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DOCKET NO. 26311

APPEAL BY FRONTERA GENERATION LIMITED PARTNERSHIP OF ELECTRIC RELIABILITY COUNSEL OF TEXAS APPROVAL OF PROTOCOL REVISION 338	§ § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

FILING OF ATTACHED FIRST AMENDED PETITIONS IN CONSOLIDATED APPEALS OF PRRS 338 AND 347

COMES NOW FRONTERA GENERATION LIMITED PARTNERSHIP ("Frontera") and files these First Amended Petitions in the consolidated appeals of the adoption of PRRs 338 and 347 by the Electric Reliability Counsel of Texas Board of Directors ("ERCOT Board"). The purpose of the filing of these Amended Petitions is to further clarify the relief which Frontera seeks which is fair and adequate compensation for providing OOMC reliability services for the benefit of the market and the removal of ERCOT's discretion to determine which costs will or will not be paid as unlawful ratemaking. The only language modified in the First Amended Petitions is contained in the Prayer.

Respectfully Submitted,

/s/ Diana Liebmann

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GENERATION LIMITED PARTNERSHIP

w/permission: Dave Johnson

Certificate of Service

I, Diana M. Liebmann, certify that a copy of this document was served on ERCOT on December 6 , 2002, by first-class mail and facsimile transmission.

Diana Liebmann

Diana M. Liebmann

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DOCKET NO. 26311

APPEAL BY FRONTERA GENERATION LIMITED PARTNERSHIP OF ELECTRIC RELIABILITY COUNSEL OF TEXAS APPROVAL OF PROTOCOL REVISION 338	§ § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

FRONTERA GENERATION LIMITED PARTNERSHIP'S FIRST AMENDED APPEAL OF THE DECISION OF THE ERCOT BOARD TO ADOPT PROTOCOL REVISION 338 REGARDING PROSPECTIVE PRICING OF OUT OF MERIT CAPACITY

COMES NOW FRONTERA GENERATION LIMITED PARTNERSHIP ("Frontera") and files this appeal to the Public Utility Commission of Texas ("PUCT" or "Commission") of the adoption by the Electric Reliability Counsel of Texas ("ERCOT") Board of Directors ("Board") of Protocol Revision Request 338 ("PRR 338"). This appeal is filed pursuant to §39.151 of the Public Utility Regulatory Act ("PURA")[1] and Section 21 of the ERCOT Protocols.[2] A copy of PRR 338 is attached. In support of its appeal of the adoption of PRR 338 by the ERCOT Board, Frontera respectfully states as follows:

1. The Commission approved the ERCOT Protocols, with which ERCOT is required to comply.[3] Procedures established by ERCOT are subject to Commission review and oversight.[4] Additionally, Section 21 of the ERCOT Protocols requires appeal by a Market Participant to be made to the Commission within 35 days of the adoption of the relevant

[1] Tex. Util. Code Ann., Title II (West 2002).
[2] Approved in PUC Docket No. 23220, *Petition of the Electric Reliability Council of Texas for Approval of the ERCOT Protocols,* Order on Rehearing, June 4, 2001.
[3] *Id.*
[4] §39.151(d), Tex. Util. Code Ann., Title II (West 2002).

decision. The ERCOT Board adopted PRR 338 in its June 17, 2002 meeting of the ERCOT Board of Directors. As such, this appeal is timely filed.

2. The Texas Legislature allowed for the delegation of certain operational authority to the independent organization, and the Commission determined that ERCOT would be the independent organization in the ERCOT power region. However, the authority to delegate is limited to certain functions.[5] Specifically, it is limited such that:

> The Commission may delegate authority to the existing independent system operator in ERCOT to enforce operating standards within the ERCOT regional electrical network and to establish and oversee transaction settlement procedures. The Commission may establish the terms and conditions for the ERCOT independent system operator's authority to oversee utility dispatch functions after the introduction of customer choice.[6]

As such, ERCOT is limited by statute to performing those functions related to the grid which are delegated by statute or by the Commission.

3. PRR 338 fails to fairly compensate a generating unit that assists in ensuring reliability on the ERCOT grid and establishes rate-setting authority within ERCOT, in violation state law. First, ERCOT may only be delegated certain functions which are required to operate the system. The setting of rates by ERCOT is not contemplated in any section of PURA. Such rate-setting authority places the ERCOT Board, which is composed of market participants and competitors, as the arbiter of what a particular market participant will be paid for providing a mandatory service to ERCOT.

[5] §39.151(k), Tex. Util. Code Ann. (West 2002).
[6] *Id.* at §39.151(i).

4. Frontera is a nominal 477 MW plant located just outside of McAllen, Texas in the Rio Grande Valley. Frontera consists of two combustion turbines and one steam turbine operating in a combined cycle configuration. Frontera was designed as a baseload unit, such that it would operate for a prolonged continuous period after start-up. Further, Frontera must operate at a constant minimum of 135 MW to be in compliance with its air permit. The Out of Merit Capacity ("OOMC") ancillary service, by contrast, is a peaking service that requires Frontera to start and stop over much shorter periods, usually after only 16 hours, which leads to significant wear and tear on the unit. Frontera has consistently responded when called upon by ERCOT for reliability purposes and has committed to be available in the future for ERCOT when called upon to support reliability.

5. OOMC is a mechanism used by ERCOT to call upon available generating resources when less than three unaffiliated Replacement Reserve Service bids capable of solving a given congestion problem have been submitted to ERCOT. Until the effective date of PRR 338, the current protocol for settlement of OOMC services provided by a resource are contained in Section 6.8.2.1 of the ERCOT Protocols. As stated in the attached PRS Recommendation Report,[7] the settlement for OOMC service has been bid-based and the protocol revision is intended to change the settlement for OOMC services to cost-based.

6. The OOMC service is a procured Replacement Reserve Service[8] which includes a Day Ahead capacity reservation by ERCOT and an associated real-time energy obligation for the designated generating resource. OOMC is also a unit-specific load following service such that it

[7] PRS Recommendation Report, PRR 338, "Change OOMC pricing methodology."
[8] §6.8.2.1(1) ERCOT Protocols.

can be used to resolve local congestion.[9] Once ERCOT instructs a specific unit to reserve capacity, that unit's operators must physically "position" the unit to fulfill the associated energy-related obligations. Specifically, for a Day Ahead OOMC capacity reservation by ERCOT, a generating resource is obligated to provide an amount of energy up to the capacity reservation volume within 15 minutes of real-time deployment by ERCOT. For Frontera, a combined-cycle unit, this physical "positioning" of the unit requires as much as 6 hours of "Ramp" time and requires Frontera to maintain a constant minimum output level. The OOMC service requires that Frontera adjust the generating level either up or down every 15 minutes as ordered by ERCOT. Hence, OOMC constitutes a "swing" service.

7. As described above, Frontera's base operating characteristics require that Frontera must be generating at least 135 MW ("Environmental Minimum") before it can provide the OOMC "swing" service to ERCOT. The total energy output from Frontera to provide the OOMC service must always be the amount deployed by ERCOT plus the Environmental Minimum. ERCOT does not notify Frontera of the need for its services until after all of the Day Ahead markets have closed. Frontera must attempt to sell the Environmental Minimum and Ramp energy to buyers after all of the bilateral Day Ahead markets have closed and the market demand has been met because buyers have already purchased their requirements for the next operational day. Such a situation usually requires Frontera to sell Environmental Minimum and Ramp energy at a loss, pay other market participants to take the energy, or risk paying up to $1000 for each MWh delivered "unscheduled" into the ERCOT-sponsored balancing energy market. The risk associated with the $1000/MWh payment in the balancing energy market results from the offer cap, which allows the balancing energy market to settle at a level of

[9] ERCOT Protocols §6.6.3.2.1(4)(c).

negative $1000/MWh. When Frontera sells at a loss, is required to pay a market participant to take its Environmental Minimum or Ramp energy, or is exposed to the balancing energy market, it is not compensated in any manner for such losses. Under these circumstances, Frontera is not compensated for these losses or the cost of generating the Environmental Minimum. As currently drafted, Frontera would not be able to recover any of these costs, losses, or premiums on such costs or losses under PRR 338. Additional uncompensated costs include but are not limited to the start charge, chemicals, spare parts, cost of capital, depreciation, and because of the requirement to run the plant for a peaking service when the unit was designed to perform as a baseload unit, major maintenance. Under PRR 338, the particulars of amounts that will be paid are to be determined by ERCOT on a case-by-case basis.

8. The ERCOT Protocols were designed to utilize market solutions before implementing directives by ERCOT. In PRR 338, ERCOT is not required to seek market solutions prior to issuing the OOMC instruction. When ERCOT instructs a resource under OOMC, the settlement is not transparent to the market. Therefore, market participants do not have any information as to whether it is profitable to compete for this service. The market should be given every opportunity to function competitively prior to the use of OOMC by ERCOT. The new protocol should encourage market participants to participate in the RPRS bid markets such that a market solution is more likely.

