|  |  |  |  |
| --- | --- | --- | --- |
| PGRR Number | [127](https://www.ercot.com/mktrules/issues/PGRR127) | PGRR Title | Addition of Proposed Generation to the Planning Models |

|  |  |
| --- | --- |
| Date | August 22, 2025 |

|  |
| --- |
| Submitter’s Information |
| Name | Blake Holt |
| E-mail Address | blake.holt@lcra.org |
| Company | Lower Colorado River Authority (LCRA) |
| Phone Number | 254-913-8096 |
| Cell Number |  |
| Market Segment | Cooperative |

|  |
| --- |
| Comments |

LCRA submits these comments to Planning Guide Revision Request (PGRR) 127:

LCRA proposes adding a new paragraph (7) to Section 6.9, Addition of Proposed Generation to the Planning Models. This change would require **all** large generators in a single group defined by paragraphs (5)(a) through (5)(d) of Section 6.9 to be included in the base case if at least **one** large generator from that group is included. This change seeks to mitigate arbitrary additions of individual large generators that may unfairly bias the model. The proposed change assumes all large generators within a group are equally likely to complete their interconnection requirements and achieve full energization. Accordingly, generation dispatch should be scaled down proportionally across each large generator that is added to the model from one of these groups. This approach will mitigate selection biases (e.g., based on technology, fuel type, location, in-service date) due to arbitrary model additions. During a period of significant uncertainty in load and generation forecasts, it is important that system planners do not introduce another source of uncertainty by attempting to predict which individual generation interconnection projects are most likely to interconnect.

For example, suppose ERCOT determines that it needs to model generators defined in paragraph (5)(b). Under LCRA’s proposal, if only a subset of the paragraph (5)(b) generation capacity is needed, ERCOT could decide (for example) to model paragraph (5)(b) thermal generators dispatched to 100%, solar generators dispatched to 73%, and wind generators dispatched to 0%, if and only if **all** paragraph (5)(b) thermal generators are dispatched to 100%, **all** paragraph (5)(b) solar generators are dispatched to 73%, and **all** paragraph (5)(b) wind generators are dispatched to 0%. Under the original proposal, ERCOT could arbitrarily choose to dispatch paragraph (5)(b) generators. LCRA’s proposed addition of paragraph (7) of Section 6.9 would help ensure uniformity in approach and consistency in results.

For reference and consideration, the table below shows how many generators are in each group defined in paragraphs (1) and (5) of Section 6.9, taken from the July 2025 Generation Interconnection Status (GIS) Report. For example, there are 1,232 generators that meet the requirements of paragraph (5)(c) of Section 6.9, representing 264 GW of nameplate capacity. LCRA includes this table to demonstrate the size of each group and highlight the need for stronger guidelines on how the generators in each group are selected and dispatched.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Fuel** | **In-Service** | **PG 6.9(1)** | **PG 6.9(5)(a)** | **PG 6.9(5)(b)** | **PG 6.9(5)(c)** | **PG 6.9(5)(d)** |
| Battery (BAT) | 3,780 MW | 16,027 MW | 13,102 MW | 14,495 MW | 121,952 MW | 642 MW |
| 28 | 98 | 75 | 74 | 705 | 4 |
| Gas (GAS) | 237 MW | 2,059 MW | 1,412 MW | 4,472 MW | 22,879 MW | 0 MW |
| 4 | 10 | 5 | 9 | 51 | 0 |
| Solar (SOL) | 12,864 MW | 25,842 MW | 17,736 MW | 5,928 MW | 87,975 MW | 795 MW |
| 54 | 109 | 69 | 29 | 383 | 5 |
| Wind (WIN) | 5,186 MW | 3,092 MW | 4,644 MW | 238 MW | 29,900 MW | 604 MW |
| 43 | 12 | 17 | 1 | 77 | 3 |
| Other | 0 MW | 0 MW | 0 MW | 0 MW | 2,233 MW | 0 MW |
| 0 | 0 | 0 | 0 | 16 | 0 |
| **Total** | 22,067 MW | 47,021 MW | 36,894 MW | 25,133 MW | 264,938 MW | 2,042 MW |
| 129 | 229 | 166 | 113 | 1,232 | 12 |

LCRA looks forward to discussing its proposal at the next Planning Working Group (PLWG) meeting and is open to consideration of other methods for selecting and dispatching generators not applicable to paragraph (1) of Section 6.9 in the planning models.

