



Non-Spinning Reserve (NSRS) Cost Analysis – PRR 776 Implementation

ERCOT Board of Directors
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Non-Spinning Reserve (NSRS)

- **Changes to the Non-Spinning Reserve Service (NSRS)**
 - **Went into effect November 1, 2008**
 - **Moved away from a flat 1354 MW procurement around peak load hours depending on temperature forecasts**
 - **Considers Load Forecast Risk and Wind Forecast Risk for all hours divided into on-peak and off-peak blocks**
 - **Revised in February for all hours divided into four hour blocks instead of on-peak and off-peak blocks**

PRR 776 Description

- **Went into effect May 22, 2009**
- **Defined a new category of Non-Spinning Reserve Service (NSRS)**
 - 15 minute Balancing Energy Service -Capable, Off-Line, NSRS
 - Quick-Start generation that is capable of synchronizing and ramping to a specific output level within 15 minutes
 - Load that is capable of providing Balancing Energy Service
 - 15 minute Balancing Energy Service-Capable additional capacity
 - A portion of an existing generator (usually Duct Burners) that is reserved for Non-Spinning Reserve Services
- **Required-all Non-Spinning Reserve to be supplied from off-line Resources**
- **Established a minimum Market Clearing Price of Energy (MCPE) when 30 minute Non-Spinning Reserve is deployed**
 - Fuel Index Price (FIP) * 15 + \$120
- **Established an offer floor for all Balancing Energy Service (BES)-Capable Non-Spinning Reserve Service Resources**
 - FIP * 18 MMBTu/MWh

Summary of Offers and Deployments

- **From June 2009 – August 2009**

- Average MWs offered into Balancing Energy Service (BES) UP from 15 minute BES-capable NSRS
 - 450 MW
 - Average of 75 MWs struck for 70 out of the 92 days analyzed
- Average MWs deployed from 30 minute NSRS
 - 314 MW
- Number of intervals 30 minute NSRS deployed
 - 87 or approximately 21.75 hours
- All QSEs who had BES-capable NSRS bid at least some of their Balancing stack at or above the required minimum price.

- **From June 2008 – August 2008**

- Average MWs deployed from 30 minute NSRS
 - 878 MW
- Number of intervals 30 minute NSRS deployed
 - 277 or approximately 69.25 hours

Summary of Cost Comparison

Dollars Spent (Day Ahead Market Clearing Price of Capacity (MCPC) * NSRS Requirement)

Month	All Hours	On-Peak Hours	Off-Peak Hours
June 2008	\$9,024,504.78	\$9,024,504.78	\$0.00
July 2008	\$5,172,604.96	\$5,172,604.96	\$0.00
August 2008	\$4,381,747.10	\$4,381,747.10	\$0.00
March 2009	\$6,746,557.89	\$1,200,829.11	\$5,545,728.78
April 2009	\$2,487,982.43	\$843,049.15	\$1,644,933.28
May 1, 2009 - May 21, 2009	\$2,424,757.20	\$1,786,452.57	\$638,304.63
*May 22, 2009 - May 31, 2009	\$716,109.82	\$607,570.80	\$108,539.02
June 2009	\$5,655,602.20	\$5,453,401.90	\$202,200.30
July 2009	\$3,274,551.72	\$3,235,837.36	\$38,714.36
August 2009	\$1,707,737.68	\$1,393,462.83	\$314,274.85



* PRR 776 became operational

Summary of Cost Comparison cont.

Average Day Ahead MCPC for NSRS

Month	All Hours	On-Peak Hours	Off-Peak Hours
June 2008	\$23.80	\$23.80	na
July 2008	\$13.13	\$13.13	na
August 2008	\$13.65	\$13.65	na
March 2009	\$5.24	\$1.92	\$11.91
April 2009	\$2.60	\$1.65	\$4.50
May 1, 2009 - May 21, 2009	\$3.85	\$4.18	\$3.20
*May 22, 2009 - May 31, 2009	\$2.26	\$2.85	\$1.09
June 2009	\$6.96	\$9.95	\$0.96
July 2009	\$4.46	\$6.60	\$0.18
August 2009	\$1.87	\$2.28	\$1.05



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Summary of Cost Comparison cont.

Additional Information for All Hours

Month	Average Fuel Index Price	Number of Hours NSRS Procured	Average Amount of NSRS Procured
June 2008	\$12.37	280	1354.00
July 2008	\$11.05	291	1354.00
August 2008	\$8.14	237	1354.00
March 2009	\$3.62	743	1315.62
April 2009	\$3.35	720	1135.17
May 1, 2009 - May 21, 2009	\$3.74	504	1212.00
*May 22, 2009 - May 31, 2009	\$3.37	240	1212.00
June 2009	\$3.73	720	1038.83
July 2009	\$3.35	744	955.33
August 2009	\$3.13	744	902.33



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Summary of Cost Comparison cont

Month	Cost Using Old Methodology	Cost Using New Methodology	Difference
June	\$9,024,504.78	\$5,655,602.20	\$3,368,902.58
July	\$5,172,604.96	\$3,274,551.72	\$1,898,053.24
August	\$4,381,747.10	\$1,707,737.68	\$2,674,009.42
Total	\$18,578,856.84	\$10,637,891.60	\$7,940,965.24

Summary of Energy Cost

- **From June 2009 – August 2009**
 - 30 minute NSRS deployed on 8 different days
 - Average MCPE adjustment \$95.82
 - Total cost of MCPE adjustment
 - Difference in $((FIP * 15 + \$120) - MCPE) * \text{Up Balancing Energy Deployments} = \34 million
 - Total cost of Balancing Energy Up Deployments
 - \$178.5 million