9. Under the new PRR 338, ERCOT would determine which costs of a given entity will be approved and which will not. Specifically, documentation in writing to allow for

verification of claimed amounts is required.[10] This mechanism is tantamount to setting a rate for OOMC. However, unlike a traditional rate set under cost of service regulation, this rate does not have defined elements nor does it allow for a return on investment. After the service has been deployed, ERCOT unilaterally determines which costs will be approved on an ad hoc basis. Such a rate constitutes preferential, discriminatory rate-setting by ERCOT in violation of state law.[11] Additionally the "verifiable costs" do not take into account traditional costs incurred by a generator as evidenced by the long history of regulation in the State of Texas. For example cost of capital, operations and maintenance expense (fixed and variable), administrative and general expense are not included. Rather ERCOT determines which items, for which a market participant submits a receipt, will be paid. As drafted, PRR 338 does not cover the actual costs incurred by a generator for providing reliable service to the market for the benefit of the load serving entities and their customers. In fact, given the circumstances unique to Frontera, Frontera would be required to operate at a loss under PRR 338.

10. The Commission approved the original protocols which required OOMC service to be settled based upon bids by market participants, which negated the need for any particular rate to be established and allowed market participants to bid the amounts necessary to provide adequate levels of return. The Commission has made no determination that the current settlement of OOMC ancillary service is not reasonable. In addition, the Commission took affirmative steps to ensure that prices would in fact be reasonable by establishing a bid cap. Regardless of the size of the cap, the risk to Frontera would be the same, in that Frontera would

[10] *Id.* at 6.8.2.1(4) at page 8.
[11] Tex. Util. Code Ann. §39.004(e) (West 2002).

be exposed to the maximum negative amount in the balancing market for its Environmental Minimum and Ramp energy.

11. Additionally, if a resource unit is required to continually be called upon under OOMC, the protocols should direct ERCOT to engage in substantive discussions with the unit owner for a Reliability Must Run Agreement ("RMR") Agreement, which will reduce overall costs to the market and risks to the market participant.

12. Finally, the new OOMC settlement protocol embodied in PRR 338 is mathematically unworkable. The actual formula provided is not functional as it includes an undefined variable which is listed as RCGCC(c) or Resource Category Generic Capacity Cost for a specific category of generation unit. This variable is not included in any of the new definitions included in the other protocol revision requests approved and adopted simultaneously as PRRs 335, 336, 337, and 338 and PRR 340 which was approved and remanded.

13. Frontera's authorized representatives are:

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ERCOT's authorized representatives are:

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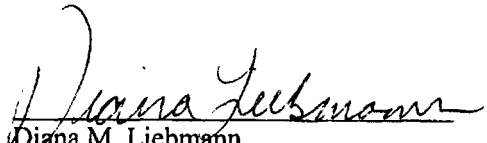
For the foregoing reasons, Frontera respectfully requests that the Commission grant this appeal and expeditiously resolve the issues raised herein in accordance with PURA. Specifically Frontera requests that the Commission require payment for OOMC service which is, at a minimum, equivalent to that provided under cost of service principles for regulated services, such that Frontera is adequately compensated for providing OOMC services, and any discretion on the part of ERCOT in determining payment for OOMC services is eliminated as unlawful ratemaking. Additionally, Frontera requests that the Commission require ERCOT to include the above-listed costs within ERCOT's definition of costs for purposes of any cost-based calculation made by ERCOT such that Frontera will be made whole for providing reliability services to ERCOT.

Respectfully Submitted,



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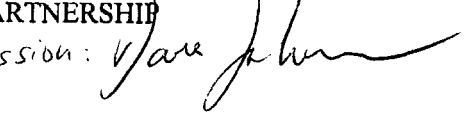
w/ permission: 

Certificate of Service

I, Diana M. Liebmann, certify that a copy of this document was served on ERCOT on December 6, 2002, by first-class mail and facsimile transmission.

Diana Liebmann

Diana M. Liebmann

PRS Recommendation Report

PRR Number	338PRR	PRR Title	Change OOMC pricing methodology
Recommended Action	Approve as revised.		
Recommended Effective Date	Pending impact analysis.		
System Impact	Impacts the ERCOT IT system.		
Benefit	Improves Local Congestion by reducing the potential for gaming, lowers the cost of Local Congestion and is fair to all parties.		
PRR Background	This PRR is one of a group of PRRs [#s 334-340] that the submitter requested be considered as a single vote. Change OOMC from bid/premium-based pricing to cost-based pricing.		
Protocol Revision Subcommittee Recommendation	PRS recommends approval of PRR338 as revised by the AEP comments.		

EXHIBIT
1

PRS Recommendation Report

RECOMMENDED LANGUAGE

2.1 Definitions

R

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Remedial Action Plan
Predetermined operator actions to maintain ERCOT Transmission Grid reliability during a defined adverse operating condition.

Reactive Power
The product of voltage and the out-of-phase component of alternating current. Reactive Power, usually measured in megavolt-amperes reactive, is produced by capacitors, overexcited generators and other capacitive devices and is absorbed by reactors, underexcited generators and other inductive devices.

Reactive Power Profile
***See* Voltage Profile**

Reactive Reserve
That reactive capability required to meet sudden loss of generation, Load or transmission capacity and maintain voltage within desired limits.

Real Time
The current instant in time.

REC Program
The Renewable Energy Credit trading program, as described in Section 14, Renewable Energy Credit Trading Program, and PUCT Subst. R. 25.173.

Registered Market Participant
Entity that is registered with ERCOT to participate in the competitive market administered by ERCOT within the ERCOT Region. Registered Market Participants include those using statewide systems administered by ERCOT and may be non-ERCOT participants.

Registration Processing Period
Minimum amount of time the ERCOT registration system requires to process transactions. This period begins when ERCOT receives a registration transaction request and continues until the completion of the transaction.

Regulation Service

A service that is used to control the power output of Resources in response to a change in system frequency so as to maintain the target system frequency within predetermined limits.

Reliability Must Run (RMR) Service
The provision of generation capacity and/or energy resources from a Reliability Must Run Unit or a Synchronous Condenser Unit.

Reliability Must Run (RMR) Unit
A Generation Resource unit operated under the terms of an annual Agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria where Market Solutions do not exist.

Replacement Reserve Service
A service that is procured from Generation Resource units planned to be off-line and Load acting as a Resource that are available for interruption during the period of requirement.

Representative Interval Data Recorder
The technique for profiling premises participating in special pricing programs which consists of implementing a statistically representative Load research sample on the program population. The sample data is then used to develop the representative IDR (RIDR) for profiling these premises.

Resettlement Statement
***See* Settlement Statement**

Resource
Facilities capable of providing electrical energy or Load capable of reducing, or increasing the need for electrical energy or providing Ancillary Services to the ERCOT System, as described in Section 6, Ancillary Services. This includes Generation Resources and Loads acting as Resources.

Resource Category Generic Startup Cost
A fixed price for starting a unit that is selected out of merit order to provide balancing energy. The RCGSC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

Resource Category Generic Operational Cost
A standard $/MWh price for running a unit selected out of merit order to provide balancing energy. The RCGOC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

PRS Recommendation Report

6.6.3.2.1 *Specific Procurement Process Requirements for Replacement Reserve Service in the Adjustment Period*

ERCOT shall procure Replacement Reserve Service (RPRS) in the AP as follows:

(1) ERCOT will evaluate Zonal Congestion, Local Congestion, and capacity insufficiency using ERCOT's Operational Model, balanced QSE schedules, Resource Plans and ERCOT forecast of next day Load.

(2) ERCOT will define the level of Resources available to meet next-day reliability needs of the ERCOT System based on QSE schedule submissions, Resource Plans and ERCOT Load forecast. ERCOT will determine incremental Resource capacity available from Generation Resources that are off-line, or Generation Resources that are expected to be off-line in the requested hours or Loads acting as a Resource shown as available in the Resource Plans.

(3) After determining the period of time the RPRS will be needed, ERCOT shall form the RPRS bid from each Resource. ERCOT will divide the capacity price component of the QSEs bid by the number of hours the Resource is needed and add the result to the QSEs hourly price of capacity. This forms the Resource bid price that will be used in all determinations of bid award for RPRS.

(4) RPRS procurement produces a solution that resolves capacity inadequacy, Zonal Congestion and Local Congestion problems simultaneously. The solution of the RPRS is a result of ERCOT performing analysis of the current physical system operations for each hour to recognize potential transmission constraints that would require Resources not currently planned to be available. The purpose and use of the RPRS procurement is to provide capacity from which energy would be available to solve the following system security violations:

(a) ERCOT System capacity insufficiency using any RPRS bid;

(b) Zonal Congestion using the RPRS bids by Congestion Zone in bid price Merit Order and the current physical system operations in the ERCOT System; and

(c) Local Congestion using location specific Resource bids for RPRS and the current physical system operations in the ERCOT System.

(5) ERCOT will solve security violations using a transmission security-constrained mathematical optimization application. The application will solve as if each bid can be proportioned into individual MW bids. The objective of the optimization is to minimize the cost of the bid-weighted Resource capacity while satisfying all the security constraints.