Additionally, LCRA seeks clarity into certain language proposed by this PGRR. First, paragraph (4)(b) of Section 3.1.3, Project Evaluation, would require the independent review to evaluate the impact of removing certain generators from the model. Second, paragraph (8) of Section 3.1.4.1.1, Regional Transmission Plan Cases, introduces the concept of “reasonable advance notice” for generation added under paragraph (7) of Section 6.9. In both scenarios, we believe the Planning Guide could benefit from additional transparency that more specifically defines acceptable timing for notice and the metrics that will be considered for impact evaluation. We will be looking to gain more understanding about these points at the next PLWG meeting to determine the need to provide additional comments.

|  |
| --- |
| Revised Proposed Guide Language |

***3.1.3 Project Evaluation***

(1) ERCOT and the RPG shall evaluate proposed transmission projects using a variety of tools and techniques as needed to ensure that the system is able to meet applicable reliability criteria in a cost-effective manner. For most proposed projects, several alternatives will be identified to meet the reliability criteria or other performance improvement objectives that the proposed project is designed to meet. The project alternative with the expected lowest cost over the life of the project is generally recommended, subject to consideration of the expected long-term system needs in the area, including, as applicable, any evidence of Substantiated Load, and subject to consideration of the relative operational impacts of the alternatives.

(2) In some cases, one alternative may be to dispatch the system in such a way that all reliability requirements are met, even without the proposed transmission project or any transmission alternative, resulting in a less efficient dispatch than what would be required to meet the reliability requirements if the proposed project was in place. Consideration of the merits of this alternative relative to the proposed transmission project is more complex. To facilitate the discussion and consideration of these alternatives, ERCOT has adopted certain definitions and practices, described in paragraph (4) of Protocol Section 3.11.2, Planning Criteria, and Sections 3.1.3.1, Definitions of Reliability-Driven and Economic-Driven Projects, and 3.1.3.2, Reliability-Driven Project Evaluation below.

(3) In conducting an independent review of any project, ERCOT may, in its discretion, make adjustments to the planning case to ensure that the case reaches a solution. When conducting an independent review of any project classified as Tier 1 pursuant to Protocol Section 3.11.4, Regional Planning Group Project Review Process, ERCOT must provide reasonable advance notice to the RPG of any proposed adjustments and an opportunity for stakeholder comment on them.

(4) As part of its independent review of any project classified as Tier 1 pursuant to Protocol Section 3.11.4, ERCOT shall:

(a) Perform a generation sensitivity analysis. The generation sensitivity analysis will evaluate the effect that proposed Generation Resources in or near the study area will have on a recommended transmission project. Generation Resources that have signed Standard Generation Interconnection Agreements (SGIAs) but were not included in the study cases because they did not meet all of the requirements for inclusion in the cases pursuant to Section 6.9, Addition of Proposed Generation to the Planning Models, will be included in the sensitivity analysis. ERCOT shall not consider the results of the generation sensitivity analysis in determining project need during its independent review of the project; and

|  |
| --- |
| ***[PGRR118: Replace paragraph (a) above with the following upon system implementation of NPRR1246:]***(a) Perform a generation sensitivity analysis. The generation sensitivity analysis will evaluate the effect that proposed Generation Resources and/or ESRs in or near the study area will have on a recommended transmission project. Generation Resources and ESRs that have signed Standard Generation Interconnection Agreements (SGIAs) but were not included in the study cases because they did not meet all of the requirements for inclusion in the cases pursuant to Section 6.9, Addition of Proposed Generation to the Planning Models, will be included in the sensitivity analysis. ERCOT shall not consider the results of the generation sensitivity analysis in determining project need during its independent review of the project; and  |

(b) Evaluate impacts related to large generators in or near the study area that are included in the study cases but are not in the interconnection queue by removing those generators from the analysis. The results of this evaluation shall be included in the final recommendations in the independent review.

(5) ERCOT’s independent review shall incorporate and consider historical load and any Substantiated Load.

