Testimony of Dr. Bryan W. Shaw, Chairman of the Texas Commission on Environmental Quality

As Chairman of the Texas Commission on Environmental Quality (TCEQ), I appreciate the opportunity to provide testimony and information to the U.S. House Committee on Science, Space and Technology at the hearing entitled "Out of Thin Air: EPA's Cross-State Air Pollution Rule." This is a critical topic regarding the effect of the EPA's recently finalized rule on the environment, electric reliability, and commerce throughout our nation, as well as in the state of Texas. Equally important is the precedent set by the EPA with this rule and its disregard for transparency and full public participation; its selective use of data undermining common sense and Federal Clean Air Act obligations; and its unrealistic timetables for compliance. Instead, EPA is forcing the burdens of its own flawed interstate transport rule schemes onto the shoulders of a single, vital industry in order to meet the requirements of a paper exercise having limited relation to actual air quality in America. As I have said before, a strong economy does not need to come at the cost of the environment, and Texas has shown that to be true.

The TCEQ regularly weighs and balances matters that affect the environment and economy. We value regulation that addresses real environmental risks while being based on sound science and compliance with state and federal statutes. In every case where Texas disagrees with the EPA's rule, it is because EPA's rule is not consistent with these principles.

Cross-State Air Pollution Rule (CSAPR)

The EPA finalized Federal Implementation Plans (FIP) on July 6, 2011, requiring 27 eastern states to reduce sulfur dioxide (SO_2) and nitrogen oxides (NO_X) emissions from electric generating units (EGU) to address transport obligations under the 1997 and 2006 fine particulate matter ($PM_{2.5}$) and 1997 ozone National Ambient Air Quality Standards (NAAQS). The FIPs require reductions during the ozone season (May through September) of NO_X emissions that cross state lines for states under the ozone requirements and reductions in annual SO_2 and NO_X for states under the $PM_{2.5}$ requirements. The FIPs utilize cap and trade programs that include overall state budget emission caps with unlimited intrastate and limited interstate allowance trading. Although the rule proposal only included Texas under the ozone season requirements, the final rule not only includes Texas in the annual $PM_{2.5}$ programs for NO_X and "Group 2" SO_2 trading (in addition to the ozone program requirements), but it requires substantial reductions to be in place beginning January 2012[1] – just three and a half months from today.

The TCEQ has significant legal concerns regarding the lack of adequate notice and the overreach of the EPA's emission reduction requirements. These concerns have certainly been articulated by the many submitted requests for reconsideration by affected parties. However, even without the procedural legal weakness of this rule, the technical flaws merit re-examination. This rule serves as another example where the EPA inadequately rationalizes the need for a complex regulatory scheme to solve a non-existent problem.

[1] The compliance period begins January 1, 2012, but reductions could take place at anytime within the year, as long as the yearly emissions total is within the required assurance level and covered by allowances.

Lack of Adequate Notice or Meaningful Opportunity to Comment

The CSAPR, or Clean Air Transport Rule (CATR) as it was originally proposed in August 2010 by the EPA, did not include Texas in the annual program for NO_x and SO_2 emission reductions to address $PM_{2.5}$ transport. In fact, the EPA's proposed rule acknowledged that Texas power plant emissions, as modeled by the EPA, did not exceed the thresholds for inclusion in the $PM_{2.5}$ portion of CATR (for either the 1997 annual or the 2006 24-hour standards). At rule finalization, and for the very first time, Texas was significantly "linked" for $PM_{2.5}$ to a monitor in Granite City, Illinois, and included in the FIP for the 1997 annual $PM_{2.5}$ standard. Because Texas was not significantly linked to *any* $PM_{2.5}$ monitors at proposal, it was not possible for the state to provide meaningful comment on the technical underpinnings of a linkage to any potential one monitor among dozens of "nonattainment" or "maintenance" receptors for $PM_{2.5}$ covered by the rule.