(6) In the event there is an insufficient amount of RPRS bids submitted to provide a Market Solution to the system security violations or to resolve local congestion, ERCOT will use OOMC to acquire the needed capacity.

(7) The costs associated with resolving system security violations will be identified separately into the following categories: capacity inadequacy, Zonal Congestion and Local Congestion.

(8) The market clearing prices on the capacity insufficiency, CSC constraint and operational constraint will represent the marginal cost for the solution of each constraint and will be produced as an output of the mathematical optimization application. The output of the application will be as follows:

(a) The marginal cost (Shadow Price of the power balance constraint) to solve system insufficiency defines MCPC for insufficiency.

(b) The marginal cost (Shadow Price of the CSC constraint) to solve a CSC constraint defines the congestion price of the CSC constraint.

(c) ~~The marginal cost (Shadow Price of the operational constraint) to solve an operational constraint defines the congestion price of the operational constraint.~~The Resource Category Generic Costs define the price for resolving local congestion.

~~(d)~~The bidder of RPRS is paid the MCPC of the Congestion Zone unless the bid has been selected to solve Local Congestion. RPRS bidders whose bids are taken to solve Local Congestion are paid the OOMC price unless there is a Market Solution which can resolve the Local Congestion. ~~as bid subject to a Market Solution existing to clear the Local Congestion. The bidder is paid the OOMC price if a Market Solution does not exist.~~

(d) QSEs whose schedules have impacts on CSCs according to the Commercial Model (using zonal Shift Factors at the time of RPRS procurement for each Zone) at the rate of their impact less their scheduled PCRs shall be charged congestion costs associated with the impact.

~~(10)~~(9) The costs of resolving Local Congestion are based on the amount of capacity required to solve Local Congestion. ~~This cost will be allocated to all QSEs based on the Load Ratio Share for the relevant period~~. This cost will be tracked by specific constraint to aid the determination of the potential addition to the constraint as a CSC.

~~(11)~~(10) If all of the cost of RPRS is not allocated by one of the above methods then the allocation will be uplifted to all QSEs based on the Load Ratio Share for the relevant period. If ERCOT collects more RPRS costs in this manner than is necessary, the excess funds collected by ERCOT will be credited to all QSEs based on the Load Ratio Share for the relevant period.

~~(12)~~(11) The RMR Units will be considered as unavailable in RPRS procurement.

~~(13)~~(12) In the case of tied bids for the selection of RPRS, ERCOT will select the bid that meets the requirement most closely (achieving the optimal solution). When

the price and capacity are identical from unaffiliated bidders, ERCOT may request re-bids.

~~(14)~~(13) For RPRS, for each hour, for each Congestion Zone, ERCOT will post the quantity of capacity procured and the MCPCs and Shadow Prices.

~~(15)~~(14) On award of RPRS capacity, the energy bid curves provided by the QSE selected to provide RPRS will be added to the Balancing Energy bids stack for the period of time the RPRS is awarded. QSEs may supply multiple price-quantity pair bids for incremental energy to ERCOT for each Resource.

6.8.2.1 Capacity Payments

(1) OOMC Service may be used by ERCOT as a procured Replacement Reserve Resource in the Adjustment Period where necessary to support emergency operations and provide voltage support, stability or to manage localized transmission limitations. All Resources that are available and plan to be off-line during the interval for which ancillary services are being procured are eligible to be selected to provide OOMC Service. OOMC Service may be used only if there is no ~~Market Solution~~resource available through the Specific Process for Replacement Reserve Service procurement defined in section 6.6.3.2.1 or ~~available~~ through contracted RMR Service.

~~(2)The payment of OOMC Service will incorporate the use of a Current Resource Specific Percentage (CRSP). The CRSP will be based on the number of times a specific Resource is used to resolve a localized problem where a Market Solution does not exist.~~

~~(3)The Current Resource Specific Percentage will begin at 150% and remain at 150% if the Resource has been used to provide OOMC Service equal to or less than five (5) times in the previous ninety (90) days. The CRSP will be set to 125% and remain at 125% if the Resource has been used to provide OOMC Service more than five (5) times but less than ten (10) times in the previous ninety (90) days. The CRSP will be set to 100% and remain at 100% if the Resource has been used to provide OOMC Service more than ten (10) times in the previous ninety (90) days.~~

(2) ~~If ERCOT determines that there is not a Market Solution, QSEs representing Replacement Reserve Resources will be paid the~~ Resources selected to provide OOMC Service that actually reconnect to the ERCOT transmission grid and start the unit in order to provide the OOMC service will be paid both the Resource Category Generic Capacity Cost for starting the unit as well as the Resource Category Generic Operational Cost for operating during the instructed interval(s).

~~(4)~~(3) Resources that are connected to the ERCOT transmission grid when instructed to provide OOMC Service will be paid the Resource Category Generic Operational Cost for

operating during the instructed interval(s). ~~lower of the actual bid for that Resource submitted or the CRSP multiplied by the MCPC for Replacement Reserves for the Congestion Zone market. If no RPRS bids were selected in the market for the Congestion Zone, the MCPC will equal the next higher bid after the highest bid for Replacement Reserve Service called on, other than the Out-of-Merit Order Resource in that Congestion Zone or of all replacement bids if a bid in the Congestion Zone does not exist.~~

~~(5)If a specific Resource required by ERCOT has not submitted an RPRS bid then ERCOT may call that Resource, if it is available. ERCOT will pay the QSE representing that Resource the CRSP multiplied by the next higher bid after the highest bid for Replacement Reserve Service procured in the Congestion Zone for Replacement Reserves or of all replacement bids if a bid in the Congestion Zone does not exist.~~

(4) ~~If a Resource is called to provide OOMC service and the payment for OOMC service is insufficient to cover all costs of providing the Service and provide a premium, then that Resource will be paid all verifiable, costs in excess of the OOMC payment that are directly attributable to the OOMC Service plus a premium. The costs of providing the service shall be provided to ERCOT, in writing from the QSE or Resource owner, within a time frame to allow resolution by the end of the dispute process for Settlement True-up. These costs may include the cost of exceeding swing gas contract limits, additional gas demand costs set by the fuel supply or transportation contracts, and any additional costs to purchase emissions credits or other costs incurred due to environmental regulations. The premium to be provided shall be the product of the costs of providing the service times 10%.~~ If a Resource is called to provide OOMC service and the payment for OOMC service is insufficient to cover all costs of providing the Service and provide a premium, then that Resource will be paid all verifiable, costs in excess of the OOMC payment that are directly attributable to the OOMC Service plus a premium. These costs may include the cost of exceeding swing gas contract limits, additional gas demand costs set by the fuel supply or transportation contracts, and any additional costs to purchase emissions credits or other costs incurred due to environmental regulations. The premium to be provided shall be the product of the costs of providing the service times 10%. Verification of these costs must be submitted to ERCOT to allow resolution by the end of the dispute process for Settlement True-Up as defined in Section 9.2.4, True-Up Statements. QSEs requesting such cost recovery shall perform the following:

1. Submit a settlement dispute in accordance with the dispute process outlined in Section 9.5. In addition to the standard information required on the entry form on the ERCOT Portal, the dispute should clearly indicate:

   a. The deployment instruction received from ERCOT to provide services.

   b. The payment received for providing the service.

c. The actual cost of providing the service.

d. A reference to the documentation to be provided in writing as indicated in section

2. Requests for additional compensation shall provide documentation in writing to allow for verification of the claimed amounts. Documentation requirements for each cost type are as follows:

a. Fuel cost for providing the service shall be determined by taking the product of the fuel consumption (MMBtu) at the normal minimum operating level of the resource and it's associated fuel cost ($/MMBtu).

b. Fuel consumption at the normal minimum operating level shall be based upon a heat rate curve for the resource from the most recently conducted heat rate tests. Test data shall be provide in sufficient detail to allow for the validation of the heat rate curve provided.

a. Fuel cost, including transportation cost, will require supporting documentation of sufficient detail to allow for the verification of the cost of fuel consumed at the deployed resource. Documentation may include contracts, invoices or other documents all of which will be treated as confidential. All copies of such documentation will be returned upon completion of the review. For gas fired resources, such documentation will not be required if the requested incremental fuel cost is less than 115% of the Fuel Index Price.

c. Compensation for additional types of cost, not outlined above, must be reviewed and approved by the ERCOT Board of Directors during an Executive Session of their next regularly scheduled meeting. Requests must be presented in person by a representative of the company submitting the request and must also include language suitable to be included in the Protocols to define the documentation requirements for future request of a similar nature. Subsequent to the approval of such costs, the requesting company shall submit a Protocol Revision Request, in accordance with Protocol 21, incorporating the necessary documentation standards provided to the ERCOT Board.

