

Vivian Aucoin
Office of Environmental Assessment
Environmental Planning Division
Box 82178
Baton Rouge, LA
Fax: (225) 765-0617.

December 3, 2001

Dear Ms. Aucoin,

These comments are in reference to the Proposed Revisions to the State Implementation Plan (SIP) for Baton Rouge (Log #0110Pot2), and are submitted on behalf of the members and member organizations of Louisiana Environmental Action Network. We are requesting that the SIP be changed to include all of the changes suggested in these comments.

1. Attainment Date Extension.

An extension based on transport of ozone and ozone precursors should not be allowed for the reasons stated in this section.

Introduction

EPA has admitted violating the Clean Air Act's ("CAA" or "the Act") command to determine, by May 15, 2000, whether the Baton Rouge area has attained the federal air quality standard for ozone.¹ More than a year after missing the Clean Air Act's deadline for making a determination, EPA has now announced an intent to delay compliance still further. EPA asserts that the purpose of this illegal delay is to provide Louisiana with more time to seek to extend a 1999 deadline for meeting the health-protection standard for ozone pollution in the Baton Rouge area. EPA has not even attempted to argue that the Clean Air Act allows it to delay its duty to make a determination of whether the Baton Rouge area has attained federal Clean Air standards while it waits for Louisiana to apply to extend a deadline that expired long ago.

According to EPA, Louisiana will base its application to delay complying with the ozone health-protection standard on an argument that the Baton Rouge area's failure to attain federal standards results, not from the numerous pollution sources in the area's infamous "cancer alley," but from "ozone transport" from Houston, Texas. Even if this were true, such an extension would be illegal. Congress precisely specified the narrow circumstances under which EPA may extend the deadline for attainment of health-protection air quality standards and "ozone transport" is not among the grounds for a lawful extension.

EPA proposes in the alternative to determine that the Baton Rouge area has not attained federal standards. 66 Fed. Reg. 23,646 at 23,646 (May 9, 2001). EPA should immediately finalize its determination and publish notice of reclassification in the Federal Register as required by the Clean Air Act. 42 U.S.C. §7511(b)(2)(A) and (B). EPA has no good faith argument that the law permits further delay and EPA's continued illegal delay is a breach of EPA's duty to respect the rule of law.

¹ EPA's Motion for Extension of Time at 4, LEAN v. Whitman, No. 00CV879 A-M3. (M.D. La., filed May 15, 2001).

I. EPA's Clean Air Act Violations Endanger the Public.

The Clean Air Act Amendments, which President George P. Bush signed into law in 1990, required EPA to determine by May 15, 2000 whether the Baton Rouge area meets federal health-protection standards for ozone pollution. EPA has admitted violating this law and has now published notice that it intends to continue violating it. But, as an agency of the U.S. government, EPA has no possible justification for disobeying a valid U.S. law, even if EPA wishes the law were different. Our elected representatives in Congress write the laws; it is the duty of the unelected officials at EPA to faithfully carry those laws out. It is a fundamental and inexcusable breach of EPA's duty to the public for EPA to attempt to overrule Congress. Indeed, this type of behavior breeds contempt for the very laws that EPA is entrusted to enforce. Furthermore, EPA's willful violation of the Clean Air Act endangers the public. This is because Congress designed the Clean Air Act so that health-protection safeguards kick in automatically when EPA determines that an area has failed to attain federal health-protection standards. By illegally withholding a determination about whether the Baton Rouge area meets health-protection standards, EPA is denying Louisiana residents the protection that Congress intended to provide to all U.S. citizens.²

EPA has offered no legal argument to justify its refusal to determine whether the Baton Rouge area meets health based standards. Indeed, it is clear that air quality in the Baton Rouge area fails to meet health-protection standards. For example, in a May 10, 2000 letter to EPA, Louisiana Governor Mike Foster said: "the Baton Rouge ozone attainment area failed to attain the 1-hour ozone standard by the required date of November 15, 1999." EPA has admitted that it "was required to make a determination" by "May 15, 2000."³ EPA stated it "is not disputing that it has a statutory duty to make [the] determination."⁴ Nonetheless, in its May 9, 2001 "proposed rule," EPA has now announced that it does "not intend to take final action" on its determination "prior to allowing Louisiana an opportunity to qualify" to extend the attainment date. 66 Fed. Reg. 23646 (May 9, 2001). This is an announcement of EPA's intent to ignore the law.

