TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 18, 2012

VIA FAX (202) 501-1450, Email and Hardcopy
The Honorable Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
MC-1101A
Washington, D.C. 20460

Re: Petition for Reconsideration of Final Rule: Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards, 77 Federal Register 30088, May, 21, 2012. EPA Docket Number EPA-HQ-OAR-2008-0476.

Dear Administrator Jackson:

The Texas Commission on Environmental Quality (TCEQ) appreciates the opportunity to submit the attached Petition for Reconsideration of the Final Rule in the above referenced matter.

Please accept the attached document for filing and confirm receipt. If you have any questions, please contact me at (512) 239-3900 or Terry G. Salem, Staff Attorney, at (512) 239-0469.

Sincerely,

Zak Covar
Executive Director

Enclosure

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In Re:	§	Docket No. EPA-HQ-OAR-2008-0476
Final Rule titled "Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards"	§	

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S PETITION FOR RECONSIDERATION

Pursuant to 5 U.S.C. § 705 and 42 U.S.C. § 7607(d)(7)(B), the Texas Commission on Environmental Quality ("TCEQ or commission") respectfully submits this Petition for Reconsideration, asking the Environmental Protection Agency ("EPA") to reconsider the adoption and implementation of the final rule regarding Air Quality Designations for the 2008 eight-hour ozone National Ambient Air Quality Standards, captioned above and published at 77 Fed. Reg. 30088 (May 21, 2012). Specifically, the TCEQ requests that the administrator reconsider the decision to include Wise County in the Dallas-Fort Worth (DFW) 2008 eight-hour ozone nonattainment area.

I. BACKGROUND AND INTRODUCTION

On May 21, 2012, the United States Environmental Protection Agency (EPA) Administrator published the final Air Quality Designations for the 2008 eight-hour ozone National Ambient Air Quality Standards (77 Fed. Reg. 30088). The final designations included a designation for the DFW area that included nine counties as

previously designated as nonattainment for the 1997 eight-hour ozone standard, as well the additional inclusion of Wise County as part of the DFW 2008 eight-hour ozone nonattainment area. Although EPA proposed to include Wise County as part of the DFW 2008 eight-hour ozone nonattainment area, TCEQ and others submitted comments to EPA illustrating why such an inclusion is improper. EPA failed to adequately address the comments of TCEQ, has misused source apportionment modeling (SAM) submitted by the TCEQ and drawn faulty conclusions regarding Wise County's potential contribution to the DFW 2008 eight-hour ozone nonattainment area.

Therefore, EPA should convene a hearing for reconsideration on the Final Rule and reopen the rule for comment.

II. STANDARD OF REVIEW

The Administrator has authority and a duty to reconsider the Final Rule.[1] Section 307 of the Clean Air Act directs that the Administrator "shall convene a proceeding for reconsideration" if two things are shown:

First, it was either "impracticable" to raise the objection during the comment period, or the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) ....[2] Second, the objection is of central relevance to the outcome of the rule – in this case the May 21, 2012 Final Rule.[3] The TCEQ's Petition meets both requirements.

While the TCEQ provided some comments during the public comment period,

[1] 42 U.S.C. § 7607(d)(7)(B), CAA § 307(d)(7)B).
[2] *Id.*
[3] *Id.*

TCEQ could not have provided comment on core elements of the Final Rule, as discussed further in the Argument section below.

Because the grounds for the objections raised in this petition arose after the period for public comment and are of central relevance to the outcome of the rule, the Administrator must "convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed."[4] The Administrator also has authority under its general rulemaking discretion to reconsider the Final Rule even if she concludes that the standards of CAA section 307(d)(7)(B)[5] have not been met.[6]

All of these issues are of central relevance to the Final Rule and its eventual implementation by TCEQ.

III. ARGUMENT

A. EPA failed to rationally explain its decision to ignore long established guidance recommending use of photochemical modeling in a relative sense.

EPA erred in its interpretation of the TCEQ's SAM for calculating the contribution of Wise County to the Eagle Mountain Lake (EMTL) monitor. This error caused EPA both to improperly weigh other factors it considered in including Wise County, in addition to improperly concluding that emissions from Wise County significantly contribute to nonattainment in the DFW nonattainment area. The TCEQ ran both 2006 base and 2012 future cases using the Anthropogenic Precursor

[4] *Id.*
[5] *Id.*
[6] Federal Administrative Procedures Act, 5 U.S.C. § 557.