~~(6)~~

~~(7)~~(5) The calculation for capacity payments of Out –of Merit Service is as follows:

$$PC_{OOMRPqi} = SUM\ (PC_{OOMRPqui})_u$$

PRS Recommendation Report

Given:

~~$PC_{OOMRPqui} = 1 * (C_{OOMRPui}) * MIN (PF_{OOMRPui} * MCPC_{RPiz}, BP_{RPui})$~~

$PC_{OOMRPqui} = -1*MIN[BP_{Rnuui} * C_{OOMRPui}, Max[0, (PS_{ui} + PO_{ui} - RC_{ui}) - MCPC_{RPiz} * C_{OOMRPui}]]$

If the unit is deemed to be online as described in 6.8.2.1(3)
Then:
$PSC_{sui} = 0$

If the unit is deemed to be offline as described in 6.8.2.1(2)
Then:
$PSC_{ui} = RCGCC_c * C_{OOMRPui}$

$PO_{ui} = RCGOC_c * C_{OOMRPui}$

$RC_{ui} = SUM[SUM[MAX(0, (MCPE_{ij} - 16 * FIP))]_j * C_{OOMRPui}]$

The equation below will be used to determine the Total OOM Capacity Payments to be allocated to each QSE as described in Section 6.9.7.1, OOM Capacity Charge.

$PC_{OOMRPqi} = SUM (PC_{OOMRPqui})_q$

Where:

c	Resource Category
i	hourly interval
j	Settlement intervals within the hourly interval i
u	single Resource
z	zone
q	QSE
$PC_{OOMRPqui}$	OOM Replacement Reserve Capacity Payments by single Resource by interval for that QSE
$PC_{OOMRPqi}$	Total OOM Replacement Reserve Capacity Payment ($) by interval for that QSE (All OOM single Resources added together for that QSE)
$MCPC_{RPiz}$	Market Clearing Price of Capacity for Replacement Reserve ($/MW) for the given zone per interval

PRS Recommendation Report

BP_{RPui}	Bid Price for Replacement Reserve ($/MW) of the unit per interval
$C_{OOMRPui}$	Out of Merit Replacement Reserve Capacity awarded capacity (MW) per single Resource per interval
PF_{OOMRPu}	CRSP for OOM Payments (scaled according to usage, minimum of 1.0 and maximum of 1.5)
PC_{OOMRPi}	Summation of OOM Replacement Capacity Payment ($) per interval for all QSEs in the market
$RCGCC_c$	Resource Category Generic Capacity Cost for a specific category of generation unit.
$RCGOC_c$	Resource Category Generic Operational Cost for a specific category of generation unit.
PS_{ui}	Price for starting a unit that is selected out of merit order to provide balancing energy.
PO_{ui}	Price for operating a unit that is selected out of merit order to provide balancing energy.
RC_{ui}	Revenue credit for unit deployed

PRS Recommendation Report

PRR Evaluation	
Non-ERCOT Market Comparison	No Comparison conducted.

Comments Author	**Comments Summary**
AEP	Revised proposed language.

DOCKET NO. 26311

APPEAL BY FRONTERA GENERATION LIMITED PARTNERSHIP OF ELECTRIC RELIABILITY COUNCIL OF TEXAS APPROVAL OF PROTOCOL REVISION 347	§ § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

FRONTERA GENERATION LIMITED PARTNERSHIP'S FIRST AMENDED APPEAL OF THE DECISION OF THE ERCOT BOARD TO ADOPT PROTOCOL REVISION 347 REGARDING PROSPECTIVE PRICING OF OUT OF MERIT CAPACITY

COMES NOW FRONTERA GENERATION LIMITED PARTNERSHIP ("Frontera") and files this appeal to the Public Utility Commission of Texas ("PUCT" or "Commission") of the adoption by the Electric Reliability Counsel of Texas ("ERCOT") Board of Directors ("Board") of Protocol Revision Request 347 ("PRR 347"). This appeal is filed pursuant to §39.151 of the Public Utility Regulatory Act ("PURA")[1] and Section 21 of the ERCOT Protocols.[2] A copy of the PRS Recommendation Report for PRR 347, adopted by the ERCOT Board is attached.[3] In support of its appeal of the adoption of PRR 347 by the ERCOT Board, Frontera respectfully states as follows:

1. The Commission approved the ERCOT Protocols, with which ERCOT is required to comply.[4] Procedures established by ERCOT are subject to Commission review and

[1] Tex. Util. Code Ann., Title II (West 2002).
[2] Approved in PUC Docket No. 23220, *Petition of the Electric Reliability Council of Texas for Approval of the ERCOT Protocols,* Order on Rehearing, June 4, 2001.
[3] PRS Recommendation Report for PRR 347 attached as Exhibit "1."
[4] PUC Docket No. 23220, *Petition of the Electric Reliability Council of Texas for Approval of the ERCOT Protocols,* Order on Rehearing, June 4, 2001.

oversight.[5] Additionally, Section 21 of the ERCOT Protocols requires appeal by a market participant to be made to the Commission within 35 days of the adoption of the relevant decision. As a result, the instant appeal by Frontera of the ERCOT Board of Directors' decision to adopt PRR 347, although related to Frontera's appeal of PRR 338,[6] is separately filed. The ERCOT Board adopted PRR 347 in its July 16, 2002 meeting of the ERCOT Board of Directors. As such, this appeal is timely filed.

2. PRR 347 appears to attempt to address one issue raised in Frontera Generation Limited Partnership's Appeal of PRR 338 filed in PUC Docket No. 26311. However, the modification attempted by PRR 347, rather than curing the problems associated with PRR 338[7] adds additional issues to an already problematic and unlawful attempt by ERCOT to engage in ratemaking. Several issues have been raised in PUC Docket No. 26311 that remain issues despite the adoption of PRR 347. Since the issues in the two appeals are interrelated, consolidation of this appeal with that of PUC Docket 26311 would allow for a more efficient and expedient resolution of these issues.

3. The Texas Legislature allowed for the delegation of certain operational authority to an independent organization, and the Commission determined that ERCOT would be the independent organization in the ERCOT power region. However, the authority to delegate is limited to certain functions.[8] Specifically, it is limited such that:

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[5] §39.151(d), Tex. Util. Code Ann., Title II (West 2002).
[6] See *Appeal of Frontera Generation Limited Partnership of Electric Reliability Counsel of Texas Approval of PRR 338,* PUCT Docket No. 26311.
[7] A copy of the PRS Recommendation Report for PRR 338, adopted by the ERCOT Board, is attached as Exhibit "2."
[8] §39.151(k), Tex. Util. Code Ann. (West 2002).

> The Commission may delegate authority to the existing independent system operator in ERCOT to enforce operating standards within the ERCOT regional electrical network and to establish and oversee transaction settlement procedures. The Commission may establish the terms and conditions for the ERCOT independent system operator's authority to oversee utility dispatch functions after the introduction of customer choice.[9]

As such, ERCOT is limited by statute to performing those functions related to the grid which are delegated by statute or by the Commission.

4. PRR 347, in the same manner as PRR 338, fails to fairly compensate a generating unit that assists ERCOT in ensuring reliability on the ERCOT grid and establishes rate-setting authority within ERCOT, in violation of state law. First, ERCOT may only be delegated certain functions which are required to operate the grid. The setting of rates by ERCOT is not contemplated in any section of PURA. Such rate-setting authority places the ERCOT Board, which is composed of market participants and competitors, as the arbiter of what a particular market participant will be paid for providing a mandatory service to ERCOT.

5. Frontera is a nominal 477 MW plant located just outside of McAllen, Texas in the Rio Grande Valley. Frontera consists of two combustion turbines and one steam turbine operating in a combined cycle configuration. Frontera was designed as a baseload unit, such that it would operate for a prolonged continuous period after start-up. Further, Frontera must operate at a constant minimum of 135 MW to be in compliance with its air permit. The Out of Merit Capacity ("OOMC") ancillary service, by contrast, is a peaking service that requires Frontera to start and stop over much shorter periods, usually after only 16 hours, which leads to significant wear and tear on the unit. Frontera has consistently responded when called upon by ERCOT for

[9] *Id.* at §39.151(i).

reliability purposes and has committed to be available in the future for ERCOT when called upon to support reliability.

6. OOMC is a mechanism used by ERCOT to call upon available generating resources when less than three unaffiliated Replacement Reserve Service bids capable of solving a given congestion problem have been submitted to ERCOT. The applicable protocol for settlement of OOMC services provided by a resource are contained in Section 6.8.2.1 of the ERCOT Protocols in effect prior to the adoption of PRRs 338 and 347. As stated in the attached PRS Recommendation Report for PRR 338,[10] the settlement for OOMC service has been bid-based but the protocol revision is intended to change the settlement for OOMC services to cost-based. The PRS Recommendation Report for PRR 347,[11] the subject of this appeal, is also attached and, although it purports to be a "clarification" of PRR 338's new pricing mechanism as previously pointed out in Frontera's appeal of PRR 338 in PUCT Docket No. 26311, it inserts the definition of a missing variable. However, an additional problem created with the adoption of PRR 347 is that if no bid is made by a particular unit into the RPRS market, and a unit is called to provide OOMC, no payment mechanism is identified.