Regardless of whether Louisiana someday may qualify for an extension of the attainment date, the Clean Air Act requires that EPA make a determination *now* about whether the Baton Rouge area meets health protection standards. Indeed, EPA's determination is more than a year overdue (which means that Louisiana has already had ample time to attempt to demonstrate that it qualifies for an extension). EPA cannot lawfully continue to ignore its duty to make a determination.

² Ground-level ozone is the smog that commonly shrouds urban and residential areas endangering public health. 65 Fed. Reg. 16,864 (Mar. 30, 2000). Ozone is created by the interaction of sunlight with volatile organic compounds and nitrogen oxides. Id. When inhaled, even at low levels, ozone produced from these emissions can cause and aggravate respiratory illnesses, including bronchitis and pneumonia. Id. Moreover, children are most at risk from ozone pollution. Id.

³ EPA's Motion for Extension of Time at 3, LEAN v. Whitman, No. 00CV879 A-M3. (M.D. La., filed May 15, 2001)

⁴ Id. at 3-4.

Whether the ozone in the Baton Rouge area comes from the many industrial facilities in Louisiana's infamous "cancer alley," or whether some of that ozone blows in from other states is not the issue that is now before EPA. Congress unambiguously required EPA to determine – one way or the other – whether the Baton Rouge area is in attainment. EPA's clear duty is to promptly comply.

II. EPA must immediately determine that the Baton Rouge area failed to attain the one hour standard for ozone by November 15, 1999, and must immediately publish its determination and any required notice of reclassification in the Federal Register.

LEAN is submitting with these comments a copy of its Memorandum in Support of its Motion for Summary Judgement filed in LEAN v. Whitman, No. 00CV879 A-M3. (M.D. La., filed May 7, 2001). LEAN incorporates by reference that memorandum into these comments.

EPA has a mandatory duty to publish its determination without any further delay. EPA should not attempt to assert that the notice-and-comment rulemaking process justifies further delay. Instead, EPA has authority to use an "interim final rule" procedure to avoid delay. As EPA has explained:

APA section 553(b)(B) exempts from [notice-and-comment] requirements any rule for which the issuing agency for good cause finds that providing prior notice- and-comment would be impracticable, unnecessary or contrary to the public interest. Thus, **any rule for which EPA makes such a finding is exempt from the notice-and-comment requirements of both APA section 553(b) and CAA section 307(d).**

EPA, *Interim Final Rule*, 64 Fed. Reg. 3861, 3862 (Jan. 26, 1999) (emphasis added). Thus, this procedure allows EPA to provide for public participation without further contravening Congressional commands. EPA may use this procedure to make a determination that is effective immediately and provide for subsequent public comment. See 64 Fed. Reg. at 3863 ("EPA will consider all written comments submitted in the allotted time period to determine if any change to this action is necessary.").

III. Louisiana does not qualify for an extension under the Act.

Congress delegated to EPA, in Section 181(a)(5) of the Clean Air Act, only one narrow provision to grant a State an extension to an ozone attainment deadline. 42 U.S.C. § 7511. In order to qualify for this extension, first, the State must have fully complied with its State Implementation Plan, and second, no air quality monitor in the area may record more than one exceedance of the federal ozone standard in the year preceding the extension. Even assuming that a State can meet this stringent standard, EPA can issue no more than two one-year extensions to a nonattainment area. 42 U.S.C. § 7511(a)(5). Because an ozone monitor recorded more than one exceedance in 1999, the Baton Rouge area failed to qualify for an extension of its 1999 deadline.

In a recent case the U.S. Supreme Court used § 181(a)(5) to illustrate its holding that the Act's ozone attainment sections comprise "**carefully designed restrictions on EPA discretion.**" Whitman v. American Trucking Associations, 531 U.S. 457, 121 S.Ct. 903, 918 (2001) (emphasis added). The Court relied on the limiting language of §

181(a)(5) to determine that EPA “may grant **no more** than 2 years’ extension” of ozone attainment dates. Id. (emphasis added). EPA “may not construe the statute in a way that completely nullifies textually applicable provisions meant to **limit** its discretion.” Id. at 918-19 (emphasis added).

