

Economic Impact and Associated Issues of EPA Regulations

EPA's Suite of Regulations Affecting the Electric Utility Industry

- In the last several years, EPA has proposed or finalized significant rules affecting the power generation industry and coal-fired power plants in particular: Cross State Air Pollution Rule or CSAPR (overturned by the DC Circuit Court but on appeal with the U.S. Supreme Court), Mercury and Air Toxics Standards (in effect but on appeal), CO₂ New Source Performance Standards (NSPS) for new power plants under 111(b) (reproposed on Jan. 8, 2014), Coal Combustion Residuals (expected to be finalized in late 2014), Clean Water Act 316(b) Cooling Water Intake rules (expected to be finalized at any time now), and CO₂ Emission Guidelines for existing power plants under Clean Air Act 111(d) (under development).
- Cross State Air Pollution Rule
 - Although CSAPR was overturned by the DC Circuit Court, EPA's promulgation of the rule displayed fundamental philosophical flaws in EPA's interpretation of the Clean Air Act.¹
 - CSAPR did not properly take into account the contribution of a state's emissions that affected other states' compliance with NAAQS. CSAPR overcontrolled emissions from Texas plants above the amount necessary to be reduced.
 - EPA did not provide adequate notice of the rule. There was no significant linkage by Texas for PM_{2.5} to any monitor at rule proposal. With no indication of any specific linkage at proposal, it was not possible for Texas to provide meaningful comment.
 - EPA did not provide the opportunity for states to submit their own State Implementation Plans before EPA issued a Federal Implementation Plan. If the rule wasn't overturned by the courts, it would have significantly affected existing coal-fired power plants in Texas posing a very real threat to the reliability of ERCOT electric grid.
 - A ruling by the Supreme Court in favor of EPA's appeal would not necessarily mean CSAPR would immediately go into effect as the Supreme Court could remand the case back to the DC Circuit Court for reconsideration. However, if CSAPR is ultimately upheld, the EPA could quickly reinstate CSAPR and require companies to comply. If the Supreme Court rules against the EPA and affirms the DC Circuit Court's decision, the EPA has already begun the process for a replacement rule for CSAPR.

¹ On March 29, 2013, the U.S. Solicitor General petitioned the U.S. Supreme Court to review the DC Circuit Court's decision on the Cross State Air Pollution Rule. On June 24, 2013, the Supreme Court granted EPA's petition for review. A ruling is currently pending.

- Mercury and Air Toxics Rule
 - MATS is requiring significant investment in control technology while the benefits are questionable at best.
 - EPA's economic analysis misrepresented the actual costs and benefits of the rule. Benefits should be based on direct health benefits associated with reductions of the Hazardous Air Pollutants rather than including co-benefits associated with emission reductions of non-HAP pollutants. More than 90% of the represented health benefits are based on particulate matter benefits and not the HAPs that are the basis of the rule. Particulate matter is not a HAP and is regulated as a criteria pollutant under the EPA National Ambient Air Quality Standards. If EPA confined its cost benefit analysis only to the specific HAPs that pose a hazard to public health, any health benefits would be insubstantial compared to cost of the regulation.
 - On-going legal challenges are not likely to affect companies' decisions regarding compliance with the MATS rule because the rule is currently in effect. Existing units must comply with the MATS rule by April 16, 2015. Companies may request from the state a one-year extension to April 16, 2016.
- CO₂ New Source Performance Standards (NSPS) for New Power Plants under 111(b)
 - The 111(b) rulemaking would require new coal power plants to meet a CO₂ emissions standard that is not achievable without use of carbon capture and storage (CCS). CCS has not been commercially demonstrated on any existing power plant. CCS substantially increases the cost of constructing and operating a power plant. The only coal-fired power plant projects under construction or planned with CCS have received significant federal aid through DOE grants. Additionally, the parasitic load associated with CCS can be as high as 30%; therefore, constructing a new power plant with CCS requires building a larger capacity unit in order to provide the same net power to the grid as a unit without CCS. This results in cost increases beyond just the cost of the CCS equipment itself. Regardless of the price of natural gas, EPA's rulemaking will most likely result in no new coal-fired power plants being constructed in the foreseeable future.
- CO₂ Emission Guidelines for existing power plants under Clean Air Act 111(d)
 - EPA plans to propose rules under Federal Clean Air Act (FCAA) §111(d) for emission guidelines for CO₂ emissions from existing power plants by June 2014. EPA has engaged states and other stakeholders in this process; however, to date, the EPA has not provided any specific details as to the level of CO₂ control that may be required to meet the emission guideline. EPA Administrator McCarthy has publically stated that CCS is not being considered for existing facilities under this regulation. In joint comments submitted to EPA, the TCEQ and Public Utility Commission of Texas emphasized concerns that states need to have maximum flexibility to craft state plans to meet a performance standard to account for the diverse

nature of each state's power generation mix and market structures. Maintaining electric reliability and minimizing consumer costs as a result of the rulemaking is a necessity. EPA must be clear and transparent about the data and assumptions they make regarding effects on reliability and costs to consumers. There should not be tradeoffs between EPA's desire to reduce CO₂ emissions and the progress states have made in reductions of other air pollutants.

