Western States Petroleum Association
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Catherine H. Reheis-Boyd
President

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Mr. Dean Simeroth, Chief
Criteria Pollutants Branch
Stationary Source Division
California Air Resources Board
1001 "I" St.
P.O. Box 2815
Sacramento, CA 98512
Via electronic mail to dsimerot@arb.ca.gov

Re. Western States Petroleum Association's Comments on Concept Paper for Biodiesel and Renewable Diesel Rulemaking

Dear Mr. Simeroth:

The Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-eight companies that explore for, produce, transport, refine and market petroleum, petroleum products, natural gas and other energy products in California and five other western states.

WSPA is submitting the comments that follow this cover page, on the concept paper for biodiesel and renewable diesel that was distributed during the January 20 ARB public work shop.

If you have any questions or comments relative to our letter, please feel free to contact either me or Gina Grey (480-595-7121) of my staff. Thank you.

Sincerely,

c.c. B. Fletcher, ARB
F. Vergara, ARB
B. Okamoto, ARB
A. Mitchell, ARB

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WSPA Comments Relative to ARB's Concept Paper for Biodiesel and Renewable Diesel Rulemaking

NOx Mitigation Measures (note graphs attached – provided by BP)

While we recognize that the concepts presented in this workshop reflect staff's initial thoughts on biodiesel NOx mitigation alternatives, they all appear to have several issues in their present form.

General Issues

1. Engine and chassis testing are not yet complete and not all the results have been presented – yet CARB is pushing forward with a regulatory proposal. We understand the complexity of the test program and all of the inherent problems that have delayed its completion. We also understand the pressures related to the LCFS program and the state's drive to renewable fuels.

   We do not believe, however, that these justify a rush to judgment to select NOx mitigation measures. The underpinnings to any fuel specification regulation must be scientifically sound.

2. The workshop revealed a high level of concern with the fact the test program was comprised of limited engine/fleet studies. There were questions regarding the applicability of the engine tests to the current and 2020 fleet, and there was concern over the inadequate LDV testing.

   ARB should provide clear responses to all these items. ARB should also incorporate the uncertainty into the test results summary as well as provide recognition of this uncertainty in the conceptual proposal via the selection of mitigation measures. The attached "CARB ULSD" graph shows the uncertainty even in the CARB ULSD testing alone.

3. The ARB test program only investigated short-term emission effects. There is potential for long-term adverse emission impacts depending on interactions between the additive and biodiesel under the broad range of end-user applications.

4. WSPA suggests that ARB hire an appropriate 3rd-party expert to conduct a peer review once all the testing is complete and the data is available. If a lack of funding is an issue, we suggest the use of AB118 funds or perhaps the biodiesel industry may be able to support this activity.

5. If cetane improvers are to be considered as potential NOx mitigation measures, the cetane numbers of the test fuels need to be better understood. How did the fuel cetane numbers compare for the two additives tested? How did Nox emissions vary with cetane number? Does the cetane number increase for a given additive and treat rate vary with the base fuel cetane number? Did the base CA ULSD already contain cetane improver?

6. We also believe there may be unintended consequences that arise as a result of ARB's fuel specifications efforts. An example is the recently proposed approach on biodiesel and renewable diesel, whereby there is a connection between the fuel specification approach selected by ARB and the LCFS program.

   Allowing only limited choices for NOx mitigation will likely have a significant impact on compliance for the Diesel LCFS standard. This is one of the issues that needs to be addressed during the first revisitation of the LCFS regulation this year; however, we also believe ARB needs to evaluate the impact of this proposal's cost and supply implications on LCFS

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compliance with the diesel pathway. Does this proposal make a difficult compliance pathway even more difficult?

Specific Issues

DTBP

1. WSPA is concerned that ARB is recommending only one additive, DTBP, as adequate to be used to mitigate increased biodiesel NOx emissions. Based on historical experiences with a regulatory agency identifying one additive or substance as a compliance pathway, we would advise against using this limited approach. Instead, a broader more inclusive approach is advisable.

