Western States Petroleum Association
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June 5, 2015

Clerk of the Board, Air Resources Board
1001 I Street,
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Submitted via web: http://www.arb.ca.gov/regact/2015/adf2015/adf15dayregchanges.pdf

Re: **Public Hearing to Consider the Proposed Regulation on the Commercialization of Alternative Diesel Fuels**

The Western States Petroleum Association (WSPA) appreciates the opportunity to submit written comments for the record on the above proposed rulemaking. WSPA is a non-profit trade association representing twenty-five companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, and four other western states.

We understand that at the July 23/24 Board Hearing, the Board will consider final re-adoption of the Low Carbon Fuel Standard (LCFS) Regulation as well as adoption of the Alternative Diesel Fuel (ADF) Regulation. We also understand that staff has jointly progressed these two rulemakings and considers them intimately connected as a joint regulatory action "package" to address Court requirements emanating from the July 15, 2013 State of California Court of Appeal, Fifth Appellate District (Court) opinion in POET LLC versus California Air Resources Board (2013) 218 Ca.App4th661. The judge's opinion was that CARB did not adequately address biodiesel NOx emissions that could potentially result from LCFS implementation. The ADF regulation represents staff's proposed solution to address California Environmental Quality Act deficiencies associated with biodiesel NOx impacts. WSPA provided separate comments on the two concurrent rulemakings for the February 19, 2015 Board Hearing and will provide separate comments on staff's proposed modifications to each of the two regulations prior to the July 23/24 Board Hearing by their respective deadlines for public comment. We regret the unavoidable overlap that is likely to be in our respective comment submissions.

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Our comments below represent WSPA's input to staff's proposed modifications to the ADF regulation presented to the Board on February 19. At that Hearing, the Board directed the Executive Officer to determine if additional conforming modifications to the regulation were appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting documents and information, for a period of at least 15 days in accordance with Government Code 11346.8. Staff released their proposed modifications to the ADF Rule on May 22, 2015 in what will be referred in the balance of our comments as the "ADF 15-Day Package."

WSPA has worked with ARB over the past few years on the ADF regulation and previously commented that staff's approach in the proposed regulation is the best based on the large number of issues and considerations. Based on the absence of controversial issues (by any of the participating stakeholders) remaining following the Board's initial consideration of the proposed ADF rule on February 19 and subsequent staff workshop on items under consideration for inclusion in the 15-Day package, we expected staff's revisions to be largely non-substantive, i.e., focusing on minor technical and administrative "clean-up" issues. This is true for most of the proposed modifications contained in the ADF 15-Day Package and WSPA is providing limited comments on those revisions. However, we find that the proposed revisions in the ADF 15-Day package include several significant changes that will impact the regulation's effectiveness in limiting NOx emissions from biodiesel blends, and have the potential to substantially increase the compliance burden for our industry which, in fact, may be hard-pressed to accommodate staff's apparent intent to track biodiesel down to each individual sale of a biodiesel blend at retail. WSPA is also concerned with staff's "Additional Analysis to be Added to the Record" in that staff's calculation of the overall NOx impact of the regulation reflects a revised set of assumptions regarding the distribution and use of Renewable Diesel (RD) in the state that are based on limited short-term data that are inconsistent with historical fuel distribution practices in the state, and thus, should not be relied upon as representative of future expectations.

We are prepared to work with staff as implementation issues arise in the coming years.

Sincerely,

Key Points / Highlights

WSPA supports practical compliance solutions that are tied to commercially proven and available technology, are consistent, and are readily verifiable. As such we oppose:

- Any proposal, such as the one incorporated in the newly introduced limited producer/importer exemption that calls for fuel suppliers to offer unmitigated NOx biodiesel on a regional basis, which has the potential to increase NOx emissions.
- Any proposal that calls for fuel suppliers to monitor fuel use in conjunction with exemptions in order to ensure volumetric or regional restrictions of such exemptions are met (i.e., How can a fuel supplier ensure where a fuel will be used once it is sold?)
- The use of additives at levels not currently recommended by SAE (Society of Automotive Engineers) or engine manufacturers or thoroughly vetted through the Multimedia Evaluation process.

WSPA's key comments are summarized below. More detailed discussion on individual sub-topics is provided in the balance of our submission.