- EPA should not penalize states for demographic and geographic factors that complicate the supply of, and demand for, electricity within and between states. Texas' population is growing faster than any other state. Texas is also the nation's leading producer of oil and gas, refined products, and chemicals. These industries are energy dependent and Texas should not be penalized for the energy used by these industries that provide products to the rest of the nation and the world. According to the U.S. Energy Information Administration (EIA), Texas is also the largest lignite producer and the fifth largest coal producer in the nation.
- Texas produces more electricity than any other state, generating almost twice as much as the next largest generating state. Texas is also the largest electricity consuming state. Unlike other regions where large net interstate electricity deliveries are available, the Texas power grid is largely isolated from the interconnected power systems serving the eastern and western United States. The largest portion of the retail electricity sales in Texas is to the residential sector. One-half of the households in the state use electricity as their primary heating fuel. The residential use of electricity is higher in Texas than in other states, in part because of population size, but also because of high demand for air conditioning during the hot summer months and the widespread use of electricity as the primary energy source for home heating during the generally mild winter months.² Any program developed by EPA under 111(d) that does not take factors such as these into account could result in unequal negative impacts on Texas economy relative to other states.

Impacts to Texas

- Coal mining, coal-fired electricity and related industries provide a significant impact to the Texas economy creating over \$6.2 billion in economic activity in Texas annually. This activity supports 23,130 jobs that pay almost \$1.7 billion in salaries, wages, and benefits. State and local taxing jurisdictions receive \$640 million in annual revenues from coal related activities.³ Any EPA regulation, especially the 111(d) rulemaking that results in coal-fired power plant retirements could have a substantial impact on the Texas economy.

² <http://www.eia.gov/state/analysis.cfm?sid=TX>

³ Coal Mining and Coal-Fired Power Generation in Texas: Economic and Fiscal Impacts, Terry Clower, Ph.D. and Manuel Reyes, D.E.D., Center for Economic Development and Research, University of North Texas, February 2013

- Fiscal impact of EPA Regulations to TCEQ
 - With the passage of HB 788 by the Texas Legislature in 2013, the TCEQ is now required to establish a permitting program to regulate GHG emissions to the extent that such GHG emissions require authorization under federal law. At the time of passage of the legislation, TCEQ estimated that there could be as many as 1,800 existing sites throughout the state that could trigger the Title V GHG emissions threshold established under EPA's Tailoring Rule and that up to an additional 10 FTEs would be needed by FY 2015 for permitting and compliance monitoring at a cost of about \$900,000. The state will evaluate the need for additional FTEs prior to the 2015 legislative session.
 - If impacts were based on the permitting thresholds in the Clean Air Act rather than EPA's Tailoring Rule, the increase in permit application workload would be enormous. Nationwide, EPA estimated the number of PSD applications would rise from approximately 300 to 40,000 per year, and Title V permit applications would be expected to increase from 15,000 to approximately 6 million. According to the November 2008 report from the Texas Advisory Panel on Federal Environmental Regulations, it was estimated that costs to the TCEQ could run anywhere from \$40 to \$80 million annually.
- Coal Plant Retirements
 - At this time, projections by organizations like the U.S. Department of Energy, Energy Information Administration (EIA) and The Brattle Group do not indicate substantial coal-fired power plant retirements in ERCOT. The EIA 2014 Annual Energy Outlook Early Release Report (released December 2013) indicates approximately 1.7 gigawatts (GW) of coal capacity are expected to retire by 2016 in ERCOT. In a 2012 report, The Brattle Group projected less than 1 GW of coal-capacity would retire by 2016 in ERCOT. However, the final total retirements may not be known until the final compliance dates for the MATS rule (e.g., April 16, 2016) are closer.
 - Factors possibly contributing to Texas having, at present, few announced and projected coal-fired power plant retirements:
 - The Texas coal-fired fleet is relatively young compared to most other states. The average age of the coal-fired power plants in Texas is approximately 30 years. The national average age for coal-fired power plants is approximately 45 years.
 - Regarding retrofits for compliance with the MATS rule for the existing Texas coal-fired fleet:
 - Most, if not all, of the coal-fired power plants in Texas will require controls for mercury under MATS.
 - Some facilities may need to install controls to meet the hydrogen chloride (HCl) emission standard for acid gases under MATS; however, many are expected to already meet the HCl limit or to meet the alternate sulfur dioxide (SO₂)

surrogate limit if the unit is equipped with flue gas desulfurization control.

- Most of the coal-fired units in Texas are expected to already meet the particulate matter alternate emission standard for the metal hazardous air pollutants.
- At this time, there have been announcements of 3 coal-fired power plant unit retirements in Texas.
 - In 2011, City Public Service announced plans to retire both J T Deely Units 1 and 2 in Bexar County by December 31, 2018. While the planned retirement was announced in 2011, City Public Service only recently (October 2013) formally notified ERCOT of the retirement of the Deely units. Note: the J T Deely units are within the ERCOT region.
 - In 2012, American Electric Power announced plans to retire Welsh Unit 2 in Titus County by no later than 2016. This announcement was part of a consent decree agreement associated with the startup of the Turk facility in Arkansas. Note: the Welsh facility is the SPP region, not in the ERCOT region.
- The effects of EPA's 111(d) rulemaking on the existing coal-powered fleet are unknown at this time.
- Electric Reliability
 - While substantial retirements in the Texas coal-fired fleet are not expected at this time, ERCOT is projecting the reserve margin will fall below the target reserve margin, based on the May 2013 Capacity, Demand, and Reserves (CDR) Report. Additional retirements will exacerbate the reserve margin situation in ERCOT.
 - Note: ERCOT is reevaluating its load forecasting approach and considering changes. Previous load projection estimates included growth estimates between 2 and 3 percent per year, while recent actual growth has been 1.1 percent per year. If ERCOT changes the growth projection estimates, it may improve the reserve margin projections. The Winter 2013 CDR Report is still pending from ERCOT.
 - In addition to retirements, overlapping outages for the installation of pollution control equipment may create reliability challenges. For example, NERC projects that 43.5 GW of SO₂ controls and 30.6 GW for mercury controls are planned between 2013 and 2016 nation-wide (NERC 2013 Long-Term Reliability Assessment Report, December 2013).