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EXPEDITED PETITION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR APPROVAL OF INTERIM LOAD MANAGEMENT PROGRAMS FOR NONRESIDENTIAL CUSTOMERS AND FOR AN ACCOUNTING ORDER	§ § § § § § § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.'S RESPONSE TO COMMISSIONER REQUESTS FOR INFORMATION CONCERNING UTILITY LOAD MANAGEMENT PROGRAM PROPOSALS

At the November 18, 2021 open meeting of the Public Utility Commission of Texas (PUC), the Commissioners requested that Electric Reliability Council of Texas, Inc. (ERCOT) provide certain information relevant to the PUC's consideration of the interim load management program proposals submitted by the transmission and distribution utilities (TDU) in this proceeding. Specifically, the Commissioners requested that ERCOT provide the following information:

(1) A comparison of the prices and quantities of capacity in the TDU program proposals to the prices and quantities of capacity procured in ERCOT's Emergency Response Service (ERS);

(2) A description of the mechanics of dispatch of load management programs; and

(3) Information about the status of implementation of Nodal Protocol Revision Request (NPRR) 1006, Update Real-Time On-Line Reliability Deployment Price Adder Inputs to Match Actual Data, and constraints in implementing that NPRR or other measures that could account for deployments of load management programs in price.

I. Comparison of Prices and Quantities for TDU Program Proposals and ERCOT's ERS

As requested by the Commissioners, ERCOT has calculated a comparison of the prices and quantities proposed under each of the TDU load management programs to the prices and quantities procured under ERCOT's ERS program. This comparison is shown in Attachment A. As ERCOT's procurement of ERS for the December to March 2022 Standard Contract Term has just completed, ERCOT's figures are based on actual price and quantity data from this most recent procurement cycle.

A. Prices

A valid comparison of prices requires a calculation of the price for each program on a per-MW-per-hour basis to account for the differences in the total number of hours of obligation under each program, rather than simply using the offered or awarded price per MW. For the TDU programs, the number of hours of obligation depends in part on when the programs will start. During the November 18, 2021 open meeting, the Commissioners discussed the possibility of authorizing the program to start as early as approximately December 15, 2021 or as late as January 1, 2022. Attachment A provides price calculations under both scenarios. Additionally, while AEP and CenterPoint provided per-MW costs for their programs, TNMP provided only a total budget figure with a target MW capacity value that would be procured in each program. ERCOT has inferred a per-MW cost from TNMP's descriptions based on an assumption that TNMP would procure the target MW value at the budgeted cost.

Assuming the programs start on December 15, 2021, the price per MW per hour for the three TDU programs proposed in this proceeding would range from as low as $16.46/MW/h for CenterPoint's program to as high as $21.94/MW/h for TNMP's program.[1] By comparison, for ERCOT's ERS program—in which ERCOT procures capacity for each of eight different daily time periods for the period of December 1, 2021 through March 31, 2022—the average time- and capacity-weighted price across all Time Periods was $9.65/MW/h with a range of prices from $0.38/MW/h for Time Period 7 (3 p.m. to 9 p.m.) to $29.57/MW/h for Time Period 1 (5 a.m. to 9 a.m.).

ERCOT notes that factors other than the total hours of obligation and the awarded price would be relevant to a consumer's decision to participate in a load management program versus some other demand response program such as ERS. Among these factors are the maximum possible hours of deployment, the duration of the period of obligation, how quickly the participant must respond to the deployment signal, and the consequences of partial or complete non-performance.

[1] ERCOT understands that Oncor's winter load management program proposal is not at issue in this proceeding; however, ERCOT has provided in Attachment A a calculation of the per-MW-per-hour costs of Oncor's program for the sake of comparison. Because Oncor has provided only a total budget and a total target MW capacity value, ERCOT calculated Oncor's program costs using the same methodology it used to calculate TNMP's costs.

B. Quantities

A comparison of the quantities of ERS and TDU load management programs is straightforward. The quantities are identified in Column B of Attachment A. For ERS, these quantities range from approximately 724 MW in Time Period 6 (5 a.m. to 9 a.m.) to approximately 1008 MW in Time Period 4 (4 p.m. to 7 p.m.). As proposed in this proceeding, the TDU load management program MW range from as little as 1.5 MW to as much as "100 to 300 MW" for CenterPoint, although CenterPoint has acknowledged that this total could be higher.