7. The OOMC service is a procured Replacement Reserve Service,[12] which includes a Day Ahead capacity reservation by ERCOT and an associated real-time energy obligation for the designated generating resource. OOMC is also a unit-specific load following service such that it can be used to resolve local congestion.[13] Once ERCOT instructs a specific unit to reserve

[10] PRS Recommendation Report, PRR 338, "Change OOMC pricing methodology."
[11] PRS Recommendation Report, PRR 347, "OOMC Pricing Formula Clarification."
[12] §6.8.2.1(1) ERCOT Protocols.
[13] ERCOT Protocols §6.6.3.2.1(4)(c).

capacity, that unit's operators must physically "position" the unit to fulfill the associated energy-related obligations. Specifically, for a Day Ahead OOMC capacity reservation by ERCOT, a generating resource is obligated to provide an amount of energy up to the capacity reservation volume within 15 minutes of real-time deployment by ERCOT. For Frontera, a combined-cycle unit, this physical "positioning" of the unit requires as much as 6 hours of "Ramp" time and requires Frontera to maintain a constant minimum output level. The OOMC service requires that Frontera adjust the generating level either up or down every 15 minutes as ordered by ERCOT. Hence, OOMC constitutes a "swing" service.

8. As described above, Frontera's base operating characteristics require that Frontera must be generating at least 135 MW ("Environmental Minimum") before it can provide the OOMC "swing" service to ERCOT. The total energy output from Frontera to provide the OOMC service must always be the amount deployed by ERCOT plus the Environmental Minimum. ERCOT does not notify Frontera of the need for its services until after all of the Day Ahead markets have closed. Accordingly, Frontera must attempt to sell the Environmental Minimum and Ramp energy to buyers after all of the bilateral Day Ahead markets have closed and the market demand has been met because buyers have already purchased their requirements for the next operational day. Such a situation usually requires Frontera to sell Environmental Minimum and Ramp energy at a loss, pay other market participants to take the energy, or risk paying up to $1000 for each MWh delivered "unscheduled" into the ERCOT-sponsored balancing energy market. The risk associated with the $1000/MWh payment in the balancing energy market results from the offer cap, which allows the balancing energy market to settle at a level of negative $1000/MWh. When Frontera sells at a loss, is required to pay a market

participant to take its Environmental Minimum or Ramp energy, or is exposed to the balancing energy market, it is not compensated in any manner for such losses. Neither PRR 338 nor PRR 347 compensate Frontera for this exposure. ERCOT has also given OOMC instructions when the Frontera units are cycling to shut down. This causes the unit to be restarted immediately before the cycling is complete, creating the potential for equipment failure, while risking a negative $1000 market clearing price for Frontera's Environmental Minimum. In any of the above circumstances, Frontera is not compensated for these losses or the cost of generating the Environmental Minimum. Under PRR 347, as under PRR 338, Frontera would not be able to recover any of these costs, losses, or premiums on such costs or losses. Additional uncompensated costs include but are not limited to the start charge, chemicals, spare parts, cost of capital, depreciation, and, because of the requirement to run the plant for a peaking service when the unit was designed to perform as a baseload unit, major maintenance. Under PRR 347, as under PRR 338, the particulars of amounts that will be paid are to be determined by ERCOT on a case-by-case basis.

9. The ERCOT Protocols were designed to utilize market solutions before implementing directives by ERCOT. In PRR 347, as in PRR 338, there is no requirement for ERCOT to seek market solutions prior to issuing the OOMC instruction, though the use of market solutions are clearly preferred over command and control mechanisms, such as the use of OOMC, in the Protocols. When ERCOT instructs a resource under OOMC, the settlement is not transparent to the market. Therefore, market participants do not have any information as to whether it is profitable to provide this service through the RPRS markets and it may be less likely that a market will form. The market should be given every opportunity to function

competitively prior to the use of OOMC by ERCOT. PRR 347, or any prior or successor protocol, should encourage market participants to participate in the RPRS bid markets such that a market solution is more likely.

10. Under the new PRR 347 as under PRR 338, ERCOT would determine which costs of a given entity will be approved and which will not. Specifically, documentation in writing to allow for verification of claimed amounts is required.[14] This mechanism is tantamount to setting a rate for OOMC. However, unlike a traditional rate set under cost of service regulation, this rate does not have defined elements nor does it allow for a return on investment. After the service has been deployed, ERCOT unilaterally determines which costs will be approved on an ad hoc basis. Such a rate constitutes preferential, discriminatory rate-setting by ERCOT in violation of state law.[15] Additionally, the "verifiable costs" do not take into account traditional costs incurred by a generator as evidenced by the long history of regulation in the State of Texas. For example, cost of capital, operations and maintenance expense (fixed and variable), administrative and general expense are not included. Rather ERCOT will only consider items for which a market participant an submit can actual receipt. As drafted, PRR 347 does not cover the actual costs incurred by a generator for providing reliable service to the market for the benefit of the load serving entities and their customers. As such PRR 347 requires Frontera to operate at a loss.

11. The Commission approved the original protocols which required OOMC service to be settled based upon bids by market participants, which negated the need for any particular rate to be established and allowed market participants to bid the amounts necessary to provide

[14] PRR 347,. at 6.8.2.1, page 4, Exhibit "1."
[15] Tex. Util. Code Ann. §39.004(e) (West 2002).

adequate levels of return. The Commission has made no determination that the current settlement of OOMC ancillary service is not reasonable. In addition, the Commission took affirmative steps to ensure that prices would in fact be reasonable by establishing a bid cap. Regardless of the size of the cap, the risk to Frontera would be the same in that Frontera would be exposed to the maximum negative amount in the balancing market for its Environmental Minimum and Ramp energy.

12. Additionally, if a resource unit is required to continually be called upon under OOMC, the Protocols should direct ERCOT to first engage in substantive discussions with the unit owner for a Reliability Must Run Agreement ("RMR") Agreement, which will reduce overall costs to the market and the risks to the market participant.

13. Finally, the new OOMC settlement protocol embodied in PRR 347 only provides for payment to an OOMC service provider if that OOMC service provider has already placed a bid for RPRS. If a Market Participant is called on to provide OOMC but has not submitted a bid price, the protocol does not provide any payment mechanism for the deployment of the OOMC service. The modified formula provided as the "OOMC Clarification" includes the insertion of a definition for the undefined variable which is listed as RCGCC(c) or Resource Category Generic Capacity Cost for a specific category of generation unit. The insertion of the variable proves Frontera's contention in its appeal of PRR 338 that the formula was not workable. However the new variable is not adequate to compensate Frontera for its cost or any reasonable rate of return or premium and provides no compensation to a generator that is called on to provide OOMC but has not submitted an RPRS bid.

14. Frontera's authorized representatives are:

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ERCOT's authorized representatives are:

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Mark Walker, Senior Corporate Counsel
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For the foregoing reasons, Frontera respectfully requests that the Commission grant this appeal and expeditiously resolve the issues raised herein in accordance with PURA. As these issues are closely related to those raised in PUC Docket No. 26311, Frontera asks that this appeal be consolidated with Frontera's appeal of PRR 338, PUC Docket No. 26311, as a single proceeding will more efficiently resolve these interrelated issues on an expedited basis. Frontera requests that the Commission require payment for OOMC service which is, at a minimum, equivalent to that provided under cost of service principles for regulated services, such that Frontera is adequately compensated for providing OOMC services, and any discretion on the part of ERCOT in determining payment for OOMC services is eliminated as unlawful ratemaking. Additionally, Frontera requests that the Commission require ERCOT to include the above-listed costs within ERCOT's definition of costs for purposes of any cost-based calculation made by ERCOT so that Frontera will be made whole for providing reliability services to ERCOT.

Finally, when a resource provides OOMC for the benefit of the market, that resource should be compensated whether or not it has bid into the RPRS market.

Respectfully Submitted,

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ATTORNEYS FOR FRONTERA GENERATION LIMITED PARTNERSHIP

Certificate of Service

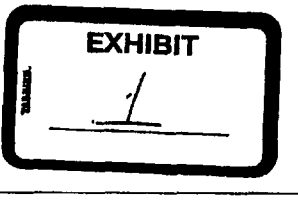
I, Diana M. Liebmann, certify that a copy of this document was served on ERCOT on December 6, 2002, by first-class mail and facsimile transmission.

Diana M. Liebmann

w/ permission: Dave Johnson

ERCOT Protocols Revision Request

PRR Number	347PRR	PRR Title	OOMC Pricing Formula Clarification
Status			
Protocol Section Requiring Revision		6.8.2.1(5) Capacity Payments	
Requested Resolution			
Revision Description		This PRR clarifies the equations originally proposed by PRR338.	
Reason for Revision		Provide clarification for vendor coding.	
Timeline			
Date Received			
Date Posted			
PRS Review Date			
PRS Recommendation			



ERCOT Protocols Revision Request

Proposed Protocol Language Revision

2.1 Definitions

R

Resource Category Generic Startup Cost

A fixed price for starting a unit that is selected out of merit order to provide balancing energy. The RCGSC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

Resource Category Generic Operational Cost

A standard $/MWh price for running a unit selected out of merit order to provide balancing energy. The RCGOC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

6.6.3.2.1 Specific Procurement Process Requirements for Replacement Reserve Service in the Adjustment Period

ERCOT shall procure Replacement Reserve Service (RPRS) in the AP as follows:

(1) ERCOT will evaluate Zonal Congestion, Local Congestion, and capacity insufficiency using ERCOT's Operational Model, balanced QSE schedules, Resource Plans and ERCOT forecast of next day Load.

