PROJECT NO. 46369

RULEMAKING RELATING TO RELIABILITY MUST-RUN SERVICE	**§**	**PUBLIC UTILITY COMMISSION**
	§	
	§	**OF TEXAS**

ORDER ADOPTING AMENDMENTS TO §25.502
AS APPROVED AT THE SEPTEMBER 28, 2017 OPEN MEETING

The Public Utility Commission of Texas (commission) adopts amendments to §25.502, relating to pricing safeguards in markets operated by the Electric Reliability Council of Texas with changes to the proposed text as published in the April 14, 2017 issue of the *Texas Register* (42 TexReg 1989). The amendments adjust the notice requirements and complaint timeline applicable to suspension of operation of generation resources, give the Electric Reliability Council of Texas (ERCOT) discretion to decline to enter into a Reliability Must-Run (RMR) service agreement based on an analysis that may consider the economic value of lost load, require approval by the ERCOT Board of Directors of ERCOT staff's recommendation regarding RMR and Must-Run Alternative (MRA) service, and require refund of payments for capital expenditures related to RMR or MRA service agreements in certain circumstances. This is a competition rule subject to judicial review as specified by Public Utility Regulatory Act (PURA) §39.001(e). This amendment is adopted under Project Number 46369.

The commission received comments on the proposed amendments from The Lone Star Chapter of the Sierra Club (Sierra Club), The Texas Advanced Energy Business Alliance (TAEBA), Shell Energy North America (Shell Energy), Calpine Corporation (Calpine), Texas Industrial Energy Consumers (TIEC), Electric Reliability Council of Texas, Inc. (ERCOT), Exelon Corporation (Exelon), CenterPoint Energy Houston Electric, LLC (CenterPoint), NRG Texas Power LLC,

NRG Power Marketing LLC, Reliant Energy Retail Services LLC, Green Mountain Energy Company, US Retailers LLC, and NRG Curtailment Solutions LLC (collectively, NRG), Environmental Defense Fund, Inc. (EDF), Texas Competitive Power Advocates (TCPA), Big Brown Power Company LLC, Comanche Peak Power Company LLC, La Frontera Holdings LLC, Luminant Energy Company LLC, Luminant Generation Company LLC, Oak Grove Management Company LLC, and Sandow Power Company LLC (collectively, Luminant), the Texas Committee of the Advanced Energy Management Alliance (AEMA), the Solar Energy Industries Association (SEIA), and South Texas Electric Cooperative, Inc. (STEC).

Comments relating to the proposed requirement that the ERCOT Board of Directors approve RMR contracts

Sierra Club and Shell Energy supported the proposal to require that all RMR or MRA contracts be approved by the Board of Directors. NRG and CenterPoint endorsed the requirement for Board approval of any recommendation by ERCOT staff to decline to enter into an RMR or MRA contract when a reliability need is present.

ERCOT staff described several logistical issues that might, according to staff, affect the quality of the ERCOT Board's evaluation of the RMR or MRA recommendation presented by staff to the Board. First, because the Board meets on a bimonthly basis, the time period available to ERCOT staff for evaluation of the reliability need for a resource and for evaluation of alternative arrangements might be substantially less than the 150 days nominally allowed by the rule, depending on the timing of the filing of the suspension notice and the schedule of ERCOT Board meetings. ERCOT stated that this problem could be overcome by scheduling a special Board

meeting, at some expense, for the sole purpose of considering the ERCOT staff recommendation. ERCOT staff also pointed to the potential situation where staff recommends against entering into an RMR or MRA agreement on the basis of a cost-benefit analysis, and the ERCOT Board disagrees with that recommendation, thus necessitating the negotiation of an RMR or MRA contract. To accommodate this possibility, ERCOT staff would need to present both its recommendation not to contract for RMR or MRA service as well as the cost of the RMR service and any bids for MRA service for the Board's consideration should it not approve the recommendation to refrain from contracting for RMR or MRA service. For these reasons, ERCOT recommended that the commission modify the proposed rule amendments to state that the action required by the ERCOT Board is to approve ERCOT's decision either to enter into an RMR or MRA contract or not to do so, and not to approve the specifics of an actual contract. ERCOT also recommended changes to the proposed amendments to specify that a resource will be required to continue operations until a contract for MRA service has been executed, should that option be selected by ERCOT staff and approved by the ERCOT Board.

Luminant supported the proposal to require ERCOT Board approval of RMR or MRA contracts, but recommended that language be included in the rule amendments that would require the Board to act within the time frame established by the rule. In reply comments, Luminant responded to ERCOT staff's concerns regarding the logistics of obtaining Board approval of RMR or MRA contracts by suggesting that, in lieu of requiring Board approval of contracts, the rule could simply make clear that any decision by ERCOT staff to enter into an RMR or MRA contract could be appealed to the commission.

Calpine commented that it may not be necessary for all RMR contracts to be approved by the ERCOT Board, and suggested a modification to the rule to require Board approval only when the length of the contract exceeds one year or if the cost of the contract exceeds some dollar threshold. Calpine also recommended changes to clarify that the term "governing board" means the ERCOT Board of Directors.

In reply comments, TIEC opposed Calpine's proposal to exempt certain RMR or MRA contracts from the requirement for ERCOT Board of Directors approval, arguing that the increased complexity of the decision to enter into or not to enter into an RMR or MRA contract based on the costs and reliability benefits of retaining the resource requires a check on the judgment of ERCOT staff by the ERCOT Board. TIEC agreed with ERCOT staff comments that the ERCOT Board evaluation should be of ERCOT staff's recommendation regarding the need for an RMR/MRA service and to enter into or not to enter into a contract for such services, rather than of the RMR or MRA contract itself.

Commission response

ERCOT raised a concern that ERCOT staff may not be able to obtain approval by the ERCOT Board of Directors within the 150-day time frame established by the rule in the event that ERCOT staff has recommended not to enter into an RMR or MRA service agreement to address reliability risks, and the ERCOT Board disagrees with that assessment. ERCOT proposed specific language in the rule to provide that the ERCOT Board shall approve or disapprove ERCOT staff's recommendation, and not the actual service agreement itself. TIEC agreed with ERCOT staff's recommendation.