The EPA, throughout its final rule preamble and in its response to comments, maintains that Texas had ample notice of its potential inclusion in the $PM_{2.5}$ program and need not have been provided additional information on possible linkages or proposed budgets in order to provide meaningful comment. At proposal, the EPA had developed a questionable scenario under which CATR would make higher sulfur coals more cost-effective than lower sulfur fuels. The EPA's hypothesis regarding this cascading result of price points was that Texas' SO_2 emissions would increase and therefore cause an air quality effect exceeding the threshold. The EPA used this scenario to take comment on whether Texas should be included in the program as a "Group 2" state. In other words, the only topic on which the EPA sought comment at proposal was regarding Texas' potential inclusion in the $PM_{2.5}$ program. But this request for comment was specific to a hypothetical scenario involving increased SO_2 emissions, not an actual linkage to a specific monitor. No potentially significantly linked monitors were ever identified at proposal or in any subsequent notice. The TCEQ and others subsequently provided comments critical of this hypothetical scenario, which the EPA ultimately abandoned at rule finalization, relying instead on a newly created significant linkage whose first appearance was at final adoption.

Interestingly, the EPA provided six other states supplemental notice and an opportunity to comment on ozone monitor linkages that were not identified at rule proposal, though three of these states (Kansas, Oklahoma, and Michigan) had already been proposed for inclusion in the rule's ozone program based on linkages to other monitors subsequently dropped at rule finalization. Such action by EPA suggests it understands the importance of fully providing information regarding significant monitor linkages to states for review and comment prior to rule finalization. Yet inexplicably, the EPA failed to provide Texas with similar supplemental notice on its unproposed significant $PM_{2.5}$ linkage. The EPA's insistence that Texas knew its inclusion in the $PM_{2.5}$ program was possible and therefore its inclusion under a wholly separate and un-proposed scenario is reasonable raises significant due process and equity concerns. However, EPA's argument that CSAPR, as it relates to Texas, is not subject to additional notice and comment requirements is undercut by the supplemental notice it provided to other states which could have expected their inclusion in the program based on proposed information.

With this new, significant linkage, Texas was provided only a final budget for annual NO_X and SO_2. This deprived Texas of any opportunity for comment on the impacts of such budgets or the calculations of "significant contribution" to Texas' new linkage monitor forming the basis of such budgets. Texas was not provided proposed annual budgets, and therefore had no indication of the EPA's interpretation of calculations for emissions reductions needed to prevent Texas' significant contribution to any hypothetical monitor. Though the EPA had assembled data regarding what it believed to be cost-effective controls at a number of price points for states (Texas included), EPA went no further for Texas – it set no cost threshold level for Texas; did no analysis to determine the effect of specific reductions downwind for Texas; and set no proposed budgets for Texas. Further, in the proposed rule preamble, the EPA notes that when setting budgets for Group 2 states (and Group 1 states in 2012, prior to their 2014 budget step-down), it chose to not use cost curves to set annual budgets. Instead EPA reviewed the actual performance that EGUs achieved in 2009. Given the limited information provided for Texas, it would have been nearly impossible for Texas to guess on a possible budget regarding its possible inclusion, and any such guess would likely have been far larger (particularly if using 2009 data) than the budget the EPA finalized for Texas. According to the EPA, a proposed budget was not necessary for adequate notice and comment. If that is true, why did every other state included in CSAPR receive a budget at proposal?

Had Texas been afforded the opportunity to comment on a linkage to the Granite City monitor and on emissions reductions necessary to prevent significant contribution to nonattainment at this monitor, it surely would have pointed out that the "nonattainment" monitor in question is situated within approximately ½ mile of a steel mill. The linkage monitor is, unsurprisingly, heavily influenced by local emissions. In fact, the monitor was specifically sited to monitor particulate emissions from the mill. Texas would also have commented that the monitor has measured attainment of the annual $PM_{2.5}$ standard since 2008 when the mill stopped operating. It is important to note that the mill has since resumed operations under the requirements of a Memorandum of Understanding (MOU) with the Illinois Environmental Protection Agency, and the monitor continues to show attainment. This significant information could have resulted in the EPA's modeling analysis projecting attainment for the monitor, thereby eliminating the basis for Texas and many other states' inclusion in the rule's $PM_{2.5}$ program. Further, EPA's proposed and final notices of attainment for the St. Louis area make no mention of possible transport issues that would affect the area's ability to stay in attainment. Finally, Texas would have provided comment regarding (1) SO_2 control cost assumptions and (2) the overreach of any budget (had one been provided at proposal) requiring disproportionately significant emissions reductions based upon any known contribution linkage to a monitor - known to be attaining the standard in question.