(2) ERCOT will define the level of Resources available to meet next-day reliability needs of the ERCOT System based on QSE schedule submissions, Resource Plans and ERCOT Load forecast. ERCOT will determine incremental Resource capacity available from Generation Resources that are off-line, or Generation Resources that are expected to be off-line in the requested hours or Loads acting as a Resource shown as available in the Resource Plans.

(3) After determining the period of time the RPRS will be needed, ERCOT shall form the RPRS bid from each Resource. ERCOT will divide the capacity price component of the QSEs bid by the number of hours the Resource is needed and add the result to the QSEs hourly price of capacity. This forms the Resource bid price that will be used in all determinations of bid award for RPRS.

(4) RPRS procurement produces a solution that resolves capacity inadequacy, Zonal Congestion and Local Congestion problems simultaneously. The solution of the RPRS is a result of ERCOT performing analysis of the current physical system operations for each hour to recognize potential transmission constraints that would require Resources not currently planned to be available. The purpose and use of the RPRS procurement is to

provide capacity from which energy would be available to solve the following system security violations:

(a) ERCOT System capacity insufficiency using any RPRS bid;

(b) Zonal Congestion using the RPRS bids by Congestion Zone in bid price Merit Order and the current physical system operations in the ERCOT System; and

(c) Local Congestion using location specific Resource bids for RPRS and the current physical system operations in the ERCOT System.

(5) ERCOT will solve security violations using a transmission security-constrained mathematical optimization application. The application will solve as if each bid can be proportioned into individual MW bids. The objective of the optimization is to minimize the cost of the bid-weighted Resource capacity while satisfying all the security constraints.

(6) In the event there is an insufficient amount of RPRS bids submitted to provide a Market Solution to the system security violations or to resolve local congestion, ERCOT will use OOMC to acquire the needed capacity.

(7) The costs associated with resolving system security violations will be identified separately into the following categories: capacity inadequacy, Zonal Congestion and Local Congestion.

(8) The market clearing prices on the capacity insufficiency, CSC constraint and operational constraint will represent the marginal cost for the solution of each constraint and will be produced as an output of the mathematical optimization application. The output of the application will be as follows:

(a) The marginal cost (Shadow Price of the power balance constraint) to solve system insufficiency defines MCPC for insufficiency.

(b) The marginal cost (Shadow Price of the CSC constraint) to solve a CSC constraint defines the congestion price of the CSC constraint.

(c) The Resource Category Generic Costs define the price for resolving local congestion.

(d) The bidder of RPRS is paid the MCPC of the Congestion Zone unless the bid has been selected to solve Local Congestion. RPRS bidders whose bids are taken to solve Local Congestion are paid the OOMC price unless there is a Market Solution which can resolve the Local Congestion. QSEs whose schedules have impacts on CSCs according to the Commercial Model (using zonal Shift Factors at the time of RPRS procurement for each Zone) at the rate of their impact less their scheduled PCRs shall be charged congestion costs associated with the impact.

(9) The costs of resolving Local Congestion are based on the amount of capacity required to solve Local Congestion. . This cost will be tracked by specific constraint to aid the determination of the potential addition to the constraint as a CSC

(10) If all of the cost of RPRS is not allocated by one of the above methods then the allocation will be uplifted to all QSEs based on the Load Ratio Share for the relevant period. If ERCOT collects more RPRS costs in this manner than is necessary, the excess funds collected by ERCOT will be credited to all QSEs based on the Load Ratio Share for the relevant period.

(11) The RMR Units will be considered as unavailable in RPRS procurement.

(12) In the case of tied bids for the selection of RPRS, ERCOT will select the bid that meets the requirement most closely (achieving the optimal solution). When the price and capacity are identical from unaffiliated bidders, ERCOT may request re-bids.

(13) For RPRS, for each hour, for each Congestion Zone, ERCOT will post the quantity of capacity procured and the MCPCs and Shadow Prices.

(14) On award of RPRS capacity, the energy bid curves provided by the QSE selected to provide RPRS will be added to the Balancing Energy bids stack for the period of time the RPRS is awarded. QSEs may supply multiple price-quantity pair bids for incremental energy to ERCOT for each Resource.

6.8.2.1 Capacity Payments

(1) OOMC Service may be used by ERCOT as a procured Replacement Reserve Resource in the Adjustment Period where necessary to support emergency operations and provide voltage support, stability or to manage localized transmission limitations. All Resources that are available and plan to be off-line during the interval for which ancillary services are being procured are eligible to be selected to provide OOMC Service. OOMC Service may be used only if there is no resource available through the Specific Process for Replacement Reserve Service procurement defined in section 6.6.3.2.1 or through contracted RMR Service.

(2) Resources selected to provide OOMC Service that actually reconnect to the ERCOT transmission grid and start the unit in order to provide the OOMC service will be paid both the Resource Category Generic Capacity Cost for starting the unit as well as the Resource Category Generic Operational Cost for operating during the instructed interval(s).

(3) Resources that are connected to the ERCOT transmission grid when instructed to provide OOMC Service will be paid the Resource Category Generic Operational Cost for operating during the instructed interval(s).

(4) If a Resource is called to provide OOMC service and the payment for OOMC service is insufficient to cover all costs of providing the Service and provide a premium, then that Resource will be paid all verifiable, costs in excess of the OOMC payment that are directly attributable to the OOMC Service plus a premium. These costs may include the cost of exceeding swing gas contract limits, additional gas demand costs set by the fuel supply or transportation contracts, and any additional costs to purchase emissions credits or other costs incurred due to environmental regulations. The premium to be provided shall be the product of the costs of providing the service times 10%. Verification of these costs must be submitted to ERCOT to allow resolution by the end of the dispute process for Settlement True-Up as defined in Section 9.2.4, True-Up Statements. QSEs requesting such cost recovery shall perform the following:

~~1.~~(a) Submit a settlement dispute in accordance with the dispute process outlined in Section 9.5. In addition to the standard information required on the entry form on the ERCOT Portal, the dispute should clearly indicate:

~~a.~~(i) The deployment instruction received from ERCOT to provide services.

~~b.~~(ii) The payment received for providing the service.

~~c.~~(iii) The actual cost of providing the service.

~~d.~~(iv) A reference to the documentation to be provided in writing as indicated in section

~~2.~~(b) Requests for additional compensation shall provide documentation in writing to allow for verification of the claimed amounts. Documentation requirements for each cost type are as follows:

~~a.~~(i) Fuel cost for providing the service shall be determined by taking the product of the fuel consumption (MMBtu) at the normal minimum operating level of the resource and it's associated fuel cost ($/MMBtu).

~~b.~~(ii) Fuel consumption at the normal minimum operating level shall be based upon a heat rate curve for the resource from the most recently conducted heat rate tests. Test data shall be provide in sufficient detail to allow for the validation of the heat rate curve provided.

~~a.~~(iii) Fuel cost, including transportation cost, will require supporting documentation of sufficient detail to allow for the verification of the cost of fuel consumed at the deployed resource. Documentation may include contracts, invoices or other documents all of which will be treated as confidential. All copies of such documentation will be returned upon completion of the review. For gas fired resources, such documentation will not be required if the requested incremental fuel cost is less than 115% of the Fuel Index Price.

e.(iv) Compensation for additional types of cost, not outlined above, must be reviewed and approved by the ERCOT Board of Directors during an Executive Session of their next regularly scheduled meeting. Requests must be presented in person by a representative of the company submitting the request and must also include language suitable to be included in the Protocols to define the documentation requirements for future request of a similar nature. Subsequent to the approval of such costs, the requesting company shall submit a Protocol Revision Request, in accordance with Protocol 21, incorporating the necessary documentation standards provided to the ERCOT Board.