The intent of the proposed amendments requiring approval by the ERCOT Board of Directors of any RMR or MRA agreement, or of a decision by ERCOT not to enter into such an agreement where a reliability need exists, is to provide greater oversight of the execution of out-of-market contracts that may impose significant costs on consumers. In order to provide this oversight, the ERCOT Board will require detailed information regarding the cost of the RMR agreement with the existing resource, the cost of any MRA offers that have been received, and potentially the cost of the diminished reliability as a result of foregoing RMR or MRA service. In the specific scenario outlined by ERCOT, where ERCOT staff has determined that a reliability need exists, but has recommended against the use of an RMR or MRA service, and where the ERCOT Board disagrees with this recommendation, the commission agrees that a service agreement would not have been executed and therefore would not be available for evaluation by the Board. The commission agrees that this could present problems in completing negotiations for a service agreement and returning to the Board for approval within the 150-day time line established in the rule. ERCOT staff should, as part of its recommendation, have evaluated in detail the cost of RMR service and any offered MRA services, and should be able to present this information to the Board for its evaluation. Accordingly, the commission adopts the language proposed by ERCOT to the effect that ERCOT Board of Directors approval of ERCOT's *recommendation* regarding RMR or MRA service is required, not approval of the final service agreement.

The commission does not agree with Calpine's recommendation that only RMR or MRA service agreements that are above a certain threshold of duration or cost should be subject to approval by the ERCOT Board of Directors nor does the commission agree with Luminant's suggestion that

decisions by ERCOT staff could be appealed to the commission in lieu of ERCOT Board approval. Under current procedures the decision to employ RMR or MRA services to meet a reliability need is a deterministic one: if a reliability need is shown to exist under the criteria specified in ERCOT protocols, then an RMR or MRA service to meet that need is required. Under the amended rule, the decision to employ an RMR or MRA service is more flexible, requiring the exercise of judgment in evaluating a number of competing factors. As a result, the commission determines that ERCOT Board approval is necessary as a check on the judgment of ERCOT staff's decision to enter any RMR or MRA service agreement. Additionally, the ERCOT Board regularly approves Nodal Protocol Revision Requests with little to no implementation costs. Extending this authority to require review of all out-of-market RMR or MRA service agreements, regardless of the service agreement costs, better safeguards the public interest.

The commission disagrees with Calpine's recommendation that the term "governing board" be replaced in the rule with "Board of Directors"; "governing board" is the term used in §25.362 (relating to Electric Reliability Council of Texas (ERCOT) Governance).

Comments relating to the extension of the timeline for a notice of suspension

Sierra Club supported the proposal to require that the notice of suspension be increased from 90 days to 150 days, but would prefer a longer 180 day notification period.

While Shell Energy expressed skepticism regarding the value of extending the notification period to support the evaluation of additional MRA proposals, Shell opined that the longer timeline

would permit ERCOT to perform additional economic studies, which Shell Energy strongly supported.

Calpine opposed the extension of the notice timeline and urged the commission to retain the current 90 day period. According to Calpine, the extension of the timeline would increase operational and commercial challenges for the plant owner while providing no additional benefit to the market or system reliability. The timeline extension would also impose additional costs, requiring a resource owner to continue operating an uneconomic facility for an additional three months after the final determination of RMR necessity. As an alternative, Calpine offered the suggestion that, after ERCOT makes a determination that a unit is needed for reliability purposes during the initial 60-day period, an additional period of 90 days be allowed to permit ERCOT to evaluate any MRA proposals and to contract either for RMR or MRA service. According to Calpine, this would allow ERCOT the additional time needed for consideration of MRA alternatives without requiring resources not needed for reliability purposes to continue operating after the initial ERCOT determination. Calpine also recommended that the suspension notice be kept confidential during the initial 60 day review period after filing the notice with ERCOT, to ameliorate concerns that staff might be difficult to retain in view of the imminent closing of a plant. Finally, Calpine recommended that the rule be clarified to make plain that a resource owner may withdraw a suspension notice at any time before ERCOT makes a final determination of the necessity of the resource for reliability purposes.

Exelon commented that ERCOT had not justified the need for 60 days to evaluate the need for a resource for reliability purposes, and recommended that the period for ERCOT's reliability

determination be shortened to 45 days, with the resource subject to a suspension notice permitted to exit the market a maximum of 90 days after filing of the suspension notice. In reply comments, Exelon responded to the comments of other parties that the evaluation of MRA alternatives may take some time by agreeing that the current 90-day notice period should be retained, but that the total review period should be increased to 150 days if ERCOT determines that a resource is needed for reliability purposes, provided, however, that an interim RMR agreement is put into place so that the plant is not required to operate at a loss beyond the desired retirement date. Exelon also reiterated its position that a resource not needed for reliability purposes should be permitted to suspend operations no later than the end of the 90-day notice period.

NRG recommended that a resource owner immediately be permitted to cease operations upon a finding by ERCOT that the resource is not needed for reliability purposes, without any additional approval by ERCOT. NRG also recommended that the rule explicitly provide for the submission of comments by interested parties on ERCOT's analysis of the need for RMR service. Finally, NRG argued that resource owners should be compensated for costs incurred by the owner in keeping a resource available for any period longer than the current 90-day notice period. According to NRG, the 90-day period is onerous enough, but a requirement to keep the resource available for an additional 60 days is a material burden that resource owners should not be expected to bear without compensation.

TCPA echoed NRG's comments in opposing the extension of the notice period from 90 days to 150 days without compensation to the resource owner for keeping the resource in operation

during this additional period of time. In reply comments TCPA suggested that the logistical problems discussed by ERCOT in obtaining Board approval added greater weight to TCPA's position that generation owners should be compensated for operations beyond the current 90-day notice period.