IV. EPA lacks authority to create other extensions.

“When Congress specifically enumerates certain exceptions to a general prohibition, additional exceptions are not to be implied, in the absence of a contrary legislative intent.” Andrus v. Glover Constr. Co., 100 S.Ct. 1905, 1910 (1980). EPA’s proposed extension of the Baton Rouge area’s ozone attainment deadline is illegal because it contradicts the plain provisions of the Act. Congress recognized that some areas would need extensions and so included the extension provision found in Section 181(a)(5) of the Act. By specifically enumerating an exception to ozone attainment deadlines, through an extension, Congress neither implied nor expressed legislative intent to imply any additional exceptions to attainment deadlines. The type of agency activism that EPA proposes to engage in has been disapproved by the courts:

[W]hen an administrative agency seeks to improve legislation by altering the basic coverage provisions that Congress has written into the law, it has gone too far. The rule of law in general, and separation of powers principles in particular, require that such administrative hubris be reigned in, and that the task of improving the basic provisions of statutes be left to the same body that wrote them in the first place. Bungart v. BellSouth Telecomms., Inc., 231 F. 3d 791, 797 (11th Cir. 2000).

Our system of government provides that Congress creates the law, not administrative agencies. There is simply no language in the Act that supports EPA’s vague interpretation and belief that it can create an entirely new exception to a provision of the Act.

V. Congress addressed the problem of ozone transport in the Act.

Congress clearly foresaw the problem of ozone transport and created a comprehensive ozone transport policy. One powerful way Congress chose to solve the problem of interstate ozone transport was by preventing upwind emissions that would affect downwind areas. Congress required each state to develop a plan containing provisions “prohibiting ... any source or other type of emissions activity within the state from emitting any air pollutant in amounts which will contribute significantly to nonattainment or interfere with maintenance by, any other state with respect to any such national primary or secondary ambient air quality standard.” 42 U.S.C. § 7410(a)(2)(D)(i)(I), CAA § 110(a)(2)(D)(i)(I). EPA, which approves each state’s plan, has ultimate authority to determine whether a state plan adequately protects downwind states from an upwind state’s pollution. 42 U.S.C. § 7410(k); CAA § 110(k). Thus, EPA had a duty to disapprove any upwind state’s plan that contributed significantly to a downwind state’s inability to meet attainment.

Should EPA fail to act, another section of the Clean Air Act, entitled “Interstate pollution abatement” specifically provides a remedy for downwind states affected by

another state's pollution. 42 U.S.C. § 7426; CAA § 126. Section 126 requires upwind state plans to identify all major existing and proposed new stationary sources which may "significantly contribute to levels of air pollution in excess of the national ambient air quality standards in any quality control region outside the state." 42 U.S.C. § 7426. Affected downwind states may petition EPA for a finding that a major source or group of sources, **in another state**, emits air pollution in amounts which significantly contribute to nonattainment. 42 U.S.C. § 7426(b); CAA § 126(b); Appalachian Power Co. v. EPA, 2001 WL 505332 at *3 (D.C. Cir. May 15, 2001). Louisiana never petitioned EPA for a finding that sources in Texas significantly contributed to ozone problems in Baton Rouge.

Congress clearly recognized the problem of interstate air pollution and provided several methods for addressing the problem in the Act. Had Congress determined that nonattainment areas would need extensions of attainment deadlines based on interstate pollution, it clearly could have and would have provided for such an extension in the Act.

VI. Legislative history reveals that Congress squarely considered and rejected extensions due to interstate ozone transport.

On two occasions, Congress considered and rejected amendments to the Clean Air Act to provide attainment extensions due to interstate ozone transport. Senator Kasten offered an amendment to the 1989 Clean Air bill specifically addressing this issue, but Congress chose not to include this measure in the Act. Specifically, Senator Kasten proposed a new Section 183(f) that would have provided for extensions based on ozone transport. The amendment was **not** enacted. 136 Cong. Rec. S399-02, at 14 (1990).

On August 3, 1994, Senator Levin sought a similar amendment that Congress also rejected. 140 Cong. Rec. S10538-05 (August 3, 1994).

CONCLUSION

EPA cannot legally avoid its duty to make a determination and publish the reclassification of the Baton Rouge area. With another ozone season beginning in Baton Rouge, and a growing body of scientific consensus on the detrimental health effects of ozone, the longer EPA delays complying with its statutory duty, the longer EPA knowingly and intentionally jeopardizes the health of the citizens of Baton Rouge.

2. Reasonable Further Progress Demonstration.

A reasonable further progress demonstration is required under the Clean Air Act (CAA) Section 182.c.2.B. The requirements of this section are not met in the SIP proposal and the reductions required in this section were not included in the current SIP proposal. At a minimum, the SIP must include the required VOC reductions. These reductions are required until the area achieves its attainment date. This area is still in nonattainment and under this section of the CAA the reasonable further progress demonstration must continue until the area achieves attainment.

