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PROJECT NO. 40000

COMMISSION PROCEEDING TO ENSURE RESOURCE ADEQUACY IN TEXAS	**§ § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF GDF SUEZ REGARDING ADJUSTMENT TO THE VALUE OF LOST LOAD IN THE OPERATING RESERVE DEMAND CURVE

I. BACKGROUND

At the September 12, 2013, Open Meeting of the Public Utility Commission of Texas ("Commission" or "PUC"), all Commissioners agreed to move forward with the implementation of an Operating Reserve Demand Curve ("ORDC") in ERCOT. The Commission provided guidance to stakeholders and ERCOT in regard to several critical inputs to the ORDC and to begin this implementation using a Value of Lost Load ("VOLL") set at $9,000/MWh with a minimum contingency level of 2,000 MW.[1] The Commission also agreed to use a "real" curve (a cumulative distribution function) in lieu of a "piecewise" linear curve.

The Commission has indicated in the past that if critical issues arose related to this Project, stakeholders could bring such issues to the attention of the Commission for discussion.[2] Below, in accordance with the Commission's desire for ongoing stakeholder participation, GDF SUEZ Energy North America, Inc. ("GDF SUEZ") discusses unintended consequences of the currently designed ORDC and the positive impact of a suggested adjustment to the VOLL used in the development of the ORDC.

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[1] Open Meeting Tr. at 26-28 (Sep. 12, 2013).
[2] *Id.* at 34.

II. DISCUSSION

GDF SUEZ appreciates the Commission's commitment to an effective ORDC to price scarcity more appropriately in the ERCOT market. It is the cornerstone of any future competitive market design and it is important that we get this critical component right.

It has been discovered in the stakeholder process that the change from a piecewise linear curve to the "real" curve has resulted in unintended consequences that mitigate much of the intended benefits of the ORDC. This result is due to the probability that is applied to the VOLL which, at the minimum contingency level of "X," is only 50%.[3] This issue reveals two negative consequences: (1) significant value is taken out of the overall construct – as much as 50% of the expected ORDC value, and (2) prices jump from $4,500/MWh to $9,000/MWh when the supply stack moves from 2001 MW to 2000 MW. Any abrupt price jump such as this creates both optimization and potential market behavior issues that should be avoided in any efficient market design. The primary purpose for the development of the ORDC is to appropriately increase overall scarcity value that results in a positive contribution to the "missing money" issue in ERCOT. The resultant market signals also help resource adequacy. However, if this ORDC issue is left unaddressed, under the current approach and assumptions, no significant incremental value will be realized in ERCOT.

In the opinion of GDF SUEZ, the market reacted positively to the Commission commitment at the August 29 Open Meeting for ERCOT to develop a protocol for the ORDC (see chart in Appendix). However, since the September 12 Commission guidance on the variables, the market has picked up on issues challenging the proper development of an ORDC,

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[3] At 2000MW, there is an equal chance (or 50% probability either way) that the next megawatt will be an increase or decrease on the system.

as mentioned above, and forward prices have retracted. This is a sign that more needs to be done – and as quickly as possible to ensure effective scarcity pricing by 2014 and beyond.

There are two possible solutions to this issue. The first is to develop an effective piecewise linear curve. The second solution, which is a simpler and more direct approach, is to increase the VOLL.

GDF SUEZ suggests that the Commission sets the VOLL to $25,000/MWh, versus the $9,000/MWh level currently proposed, to ensure that effective scarcity pricing levels are reached in the ORDC. GDF SUEZ also recommends that overall ORDC prices (i.e., both the ORDC adder and LMP together) be capped at this time so prices cannot exceed $9,000$/MWh. Going above the $9,000/MWh threshold would create substantial and potentially unmanageable risks for both generators and consumers.

Under this new assumption, the market would have a smoother curve with no abrupt price jumps and would, therefore, provide a positive contribution to both real-time pricing and the Peaker Net Margin ("PNM"). It is the belief of GDF SUEZ that, while the projected contribution during the record weather year of 2011 appears large (PNM additional contribution over $375,000), most of this value, especially in the shoulder months, would be arbitraged away due to generator behavior through modification of their bidding strategies and asset flexibility. This resulting reduction in the higher value, however, would also result in an increase in operational reliability because more generation would be available to react to potential emergencies.

Below is a synopsis of the results of GDF SUEZ's analysis,[4] with additional data in the attached Appendix:

VOLL	25000
Minimum Contingency Level (X)	2000

YEAR	Original Margin ($/MW)	Estimated Additional Margin ($/MW)
2011	125,001	378,764
2012	33,952	78,509
2013*	13,598	23,890

* Thru July 2013

III. CONCLUSION

GDF SUEZ respectfully offers this corrective adjustment to the VOLL due to the critical importance of implementing an effective ORDC.

GDF SUEZ appreciates the opportunity to provide this recommendation and looks forward to continued participation in this important project.

Respectfully submitted,

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[4] Scenarios using the ERCOT back-cast tool; modified to cap the ORDC at $9,000/MWh; actual data from 2011, 2012 and January-July of 2013; x = 2,000 MW; P_S = online, P_NS = offline; VOLL = $25,000/MWh. Analysis at VOLL levels of $9,000, $18,000, and $30,000/MWh are also included in the Appendix.