II. Description of Mechanics of Dispatch of Load Management Programs

ERCOT's Protocols provide that load management program MW may be deployed by ERCOT only as part of a Level 2 Energy Emergency Alert (EEA). *See* ERCOT Protocols § 6.5.9.4.2(2)(a)(ii). ERCOT deploys these MW by "[i]nstruct[ing] TSPs and DSPs to implement any available Load management plans to reduce Customer Load." *Id.* ERCOT believes this existing framework should be sufficient for the deployment of load management MW that are procured pursuant to these interim program proposals. ERCOT will need to update its Transmission Desk Procedures to reflect the different dates and hours of possible deployment.

For the existing load management programs operated under the TDUs' energy efficiency cost recovery factor (EECRF) programs, ERCOT and each TDU have entered into a memorandum of understanding (MOU) under which each TDU has agreed to provide ERCOT information about the amount of capacity available ahead of each summer period and to update ERCOT when TDU-initiated deployments reduce the amount of available capacity. This information gives ERCOT a very general idea about the potential operational impact of deploying these MW during a Level 2 EEA. However, because each TDU's program may differ with respect to the hours of obligation, the maximum duration of a deployment, the maximum duration of all deployments in a contract period, and the maximum number of deployments, and because participants in TDU programs face no risk of penalty for failure to deploy other than a potential reduction in payment, the precise operational impact of a given deployment during a Level 2 EEA is difficult to predict. Nevertheless, ERCOT expects that the demand response from these programs may provide some benefit during severe capacity shortage situations.

For the interim program proposals at issue in this proceeding, the existing MOUs would not apply because they are specific to summer operations (for example, the MOU requires the

TDU to notify ERCOT of the amount of available capacity for the summer period by May 15 each year). If the PUC approves the TDUs' proposals, ERCOT would request that, in lieu of requiring the TDUs and ERCOT to amend the existing MOUs or develop new MOUs specific to this winter program, the PUC could simply include in its order a directive that each of the TDUs (1) notify ERCOT of the TDU's total procured load management capacity at least one business day before the start date of the program, and (2) update ERCOT as to the impact of any TDU-initiated deployments on the amount of load management capacity and deployment hours remaining.

III. Status of NPRR1006 implementation and obstacles to completion

In NPRR1006, Update Real-Time On-Line Reliability Deployment Price Adder Inputs to Match Actual Data, the ERCOT Board of Directors approved certain changes to ERCOT's Reliability Deployment Price Adder.[2] The purpose of this adder is to ensure that prices continue to provide scarcity signals when ERCOT's deployment of any of various reliability services would otherwise reduce energy prices. One of the changes introduced by NPRR1006 was that the adder would account for pricing impacts of ERCOT-directed deployments of TDU load management programs. Although NPRR1006 was approved by the Board in June 2020, the NPRR's Impact Analysis indicated that the implementation of the language would require a number of changes to various ERCOT computer systems, including ERCOT's Market Management System (MMS).[3] These changes are necessary to ensure that real-time energy prices are determined accurately and automatically so that the effects of deploying the TDU load management programs can be immediately reflected in those published prices. The need for these system changes has delayed the implementation of the language as ERCOT has had to pursue other system changes that have been assigned a higher priority.

ERCOT will also need to give further consideration to the mechanism that will be utilized for triggering the consideration of TDU load management programs in the Reliability Deployment Price Adder process. The design that was being developed for NPRR1006 linked the utilization of available TDU load management programs to the deployment of 10-minute ERS. With the direction to deploy ERS ahead of EEA, this design will have to be reconsidered. With current

[2] NPRR1006, available at https://www.ercot.com/files/docs/2020/06/10/1006NPRR-19_Board_Report_060920.doc.

[3] NPRR1006 Impact Analysis, available at https://www.ercot.com/files/docs/2020/06/04/1006NPRR-18_Revised_Impact_Analysis_060220.docx.

project implementation constraints, ERCOT will not be able to implement this project before the second quarter of 2022, at the very earliest, and this assumes some re-prioritization of other important projects currently in process, such as improvements to the Fast Frequency Response (FFR) Ancillary Service product and the participation of Load Resources in providing Non-Spin.

If the PUC approves the TDUs' interim program proposals, ERCOT is unaware of any way it could account for the pricing impacts of those programs during the winter 2021-22 period in real-time. That would require modifying Settlement Point Prices in real-time to remove these impacts, which ERCOT cannot do without the requisite computer systems to calculate the appropriate price adders and implement them in ERCOT's systems.

