

Filing Receipt

Received - 2022-05-12 03:01:58 PM Control Number - 53377 ItemNumber - 37

PUC DOCKET NO. 53377

COMPLAINT OF ENGIE ENERGY	§	PUBLIC UTILITY COMMISSION
MARKETING NA, INC. AND VIRIDITY	§	
ENERGY SOLUTIONS, INC. AGAINST	§	OF TEXAS
THE ELECTRIC RELIABILITY	§	
COUNCIL OF TEXAS, INC.	§	
	§	

ENGIE AND VIRIDITY'S REPLY TO ERCOT

TABLE OF CONTENTS

I.	INTRODUCTION	,
II.	ARGUMENTS 3	
C	ERCOT'S INTERPRETATION OF ITS PROTOCOLS IS INCONSISTENT WITH OMMISSION RULES AND ITS OWN PROTOCOLS AND IS ULTIMATELY NWORKABLE4	ļ
	ERCOT ATTEMPTS TO DISTINGUISH THIS CASE FROM ALL OTHERS ITHOUT A MEANINGFUL DIFFERENCE	,
	ERCOT INCORRECTLY ASSERTS THAT IT DID NOT/COULD NOT KNOW THAT HE LOAD RESOURCE WAS PROVIDING RRS8	,
D	VIRIDITY COMPLIED WITH COMMISSION RULES AND ERCOT PROTOCOLS 10)
	ENGIE MET ITS RRS OBLIGATION AND SHOULD NOT BE ALLOCATED THE DDITIONAL COSTS PROPERLY ALLOCATED TO THOSE NOT MEETING THEIR BLIGATIONS	,
	ERCOT ARGUES THAT VIRIDITY AND ENGIE SHOULD NOT RELY ON A LONG ND AUTHORITATIVE LIST OF RESOURCES15	
G	CALCULATION OF COMPENSATION OR CREDIT	r
H Q	. IN THE ALTERNATIVE COMPLAINANTS ARE ENTITLED TO RELIEF UNDER UANTUM MERUIT AND CONSTITUTIONAL CLAIMS	,
III.	CONCLUSION 21	

PUC DOCKET NO. 53377

COMPLAINT OF ENGIE ENERGY	§	PUBLIC UTILITY COMMISSION
MARKETING NA, INC. AND VIRIDITY	§	
ENERGY SOLUTIONS, INC. AGAINST	§	OF TEXAS
THE ELECTRIC RELIABILITY	§	
COUNCIL OF TEXAS, INC.	§	
	§	

ENGIE AND VIRIDITY'S REPLY TO ERCOT

TO THE HONORABLE ADMINISTRATIVE LAW JUDGE:

ENGIE Energy Marketing NA, Inc. ("ENGIE") and Viridity Energy Solutions, Inc. ("Viridity") (collectively, "Complainants") files this reply to the Electric Reliability Council of Texas, Inc.'s ("ERCOT") response to ENGIE and Viridity's complaint filed on April 18, 2022.

I. INTRODUCTION

The overall goal of the Responsive Reserve Service ("RRS") program for Load Resources is to support the reliability of the system. In the unprecedented energy emergency brought on by Winter Storm Uri, ERCOT fails to acknowledge the efforts retail customers like Viridity's Load Resources undertook that allowed ERCOT to maintain power and prevent a statewide black out. Specifically, Viridity received a dispatch instruction from ERCOT shortly after 1:00 a.m. on February 15, 2021, to interrupt its load and remain deployed until recalled. Viridity complied and took its load resources offline and remained offline throughout the EEA3 event. ERCOT's response does not mention or dispute that the actions of Viridity's Load Resources helped prevent a statewide blackout in the worst energy emergency in Texas history. The Complainants and ERCOT disagree over the proper application of PURA, 1 Commission Rules, 2 and ERCOT

¹ Public Utility Regulatory Act, Tex. Util. Code Ann. §§ 11.001-66.016 ("PURA").

² 16 TAC § 25.101-.507.

Protocols ("Protocols") to properly credit or compensate the reliability service provided during the EEA3 event when Viridity and ENGIE's number one priority was fulfilling their obligations to maintain reliability for the ERCOT system.

ENGIE and Viridity filed this appeal to seek credit or compensation for the RRS service ERCOT requested and that was provided. Months after the tragic events of Winter Storm Uri, ERCOT claims that the only way to receive credit for the performance of Viridity's Load Resources is to have bid, or submitted trades, for Load Resources already deployed and contributing to system reliability. However, taking the procedural steps ERCOT argues are required to receive credit are prohibited by Commission's rules and ERCOT Protocols, and could actually inhibit the reliability that the RRS program for Load Resources was intended to provide.

II. ARGUMENTS

The relevant inquiry in a complaint proceeding under 16 TAC § 22.251 is whether ERCOT's conduct is in violation of a law that the Commission has jurisdiction to administer, in violation of any order or rule of the Commission, or in violation of any Protocol or procedure adopted by ERCOT pursuant to any law that the Commission has jurisdiction to consider.³ The scope of review includes ERCOT's performance as an independent organization under PURA including, but not limited to, ERCOT's promulgation and enforcement of procedures relating to reliability and accounting for the production and delivery of electricity among generators and other market participants.⁴ Here, ERCOT has taken the position that the ERCOT Protocols require that an offer, or trade, should be submitted to provide a capacity service for reliability purposes even

³ 16 Texas Administrative Code ("TAC") § 22.251(b).

⁴ 16 TAC § 22.251(b).

though the Load Resource is not capable of providing capacity for reliability because it is already deployed. ERCOT's position conflicts with PURA, Commission Rules, and the Protocols.

A. ERCOT'S INTERPRETATION OF ITS PROTOCOLS IS INCONSISTENT WITH COMMISSION RULES AND ITS OWN PROTOCOLS AND IS ULTIMATELY UNWORKABLE

The RRS that was actually provided to ERCOT should be properly accounted for in accordance with PURA, Commission Rules, and ERCOT Protocols.⁵ PURA requires that the RRS deployed by the Load Resource pursuant to ERCOT's Dispatch Instruction be reasonably priced and subject to terms that are not unreasonably preferential or discriminatory.⁶ ERCOT's interpretation, which refuses to recognize ENGIE's 27MW of self-arranged RRS and that refuses to compensate RRS providers, in this case Viridity, who follow ERCOT Dispatch Instructions and Protocols, is prejudicial as it does not permit appropriate compensation without requiring QSEs to engage in a Prohibited Activity.⁷

RRS that is provided by Load Resources is an ancillary service that provides operating reserves intended to arrest frequency decay within the first few seconds of a significant frequency deviation on the ERCOT transmission grid using interruptible load and to provide continued load

⁵ PURA § 35.004(e) (now found at PURA § 35.004(f)) ("The commission shall ensure that ancillary services necessary to facilitate the transmission of electric energy are available at reasonable prices."); 35.004(h) ("The commission shall require [ERCOT] to modify the design, procurement, and cost allocation of ancillary services for the region in a manner consistent with cost-causation principles and on a nondiscriminatory basis"); 39.151(4); & 16 TAC § 25.503(a)(2).

 $^{^6}$ PURA § 35.004(e) (now found at PURA § 35.004(f)) ("The Commission shall ensure that ancillary services necessary to facilitate the transmission of electric energy are available at reasonable prices with terms and conditions that are not unreasonably preferential, prejudicial, [or] discriminatory") & 16 TAC § 25.503(a)(2).

⁷ See Complaint and Appeal of ENGIE and Viridity against ERCOT ("Complaint") at 17, 21–23, 30 (March 18, 2022); see also, PURA § 35.004(e) (now found at PURA § 35.004(f)) ("The Commission shall ensure that ancillary services necessary to facilitate the transmission of electric energy are available at reasonable prices with terms and conditions that are not unreasonably preferential, prejudicial, [or] discriminatory"); 16 TAC § 25.503(g)(3) ("**Prohibited Activities**. A market participant must not offer reliability products to the market that cannot or will not be provided if selected."); 16 TAC § 25.503(f)(6) ("A market participant's bids of energy and ancillary services must be from resources that are available and capable of performing, and must be feasible within the limits of the operating characteristics indicated in the resource plan, as defined in the Protocols, and consistent with the applicable ramp rate, as specified in the Protocols.").

interruption during the implementation of an EEA event.⁸ RRS provided by a Load Resource is a capacity resource that can only be deployed to contribute to the reliability of the grid if it is loaded and available to curtail load. Under an EEA event, RRS provides interruptible Load available for deployment on ten minutes' notice.⁹ ERCOT's position is that, once RRS is fully deployed in an extended EEA event, the Load Resource must remain fully deployed while also being offered into the market as if the Load Resource were loaded and available for deployment. Complainants disagree that the Protocols require, or that the Commission's Rules permit, a QSE to schedule a new RRS obligation for a Load Resource that is deployed pursuant to a dispatch instruction from ERCOT.

The Commission's rules expressly require that "[a] market participant must not offer reliability products to the market that cannot or will not be provided if selected." The Commission's rules further require that "[a] market participant's bids of energy and ancillary services must be from resources that are available and capable of performing, and must be feasible within the limits of the operating characteristics indicated in the resource plan, as defined in the Protocols, and consistent with the applicable ramp rate, as specified in the Protocols."

This is a foundational premise in the ERCOT Protocols. Protocol 8.1.1.2.1.2 requires that a QSE's Load Resource must be "loaded and capable of unloading" the scheduled amount of RRS within 10 minutes of instruction by ERCOT.¹² The ERCOT Protocols also require the submission

⁸ ERCOT Protocol § 2.1 (definition of Responsive Reserve Service (RRS)).

⁹ ERCOT Protocol § 3.17.2(3).

¹⁰ 16 TAC § 25.503(g)(3) ("**Prohibited Activities**. . . . A market participant must not offer reliability products to the market that cannot or will not be provided if selected.").

¹¹ Id. § 25.503(f)(6).

¹² ERCOT Protocol §§ 3.17.2 ("Under EEA, RRS provides . . . interruptible load available for deployment on ten minutes notice."); 8.1.1.2.1.2(3) ("A QSE's Load Resource must be loaded and capable of unloading the scheduled amount of RRS within ten minutes of instruction by ERCOT").

of a Current Operating Plan and telemetry as "OUTL" when a resource is "not available," ¹³ as opposed to "ONRL," which is "available for dispatch of RRS." ¹⁴ Additionally, the ERCOT Protocols also require all trades of ancillary services to be represented by physical capacity. ¹⁵ There is no exception that permits an unloaded/deployed Load Resource to ignore these requirements. There is no Protocol or exception that permits an unloaded/deployed Load Resource to schedule an ancillary service trade or submit an offer into the Day Ahead Market. ERCOT has admitted the same and is currently working to create the exception through a Nodal Protocol Revisions Request. ¹⁶ Yet documents regarding the draft Protocol revision provided in discovery reveal that an entirely "new paragraph" with new language is needed to provide the exception that ERCOT now claims was always implied. ¹⁷

In addition, ERCOT's proposed revision, in its very preliminary form, conflicts with the Commission's Rules which prohibit such conduct. It is unclear how ERCOT could craft a Protocol to allow market participants to jeopardize reliability and schedule products they cannot provide to ERCOT. It is doubtful that the Commission would permit ERCOT to impair the reliability of the grid by allowing unavailable ancillary service capacity to be scheduled. ERCOT's position requiring QSEs to make new offers or trades for RRS capacity that is off-line in accordance with an extended ERCOT deployment instruction is inconsistent with the ERCOT Protocols cited above and Commission Rules cited above, which prohibit market participants from offering or scheduling

¹³ ERCOT Protocol § 3.9.1(5)(b)(iii)(F) ("OUTL – Not available").

¹⁴ ERCOT Protocol § 3.9.1(5)(b)(iii)(E) ("ONRL – Available for Dispatch of RRS").

¹⁵ ERCOT Protocol § 4.4.7.1 ("Before 1430 in the Day-Ahead, all Self-Arranged Ancillary Service Quantities must be represented by physical capacity, either by Generation Resources or Load Resources, or backed by Ancillary Service Trades.").

¹⁶ See Attachment E, ERCOT Response to Complainant's RFI No. 1-6.1 & 1-6.2 (May 5, 2022).

¹⁷ See id.

¹⁸ Complaint at 29 & Complaint Attachment B at 4.

reliability products to the market that are not available or will not be provided if selected.¹⁹ If the RRS market for Load Resources were supposed to operate as ERCOT argues, there would be no obligation for ERCOT to acquire capacity available for deployment in prolonged EEA events, which are times when capacity is needed the most.

Because ENGIE self-arranged its ancillary service obligation through Viridity from the Load Resource owned by BASA Resources, Inc. ("BASA"), ENGIE met its ancillary service obligation when BASA deployed its RRS pursuant to ERCOT's Dispatch Instruction *via Viridity*.²⁰ The Load Resource remained deployed throughout the EEA3 event, pursuant to ERCOT's Dispatch Instruction.²¹ Thus, ENGIE met its RRS obligations for the 27MW of the entire EEA3 event.²²

Viridity should also be credited for the approximately 78MW of RRS services provided to ERCOT throughout the extended deployment, which includes the 27MW trade to ENGIE for ENGIE's self-arranged RRS service that Viridity and BASA provided to ENGIE and ERCOT.²³

B. ERCOT ATTEMPTS TO DISTINGUISH THIS CASE FROM ALL OTHERS WITHOUT A MEANINGFUL DIFFERENCE

ERCOT fails to mention the fact that the Commission has cited and fined numerous Resources for not providing the amount of ancillary services that they committed to provide, or

¹⁹ See Complaint at 30 (March 18, 2022); see also 16 TAC § 25.503(g)(3) ("**Prohibited Activities**. A market participant must not offer reliability products to the market that cannot or will not be provided if selected."); 16 TAC § 25.503(f)(6) ("A market participant's bids of energy and ancillary services must be from resources that are available and capable of performing, and must be feasible within the limits of the operating characteristics indicated in the resource plan, as defined in the Protocols, and consistent with the applicable ramp rate, as specified in the Protocols.").