**3.1.4.1.1 Regional Transmission Plan Cases**

(1) The starting base cases for the Regional Transmission Plan development are created by removing all Tier 1, 2, and 3 projects that have not received RPG acceptance or, if applicable, ERCOT endorsement from the most recent SSWG base cases.

(2) ERCOT shall set all non-seasonal Mothballed Generation Resources to out of service in the Regional Transmission Plan reliability base cases. ERCOT shall add proposed Generation Resources that have met the criteria for inclusion in Section 6.9, Addition of Proposed Generation to the Planning Models, to the Regional Transmission Plan base cases.

|  |
| --- |
| ***[PGRR118: Replace paragraph (2) above with the following upon system implementation of NPRR1246:]***(2) ERCOT shall set all non-seasonal Mothballed Generation Resources and Mothballed ESRs to out of service in the Regional Transmission Plan reliability base cases. ERCOT shall add proposed Generation Resources and ESRs that have met the criteria for inclusion in Section 6.9, Addition of Proposed Generation to the Planning Models, to the Regional Transmission Plan base cases.  |

(3) ERCOT shall update the Regional Transmission Plan reliability and economic base cases to reflect any updates to the amount of Switchable Generation Resource (SWGR) capacity available to the ERCOT Region.

(4) ERCOT may, in its discretion, set a Generation Resource to out of service in the Regional Transmission Plan base cases prior to receiving a Notification of Suspension of Operations (NSO) if the Resource Entity notifies ERCOT of its intent to retire/mothball the Generation Resource and/or makes a public statement of its intent to retire/mothball the Generation Resource. ERCOT must provide reasonable advance notice to the RPG of any proposed Generation Resource retirements/mothballs and allow an opportunity for stakeholder comments.

(a) ERCOT will post and maintain the current list of Generation Resources that will be set to out of service pursuant to paragraph (4) above on the ERCOT website.

|  |
| --- |
| ***[PGRR118: Replace paragraph (4) above with the following upon system implementation of NPRR1246:]***(4) ERCOT may, in its discretion, set a Generation Resource or ESR to out of service in the Regional Transmission Plan base cases prior to receiving a Notification of Suspension of Operations (NSO) if the Resource Entity notifies ERCOT of its intent to retire/mothball the Resource and/or makes a public statement of its intent to retire/mothball the Resource. ERCOT must provide reasonable advance notice to the RPG of any proposed Resource retirements/mothballs and allow an opportunity for stakeholder comments.(a) ERCOT will post and maintain the current list of Generation Resources and ESRs that will be set to out of service pursuant to paragraph (4) above on the ERCOT website.  |

(5) In its Regional Transmission Plan studies, ERCOT shall first consider transmission needs without Remedial Action Scheme (RAS) actions. After evaluating these needs, ERCOT may model a RAS in the Regional Transmission Plan cases only if ERCOT’s initial studies did not identify a transmission project to exit the RAS or if a transmission project to exit the RAS is not expected to be in service by the season and year the case represents.

|  |
| --- |
| ***[PGRR113: Replace paragraph (5) above with the following upon system implementation of NPRR1198:]***(5) In its Regional Transmission Plan studies, ERCOT shall first consider transmission needs without Remedial Action Scheme (RAS) or Constraint Management Plan (CMP) actions. After evaluating these needs, ERCOT may model a RAS or CMP in the Regional Transmission Plan cases only if ERCOT’s initial studies did not identify a transmission project to exit the RAS or CMP, or if a transmission project to exit the RAS or CMP is not expected to be in service by the season and year the case represents. |

(6) ERCOT may, in its discretion, make other adjustments to any Regional Transmission Plan base case to ensure that the case reaches a solution. ERCOT must provide reasonable advance notice to the RPG of any proposed adjustments and an opportunity for stakeholder comment on them.

 (7) ERCOT shall apply a reliability margin on applicable Interconnection Reliability Operating Limits (IROLs) and/or stability-related system operating limits, consistent with the ERCOT operating procedures when such limits are modeled in the Regional Transmission Plan reliability and economic cases. ERCOT shall use the current operating limit with reliability margin applied or best available information in determining the appropriate modeled limit for the future year being evaluated.