- Multi Media Evaluation Reports
  The Biodiesel Multimedia Working Group's recommendations include a provision/condition that fuel formulations and additives that were not included within the scope of this multimedia evaluation must be reviewed by the MMWG for consideration of appropriate action. Similarly, knowledge gaps associated with environmental impacts of additives used in biodiesel are essentially the only meaningful concern indicated by the Working Group which apparently had no clear understanding of what additives may be used in biodiesel and whether the types, concentrations and use specifications differed substantially from those employed in conventional diesel.

  The significance of these caveats involving the use of additives in the MME reports is particularly noteworthy for WSPA members who have previously pointed out to CARB staff that a thorough assessment of DTBP (di-tert-butyl- peroxide), the NOx reduction additive that staff has included as a NOx mitigation measure in the proposed ADF regulation, has yet to be conducted. While air emissions impacts were considered for the use of DTBP, there is no documentation in the MME that other potential impacts of DTBP were evaluated, including, but not limited to:

  - Full multimedia evaluation of environmental impacts (e.g. fate and transport and non-combustion air emissions),
  - Toxicological impacts,
  - Safety impacts (e.g. peroxide stability and interactions with other additives such as anti-oxidants), and,
  - Materials compatibility impacts (e.g. OEM approval, metallurgical compatibility in distribution storage, piping, and fueling equipment).

  We include by reference herein, our comments on this issue submitted as part of the 45-day package. We note that the State Water Resources Control Board's (SWRCB) review was limited

to the differences between biodiesel and CARB diesel[1]. In addition, the Department of Toxic Substance Control (DTSC) performed fate and transform studies with biodiesel, CARB diesel, and biodiesel blends, and with two additives (a biocide and antioxidant). However, they did not test a biodiesel blend with DTBP. The DTSC also noted: "If new or different additives from those tested are proposed for use, appropriate evaluation through the MMWG process should occur."

While DTBP is clearly being proposed for use, it does not appear that either a SWRCB or DTSC review of biodiesel blends containing DTBP was performed as part of the MME. Both agencies clearly indicated that newly proposed additives would need further evaluation, but there is no discussion in the MME as to why DTBP was not included in their reviews.

Review of the MMWG response to Peer Review comments, indicate that the SWRCB evaluation assumed that the additives used in biodiesel and biodiesel blends will employ the same additives currently used in CARB diesel, and recommended that other additives used be evaluated separately by the MMWG[2]. As stated in our previous comments, DTBP (as proposed by staff) will be used for a purpose other than the one it was originally intended for (which was cetane enhancement) and at levels (0.25-1.00 volume percent) substantially higher than the range that it is typically used for cetane enhancement (0.1-0.3 volume percent – SAE Technical Series Paper No. 982574). The DTSC's response to Peer Review comments indicate that it is important to understand the real life fate and transport behaviors associated with additive packages relevant to biodiesel/CARB diesel blends.[3] We once again request that ARB fully re-examine the use of DTBP as proposed, to ensure the MMWG examines all potential impacts associated with its use, and feel this request is consistent with the recommendations included in the MME.

- Definitions (Par 2293.2)
    - B5 and B20 - The "B" designation normally means the volume of biodiesel blended, not a range of contents. We would prefer that the "B" definition be defined as ranges (e.g. B0 to B5 & B6 to B20). For example, in the current language biodiesel containing slightly over 5% biodiesel would be designated as B20.

    - "Renewable Hydrocarbon Diesel"- we would prefer that the definition includes a reference either to the definition of "Hydrocarbon" or includes the wording "elemental composition primarily of hydrogen and carbon" in the definition. We also have concerns with the definition indicating that a fuel additive may be defined as "Renewable Hydrocarbon Diesel" as currently written.

    - New Technology Diesel Engine (NTDE) – The definition should be left broad enough to allow for NOx control technologies beyond selective catalytic reduction. We do not believe that staff wants to limit DECS technology to SCR technology for NOx control as other NOx reduction technologies may be developed in the future.

[1] 2015 Biodiesel MME (Page 12, Section B).
[2] 2015 Biodiesel MME (Appendix J, Page 31, Response to Comment E-9).
[3] 2015 Biodiesel MME (Appendix J, Page 23, Response to Comment D-1).

- Phase-In Requirements (Par. 2293.5)

- On Par 2293.5(a)(1)(I): We ask that staff consider including flash point and conductivity (for safety considerations), as well as cetane number or derived cetane number (for performance considerations). We would prefer that ARB reference the appropriate test methods for properties as part of the regulatory language.

- On Par 2293.5(a)(1)(K): Staff should consider consulting with vehicle manufacturers for a "take no exception" statement to address compatibility concerns, if ADF is being considered as a neat fuel.