²⁰ Id. at 36.

²¹ Complaint Attachment A, ERCOT Market Notice (ENGIE) at 4 (March 18, 2022).

²² ERCOT Protocol 6.5.7.6.2.2(8) ("Once RRS is deployed, the QSE's obligation to deliver RRS remains in effect until specifically instructed by ERCOT to stop providing RRS. However, except in an Emergency Condition, the QSE's obligation to deliver RRS may not exceed the period for which the service was committed.").

²³ As discussed below, Viridity and ENGIE are not requesting a double counting, as ERCOT well knows.

for failing to timely provide such ancillary services.²⁴ Here Complainants could not commit to be loaded and capable of unloading in ten minutes because they were already off-line under ERCOT's dispatch instruction. ERCOT attempts to distinguish this case from all others by citing to the fact that this was an extended deployment beyond the date of its original responsibility,²⁵ a distinction without a difference. And there is no exception in the ERCOT Protocols that would exempt a deployed resource from being able to interrupt load when instructed. However, if ERCOT had requested any of the twelve (12) QSE's Load Resources providing RRS, who ERCOT claims complied with Protocol procedures, to interrupt load during the extended deployment, those resources would not have been able to further curtail or further interrupt load since the Load Resources were already off-line as directed by ERCOT.

C. ERCOT INCORRECTLY ASSERTS THAT IT DID NOT/COULD NOT KNOW THAT THE LOAD RESOURCE WAS PROVIDING RRS

ERCOT ordered Load Resources to be deployed on Monday February 15, 2021 and did not exit Energy Emergency Alert conditions until Friday February 19, 2021. Viridity responded to ERCOT's Dispatch Instruction as required by § 6.5.9 of the Protocols in which "ERCOT may verbally request QSEs to operate outside normal operating parameters." ERCOT is supposed to honor all operating parameters, including for the recall of resources, but ERCOT required that Viridity's Load Resources remain deployed well after the period expected for them to be off-line. ERCOT could only make this requirement as a Dispatch Instruction and there is no question that Viridity was providing a much-needed service to ERCOT in so doing for a total of five days of Winter Storm Uri, four of which were not compensated. As Protocol § 6.5.9.1 makes clear the "Protocols do not preclude ERCOT from taking any action to preserve the integrity of the ERCOT

²⁴ ERCOT Response at 20.

²⁵ ERCOT Response at 20.

System." However, ERCOT cannot leave Load Resources deployed and then look for a way to avoid paying them for being off-line for the better part of one week. Had Viridity sought to bring its Load Resources back, ERCOT would not have permitted the Load Resources to return to the grid. The claim that Viridity was free to return to service and that ERCOT did not recognize, and was not counting on, Viridity continuing to provide the much-needed capacity through the Load Resource RRS program, is spurious. Viridity's Load Resources were expressly instructed by ERCOT to remain deployed throughout the emergency event and were not allowed to restore load until ERCOT issued a recall notice at 9:04 a.m. on February 19, 2022.²⁶

ERCOT also mischaracterizes ENGIE employees' calls to the ERCOT operators as confirming that the RRS would not be provided. ERCOT was aware the Load Resources under contract with BASA were deployed and performing their RRS obligation. Both before and after the ENGIE calls, ERCOT sent electronic deployment instructions to the resources for the next operating day and the Load Resources remained deployed. Rather, the ENGIE employees calling ERCOT were seeking direction on how to report ENGIE's trades. ENGIE employees followed through with ERCOT operator instructions for the February 16 operating day, resulting in a charge for failure to provide. The callers asserted that the RRS was not going to be provided, which turned out to be incorrect. The callers were Eric Chan, Asset Management Manager, and Chad Michael Mar, Real-Time Optimization Senior, and misidentified the issue as one of force majeure, which it was not.

²⁶ See Attachment F, communications from ERCOT to Viridity recalling its Load Resource RRS obligations and allowing the Load Resources to restore load.

²⁷ ERCOT Documents for the Record No. 12 (April 18, 2021) (Excel Deployment Instructions to "QVRID" on February 15, 2021, last transmitted at 11:32 p.m.).

²⁸ Complaint at 47, Attachment A at 3 of 5, footnote 2.

D. VIRIDITY COMPLIED WITH COMMISSION RULES AND ERCOT PROTOCOLS

ERCOT confirmed the required deployment by phone on February 18, 2022.²⁹ Viridity repeatedly and proactively communicated with ERCOT during the duration of the emergency event to ensure that Viridity was meeting its deployment obligations by providing RRS as required by ERCOT. ERCOT was fully aware that Viridity's Load Resources remained deployed and, on multiple occasions, confirmed the requirement to remain deployed. On February 18, 2021, Viridity had a conference call with ERCOT staff in which ERCOT instructed Viridity that its Load Resources could restore load because Viridity was not awarded new RRS awards after the initial February 15, 2021, award obligation expired.³⁰ Based on its communications with ERCOT, Viridity issued notifications to its customers that load could be restored.³¹ However, within roughly an hour of the conference call with ERCOT, Mr. Krein of ERCOT called Mr. Pavo of Viridity and reversed the instruction, stating that because of the EEA event Viridity's Load Resources must continue to remain offline and provide RRS.³² Due to the ERCOT Dispatch Instructions, Viridity's Load Resources remained deployed providing RRS to ERCOT.

Viridity complied with the PUCT Rules, the ERCOT Protocols and the ERCOT Dispatch Instructions throughout the emergency event. Viridity had Day Ahead RRS obligations for February 15 and provided the correct Resource Status Codes, telemetry and COP information. For February 16, 17, 18 and 19, Viridity's Resource Status Codes, telemetry and Current Operating Plan ("COP") correctly reflected that it had no RRS awards since all Load Resources were already

²⁹ See ERCOT Submission of Documents for the Record at 4 – Viridity Conference call with ERCOT on Feb 18 (Apr. 13, 2022).

³⁰ *Id*; see also Attachment G, Affidavit of Mr. Pavo.

³¹ See Attachment H, Communications from Viridity to its Load Resources.

³² See Attachment G, Affidavit of Mr. Pavo.

deployed, and remained deployed so they could not be further "awarded" or further "deployed." This was done to ensure that Viridity was not improperly indicating to ERCOT that additional Load Resource capacity was available to deploy.

ERCOT has mischaracterized Viridity's billing request and relief. Viridity seeks compensation for the Load Resources which remained offline per ERCOT Dispatch Instructions to continue to provide RRS service. Viridity does not seek to be paid for retroactive Day Ahead awards and does not seek to "double dip" for the 27MW attributable to ENGIE, which if credited to ENGIE would be subtracted from the amounts for the remaining 51MW that are owed to Viridity. As ERCOT is well aware, because the subject was discussed at length during the ADR process, Viridity and ENGIE seek compensation for the 27MW of RRS that was provided during Winter Storm Uri to be compensated *either* through a credit to ENGIE *or* through a payment to Viridity.

ERCOT also mischaracterizes Viridity's deployment status with respect to Viridity's Load Resources, where ERCOT implies that there was a decision by Viridity, independent of the ERCOT Dispatch Instruction to "choose to remain offline," and that had Viridity not made such a choice, it "would have provided RRS".³³ Viridity followed ERCOT's Dispatch Instructions to remain deployed following February 15, as required by ERCOT, and as further evidenced by the February 18 conference call between Viridity and ERCOT, in which Viridity was again provided direct instructions to not restore load.³⁴

Included within the approximate 78MW of Load Resources deployed on February 15, was the 27MW of RRS capacity assigned to Viridity's bilateral contract with ENGIE. Viridity seeks

³³ ERCOT Response at 13.

³⁴ See ERCOT Submission of Documents for the Record at 4 – Viridity Conference call with ERCOT on Feb 18 (Apr. 13, 2022); see also Attachment F..

to be paid for the Load Resource it faithfully provided throughout February 15-19, though currently it has only been paid for February 15. Viridity should be paid for the remaining 51MW provided to the market, and the 27MW provided to both the market and to ENGIE, by its Load Resources in accordance with ERCOT Dispatch Instructions. In the event the 27MW is credited directly to ENGIE, the amounts owed for the remainder of the RRS provided by Viridity's Load Resource is 51MW. The comments to the contrary by ERCOT in its Response are both misleading and disingenuous on this point, given that originally separate ADRs were filed by Viridity and ENGIE. Both Viridity and ENGIE made clear to ERCOT in their separate ADRs that if the 27MW were credited to ENGIE, it would not be owed to Viridity, and if the 27MW were paid to Viridity, it would not be credited to ENGIE.

E. ENGIE MET ITS RRS OBLIGATION AND SHOULD NOT BE ALLOCATED THE ADDITIONAL COSTS PROPERLY ALLOCATED TO THOSE NOT MEETING THEIR OBLIGATIONS

ENGIE met its 27MW of RRS obligations through the deployment of the Load Resources of BASA Resources, Inc. ("BASA").³⁵ Because ENGIE had procured 27MW of RRS service from BASA and was the legal owner of that service, ENGIE should be credited for its continuous deployment over the EEA3 event. BASA's comments in this proceeding (excerpted below) put this dispute in the proper perspective that the RRS program for Load Resources will not provide the needed capacity if retail customers may be at risk of not being credited for the reliability services performed:

³⁵ See Attachment N, Affidavit of Ray Cunningham.

Now we understand that ERCOT does not want to fulfill its end of the bargain and is refusing to compensate us for providing this vital service. We did exactly as we were instructed, exactly as we were trained to do in ERCOT's qualifications and testing, and exactly as we have done in the past. We understand that ERCOT agrees that we performed as instructed and we helped avoid a blackout in the worst electricity crisis in Texas history. ERCOT's failure to live up to its end of the bargain after BĀSA helped ERCOT out, to BĀSA's extreme detriment, is unlawful and should be addressed by the Commission.

Had we known ERCOT would refuse to pay us the money we are owed while acknowledging that we performed properly, we would have simply chosen not to participate in the program, and we would have been better off for it. You cannot contract for someone to come to your aid in times of emergency, renege on the agreement for helping you out exactly as asked, and expect them to come to your aid in future emergencies.

We urge the Commission to order ERCOT to follow through on its obligation to compensate for the Responsive Reserve Service provided by BĀSA's Load Resource.

36

There is no real dispute that BASA's Load Resources performed as instructed. Although ERCOT mischaracterizes BASA's deployment as a *choice* to remain offline,³⁷ ERCOT's Protocols obligated BASA to continue delivering the RRS from its Load Resources until specifically instructed by ERCOT to stop providing RRS.³⁸ Any choice to remain offline was a choice to comply with ERCOT's instructions and help contribute to the reliability of the electric grid during an extreme energy emergency. The insinuation that BASA chose to remain offline for any other reason is an affront to the valuable service BASA provided at ERCOT's direction. Again, as stated by BASA:

³⁶ Attachment I, BASA Letter to Commission (Mar. 18, 2022).

 $^{^{37}}$ ERCOT Response at 13 ("Load Resources . . . might choose to remain offline during emergency conditions.").

³⁸ ERCOT Protocol § 6.5.7.2.2(8) ("Once RRS is deployed, the QSE's obligation to deliver RRS remains in effect until specifically instructed by ERCOT to stop providing RRS. However, except in an Emergency Condition, the QSE's obligation to deliver RRS may not exceed the period for which the service was committed.").

ERCOT continuously deployed this service and repeatedly instructed us to remain shut down through the morning of February 19. During this deployment, we asked ERCOT whether, and when, we would be able to return to service. At certain points ERCOT said that we could restore our load, but then quickly reversed that guidance and instructed us to remain deployed until recalled. Nobody ever said that we may not get compensated for the service that we provided or that we needed to do anything additional to be compensated for the service. We relied on ERCOT's instructions and statements, and we performed just as directed. Now we have learned that ERCOT is trying to back out of the arrangement openly admitting it gave us "imperfect advice" during the Storm.

39

ERCOT's response devotes only two paragraphs to ENGIE's claims for the 27MW of RRS ENGIE contracted through its customer, BASA.⁴⁰ ERCOT first dismisses the issue as a failure to confirm a trade, with no further analysis. This superficial explanation fails to acknowledge its own rules that require any trades of ancillary services to be represented by physical capacity.⁴¹ Because BASA's Load Resources were deployed under an RRS instruction, it had no additional capacity to offer or support a trade.

ERCOT then claims that it acquired RRS service for ENGIE to account for the RRS service that was not reported through trades. ⁴² However, ERCOT's discovery shows that it did not acquire an additional 27MW of RRS for ENGIE. In fact, ERCOT's RRS procured in the DAM dropped from an average of 1890MW on February 15 when ERCOT properly recorded ENGIE's RRS as self-arranged to 1579MW on February 16, to 1533MW on February 17, and 1634MW on February

³⁹ Attachment I, BASA Letter to Commission (Mar. 18, 2022).

⁴⁰ ERCOT Response at 12-13 (claiming that ERCOT was obligated to acquire RRS service on ENGIE's behalf and ERCOT acquired "some RRS" that ENGIE is obligated to pay for.").

⁴¹ ERCOT Protocol § 4.4.7.1 ("Before 1430 in the Day-Ahead, all Self-Arranged Ancillary Service Quantities must be represented by physical capacity, either by Generation Resources or Load Resources, or backed by Ancillary Service Trades.").

⁴² ERCOT Response at 4 ("Because of the Complainant's decisions not to report and confirm the transactions, those transactions were not considered valid under the ERCOT Protocols. Therefore, ERCOT acquired RRS service for ENGIE during the Disputed Payment Period").