(8) ERCOT must provide reasonable advance notice to the RPG of additional generation proposed to be added to the base cases in accordance with paragraph (5) of Section 6.9, and an opportunity for stakeholder comment.

***5.2.1 Applicability***

(1) The requirements in Section 5, Generator Interconnection or Modification, apply to the following:

(a) Any Entity proposing to interconnect any generator with an aggregate nameplate capacity of one MW or greater, including but not limited to any Generation Resource or Energy Storage Resource (ESR), to the ERCOT System;

(b) Any Entity proposing to interconnect a Settlement Only Generator (SOG) to the ERCOT System; or

(c) Any Resource Entity seeking to modify a Generation Resource, ESR, or SOG that is connected to the ERCOT System by:

(i) Increasing the real power rating from that shown in the latest Resource Registration data by one MW or greater within a single year;

(ii) Changing the inverter, turbine, generator, or power converter associated with a facility with an aggregate real power rating of ten MW or greater, unless the replacement is in-kind;

|  |
| --- |
| ***[PGRR118: Replace paragraph (ii) above with the following upon system implementation of NPRR1246:]***(ii) Changing the inverter, turbine, generator, battery modules, or power converter associated with a facility with an aggregate real power rating of ten MW or greater, unless the replacement is in-kind; |

(iii) Modifying any control settings or equipment of Inverter-Based Resources (IBRs) that impact the dynamic response (such as voltage, frequency, and current injections) at the Point of Interconnection (POI) in a manner that is deemed to require further study in accordance with the process outlined in paragraph (6) of Section 5.5, Generator Commissioning and Continuing Operations;

(iv) Changing or adding a POI to a facility with an aggregate real power rating of ten MW or greater; or

(v) Increasing the aggregate nameplate capacity of a generator less than ten MW to ten MW or greater.

(2) For the purposes of Section 5, the term “generator” includes but is not limited to a Generation Resource, SOG, and ESR.

(3) For the purposes of determining the appropriate requirements in Section 5, a generator is considered a “large generator” if it currently has or is proposed to have an aggregate nameplate capacity of ten MW or greater. A generator is considered a “small generator” if it currently has or is proposed to have an aggregate nameplate capacity of less than ten MW.

(4) Notwithstanding paragraph (3), above, if a Resource Entity is proposing to increase the real power rating of an existing generator by one MW or greater but less than ten MW, that generator shall be considered a small generator for the purposes of the interconnection process described in Section 5.

(5) Notwithstanding paragraphs (3) and (4), above, if a Resource Entity is proposing to increase a generator’s real power rating by ten MW or more, or is proposing to increase a generator’s real power rating from less than ten MW to ten MW or more, that generator shall be considered a large generator for the purposes of the interconnection process described in Section 5.

(6) For the purposes of determining the appropriate requirements in Section 5, ERCOT may require two or more separate generator interconnection requests to the same substation to follow the interconnection process applicable to the large generators, if, following the proposed change, those generators would have an aggregate nameplate capacity of ten MW or greater, and the projects are proposed by the same Entity or Affiliates.

(7) For a new or modified generator that has been designated as a Self-Limiting Facility or as a component of a Self-Limiting Facility, the categorization of the generator as a small generator or large generator pursuant to paragraphs (3) through (5) above shall be determined using the Self-Limiting Facility’s established limit on the total MW Injection, or if applicable, the proposed increase in that value instead of the nameplate capacity of the Self-Limiting Facility.

5.3.2 Full Interconnection Study

(1) An FIS consists of the set of steady-state, stability, short-circuit, facility, and/or other relevant studies that are necessary to determine the reliability impact of a large generator on affected Transmission Facilities and identify the Transmission Facilities that are needed to reliably interconnect the new or modified generator to the ERCOT System. The FIS is not intended to determine the deliverability of power from the proposed Generation Resource to market or to ensure that the proposed Generation Resource does not experience any congestion-related curtailment.

|  |
| --- |
| ***[PGRR118: Replace paragraph (1) above with the following upon system implementation of NPRR1246:]***(1) An FIS consists of the set of steady-state, stability, short-circuit, facility, and/or other relevant studies that are necessary to determine the reliability impact of a large generator on affected Transmission Facilities and identify the Transmission Facilities that are needed to reliably interconnect the new or modified generator to the ERCOT System. The FIS is not intended to determine the deliverability of power from the proposed Generation Resource or ESR to market or to ensure that the proposed Generation Resource or ESR does not experience any congestion-related curtailment. |

(2) For an interconnection request involving a large generator interconnecting at distribution voltage, the FIS shall evaluate only the transmission-level impacts, if any, of the proposed generator, and the affected DSP shall provide the lead TSP all information concerning the DSP’s facilities or the proposed generator interconnection as may be requested by the TSP for the purpose of completing any one or more FIS studies.