In addition, this SIP proposal is also a request for an extension of the area's attainment date, see Federal Register: May 9, 2001 (Volume 66, Number 90) Proposed Rules Page 23646-23652. The reasonable further progress demonstration requirements are required until the attainment date. If the attainment date is extended, the reasonable further progress demonstration required in Section 182.c.2.B must be

included in any approvable SIP. There is no reasonable further progress demonstration in this SIP, therefore the SIP must be revised to include the demonstration and to meet the requirements of Section 182.c.2.B or the nonattainment area must be changed to Severe nonattainment from Serious nonattainment and the reasonable further progress requirements for Severe areas must be included in this SIP.

3. Reasonably Available Control Measures (RACM).

The proposed SIP does not adequately address the RACM requirements of the Clean Air Act. The SIP states in Chapter 5.3 that,

"VOC reductions at this time are deemed to be technologically infeasible as well as not cost effective and would not advance the attainment date for the area."

The SIP fails to identify any VOC reductions for major stationary sources and fails to give any justification as to why any, and in this case all, RACM control measures for stationary sources are not feasible. Control measures for stationary sources are clearly available. First, there are many stationary source VOC emissions to work with as industry reported that they released 30 million pounds of toxic air emissions in the nonattainment area in the 1999 Toxic Release Inventory. Note that the 1999 Toxic Release Inventory is the most recent data currently available.

Second, many industries in the nonattainment area are reducing their VOC emissions from stationary sources. Since these facilities are actually making these reductions, the SIP argument that VOC reductions at this time are deemed to be technologically infeasible is clearly incorrect. Examples of recent VOC reductions from stationary sources are included in the following proposed permits: ExxonMobil Review No. 0029397, Agency Interest No. 285; Borden Chemical Inc., R-17650, R-29252 and AI 83338; and Shell Chemical Company, Review Numbers 17802, 28568, 28571, 28574, 28578, 58579, 28580, and AI1136.

The SIP also references computer modeling results to infer that the requirements of RACM in the CAA can be avoided in the nonattainment area. The SIP gives no clear argument on why computer modeling results allow the RACM requirements to be avoided.

This is in contrast to the CAA which states in section 172(c)(1) that the SIP must provide for;

"the implementation of all reasonably available control measures as expeditiously as practicable."

Simply having the SIP state that "a NO_x control strategy was most effective in reducing ozone" doesn't allow the SIP to ignore the requirements of the Section 172(c)(1).

Computer modeling results are not perfect and the computer model and its inputs can change with time. The SIP itself is an excellent example of this. Recently, the Louisiana SIP relied on computer modeling results to avoid the NO_x control requirements of Section 182(c). There, the computer model found that a NO_x control strategy would increase ozone levels. Now, similar computer modeling has found that NO_x controls will significantly decrease ozone levels. This significant change in the SIP demonstrates that excessive reliance on computer modeling can sometimes prohibit rather than enhance attainment. This is evident in the new SIP control strategy that now requires NO_x reductions almost exclusively. We argue that computer modeling can be used for general conclusions on potential strategies, but shouldn't be relied upon to prohibit the requirements of section 172(c)(1).

In addition, the SIP doesn't adhere to the requirements in the EPA "Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas". This guidance requires supporting justification for avoiding the RACM requirements of the CAA, stating;

"The justification would need to support that a measure was not "reasonably available" for that area and could be based on technological or economic grounds."

The SIP doesn't meet this requirement. We ask that the SIP more effectively determine which measures are reasonably available and that the SIP be required to implement these measures. The SIP also needs to give more information regarding any measures which are not reasonably available.

Computer modeling results are not a sufficient reason NOT to implement the RACM required in the CAA. The previous NOx waiver computer modeling results were found to be incorrect in their prediction of ozone control strategies and that this complete reliance on modeling results actually held the area back from achieving attainment. Basing RACM implementation on modeling results alone doesn't meet the CAA requirements in 172 and could potentially set attainment back.

4. Contingency Measures.

We object to the proposed contingency measures in the proposed SIP revision and to the proposed changes to the existing contingency measures. The existing contingency measures have been approved by the EPA and should remain in the SIP.

It's true that the Louisiana emissions banking system has been operating illegally. However, the problems are being addressed by current rulemaking where procedures have been initiated to amend the Air Quality regulations, LAC 33:III.Chapter 6. See LDEQ Notice of Intent #AQ211. The SIP gives no valid reason why the current banked emission contingency measures should be changed and we request that the current contingency measures associated with the banked emissions be kept in the SIP.

