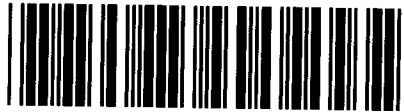


Control Number: 40000



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# OPEN MEETING COVER SHEET

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PLANS CLEAR

**MEETING DATE:** July 8, 2011

**DATE DELIVERED:** July 7, 2011

**AGENDA ITEM NO.:** 24

**CAPTION:** 24. Project No. <sup>40000</sup>37897 - PUC Proceeding  
Relating to Resource and Reserve Adequacy  
and Shortage Pricing

**ACTION REQUESTED:** Discussion and possible action

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## *Public Utility Commission of Texas*

Date: July 7, 2011

To: Chairman Barry T. Smitherman  
Commissioner Donna L. Nelson  
Commissioner Kenneth W. Anderson, Jr.

From: Jason Haas, Legal Division  
Doug Whitworth, Competitive Markets

Subject: July 8, 2011 Open Meeting, Item No. 24, **Project No. 37897** – *PUC Proceeding Relating to Resource and Reserve Adequacy and Shortage Pricing*

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Based on comments received from the Commissioners at the workshop on June 22, 2011, Staff developed draft comments for the EPA on the proposed rule for the "National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial- Institutional, and Small Industrial- Commercial-Institutional Steam Generating Units."

If you have any questions, please contact Jason Haas at 936-7295 or Doug Whitworth at 936-7368.

**COMMENTS BY THE PUBLIC UTILITY COMMISSION OF TEXAS REGARDING THE  
PROPOSED RULE FOR THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR  
POLLUTANTS FROM COAL- AND OIL-FIRED ELECTRIC UTILITY STEAM GENERATING UNITS  
AND STANDARDS OF PERFORMANCE FOR FOSSIL-FUEL-FIRED ELECTRIC UTILITY,  
INDUSTRIAL-COMMERCIAL- INSTITUTIONAL, AND SMALL INDUSTRIAL- COMMERCIAL-  
INSTITUTIONAL STEAM GENERATING UNITS**

**EPA DOCKET ID NOS. EPA-HQ-OAR-2009-0234; EPA-HQ-OAR-2011-0044**

The United States Environmental Protection Agency (EPA) is requesting comments on the proposed rule on national emission standards for hazardous air pollutants (NESHAP) from coal- and oil-fired electric utility steam generating units (EGUs) under the Clean Air Act (CAA or the Act) section 112(d) and proposing revised new source performance standards (NSPS) for fossil fuel-fired EGUs under CAA section 111(b). The proposed rule was published in the Federal Register on May 3, 2011 with a comment deadline of July 5, 2011. The comment period was subsequently extended to August 4, 2011.

**I. Summary**

The NESHAP rule, in conjunction with other proposed, planned or recently adopted rules that affect EGUs are likely to have a significant impact on the reliability of electric service and the economy in Texas.<sup>1</sup> In the short term, the aggressive schedule proposed by EPA to implement these rules is likely to cause EGU owners to close their plants or significantly reduce operating hours in order to comply with the EPA rules. Plant closures and reduced operating hours will likely reduce the level of generation available to meet peak electricity demand to a level that is near or below the expected peak demands, resulting in insufficient operating reserves to meet the contingencies such as forced generation outages that may arise or in the event of a shortfall of resources to meet peak demand. In areas like the Electric Reliability Council of Texas (ERCOT) region of Texas, where wholesale prices are set by market forces, the scarcity of generating resources would result in higher wholesale and retail electricity prices.