(3) To initiate an FIS, the IE must submit each of the following via the online RIOO system:

(a) A request to proceed with the FIS via the online RIOO system;

(b) Complete Resource Registration data in the format prescribed by ERCOT with applicable information required for interconnection studies identified in the Resource Registration Glossary for the applicable Resource type;

(c) An FIS Application Fee as described in the ERCOT Fee Schedule in the ERCOT Nodal Protocols, with the MW amount determined based on:

(i) The MW of additional installed capacity for GIMs not meeting paragraph (1)(c)(ii) of Section 5.2.1, Applicability; or

(ii) Total MW capacity for GIMs meeting paragraph (1)(c)(ii) of Section 5.2.1;

(d) Proof of site control as described in Section 5.3.2.1, Proof of Site Control; and

(e) A declaration in Section 8, Attachment C, Declaration of Department of Defense Notification, certifying that:

(i) The IE has notified the Department of Defense (DOD) Siting Clearinghouse of the proposed Generation Resource and requested an informal or formal review as described in 32 C.F.R. § 211.1; or

(ii) The IE’s proposed Generation Resource is not required to provide notice to the DOD and Federal Aviation Administration (FAA) because the project does not meet the criteria requiring notice to the FAA under 14 C.F.R. § 77.9.

|  |
| --- |
| ***[PGRR118: Replace paragraph (e) above with the following upon system implementation of NPRR1246:]***(e) A declaration in Section 8, Attachment C, Declaration of Department of Defense Notification, certifying that: (i) The IE has notified the Department of Defense (DOD) Siting Clearinghouse of the proposed Generation Resource or ESR and requested an informal or formal review as described in 32 C.F.R. § 211.1; or (ii) The IE’s proposed Generation Resource or ESR is not required to provide notice to the DOD and Federal Aviation Administration (FAA) because the project does not meet the criteria requiring notice to the FAA under 14 C.F.R. § 77.9. |

(4) To initiate an FIS stability study, the IE must submit via the online RIOO system the required dynamic model for the proposed generator and results of the model quality tests and associated simulation files as described in paragraph (5)(c) of Section 6.2, Dynamics Model Development, subject to performance and usability verification by the lead TSP with approval from ERCOT through the FIS process. Dynamic model data shall be provided using the appropriate dynamic model template. Paragraph (5) of Section 6.2 and the Dynamics Working Group Procedure Manual contain more detail and IE dynamics data requirements. Data submitted for transient stability models shall be compatible with the current version of the planning and operations model software as described in the Dynamics Working Group Procedure Manual. If no compatible model exists, the IE shall work with a consultant or software vendor to develop and supply accurate and appropriate models along with other associated data. These models shall be incorporated into the standard model libraries of all software packages.

(5) The IE can request an FIS for an active project before completion of the Security Screening Study or at any other time after ERCOT deems the initial GIM application complete, but must comply with the timeline set forth in paragraph (5) of Section 5.3.1, Security Screening Study. Requesting both studies at the same time may shorten the overall time to complete the GIM process due to overlap of work on both studies.

(6) Payment of the ERCOT FIS Application Fee does not affect the IE’s independent responsibility to pay for FIS studies conducted by the TSP or for any DSP studies.

(7) ERCOT shall manage a confidential email list (Transmission Owner Generation Interconnection) to facilitate communication of confidential GIM-related information among TSP(s) and ERCOT. Membership to this email list will be limited to ERCOT and appropriate TSP personnel.