18.43 ERCOT's discovery responses show that ERCOT actually purchased less RRS over the disputed period despite the RRS requirement remaining constant over the same time horizon.44

ERCOT's response claims that "there was some RRS available during that time, and ERCOT purchased what it could." ERCOT's responses to discovery show ERCOT was short of its purported system obligation by an average of 457MW over the disputed time period. Despite acknowledging that the MW it purchased were insufficient to meet ERCOT's alleged RRS obligations, ERCOT spread the cost of the lesser amount of MW over a greater RRS MW responsibility by assessing a proportionate share of the charges to those entities, like ENGIE, who self-arranged for RRS but did not successfully complete trades, or submit offers, of deployed capacity resources. Thus, ERCOT is attempting to charge ENGIE for the RRS ERCOT acquired on other market participants' behalf. ERCOT did not acquire an additional 27MW of RRS on ENGIE's behalf, although ERCOT may claim that was its intent or its objective.

F. ERCOT ARGUES THAT VIRIDITY AND ENGIE SHOULD NOT RELY ON A LONG AND AUTHORITATIVE LIST OF RESOURCES

Throughout its response, ERCOT claims that ENGIE and Viridity should not be able to rely on the legal documents that form the basis of the ERCOT market and the PUCT's regulations. ERCOT is in the awkward position of taking the position that *none* of the following should be relied on by Market Participants: (i) PURA requirements, (ii) Commission's rules prohibiting offering reliability products that are not capable of performing if selected, (iii) Commission orders in enforcement proceedings for failing to provide committed resources, (iv) ERCOT Protocols

⁴³ See Attachment J, ERCOT Response to ENGIE and Viridity First RFI 1-1, Excel Attachment (calculated average of "DAM Offers – MW Awarded" for February 15, 16, 17, & 18).

⁴⁴ *Id.* (also showing a 250MW to 350MW decrease in the self-arranged RRS recorded by ERCOT).

⁴⁵ ERCOT Response at 13.

⁴⁶ See Attachment J, ERCOT Response to ENGIE and Viridity First RFI 1-1, Excel Attachment (calculated average of "RRS Shortage – MW" from hour 1, February 16 to hour 9, February 19.).

requiring resources to be loaded and capable of deploying, (v) ERCOT Protocols on COP practice including the very definitions of the status codes used by ERCOT, (vi) verbal Dispatch Instructions by ERCOT (including on February 15 to remain deployed and again in the February 18 meeting with ERCOT Load Resource subject matter experts and Account Representatives), and (vii) even ERCOT's published COP Operating Guide, which it now claims is not reliable.

Instead, ERCOT wants the Commission to rely on what ERCOT alleges that twelve (12) other QSEs did as the primary authority of this case, and in so doing asks the Commission to both read definitions into the ERCOT Protocols that are not there and to interpret the ERCOT Protocols as including exceptions to the Protocols that do not exist. However, the Commission's Rules and the ERCOT Protocols are rules with which Market Participants must comply. They are punishable by hefty fines. They are the controlling requirements for market conduct. The actions of certain Market Participants do not, and cannot, change the ERCOT Protocols or the Commission's enforcement rules.

ERCOT also fails to point out the QSEs and Load Resources that acted consistently with the Commission's Rules and ERCOT Protocols, as did Viridity and ENGIE. ERCOT records show that numerous Load Resources with an RRS offer or trade on February 15, 2021, subsequently reported a status of OUTL after deployment.⁴⁷ ERCOT's confidential response to discovery also reveals market participants filing ADR's alleging substantially similar claims for compensation or credit for RRS deployed as Viridity and ENGIE,⁴⁸ further undermining ERCOT's reliance on the actions of twelve (12) QSEs.

⁴⁷ See e.g., Attachment K, providing just a few examples of Load Resources with RRS obligations on February 15 deploying and subsequently changing their Resource Status consistently with Viridity and ENGIE. See also, ERCOT Document for the Record No. 3 (April 18, 2022).

⁴⁸ See ERCOT Confidential Response to ENGIE and Viridity 1-5.

G. CALCULATION OF COMPENSATION OR CREDIT

Viridity calculated its compensation request based on the Day Ahead and Real-Time prices for RRS during the time period that Viridity's Load Resources were deployed without compensation from ERCOT. Viridity provided its estimated compensation amount to ERCOT in the ADR request. Throughout the ADR process, ERCOT never provided Viridity with its own calculation of the appropriate award amount and never challenged or disputed Viridity's calculation. Similarly, ERCOT never provided Viridity with a calculation of the estimated Ancillary Service Imbalance Charges that would be applicable if Viridity were to be compensated for the RRS that was provided. Although the concept of Ancillary Service Imbalance Charges was discussed during the ADR process, ERCOT has only now for the first time provided the estimated charges in this complaint proceeding. Without additional data from ERCOT, Viridity is unable to calculate or verify if and how such charges would impact its estimated award amount. Further, as noted above, Viridity has continuously stated that it is seeking compensation for the 27 MW of RRS capacity that is attributable to ENGIE to either be compensated as a credit to ENGIE or a payment to Viridity. Should the 27MW of RRS be credited to ENGIE, Viridity estimates the amount owed to Viridity is between \$44-\$92 million.⁴⁹

ENGIE does not dispute ERCOT's mathematical calculation of ENGIE's damages as \$47,487,775.⁵⁰ ERCOT needlessly obfuscates issues regarding damages to ENGIE by alleging the potential for payments by ENGIE to Viridity, double recovery, or offsets of additional charges by ERCOT that may be applicable if the market is resettled. But resettlement is not required. Instead,

⁴⁹ Attachment L, Viridity's Adjusted Billing Dispute Calculations. Values in the spreadsheet were derived from unaudited preliminary data available at the time prior to the filing of the billing dispute. Viridity's Load Resource data typically was preliminary raw SCADA telemetry data given the lack of officially recognized utility load data. ERCOT data was pulled from ERCOT website prices available at the time.

⁵⁰ ERCOT Response at 11 (citing ERCOT Record at 8, attached here as Attachment M).

ERCOT could simply recover the amount through an uplift process. There would be no double recovery and no double recovery is, or has been, requested by Viridity or ENGIE, as ERCOT is well aware. Viridity would be compensated for the RRS it provided that was not subject to trades and any charges to ENGIE would be removed, leaving the market participants that did not provide RRS responsible for the costs ERCOT incurred in acquiring RRS on their behalf.

H. IN THE ALTERNATIVE COMPLAINANTS ARE ENTITLED TO RELIEF UNDER QUANTUM MERUIT AND CONSTITUTIONAL CLAIMS

1. ERCOT Should Compensate Complainants Under Quantum Meruit.

Complainants are entitled to compensation or credit under the equitable doctrine of quantum meruit.⁵¹ ERCOT argues that such relief is unavailable because an implied contract cannot supersede an express contract.⁵² But this argument misunderstands the nature of Complainants' claim. ERCOT was facing an emergency, multi-trading-day event, a situation that the Protocols never anticipated, and ERCOT instructed Complainants to deploy and remain deployed until recalled four days later. Complainants obeyed this emergency instruction with the understanding that they would be compensated for their valuable service. Thus, if the PUCT decides that ERCOT's interpretation of the Protocols is correct, then ERCOT's instruction to deploy for four days is outside and separate from the Protocols and the contract, and Complainants are entitled compensation for complying with ERCOT's instruction.

2. ERCOT's Actions Constitute a Taking.

ERCOT's instruction to deploy is also a Taking under state and federal law. First, ERCOT is incorrect to assert that Complainants are asserting only a regulatory taking. Complainants claim

⁵¹ See Complaint at 24–25 (March 18, 2022).

⁵² See Response at 21–22.

that ERCOT caused both a physical taking of their property interest in electricity and a regulatory taking "depriving them of all economically beneficial and productive use" of same. ⁵³

Next, ERCOT argues that it lacked the "intent" to take property because it is simply withholding property in a contract dispute. ⁵⁴ But if the PUCT accepts ERCOT's claim that the Protocols and RRS contract required Complainants to come back online every day and re-bid or submit trades in the market, then ERCOT's instruction on February 15 to deploy and stay deployed for four days is above and beyond the contractual duty. It is ERCOT's expression of an intent to take more than is contractually required. ERCOT cannot have it both ways: asking Complainants for more than it believes the contract requires but then refusing to pay the equitable remedy.

ERCOT also argues that Complainants cannot identify a vested property interest. But ERCOT mistakenly assumes that the only relevant property interest is an "expectancy" of payment. In fact, Complainants also have a property interest in the electricity they deferred to ERCOT. For the purposes of the Fifth Amendment and Fourteenth Amendment, property interests are generally defined by independent sources such as state law. Under Texas law, electricity is "tangible personal property." Accordingly, Complainants are entitled to compensation for ERCOT's taking of their property.

٠

⁵³ GTE S.W., Inc. v. Pub. Util. Comm'n, 10 S.W.3d 7, 11 (Tex. App.—Austin 1999, no pet.) (discussing the types of taking claims).

⁵⁴ See Response at 22–23.

⁵⁵ Id. at 24.

⁵⁶ Board of Regents v. Roth, 408 U.S. 564, 577 (1972).

⁵⁷ See, e.g., Tex. Admin. Code 3.295(b) (taxing electricity as "tangible personal property"); see also Memphis Light, Gas & Water Div. v. Craft, 436 U.S. 1, 9–11 (1978) (the continuous provision of utility service is a constitutionally protected "property interest").

3. ERCOT's Actions Violate Due Process and Due Course of Law.

It is a violation of due process and due course of law for ERCOT to demand that Complainants deploy for four days and remain deployed, while later interpreting the Protocols to refuse payment for the service. Such action is not rationally related to any legitimate government interest and is oppressive in light of the government's interest.⁵⁸

ERCOT argues that the Complainants have no constitutionally protectable interest, ⁵⁹ but as explained above, that is incorrect. ERCOT also argues that it can do whatever it wants with RRS payments because RRS is a program performed on the government's behalf as a public service. ⁶⁰ This argument misreads *Fry*, which holds that county tax collectors, who had deputized private auto mechanics to collect vehicle registration fees, could cap the fees that the mechanics charged for the service. ⁶¹ But the Texas grid is almost entirely private, with power generated, sold, and transmitted by private companies. ERCOT's government function is only market clearing and air traffic control for the grid, and these are not the functions it outsourced. Consequently, ERCOT's arguments are inapplicable.

4. Complainants Are Entitled to Either Damages or Credit.

ERCOT argues that "it is well settled in Texas that money damages are not recoverable on a Due Process claim." But money damages on a due process claim are an available remedy under 42 U.S.C. § 1983, and state courts are required by the Supremacy Clause to hear such federal claims in state court. As for the due course of law claim, Complainants already have pleaded

⁵⁸ See Patel v. Tex. Dep't of Licensing and Reg., 469 S.W. 3d 69, 87 (Tex. 2015).

⁵⁹ Response at 24–25.

⁶⁰ *Id.* at 25 (citing *Tex. DMV v. Fry Auto Servs.*, 584 S.W.3d 138 (Tex. App.—Austin 2018, no pet.).

⁶¹ Fry, 584 S.W.3d at 143-44.

⁶² Response at 25.

⁶³ See Haywood v. Drown, 556 U.S. 729 (2009).

that they will accept credit from ERCOT in lieu of money damages. Complainants seek relief that is recoverable under the law.

III. CONCLUSION

Failure to pay for the RRS deployed by Load Resources undermines a key reliability service to the market at the time of greatest stress on the grid. ERCOT's position calls into question the financial viability of the Load Resource RRS ancillary services program, which relies on voluntary participation by customers. Load Resources are one of the most reliable providers of ancillary services, since Load Resources are not dependent on weather or on fuel supply to deploy. Load Resources ensure that more residential customers remain on the system and have electricity in an emergency. The Commission is expanding the use of Load Resources to use Load Resources prior to declaring and emergency since Load Resources can also help to avoid an emergency. Undermining the Load Resource RRS program undermines the reliability of the Texas grid as RRS has come to be one of the primary tools for ERCOT to ensure safe, reliable operation of the grid. As a matter of both Commission policy and applicable law, ERCOT should not be permitted to disregard PURA and the Commission's Rules intended to provide reliability to the system and should compensate the provision of reliability services in an emergency. ERCOT should not be permitted to arbitrarily impose additional scheduling requirements not present in the ERCOT Protocols in order to avoid paying for the RRS received from Load Resources during Winter Storm Uri.

For the foregoing reasons, Complainants request that the Commission direct ERCOT to credit the RRS provided in accordance with PURA, Commission Rules, and the ERCOT Protocols.

Respectfully submitted,

NAMAN, HOWELL, SMITH & LEE, PLLC 8310 N. Capital of Texas Highway, Suite 490 Austin, Texas 78731

Telephone: 512-479-0300 Facsimile: 512-474-1901

Dennis W. Donley, Jr.

State Bar No. 24004620

Stephanie S. Potter

State Bar No. 24065923

Stephen Mack

State Bar No. 24041374

donley@namanhowell.com

spotter@namanhowell.com

smack@namanhowell.com

NAMAN, HOWELL, SMITH & LEE, PLLC

8310 N. Capital of Texas Hwy., Suite 490

Austin, Texas 78731

(512) 479-0300

(512) 474-1901 (Facsimile)

Attorneys for ENGIE Energy Marketing NA, Inc.

And

ild (lay persussion SPM) Diana M. Liebmann

Texas State Bar No. 00797058

Carlos Carrasco

Texas State Bar No. 24092223

Haynes and Boone, LLP

112 East Pecan Street, Suite 1200

San Antonio, Texas 78205-1540

Jennifer Littlefield

Texas State Bar No. 24074604

Haynes and Boone, LLP

600 Congress Avenue, Suite 1300

Austin, Texas 78701

Attorneys for Viridity Energy Solutions, Inc.