(5) The calculation for capacity payments of Out –of Merit Service is as follows:

$$\mathbf{PC_{OOMRPqi}} = \mathbf{SUM\ (PC_{OOMRPqui})_u}$$

Given:

$$PC_{OOMRPqui} = -1 * MIN\_[BP_{Rpqui} * C_{OOMRPui}, Max\_[0, (PS_{ui} + PO_{ui} - RC_{ui})]]$$

If the unit is deemed to be online as described in 6.8.2.1(3)
Then:

$$PS\text{~~C~~}_{sui} = 0$$

If the unit is deemed to be offline as described in 6.8.2.1(2)
Then:

$$PS\text{~~C~~}_{ui} = RCGCC_c * \text{~~C~~}_{OOMRPui}$$

$$PO_{ui} = RCGOC_c * C_{OOMRPui}$$

$$RC_{ui} = \text{~~SUM[~~}SUM\_\{[MAX\_(0, (MCPE_{ijz} - (16 * FIP)))]_j * C_{OOMRPui}/4\text{~~]~~}\}_j$$

The equation below will be used to determine the Total OOM Capacity Payments to be allocated to each QSE as described in Section 6.9.7.1, OOM Capacity Charge.

$$PC_{OOMRPqi} = SUM\ (PC_{OOMRPqui})_q$$

Where:

c	Resource Category
i	hourly interval
j	Settlement intervals within the hourly interval i
u	single Resource
z	zone
q	QSE

$PC_{OOMRPqui}$	OOM Replacement Reserve Capacity Payments by single Resource by interval for that QSE
$PC_{OOMRPqi}$	Total OOM Replacement Reserve Capacity Payment ($) by interval for that QSE (All OOM single Resources added together for that QSE)
~~$MCPC_{RPiz}$~~	~~Market Clearing Price of Capacity for Replacement Reserve ($/MW) for the given zone per interval~~
BP_{RPui}	Bid Price for Replacement Reserve ($/MW) of the unit per interval
$C_{OOMRPui}$	Out of Merit Replacement Reserve Capacity awarded capacity (MW) per single Resource per interval
~~PF_{OOMRPu}~~	~~CRSP for OOM Payments (scaled according to usage, minimum of 1.0 and maximum of 1.5)~~
PC_{OOMRPi}	Summation of OOM Replacement Capacity Payment ($) per interval for all QSEs in the market
$RCGCC_c$	Resource Category Generic Capacity Cost for a specific category of generation unit. RCGCCc = RCGSC/(number of hours).
$RCGOC_c$	Resource Category Generic Operational Cost for a specific category of generation unit.
PS_{ui}	Price for starting a unit that is selected out of merit order to provide balancing energy.
PO_{ui}	Price for operating a unit that is selected out of merit order to provide balancing energy.
RC_{ui}	Revenue credit for unit deployed

ERCOT Protocols Revision Request

Sponsor	
Name	
E-mail Address	
Company	ERCOT
Company Address	2705 West Lake Drive, Taylor, TX 76574
Phone Number	
Fax Number	

ERCOT Impact Analysis	
Date	
Financial Impact	
Analysis	

TAC Action	
TAC Vote Date	
TAC Proposed Implementation Date	
TAC Vote Results	

ERCOT Board Action	
ERCOT Board Vote Date	
ERCOT Board Implementation Date	
ERCOT Board Results	

Appeal	
Appeal Date	
Entity Initiating Appeal	
Nature of Appeal	

PRS Recommendation Report

PRR Number	338PRR	PRR Title	Change OOMC pricing methodology
Recommended Action	Approve as revised.		
Recommended Effective Date	Pending impact analysis.		
System Impact	Impacts the ERCOT IT system.		
Benefit	Improves Local Congestion by reducing the potential for gaming, lowers the cost of Local Congestion and is fair to all parties.		
PRR Background	This PRR is one of a group of PRRs [#s 334-340] that the submitter requested be considered as a single vote. Change OOMC from bid/premium-based pricing to cost-based pricing.		
Protocol Revision Subcommittee Recommendation	PRS recommends approval of PRR338 as revised by the AEP comments.		

EXHIBIT

2

PRS Recommendation Report

RECOMMENDED LANGUAGE

2.1 Definitions

R

[Back to Top]

Remedial Action Plan
Predetermined operator actions to maintain ERCOT Transmission Grid reliability during a defined adverse operating condition.

Reactive Power
The product of voltage and the out-of-phase component of alternating current. Reactive Power, usually measured in megavolt-amperes reactive, is produced by capacitors, overexcited generators and other capacitive devices and is absorbed by reactors, underexcited generators and other inductive devices.

Reactive Power Profile
***See* Voltage Profile**

Reactive Reserve
That reactive capability required to meet sudden loss of generation, Load or transmission capacity and maintain voltage within desired limits.

Real Time
The current instant in time.

REC Program
The Renewable Energy Credit trading program, as described in Section 14, Renewable Energy Credit Trading Program, and PUCT Subst. R. 25.173.

Registered Market Participant
Entity that is registered with ERCOT to participate in the competitive market administered by ERCOT within the ERCOT Region. Registered Market Participants include those using statewide systems administered by ERCOT and may be non-ERCOT participants.

Registration Processing Period
Minimum amount of time the ERCOT registration system requires to process transactions. This period begins when ERCOT receives a registration transaction request and continues until the completion of the transaction.

Regulation Service

A service that is used to control the power output of Resources in response to a change in system frequency so as to maintain the target system frequency within predetermined limits.

Reliability Must Run (RMR) Service
The provision of generation capacity and/or energy resources from a Reliability Must Run Unit or a Synchronous Condenser Unit.

Reliability Must Run (RMR) Unit
A Generation Resource unit operated under the terms of an annual Agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria where Market Solutions do not exist.

Replacement Reserve Service
A service that is procured from Generation Resource units planned to be off-line and Load acting as a Resource that are available for interruption during the period of requirement.

Representative Interval Data Recorder
The technique for profiling premises participating in special pricing programs which consists of implementing a statistically representative Load research sample on the program population. The sample data is then used to develop the representative IDR (RIDR) for profiling these premises.

Resettlement Statement
***See* Settlement Statement**

Resource
Facilities capable of providing electrical energy or Load capable of reducing, or increasing the need for electrical energy or providing Ancillary Services to the ERCOT System, as described in Section 6, Ancillary Services. This includes Generation Resources and Loads acting as Resources.

Resource Category Generic Startup Cost
A fixed price for starting a unit that is selected out of merit order to provide balancing energy. The RCGSC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

Resource Category Generic Operational Cost
A standard $/MWh price for running a unit selected out of merit order to provide balancing energy. The RCGOC is defined by the generation unit category (Baseload, Gas Intermediate, Gas Cyclic, Gas Peaking and Renewable).

6.6.3.2.1 Specific Procurement Process Requirements for Replacement Reserve Service in the Adjustment Period

ERCOT shall procure Replacement Reserve Service (RPRS) in the AP as follows:

(1) ERCOT will evaluate Zonal Congestion, Local Congestion, and capacity insufficiency using ERCOT's Operational Model, balanced QSE schedules, Resource Plans and ERCOT forecast of next day Load.

(2) ERCOT will define the level of Resources available to meet next-day reliability needs of the ERCOT System based on QSE schedule submissions, Resource Plans and ERCOT Load forecast. ERCOT will determine incremental Resource capacity available from Generation Resources that are off-line, or Generation Resources that are expected to be off-line in the requested hours or Loads acting as a Resource shown as available in the Resource Plans.

(3) After determining the period of time the RPRS will be needed, ERCOT shall form the RPRS bid from each Resource. ERCOT will divide the capacity price component of the QSEs bid by the number of hours the Resource is needed and add the result to the QSEs hourly price of capacity. This forms the Resource bid price that will be used in all determinations of bid award for RPRS.

(4) RPRS procurement produces a solution that resolves capacity inadequacy, Zonal Congestion and Local Congestion problems simultaneously. The solution of the RPRS is a result of ERCOT performing analysis of the current physical system operations for each hour to recognize potential transmission constraints that would require Resources not currently planned to be available. The purpose and use of the RPRS procurement is to provide capacity from which energy would be available to solve the following system security violations:

(a) ERCOT System capacity insufficiency using any RPRS bid;

(b) Zonal Congestion using the RPRS bids by Congestion Zone in bid price Merit Order and the current physical system operations in the ERCOT System; and

(c) Local Congestion using location specific Resource bids for RPRS and the current physical system operations in the ERCOT System.

(5) ERCOT will solve security violations using a transmission security-constrained mathematical optimization application. The application will solve as if each bid can be proportioned into individual MW bids. The objective of the optimization is to minimize the cost of the bid-weighted Resource capacity while satisfying all the security constraints.

(6) In the event there is an insufficient amount of RPRS bids submitted to provide a Market Solution to the system security violations or to resolve local congestion, ERCOT will use OOMC to acquire the needed capacity.

(7) The costs associated with resolving system security violations will be identified separately into the following categories: capacity inadequacy, Zonal Congestion and Local Congestion.

(8) The market clearing prices on the capacity insufficiency, CSC constraint and operational constraint will represent the marginal cost for the solution of each constraint and will be produced as an output of the mathematical optimization application. The output of the application will be as follows:

(a) The marginal cost (Shadow Price of the power balance constraint) to solve system insufficiency defines MCPC for insufficiency.

(b) The marginal cost (Shadow Price of the CSC constraint) to solve a CSC constraint defines the congestion price of the CSC constraint.

(c) ~~The marginal cost (Shadow Price of the operational constraint) to solve an operational constraint defines the congestion price of the operational constraint.~~The Resource Category Generic Costs define the price for resolving local congestion.

~~(d)~~The bidder of RPRS is paid the MCPC of the Congestion Zone unless the bid has been selected to solve Local Congestion. RPRS bidders whose bids are taken to solve Local Congestion are paid the OOMC price unless there is a Market Solution which can resolve the Local Congestion. ~~as bid subject to a Market Solution existing to clear the Local Congestion. The bidder is paid the OOMC price if a Market Solution does not exist.~~

(d) QSEs whose schedules have impacts on CSCs according to the Commercial Model (using zonal Shift Factors at the time of RPRS procurement for each Zone) at the rate of their impact less their scheduled PCRs shall be charged congestion costs associated with the impact.