Indicating that it was unaware of an instance in which ERCOT entered into a contract for MRA service despite having had authority to do so since 2003, Luminant questioned the need for an extension of the notice period for suspension notices, if the purpose of that extension is to allow for simultaneous evaluation of alternatives to resources deemed subject to RMR requirements. While Luminant acknowledged that the commission has a responsibility to safeguard reliability, Luminant argues that, under PURA §39.001(d), the commission must do so in a way that is least disruptive to the competitive market, and that does not disadvantage any particular market participant. According to Luminant, the proposed extension of the suspension notice period is both disruptive to the competitive market and discriminates against specific market participants and therefore must be rejected. In support of its argument that the proposed notice extension would impose significant costs on a resource owner, it cites the difficulty in maintaining coal stockpiles and arranging for coal transport over a longer period of time as well as the difficulty of maintaining a workforce for the plant in the face of a proposed closure. Luminant also asserted that competitive natural gas prices are more volatile over a 150-day period than over a 90-day period, increasing the likelihood that the owner of a coal-fired generation resource might have incentives to file suspension notices preemptively to guard against sudden changes in the price of natural gas. While Luminant opposed the extension of the notice period, it argued that, if the commission does extend the notice period, the extension should be made optional, at ERCOT's

discretion, and that the resource owner should receive compensation for extending operation of the plant beyond the current 90-day notice period, based on the budget of operating costs submitted as part of the suspension notice. Like NRG, Luminant disagreed that suspension of operations following a finding that the resource is not needed for reliability should be subject to ERCOT approval, but argued that if ERCOT is permitted under the rule to require a resource to remain available following a finding of no need for reliability, that ERCOT should be required to specify a date not later than the end of the notice period when the resource will be permitted to suspend operation. Finally, Luminant requested that the commission include language in the rule amendments that would specify that seasonally mothballed resources would not be subject to any extended notice periods applicable to resources that are permanently or indefinitely suspending operations.

AEMA and SEIA supported the extension of the notice period for suspension notices, arguing that the additional time is likely to attract more offers for MRA services provided by demand response resources and solar resources, as it may take some time to develop these resources to address a specific reliability need. In reply comments, AEMA responded to Luminant and others arguing against an extended timeline by pointing out that there are a large number of aging generation resources in densely populated counties – locations that would likely support participation by load resources in MRA services. AEMA also supported comments by ERCOT and Calpine that the authority of ERCOT to enter into MRA contracts should be made clear, even if the MRA service provides a lower level of reliability than the retiring resource. Finally AEMA supported clarifications to the proposed amendments that would make clear that a resource could

immediately suspend operations upon a finding by ERCOT that it is not needed for reliability purposes.

In reply comments, STEC supported the extension of the suspension notice timeline, but stated that it would not oppose the retention of the current timeline with the option for ERCOT to extend the timeline if necessary, as proposed by Calpine and Luminant. STEC disagreed that compensation to a resource owner is appropriate under an extended timeline because it would create incentives for resource owners to extend the negotiation period and would result in increased costs to the market generally.

EDF supported the proposed notice timeline of 150 days, noting that it strikes an appropriate balance between the 180 days proposed in the initial strawman version of the rule amendments and the current 90-day notice period.

TIEC stated that the proposed amendments, which provide ERCOT with up to 150 days to negotiate an RMR or MRA contract while requiring a decision on need to be made within 60 days represents a balanced approach that may facilitate more economical RMR or MRA procurement without unduly burdening generation resource owners. In reply comments, TIEC reiterated this position and stated that a primary reason that an MRA service was not adopted as an alternative the recent Greens Bayou RMR contract was the short period of time allowed for solicitation and evaluation of proposed MRA services. TIEC opposed the proposals by some generation resource owners that owners of resources that remain in service longer than the current 90-day notice period are due compensation. TIEC pointed out that the longer time frame

for RMR or MRA contract negotiation does not actually require any generation resource to remain in service for a longer period of time than under the current rule, but simply requires the generation owner to provide earlier notice of a retirement date planned by the generation resource owner. TIEC also opposed proposals that would retain the current 90-day notice period but allow ERCOT to extend the operation of a unit if ERCOT determines that it is needed for reliability purposes, arguing that this would create the very uncertainty that generators are hoping to avoid. TIEC also argued against the recommendation by Calpine that the suspension notice be kept confidential for the first 60 days after it is submitted, stating that this would undermine an objective of the longer notice period, namely allowing market participants additional time to determine whether resources are available to provide MRA service.

In reply comments, ERCOT opposed the recommendations by some commenters that the suspension notice review period be shortened to less than the proposed 150 days. According to ERCOT, the quality of the evaluation of potential MRA services would suffer if less time is available following a determination of the need for reliability services, given the number and complexity of the tasks that ERCOT would need to accomplish. ERCOT asserted that extending the timeline, as proposed in the amendments, would increase the likelihood of achieving the most cost-effective solution to addressing a reliability need resulting from a unit's suspension of service. ERCOT also noted that the proposed rule would impose no greater restriction on the ability of a unit to suspend operations than would the proposal advanced by some parties for a 60 or 90 day notice period followed by a 90 or 60 day negotiation period, given that a resource is free to suspend operations under the proposed amendments following a determination of no reliability need. While noting that resource owners do not receive any compensation under the

current notice period framework, ERCOT took no position on the proposal by some commenters that a resource owner should receive compensation if required to maintain operations beyond the current 90 day notice period. ERCOT asserted that determining compensation for generators would impose potentially significant administrative and financial burdens on ERCOT, and questioned whether a generator that withdraws its notice after receiving compensation should refund these payments. ERCOT requested that, if generator compensation is required, the methodology for determining the amount of compensation be clearly defined in the rule, or the rule should authorize ERCOT to develop such a methodology.