- On Par 2293.5(b)(3)(C): Staff should clarify that the statement "The Executive Officer shall disapprove a proposed pilot program" refers to a Stage 2 pilot program.

- On Par 2293.5(b)(5): WSPA supports the proposed staff addition to require all applicants with an approved Stage 2 Executive Order to conduct a Multimedia evaluation of the ADF that complies with Health and Safety Code Section 43830.8, including Tier I-III reports (as necessary) and any additional information that the Executive Officer may require to address comments/concerns raised by the Multimedia Working Group or the California Environmental Policy Council.

- On Par 2293.5(c)(1) and 2293.5(d): WSPA understands that, if additional offsetting strategies/mitigations are required an ADF/ADF blend falls under Stage 3A and, if no such controls are required, it may be designated under Stage 3B. As such the "when considering offsetting factors" language in Paragraph 2293.5(c)(1) appears unnecessary and could be struck.

- In Use Requirements for Specific ADFs Subject to Stage 3A (Par. 2293.6)

  - WSPA supports staff's proposed modification to allow the use of two additional analytical test methods (ASTM D7170-14 and ASTM D7668-14a) for the determination of biodiesel cetane number.

  - WSPA believes that additional definition is required in defining the specific timetable associated with the sunset of biodiesel in-use requirements. We understand the "trigger" is vehicle miles travelled (VMT) by New Technology Diesel Engines (NTDE) reaching 90%. We also understand the new language in the ADF 15-Day package indicating the need for an Executive Order as an official signal that the in-use requirements are no longer in force. However, there is no indication as to how frequently staff will be examining the most recent NTDE market penetration data (WSPA suggest annually), or by when should that examination be completed (WSPA suggests by the end of the first quarter of the following year, i.e., March 31), or how quickly the Executive Officer should issue the sunset order once the threshold is met (WSPA recommends 30 days after the annual assessment is completed, i.e., by April 30 of the following year).

- The Fleet Exemption outlined in Par. 2293.6(5)(A) provides no specific procedures or protocols for facilities to include misfueling of vehicles. In WSPA's view this provides excessive latitude for fleet operators and increases the potential likelihood for abuses of the latitude afforded by this exemption. If both vehicles covered under the exemption as well as legacy vehicles not covered under the exemption are to be refueled at the same facility, staff needs to specify more concrete, robust and enforceable measures to prevent misfueling. It is questionable in our opinion whether this can be effectively accomplished without significant incremental effort by the Fleet operator (i.e., a simple pump label will not do) that the proposed exemption language does not provide in any way.

- The Limited Producer/Importer Exemption outlined in Par. 2293.6(5)(C) is problematic as presented and WSPA is opposed to this exemption. We understand that it is limited to producer/importers that were already blending B6-B20 in 2014 (at least 750,000 gallons that year) and that the volume they will be able to blend in the future is capped at the level they blended in 2014. But the exemption includes no requirement for 90% of the fleet utilizing the fuel covered by the exemption to be light or medium duty vehicles or NTDE heavy duty vehicles. Staff has attempted to protect the South Coast and San Joaquin Valley but it is difficult for one to envision how the restriction of use in those areas could possibly be enforced. Only an attestation of the owner or operator of each fleet that buys the exempted fuel is required and nothing more. The producer/importer is somehow expected to obtain the records of use from their customers and keep track of volumes to ensure annual caps are not exceeded. We can only wonder how they are to do that without real time access to their customers' records and what the recourse would be, if after the end of the year, they discover that their customers sold more of the exempted fuel than they should have. This change is not trivial and arguably lies outside the scope of the type of revision to be included in the ADF 15-Day Package. While staff may argue that the volume cap limits to 2014 levels provides some degree of protection to limit the attendant NOx increase, the fact remains that this new exemption may allow uncontrolled biodiesel to be used in unknown volumes which, coupled with the lack of enforceability, could result in an adverse NOx impact that is difficult to estimate but could be significant. Our comments on staff's treatment of the additional air quality impacts can be found in the discussion of the "Additional Analysis to be Added to the Record" that can be found below.

  We believe that the Developmental Fuel Waivers for Biodiesel should be eliminated now that it is a Stage 3A fuel and request that staff clarify their position on this issue.