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APPENDIX

IMPACT of VOLL INCREASES on MARGIN ($ / MW)

VOLL	9000
Minimum Contingency Level (X)	2000

YEAR	Original Margin ($/MW)	Estimated Additional Margin ($/MW)
2011	125,001	157,333
2012	33,952	27,173
2013*	13,598	8,106

* Thru July 2013

VOLL	18000
Minimum Contingency Level (X)	2000

YEAR	Original Margin ($/MW)	Estimated Additional Margin ($/MW)
2011	125,001	288,132
2012	33,952	56,039
2013*	13,598	16,943

* Thru July 2013

VOLL	25000
Minimum Contingency Level (X)	2000

YEAR	Original Margin ($/MW)	Estimated Additional Margin ($/MW)
2011	125,001	578,764
2012	33,952	78,509
2013*	13,598	23,890

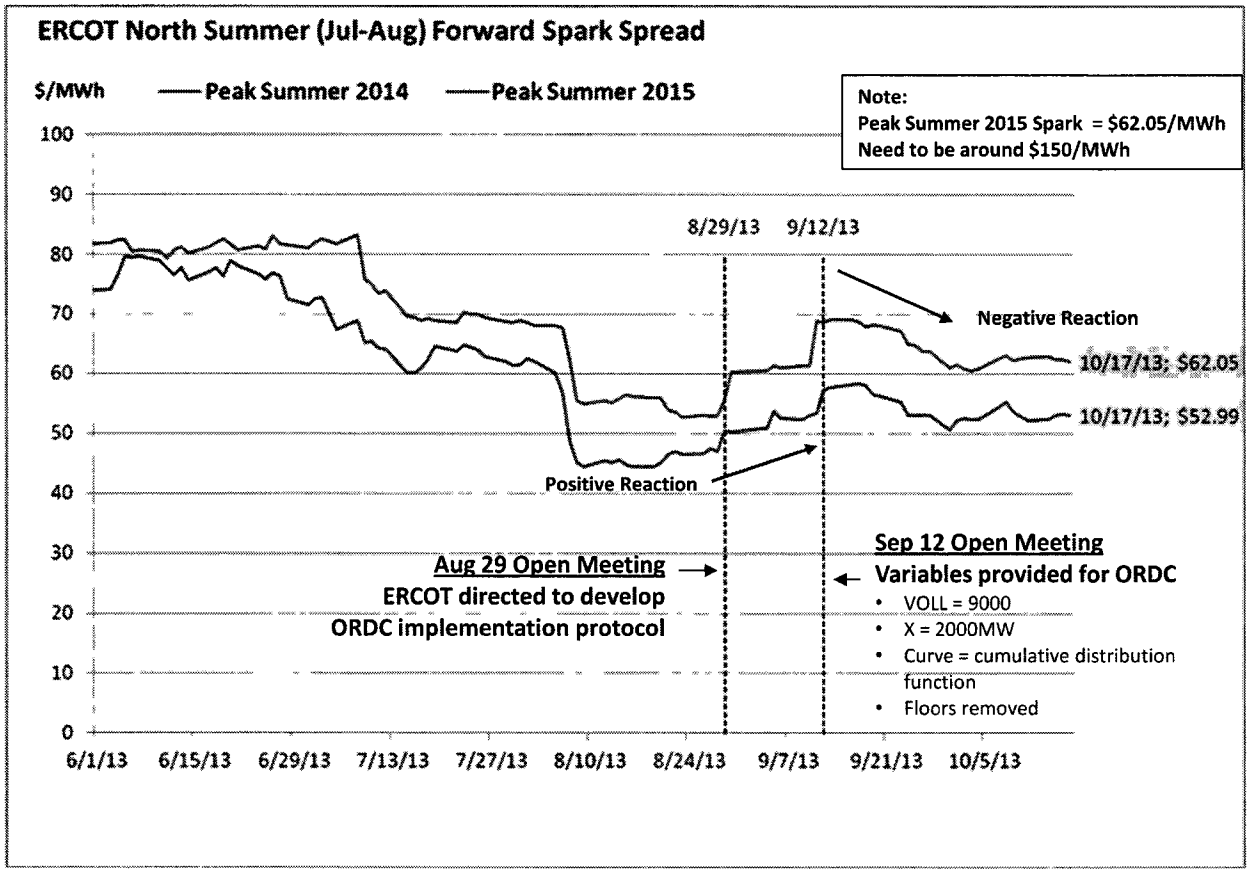
* Thru July 2013

VOLL	30000
Minimum Contingency Level (X)	2000

YEAR	Original Margin ($/MW)	Estimated Additional Margin ($/MW)
2011	125,001	435,632
2012	33,952	94,393
2013*	13,598	28,874

* Thru July 2013

Forward Markets Interpret Existing ORDC Variables



ORDC Runs

Data

VOLLs = $9k, 18k, 25k, 30k

August 3rd 2011 replacing the system lambda with zero
X=2000

Actual Reserves for Ps	9,000 VOLL at 9000	18,000 VOLL at 18000	25,000 VOLL at 25000	30,000 VOLL at 30000
1,748	9,000.00	9,000.00	9,000.00	9,000.00
1,959	9,000.00	9,000.00	9,000.00	9,000.00
2,257	3,032.16	6,064.31	8,422.66	9,000.00
2,501	2,322.12	4,644.24	6,450.34	7,740.40
2,765	1,536.60	3,073.20	4,268.34	5,122.01
3,013	575.72	1,151.45	1,599.23	1,919.08
3,311	443.01	886.03	1,230.59	1,476.71
3,550	191.90	383.79	533.04	639.65
3,805	107.04	214.09	297.35	356.82
4,068	49.43	98.85	137.29	164.75
4,299	29.51	59.03	81.98	98.38
4,504	35.02	70.05	97.29	116.75
4,745	12.49	24.97	34.68	41.62
5,006	3.51	7.02	9.75	11.71
5,262	0.90	1.81	2.51	3.01
5,530	0.91	1.82	2.52	3.03
5,801	0.33	0.66	0.91	1.09
6,065	0.17	0.34	0.48	0.57