



# NPRR1328 Generation Firming Program

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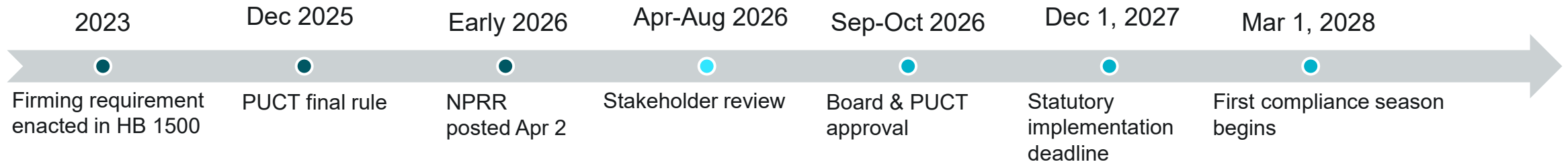
## Outline:

- ERCOT received 39 comments from 4 stakeholders covering various subject areas
- Detailed feedback matrix shows ERCOT responses
- Revised formula proposed for the Firming Capacity Penalty Quantity (FCPQ) for non-obligated transmission connected Generation Resources

## Key Takeaways

- ERCOT will address remaining comments at upcoming stakeholder meetings, and revise NPRR1328 language

# Recap: NPRR1328 establishes the Generation Firming Program



- Requires new Generation Resources (original Standard Generation Interconnection Agreement  $\geq$  Jan 1, 2027) to operate or be available at or above their Seasonal Average Generation Capability (SAGC), either through their own performance or by securing trades, during hours when the Physical Responsive Capability (PRC) falls below 3,000 MW for at least 15 consecutive minutes within an ERCOT defined baseline period.
- Penalties for Generation Resources that fail to comply and incentives for those that exceed the requirement, funded from the penalty pool.
- On Apr 15, 2026, Protocol Revision Subcommittee (PRS) voted to grant NPRR1328 Urgent status, then tabled and referred the issue to Wholesale Market Subcommittee (WMS).
- On May 8, 2026, WMS reviewed NPRR1328 and voted to request PRS to continue to table the NPRR for further review by Wholesale Market Working Group (WMWG).
- Urgent status was requested to allow time for implementation given the statutory Dec 1, 2027 deadline.  
**Targeting Sep 2026 Board approval.**

# TSSA Feedback Matrix (1 of 3)

#	Comment	ERCOT Response	Disposition
1	Low Operation Reserve Hour (LORH) definition — language should read "a maximum of 15 hours" rather than "no more than 15 hours"	Both phrases are grammatically correct; protocol wording uses 'no more than' more often.	Reject
2	Add sentence in LORH definition clarifying no performance requirement exists in a season with no LORHs.	Instead of the LORH definition, ERCOT will include the sentence in §28.1(2) for clarity, consistent with Rule language.	Partially Accept
3	Private Use Network (PUN) co-location provision (§28.2.1(2)(g)) is not an "exemption". Language should say "not applicable" rather than "exemption".	ERCOT will review this.	Pending
4	30-day deadline to submit PUN co-location attestation is restrictive; suggest end-of-season or longer window.	ERCOT believes the 30-day deadline is sufficient. If stakeholders can provide examples where this is unduly restrictive, longer window can be considered, e.g., 45 days.	Further Review
5	Need explicit mechanism to withdraw a PUN co-location attestation (e.g., if co-located load arrangement ends).	Notice of Change of Information (NCI) form can be used for this purpose. ERCOT will consider if any change is needed for NPRR1328 language.	Further Review
6	§28.1 says resources must "demonstrate the ability" to operate; PUCT commentary suggests the intent is "to incentivize" performance rather than merely demonstrate capability	Rule §(e)(1) states "generation facility may satisfy the facility's performance requirements". Also, no incentives awarded in a season in which no penalties imposed. ERCOT believes the NPRR language is consistent with the Rule.	Reject

# TSSA Feedback Matrix (2 of 3)

#	Comment	ERCOT Response	Disposition
7	Rule uses Commercial Operation Date (COD); NPRR uses 'Resource Commissioning Date'. PUCT rejected ERCOT's use.	ERCOT will review this.	Pending
8	§28.2.1(3): 30-day attestation timeline same issue as #4.	See ERCOT response to #4.	Further Review
9	§28.3.1(1)&(2): Can periods for both SAGC and Baseline Period posting be 30 days?	ERCOT believes the current 10 day time period is sufficient, given that QSEs are allowed to submit Firming Transfers during the season and even after the season ends, up to the deadline.	Reject
10	NPRR states ERCOT may file post-season report with quarterly report - is this a timeline discrepancy?	ERCOT will review this.	Pending
11	PUCT Order (pg 35) requires ERCOT to 'develop standards' for Firming Baseline Period; suggest memorializing methodology in NPRR.	Methodology explained at May 8 WMS meeting. ERCOT will add language to the NPRR.	Accept
12	Note explicitly in NPRR that changing Firming Baseline Period hours requires an NPRR, not an administrative update.	Explained to stakeholders at May 8 WMS meeting. ERCOT will consider whether a language change to the NPRR is needed.	Further Review
13	§28.5: If post-season confirmation window is only 30 days, are obligated resources 'on the hook' while arranging transfers?	No financial obligation until RTM Final Settlement (~55 days after operating day), providing adequate time.	Reject