(8) If any of the items required for the FIS request pursuant to paragraph (3) above are deemed not acceptable by ERCOT or are not submitted, then the IE must submit any omitted items and resolve and resubmit any deficient items. If the FIS request is not deemed complete by ERCOT within 60 days of submission of the FIS request, the FIS will be considered to have not been requested for the purpose of meeting paragraph (5) of Section 5.3.1. If the 180-day limit specified in paragraph (5) of Section 5.3.1 has expired, the GIM will be cancelled immediately. If the 180-day limit has not expired and the deficiency is not resolved before the 180-day limit, the GIM will be cancelled upon expiration of the 180-day limit.

**6.9 Addition of Proposed Generation to the Planning Models**

(1) For large generators meeting the conditions of paragraph (1) of Section 5.2.1, Applicability, ERCOT will include applicable generation in the base cases created and maintained by the Steady State Working Group (SSWG) once each of the following has occurred:

(a) The Interconnecting Entity (IE) has posted to the online Resource Integration and Ongoing Operations (RIOO) systems all data required in the Security Screening Study, if the Full Interconnection Study (FIS) has not started, or the FIS, if the FIS has started;

(b) The IE has posted to the online RIOO system documentation that it has received all necessary Texas Commission on Environmental Quality (TCEQ)-approved air permits or that no such permits are required and ERCOT has accepted the IE’s submission;

(c) The IE has submitted via the online RIOO system a completed Declaration of Adequate Water Supplies (Section 8, Attachment B, Declaration of Adequate Water Supplies; generation types exempt from this requirement are cited in Attachment B); and

(d) ERCOT receives one of the following via the online RIOO system:

(i) A signed Standard Generation Interconnection Agreement (SGIA) from the Transmission Service Provider (TSP) and a written notice from the TSP that the IE has provided:

(A) A notice to proceed with the construction of the interconnection; and

(B) The financial security required to fund the interconnection facilities; or

(ii) A public, financially binding agreement between the IE and the TSP under which the interconnection for the applicable generation will be constructed along with:

(A) A written notice from the TSP that the IE has provided notice to proceed with the construction of the interconnection; and

(B) The required financial security; or

(iii) A letter from a duly authorized official from a Municipally Owned Utility (MOU) or Electric Cooperative (EC) confirming the Entity’s intent to construct and operate applicable generation and interconnect such generation to its own transmission system.

(2) Upon receiving notice from ERCOT that the large generator has met the requirements of paragraph (1) above, the IE shall provide within 60 days the remaining required data as specified in the Resource Registration Glossary, Planning Model column, using the applicable Resource Registration process. The purpose of submitting the data is for modeling of the applicable generation in the base cases created and maintained by the System Protection Working Group (SPWG) and the Dynamics Working Group (DWG).

(3) For small generators meeting the conditions of paragraph (1) of Section 5.2.1, ERCOT will include applicable generation in the base cases created and maintained by the SSWG, SPWG, and DWG once ERCOT has determined that the IE has submitted all data required on the Resource Registration form and after inclusion of the generator in the Network Operations Model.

(4) Once the IE has met these requirements, ERCOT will notify the SSWG, SPWG, and DWG that the applicable generation will be included in the base cases created and maintained by these working groups.

(5) ERCOT may include large generators that have not met all of the requirements of paragraph (1) above in the base cases created and maintained by SSWG to ensure that sufficient generation is available to meet the demand in the base cases. These large generators may be added to the base cases in the following order until the demand is met:

(a) Large generators that meet the conditions of paragraph (1) of Section 5.2.1, and have a signed SGIA submitted by the TSP via the online RIOO system;

(b) Large generators that meet the conditions of paragraph (1) of Section 5.2.1, and have completed the FIS;

(c) Large generators that meet the conditions of paragraph (1) of Section 5.2.1, and have started the FIS; and

(d) Additional generation outside of the interconnection queue based on ERCOT’s discretion.

(6) Upon receiving notice from ERCOT that the large generator will be added to the base cases in accordance with paragraphs (5)(a) or (5)(b) above, the IE shall provide dynamic models to be used by the DWG within 60 days. Such large generators must still comply with all other applicable requirements after satisfying the requirements of paragraph (1) above.

(7) For each group of large generators defined in paragraph (5), all large generators in a group shall be modeled in the base case and shall be dispatched in equal proportion according to fuel and/or technology type.