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| NPRR Number | [1229](https://www.ercot.com/mktrules/issues/NPRR1229) | NPRR Title | Real-Time Constraint Management Plan Energy Payment |
| Date Posted | | May 6, 2024 | |
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| Requested Resolution | | Urgent. Transmission operations are changing to match the dynamic created by high Load growth and an evolving Resource mix that now requires ERCOT to contemplating operating the transmission system in atypical configurations. Some of those include configurations applied through Constraint Management Plans (CMPs) or ERCOT directed switching actions that significantly increase the risk of tripping dispatchable Resources. This NPRR creates a process that compensates a Qualified Scheduling Entity (QSE) for certain costs when a CMP results in the Forced Outage of the Resource.  This NPRR is requested on an Urgent basis to address risks for this summer that mirror those seen last summer where the employment of ERCOT directed switching actions created an atypical transmission configuration which subjected a Resource to increased risk of tripping. The risk of tripping the Resource improved transfer capability for the entire ERCOT System while potentially subjecting a single Entity to bearing the cost of that action. Requiring one Entity, or group of Entities, to bear the risk for the benefit of the remainder of the ERCOT System should be compensated when specific conditions are met and the Resource is forced Off-Line. | |
| Nodal Protocol Sections Requiring Revision | | 6.6.3.9, Real-Time Constraint Management Plan Energy Payment (new) | |
| Related Documents Requiring Revision/Related Revision Requests | | None | |
| Revision Description | | This Nodal Protocol Revision Request (NPRR) creates a process that compensates a QSE when a CMP or ERCOT-directed switching instruction implemented by ERCOT causes the trip of a Generation Resource when it would not have occurred absent those conditions. | |
| Reason for Revision | | [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 1 – Be an industry leader for grid reliability and resilience  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 2 - Enhance the ERCOT region’s economic competitiveness with respect to trends in wholesale power rates and retail electricity prices to consumers  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 3 - Advance ERCOT, Inc. as an independent leading industry expert and an employer of choice by fostering innovation, investing in our people, and emphasizing the importance of our mission  General system and/or process improvement(s)  Regulatory requirements  ERCOT Board/PUCT Directive  *(please select ONLY ONE – if more than one apply, please select the ONE that is most relevant)* | |
| Justification of Reason for Revision and Market Impacts | | The changing Resource mix coupled with the dynamic of substantially increased load growth has put more strain on the ERCOT grid and the management of power flows. This is evidenced by a proliferation of Generic Transmission Constraints (GTCs) and CMPs, and the occasional use of ERCOT-directed switching instructions. Last summer, to support matching the available supply to demand, ERCOT implemented atypical transmission procedures or configurations to improve energy transfers across the system. Because of the enormous power transfer from south Texas to central and north Texas, ERCOT had to redispatch a vast number of Resources with very low Shift Factors and directed the switching of transmission equipment in an atypical configuration that placed a thermal Resource closer to risk of tripping to manage a post-contingency overload. A Resource should be compensated if the Resource is ultimately tripped Off-Line due to ERCOT actions taken in an effort to support reliability. A Resource that experiences a Forced Outage due to actions taken by ERCOT to benefit the remaining ERCOT System should be allowed to recover certain costs associated with that Forced Outage.  The language and concepts added by this NPRR are borrowed from similar mechanism with make-whole provisions (High Dispatch Limit (HDL) override payments, Outage Schedule Adjustment (OSA) make-whole payments, Reliability Unit Commitment (RUC) make-whole payments). In addition, there is consideration for Outage costs due to a Forced Outage resulting from an enacted CMP. The Settlement would be handled as a Settlement dispute initiated by the QSE. | |

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| Proposed Protocol Language Revision |

**6.6.3.9 Real-Time Constraint Management Plan Energy Payment**

(1) If a Generation Resource trips Off-Line as a result of or subsequent to the implementation of a Constraint Management Plan (CMP) directly impacting transmission equipment connected to the Generation Resource or issues a Verbal Dispatch Instruction (VDI) to a Generation Resource or its Transmission Operator to operate its equipment to produce the same effect, and the QSE suffers a demonstrable financial loss, the QSE may be eligible for a Real-Time Constraint Management Plan Energy Payment, as calculated below, upon providing documented proof of that loss. In order to qualify for this payment the QSE must:

(a) Have impacted the Generation Resource On-line with breaker closed;

(b) Have tripped Off-Line following implementation of a CMP directly impacting transmission equipment connected to the Generation Resource or a VDI to the Generation Resource or its Transmission Operator to operate equipment to produce the same effect;

(c) Have incurred a demonstrable financial loss in consequence of the CMP directly impacting transmission equipment connected to the Generation Resource or a VDI to the Generation Resource or its Transmission Operator to operate equipment to produce the same effect; and

(d) File a timely Settlement and billing dispute, including the following items:

(i) An attestation signed by an officer or executive with authority to bind the QSE;

(ii) The dollar amount and calculation of the financial loss by Settlement Interval, including:

(A) Financial losses associated with:

(1) Variable cost components of DAM obligations; or

(2) Energy purchase or sale provisions of bilateral contracts, including wholesale power contracts or other contracts of Electric Cooperatives (ECs) or Municipally Owned Utilities (MOUs) to serve their Loads; or

(3) Opportunity costs in the Real-Time Market (RTM) if the Resource does not meet items (1) or (2) above; and

(B) Actual and indirect costs incurred due a Forced Outage. Such costs include, but are not limited to:

(1) Costs associated with a Forced Outage if the result of the trip is due to the implementation of the CMP or equivalent VDI;

(2) Additional staff or contractor time as a result of the Forced Outage;

(3) Costs of equipment rental (including but not limited to cranes, manlifts, welding machines, etc.);

(4) Costs of facility rentals and other incidental incremental costs incurred by the Resource, its QSE, or its fuel supplier (e.g. mine-related expenses) created by the Forced Outage; and

(5) The cost of materials to be repaired or replaced that is a direct result of the Forced Outage.

(iii) An explanation of the nature of the loss and how it was attributable to the CMP or equivalent VDI issued by ERCOT; and

(iv) Sufficient documentation to support the QSE’s calculation of the amount of the financial loss.

(2) The time frame to be included in CMP Energy Payment calculation will start at the Settlement Interval of initial trip and will conclude in the Settlement Interval at the soonest of:

(a) The Generation Resource is On-Line and available for Dispatch as per telemetry;

(b) The first hour of availability for ERCOT Dispatch (e.g. Resource Status other than OUT) as per the COP; or

(c) The latest planned end of the Generation Resource Outage as shown in the Outage Scheduler.

(3) ERCOT may request additional supporting documentation or explanation with respect to the submitted materials within 15 Business Days of receipt. Additional information requested by ERCOT must be provided by the QSE within 15 Business Days of ERCOT’s request. ERCOT will provide Notice of its acceptance or rejection of the claim for the Real-Time Constraint Management Plan Energy Payment within 15 Business Days of the updated submission.

(4) The Energy Offer Curve used to calculate the Real-Time Constraint Management Plan Energy Payment will be the current Mitigated Offer Curve for the Generation Resource that was effective for the disputed interval(s) when the CMP or equivalent VDI was active.

(5) The Startup costs available for the Generation Resource will be limited to the lesser of:

(a) The most recent valid Day-Ahead Startup Offer received for the Generation Resource; or

(b) The Day-Ahead Startup Cap for the Resource’s Category Startup Offer Generic Cap unless ERCOT has approved verifiable unit-specific Startup Costs for the Resource.

(6) The payment shall be calculated as follows:

CMPEAMT = (-1){(Max (0, (RTSPP*p* – MOC*q, r, h*)) \* HSL*q, r, h* \* (¼))} + SUPR*q, p, r* + CMPLOAL*q, r, p, i*

SUPR*q, p, r* = Min(SUO*q, p, r*, SUCAP*q, p, r*)

Where: If the QSE submitted a validated Three-Part Supply Offer for the Resource,

Then, SUPR *q, r, s* = Min (SUO *q, r, s*, SUCAP *q, r, s*)

Otherwise, SUPR *q, r, s* = SUCAP *q, r, s*

If ERCOT has approved verifiable Startup Costs and minimum-energy costs for the Resource,