In the longer term, even after the adoption of the rules, owners of EGUs will face substantial uncertainty regarding the applicable requirements as the rules are implemented and appeals are resolved by the judicial system. In the face of this uncertainty, companies that might be interested in developing new generation facilities that could comply with the new rules may defer decisions to build new facilities until there is greater certainty about the totality of the environmental rules with which they will be required to comply, or will start the development process only where there is a clear indication that generation shortages will result in prices that are high enough to compensate for the risks of developing new generating facilities in an uncertain regime of environmental regulation. Thus, in both the near term and long term, in

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<sup>1</sup> Other rules are: 1) Clean Water Act, Section 316(b), relating to cooling-water intake structures, 2) Cross-State Air Pollution Rule, also known as the "Transport Rule," and 3) Coal Combustion Residuals Disposal regulations.

areas like Texas where a significant portion of the existing electric generation infrastructure will be adversely affected by the new rules, reliability would decline and prices would rise as a consequence of the new rules.

## II. Comments.

The Public Utility Commission of Texas (PUCT) is concerned with the impact of the NESHAP rule and the cumulative impact of this and other proposed, planned, and adopted rules on the development of EGUs and the reliability of the electric system in Texas. The PUCT will defer to the comments from the Texas Commission on Environmental Quality (TCEQ) to address technical issues with this rule and the proposed revisions to NSPS, and will instead address potential electric reliability issues and price impacts that could affect the citizens of Texas due to the implementation of these requirements. The PUCT is concerned that the implementation of this and other rules could lead to the premature retirement of a considerable amount of the operating generation capacity in Texas.

Because Texas generates more electricity from coal generation than any other state, these regulatory changes would affect Texas in a disproportionately harsh manner. It is unknown how the cumulative effect of the rules will affect future development of fossil fuel generation. Retirements of EGUs due to the rule, coupled with constraints on the future development of generation to meet future demand, will have severe effects on reliability and increase the costs of electricity for customers.

EPA's proposed solutions to the reliability problems created by this rule are based upon assumptions that are inaccurate at best and, at worst, reflect incomplete and incorrect knowledge of the electric industry. EPA states that it believes "that the requirements of the [NESHAP] rule can be met without adversely affecting electric reliability,"<sup>2</sup> and that the "EPA has considered the impact that potential retirements under this proposed rule will have on reliability."<sup>3</sup> The consideration and belief by EPA is based on the assumption that a range of solutions can address potential concerns, including the development of new generation, utilizing demand side and energy efficiency programs, and enhancement of the transmission system.

Several studies were conducted to examine the effects of proposed and planned EPA rules, and all concluded that EGUs would be shut down as a result.<sup>4</sup> The Electric Reliability Council of Texas (ERCOT), at the direction of the PUCT, analyzed the effects of the EPA regulations on the electric industry in the ERCOT region of Texas. The ERCOT region of Texas currently has approximately 73.7 GW of capacity from nuclear, coal, gas, wind, hydro, and other generation. The ERCOT study found the potential retirement of up to 17.4 gigawatts (GW) of generation in

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<sup>2</sup> 76 FR 25054.

<sup>3</sup> *Id.*

<sup>4</sup> EPA issued the final Transport Rule on July 7, 2011. The studies evaluated the impact of the rule as proposed, under which only part of the rule applied to Texas.

Texas by 2016 due to the proposed and anticipated EPA rules, giving ERCOT a negative 8.6% reserve margin, or a shortage of electric generation. According to ERCOT, the units primarily affected by the proposed EPA rules are older gas steam units that are subject to retrofit requirements. The loss of 17.4 GW could have a devastating impact on overall system reliability in ERCOT since the predicted summer peak load is expected to exceed 62.3 GW this year and grow in future years. ERCOT's preliminary analysis indicates that a significant number of expected retirements from the proposed rules are located in the Houston and Dallas/Fort Worth regions and that there is insufficient transmission capacity to import electricity to make up for these retirements. It would be difficult to construct new generation in these urban areas to make up for any retirements because of permitting, and the construction of large transmission lines to increase import capability in these major urban areas is very difficult, very time consuming and very expensive.