Commission response

Most of the generation resource owners filing comments in this proceeding opposed the extension of the notice period for suspension of operations, or argue that if the extension is adopted, resource owners should be compensated for "additional costs" incurred as a result of the extended time line. Luminant in particular argued that the proposed amendments to the rule impose costs on generators with no corresponding benefit to the market. The commission rejects this argument. Nothing in the proposed amendments to the rule requires a generation resource to remain in service longer than is required under the current rule. There are no additional operational costs imposed on any resource owner under the proposed amendments. There is nothing in the proposed amendments that dictates on what date a resource owner may retire that resource from service. Resource owners are free to pick any date they choose to suspend or retire any resource. In terms of timing, the only change that the proposed amendments make is that the resource owner must inform ERCOT of its intentions sooner than it must under the current rule. As noted by TIEC, "…generators have superior knowledge of the useful life and operational

characteristics of their units, and know well in advance that a unit is no longer economic and approaching retirement. As a part of their core business, generators know the general timeframe when a unit will be retired, so extending the notice of suspension to 150 days simply requires the unit owner to identify a specific retirement date slightly sooner than they do today."

The generation owners argued that it may be difficult to maintain staffing at a plant after submission of a notice of suspension, that it may be difficult or more costly to arrange fuel shipment, and that natural gas prices are more volatile over 150 days than over 90 days. The commission finds these arguments unconvincing. The commission agrees with TIEC's assertion that "…staffing difficulties are inevitable when retiring a unit, as plant employees know when a unit is rarely running and approaching retirement regardless of whether there is a public announcement." While Luminant stated that coal transportation agreements require a 12-month nomination of volume, but acknowledges that managing uncertainty over 90 days is "doable," it failed to show why an 60 additional days is not "doable." And, as ERCOT observed, even if volatility of market prices over a longer time line "…would result in the submission of more 'precautionary' suspension notices (which may or may not be true), that would still be preferable to the current timeline, which does not allow sufficient time for the development and consideration of alternatives to an RMR agreement."

As noted in the Proposal for Publication in this proceeding, the commission anticipates substantial public benefits from the adoption of the proposed amendments, including providing ERCOT sufficient time to evaluate less costly alternatives to RMR agreements; allowing ERCOT to consider the costs of RMR or MRA agreements in relationship to the risk and cost associated

with any reliability concerns, thus potentially reducing the number of RMR/MRA agreements and the cost of those agreements; and reducing costs by requiring the refund of capital expenditures if RMR or MRA resources return to market operations. The commission finds that the proposed amendments to the rule do not impose any costs on market participants that would preclude or discourage the realization of these benefits.

Luminant suggested that if the commission determines that a longer timeline is warranted, the commission should maintain the current 90-day notice period, with an optional 60 day extension, to be exercised at ERCOT's discretion. The commission declines to adopt this recommendation. As set forth in the proposal, if ERCOT determines that the suspension of a generation resource does not raise any reliability concerns, then that resource is free to suspend operations at the end of the 60-day evaluation period, subject to ERCOT approval. The 150-day period comes into play only if ERCOT determines that there is a reliability need for the resource. In that case, the full 90 days contemplated under the rule for evaluation of the costs and benefits of maintaining the resource through an RMR agreement, or for evaluation of potential MRA services, may be required. The commission notes that the generators are, in effect, asking to be permitted to retire a generation unit earlier than the date that they have themselves selected for retirement, and agrees with TIEC that Luminant's suggestion would only increase uncertainty for ERCOT and for market participants.

Calpine recommended that the suspension notice and ERCOT's evaluation of the suspension notice be kept confidential during the initial 60-day evaluation period, citing the adverse effect on employee retention after a public announcement of an intent to retire a resource. The

commission discusses this argument above, and does not find it convincing. Keeping the suspension notice confidential for 60 days would prevent potential MRA service providers from working on bid preparation until only 90 days remain in the 150-day timeline. The commission declines to adopt Calpine's recommendation.

Calpine also recommended that the commission clarify that a resource owner may withdraw its suspension notice at any time before ERCOT's final determination. As Calpine itself states, there is nothing in the current rule or in the proposed amendments that prohibits the withdrawal of a suspension notice, and the commission therefore declines to make this explicit.

Luminant noted that the rule amendments apply both to resources that indefinitely or permanently retire and to resources that are mothballed seasonally. Because these units suspend operations only at certain times of the year on a regular basis, it would be unworkable to subject them to the 150-day notice requirement. Luminant proposed specific language to provide an exemption for these units. The commission agrees that seasonally mothballed units should not be subject to the 150-day notice requirement, and adopts language exempting these units from that requirement. The commission notes that, because the constrained 90-day timeline will continue to apply to units noticing seasonal mothball status, and because these suspensions may occur regularly and predictably, an evaluation by ERCOT of potential MRA services to replace the need to enter RMR agreements with these units is unnecessary.

In order to ensure that the amendments relating to earlier notice have no possible effect on or interference with a resource owner's retirement timeline, the commission will delay the implementation of the rule until January 1, 2018.

Comments relating to the submission of an upfront budget with the notice of suspension

NRG objected to the proposed requirement that a budget be submitted along with a notice of suspension. According to NRG, it would be difficult to estimate the cost of operating a resource without knowing in advance the level of availability that would be required of the resource, a parameter that is specified by ERCOT as part of negotiations for an RMR contract. NRG instead recommended that a detailed budget not be submitted until ERCOT has made a determination of the need for the resource, but conceded that a high level estimation of costs could be made available at the time the notice is submitted. TCPA agreed with NRG that the submission of a detailed budget should not be required until ERCOT has made a determination that the resource is needed for reliability purposes. STEC also agreed that submission of a detailed budget is not necessary at the time the notice is filed, but is only necessary if ERCOT determines that a resource is required to remain available for reliability purposes.

Luminant argued that submission of a detailed budget should not be required until ERCOT has made a final determination that a resource is needed for reliability purposes. However, Luminant argued that if the commission adopts Luminant's recommendation that a resource owner should be compensated for costs incurred in keeping a resource available beyond the current 90-day notice period, then a good faith estimate of operating costs should be required as part of the notice to form the basis of compensation to the resource owner. ERCOT stated that it is not

opposed to eliminating the requirement that a detailed budget of costs be submitted at the time the suspension notice is submitted, as this is in line with current practice.