CERTIFICATE OF SERVICE

I certify that a copy of this document will be served on all parties of record on May 12, 2022, in accordance with 16 TAC \S 22.74.

Dennis W. Donley, Jr.

Attachment E - ERCOT Response to Complainant's RFI No. 1-6.1 & 1-6.2 (May 5, 2022)

Exhibit ERCOT-Engie/Viridity 1-6.1

From:

Patterson, Mark < Mark.Patterson@ercot.com>

Sent:

Friday, December 10, 2021 9:45 AM

To:

Krein, Steve

Subject:

Draft NPRR for Extended RRS Deployments

Attachments:

Draft NPRR for Extended RRS Deployments.doc

I wanted to get this out there so we can start drafting our ideas into protocol language. I still want to have something drafted by sometime next week so others can start weighing in.

NPRR Number		NPRR Title
Date Posted		
Requested Re	esolution	Normal or Urgent, and justification for Urgent status
Nodal Protoco Sections Req Revision		Include Section No. and Title
Related Docu Requiring Revision/Rela Revision Req	ited	Include title of document to be revised (i.e. Operating Guide, Telemetry Standards, etc.) or related Revision Request number and title.
Revision Des	cription	Describe the basic function of the Revision Request.
Reason for Re	evision	Addresses current operational issues. Meets Strategic goals (tied to the ERCOT Strategic Plan or directed by the ERCOT Board). Market efficiencies or enhancements Administrative Regulatory requirements Other: (explain) (please select all that apply)
Business Cas	е	Describe qualitative benefits (Examples: satisfies regulatory requirements, data transparency enhancement, etc.), quantitative benefits (benefit calculations), impacts to market segments and other information relating to the impacts or benefits of the NPRR.
Sponsor		
Name		Mark Patterson
E-mail Addres	S	mpatterson@ercot.com
Company		ERCOT
Phone Numbe	·F	

512.569.5539

Cell Number

Market Segment

Market Rules Staff Contact	
Name	
E-Mail Address	
Phone Number	

Proposed Protocol Language Revision

6.5.7.6.2.2 Deployment of Responsive Reserve (RRS)

- (1) RRS is intended to:
- (a) Help restore the frequency within the first few seconds of a significant frequency deviation of the interconnected transmission system;
- (b) Provide energy during the implementation of an EEA; and
- (c) Provide backup Reg-Up.
- (2) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides, by one or more of the following:
- (a) RRS energy deployment by automatic Governor response as a result of frequency deviation;
- (b) Through use of an automatic Dispatch Instruction signal to deploy RRS capacity from Generation Resources providing Primary Frequency Response or Controllable Load Resources providing Primary Frequency Response;
- (c) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
- (d) RRS energy deployment by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.
- (3) ERCOT shall deploy RRS to respond to a frequency deviation when the power requirement to restore frequency to normal ACE in ten minutes exceeds the Reg-Up ramping capability. Deployment of RRS on Load Resources, excluding Controllable Load Resources, must be as described in Section 6.5.9.4, Energy Emergency Alert.

- (4) ERCOT may deploy RRS in response to system disturbance requirements as specified in the Operating Guides if no additional energy is available to be dispatched from SCED as determined by the Ancillary Service Capacity Monitor.
- (5) Energy from RRS Resources may also be deployed by ERCOT under Section 6.5.9, Emergency Operations.
- (6) ERCOT shall allocate the deployment of RRS proportionally among QSEs that provide RRS using Resources that are not on high-set under-frequency relays.
- (7) ERCOT shall use the SCED and Non-Spin as soon as practicable to minimize the prolonged use of RRS energy.
- (8) Once RRS is deployed, the QSE's obligation to deliver RRS remains in effect until specifically instructed by ERCOT to stop providing RRS. For extended deployments beyond the initial responsibility period the QSE may continue to offer those deployed resources into the DAM to avoid possible failure to provide charges as long as the Resources are able to remain deployedHowever, except in an Emergency Condition, the QSE's obligation to deliver RRS may not exceed the period for which the service was committed.
- (9) Following the deployment or recall of a deployment by Dispatch Instruction of RRS, QSE shall adjust the telemetered RRS Ancillary Service Schedule of Resources providing the service and ERCOT shall adjust the HASL and LASL based on the QSE's telemetered Ancillary Service Schedule for RRS as described in Section 6.5.7.2, Resource Limit Calculator, to account for such deployment.
- (10) QSEs providing RRS and ERCOT shall meet the deployment performance requirements specified in Section 8, Performance Monitoring.
- (11) ERCOT shall issue RRS deployment Dispatch Instructions over ICCP for Generation Resources and Controllable Load Resources and Extensible Markup Language (XML) for all other Load Resources. Those Dispatch Instructions must contain the MW output requested. For Generation Resources and Controllable Load Resources from which RRS capacity was deployed, ERCOT shall use SCED to dispatch RRS energy. The Base Points for those Resources includes RRS energy as well as any other energy dispatched by SCED.
- (12) To the extent that ERCOT deploys a Load Resource that is not a Controllable Load Resource and that has chosen a block deployment option, ERCOT shall either deploy the entire responsibility or, if only partial deployment is possible, skip the Load Resource with the block deployment option and proceed to deploy the next available Resource.
- (13) RRS provided from a Generation Resource shall be responsive to frequency deviations as defined in Section 8.5.1.1, Governor in Service. Generation Resources providing RRS must have a Governor droop setting that is not greater than 5.0%.

- RRS provided from a Resource capable of FFR shall self-deploy their obligated response within 15 cycles after frequency drops below 59.85 Hz and must continue to provide a response until the frequency increases above that level. Resources which require recharging may do so once the frequency increases above 59.990 Hz.
- (15) RRS provided by interruptible Load shall have automatic under-frequency relay setting set at no lower than 59.70 Hz
- (16) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides by one or more of the following:
 - (a) RRS energy deployment during an EEA;
 - (b) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
 - (c) RRS energy deployment from Load Resources and Generation Resources operating in synchronous condenser fast-response mode by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.

[NPRR863 and NPRR1010: Replace applicable portions of Section 6.5.7.6.2.2 above with the following upon system implementation for NPRR863; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1010:]

6.5.7.6.2.2 Deployment of Responsive Reserve (RRS)

- (1) RRS is intended to:
 - (a) Help restore the frequency within the first few seconds of a significant frequency deviation of the interconnected transmission system; and
 - (b) Provide energy during the implementation of an EEA.
- (2) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides, by one or more of the following:
 - (a) RRS energy deployment by automatic Governor response as a result of frequency deviation;
 - (b) By Dispatch Instruction for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System;
 - (c) RRS energy deployment by automatic action of high-set under-frequency relays as a result of a significant frequency deviation; and

- (d) By Dispatch Instruction for deployment of RRS from Resources with a Resource Status of ONSC or Resources providing FFR.
- (3) ERCOT shall deploy RRS to respond to a frequency deviation when the power requirement to restore frequency to normal ACE in ten minutes exceeds the Reg-Up ramping capability. Deployment of RRS on Load Resources, excluding Controllable Load Resources, must be as described in Section 6.5.9.4, Energy Emergency Alert.
- (4) Energy from RRS Resources may also be deployed by ERCOT under Section 6.5.9, Emergency Operations.
- (5) For Resources providing RRS with a Resource Status of ONSC, ERCOT shall deploy RRS as described in Section 6.5.9.4.2, EEA Levels, and Nodal Operating Guide Section 2.3.1.2, Additional Operational Details for Responsive Reserve Providers.
- (6) For Resources providing RRS with FFR, ERCOT may manually deploy the FFR RRS in an attempt to recover frequency to meet NERC Performance Control Standards after utilizing Reg-Up and the SCED process which includes off-cycle SCED executions.
- (7) ERCOT shall use the SCED, ECRS, and Non-Spin as soon as practicable to minimize the prolonged use of RRS energy.
- (8) Once RRS is manually deployed on Load Resources controlled by under-frequency relays or Resources telemetering a Resource Status of ONSC, the Resource's obligation to deliver RRS remains in effect until recalled by ERCOT.
- (9) Resources providing RRS and ERCOT shall meet the deployment performance requirements specified in Section 8, Performance Monitoring.
- (10) ERCOT shall issue RRS deployment Dispatch Instructions over ICCP for Generation Resources awarded RRS with a Resource Status of ONSC, and SCED-dispatchable Resources providing FFR. Dispatch Instructions must contain the MW output requested. UDSPs for those Resources includes RRS energy deployments as well as any other energy dispatched by SCED.
- (11) ERCOT shall issue RRS deployment Dispatch Instructions, specifying the required MW output, through Extensible Markup Language (XML) for non-Controllable Load Resources.
- (12) To the extent that ERCOT deploys a Load Resource that is not a Controllable Load Resource and that has chosen a block deployment option, ERCOT shall either deploy the entire award or, if only partial deployment is needed, skip the Load Resource with the block deployment option and proceed to deploy the next available Resource.
- (13) RRS provided from a Generation Resource shall be responsive to frequency deviations as defined in Section 8.5.1.1, Governor in Service. Generation Resources providing

RRS must have a Governor droop setting that is not greater than 5.0%.

- RRS provided from a Resource capable of FFR shall self-deploy their obligated response within 15 cycles after frequency drops below 59.85 Hz and must continue to provide a response until the frequency increases above that level. Resources which require recharging may do so once the frequency increases above 59.990 Hz.
- (15) RRS provided by interruptible Load shall have automatic under-frequency relay setting set at no lower than 59,70 Hz.
- (16) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides by one or more of the following:
 - (a) RRS energy deployment during an EEA;
 - (b) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
 - (c) RRS energy deployment from Load Resources and Generation Resources operating in synchronous condenser fast-response mode by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.

Exhibit ERCOT-Engie/Viridity 1-6.2

From:

Krein, Steve <Steve.Krein@ercot.com>

Sent:

Monday, December 13, 2021 2:22 PM

To:

Patterson, Mark

Subject:

RE: Draft NPRR for Extended RRS Deployments

Attachments:

Draft NPRR for Extended RRS Deployments - sdk.doc

I made this into a new paragraph and added some additional language. How does this look?



Steve Krein

Demand Integration 2705 West Lake Drive Taylor, Austin 76574

O: 512-248-6830 | M: 512-417-5742

From: Patterson, Mark < Mark. Patterson@ercot.com >

Sent: Friday, December 10, 2021 9:45 AM **To:** Krein, Steve <Steve.Krein@ercot.com>

Subject: Draft NPRR for Extended RRS Deployments

I wanted to get this out there so we can start drafting our ideas into protocol language. I still want to have something drafted by sometime next week so others can start weighing in.

NPRR Number	NPRR Title		
Date Posted	THE STATE OF THE S		
Requested Reso	olution Normal	or Urgent, and justification for Urgent status	
Nodal Protocol Sections Requir Revision	ing Include	Include Section No. and Title	
Related Docume Requiring Revision/Related Revision Reques	Include Teleme	Include title of document to be revised (i.e. Operating Guide, Telemetry Standards, etc.) or related Revision Request number and title.	
Revision Descri	ption Describ	e the basic function of the Revision Request.	
Reason for Revi	sion Medire Ma Adr Req Oth	dresses current operational issues. ets Strategic goals (tied to the <u>ERCOT Strategic Plan</u> or ected by the ERCOT Board). rket efficiencies or enhancements ministrative gulatory requirements ner: (explain) relect all that apply)	
Business Case	Describ requirer benefits	Describe qualitative benefits (Examples: satisfies regulatory requirements, data transparency enhancement, etc.), quantitative benefits (benefit calculations), impacts to market segments and other information relating to the impacts or benefits of the NPRR.	

Sponsor	
Name	Mark Patterson
E-mail Address	mpatterson@ercot.com
Company	ERCOT
Phone Number	
Cell Number	512.569.5539
Market Segment	

Market Rules Staff Contact	
Name	
E-Mail Address	
Phone Number	

Proposed Protocol Language Revision

6.5.7.6.2.2 Deployment of Responsive Reserve (RRS)

- (1) RRS is intended to:
- (a) Help restore the frequency within the first few seconds of a significant frequency deviation of the interconnected transmission system;
- (b) Provide energy during the implementation of an EEA; and
- (c) Provide backup Reg-Up.
- (2) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides, by one or more of the following:
- (a) RRS energy deployment by automatic Governor response as a result of frequency deviation;
- (b) Through use of an automatic Dispatch Instruction signal to deploy RRS capacity from Generation Resources providing Primary Frequency Response or Controllable Load Resources providing Primary Frequency Response;
- (c) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
- (d) RRS energy deployment by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.
- (3) ERCOT shall deploy RRS to respond to a frequency deviation when the power requirement to restore frequency to normal ACE in ten minutes exceeds the Reg-Up ramping capability. Deployment of RRS on Load Resources, excluding Controllable Load Resources, must be as described in Section 6.5.9.4, Energy Emergency Alert.