Studies by the Brattle Group, the Edison Electric Institute (EEI), and the North American Electric Reliability Corporation (NERC) also project significant retirements nationwide and in ERCOT if the proposed and projected EPA rules are enacted. The Brattle Group concluded that there could be a loss of between 9 and 12 GW of coal generation capacity within ERCOT. The analysis by EEI showed a range of scenarios with a loss of between 0 and 5 GW of coal generation and a loss of between 2 and 5 GW of gas generation in ERCOT. The NERC study found that 5 GW of generation capacity, all natural-gas-fired, was at risk in ERCOT.

In contrast to these studies, EPA estimates that only 9.9 GW of coal-fired generation will be retired *nationwide* due to the proposed NESHAP rule. EPA recognizes that EGUs will be subjected to several rulemakings; however, EPA does not address how the cumulative impacts will affect reliability or the cost of electricity. By avoiding this evaluation, EPA does not consider the full effects of the rules on residential and business customers through increased electric prices and decreased reliability. Furthermore, many of the assumptions that EPA relies upon in its evaluation of resource adequacy and reliability are incorrect and do not recognize the competitive market paradigm that exists in ERCOT and other regions.

First, EPA assumes that the timeframe for implementation of the rule (three years plus a one year extension) would be sufficient to plan for EGU retirements so as to not affect reliability. However, it appears that this assumption only includes the time to actually construct the new control equipment, and does not address the additional time needed to plan and permit new facilities.

The assumption that three or four years is sufficient for electric companies to address retirements through new generation or transmission is clearly erroneous. It also appears that EPA assumes that retirements will be known immediately upon the beginning of the implementation period and that responses to these retirements will also begin at that time. EPA merely states that "[s]tarting assessments early and considering the full range of options is prudent because it will help ensure that...power companies are able to provide reliable electric

power.”<sup>5</sup> If companies wish to construct additional facilities to address shortages in Texas, the current planning, permitting, and construction timeframe even for natural gas facilities runs longer than three years, with the timeframe for coal and nuclear facilities running far longer. Studies indicate that developing these generation units may take from five to ten years. Significant transmission upgrades also take more than three years to obtain the necessary permits and construct facilities.

EPA notes that reserve margins are higher than required, and assumes that any retirements will simply be removed from this “excess” reserve. This belief is based on several incorrect assumptions. The first is that this belief implies that the reserve margins are a static number. However, retirements due to other factors, such as aging plants and changing fuel prices, as well as the growth in demand for electricity, constantly change future reserve margins. Even without factoring the impacts to future generation capacity due to this and other EPA rules, ERCOT calculates that its reserve margin drops from 17.5% this year to 11.3% in 2015 and 10.8% in 2017, below the reserve margin of 13.75% set for the ERCOT region.<sup>6</sup>

A grossly inaccurate assumption in EPA’s analysis is that because there is sufficient generation, this generation can serve any area of the power region without any constraints in the transmission grid. This assumption is explicitly set out in the technical document “Resource Adequacy and Reliability in the IPM Projections for the Toxics Rule,” which states that the IPM assumes sufficient transmission capacity within a region to deliver any resources. Although the preamble notes that the analysis does not address the potential for more localized transmission constraints, this concern is casually dismissed by stating that “the magnitude of any local retirements should be manageable with existing tools and processes.”<sup>7</sup> As noted above, ERCOT identified constraints around the load centers in Houston and Dallas/Fort Worth that would be aggravated by any potential retirements; the assumption of sufficient transmission within a region is clearly wrong. In addition, a major realignment of the existing EGU infrastructure in a region will probably result in new transmission constraints. Any analysis of the impact of the rules should include the realistic assumption that there is congestion within a region and that retirements could significantly affect the capability of the transmission system to deliver electricity to load areas.

The EPA assumes an overly optimistic reliance on energy efficiency to address all the negative consequences of the rule. While the energy efficiency program in Texas is robust, it has been estimated to provide for only 1,448 MW of the resources needed to meet demand in ERCOT, compared to 79,274 MW of generation that is predicted for 2020. Demand-side management and energy efficiency programs may supplement the energy provided by dispatchable generation, but they fall short of substituting for the anticipated loss of generation capacity that could be more than 10,000 MW of generation.