CONCLUSION

ERCOT hopes the PUC finds this information responsive to its questions and helpful to its decision on the interim TDU load management program proposals. ERCOT will provide any additional information the PUC may need in evaluating these proposals and will be available to respond to any questions at the PUC's December 2, 2021 open meeting.

Respectfully submitted,

/s/ Nathan Bigbee
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ATTORNEYS FOR ELECTRIC
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CERTIFICATE OF SERVICE

I hereby certify that a copy of this document was served on all parties of record to this proceeding on November 29, 2021, by email, in accordance with Second Order Suspending Rules issued on July 16, 2020 in Project No. 50664.

/s/ Nathan Bigbee
Nathan Bigbee

ERS Time Periods (Dec. 2021 - Mar. 2022 ERS Standard Contract Term)	Participating Capacity (MW)	Total Cost	# Hours of Obligation	Max Deployable Hours per Event	Max # Deployment Events	Max Deployable Hours per Program Term	Deployment Ramp (Minutes)	MW/hr Cost (Clearing Price)
Time Period 1 (5:00 a.m. to 9:00 a.m. M-F, except holidays)	990.982	$9,728,708	332	12	undefined	12	10 & 30	$29.57
Time Period 2 (9:00 a.m. to 1:00 p.m. M-F, except holidays)	995.186	$1,751,129	332	12	undefined	12	10 & 30	$5.30
Time Period 3 (1:00 p.m. to 4:00 p.m. M-F, except holidays)	1002.417	$1,342,858	249	12	undefined	12	10 & 30	$5.38
Time Period 4 (4:00 p.m. to 7:00 p.m. M-F, except holidays)	1008.293	$5,849,814	249	12	undefined	12	10 & 30	$23.30
Time Period 5 (7:00 p.m. to 10:00 p.m. M-F, except holidays)	991.697	$3,718,804	249	12	undefined	12	10 & 30	$15.06
Time Period 6 (5:00 a.m. to 9:00 a.m. Weekends/Holidays)	723.832	$45,109	152	12	undefined	12	10 & 30	$0.41
Time Period 7 (3:00 p.m. to 9:00 p.m. Weekends/Holidays)	754.878	$65,403	228	12	undefined	12	10 & 30	$0.38
Time Period 8 (all other hours)	884.451	$3,284,922	1112	12	undefined	12	10 & 30	$3.34
		$25,786,747	2903		Time- and capacity-weighted average cost:			$9.65

ERS notes: ERCOT clears offers for each ERS Time Period separately; offers are submitted in $/MW/h format. Each ERS Resource has a maximum of 12 hours of total deployment time per Standard Contract Term regardless of the number of Time Periods of commitment.

AEP LM Winter Pilot (Dec15 - Feb28)	10	$35.00/KW	1823	4	4	16	30	$19.20
AEP LM Winter Pilot (Jan1 - Feb28)	10	$35.00/KW	1415	4	4	16	30	$24.73
AEP Notes: The above cost is based solely on converting the $35/kW to a $/MW/hr value.								
CenterPoint LM Winter Pilot (Dec15 - Feb28)	100-300	$30.00/KW	1823	4	4	16	30	$16.46
CenterPoint LM Winter Pilot (Jan1 - Feb28)	100-300	$30.00/KW	1415	4	4	16	30	$21.20
Centerpoint Notes: The above cost is based solely on converting the $30/kW to a $/MW/hr value.								
TNMP LM Winter Pilot (Dec15 - Feb28)	1.5	$60,000	1823	4	4	16	30	$21.94
TNMP LM Winter Pilot (Jan1 - Feb28)	1.5	$60,000	1415	4	4	16	30	$28.27
TNMP Notes: Proposal provides only that incentive payments shall not exceed budget. No specific program pricing provided.								
ONCOR LM Winter Pilot (Dec15 - Feb28)	50	$2,000,000	1823	12	6	72	30	$21.94
ONCOR LM Winter Pilot (Jan1 - Feb28)	50	$2,000,000	1415	12	6	72	30	$28.27
ONCOR Notes: ERCOT understands Oncor's proposal is not part of this docket; figures are provided only for comparison. Proposal provides only that incentive payments shall not exceed budget. No specific program pricing provided.								