- (4) ERCOT may deploy RRS in response to system disturbance requirements as specified in the Operating Guides if no additional energy is available to be dispatched from SCED as determined by the Ancillary Service Capacity Monitor.
- (5) Energy from RRS Resources may also be deployed by ERCOT under Section 6.5.9, Emergency Operations.
- (6) ERCOT shall allocate the deployment of RRS proportionally among QSEs that provide RRS using Resources that are not on high-set under-frequency relays.
- (7) ERCOT shall use the SCED and Non-Spin as soon as practicable to minimize the prolonged use of RRS energy.
- (8<u>a</u>) Once RRS is deployed, the QSE's obligation to deliver RRS remains in effect until specifically instructed by ERCOT to stop providing RRS. <u>For extended deployments beyond the initial responsibility period the QSE may continue to offer those deployed resources into the DAM to avoid possible failure to provide charges as long as the Resources are able to remain deployedHowever, except in an Emergency Condition, the QSE's obligation to deliver RRS may not exceed the period for which the service was committed.</u>
- (8b) For extended deployments, a QSE may submit offers or trades for RRS in subsequent

 DAM activities using the deployed Load Resources. The offer or trade should not exceed the value of the NPC LPC at the time it was initially dispatched. However, once recalled the Load Resources must return to service and be prepared to cover their RRS Responsibility within three hours of the recall instruction being issued.
- (9) Following the deployment or recall of a deployment by Dispatch Instruction of RRS, QSE shall adjust the telemetered RRS Ancillary Service Schedule of Resources providing the service and ERCOT shall adjust the HASL and LASL based on the QSE's telemetered Ancillary Service Schedule for RRS as described in Section 6.5.7.2, Resource Limit Calculator, to account for such deployment.
- (10) QSEs providing RRS and ERCOT shall meet the deployment performance requirements specified in Section 8, Performance Monitoring.
- (11) ERCOT shall issue RRS deployment Dispatch Instructions over ICCP for Generation Resources and Controllable Load Resources and Extensible Markup Language (XML) for all other Load Resources. Those Dispatch Instructions must contain the MW output requested. For Generation Resources and Controllable Load Resources from which RRS capacity was deployed, ERCOT shall use SCED to dispatch RRS energy. The Base Points for those Resources includes RRS energy as well as any other energy dispatched by SCED.
- (12) To the extent that ERCOT deploys a Load Resource that is not a Controllable Load Resource and that has chosen a block deployment option, ERCOT shall either deploy the entire responsibility or, if only partial deployment is possible, skip the Load Resource with the block deployment option and proceed to deploy the next available Resource.

Nodal Protocol Revision Request

- (13) RRS provided from a Generation Resource shall be responsive to frequency deviations as defined in Section 8.5.1.1, Governor in Service. Generation Resources providing RRS must have a Governor droop setting that is not greater than 5.0%.
- RRS provided from a Resource capable of FFR shall self-deploy their obligated response within 15 cycles after frequency drops below 59.85 Hz and must continue to provide a response until the frequency increases above that level. Resources which require recharging may do so once the frequency increases above 59.990 Hz.
- (15) RRS provided by interruptible Load shall have automatic under-frequency relay setting set at no lower than 59.70 Hz
- (16) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides by one or more of the following:
 - (a) RRS energy deployment during an EEA;
 - (b) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
 - (c) RRS energy deployment from Load Resources and Generation Resources operating in synchronous condenser fast-response mode by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.

[NPRR863 and NPRR1010: Replace applicable portions of Section 6.5.7.6.2.2 above with the following upon system implementation for NPRR863; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1010:]

6.5.7.6.2.2 Deployment of Responsive Reserve (RRS)

- (1) RRS is intended to:
 - (a) Help restore the frequency within the first few seconds of a significant frequency deviation of the interconnected transmission system; and
 - (b) Provide energy during the implementation of an EEA.
- (2) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides, by one or more of the following:
 - (a) RRS energy deployment by automatic Governor response as a result of frequency deviation;
 - (b) By Dispatch Instruction for deployment of RRS energy from a Load Resource,

Nodal Protocol Revision Request

excluding Controllable Load Resources, by an electronic Messaging System;

- (c) RRS energy deployment by automatic action of high-set under-frequency relays as a result of a significant frequency deviation; and
- (d) By Dispatch Instruction for deployment of RRS from Resources with a Resource Status of ONSC or Resources providing FFR.
- (3) ERCOT shall deploy RRS to respond to a frequency deviation when the power requirement to restore frequency to normal ACE in ten minutes exceeds the Reg-Up ramping capability. Deployment of RRS on Load Resources, excluding Controllable Load Resources, must be as described in Section 6.5.9.4, Energy Emergency Alert.
- (4) Energy from RRS Resources may also be deployed by ERCOT under Section 6.5.9, Emergency Operations.
- (5) For Resources providing RRS with a Resource Status of ONSC, ERCOT shall deploy RRS as described in Section 6.5.9.4.2, EEA Levels, and Nodal Operating Guide Section 2.3.1.2, Additional Operational Details for Responsive Reserve Providers.
- (6) For Resources providing RRS with FFR, ERCOT may manually deploy the FFR RRS in an attempt to recover frequency to meet NERC Performance Control Standards after utilizing Reg-Up and the SCED process which includes off-cycle SCED executions.
- (7) ERCOT shall use the SCED, ECRS, and Non-Spin as soon as practicable to minimize the prolonged use of RRS energy.
- (8) Once RRS is manually deployed on Load Resources controlled by under-frequency relays or Resources telemetering a Resource Status of ONSC, the Resource's obligation to deliver RRS remains in effect until recalled by ERCOT.
- (9) Resources providing RRS and ERCOT shall meet the deployment performance requirements specified in Section 8, Performance Monitoring.
- (10) ERCOT shall issue RRS deployment Dispatch Instructions over ICCP for Generation Resources awarded RRS with a Resource Status of ONSC, and SCED-dispatchable Resources providing FFR. Dispatch Instructions must contain the MW output requested. UDSPs for those Resources includes RRS energy deployments as well as any other energy dispatched by SCED.
- (11) ERCOT shall issue RRS deployment Dispatch Instructions, specifying the required MW output, through Extensible Markup Language (XML) for non-Controllable Load Resources.
- (12) To the extent that ERCOT deploys a Load Resource that is not a Controllable Load Resource and that has chosen a block deployment option, ERCOT shall either deploy the entire award or, if only partial deployment is needed, skip the Load Resource with

Nodal Protocol Revision Request

- the block deployment option and proceed to deploy the next available Resource.
- (13) RRS provided from a Generation Resource shall be responsive to frequency deviations as defined in Section 8.5.1.1, Governor in Service. Generation Resources providing RRS must have a Governor droop setting that is not greater than 5.0%.
- (14) RRS provided from a Resource capable of FFR shall self-deploy their obligated response within 15 cycles after frequency drops below 59.85 Hz and must continue to provide a response until the frequency increases above that level. Resources which require recharging may do so once the frequency increases above 59.990 Hz.
- (15) RRS provided by interruptible Load shall have automatic under-frequency relay setting set at no lower than 59.70 Hz.
- (16) ERCOT shall deploy RRS to meet NERC Control Performance Standards and other performance criteria as specified in these Protocols and the Operating Guides by one or more of the following:
 - (a) RRS energy deployment during an EEA;
 - (b) By Dispatch Instructions for deployment of RRS energy from a Load Resource, excluding Controllable Load Resources, by an electronic Messaging System; and
 - (c) RRS energy deployment from Load Resources and Generation Resources operating in synchronous condenser fast-response mode by automatic action of high-set under-frequency relays as a result of a significant frequency deviation.

Attachment F - Communications from ERCOT to Viridity Recalling its Load Resource RRS Obligations and Allowing the Load Resources to Restore Load

From: ERCOT Emergency Alerts <EMERGENCYALERTS@LISTS.ERCOT.COM> on behalf of

0000005a0c1b20a5-dmarc-request@LISTS.ERCOT.COM

Sent: Friday, February 19, 2021 10:37 AM **To:** EMERGENCYALERTS@LISTS.ERCOT.COM

Subject: Return to Normal

CAUTION: External Sender, Do not click on links or open attachments unless you recognize the sender.

At 10:35, ERCOT moving from EEA 1 to Normal. Grid reserves restored. Normal conditions - Conservation encouraged.

To unsubscribe from the EMERGENCYALERTS list, click the following link:

https://urldefense.com/v3/__http://secure-

 $web. cisco.com/1R2DU4a40FzgfiCHyJ7VoUfjlWQbZsuMuryguZdJYfMyHqgnKPlVx_DCaM8wxtElngTuE5CansNFxRGc9xxJV4h494pH8KvTuw3h3qxhAGolHCdCiJ_qG0iQlzysNkcrsds_lZ5a_EBCcbZlFtw5bGoEXGtvNygpfbiy7WE9GaZmgGfd1_VldPhdNimbfu01FnE_yJGJREIFTGkccRq4ULLKOHigoZ75T7KwS_TMYXeU_9Er-tn9MuQdG-$

zjPAmVyRFDujwqn7Ey0Cu73xbw3QqYUjmbk0ncooFBeUHKkaLQZYBM-

HfEJe08gkJD2P6wepD7LMdtHY4Ihh2j8DhzJuA/http*3A*2F*2Flists.ercot.com*2Fscripts*2Fwa-

ERCOT.exe*3FSUBED1*3DEMERGENCYALERTS*26A*3D1 ;JSUIJSUIJSUI!!KzIVK9q-

m3lj!Kl5hUbACFMXTP5RvTL9s2FV1fqh6P85LZQe1e0lcfRSOxo19OCcYM0e4dTdDzQ9goGK42GS2fz51PdWvEO4jr069\$

From: ERCOT Emergency Alerts <EMERGENCYALERTS@LISTS.ERCOT.COM> on behalf of

0000005a0c1b20a5-dmarc-request@LISTS.ERCOT.COM

Sent: Friday, February 19, 2021 10:35 AM **To:** EMERGENCYALERTS@LISTS.ERCOT.COM

Subject: EEA level 1 Cancellation [[b6cdc2f8-b807-4d14-a072-07a302e6c783]]

CAUTION: External Sender, Do not click on links or open attachments unless you recognize the sender.

[[[IMPORTANT! Do not change anything below this line in this email.]]] To respond to this notification, reply with YES in the top of this email. [[b6cdc2f8-b807-4d14-a072-07a302e6c783]]

ERCOT is cancelling EEA level 1.

Reply with a Yes to this email within 1 minute of the receipt to stop further notifications for this event. If you do not reply within 1 minute you will be contacted again until the number of attempts have been completed.

To unsubscribe from the EMERGENCYALERTS list, click the following link: http://lists.ercot.com/scripts/wa-ERCOT.exe?SUBED1=EMERGENCYALERTS&A=1

From: EDF Energy Services <na5@na5.xmatters.com>

Sent: Friday, February 19, 2021 9:05 AM

To: Mike Pavo

Subject: RECALL: ERCOT Emergency Event LR Deployment (EEA Event) Action Required!

CAUTION: External Sender, Do not click on links or open attachments unless you recognize the sender.

RECALL: As of Feb 19, 2021 at 9:04 AM CST, all ERCOT Load Resource (LAAR) assets have been cleared to restore electricity. Your resource has 3 hours to meet the hourly obligation.

All Load Resource Assets (LR) are expected to perform based off of their obligation. If your asset has any issues immediately contact EDF Energy Services at the number below.

Click the link below to acknowledge this message.

Thank you, EDF RT Operations 281-653-5828

Thank you, EDF RT Operations 281-653-5828

• Join - I will join the call

Attachment G - Affidavit of Michael Pavo

03A4B9E2-6264-4992-A8EA-5509410F4F22 --- 2022/05/11 13:17:24 -8:00 --- Remote Notary

AFFIDAVIT

STATE OF TEXAS §

§

COUNTY OF TRAVIS §

BEFORE ME, the undersigned notary public, this day personally appeared Michael Pavo, to me known, who being duly sworn according to law, deposes and says:

- 1. "My name is Michael Pavo. I am of legal age and a resident of the State of Maryland. I am competent to make the following statements on behalf of Viridity Energy Solutions, Inc. ("Viridity").
- 2. I am the Head of Operations of Viridity Energy Solutions, Inc. ("Viridity"), and have been employed as Head of Operations by Viridity for the past 2.5 years.
- I have reviewed ENGIE and Viridity's Reply to ERCOT, including the factual statements in Section II(D) relating to telephone communications between Viridity and the staff of the Electric Reliability Council of Texas, Inc. that took place on February 18, 2022. I have personal knowledge of those telephone conversations and the factual statements contained in ENGIE and Viridity's Reply to ERCOT are true and correct to the best of my knowledge.
- 4. The foregoing statements are true and correct to the best of my knowledge and belief."

Michael Pavo
Signed on 202000911 13 32 58 -800

MICHAEL PAVO

Subscribed and sworn to before me, notary public, on this the 11th day of May, 2022.

Notarial act performed by audio-visual communication

Notary Public in and for the State of Texas

My Commission expires





Attachment H - Viridity's Communications to its Load Resources

From: Viridity Energy Solutions <noreply@everbridge.net>

Sent: Thursday, February 18, 2021 12:40 PM

To: Nathan McGough

Subject: Viridity Energy Solutions RRS Recall - 02-18-2021

Please click here to acknowledge receipt of this message



ERCOT has provided confirmation that you may restore load to the RRS resources.

Program: RRS

Your resources can restore load and return to normal operations, at your discretion.

If you have any questions, please contact Market Operations at (484)474-5350.

Please confirm curtailment by clicking the link at the bottom of this email.

From: Viridity Energy Solutions <noreply@everbridge.net>

Sent: Thursday, February 18, 2021 2:21 PM

To: Nathan McGough

Subject: Viridity Energy Solutions RRS Program Update - 02-18-2021

Please click here to acknowledge receipt of this message



ERCOT has reversed their decision to allow RRS assets to restore load, and as such we are requesting that you do not yet restore load. If you have restored load, please curtail again.

Program: RRS

ERCOT has reversed their decision to allow RRS assets to restore load. Please do not restore load until ERCOT has recalled the event.

If you have any questions, please contact Market Operations at (484)474-5350.

Attachment I - BASA Letter to Commission (Mar. 18, 2022)



March 18, 2022

Via Electronic Filing

Public Utility Commission of Texas 1701 N. Congress Avenue Austin, Texas 78701

Re: PUCT Docket No. 53377; Complaint of ENGIE

Marketing NA, Inc. and Viridity Energy Solutions, Inc.