Culpability Analysis (APCA) probing tools to determine the contribution of Wise County in each case, and then applied a procedure similar to that used by EPA in its Cross-State Air Pollution Rule (CSAPR)[7] to calculate Wise County's potential contribution to the 2012 design value (DV). This approach applies the concept of relative response factors (RRFs) to source apportionment, using modeling results in a relative sense while anchoring the model's predictions to actual observations. The use of modeling in a relative sense is EPA's preferred approach for use in attainment demonstrations, as is clearly stated in EPA's photochemical modeling guidance. When the TCEQ used this method to estimate Wise County's 2012 contribution to the EMTL monitor, the predicted contribution was 0.41 ppb, which is well below any realistic level of significance and even below EPA's unsupported threshold of 1% of the 2008 ozone standard.

Instead of following its own guidance and fifteen years of precedent, EPA erred in using absolute (not relative) predicted concentrations that were not anchored to actual measurements. EPA provided no rational explanation for why it ignored its own guidance, which it continues to support in the final CSAPR,[8] in evaluating the potential for contribution from Wise County to the DFW nonattainment area.

Prior to the promulgation of the 1997 8-hour ozone standard, EPA guidance specified that agencies should base attainment modeling on the single highest one-hour ozone concentration modeled anywhere across the modeling domain in the

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[7] Final Rule, Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48208, August 8, 2011.

[8] TCEQ notes that litigation challenging CSAPR is currently in process, and CSAPR is currently stayed. TCEQ has consistently disagreed with the way EPA conducted its modeling for CSAPR, particularly in the use of regional-scale modeling to characterize local source-receptor relationships. However, EPA has consistently utilized source apportionment modeling in a relative sense, and has failed to explain why it is appropriate to not follow its long-established modeling practice in this context.

future attainment year. However, the model, while meeting EPA's specified model performance criteria, still often under- or over-estimated base-year ozone concentrations, and it was very likely that these trends would be carried into the future year modeling. So if a model tended to under-predict base-year ozone concentrations, the future-year ozone concentrations would be similarly under-predicted, and vice-versa. The logical consequence would be SIP revisions with control strategies that could under- or over-control future emissions.

To address the issues raised by using future model predictions directly (or in an absolute sense), the guidance developed for attainment demonstrations for the 1997 ozone standard (and later fine particulates (PM) and regional haze) specified use of models in a relative sense with the base year anchored to monitored observations, specifically the observed design values at monitoring locations. The guidance thus requires the model to be used to determine concentrations near each monitor for the base and future years, and the ratio of future-to-base concentrations (called the relative response factor, or RRF) is then multiplied by an observation-based baseline design value. The RRF represents the model's predicted response to emission changes from the base to the future year. Anchoring the future predictions on base year observations through the RRF largely avoids the problems associated with using modeled future-year concentrations directly.

The same principles apply in SAM, where ozone concentrations at a monitor location are allocated to a specified set of emission sources. In the modeling conducted for the CSAPR, EPA apportioned each monitor's future case ozone and PM concentrations among emission sources, specifically states in the U.S. (along

with more distant sources, which were not individually analyzed). This approach was used to "link" states to predicted violations in the 2012 and 2014 future years.

When TCEQ provided SAM results for monitors in the DFW area to EPA for its consideration while making final attainment designations, the SAM was based on a procedure similar to that used in the CSAPR analysis. Predicted contributions from counties considered for re-designation were allocated to the future ozone design values at monitors in the area. These results showed that Wise County was expected to contribute less than 0.75 ppb to every monitor not attaining the ozone standard as of 2010. Using EPA's stated 1% threshold, therefore, Wise County should have not been classified as nonattainment of the 2008 ozone standard since it contributed less than 1% to the predicted 2012 design value of any nonattainment monitor.

Despite its own guidance and fifteen years of precedent, EPA ignored the TCEQ SAM relative response-based predictions and instead cherry-picked direct predictions from TCEQ's SAM (not anchored to any measurements) to declare that Wise County's contribution to the Eagle Mountain Lake monitor's design value was significant.

Because EPA erred in failing to follow its own guidance, additional errors in its analysis resulted. At EPA's request the TCEQ provided supplementary information developed using long-established EPA guidance and practice to evaluate the potential contribution of Wise County using an RRF-based modeling method. EPA only used the parts of that information that supported its decision and ignored the most relevant information, specifically the predicted Wise County contribution to the 2012 design values. EPA failed to consider TCEQ's provided modeling in its

entirety, and failed to adequately explain why it was appropriate to only consider portions of the information provided.

EPA appears to conclude, in the technical support document for the final rule, that the TCEQ's SAM was not adequate because it was not inclusive of an entire ozone season in addition to underestimating exceedances on many days by underpredicting peak values. To compensate for these concerns, EPA relied on absolute modeled maximum concentrations to predict the potential contribution from Wise County to the DFW nonattainment area.