Then, SUCAP *q, r, s* = verifiable Startup Costs *q, r, s*

Otherwise, SUCAP *q, r, s* = RCGSC *s*

The above variables are defined as follows:

| **Variable** | **Unit** | **Definition** |
| --- | --- | --- |
| CMPLOAL *q, r, p, i* | $ | *Constraint Management Plan attested losses*—The financial loss to the QSE due trip Off-Line of Resource following implementation of CMP or equivalent VDI as attested by the QSE in accordance with paragraph (1)(d) above. |
| CMPEAMT *q, r, p, i* | $ | *Constraint Management Plan energy amount per QSE per Generation Resource*—The payment to QSE *q* during eligible hours of a trip offline from an ERCOT-issued CMP or equivalent VDI for Generation Resource *r* at Settlement Point *p* for the 15-minute Settlement Interval *i*. For a combined cycle Resource, *r* is a Combined Cycle Train. |
| SUPR *q, r, s* | $/MWh | *Startup Price*—The Settlement price for Resource *r* represented by QSE *q* for the start *s*. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train. |
| SUO *q, p, r* | $/start | *Startup Offer per start*—Represents an offer for all costs incurred by Generation  Resource r represented by QSE *q* in starting up and reaching the Resource’s LSL  for the start *s*. Where for a Combined Cycle Train, the Resource r is a Combined  Cycle Generation Resource within the Combined Cycle Train. |
| SUCAP*q, p, r* | $/start | *Startup Cap*—The amount used for AGR *r* or Resource *r* represented by QSE *q*  for the start *s* as Startup Costs. The cap is the Resource Category Startup Offer  Generic Cap (RCGSC) unless ERCOT has approved verifiable unit-specific  Startup Costs for that Resource, in which case the startup cap is the scaled  verifiable unit-specific Startup Cost for the AGR or the verifiable unit-specific  Startup Cost for non-AGRs. The verifiable unit-specific Startup Cost will be  determined as described in Section 5.6.1, Verifiable Costs, minus the average  energy produced during the time period between breaker close and LSL  multiplied by the heat rate proxy “H” multiplied by the appropriate Fuel Index  Price (FIP), Fuel Oil Price (FOP) or solid fuel price, for AGR and non-AGR  Resources. Where for a Combined Cycle Train, the Resource *r* is a Combined  Cycle Generation Resource within the Combined Cycle Train. |
| RTSPP *p, i* | $/MWh | *Real-Time Settlement Point Price per Settlement Point*—The Real-Time Settlement Point Price at Settlement Point *p*, for the 15-minute Settlement Interval *i*. |
| MOC *q, r, h* | $/MWh | *Mitigated Offer Cap per Resource*—The MOC for Resource *r* represented by QSE *q* for the eligible hour *h* at the HSL as submitted in the COP. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train. |
| RCGSC *s* | $/Start | *Resource Category Generic Startup Cost*—The Resource Category Generic Startup Cost cap for the category of the Resource, according to Section 4.4.9.2.3, Startup Offer and Minimum-Energy Offer Generic Caps, for the Operating Day. |
| *q* | None | A QSE. |
| *r* | None | A Generation Resource. |
| *p* | None | A Resource Node Settlement Point. |
| *i* | None | A 15-minute Settlement Interval. |

(7) The total compensation to each QSE for a trip offline due to ERCOT CMP or equivalent VDI for the 15-minute Settlement Interval is calculated as follows:

**CMPEAMTQSETOT *q, i*  = CMPEAMT *q, r, p, i***

The above variables are defined as follows:

| **Variable** | **Unit** | **Definition** |
| --- | --- | --- |
| CMPEAMT *q, r, p, i* | $ | *Constraint Management Plan energy amount per QSE per Generation Resource*—The payment to QSE *q* for trip offline from an ERCOT-issued CMP or equivalent VDI for Generation Resource *r* at Settlement Point *p* for the 15-minute Settlement Interval *i*. For a combined cycle Resource, *r* is a Combined Cycle Train. |
| CMPEAMTQSETOT*q, i* | $ | *Constraint Management Plan energy amount QSE total per QSE*—The total of the energy payments to QSE *q* as compensation for HDL overrides for this QSE for the 15-minute Settlement Interval *i*. |
| *q* | none | A QSE. |
| *r* | none | A Generation Resource. |
| *p* | none | A Resource Node Settlement Point. |
| *i* | none | A 15-minute Settlement Interval. |