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<sup>5</sup> 76 FR 25056

<sup>6</sup> ERCOT May 2011 CDR.

<sup>7</sup> 76 FR 25055.

Finally, there is no recognition by the EPA of how the competitive market would affect decisions on whether to outfit a plant with control equipment or to retire it. In regulated markets, generators that install control equipment to meet new environmental rules can include the capital costs and expenses in rates and recover the costs from consumers, with relatively low uncertainty about recovery of expenses.

In the ERCOT market in Texas and other areas of the US where the generation of electricity and retail sales of electricity is deregulated, generation companies have no guarantee that they can recover costs from consumers. Generation owners must make the business decision to retrofit facilities based on their best estimate of whether they can recover costs through the competitive marketplace. Obviously, companies that believe that they cannot recover these costs will retire their generation facilities. The cumulative effects of the various proposed and planned rules will increase uncertainty and put extreme cost pressures on generators, increasing the likelihood of retirements in competitive markets and thereby leading to reliability concerns for customers. Developers of new plants also face increased risks related to the higher costs of units and a period of regulatory uncertainty.

In fact, several generation owners have already announced the retirement of EGUs in Texas. American Electric Power has announced that, as a result of EPA's proposed rules, it plans to retire a unit at its coal-fired Welsh plant that generates 528 MW of electricity. In addition, CPS Energy, the municipally owned utility serving San Antonio, has announced plans to mothball its coal-fired J.T. Deely plant, which generates 871 MW of electricity in ERCOT.

In addition to the reliability impacts, EPA's proposed and planned rules affecting EGUs will increase the price of electricity in Texas and have negative impacts on residential consumers and on energy-intensive businesses and the jobs they create. At the White House Grid Modernization Event in June, Secretary of Energy Steven Chu hailed Spain and Ireland for their integration of large amounts of wind energy into their respective electric grids. According to data from the European Union, however, residential electricity prices in those two countries are more than three times the prices available in areas of ERCOT open to retail competition. As of April 2011, residential prices were \$0.28 per kWh in Spain and \$0.26 per kWh in Ireland. Residential consumers in the Dallas area, by contrast, may choose a twelve-month fixed-rate plan for \$0.08 per kWh. Electricity prices for industrial consumers are similarly high in Spain and Ireland relative to prices in Texas. Environmental regulations in Western Europe have made energy prices so high that it is too expensive for industrial facilities to locate there. EPA's proposed rules will increase electricity prices in Texas and may cause businesses currently operating in Texas to relocate and cause potential new businesses to choose not to locate in Texas.

Texas has already taken voluntary steps that address air quality issues. Levels of NO<sub>x</sub> and SO<sub>x</sub> are lower in Texas than in the rest of the United States. In Texas in 2010, SO<sub>2</sub> emissions are 33% lower than the national average (0.45 lbs/MMBTu US average compared to 0.3



lbs/MMBTu in Texas) while NOx emissions are 38% lower (0.16 US average compared to 0.10 lbs/MMBTu in Texas).<sup>8</sup>

In addition, Texas is extraordinarily successful in inspiring the use of renewable energy, already exceeding its own renewable portfolio standard for both 2015 and 2050. More than 10,000 MW of new renewable generation, primarily wind generation, has come online with an estimated capacity of more than 18,000 MW once new transmission facilities are built, more than any other

In closing, the PUCT appreciates the opportunity to comment on the impact of the NESHAP rule and the cumulative impact of this and other proposed, planned, and recently adopted rules on existing electric generation units, the development of new electric generation units, reliability of the electric system, and electric prices in Texas.

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<sup>8</sup> EPA Clean Air Markets Website, <http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=emissions.wizard>, retrieved on April 8, 2011.