2. We question whether the testing data has been established to suggest that DTBP is needed for B5 blends and below.

- The data presented by ARB does not provide any information for the Cummins engine showing whether the DTBP additive did or did not mitigate the NOx for B5 at the 2500 ppb rate.
- The data for the MBE 4000 engine does not suggest statistically significant improvement for DTBP mitigation of B5. The test data for the MBE4000 results in graphs that appear to show no difference between CARB ULSD and B5. The emissions for the MBE4000 were so low that it could be up against the low detection limit of the analyzer(s). ARB should therefore provide a listing of the test analyzers that were used in the study.
- It is unclear, based on the limited testing conducted by ARB, that the beneficial impact claimed for DTBP is not actually a cetane enhancement effect rather than a DTBP-specific effect.

3. The potential impact on diesel fuel product quality resulting from the formation of degradation products due to the combination of added DTBP and FAME biodiesel needs to be studied at the levels proposed. Biodiesel already contains oxygen and the addition of the peroxide in substantial quantities has not been studied. WSPA requests that ARB study and report on its storage and stability impacts as related to performance and NOx mitigation.

4. ARB has not included any information on the toxicity or potential environmental impacts associated with DTBP. Is there a range, for example, where DTBP has been approved for use? WSPA requests ARB research these issues before including them further in the concept proposal.

   We also ask ARB to clarify for the regulated community if there are any health related concerns with DTBP (or any other approved additives). We note that some additives require storage temperature or vapor controls, some require special handling and some come with health related limitations or guidance. If ARB specifies an additive such as DTBP, then that additive must be included in the required multimedia assessment.

5. Test results indicate lower adverse NOx results for animal-based biodiesel vs. soy-based. In fact, when all ARB ULSD results are considered there is no statistically significant difference between these results and B5 A. However,, both feed stocks are treated the same in ARB's proposal with no recognition of potential benefits of animal-based feed stock. No differentiation in cetane enhancer additive rates is provided in these concepts. The chart "NOx An FTP" shows animal biodiesel doesn't need cetane enhancer. ARB statistics show the difference is not statistically significant, therefore it does not need cetane enhancer.

B5 Testing

6. The data presented for B5 NOx results is limited compared to the other levels of bio-diesel testing that have been done. Many comments were made to ARB during the development of this program indicating that more B5 testing needed to be done since it would be considered the baseline. Definitely more work is needed to prove the NOx relationship for low-level blends.

Renewable Diesel

7. ARB has provided a mitigation option in the concept paper that employs the use of significant quantities of renewable diesel as a dilution action when combined with smaller volumes of biodiesel. WSPA questions whether this is a real option. Given its similar CI to biodiesel, it is more appropriate to consider renewable diesel as an alternative to biodiesel than a potential biodiesel mitigation option, as was suggested in the concept paper. It may be more common for renewable diesel to be used in place of biodiesel than in addition to biodiesel.

GTL

8. Although ARB included GTL in its testing program and in various combinations with biodiesel and renewable diesel in hypothetical compliance scenarios of "ratio-blending" of these materials, it is unclear whether ARB intends to actually develop a mitigation option proposal similar to the one offered for renewable diesel. The test results indicate that the addition of GTL was an effective means of NOx mitigation. Therefore, it should be, considered as a mitigation option for biodiesel. As part of this consideration, it is essential that ARB determine whether sufficient quantities of GTL will be available to make this a practical option.

Alternative Certification Testing

9. Since the testing program conducted by ARB did not include an early '90s DD60 engine (which is specified for alternative ARB diesel certification work) it is unclear how ARB intends to apply the alternative certification option it presented for biodiesel blends. Specifics on the type of engine to be used, operating cycle, type of reference fuel and biodiesel, etc. need to be developed before this option can be considered a viable compliance alternative.

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