The TCEQ's rationale for using the June 2006 episode was provided to EPA in the modeling protocol for the 2011 DFW Attainment Demonstration SIP revision sent to EPA October 5, 2010. The use of photochemical modeling that supports an attainment demonstration for the nonattainment area in question is not only appropriate and relevant evidence regarding the potential downwind contribution of Wise County to the DFW nonattainment area; it is the best evidence possible. It was irrational for EPA to fail to utilize this evidence, particularly since EPA had ample opportunity to notify TCEQ of any concerns.

EPA's rationale for not utilizing the TCEQ SAM because it did not include an entire ozone season is based on the fact that the TCEQ SAM should have included days from the August-September period, which typically show higher ozone concentrations than the June period modeled. This reason ignores the specific facts of the actual monitoring data for 2006, which EPA does not explain. EPA also ignored the basis and support provided for the June 2006 episode days, instead of an entire ozone season.

The Modeling Protocol for the 2011 DFW Ozone Attainment Demonstration, provided to EPA on October 5, 2010, noted that the 2006 base year was chosen largely because it represents an exceptionally rich set of air quality and meteorological measurements, which satisfies one of the criteria listed in the modeling guidance for selecting episodes. The protocol also explained that in 2006, June had the most high-ozone days of any month,[9] and that all the meteorological conditions linked to formation of high ozone concentrations were represented, also consistent with the guidance. Notably, the prevailing EPA modeling guidance does not specifically recommend modeling entire ozone seasons, so using the May 31 – July 2, 2006 period is entirely consistent with the guidance.[10]

Notably, EPA's explanation does not address why an episode based on an entire ozone season would be necessary, given that the more specific period of May 31 – July 2, 2006 had the most high-ozone days of any month in 2006. Because EPA's evaluation of the TCEQ SAM ignored both the factual monitoring data for 2006 and its own guidance directing states to use photochemical modeling in a relative sense to evaluate potential contribution, without explaining why this deviation from established guidance was appropriate in this case, EPA should reconsider its decision.

The EPA also justified its use of the absolute modeled maximum concentration because the TCEQ modeling under-predicted the peak 8-hour contributions in 2006. This justification is without merit, and thus, should be reconsidered, since the RRF concept was developed precisely to correct for

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[9] In 2006, June had 22 days with observed ozone concentrations greater than 70 ppb, compared with only 11 each in August and September.

[10] The 2007 guidance recommends modeling "relatively long time periods" covering full synoptic cycles of 5-15 days, and only mentions modeling longer time periods "up to a full season" as an option to "simplify the episode selection process and provide a rich database with which to apply the modeled attainment test."

situations where the model over- or under-predicts the baseline concentrations. EPA failed to explain why the RRF concept, developed by EPA to address both the possibility of under- and over-prediction of photochemical models, was not applied for the purpose of evaluating the possible contribution of Wise County to the DFW nonattainment area.

Lastly, EPA appears to argue that the TCEQ SAM was not adequate because the TCEQ SAM used spatially averaged baseline and future ozone concentrations instead of maxima. However, since EPA didn't actually use the RRF-based contribution to 2012 future design values, this argument is irrelevant. The primary reason EPA guidance was developed supporting the use of the maximum value "near" a monitor is to allow the RRF calculation to account for possible migration of ozone plumes due to implementing controls in an area. Instead of considering an RRF-based approach, EPA relied on the 2012 daily modeled absolute contributions.[11] Similarly, there is no rational basis for EPA's use of a 70 ppb threshold for selecting days to analyze since EPA did not use those days to calculate an RRF as per EPA guidance. Instead, EPA selected days using a 70 ppb threshold from the 2006 baseline and used corresponding days in 2012 to look for Wise County contributions above 0.75 parts per billion (ppb). On many of those days in 2012, the predicted eight-hour ozone concentrations were less than 75 or 70 ppb. EPA should have selected days using a 75 ppb threshold from the future year modeling, but in any event, did not provide a rational basis for its selection. For example, EPA notes in the DFW TSD that "This analysis indicated Wise County emissions had even larger

[11] The TCEQ used averages instead of maxima for its calculation of the future DV contributions because the APCA software reports averages, but notes that using averages does not necessarily introduce bias in the RRF calculation. In fact, the total DV calculated using the APCA average-based RRF only differed from that calculated using the maximum-based RRF by 0.2 ppb (77.86 ppb vs. 78.06 ppb), so it is extremely unlikely that using spatial maxima would have made any perceptible difference in Wise County's modeled 2012 DV contribution.