# TSSA Feedback Matrix (3 of 3)

#	Comment	ERCOT Response	Disposition
14	Add specific Firming Transfer timelines in §28.5: 15 days to submit, 10 days for ERCOT to process, 10 days to cure.	ERCOT will review this.	Pending
15	Remove one confirmed Firming Transfer per Resource pair per hour limitation.	ERCOT’s comment clarified that limit is per Resource pair — to ensure tractability. Open to further discussion if stakeholders can provide specific use cases.	Further Review
16	What is the process if a QSE disagrees with its SAGC calculation?	ERCOT will review this.	Pending
17	§28.6 Table: Add citation to relevant protocols section for Resource registration.	ERCOT will review this.	Pending
18	§28.7 title uses 'Exemptions' - should say 'not applicable' for resources providing Firming Service via transfer.	The Rule explicitly references financial penalty 'exemptions' in (f)(2).	Reject
19	Suggest adding 'for the applicable hour' for SWGR in §28.7(1)(e) to match Rule language.	§28.7(1) states '...applicable during a Low Operation Reserve Hour'; no further change needed.	Reject
20	Clarify what 'partial exemption' means in §28.7(2).	The FCPQ formula credits DAM energy and AS awards - this is the 'partial' relief.	Clarified
21	Suggests modifying language in Section 28.8 (1) for clarity: "...if the assuming Resource fails..." rather than current phrasing "...if that Resource fails...".	ERCOT will review this.	Pending

# NextEra Feedback Matrix

#	Comment	ERCOT Response	Disposition
1	SAGC calculation - Seasonal HSL values availability in RIOO; alignment with Resource Asset Registration Form (RARF) process.	ERCOT confirmed Seasonal rated values used in SAGC calculations will be available in RIOO.	Clarified
2	Any approved derate results in 100% exemption for the hour (no proration). Consistent with the Rule?	ERCOT confirmed that the full-exemption treatment for any approved derate reflects the Rule.	Clarified
3	DAM energy and AS awards reduce firming obligations MW-for-MW but don't change SAGC. Should credits be capped at telemetered HSL?	Rule separates firming obligation (SAGC) from penalty exemptions. Neither Rule nor commentary caps DAM award exemption to RT telemetered HSL.	Reject
4	Review interaction between Day Ahead awards, firming purchases, and FCPQ formula - does it fully reflect portion-based DAM exemptions?	ERCOT believes the current formula appropriately reflects partial exemptions for DAM awards.	Clarified
5	30-day PUN exemption filing deadline - necessary or consistent with PUCT rule? Specific concern: resource enters PUN arrangement post-commissioning.	(1) 30-day period: See above, response #4 to TSSA. (2) ERCOT will look into the specific scenario where a generation resource enters a PUN arrangement later (e.g. load added behind-the-meter after commissioning).	Further Review
6	Overperformance incentives — ERCOT stated that incentives are allocated to the original obligated resource when another resource provides firming.	Only resources subject to firming performance obligations under Section 28.2.1 are eligible for incentive payments. ERCOT will review the formula and variable definitions to ensure this is unambiguous.	Further Review
7	Ensure alignment in RIOO of Seasonal HSL data used in SAGC calculations with QSE updates ahead of winter/summer seasons.	ERCOT will review this.	Pending
8	Assess settlement implementation of 15-minute PRC trigger logic - confirm alignment between rule intent and system execution.	A Low Operation Reserve Hour requires 15 consecutive minutes of PRC below 3,000 MW within a single operating hour. For such 15 consecutive minutes straddling an hour boundary neither hour is triggered.	Clarified

# TCPA Feedback Matrix (1 of 2)

#	Comment	ERCOT Response	Disposition
1	Add GenFirmingExemptFlag to indicate exemption status per Resource per LORH (§28.7(1)); without it QSEs cannot verify obligations.	ERCOT agrees with the need to provide transparency to QSEs, but disagrees with adding specific language to the NPRR for this. ERCOT will provide more information about this later.	Reject
2	NERC probabilistic high-risk hours should be included in Firming Baseline Period definition (§2.1 and §28.4(2)), with 15-LORH cap still applying. ERCOT should determine whether any high-risk hours take priority over morning/evening ramp hours.	High-risk hours already reflected in §28.4(2). Baseline Period includes morning/evening ramp hours plus NERC high-risk hours. 15-hour seasonal cap is for LORHs. Rule does not consider any prioritization between ramp hours and high-risk hours.	Reject
3	Add subscript (sm) for historical year in SAGC formula (§28.6(1)); revise variable definitions to exclude SCED intervals exempted in prior seasons.	Rule does not consider exemptions in the calculation of SAGC.	Reject
4	Edit FCPQ formula (§28.8(5)): Resources providing Firming Service via confirmed Firming Transfer should not be eligible for §28.7 exemptions. Proposes conditional structure.	§28.7(3) states the policy in words. ERCOT will review the concern regarding the formula in §28.8 (5).	Further Review
5	Edit FCIQ formula (§28.9(3)): Firming resource (seller) should not be eligible for overperformance incentive for MWs used to satisfy its firming obligation.	§28.9(1) states the policy in words. ERCOT will review the concern regarding the formula in §28.9 (3).	Further Review