Against The Electric Reliability Council of Texas

Dear Commissioners:

BĀSA Resources, Inc. (BĀSA) submits this letter to support ENGIE Marketing NA, Inc. (ENGIE) and Viridity Energy Solutions, Inc. (Viridity) regarding their complaint against the Electric Reliability Council of Texas (ERCOT) and its operation of the Load Resource program during Winter Storm Uri. As you know and ERCOT touts, this important program allows consumers to provide the same value and grid reliability to ERCOT as generators. At the heart of these complaints is the undisputed fact that during the Winter Storm Uri emergency, BĀSA performed as instructed by ERCOT and helped Texas avoid a massive blackout.

BĀSA is a top ranked Texas private oil and gas producer founded in 1989, producing more than 300,000 BOE per month. We own and operate approximately 5,000 wells in more than 40 fields across Texas. We are a major employer and contributor to the economy of the state.

We are also a retail customer of ENGIE, and we own the Load Resources that were deployed by ERCOT during Winter Storm Uri. We have been qualified as a Load Resource since 2016 and we have successfully completed ERCOT's qualifications as a Load Resource and performed as required in ERCOT's historical Load Resource deployments and periodic testing of our Load Resources without incident and without any of the issues that ERCOT now holds against us.

The Load Resource program is a voluntary program—nobody, including BĀSA, is required to participate as a Load Resource. Participation in the program comes with a high cost to BĀSA, not only in the expense to implement and participate in ERCOT qualifications and testing, but also in the loss in productivity and profits for our business when ERCOT deploys this service by instructing us to shut down our facilities.

Last year, just past midnight on February 15, ERCOT instructed us to take our load offline and to remain offline to assist in ERCOT's emergency need. We quickly complied and shut down power to our production facilities. As we have come to understand, we were able to help prevent a massive blackout event, which could have caused much more loss of life and damage across the state of Texas than what actually occurred. As news reports have said since then, the Texas grid was only four minutes away from such a blackout at about the same time we were instructed to go offline.

Public Utility Commission of Texas Page 2 March 18, 2022

ERCOT continuously deployed this service and repeatedly instructed us to remain shut down through the morning of February 19. During this deployment, we asked ERCOT whether, and when, we would be able to return to service. At certain points ERCOT said that we could restore our load, but then quickly reversed that guidance and instructed us to remain deployed until recalled. Nobody ever said that we may not get compensated for the service that we provided or that we needed to do anything additional to be compensated for the service. We relied on ERCOT's instructions and statements, and we performed just as directed. Now we have learned that ERCOT is trying to back out of the arrangement openly admitting it gave us "imperfect advice" during the Storm.

Moreover, the program had historically required us to shut down only for a few hours per year; but during Winter Storm Uri, ERCOT instructed us to remain offline for five days straight. That is five days without the ability to produce, market, or deliver our product in what was the most lucrative oil and gas market in decades. We lost millions due to our commitment to ERCOT to comply with its instruction to stay offline. Despite the cost to BĀSA, we recognize that we made a commitment and so we honored that commitment.

Now we understand that ERCOT does not want to fulfill its end of the bargain and is refusing to compensate us for providing this vital service. We did exactly as we were instructed, exactly as we were trained to do in ERCOT's qualifications and testing, and exactly as we have done in the past. We understand that ERCOT agrees that we performed as instructed and we helped avoid a blackout in the worst electricity crisis in Texas history. ERCOT's failure to live up to its end of the bargain after BĀSA helped ERCOT out, to BĀSA's extreme detriment, is unlawful and should be addressed by the Commission.

Had we known ERCOT would refuse to pay us the money we are owed while acknowledging that we performed properly, we would have simply chosen not to participate in the program, and we would have been better off for it. You cannot contract for someone to come to your aid in times of emergency, renege on the agreement for helping you out exactly as asked, and expect them to come to your aid in future emergencies.

We urge the Commission to order ERCOT to follow through on its obligation to compensate for the Responsive Reserve Service provided by BĀSA's Load Resource.

Thank you for your time and attention to this matter.

Very truly yours,

By:

BĀSA Resources, Inc.

Nathan A. McGough Chief Financial Officer

All Parties of Record

Attachment J - ERCOT Response to ENGIE and Viridity First RFI 1-1, Excel Attachment (provided in native format)

DATE	DELIVERY_HOUR	AS_TYP	E RRS REQUIREMENT PER AS_PLAN - MW	DAM OFFERS - MW AWARDED	SELF-ARRANGED RRS - MW	TOTAL MW - DAM OFFERS AWARDED & SELF-ARRANGED	RRS SHORTAGE - MW
2/15/202° 2/15/202°		1 RRS 2 RRS	3170.0 3170.0		1107.5 1104.8	3170 3154.5	0.0 15.5
2/15/202		3 RRS	3092.0		1091.5		0.0
2/15/202		4 RRS	3092.0		1090.4		0.0
2/15/2021		5 RRS 6 RRS	3092.0 3092.0	1997.7 1824.2	1094.3 1103.5		0.0 164.3
2/15/2021	1	7 RRS	2959.0	1626.3	1082.5	2708.8	250.2
2/15/202° 2/15/202°		8 RRS 9 RRS	2959.0 2959.0	1874.4 1870.3	1084.6 1088.7	. 2959 2959	0.0 0.0
2/15/202		0 RRS	2959.0		1092.3	2934.2	24.8
2/15/2021		1 RRS	2959.0		1094.7		0.0
2/15/202 ⁻ 2/15/202 ⁻		2 RRS 3 RRS	2959.0 2959.0	1866.9 1864.1	1092.1 1094.9	2959 2959	0.0 0.0
2/15/202		4 RRS	2959.0		1099.3		0.0
2/15/202° 2/15/202°		5 RRS 6 RRS	2959.0 2959.0	1855.9 1851.1	1103.1 1107.9	2959 2959	0.0 0.0
2/15/2021	1 1	7 RRS	2959.0	1849.3	1109.7	2959	0.0
2/15/2021		8 RRS 9 RRS	295 9.0 3002.0	1708.7 1730.9	1110.5 1115.9		139.8 155.2
2/15/202	1 2	0 RRS	3002.0	1887.6	1114.4	3002	0.0
2/15/202° 2/15/202°		1 RRS 2 RRS	3002.0 3002.0	1892.9 1890.0	1106.4 1103.5		2.7 8.5
2/15/202		3 RRS	3170.0		1123.5		3.3
2/15/2021		4 RRS	3170.0		1116.7		0.0
2/16/202		1 RRS 2 RRS	3170.0 3170.0		957.4 952.1	2540.9 2535.4	629.1 634.6
2/16/202		3 RRS	3092.0		941.4		567.6
2/16/202		4 RRS 5 RRS	3092.0 3092.0	1582.9 1582.9	936.4 935.6	2519.3 2518.5	572.7 573.5
2/16/2021	1	6 RRS	3092.0	1465.2	937.1	2402.3	689.7
2/16/202		7 RRS 8 RRS	295 9.0 295 9.0	1364.3 1682.0	932.0 929.6		662.7 347.4
2/16/202	1	9 RRS	2959.0	1636.8	931.2	2568	391.0
2/16/2021		0 RRS 1 RRS	2959.0 2959.0		932.7 933.7	2544.3 2575.3	414.7 383.7
2/16/202° 2/16/202°		2 RRS	2959.0	1641.6 1643.3	933.4	2576.7	382.3
2/16/202		3 RRS	2959.0		936.7	2515.1	443.9
2/16/202		4 RRS 5 RRS	295 9.0 295 9.0		939.2 943.0		364.5 379.8
2/16/2021	1 1	6 RRS	2959.0	1551.9	948.1	2500	459.0
2/16/202		7 RRS 8 RRS	295 9.0 295 9.0	1508.1 1457.7	947.3 944.4		503.6 556.9
2/16/2021	1 1	9 RRS	3002.0	1528.0	951.3	2479.3	522.7
2/16/202		0 RRS 1 RRS	3002.0 3002.0	1653.0 1632.1	946.1 940.8	2599.1 . 2572.9	402.9 429.1
2/16/202		2 RRS	3002.0		937.4		424.8
2/16/202		RRS RRS	3170.0 3170.0		944.7 939.8	2492.8 2487.8	677.2 682.2
2/17/202		1 RRS	3170.0		922.2		569.3
2/17/202		2 RRS	3170.0		917.9		589.4
2/17/202		3 RRS 4 RRS	3092.0 3092.0		905.1 904.8		512.5 555.1
2/17/2021	1 !	5 RRS	3092.0	1563.4	909.0	2472.4	619.6
2/17/202		6 RRS 7 RRS	3092.0 2959.0	1419.8 1244.9	938.7 941.3	2358.5 2186.2	733.5 772.8
2/17/202	1	8 RRS	2959.0	1548.4	916.9	2465.3	493.7
2/17/202		9 RRS 10 RRS	2959.0 2959.0		922.6 925.8		485.0 531.1
2/17/202		1 RRS	2959.0		928.1	2404.7	554.3
2/17/202		2 RRS	2959.0		929.1	2407.8	551.2
2/17/202		3 RRS 4 RRS	295 9.0 295 9.0	1413.2 1482.5	931.1 931.5	2344.3 2414	614.7 545.0
2/17/202		5 RRS	2959.0	1501.8	931.8		525.4
2/17/202 ⁻ 2/17/202 ⁻		6 RRS 17 RRS	2959.0 2959.0	1447.0 1403.8	933.0 946.9		579.0 608.3
2/17/202	1 1	8 RRS	2959.0	1347.8	968.4	2316.2	642.8
2/17/202		9 RRS 9 RRS	3002.0 3002.0	1423.8 1676.5	973.3 952.5		604.9 373.0
2/17/202	1 2	1 RRS	3002.0	1676.5	953.0	2629.5	372.5
2/17/202		2 RRS 3 RRS	3002.0 3170.0	1659.9 1658.3	954.5 971.4		387.6 540.3
2/17/202		4 RRS	3170.0		971.7		521.8
2/18/202	1	1 RRS	3170.0		958.2		436.8
2/18/202		2 RRS 3 RRS	3170.0 3092.0		960.5 942.9		468.9 396.6
2/18/202	1 .	4 RRS	3092.0	1711.1	945.1	2656.2	435.8
2/18/202		5 RRS 6 RRS	3092.0 3092.0	1644.7 1488.5	961.8 995.4		485.5 608.1
2/18/2021	1	7 RRS	2959.0	1317.8	997.0	2314.8	644.2
2/18/202		8 RRS 9 RRS	2959.0 2959.0	1627.9 1636.3	953.5 958.1	2581.4 2594.4	377.6 364.6
2/18/202	1 1	0 RRS	2959.0	1604.8	963.1	2567.9	391.1
2/18/202° 2/18/202°		1 RRS 2 RRS	2959.0 2959.0		968.7 970.6		402.6 384.5
2/18/202		3 RRS	2959.0		983.0		432.5
2/18/2021		4 RRS	2959.0	1613.5	967.6		377.9
2/18/202		5 RRS 6 RRS	2959.0 2959.0	1616.2 1531.9	967.3 981.1		375.5 446.0
2/18/202		7 RRS	2959.0	1505.5	990.2		463.3
2/18/202 ⁻ 2/18/202 ⁻		8 RRS 9 RRS	2959.0 3002.0	1448.9 1523.4	1005.4 1005.3		504.7 473.3
2/18/202	1 2	0 RRS	3002.0	1780.9	962.6	2743.5	258.5
2/18/202° 2/18/202°		1 RRS 2 RRS	3002.0 3002.0	1795.5 1792.9	961.4 960.6		245.1 248.5
2/18/2021	1 2	3 RRS	3170.0	1781.6	987.2	2768.8	401.2
2/18/202		4 RRS 1 RRS	3170.0 3170.0		979.3 993.1		386.7 193.2
2/19/2021	1 :	2 RRS	3170.0	1986.8	996.2	2983	187.0
2/19/202	1 :	3 RRS 4 RRS	3092.0 3092.0	2024.7	965.4 967.5	2990.1	101.9 119.7
2/19/202 ⁻ 2/19/202 ⁻		4 RRS 5 RRS	3092.0 3092.0	2004.8 1938.1	967.5 970.8		119.7
2/19/2021	1	6 RRS	3092.0	1780.1	1002.7	2782.8	309.2
2/19/202		7 RRS 8 RRS	295 9.0 295 9.0	1607.6 1915.7	988.0 950.4		363.4 92.9
2/19/2021	1	9 RRS	2959.0	1924.1	950.3	2874.4	84.6
2/19/202° 2/19/202°		0 RRS 1 RRS	2959.0 2959.0	1890.6 1869.7	949.2 946.7		119.2 142.6
2/19/202		2 RRS	2959.0		944.2		133.0

2/19/2021	13 RRS	2959.0	1818.1	948.8	2766.9	192.1
2/19/2021	14 RRS	2959.0	1891.8	941.8	2833.6	125.4
2/19/2021	15 RRS	2959.0	1903.5	942.5	2846	113.0
2/19/2021	16 RRS	2959.0	1826.8	952.5	2779.3	179.7
2/19/2021	17 RRS	2959.0	1784.7	965.5	2750.2	208.8
2/19/2021	18 RRS	2959.0	1726.8	981.5	2708.3	250.7
2/19/2021	19 RRS	3002.0	1803.4	984.4	2787.8	214.2
2/19/2021	20 RRS	3002.0	2030.5	959.8	2990.3	11.7
2/19/2021	21 RRS	3002.0	2031.5	958.8	2990.3	11.7
2/19/2021	22 RRS	3002.0	2031.3	956.4	2987.7	14.3
2/19/2021	23 RRS	3170.0	2035.0	977.8	3012.8	157.2
2/19/2021	24 RRS	3170.0	2035.1	969.4	3004.5	165.5