TIEC opposed recommendations that a detailed budget not be required at the time a suspension notice is submitted, arguing that cost information is necessary in order for ERCOT staff and market participants to determine whether an MRA service could offer a cost-effective alternative, and for potential MRA participants to prepare their bids. While TIEC did not oppose suggestions that a good faith estimate of costs could be submitted in lieu of a detailed budget, TIEC stated that it would be difficult to ensure that the good faith estimate was in fact accurate, and that resource owners might have an incentive to understate costs in order to discourage bids by potential MRA service providers, and that the proposed rule amendment's requirement for a detailed budget was a preferable approach.

Commission response

The commission agrees with commenters that argue that an upfront submission of a detailed operating budget is unnecessary. A detailed budget can reasonably be submitted to ERCOT when ERCOT determines a reliability need is present and thus begins its comparative evaluation of solutions. The budget information is not necessary prior to this determination.

Comments relating to RMR Cost-Benefit Analysis and the incorporation of VOLL into RMR and MRA analysis

Calpine, EDF, NRG, Sierra Club, and Shell Energy supported the incorporation of a cost and benefit analysis and the incorporation of the Value of Lost Load (VOLL) into the evaluation of

RMR and MRA service need. Shell Energy noted in initial comments that the inclusion of VOLL will allow for the economic consideration of reliability, consistent with the energy-only market design. Furthermore, Shell Energy stipulated that the consideration of VOLL by ERCOT strengthens ERCOT's evaluation by reviewing all of the costs related to RMR or MRA service, harmonizing reliability needs with market driven resource decisions.

NRG indicated its support for the consideration of a cost and benefits of MRA or RMR service, adding that the commission should give direction to ERCOT to apply probabilistic and economic analyses in evaluating RMR service and alternatives.

TAEBA supported implementation of a more holistic review of reliability alternatives to identify the least-cost solution to customers. TAEBA noted that the RMR process only focuses on building transmission as a long-term solution to the disadvantage of other technologies. In order to address this, TAEBA asks that the commission direct ERCOT to incorporate an analysis of the costs of RMR plus transmission as compared to the costs of a proposed MRA when evaluating MRAs. In TAEBA's opinion this would provide a true comparison of RMR alternatives so that the market adequately considers the value of advanced technologies in relieving short-term RMR requirements and displacing or deferring the need for building a long-term transmission solution.

In reply comments, TIEC disagreed with NRG's suggestion to require a probabilistic analysis, stating that such an approach would inappropriately tie the level of reliability that customers enjoy solely to the specific characteristics of a retiring unit. TIEC believed the current proposal is appropriately designed. TIEC additionally disagreed with TAEBA's recommendation to weigh

the cost of RMR service plus the cost of transmission against the cost of a proposed MRA. TIEC argued that competitive resources should not be subsidized as alternatives to long-term transmission exit strategies, and that resource development should be left strictly to the competitive market.

Commission response

The commission agrees with TIEC that requiring a probabilistic analysis of a potential RMR agreement is overly prescriptive and declines to adopt NRG's recommended change. While the commission encourages ERCOT to consider using probabilistic criteria to evaluate the need for RMR and MRA service, the commission declines to incorporate any edits that would unnecessarily encumber ERCOT's ability to determine optimal criteria.

The commission finds TAEBA's emphasis on long-term non-transmission alternatives to be beyond the scope of this rulemaking. The commission emphasizes the short-term nature of RMR and MRA service, which is intended to be used as a stop-gap between unit retirements and long-term solutions identified by ERCOT. The commission does not view MRA resources as a substitute for long-term transmission exit strategies. The commission thus declines to adopt TAEBA's suggestion that the cost of MRAs should be weighed against both the value of an RMR service agreement and the value of avoided transmission. Including the costs of long-term transmission solutions when evaluating RMR and MRA proposals is inappropriate in the context of procuring a short-term reliability service.

Comments relating to the clawback of RMR and MRA capital expenditures

Luminant, NRG, Shell Energy, Sierra Club, STEC, and TIEC supported provisions which require the clawback of capital expenditures by ERCOT from owners of RMR or MRA resources if the resource returns to the competitive market after the expiration of the contract. NRG noted that ERCOT protocols currently require the refund of capital expenditures made to an RMR resource. Just as with a RMR, NRG stated that capital clawback from MRA resources that choose to re-enter the market would help prevent distortions to the ERCOT market caused by subsidizing capital upgrades.

Luminant similarly asserted that the purpose of MRA service is the same as RMR service, and that an MRA service agreement should not be a mechanism to transfer wealth or subsidize a resource that would otherwise be uneconomic to place in service. Luminant noted that existing ERCOT Protocols require resource owners to refund the positive salvage value associated with the capital contributions and suggested the proposal address circumstances where the resource retires permanently following contract expiration. Additionally, Luminant suggested extending the capital clawback provisions to a Private Use Network (PUN) resource that enters a new customer contract or continues operations following the expiration of the RMR or MRA contract. Though such an arrangement does not constitute participation in the energy or ancillary service markets, Luminant posited that the rationale for requiring refunds would be the same.

Conversely, TAEBA disagreed with proposed language that would require the clawback of capital expenditures made by ERCOT with regard to MRA resources, stating that such provisions should only apply to units contracted for RMR service. TAEBA illustrated that the provisions

are designed to prevent a generation resource from gaming the system by threatening to retire, entering an RMR agreement, and then later re-entering the market. TAEBA argued that MRA resources should be characterized as avoided transmission rather than as a generation solution and should not be subject to clawback provisions.

In reply comments, Luminant, STEC, TCPA, and TIEC disagreed with TAEBA. Luminant stated that there was no evidence to support TAEBA's suggestion that MRA resources could serve as long-term alternatives to transmission upgrades, and load resources were already considered in the long-term transmission planning process. Luminant further stated that no resource should receive a subsidy that enables an otherwise uneconomic resource to enter the competitive market, and that the rationale for requiring capital contribution refunds for RMR resources should apply equally to MRA resources and PUNs contracted for RMR service. Similarly, STEC stated that allowing MRA resources to avoid the requirement creates a competitive advantage for those resources, amounting to a "capacity payment," which is inconsistent with the ERCOT energy-only market design.