The SIP proposes to change the contingency measures and to adopt contingency measures that require emission reductions outside the nonattainment area. This is a poor idea, and the SIP includes no demonstration that these reductions would have an impact on the ozone problem in the nonattainment area. This proposed use of emission reductions from the Trunkline Gas Company facility will have little or no impact on the ozone problem in the nonattainment area and therefore don't meet the contingency requirements of Sections 172 and 182 of the CAA.

Additionally, the emission reductions at Trunkline must already be in the required attainment demonstration modeling and are already removed from the air. Therefore, using them as contingency measures would have no impact on the future ozone problem that the contingency measures requirements of the CAA are required to address. To rely on emission reductions already in place is not consistent with the contingency requirements nor will it help to solve future ozone problems since no actual emission reductions or potential emission reductions will be available.

Finally, the emission reductions at Trunkline are required by state and federal law. As such, these reductions can not be relied upon as contingency measures. The reductions are required under state law, as stated in the Trunkline Title V permit application. These reductions are also required under federal law to meet the Maximum Achievable Control Requirements of the CAA.

5. Transport from Houston.

As stated previously, we contend that demonstrating transport of ozone or ozone precursors from Houston to Baton Rouge is not grounds on which an extension of the attainment date can be granted. With that said, we contend that the SIP does NOT demonstrate that transport of ozone or ozone precursors from Houston has kept Baton Rouge from achieving its attainment date. The EPA's attempt to extend the CAA by interpretation has no merit. Specifically, we maintain that the extensions allowed in the "Guidance on Extension of Attainment Dates for Downwind Transport Areas" (hereinafter referred to as the guidance or the extension policy) are not in accordance with the CAA and that only those transport issues specifically stated in the CAA are allowable.

Comments on the EPA's Extension Policy.

Though we dismiss the EPA's ability to allow an extension under the extension policy, we will still comment on the documents application to Louisiana.

1. The Houston area does not "significantly contribute" to nonattainment in the Baton Rouge area, as required under the Solution section of the extension policy. See section; The Solution, item (1).
2. The ability of the Baton Rouge area to attain is not "affected by transport from an upwind area to a degree that affects the area's ability to attain.", which is also required in item (1).
3. The state has not "adopted all applicable local measures required under the area's current classification", which is required in the Extension policy's Solution section, item (2). Specifically, the contingency measures required in the State Implementation Plan have not been implemented even though they have been triggered. Under the requirements of the extension policy this alone should prohibit Louisiana from obtaining a transport extension.
4. Louisiana has not applied for a transport extension nor submitted the documentation needed to meet the requirements of the extension policy. It is now two years past our attainment date and the EPA is allowing an application for a transport extension at this late date. We contend that any application for an extension should be denied on the failure of the state to submit a timely application for an extension and for failure to meet the requirements of the extension policy in a timely fashion. Again, it is over two years past the attainment date and the state hasn't applied for a transport extension nor made the necessary submittals under the Extension policy.

The CAA gives the administrator six months to determine whether or not Baton Rouge made attainment. This six month period should be enough time for the state to make an application for an extension under the extension policy and to submit the information and materials required by the extension policy.

Further delaying this process by allowing the state even more time is a de-facto extension itself. This was never intended in the CAA, isn't allowed in the CAA and shouldn't be allowed or tolerated by the EPA.

It is our position that the Baton Rouge ozone nonattainment area must be bumped-up to the Severe category now, with no further delays. This is the requirement of the CAA and must be implemented. Further delays are not consistent with the CAA and are not in the best interest of the state of Louisiana, its citizens or its industries.

Problems with the Transport Demonstration.

The proposed SIP revisions rely on three issues to demonstrate that transport of ozone and/or ozone precursors from Houston area significantly contributes to nonattainment in the Baton Rouge area. These three issues are: 1) The use of data developed in the Classification and Regression Tree Analysis (CART); 2) the occurrence of “gulf high” large-scale meteorological conditions during some ozone exceedence days and 3) modeling results from an ozone exceedence that occurred on August 19, 1993. Each of the three issues will be discussed and it will be shown that none of them demonstrate that the Houston area significantly contributes to nonattainment in the Baton Rouge area.

1. The CART analysis does not demonstrate that there is a significant problem with ozone transport.

The SIP uses the CART analysis results to infer that transport from Houston occurs. In Chapter 3 of the proposed SIP on pages 1-9 and 8-3 the SIP states, “the remaining days have characteristics that are suggestive of transport.” This is stated in a manner that insinuates that a significant number of ozone exceedences in Baton Rouge are attributable to transport from Houston.

However, a further description of the CART results on page 8-3 give a different and more reliable interpretation of the CART data. This description states,

“Further analysis of these results suggests that 7 percent of the days were potentially associated with transport of ozone and or precursor pollutants from the Houston area.”