impacts of up to 5 ppb on the Eagle Mountain Lake monitor." EPA refers to the 2012 contribution from Wise County to Eagle Mountain Lake of 5.03 ppb on June 13th. While in the 2006 baseline modeling the eight-hour ozone maximum concentration in the 3x3 grid cell array around the Eagle Mountain Lake monitor on June 13 was 72.91 ppb, in the 2012 modeling the eight-hour ozone maximum concentration in the 3x3 grid cell array around the Eagle Mountain Lake monitor was only 59.74 ppb. Although Wise County may have contributed 5.03 ppb to the 2012 modeled concentration of 59.74 ppb, the total 2012 predicted ozone was much less than the 2008 eight-hour ozone standard of 75 ppb. EPA thus erred in their analysis by selecting days to analyze based on comparing the 2006 baseline ozone concentrations to a 70 or 75 ppb threshold. The comparison should have been made to 2012 future year ozone predicted concentrations. Furthermore, EPA's choice to analyze days with ozone concentrations as low as 70 ppb, was erroneous, since such days could not reasonably be expected to contribute to nonattainment of the 2008 ozone NAAQS.

B. EPA failed to quantify the number of trajectories that passed over other counties before passing through Wise County and then passing over the monitor of interest.

EPA draws conclusions based on some number of trajectories transecting Wise County before crossing the Eagle Mountain Lake monitor on elevated ozone days, but failed to provide a rational explanation of how those trajectories indicate contribution from Wise County. EPA did not provide an actual count of the trajectories from Wise County to either the Eagle Mount Lake or Keller monitors.

EPA did not distinguish or quantify the number of trajectories transecting Wise (or Hood County) on the way to Eagle Mountain Lake. The TCEQ in its response to the draft Technical Support Document clearly indicated actual percentages in its trajectory endpoints in Wise County for each receptor monitor. In each case those percentages were extremely low for the trajectories crossing Wise County.

EPA failed to quantify the number of trajectories that passed over other counties (and sources) before passing through Wise County and then passing over the evaluated monitor. Since ozone monitor readings at the receptor monitor are cumulative of the sum of the ozone (and ozone precursors) along the trajectory path, EPA's failure to address the number of trajectories that passed over other counties before passing through Wise County was irrational, and in error. Also, EPA failed to explain how the reactivity of the volatile organic compounds (VOCs) from Wise County would lead to ozone formation or even how much ozone would be expected to be created from those VOC emissions. This failure illustrates that EPA's use of the HYSPLIT tool in its analysis was not supportable as relevant and reliable evidence of contribution from Wise County.

EPA acknowledges that HYSPLIT analysis is not a single factor in determining whether to include or not include a county in the nonattainment area, but it appears that EPA placed excessive weight of evidence on HYSPLIT results in their final analysis. Since HYSPLIT does not have the ability to calculate pollutant concentrations, the types of pollutants added along the transport path from different areas, pollutant dispersal rates along the transport path, or ozone formation rates that may result from different pollutant interactions, reliance on HYSPLIT results was irrational, arbitrary, and capricious.

C. Current oil and gas activity levels in Wise County are unlikely to be contributing significantly to nonattainment in the DFW nonattainment area.

As EPA noted in its Technical Support Document, TCEQ provided revised emission inventory information for VOC for Wise County to account for revised oil and gas sector pneumatic emissions. The revised 2008 emission inventory estimates for VOC were 17,609 tons per year (tpy), down from 23,657 tpy. The TCEQ notes that oil and gas production and drilling in Wise County is starting to decline, as documented by information available on the Texas Railroad Commission Website at www.rrc.state.tx.us. Additionally, the TCEQ notes a possible error occurred in EPA's consideration of the Barnett Shale emission inventory data. In the DFW TSD, EPA stated that it "also considered the additional contribution of nitrogen oxides (NO_X) and VOC emissions from Barnett Shale area oil and gas production activities in its evaluation of emissions for the DFW CSA counties." See DFW TSD, page 7. If EPA added emissions from the Barnett Shale inventory to the 2008 NEI, this would incorrectly double count those emissions, since those sources were already represented in the 2008 NEI.

Lastly, the TCEQ has reviewed eight-hour ozone design values for the DFW area for the years 1993-2011, in conjunction with gas well production data (as reported in billions of cubic feet, Bcf), as noted in Attachment A. There is no evidence of a correlation between the growth in Barnett Shale gas production development activity and ozone production in the DFW area.