Commission response

The commission rejects TAEBA's assertions that MRA resources are long-term transmission alternatives not subject to payment clawback. First, as detailed above, the implementation of long-term non-transmission alternatives is beyond the scope of this rulemaking.

Second, as noted by TCPA and Luminant, the purpose of MRA service is no different from that of RMR service in that it is provided by an out-of-market resource that receives subsidized payments to fulfill ERCOT reliability requirements.

Third, as characterized by the majority of commenters, subsidizing any MRA resource that later participates in the competitive market is contradictory to the competitive market design the legislature intended. PURA Chapter 39 makes clear that, except for transmission and distribution service, the normal forces of competition should generally determine the economic viability of a resource. The commission reiterates that the premise of RMR service is to address short-term reliability issues. Considering the statutory direction of Chapter 39 and the nature of RMR service, it would be inappropriate for the commission to guarantee capital cost recovery to a resource that will continue to participate in the competitive market after the expiration of an RMR or MRA service agreement.

The commission declines to adopt the language provided by Luminant. The commission determines that any resource that has received RMR or MRA capital contributions should be subject to clawback provisions if it returns to commercial operations or competitive service, and should be subject to clawback of the positive salvage value of capital contributions if it permanently retires. The commission believes the current language is broad enough to address Luminant's concerns at a policy level and expects further details regarding implementation to be developed in the ERCOT stakeholder process.

Comments regarding limitations on MRA participation

In initial comments, TAEBA and AEMA offered language clarifying that the owner of a retiring resource under consideration for RMR service should be prohibited from bidding for MRA service. TAEBA stated that a generation company and its affiliates would have an unfair competitive advantage in bidding for MRA service due to its exclusive knowledge of the generation resource's operational characteristics. AEMA offered similar comments, noting that the Independent Market Monitor (IMM) raised concerns with regard to resource owners and affiliates having an anti-competitive advantage.

In reply comments, STEC concurred with TAEBA and AEMA and urged the commission to adopt the comments that would restrict MRA participation as previously recommended by the IMM. STEC recommended MRA participation limitations as the most responsible avenue for protecting the market against an unfair competitive advantage and for ensuring transparency.

Luminant, TCPA, and TIEC disagreed with TAEBA and AEMA in reply comments. Luminant posited that if the goal of an MRA evaluation is to identify the lowest cost solution that provides equivalent reliability benefit as an RMR, then an owner should not be prohibited outright from consideration. Luminant also noted that the cost plus compensation structure of MRA resources did not present an attractive gaming opportunity and trusted the IMM to monitor and investigate any questionable bids. Similarly, TIEC opposed a categorical exclusion because there is a finite pool of generation owners and developers in ERCOT. Many of these companies have affiliate retail arms that may have demand response products available for MRA consideration. TIEC

recommended against the adoption of this change since it may preclude ERCOT from obtaining the most cost-effective solution.

Commission response

The commission declines to insert blanket language that would restrict an RMR resource owner from participating in the MRA bidding process. The commission appreciates TAEBA and AEMA's caution regarding anti-competitive practices, but finds that there should be no categorical prohibition on MRA offers that may interfere with achieving the least-cost effective solution.

Comments clarifying ERCOT's discretion

AEMA, ERCOT, Exelon, Calpine, NRG and SIEA suggested the commission clarify ERCOT's ability to procure MRA service and not proceed with a RMR agreement, even if the alternative provides acceptable, though not necessarily equivalent, reliability in addition to cost savings.

Commission response

The commission concurs with ERCOT's suggestions and adopts its proposed edits with the caveat that any MRA determination reached by ERCOT must be approved by the ERCOT Board.

Comments regarding resource registration

ERCOT noted there could be potential ambiguity regarding resource registration or the appeals process in situations where ERCOT determines a reliability need exists but also determines that

an RMR agreement is not cost-effective, or enters into an MRA agreement. ERCOT proposed specific language to reflect these possible outcomes.

Commission response

The commission agrees with ERCOT that additional clarity in this area is warranted and adopts ERCOT's proposed language.

Comments regarding the manufacturing impacts of RMR service

TIEC requested the commission modify the Proposal to expressly address the requirements of the PURA §39.151(l) when evaluating RMR agreements. TIEC asserted that specific direction will clarify that ERCOT must assess the impact to manufacturing facilities in its evaluation of RMR service, giving ERCOT the latitude to not enter into an RMR arrangement with PUN generation resources where the agreement would be harmful, costly, or impractical.

Commission response

The commission declines to adopt the language provided by TIEC. PURA § 39.151(l) already prohibits ERCOT from adopting rules, policies, protocols, or other requirements that adversely impact manufacturing or industrial generation facilities except to the minimum extent necessary to assure reliability of the transmission network. As such, TIEC's proposed change is duplicative and therefore unnecessary.

Comments codifying public comment period

NRG noted the proposed timeline extension should allow for stakeholders to review RMR evaluations. NRG suggested adding language that codified a public comment period to ensure stakeholders can provide feedback on RMR study methods and results.

In reply comments, Luminant opposed NRG's suggestion to codify the protocol requirement for public comment period on RMRs, stating that such decisions should be left to ERCOT and stakeholders.

Commission response

While the commission agrees with NRG that a period for public comment may be valuable, it declines to specify exactly what the period should be or where it falls within the RMR assessment process, so that ERCOT will have the discretion to modify the existing protocol public comment period if reasons arise to do so.

Comments clarifying RMR purpose

Exelon requested the commission clarify that ERCOT will only procure RMR or MRA service to address transmission reliability, and not to address system generation capacity shortfalls. Exelon argued that the out-of-market retention of resources for resource adequacy would prevent ERCOT's energy-only market design from sending the appropriate price signals, resulting in the inability of non-RMR and MRA resources to recover their fixed costs. Exelon stated that these pricing distortions could cause premature resource retirement, compounding resource adequacy concerns.

Commission response

The commission declines to insert language that would unnecessarily limit the application of RMR or MRA service. While the commission acknowledges that, in the majority of circumstances, RMR and MRA service should be used to support local transmission reliability, the commission declines to categorically prohibit ERCOT's procurement of RMR service for capacity. Under current protocol, RMR resources that are committed and dispatched by ERCOT for capacity are priced at the system-wide offer cap. This pricing policy mitigates the impact of out-of-market pricing distortions and ensures that energy dispatched from these units appropriately reflects system-wide scarcity.