## TCPA Feedback Matrix (2 of 2)

#	Comment	ERCOT Response	Disposition
6	One confirmed Firming Transfer per buying/selling QSE pair per hour limit is problematic for multi-hour transfers that overlap by even one hour. Suggest deleting.	ERCOT's comment clarified that the limitation is one transfer per Resource pair per hour. ERCOT will look into the question of overlapping transfers.	Further Review
7	Add 'Generation' prefix to all program-specific definitions and section titles for clarity and consistency with program name.	ERCOT will review this.	Pending
8	§28.3.2 (Post-Season): ERCOT should post exemption status per LORH and long/short quantity per Resource, so QSEs can verify performance.	ERCOT can include the exemption status in the post-season reporting.	Accept
9	Change minimum Firming Transfer amount in §28.5.1(5) from 1 MW to 0.1 MW.	ERCOT believes that a minimum amount of 1 MW is appropriate for Firming Transfers.	Reject

# Formula Issue with Firming Capacity Penalty Quantity (FCPQ)

Based on feedback from CIMView and TCPA

**Issue:** Non-obligated Transmission connected Generation Resource selling firming capacity incurs a disproportionate penalty during low operation reserve hour compared to similar resource which does not sell firming capacity.

## Current Formula

$$\text{FCAV} = \text{HATHSL} - \text{SAGC} + \text{FTCP}$$

Example: 100 MW resource, SAGC=75, sells 1 MW, forced OUT (i.e. HATHSL = 0)

$$\begin{aligned}\text{FTCS} &= 1 \text{ MW}, \text{FTCP} = 0 \text{ MW} \\ \text{FTRQ} &= \text{FTCS}\end{aligned}$$

$$\text{FCAV} = 0 - 75 + 0 = -75 \text{ MW}$$

$$\begin{aligned}\text{FCPQ} &= \text{Max}(0, \text{FCRQ} - \text{FCAV}) \\ &= \text{Max}(0, 1 - (-75)) = 76 \text{ MW} \triangle\end{aligned}$$

*Resource incurs 76 MW penalty for selling only 1 MW.*

## Proposed ERCOT Revision

$$\text{FCAV} = \text{Max}(0, \text{HATHSL} - \text{SAGC} + \text{FTCP})$$

Example: same resource

$$\begin{aligned}\text{FTCS} &= 1 \text{ MW}, \text{FTCP} = 0 \text{ MW} \\ \text{FTRQ} &= \text{FTCS}\end{aligned}$$

$$\text{FCAV} = \text{Max}(0, 0 - 75 + 0) = 0 \text{ MW}$$

$$\begin{aligned}\text{FCPQ} &= \text{Max}(0, \text{FCRQ} - \text{FCAV}) \\ &= \text{Max}(0, 1 - 0) = 1 \text{ MW} \checkmark\end{aligned}$$

*Resource correctly penalized for only the 1 MW sold.*

TCPA May 19, 2026 Comments propose  $\text{FCPQ} = \text{Min}(\text{Max}(0, \text{FCRQ} - \text{FCAV}), (\text{FTCS} - \text{FTCP}))$

- **Concern 1:** Assume resource sold 1 MW & purchased 1 MW. No penalty despite lack of performance.
- **Concern 2:** Assume resource sold 1 MW & purchased 75 MW. Then FCPQ = -74 MW. No penalty even though purchase only satisfied the performance obligation, not the sold amount.

## Next Steps

- ERCOT will review pending items and responses to any additional stakeholder feedback at future stakeholder meetings.
- ERCOT plans to file comprehensive comments to revise NPRR 1328 language.

# Thank you!

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## Performance requirement is based on historical data on availability

- ERCOT must calculate the SAGC for all Generation Resources:

$$SAGC = \min \left\{ \left( \frac{1}{n} \sum_{i=1}^n \frac{HSL_i}{SRC_i} \right), 0.75 \right\} \times SRC_t$$

For example, a wind plant with SRC = 100 MW and 5-year avg HSL/SRC ratio of 0.35:

SAGC = min(0.35, 0.75) \* 100 MW = 35 MW.

Where:

- SAGC = Seasonal Average Generation Capability
- HSL = Real-Time telemetered High Sustained Limit
- SRC = Seasonal Rated Capacity (i.e., the applicable Seasonal net maximum sustainable rating, as registered with ERCOT)
  - $SRC_t$  = SRC at the start of the compliance season  $t$
  - $SRC_i$  = SRC in the historic interval  $i$
- $n$  = Total number of SCED intervals from same season for up to previous 5 years
- To ensure that high-performing generators are not overly penalized, the Public Utility Commission of Texas (PUCT) created an upper bound on the SAGC of 75%.
- Pre-Season posting:** ERCOT shall post the SAGCs for the upcoming season at least 10 days before the beginning of the season.