The EPA Disregards the Federal Clean Air Act and Over-Controls Emissions

Section 110(a)(2)(D)(i)(I) of the Federal Clean Air Act, which is the statutory basis for both the Clean Air Interstate Rule (CAIR) and CSAPR, requires states to prohibit sources within the state from emitting air pollutants in amounts that will contribute

significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any national primary or secondary ambient air quality standard. The statute does not provide the EPA authority to require states to prohibit emissions below the significant contribution threshold.

Of all states included in CSAPR for annual $PM_{2.5}$ linkages, Texas' linkage to a downwind receptor is among the weakest, at 0.18 micrograms per cubic meter - just 0.03 micrograms per cubic meter over the EPA's linkage threshold. Of states "linked" to any receptors in the eastern U.S. for the annual $PM_{2.5}$ standard, only Maryland has a smaller downwind contribution. Despite this tenuous link, the SO_2 budget Texas received at rule finalization would require a 47% reduction in 2012 in EGU emissions of 217,708 from its 2010 emissions. Considering that the monitor linking Texas is known to be currently monitoring attainment (with the influence of Texas' 2010 EGU SO_2 emissions at 461,662 tons), it is unreasonable and untenable that the EPA could require such significant reductions to be accomplished in less than four months.

The fact that the EPA does not believe Texas will be able to comply with its budget in a cost-effective manner calls into question the validity of the budget itself. EPA conducted a "lignite sensitivity analysis" for Texas that acknowledges the infeasibility of large-scale coal switching as a compliance strategy for many coal-fired plants in the state. The EPA's own analysis of cost-effective emission reductions projects that in 2012, under CSAPR, Texas EGUs would emit over 280,000 tons of SO_2 – or 36,000 tons beyond the EPA's allotted budget for Texas. Thus even if it were possible to operate as projected by EPA's model, the state cannot meet its emission reduction obligation. The EPA apparently believes this to be reasonable, in that Texas could theoretically purchase allowances from its Group 2 trading partners and still be below its assurance level. A presumption that Texas *must* rely on out-of-state allowances improperly disregards rule compliance costs and makes clear the inadequacy of Texas' budget. More disturbing is the EPA's failure to consider whether such a volume of allowances would even be available among the limited Group 2 trading program. If each Group 2 state made exactly the reductions predicted by the EPA at a $500/ton cost threshold in 2012 (the threshold the EPA claims it used to determine budgets), and Texas made the reductions predicted by the lignite analysis, and all available allowances were sold only to Texas, Texas would still be short by 23,894 allowances. Failure to hold 23,894 allowances to cover emissions would result in forfeiture by the EGUs unable to secure those allowances of 47,788 additional allowances from the following year's budget. This allowance shortage could result in civil penalties totaling over $327 billion for just one control period and the potential for criminal penalties.

The EPA's own final modeling data, which does not take into account local controls from the previously mentioned steel mill's MOU, shows that the Granite City monitor would be projected to have neither attainment nor maintenance problems for the annual $PM_{2.5}$ standard by 2014, with or without the existence of CSAPR controls. Put differently, the EPA's own modeling makes clear that states' projected 2014 base case SO_2 emissions levels are adequate to ensure that no state significantly contributes to nonattainment or interferes with maintenance at the Granite City monitor. Despite this information, Texas' projected 2014 base case SO_2 emissions are approximately 453,000 tons, or over

200,000 tons higher than the level the EPA deems necessary to eliminate significant contribution.

Though I have focused on the lack of notice and technical flaws regarding Texas' inclusion in the $PM_{2.5}$ program, it is worth noting that the two monitors to which Texas is linked for ozone, and therefore required to make ozone-season NO_X reductions for, are both monitoring attainment of the 1997 eight-hour ozone standard. The Baton Rouge area, in fact, has been proposed by the EPA for redesignation to attainment of that standard.

Economic effects

This rule puts at risk the economic future of power generation and those dependent on affordable electricity in Texas. It also places vulnerable citizens at a significant health and safety risk. For example, elderly and low-income populations whose health and welfare are dependent on reliable energy would face significant adverse consequences resulting from such a rule. While air pollution regulation is certainly necessary to protect the health of our citizens, the elements of this regulation pertaining to Texas' SO_2 emissions are not necessary for public health protection and only result in negative consequences.