Comments regarding RMR dispatch

NRG requested that the commission place limits on out-of-merit-order dispatch for the time period between the effective date of the suspension notice where ERCOT has designated the resource for RMR service but no RMR agreement has been executed, and the execution of an RMR agreement, including any dispute period. NRG recommended that any out-of-merit-order dispatch take place through ERCOT's Reliability Unit Commitment (RUC) process, which is used to commit resources to resolve reliability issues.

In reply comments, TIEC disagreed with NRG, stating that it was unnecessary for the commission to specify the dispatch of a prospective RMR through the RUC process. TIEC posited that NRG's suggested language would not substantively change current practice. Rather,

TIEC was concerned that NRG's proposed language would imply that the current process required change and may have other unintended consequences.

Shell Energy emphasized in its comments that ERCOT's analysis of RMR/MRA costs and benefits consider all costs to the nodal market to ensure the appropriate scarcity pricing signals are sent to market participants. Shell noted that the price signals can be suppressed if subsidized RMR resources are dispatched prior to the deployment of competitive offers. Shell Energy argued, contrary to other commenters, that the Greens Bayou 5 RMR and associated RMR/MRA process demonstrated the effectiveness of market-based solutions when scarcity pricing is allowed to send the appropriate price signals. Shell Energy stated that the Greens Bayou 5 RMR/MRA process was effective in attracting resources to a premium location within the ERCOT footprint.

Commission response

The commission declines to set rules or limitations defining how ERCOT commits potential RMR or MRA resources. The ERCOT staff is in the best position to apply their expertise to determine the process by which RMR resources are committed. The commission appreciates Shell Energy's comments regarding the effectiveness of the nodal price signal and market-based resource investment.

All comments, including any not specifically referenced herein, were fully considered by the commission.

These amendments are adopted under §14.002 of the Public Utility Regulatory Act, Tex. Util. Code Ann. §14.002 (West 2016) (PURA) which provides the commission with the authority to make and enforce rules reasonably required in the exercise of its powers and jurisdiction, and, specifically PURA §39.151, which authorizes the commission to adopt rules relating to the reliability of the ERCOT transmission network.

Cross reference to statutes: Public Utility Regulatory Act §14.002 and §39.151.

§25.502. Pricing Safeguards in Markets Operated by the Electric Reliability Council of Texas.

(a) **Purpose**. The purpose of this section is to protect the public from harm when wholesale electricity prices in markets operated by the Electric Reliability Council of Texas (ERCOT) in the ERCOT power region are not determined by the normal forces of competition.

(b) **Applicability**. This section applies to any entity, either acting alone or in cooperation with others, that buys or sells at wholesale energy, capacity, or any other wholesale electric service in a market operated by ERCOT in the ERCOT power region; any agent that represents such an entity in such activities; and ERCOT. This section does not limit the commission's authority to ensure reasonable ancillary energy and capacity service prices and to address market power abuse.

(c) **Definitions.** The following terms, when used in this section, shall have the following meanings, unless the context indicates otherwise.

(1) **Competitive constraint --** A transmission element on which prices to relieve congestion are moderated by the normal forces of competition between multiple, unaffiliated resources.

(2) **Generation entity** -- an entity that owns or controls a generation resource.

(3) **Market location** -- the location for purposes of financial settlement of a service (e.g., congestion management zone in a zonal market design or a node in a nodal market design).

(4) **Must-run alternative (MRA) service** -- a service that ERCOT may procure as an alternative to reliability must-run service.

(5) **Noncompetitive constraint** -- A transmission element on which prices to relieve congestion are not moderated by the normal forces of competition between multiple, unaffiliated resources.

(6) **Reliability must-run (RMR) service** -- a service provided by a generation resource to meet a reliability need resulting from the planned suspension of operation of that generation resource for a period of greater than 180 calendar days.

(7) **Resource** -- a generation resource, or a load capable of complying with ERCOT instructions to reduce or increase the need for electrical energy or to provide an ancillary service (*i.e.*, a "load acting as a resource").

(8) **Resource entity** -- an entity that owns or controls a resource.

(9) **Suspension date** -- the date specified by a generation entity in a notice to ERCOT as the date on which it intends to suspend operation of a generation resource for a period of greater than 180 calendar days.

(d) **Control of resources. E**ach resource entity shall inform ERCOT as to each resource that it controls, and provide proof that is sufficient for ERCOT to verify control. In addition, the resource entity shall notify ERCOT of any change in control of a resource that it controls no later than 14 calendar days prior to the date that the change in control takes effect, or as soon as possible in a situation where the resource entity cannot meet the 14 calendar day notice requirement. For purposes of this section, "control" means ultimate

decision-making authority over how a resource is dispatched and priced, either by virtue of ownership or agreement, and a substantial financial stake in the resource's profitable operation. If a resource is jointly controlled, the resource entities shall inform ERCOT of any right to use an identified portion of the capacity of the resource. Resources under common control shall be considered affiliated.

(e) **RMR resources.** Except for the occurrence of a forced outage, a generation entity shall submit to ERCOT in writing a notice of suspension of operation no later than 150 calendar days prior to the suspension date. If a generation resource is to be mothballed on a seasonal basis in accordance with ERCOT protocols, the generation entity shall submit in writing a notice of suspension of operation no later than 90 calendar days prior to the suspension date. ERCOT shall issue a final determination of the need for RMR service within 60 calendar days of ERCOT's receipt of the notice. If ERCOT determines that the generation resource is not needed for RMR service, the generation entity may suspend operation of the generation resource before the suspension date, subject to ERCOT approval. Unless ERCOT has determined that a generation entity's generation resource is not required for ERCOT reliability, determined that the resource is needed for reliability but is not a cost-effective solution to the reliability concern, or entered into an MRA service agreement as an alternative to an RMR service agreement, the generation entity shall not terminate its registration of the generation resource with ERCOT unless it has transferred the generation resource to a generation entity that has a current resource-entity agreement with ERCOT and the transferee registers that generation resource with ERCOT at the time of the transfer.