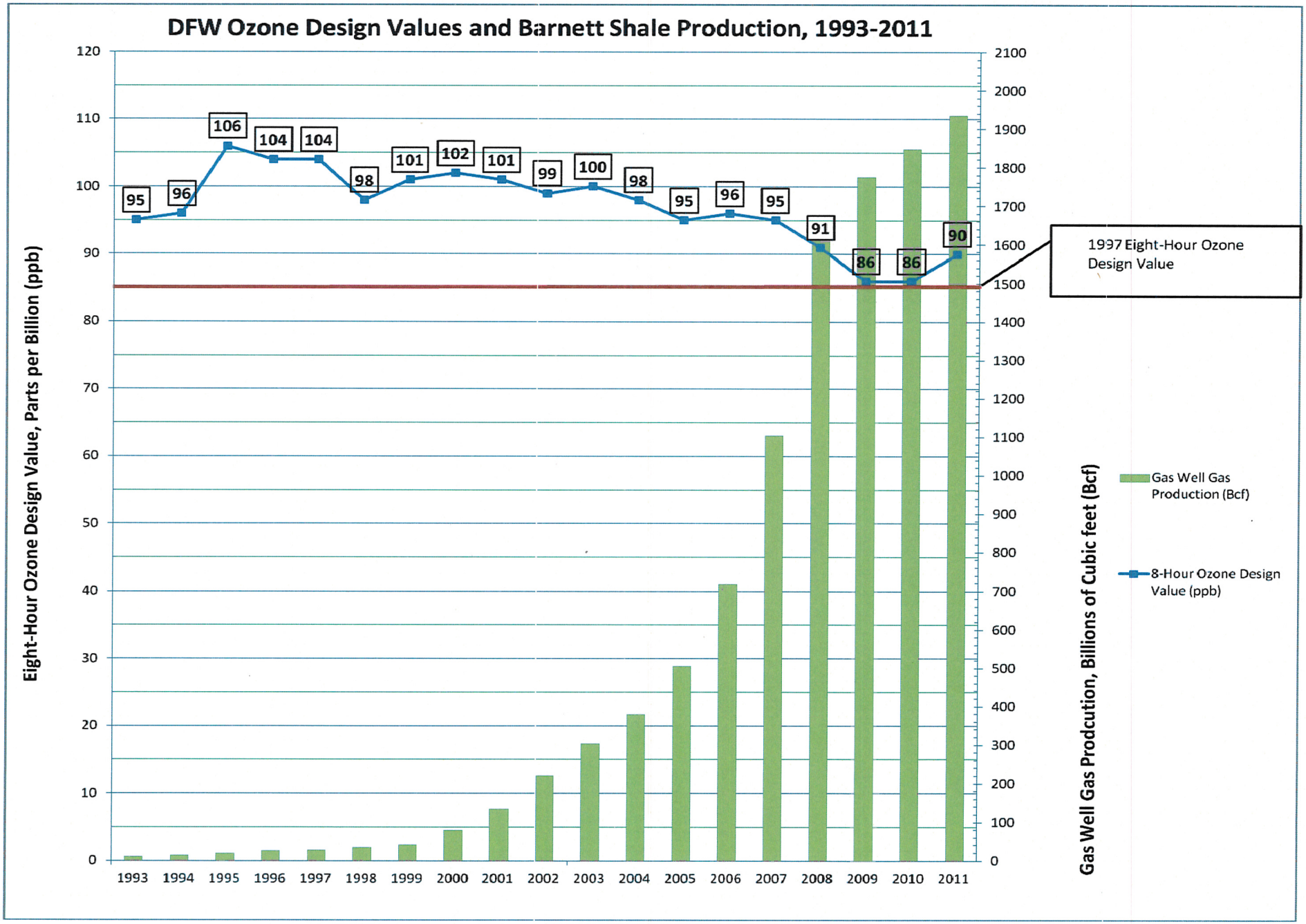
IV. CONCLUSION AND REQUEST FOR RELIEF

TCEQ has raised a number of important and legitimate concerns regarding the designation of Wise County as nonattainment for the 2008 eight-hour ozone standard, which EPA has failed to adequately address. TCEQ respectfully requests that the EPA grant an administrative stay of the effective date of the designation for Wise County to allow further discussion to occur between EPA, TCEQ, and Wise County officials. Additionally, TCEQ respectfully requests that the Administrator grant this Petition and promptly convene a proceeding for reconsideration of the Final Rule.

Respectfully submitted,

Zak Covar, Executive Director

ATTACHMENT A



CERTIFICATE OF SERVICE

I certify that on July 18, 2012, a copy of the foregoing Petition for Reconsideration was served by electronic mail, and by first-class mail, postage prepaid on the following:

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