The President's Executive Order 13563, enacted January 18, 2011, calls for careful analysis of the likely consequence of regulation, including consideration of underlying science, or alternatives, of costs and benefits and of simplified, harmonized, and flexible methods for achieving regulatory goals. Because the possibility of including Texas was not adequately fleshed out as a part of the rule proposal, the EPA did not adequately assess the impacts of this rule on Texas, nor did Texas have the opportunity to comment on the possible consequences. Further, the EPA's analysis entitled "Resource Adequacy and Reliability in the IPM[2] Projections for the Transport Rule TSD[3]" was not available at rule proposal and includes significant errors regarding generation capacity within ERCOT – the largest grid operator within Texas. For example, the EPA overestimates ERCOT's generation capacity by nearly 20,000 megawatts.

If coal-fired power plants in Texas are faced with these significant emission reductions, decisions regarding the operation of these plants may result in considerable reductions in the safety margins of power operation of this state. The strong disincentives for operation of coal-fired power plants would undoubtedly result in significant cost to energy consumers including the possible shutdown of base-load units. Manufacturing and production plants also rely on affordable energy to continue or even expand operation. EPA has failed to consider this potentially devastating economic "ripple effect." Again, because the proposal did not contain any specifics on how Texas would be regulated under this scheme, we were not able to fully evaluate and provide comments on the significant effects, such as shutdowns, of this rule.

[2] Integrated Planning Model
[3] Technical Support Document

More importantly, the resulting effect of increased cost of power and power shortages, such as rolling blackouts, would not only jeopardize the personal and economic health of Texas citizens, but also endanger lives. Whether it is cost-prohibitive to operate electricity or electricity is simply unavailable, vulnerable populations, such as the elderly and low-income, will be put at risk because the EPA has pursued inappropriate regulation of SO_2 in Texas under the guise of $PM_{2.5}$ transport.

Conclusion

Texas' inclusion in the CSAPR FIP for $PM_{2.5}$ was based solely on a previously unidentified significant linkage to a monitor next to a functioning steel mill that has implemented an MOU with federally enforceable controls ensuring attainment of the standard in question. Texas' SO_2 budget for the rule is not attainable at the cost levels predicted by the EPA, but it also far exceeds the level that would be necessary, even if the monitor showed nonattainment, to eliminate Texas' significant contribution to nonattainment.

It should go without saying that the EPA has drastically overreached in its scheme to address interstate transport. The questionable technical data used to include states in the CSAPR program is wholly divorced from the equally questionable technical data used to determine states' required emissions reductions. Most likely, the average rational person would have no difficulty supporting the idea that states should control emissions proportionately to the level at which those emissions negatively affect other states. The EPA, however, has abandoned rational science and common sense in an attempt to squeeze as many reductions out of a single industry in as short a time as possible. EPA took this course of action at the expense of affected entities who have not had a chance to fully understand and object to the myriad flaws in the rule. EPA instead demands drastic reductions in unrealistic timeframes in order to address a non-existent problem allegedly caused by Texas. The fact is, the linking monitor is fully in attainment for the standards in question. This simple fact, among a number of other EPA errors and inconsistencies, highlights and underscores the weak justification for CSAPR, and makes the utter lack of transparency and public participation afforded to Texas all the more egregious.

The EPA's practice of prosing technically flawed and inadequate rules, in combination with a lack of action where needed within the SIP process, leaves all sectors of industry in a reactive mode. How could any facility – EGUs producing power, or even those dependent upon reliable power - plan for economic growth where tomorrow's regulatory demands are in constant flux?

The energy sector is a captive recipient of the EPA's attention. Unlike other industry, the possibility of moving to a more industry-friendly regulatory environmental outside of the U.S. is not an option. These regulations have vast economic effects, not limited to the direct energy generation costs that will be felt by every energy consumer, but also through the indirect effects of higher costs associated with the cost of manufacturing goods, and regrettably, the potential for lost jobs, as all sectors struggle to absorb these costs.

Businesses need certainty to drive our economy and thrive. Businesses should be subject to reasonable and appropriately protective regulation. For citizens to be protected from harmful pollution, both federal and state governments need to focus their resources on real risks, instead of creating false crises that frighten the public and misuse public resources. The potential effect of this rule on power generation and electric reliability in Texas and throughout the eastern U.S. could be devastating, at a time when we can least afford such problems. Under average conditions, the potential generation loss in Texas caused by this rule will have real impacts to real people. Should Texas face another sweltering summer like this past one, there is every reason to worry about loss of life.