~~(10)~~(9) The costs of resolving Local Congestion are based on the amount of capacity required to solve Local Congestion. ~~This cost will be allocated to all QSEs based on the Load Ratio Share for the relevant period~~. This cost will be tracked by specific constraint to aid the determination of the potential addition to the constraint as a CSC.

~~(11)~~(10) If all of the cost of RPRS is not allocated by one of the above methods then the allocation will be uplifted to all QSEs based on the Load Ratio Share for the relevant period. If ERCOT collects more RPRS costs in this manner than is necessary, the excess funds collected by ERCOT will be credited to all QSEs based on the Load Ratio Share for the relevant period.

~~(12)~~(11) The RMR Units will be considered as unavailable in RPRS procurement.

~~(13)~~(12) In the case of tied bids for the selection of RPRS, ERCOT will select the bid that meets the requirement most closely (achieving the optimal solution). When

the price and capacity are identical from unaffiliated bidders, ERCOT may request re-bids.

~~(14)~~(13) For RPRS, for each hour, for each Congestion Zone, ERCOT will post the quantity of capacity procured and the MCPCs and Shadow Prices.

~~(15)~~(14) On award of RPRS capacity, the energy bid curves provided by the QSE selected to provide RPRS will be added to the Balancing Energy bids stack for the period of time the RPRS is awarded. QSEs may supply multiple price-quantity pair bids for incremental energy to ERCOT for each Resource.

6.8.2.1 Capacity Payments

(1) OOMC Service may be used by ERCOT as a procured Replacement Reserve Resource in the Adjustment Period where necessary to support emergency operations and provide voltage support, stability or to manage localized transmission limitations. All Resources that are available and plan to be off-line during the interval for which ancillary services are being procured are eligible to be selected to provide OOMC Service. OOMC Service may be used only if there is no ~~Market Solution~~resource available through the Specific Process for Replacement Reserve Service procurement defined in section 6.6.3.2.1 or ~~available~~ through contracted RMR Service.

~~(2)The payment of OOMC Service will incorporate the use of a Current Resource Specific Percentage (CRSP). The CRSP will be based on the number of times a specific Resource is used to resolve a localized problem where a Market Solution does not exist.~~

~~(3)The Current Resource Specific Percentage will begin at 150% and remain at 150% if the Resource has been used to provide OOMC Service equal to or less than five (5) times in the previous ninety (90) days. The CRSP will be set to 125% and remain at 125% if the Resource has been used to provide OOMC Service more than five (5) times but less than ten (10) times in the previous ninety (90) days. The CRSP will be set to 100% and remain at 100% if the Resource has been used to provide OOMC Service more than ten (10) times in the previous ninety (90) days.~~

(2) ~~If ERCOT determines that there is not a Market Solution, QSEs representing Replacement Reserve Resources will be paid the~~ Resources selected to provide OOMC Service that actually reconnect to the ERCOT transmission grid and start the unit in order to provide the OOMC service will be paid both the Resource Category Generic Capacity Cost for starting the unit as well as the Resource Category Generic Operational Cost for operating during the instructed interval(s).

~~(4)~~(3) Resources that are connected to the ERCOT transmission grid when instructed to provide OOMC Service will be paid the Resource Category Generic Operational Cost for

operating during the instructed interval(s). ~~lower of the actual bid for that Resource submitted or the CRSP multiplied by the MCPC for Replacement Reserves for the Congestion Zone market. If no RPRS bids were selected in the market for the Congestion Zone, the MCPC will equal the next higher bid after the highest bid for Replacement Reserve Service called on, other than the Out-of-Merit Order Resource in that Congestion Zone or of all replacement bids if a bid in the Congestion Zone does not exist.~~

~~(5)If a specific Resource required by ERCOT has not submitted an RPRS bid then ERCOT may call that Resource, if it is available. ERCOT will pay the QSE representing that Resource the CRSP multiplied by the next higher bid after the highest bid for Replacement Reserve Service procured in the Congestion Zone for Replacement Reserves or of all replacement bids if a bid in the Congestion Zone does not exist.~~

(4) ~~If a Resource is called to provide OOMC service and the payment for OOMC service is insufficient to cover all costs of providing the Service and provide a premium, then that Resource will be paid all verifiable, costs in excess of the OOMC payment that are directly attributable to the OOMC Service plus a premium. The costs of providing the service shall be provided to ERCOT, in writing from the QSE or Resource owner, within a time frame to allow resolution by the end of the dispute process for Settlement True-up. These costs may include the cost of exceeding swing gas contract limits, additional gas demand costs set by the fuel supply or transportation contracts, and any additional costs to purchase emissions credits or other costs incurred due to environmental regulations. The premium to be provided shall be the product of the costs of providing the service times 10%.~~ If a Resource is called to provide OOMC service and the payment for OOMC service is insufficient to cover all costs of providing the Service and provide a premium, then that Resource will be paid all verifiable, costs in excess of the OOMC payment that are directly attributable to the OOMC Service plus a premium. These costs may include the cost of exceeding swing gas contract limits, additional gas demand costs set by the fuel supply or transportation contracts, and any additional costs to purchase emissions credits or other costs incurred due to environmental regulations. The premium to be provided shall be the product of the costs of providing the service times 10%. Verification of these costs must be submitted to ERCOT to allow resolution by the end of the dispute process for Settlement True-Up as defined in Section 9.2.4, True-Up Statements. QSEs requesting such cost recovery shall perform the following:

1. Submit a settlement dispute in accordance with the dispute process outlined in Section 9.5. In addition to the standard information required on the entry form on the ERCOT Portal, the dispute should clearly indicate:

   a. The deployment instruction received from ERCOT to provide services.

   b. The payment received for providing the service.

c. The actual cost of providing the service.

d. A reference to the documentation to be provided in writing as indicated in section

2. Requests for additional compensation shall provide documentation in writing to allow for verification of the claimed amounts. Documentation requirements for each cost type are as follows:

a. Fuel cost for providing the service shall be determined by taking the product of the fuel consumption (MMBtu) at the normal minimum operating level of the resource and it's associated fuel cost ($/MMBtu).

b. Fuel consumption at the normal minimum operating level shall be based upon a heat rate curve for the resource from the most recently conducted heat rate tests. Test data shall be provide in sufficient detail to allow for the validation of the heat rate curve provided.

a. Fuel cost, including transportation cost, will require supporting documentation of sufficient detail to allow for the verification of the cost of fuel consumed at the deployed resource. Documentation may include contracts, invoices or other documents all of which will be treated as confidential. All copies of such documentation will be returned upon completion of the review. For gas fired resources, such documentation will not be required if the requested incremental fuel cost is less than 115% of the Fuel Index Price.

c. Compensation for additional types of cost, not outlined above, must be reviewed and approved by the ERCOT Board of Directors during an Executive Session of their next regularly scheduled meeting. Requests must be presented in person by a representative of the company submitting the request and must also include language suitable to be included in the Protocols to define the documentation requirements for future request of a similar nature. Subsequent to the approval of such costs, the requesting company shall submit a Protocol Revision Request, in accordance with Protocol 21, incorporating the necessary documentation standards provided to the ERCOT Board.

~~(6)~~

~~(7)~~(5) The calculation for capacity payments of Out –of Merit Service is as follows:

$$PC_{OOMRPqi} = SUM\ (PC_{OOMRPqui})_u$$

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Given:

~~$PC_{OOMRPqui} = 1 * (C_{OOMRPui}) * MIN (PF_{OOMRPu} * MCPC_{RPiz}, BP_{RPui}))$~~

$PC_{OOMRPqui} = -1*MIN[BP_{Rpqui} * C_{OOMRPui}, Max[0, (PS_{ui} + PO_{ui} - RC_{ui}), MCPC_{Rpiz} * C_{OOMRPui}]]$

If the unit is deemed to be online as described in 6.8.2.1(3)
Then:
$PSC_{sui} = 0$

If the unit is deemed to be offline as described in 6.8.2.1(2)
Then:
$PSC_{ui} = RCGCC_c * C_{OOMRPui}$

$PO_{ui} = RCGOC_c * C_{OOMRPui}$

$RC_{ui} = SUM[SUM[MAX(0, (MCPE_{uiz} - 16 * FIP))]_j * C_{OOMRPui}]$

The equation below will be used to determine the Total OOM Capacity Payments to be allocated to each QSE as described in Section 6.9.7.1, OOM Capacity Charge.

$PC_{OOMRPqi} = SUM (PC_{OOMRPqui})_q$

Where:

c	Resource Category
i	hourly interval
j	Settlement intervals within the hourly interval i
u	single Resource
z	zone
q	QSE
$PC_{OOMRPqui}$	OOM Replacement Reserve Capacity Payments by single Resource by interval for that QSE
$PC_{OOMRPqi}$	Total OOM Replacement Reserve Capacity Payment ($) by interval for that QSE (All OOM single Resources added together for that QSE)
$MCPC_{RPiz}$	Market Clearing Price of Capacity for Replacement Reserve ($/MW) for the given zone per interval