includes any additional information required by Sections 3.21 and 22 of the ERCOT protocols in effect as of October 1 of the year in which the declaration is submitted; and

*For the summer declaration required under 25.55(c)(3)(B)(iv):*

Includes any additional information required by Sections 3.21 and 22 of the ERCOT protocols in effect as of April 1 of the year in which the declaration is submitted; and

#### **Subsection 25.55(d) – ERCOT Inspection of resources**

LCRA adopts and incorporates by reference the comments of TPPA with regard to proposed 25.55(d)(1), regarding checklists for inspections, and proposed 25.55(d)(1)(A), regarding the notice for inspections.

### **IV. CONCLUSION AND PRAYER**

LCRA appreciates the Commission's consideration of these comments and respectfully requests that the Commission adopt these recommendations in approving new 16 TAC § 25.55.

Respectfully submitted,

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**PUC PROJECT NO. 53401**

**ELECTRIC WEATHER  
PREPAREDNESS STANDARDS  
PHASE II**

**§ PUBLIC UTILITY COMMISSION  
§  
§ OF TEXAS**

**LCRA’S EXECUTIVE SUMMARY**

- The proposed definitions of “major” and “repeated” interruptions of service are not clear and should be further explained. As part of this clarification, LCRA recommends separating generation and transmission-related outages into distinct definitions.
  - A weather-related forced interruption should be calculated on a per-unit basis (not across a generation portfolio) and applied on a per-event basis (not cumulatively over a season or a year).
  - Any loss of generation should be calculated from the resource’s seasonal HSL. Routine, high temperature related HSL adjustments should not be counted as a “derate.”
  - Any derates required for compliance with environmental permits are not “weather-related” and should not count toward calculating either a “major” or a “repeated” weather-related forced interruption of service.
  - The definitions should focus on the ERCOT-declared Emergency Conditions, the most critical times for reliability.
  - The “three strikes” rule for repeated interruptions should apply only when the weather-related interruption actually results in a loss of generation service (i.e., not all failed starts).
- LCRA requests modifying the definition of “transmission facility” to refer specifically to a transmission-voltage element *owned by a TSP* inside the fence.
- The proposed definitions of “weather emergency” and “weather emergency preparation measures” are not specific to any particular type of weather, yet the required weather emergency preparation measures all specifically relate to either hot (summer) or cold (winter) weather. For consistency, the Commission should modify the definitions of “weather emergency” and “weather emergency preparation measures” to align with the substantive requirements in the remainder of the rule.
- Subsection 25.55(c)(1)(A)(iv) and all similar references to “assurance” should be modified by a “reasonableness” standard.
- Subsection 25.55(c)(1)(A)(vi) should be modified to allow the entity to verify that the freeze protection equipment is functioning, which is more accurate than requiring only “testing.”
- Subsection 25.55(c)(1)(A)(vii) should be modified to allow for “installation *or maintenance*” of monitoring systems, where such systems have already been installed.
- ERCOT’s December 2021 weather study does not provide the maximum average 72-hour temperature. This information is needed to inform generation entities’ preparations for summer 2023, particularly if it will drive purchasing and maintenance decisions that must begin during this calendar year. To address this timing problem, the Commission could consider allowing a limited good cause exception.
- The language in subsection (c)(3) that the declarations must include “any additional information required by the ERCOT protocols” is too open-ended and impermissibly vague and should be stricken or clarified.
- Where specifically noted, LCRA also adopts and incorporates the comments of the Texas Public Power Association.