The reference to seven percent is actually referring to two days in the five year study that have the potential for ozone transport. Seven percent is two days in this case because the total is 28 and seven percent of 28 days is two days. So, even though the SIP infers that the CART analysis can be used to demonstrate transport from Houston, in actuality the CART analysis shows that only two days in five years are even potentially associated with transport from Houston. Neither of these two days were investigated with computer modeling so even though these days had a potential for transport there is no demonstration or evidence that either of these days actually transported ozone or ozone pre-cursors from Houston to Baton Rouge. Having the potential for transport, which in these two cases is simply credited to these days having high-level westerly winds, is not a demonstration that transport occurred.

Rather than showing that transport significantly contributes to nonattainment in Baton Rouge, the CART data show that days with potential for transport are extremely rare with only two days in five years having even the potential for transport.

2. The “gulf high” conditions are incorrectly associated with transport.

Data from the Louisiana Office of State Climatology at Louisiana State University compiles information twice daily on which of eleven large-scale weather categories impacts the weather conditions Baton Rouge. This information shows that 10-30% of all ozone exceedence days in a ten years study were associated with a “gulf high” weather system. This data was then independently analyzed for potential application to transport from Houston not by the State Climatology office, but by the Department of Environmental Quality (DEQ). DEQ’s independent study found that some “gulf high” conditions could potentially funnel air from Houston to Baton Rouge when the “gulf high” is stationary and located between Houston and Baton Rouge. However, these “gulf high”s can also be located west of Houston, which would have no impact on Baton Rouge, or east of Baton Rouge, which would bring high-level winds from the south or the east. Since the twice daily climatology data states only that a “gulf high” existed but

doesn't give its location, a "gulf high" condition, accordingly, could be bringing winds from Florida as easily as from the Houston area.

The weather categories used in this study are extremely broad, with eleven categories used to describe large-scale weather systems ranging from the Pacific Ocean to the Atlantic Coast. Because the categories are so broad DEQ's attempt at correlating "gulf high" conditions with transport from Houston has no scientific basis. This is because the study doesn't give specific information about the position, degree or duration of the "gulf high" conditions. The use of these categories undoubtedly has practical use in studies performed by the State Climatology office, but provide no scientific basis for predicting transport from Houston, as DEQ is attempting to use them.

Despite the lack of a strong scientific foundation, the SIP uses the "gulf high" condition to attempt to prove that transport significantly contributes to nonattainment in Baton Rouge. "gulf high" conditions did occur in two of the three ozone episodes modeled in the attainment demonstration. These are discussed on pages 1-14 and 1-15 of Chapter 3. The SIP goes on to state that neither of these "gulf high" conditions actually was found to transport anything from Houston to Baton Rouge, nor were there ozone exceedences in Baton Rouge during the "gulf high" days. Both of these "gulf high" incidents preceded ozone exceedences in Baton Rouge, but the computer modeling shows that neither ozone exceedence involved transport from Houston to Baton Rouge.

We contend that the use of "gulf high" conditions to infer that transport from Houston significantly contributes to nonattainment in Baton Rouge is scientifically unfounded and a poor way to use the data compiled by the State Office of Climatology. Despite this, the attainment demonstrations used for this SIP revision show that the "gulf high" days contained in the attainment demonstrations didn't produce ozone exceedences while the "gulf high" days were in place; didn't transport ozone or ozone precursors to Baton Rouge during the "gulf high" days, and were not associated with transport during the days when exceedences actually occurred. Rather than show that "gulf high" days are associated with transport from Houston to Baton Rouge, the SIP attainment demonstrations actually show that the only "gulf high" days included in the attainment demonstration are NOT associated with transport from Houston to Baton Rouge.

We further contend that the statement contained in the Summary and Conclusions on page 8-3 of Chapter 3 is not true. This conclusion states;

"Analysis of the meteorological parameters for 5 and 10 year periods using a variety of data analysis techniques, indicate that the potential for transport exists on approximately 10 to 30 percent of the Baton Rouge exceedance days, respectively."

What was found by the analysis of the meteorological parameters was that two ozone exceedences in the five year study had the potential for transport from Houston. It must be noted that neither of these days was used to actually demonstrate that transport occurred. The other finding was that 10 to 30 percent of the ozone exceedence days in the ten year study were associated with the "gulf high" condition. However, due to the problems given in this section of the public comments there no correlation between the "gulf high" and transport from Houston. In fact, due to the type of data available for the "gulf high" analysis there can be no correlation between "gulf high" data and transport from Houston.