Attachment K - Examples of Load Resources Deploying and Subsequently Changing Their Resource Status

Aggregate Viridity Resource Performance over Time



QALTRE-AIRPK_LD4-Resource Performance over Time



QMP2EN-CRTCHFLD_LD2-Resource Performance over Time



QTENSK-PECKS_LD1-Resource Performance over Time



Attachment L - Viridity's Adjusted Billing Dispute Calculations (provided in native format)

	Original	Billing Dispute (Calculations before Cons	olidation with Engle	ADR			If Engle Tr	ansaction is Recogni	ized
							Engie			·
DeliveryDate	HourEnding AncillaryType	мсрс	Admin Set MCPC	MW Amount 5	S @ MCPC⁻	\$@ADMIN MCPC	Transaction MW Amount	Net Viridity MW Amount vi/o Engle	Viridity \$ @ MCPC	Viridity \$ @ ADMIN MCPC
2/16/2021	1:00 RRS	\$ 17,201.20	\$ 9,000.00	78	\$ 1,341,693.60	\$ 702,000.00	27	5	1 \$ 877,261.20	\$ 459,000.00
2/16/2021 2/16/2021	2:00 RRS 3:00 RRS	\$ 13,607.40 \$ 13,166.50	\$ 9,000.00 \$ 9,000.00		\$ 1,061,377.20 \$ 1,026,987.00	\$ 702,000.00 \$ 702,000.00	27 27	5		\$ 459,000.00 \$ 459,000.00
2/16/2021	4:00 RRS	\$ 15,100.30	\$ 9,000.00	78	\$ 1,177,823.40	\$ 702,000.00	27	5	1 \$ 770,115.30	\$ 459,000.00
2/16/2021	5:00 RRS 6:00 RRS	\$ 15,765.80 \$ 20,487.60	\$ 9,000.00		\$ 1,229,732.40 \$ 1,598,032.80	\$ 702,000.00	27 27	5		\$ 459,000.00 \$ 459,000.00
2/16/2021	7:00 RRS	\$ 15,188.70	\$ 9,000.00	78	\$ 1,184,718.60	\$ 702,000.00	27	5	1 \$ 774,623.70	\$ 459,000.00
2/16/2021	8:00 RRS 9:00 RRS	\$ 22,493.20 \$ 14,914.40	\$ 9,000.00 \$ 9,000.00		\$ 1,754,469.60 \$ 1,163,323.20	\$ 702,000.00 \$ 702,000.00	27 27	5		\$ 459,000.00 \$ 459,000.00
2/16/2021	10:00 RRS	\$ 14,898.70	\$ 9,000.00	78	\$ 1,162,098.60	\$ 702,000.00	27	5	1 \$ 759,833.70	\$ 459,000.00
2/16/2021	11:00 RRS 12:00 RRS	\$ 22,790.20 \$ 22,941.80	\$ 9,000.00	78 78	\$ 1,777,635.60 \$ 1,789,421.40	\$ 702,000.00 \$ 702,000.00	27	5	1 \$ 1,162,900.20 1 \$ 1,170,006.80	\$ 459,000.00 \$ 459,000.00
2/16/2021	12:00 RRS	\$ 21,999.80	\$ 9,000.00	78	\$ 1,715,984.40	\$ 702,000.00	27	5	1 \$ 1,121,989.80	\$ 459,000.00
2/16/2021	14:00 RRS 15:00 RRS	\$ 21,074.10 \$ 20,22850	\$ 9,000.00	78	\$ 1,643,779.80 \$ 1,577,823.00	\$ 702,000.00 \$ 702,000.00	27	5	1 \$ 1,074,779.10 1 \$ 1,031.65350	\$ 459,000.00 \$ 459,000.00
2/16/2021	16:00 RRS	\$ 15,365.20	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,577,823.00	\$ 702,000.00	27 27	5 5	1 \$ 783,625.20	\$ 459,000.00
2/16/2021	17:00 RRS	\$ 13,736.20	\$ 9,000.00	78	\$ 1,071,423.60	\$ 702,000.00	27	5	1 \$ 700,546.20	\$ 459,000.00
2/16/2021 2/16/2021	18:00 RRS 19:00 RRS	\$ 13,551.10 \$ 16,533.30	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,056,985.80 \$ 1,289,597.40	\$ 702,000.00 \$ 702,000.00	27 27	5		\$ 459,000.00 \$ 459,000.00
2/16/2021	20:00 RRS	\$ 17,31750	\$ 9,000.00	78	\$ 1,350,765.00	\$ 702,000.00	27	5	1 \$ 883,19250	\$ 459,000.00
2/16/2021 2/16/2021	21:00 RRS 22:00 RRS	\$ 16,197.40 \$ 20,540.20	\$ 9,000.00 \$ 9,000.00		\$ 1,263,397.20 \$ 1,602,135.60	\$ 702,000.00 \$ 702,000.00	27 27	5 5	1 \$ 826,067.40 1 \$ 1,047,550.20	\$ 459,000.00 \$ 459,000.00
2/16/2021	23:00 RRS	\$ 24,284.00	\$ 9,000.00	78	\$ 1,894,152.00	\$ 702,000.00	27	5	1 \$ 1,238,484.00	\$ 459,000.00
2/16/2021	24:00:00 RRS	\$ 20,478.90	\$ 9,000.00	78	\$ 1,597,354.20	\$ 702,000.00	27	5		\$ 459,000.00
2/17/2021	1:00 RRS 2:00 RRS	\$ 23,829.90 \$ 16,079.20	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,858,732.20 \$ 1,254,177.60	\$ 702,000.00 \$ 702,000.00	27 27	5 5	1 \$ 1,215,324.90 1 \$ 820,039.20	\$ 459,000.00 \$ 459,000.00
2/17/2021	3:00 RRS	\$ 16,317.40	\$ 9,000.00	78	\$ 1,272,757.20	\$ 702,000.00	27	5	1 \$ 832,187.40	\$ 459,000.00
2/17/2021	4:00 RRS 5:00 RRS	\$ 16,642.70	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,298,130.60 \$ 1,322,146.80	\$ 702,000.00 \$ 702,000.00	27 27	5	1 \$ 848,777.70 1 \$ 864.480.60	\$ 459,000.00 \$ 459,000.00
2/17/2021	6:00 RRS	\$ 25,250.20	\$ 9,000.00	78	\$ 1,969,515.60	\$ 702,000.00	27	5	1 \$ 1,287,760.20	\$ 459,000.00
2/17/2021	7:00 RRS	\$ 17,865.00	\$ 9,000.00	78	\$ 1,393,470.00	\$ 702,000.00	27	5	1 \$ 911,115.00	\$ 459,000.00
2/17/2021 2/17/2021	8:00 RRS 9:00 RRS	\$ 25,674.30 \$ 17,908.30	\$ 9,000.00 \$ 9,000.00		\$ 2,002,595.40 \$ 1,396,847.40	\$ 702,000.00 \$ 702,000.00	27 27	5 5	1 \$ 1,309,389.30 1 \$ 913,323.30	\$ 459,000.00 \$ 459,000.00
2/17/2021	10:00 RRS	\$ 17,849.10	\$ 9,000.00	78	\$ 1,392,229.80	\$ 702,000.00	27	5	1 \$ 910,304.10	\$ 459,000.00
2/17/2021	11:00 RRS 12:00 RRS	\$ 17,571.00 \$ 17,462.70	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,370,538.00 \$ 1,362,090.60	\$ 702,000.00 \$ 702,000.00	27	5		\$ 459,000.00 \$ 459,000.00
2/17/2021	12:00 RRS	\$ 17,301.60	\$ 9,000.00	78	\$ 1,349,524.80	\$ 702,000.00	27	5	1 \$ 882,381.60	\$ 459,000.00
2/17/2021	14:00 RRS	\$ 16,861.90	\$ 9,000.00		\$ 1,315,228.20	\$ 702,000.00	27	5	1 \$ 859,956.90	\$ 459,000.00
2/17/2021	15:00 RRS 16:00 RRS	\$ 18,344.30 \$ 24,839.10	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,430,855.40 \$ 1,937,449.80	\$ 702,000.00	27 27	5	1 \$ 935,559.30 1 \$ 1,266,794.10	\$ 459,000.00 \$ 459,000.00
2/17/2021	17:00 RRS	\$ 22,735.50	\$ 9,000.00	78	\$ 1,773,369.00	\$ 702,000.00	27	5	1 \$ 1,159,510.50	\$ 459,000.00
2/17/2021	18:00 RRS 19:00 RRS	\$ 17,435.40 \$ 24,988.40	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,359,961.20 \$ 1,949,095.20	\$ 702,000.00	27 27	5 5	1 \$ 889,205.40 1 \$ 1,274,408.40	\$ 459,000.00 \$ 459,000.00
2/17/2021	20:00 RRS	\$ 25,466.90	\$ 9,000.00	78	\$ 1,986,418.20	\$ 702,000.00	27	5	1 \$ 1,298,811.90	\$ 459,000.00
2/17/2021	21:00 RRS	\$ 24,368.70	\$ 9,000.00	78	\$ 1,900,758.60	\$ 702,000.00	27	5	1 \$ 1,242,803.70	\$ 459,000.00
2/17/2021	22:00 RRS 23:00 RRS	\$ 25,629.90 \$ 25,561.40	\$ 9,000.00 \$ 9,000.00		\$ 1,999,132.20 \$ 1,993,789.20	\$ 702,000.00 \$ 702,000.00	27	5		\$ 459,000.00 \$ 459,000.00
2/17/2021	24:00:00 RRS	\$ 25,127.00	\$ 9,000.00	78	\$ 1,959,906.00	\$ 702,000.00	27	5	1 \$ 1,281,477.00	\$ 459,000.00
2/18/2021 2/18/2021	1:00 RRS 2:00 RRS	\$ 16,392.30 \$ 16,396.70	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,278,599.40 \$ 1,278,942.60	\$ 702,000.00 \$ 702,000.00	27 27	5	1 \$ 836,007.30 1 \$ 836,231.70	\$ 459,000.00 \$ 459,000.00
2/18/2021	3:00 RRS	\$ 16,396.40	\$ 9,000.00		\$ 1,278,919.20	\$ 702,000.00	27	5	1 \$ 836,216.40	\$ 459,000.00
2/18/2021	4:00 RRS	\$ 16,395.60	\$ 9,000.00	78	\$ 1,278,856.80	\$ 702,000.00	27	5		\$ 459,000.00
2/18/2021	5:00 RRS 6:00 RRS	\$ 16,696.30 \$ 23,894.80	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,302,311.40 \$ 1,863,794.40	\$ 702,000.00 \$ 702,000.00	27 27	5 5		\$ 459,000.00 \$ 459,000.00
2/18/2021	7:00 RRS	\$ 16,884.50	\$ 9,000.00	78	\$ 1,316,991.00	\$ 702,000.00	27	5	1 \$ 861,109.50	\$ 459,000.00
2/18/2021 2/18/2021	8:00 RRS 9:00 RRS	\$ 24,902.20 \$ 17,378.30	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,942,371.60 \$ 1,355,507.40	\$ 702,000.00 \$ 702,000.00	27	5	1 \$ 1,270,012.20 1 \$ 886,293.30	\$ 459,000.00 \$ 459,000.00
2/18/2021	10:00 RRS	\$ 17,409.60	\$ 9,000.00	78	\$ 1,357,948.80	\$ 702,000.00	27	5	1 \$ 887,889.60	\$ 459,000.00
2/18/2021	11:00 RRS	\$ 21,916.40	\$ 9,000.00	78	\$ 1,709,479.20	\$ 702,000.00	27	5	1 \$ 1,117,736.40	\$ 459,000.00
2/18/2021 2/18/2021	12:00 RRS 13:00 RRS	\$ 22,205.80 \$ 23,631.80	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,732,052.40 \$ 1,843,280.40	\$ 702,000.00	27 27	5	1 \$ 1,132,495.80 1 \$ 1,205,221.80	\$ 459,000.00 \$ 459,000.00
2/18/2021	14:00 RRS	\$ 23,768.30	\$ 9,000.00	78	\$ 1,853,927.40	\$ 702,000.00	27	5	1 \$ 1,212,183.30	\$ 459,000.00
2/18/2021	15:00 RRS 16:00 RRS	\$ 23,541.50 \$ 23,176.20	\$ 9,000.00 \$ 9,000.00	78	\$ 1,836,237.00 \$ 1,807,743.60	\$ 702,000.00 \$ 702,000.00	27 27	5		\$ 459,000.00 \$ 459,000.00
2/18/2021	17:00 RRS	\$ 22,126.80	\$ 9,000.00	78	\$ 1,725,890.40	\$ 702,000.00	27	5	1 \$ 1,128,466.80	\$ 459,000.00
2/18/2021	18:00 RRS	\$ 16,882.80	\$ 9,000.00	78	\$ 1,316,858.40	\$ 702,000.00	27	5	1 \$ 861,022.80	\$ 459,000.00
2/18/2021 2/18/2021	19:00 RRS 20:00 RRS	\$ 18,198.00 \$ 24,466.10	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,419,444.00 \$ 1,908,355.80	\$ 702,000.00	27 27	5	1 \$ 928,098.00 1 \$ 1,247,771.10	\$ 459,000.00 \$ 459,000.00
2/18/2021	21:00 RRS	\$ 23,298.50	\$ 9,000.00	78	\$ 1,817,283.00	\$ 702,000.00	27	5	1 \$ 1,188,223.50	\$ 459,000.00
2/18/2021	22:00 RRS 23:00 RRS	\$ 23,068.90 \$ 23,970.50	\$ 9,000.00 \$ 9,000.00	78 78	\$ 1,799,374.20 \$ 1,869,699.00	\$ 702,000.00 \$ 702,000.00	27 27	5 5	1 \$ 1,176,513.90 1 \$ 1,222,495.50	\$ 459,000.00 \$ 459,000.00
2/18/2021	24:00:00 RRS	\$ 23,280.00	\$ 9,000.00	78	\$ 1,815,840.00	\$ 702,000.00	27	5	1 \$ 1,187,280.00	\$ 459,000.00
2/19/2021 2/19/2021	1:00 RRS 2:00 RRS	\$ 17,374.20 \$ 17,381.00	\$ 9,000.00 \$ 9,000.00	78	\$ 1,355,187.60	\$ 702,000.00 \$ 702,000.00	27 27	5	1 \$ 886,084.20	\$ 459,000.00 \$ 459,000.00
2/19/2021	2:00 RRS 3:00 RRS	\$ 17,381.00	\$ 9,000.00	78 78	\$ 1,355,718.00 \$ 1,355,733.60	\$ 702,000.00	27 27	5	1 \$ 886,441.20	\$ 459,000.00 \$ 459,000.00
2/19/2021	4:00 RRS	\$ 17,381.60	\$ 9,000.00	78	\$ 1,355,764.80	\$ 702,000.00	27	5	1 \$ 886,461.60	\$ 459,000.00
2/19/2021 2/19/2021	5:00 RRS 6:00 RRS	\$ 17,382.00 \$ 17,381.80	\$ 9,000.00 \$ 9,000.00		\$ 1,355,796.00 \$ 1,355,780.40	\$ 702,000.00	27 27	5 5	1 \$ 886,482.00 1 \$ 886,471.80	\$ 459,000.00 \$ 459,000.00
2/19/2021	7:00 RRS	\$ 17,597.00	\$ 9,000.00	78	\$ 1,372,566.00	\$ 702,000.00	27	5	1 \$ 897,447.00	\$ 459,000.00
2/19/2021	8:00 RRS 9:00 RRS	\$ 24,108.40 \$ 17,596.20	\$ 9,000.00 \$ 9,000.00	78	\$ 1,880,455.20 \$ 1,372,509.60	\$ 702,000.00	27 27	5	1 \$ 1,229,528.40	\$ 459,000.00
2/19/2021 2/19/2021	9:00 RRS 10:00 RRS	\$ 17,596.20 \$ 17,382.30	\$ 9,000.00 \$ 9,000.00	78	\$ 1,355,819.40	\$ 702,000.00 \$ 702,000.00	27	5	1 \$ 886,497.30	\$ 459,000.00 \$ 459,000.00
2/19/2021	11:00 RRS	\$ 17,382.20	\$ 9,000.00	78	\$ 1,355,811.60	\$ 702,000.00	27	5	1 \$ 886,492.20	\$ 459,000.00
2/19/2021	12:00 RRS 18:00 RRS	\$ 20,862.10	\$ 9,000.00	78 78	\$ 1,627,243.80 \$ 1,408,820.40	\$ 702,000.00 \$ 702,000.00	27 27	5	1 \$ 1,063,967.10 1 \$ 921.151.80	\$ 459,000.00 \$ 459,000.00
2/19/2021	14:00 RRS	\$ 15,800.60	\$ 9,000.00	78	\$ 1,232,446.80	\$ 702,000.00	27	5	1 \$ 805,830.60	\$ 459,000.00
2/19/2021	15:00 RRS	\$ 15,715.80	\$ 9,000.00	78	\$ 1,225,832.40	\$ 702,000.00	27	5	1 \$ 801,505.80	\$ 459,000.00
2/19/2021 2/19/2021	16:00 RRS 17:00 RRS	\$ 11,570.10 \$ 10,762.30	\$ 9,000.00 \$ 9,000.00	78 78	\$ 902,467.80 \$ 839,459.40	\$ 702,000.00	27 27	5 5	1 \$ 590,075.10 1 \$ 548,877.30	\$ 459,000.00 \$ 459,000.00
2/19/2021	18:00 RRS	\$ 10,408.10	\$ 9,000.00	78	\$ 811,831.80	\$ 702,000.00	27	5	1 \$ 530,813.10	\$ 459,000.00
2/19/2021	19:00 RRS 20:00 RRS	\$ 11,409.00 \$ 14,666.40	\$ 9,000.00 \$ 9,000.00	78	\$ 889,902.00 \$ 1,143,979.20	\$ 702,000.00 \$ 702,000.00	27 27	5	1 \$ 581,859.00	\$ 459,000.00 \$ 459,000.00
2/19/2021	21:00 RRS	\$ 13,023.20	\$ 9,000.00	78	\$ 1,015,809.60	\$ 702,000.00	27	5		\$ 459,000.00
2/19/2021	22:00 RRS	\$ 13,196.20	\$ 9,000.00	78	\$ 1,029,303.60	\$ 702,000.00	27	5	1 \$ 673,006.20	\$ 459,000.00
2/19/2021 2/19/2021	23:00 RRS 24:00:00 RRS	\$ 12,645.20 \$ 11,280.10	\$ 9,000.00 \$ 9,000.00		\$ 986,325.60 \$ 879,847.80	\$ 702,000.00 \$ 702,000.00	27	5		\$ 459,000.00 \$ 459,000.00
AJ KOJ KOLE	_1100100 1110	. 11,100,10	. 3,00000					×		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
					\$ 140,552,029.80	\$ 67,392,000.00			\$ 91,899,404.10	\$ 44,064,000.00