(1) **Complaint with the commission.** If, by the suspension date, ERCOT has not notified the generation entity that the continued operation of the generation resource is not required for reliability or is not a cost-effective solution to the reliability need, and has not entered into an RMR service agreement with the generation entity for the generation resource or an MRA service agreement as an alternative to an RMR service agreement, then the generation entity may file a complaint with the commission against ERCOT, under §22.251 of this title (relating to Review of Electric Reliability Council of Texas (ERCOT) conduct).

(A) The generation entity shall have the burden of proof.

(B) As required by §22.251(d) of this title, absent a showing of good cause to the commission to justify a later deadline, the generation entity's deadline to file the complaint is 35 calendar days after the suspension date.

(C) The dispute underlying the complaint is not subject to ERCOT's alternative dispute resolution procedures.

(D) In its complaint, the generation entity may request interim relief under §22.125 of this title (relating to Interim Relief), an expedited procedural schedule, and identify any special circumstances pertaining to the generation resource at issue.

(E) As required by §22.251(f) of this title, ERCOT shall file a response to the generation entity's complaint and shall include as part of the response all existing, non-privileged documents that support ERCOT's position on the issues identified by the generation entity as required by §22.251(d)(1)(C) of this title.

(F) The scope of the complaint may include the need for the RMR service; the reasonable compensation and other terms for the RMR service; the length of the RMR service, including any appropriate RMR exit options; and any other issue pertaining to the RMR service.

(G) Any compensation ordered by the commission shall be effective the first calendar day after the suspension date. If there is a pre-existing RMR service agreement concerning the generation resource, the compensation ordered by the commission shall not become effective until the termination of the pre-existing agreement, unless the commission finds that the pre-existing RMR service agreement is not in the public interest.

(H) If the generation entity does not file a complaint with the commission, the generation entity shall be deemed to have accepted ERCOT's most-recent offer as of the suspension date.

(2) **Out-of-merit-order dispatch.** The generation entity shall maintain the generation resource so that it is available for out-of-merit-order dispatch instruction by ERCOT until:

(A) ERCOT determines that the generation resource is not required for ERCOT reliability;

(B) any RMR service agreement takes effect;

(C) the commission determines that the generation resource is not required for ERCOT reliability; or

(D) a commission order requiring the generation entity to provide RMR service takes effect.

(3) **RMR exit strategy.** Unless otherwise ordered by the commission, the implementation of an RMR exit strategy in conformance with the ERCOT Protocols is not affected by the filing of a complaint under this subsection.

(4) **Evaluation of RMR and MRA service.** ERCOT may decline to enter into an RMR or MRA service agreement based on an evaluation that considers the costs and benefits of the RMR or MRA service, subject to the requirements of paragraph (5) of this subsection. ERCOT may enter into an MRA service agreement if it identifies a resource or group of resources that will address a reliability need resulting from a planned suspension of operation of a generation resource in a more cost-effective manner than entering into an RMR service agreement, subject to the requirements of paragraph (5) of this subsection. ERCOT may incorporate the economic value of lost load into its evaluation.

(5) **Approval of RMR and MRA service agreements**. All recommendations by ERCOT staff to enter into an RMR or MRA service agreement shall be subject to approval by the ERCOT governing board. If ERCOT identifies a reliability need for RMR or MRA service but recommends against entering into an RMR or MRA service agreement, ERCOT staff's recommendation shall be subject to approval by the ERCOT governing board. In its request for governing board approval, ERCOT staff shall present information that justifies its recommendation.

(6) **Refund of payments for capital expenditures**. A resource entity that owns or controls a resource providing RMR or MRA service shall refund payments for capital expenditures made by ERCOT in connection with the RMR or MRA service agreement if the resource participates in the energy or ancillary service

markets at any time following the termination of the agreement. ERCOT may require less than the entire original amount of capital expenditures to be refunded to reflect the depreciation of capital over time.

(7) **Implementation**. ERCOT, through its stakeholder process, shall establish protocols and procedures to implement this subsection.

(f) Noncompetitive constraints. ERCOT, through its stakeholder process, shall develop and submit for commission oversight and review protocols to mitigate the price effects of congestion on noncompetitive constraints.

(1) The protocols shall specify a method by which noncompetitive constraints may be distinguished from competitive constraints.

(2) Competitive constraints and noncompetitive constraints shall be designated annually prior to the corresponding auction of annual congestion revenue rights. A constraint may be redesignated on an interim basis.

(3) The protocols shall be designed to ensure that a noncompetitive constraint will not be treated as a competitive constraint.

(4) The protocols shall not take effect until after the commission has exercised its oversight and review authority over these protocols as part of the implementation of the requirements of §25.501 of this title, (relating to Wholesale Market Design for the Electric Reliability Council of Texas) so that these protocols shall take effect as part of the wholesale market design required by that section. Any subsequent amendment to these protocols shall also be submitted to the

commission for oversight and review, and shall not take effect unless ordered by the commission.

(5) ERCOT, through its stakeholder process, may adopt protocols that categorize all constraints as noncompetitive constraints. Protocols adopted pursuant to this paragraph shall terminate no later than the 45th day after ERCOT begins to use nodal energy prices for resources pursuant to §25.501(f) of this title. Protocols adopted pursuant to this paragraph need not be submitted to the commission for oversight and review prior to taking effect.

This agency certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority. It is therefore ordered by the Public Utility Commission of Texas that amendments to §25.502 relating to pricing safeguards in markets operated by the Electric Reliability Council of Texas are hereby adopted with changes to the text as proposed, to be effective on January 1, 2018.

Signed at Austin, Texas the _____ day of September 2017.

PUBLIC UTILITY COMMISSION OF TEXAS

DEANN T. WALKER, CHAIRMAN

KENNETH W. ANDERSON, JR., COMMISSIONER

BRANDY MARTY MARQUEZ, COMMISSIONER

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