The above conclusion from page 8-3 of the SIP shows a poor use of the available information and can't be supported either logically or scientifically.

3. The August 19, 1993 transport model.

The SIP goes to some length to associate this modeled ozone exceedance with the “gulf high” condition, even stating in Chapter 3, page 1-16;

“The episode used for this analysis is representative of the most frequently occurring exceedance meteorological regime (based on an analysis of meteorological and air quality data for a ten-year period)”

The regime referred to in this statement is the “gulf high” condition. Though the “gulf high” condition was found to be associated with ozone exceedances in Baton Rouge, there is no association between “gulf high” and transport from Houston, as explained in the public comments section above.

Data from the CART analysis gives a much more useful and applicable view of meteorological conditions and the potential for transport. This was done in the SIP, Chapter 3, pages 1-9 and 8-3, where the CART results were used to determine that two days in a five year period had potential for transport. This same approach can be used for August 19, 1993 to assess the potential for transport of ozone and ozone precursors from Houston to Baton Rouge to the extent that it significantly contributes to nonattainment.

The CART analysis for August 19, 1993 is not contained in this SIP revision, but is instead included in the previous SIP revision. This previous revision has been approved by the EPA. The CART data in the previous revision was developed using a nine year study. In that previous revision the CART data for August 19, 1993 showed it to be one of seventeen days in the nine year study that was grouped into the same CART data bin or category. This means that in the nine year study sixteen other days were found to have the same meteorological conditions as August 19, 1993.

Though this CART category does appear with some frequency, occurring about twice a year, the category shows very limited potential to produce ozone exceedances. In fact, the August 19, 1993 day is the only day in this CART category that actually produced an ozone exceedance in Baton Rouge. This means that the meteorological conditions associated with August 19, 1993 only produced one ozone exceedance in the nine years of the study. Further, these meteorological conditions only produced an ozone exceedance once in the seventeen times these meteorological conditions occurred.

This demonstrates that the meteorological conditions associated with August 19, 1993 rarely produce an ozone problem. As such, modeling results for August 19, 1993 do not support the conclusion that transport from Houston significantly contributes to nonattainment in Baton Rouge or that Baton Rouge is affected by transport from an upwind area to a degree that affects the area’s ability to attain. Under the EPA guidelines both of these conditions must be met before a transport extension can be granted. The August 19, 1993 model shows that this day is representative of conditions that rarely produce an ozone exceedance in Baton Rouge and therefore do not significantly impact Baton Rouge’s ability to attain the ozone standard.

There was another problem with the August 19, 1993 modeling results. Table 1-3 shows that the model drastically over-predicts the amount of ozone that was actually formed on August 18 and August 19 in Baton Rouge. This can be seen in the “Unpaired accuracy of the peak concentration” data. This shows that the unpaired peaks in the computer model were significantly higher than the actual ozone peaks that occurred on those days. The SIP states on page 1-16 that

“model performance statistics for Baton Rouge are well within the EPA recommended ranges for both primary episode days (18 and 19 August).”

This is an incorrect statement that is contradicted in the SIP on page 6-5 of Chapter 3 where in discussing the EPA recommended ranges it states,

“EPA recommended ranges. For 1-hour ozone, these are as follows: domain-wide unpaired accuracy of the peak (± 20 percent),”

This means that the overestimation of ozone by the computer model on August 18 and August 19 are not within the EPA recommended ranges and that the model greatly over-predicts ozone on those days. Once the large over-prediction occurs on the eighteenth, that artificially high ozone level is left in the Baton Rouge area to erroneously impact ozone levels on the following day.

This fact that the model over-predicts ozone is important because the over-prediction of ozone is higher than the amount of ozone the model contributes to transport from Houston. This clouds the conclusions the SIP makes regarding ozone transport from Houston based on these modeling results. Specifically, since the error in the over-estimation of ozone is higher than the ozone contributed from transport an alternative conclusion to transport can be made. The alternative conclusion is that the over-prediction in the model is due to errors in the models input that also produce a result of transport from Houston to Baton Rouge. This conclusion can be drawn because the ozone transported from Houston could be an artifact of the model rather than representative of what actually occurred, and this erroneous transport could, therefore, be responsible for the over-prediction.

It must be noted that this is only one possible interpretation for the over-prediction of the modeled ozone values. Other interpretations are not available because there are no other “sensitivity studies” of the modeled results given in the SIP.