Spreadtheet:
Value: In the spreadtheet were derived from unaudited preliminary data available at the time prior to the filling of the billing dispute. In the case of Viridity, data typically was preliminary aw SCADA telemetry data given the lack of difficially recognized utility load data. ERCOT data was pulled from ERCOT website prices available at the time.

Value in the spread-heet were derived from a naudrider preliminary data available at the time prior to the column E. originally published Day Ahread 1885 Clearing Prices (set of Billing Diputer filing Clipster filing Clipster filing Clipster filing date) Column E. originally published Administratively's ett RIS Clearing Prices (set of Billing Clipster filing date) Column E. original Clipster filing date) Column E. original Clipster filing date; and column E. original Climster column G. Column E. Real Time Billing dispote estimate, sum of column Enter column G. Column E. Explication IMV Amount.

Column E. estimated agilysted MVM RIS deployed load resources, sum of column G. minus column J. Column E. estimated agilysted MVM RIS deployed load resources, sum of column Enter column K. Column M. adjusted Real Time Billing dispute estimate, sum of column Etimes column K. Column M. adjusted Real Time Billing dispute estimate, sum of column Filmes column K.



1911 19 H_{1} SARRARARE SARRARE SARRARES

Attachment M - 8- Engie's RRS Obligations and Charges

(provided in native format)

Summary 2/16-2/19	Charge Amounts (\$)
Amount Engie claimed in dispute	48,652,625.70

Actuals 2/16-2/19	Charge Amounts (\$)	
Actual RRS Cost invoiced in RTM Settlement	102,179,651.52	
RRS Failure to Provide Charge	11,606,260.50	

Removing 2/16 failure to provide charge, Allowing 27MW of self-arrangement 2/17-2/19	Charge Amounts (\$)
Adjusted amount RRS cost invoiced in RTM settlement	66,298,137.11

If Engie correctly calculated dispute amount 2/16-2/19	Charge Amounts (\$)
Correct amount Engie should've claimed	47,487,774.91

$Attachment \ N-Affidavit \ of \ Ray \ Cunningham$

AFFIDAVIT

STATE OF TEXAS

COUNTY OF HARRIS

BEFORE ME, the undersigned notary public, this day personally appeared Ray Cunningham, to me known, who being duly sworn according to law, deposes and says:

- 1. "My name is Ray Cunningham. I am of legal age and am competent and authorized to testify to the matters stated on behalf of ENGIE Energy Marketing NA, Inc. ('ENGIE').
- 2. I am the Vice President and General Counsel of ENGIE Resources LLC and have been employed as an attorney by ENGIE or one of its predecessors for the past 18 years.
- 3. I have reviewed ENGIE and Viridity's Reply to the Electric Reliability Council of Texas ('ERCOT'), including the Attachments (hereinafter, the 'Reply').
- 4. I affirm that I have personal knowledge of the forgoing factual statements contained in the Reply and they are true and correct to the best of my knowledge and belief.
- 5. During Winter Storm Uri, ERCOT called on 27 MW of Responsive Reserve Service ('RRS') owned by ENGIE and supplied by BASA Resources, Inc. ('BASA') Load Resources (the 'Load Resources'), through Viridity Energy Solutions, Inc. ('Viridity') as the qualified scheduling entity, to maintain the frequency of the electric grid and to help prevent a complete blackout for the entire state of Texas.
- Viridity has a QSE Services Agreement with BASA to schedule the self-arranged RRS trade of 27 MW of RRS from BASA's Load Resources to ENGIE.
- 7. ENGIE had contracted with BASA to purchase the 27 MW block of RRS supply from the Load Resources. Attachment I to the Reply is a true and correct copy of BASA's comments filed in this proceeding, Docket No. 53377, stating BASA's position.

- 8. On February 14, 2021, Engie properly reported 27 MW of RRS with ERCOT as Self-Arranged RRS-NC, and properly scheduled this 27 MW as an RRS-NC Ancillary Services

 Trade with Viridity for the next Operating Day. ERCOT accepted the self-schedule and trade on February 14, 2021, and deployed the RRS service on February 15, 2021.
- 9. Specifically, on February 15, 2021, shortly after 1:00 a.m., in response to the decaying frequency on the electric grid resulting from Winter Storm Uri, ERCOT issued Dispatch Instructions to Viridity to deploy the BASA Load Resources and remain deployed until further instructed.
- Viridity and BASA complied with ERCOT's Deployment Instructions and eliminated the Load Resources' loads.
- 11. The Load Resources remained deployed and offline for the remainder of the EEA3 event as required by ERCOT's repeated Dispatch Instructions and ERCOT Protocols. However, ERCOT did not credit ENGIE, Viridity or BASA for the RRS service provided pursuant to ERCOT's Dispatch Instructions for the February 16 to 19 Operating Days.
- 12. ENGIE had also reported 27 MW of Self-Arranged RRS-NC for the February 16 operating day, but Viridity did not schedule an RRS-NC Ancillary Services Trade due to the ERCOT-instructed deployment.
- 13. ENGIE employees called the ERCOT control room and asked for guidance on scheduling the trade. ERCOT operators indicated, 'At this point, just notifying me is about all you can do. If you can't put it anywhere, then you're just informing me.' ENGIE employees then asked if they needed to change their schedule, and the operator responded, 'No, you should leave it because you are going to be short, that's it . . . I mean, if we need to acquire through a

- [supplemental ancillary service market], I don't think there is anything out there right now that we can acquire.'
- 14. ENGIE employees complied with ERCOT operator instructions for the February 16 operating day, which resulted in a 'failure to provide' charge to ENGIE of \$11.6 million for February 16.
- 15. Because Viridity had informed ENGIE that it could not schedule the RRS-NC due to its ongoing deployment, ENGIE canceled the remainder of its self-schedules and trades for the February 17 to 19, 2021, operating days. This resulted in additional charges to ENGIE of approximately \$36 million for "replacement" RRS.
- 16. ERCOT has since begun developing a Nodal Protocol Revision Request ('NPRR') to permit RRS offers or trades from Load Resources that are currently deployed under an extended deployment. Attachment E is a true and correct copy of ERCOT's Response to ENGIE and Viridity 1-6 providing initial drafts of the NPRR.
- 17. ERCOT's own calculations of the value of just the 27 MW of RRS provided between February 16 to 19, 2021, is approximately \$47.5 million.
- 18. Attachment M is a true and correct copy of ERCOT's document for the record No. 8 filed on April 18, 2022, calculating the resulting charges to ENGIE.
- 19. ERCOT did not run a Supplemental Ancillary Service Market ('SASM') and did not acquire additional RRS, because none was available. ERCOT's own records show that no replacement RRS was available for purchase during the EEA3 event.
- 20. Attachment J is a true and correct copy of ERCOT's Response to ENGIE and Viridity's Request for Information 1-1 identifying ERCOT's RRS MW shortage.

- 21. ERCOT did not purchase additional RRS to cover an alleged shortfall in ENGIE meeting its obligation.
- 22. As a result, ENGIE's RRS obligations to ERCOT were artificially increased by 27 MW, and ENGIE was charged for 27 MW of additional RRS service from ERCOT at Real Time prices.
- 23. Because ENGIE was the legal owner of the 27MW of RRS from the Load Resources owned by BASA and self-arranged its ancillary service obligation through Viridity, ENGIE met its ancillary service obligation when BASA deployed its RRS pursuant to ERCOT's Dispatch Instructions via Viridity. The Load Resource remained deployed throughout the EEA3 event, pursuant to ERCOT's Dispatch Instructions.
- 24. The foregoing statements and information are true and correct to the best of my knowledge and belief."

Ray Cynningham

SUBSCRIBED AND SWORN TO BEFORE ME, a Notary Public in and for the State of Texas, this 12th day of May, 2022.

SEAL



Notary Public

My Commission expires:

The following files are not convertible:

Attachment J, ERCOT Response to ENGIE and Viridity First RFI 1-1, Excel Attachment (calculated average of DAM Offers - MW Awarded for February 15, 16, 17, & 18).xlsx
Attachment L, Viridity's adjusted billing dispute calculations.xlsx
Attachment M, 8- Engie's RRS obligations and charges.xlsx

Please see the ZIP file for this Filing on the PUC Interchange in order to access these files.

Contact centralrecords@puc.texas.gov if you have any questions.