Finally, there is a problem with the interpretation of the modeling results for August 19, 1993 in the SIP. The SIP continually infers that the results indicate transport from Houston has an impact on the Baton Rouge design value as high as 6 parts per billion (ppb). This is an erroneous conclusion and over-estimates the impact of the modeled results on the design value. Specifically, 6 ppb is the maximum impact contributed to transport, but is not the expected impact on the design value. The expected impact on the design value can only be the average impact contributed to transport not the maximum value.

This can be seen from the information in Figures 1-3, 1-6 and 1-7 of Chapter 3. Figure 1-3 gives the number of cells in the Baton Rouge domain (also referenced as domain D) as 56x74. This means the total number of grid cells in this domain is $56 \times 74 = 4,144$ cells. Figure 1-6 shows that there are only fifteen ozone monitors in Grid D, meaning that there are 276 cells for each ozone monitor, or conversely that the chances of a cell containing an ozone monitor is 1 in 276. This is important because the maximum impact due to transport will be expected to occur in a cell that does NOT have an ozone monitor. Since the design value can only be effected by an actual ozone monitor reading, the maximum impact due to transport has no statistical bearing on the design value. Instead, the only way to relate design value impact to modeling results is by using the average model results not the maximum modeling results. Again, this is because the maximum results have little statistical chance of occurring in a grid that contains an ozone monitor whereas the average value will be expected to impact all ozone monitors equally. The true impact of modeled transport on the design value of a nonattainment area is the average value due to transport and not the maximum value.

As for the results stated in the SIP, this means that the impact of any modeled transport on the design value for that day will not be the maximum impact, as claimed in

the SIP, but a lower average value. No average value is given for the proposed transport impact on August 19, 1993.

6. The Biogenics Data Used in the SIP is Known to be Flawed.

Louisiana shouldn't be using the "BIES2" data to set biogenic emissions. This data is known to be incorrect. Once the BIES2 data is used the computer model will always give the result that controlling NOx will be preferable to controlling hydrocarbon emissions. This is an artifact of the BIES2 data and is not be an accurate reflection of reality. It's a well know concept of computer modeling that the computer results are only as good as the data put into the computer model. References showing the known inadequacies of the BIES2 data include:

1. The EPA sponsored a large study by OTAG (OzoneTransport Assessment Group) which compared BEIS2 model results to measured isoprene results. The complete study is titled "EXECUTIVE SUMMARY PHASE I COMPARISON OF OTAG UAM-V/BEIS2 MODELING RESULTS WITH AMBIENT ISOPRENE AND OTHER RELATED SPECIES CONCENTRATIONS" The study included the Pride and Capitol sites at Baton Rouge. The results section of the study gives the following conclusion regarding the use of the BIES2 model in the Baton Rouge area:

"Capitol and Pride, Louisiana (LA CAP and LA PRD): The model exhibits very poor agreement with the magnitude and diurnal variations in the observed isoprene, TNMOC, ozone, and NOx concentrations. Care should be taken is using the model to evaluate alternative control plans in this region. These sites are located in the outer 30 km resolution model grid."

DEQ did exactly what is cautioned against and used the BEIS2 model to evaluate alternative control plans.

2. Because the use of BIES2 is known to be inaccurate, a conference was hosted by LADCO (Lake Michigan Air Directors Consortium)to discuss biogenics and its use in SIP modeling. A report from the conference was issued dated May 22-23, 2001. The report gives the current state of applying biogneics to airshed modeling. The report states that BEIS2 isn't being used by many groups, with the EPA going to BEIS3 and Texas, California and LADCO developing their own biogenics models. The report paper is titled; "WHITE PAPER Development of Biogenic Emission Estimates for Air Quality Modeling". The white paper quotes Alex Guenther, the researcher that did the original scientific work on which BEIS2 is based. Guenther's original work has now been proven to be incorrect, he took measurements from the top surface of trees but didn't correctly apply the results to the much larger tree canopy, which is shaded. Guenther has previously stated that BEIS2 can be off by as much a factor or 3 (which is 300%), and this is given as one of the conclusions of the report, which states:

"The uncertainty of the current biogenic emission estimates has been reported to be about a factor of 3 (see, for example, NRC, 1991). Guenther's recent NARSTO paper (cite) notes that while this number may be a "reasonable estimate of the uncertainty associated with annual total NMVOC estimates for the contiguous U.S. but predictions for specific times, locales and compounds can be much more uncertain."

We request that a new attainment demonstration be made using more accurate biogenics data.

We ask that this SIP revision be changed to include all the comments in this response.

Sincerely,

Marylee Orr,
Executive Director
Louisiana Environmental Action Network