- Par. 2293.6(a)(6) highlights staff's proposal to conduct a biodiesel review of in-use requirements on or before 12/31/2019. While WSPA does not have access to the corresponding program review schedule and timetable of the LCFS regulation (staff has not released the LCFS 15-Day package at the time these ADF 15-Day Package comments are being prepared), we recommend that the number of and timetable for interim and/or full program reviews for ADF and LCFS are fully aligned given the close integration between these regulations.

- Specifications for Alternative Diesel Fuels (Par. 2293.7)

  The definition section of the rule defines Biodiesel as meeting ASTM D6751. However, this section also outlines specifications for Biodiesel in Table A.3 which is redundant information. We would prefer that Par. 2293.7 just reference D6751.

- Reporting and Recordkeeping (Par. 2293.8)

  - 2293.8(b)(2)(B)(4): This section requires more reporting by importers than is necessary for the program. Given that NOx control is not required for biodiesel blends up to B5, the reporting requirement should be limited to be B6-B20 blends.

  - 2293.8(b)(2)(C): Reporting monthly volumes adds unnecessary complexity to reporting requirements without increasing the quality of information. We recommend reporting quarterly volumes rather than monthly. This simplifies reporting requirements and reduces the total volume of data ARB must review. This approach is also consistent with the structure of reporting for the LCFS. Furthermore, reporting could be further simplified by limiting reporting to those volumes in excess of specified control levels rather than reporting all ADF volumes.

  - 2293.8(b)(3)(C-D): There are two specific references to "statement on the invoices" in these paragraphs. This contrasts with normal requirements to include statements on "product transfer documents," allowing regulated parties the flexibility of choosing the most efficient means of communicating the required information. We request that these two paragraphs be changed to refer to "statement on product transfer documents."

  - 2293.8(b)(3)(E)(1): This paragraph requires retailers to maintain records of the carbon intensity of fuel sold. This is not information that is currently tracked all the way to the retail level. Fungible fuels having different carbon intensities are co-mingled in terminal tanks as well as other points in the supply chain upstream of the terminal. It is therefore impractical to require the tracking of carbon intensity all the way to the retail site. This is not required under the LCFS and would involve significant added complexity and recordkeeping and documentation. The carbon intensity of the fuel in question also has no practical application to the ADF program, given that carbon intensity is not an indicator of blending level allowed or NOx control required. Including this provision in the final regulations would add a significant level of complexity to the data tracking requirements throughout the supply chain solely to meet these recordkeeping requirements, which have no apparent purpose under the ADF program.

- Appendix 1 of Subarticle 2: In Use Requirements for Pollutant Emissions Control

  In revising the requirements for certification testing of ADFs or ADF blends resulting in emissions equivalence with CARB Diesel, staff needs to revisit the following provisions for clarification and/or alteration:

Appendix 1 – Table A.7 - We would prefer to replace Table A.7 with reference to ASTM D7467 Table 1 properties as the candidate fuel property reporting requirement.

In Appendix A – Table A.8, the fuel specification for "unadditized cetane number" should be updated to be consistent with the regulatory language (cetane number less than or equal to 56 for Low Saturation Level Biodiesel).

In Appendix 1(a)(2)(B)(1) - The candidate fuel requirements are unclear. It seems that, if the applicant is attempting to certify a candidate fuel blend such as biodiesel with a "heightened fuel specification" or biodiesel produced utilizing a specified production technology, the candidate fuel blend shall consist of a 20% percent blend of the fuel blendstock with CARB Diesel. Staff should clarify what is meant by "heightened fuel specification" as this terminology is not defined elsewhere in the proposed regulation nor employed anywhere else where the meaning can be inferred. Regardless, it is unclear to us why a 10% blend of the fuel blendstock could not be tested and a 20% blend must be employed. Lastly, the use of "CARB Diesel" is confusing given the change in definition of CARB diesel in Par.2293.2. Does staff really intend to allow the candidate test fuel to include up to 5% biodiesel plus RD plus GTL, etc., as long as the candidate fuel properties outlined in Table A.7 are met?

WSPA continues to maintain that the proposed ADF regulation should adequately address GTL fuels as a potential NOx reduction option (in addition to DTBP). While CARB has assessed the NOx reduction potential of such fuels in the same studies used to establish the characteristics of RD and although earlier versions of the proposed ADF regulation included treatment of GTL fuels, both the January 2, 2015 ADF ISOR and the ADF 15-Day Package are silent on the rationale behind staff's decision to withdraw specific mention of GTL fuels as potential NOx mitigation options. WSPA believes staff should address this matter, preferably in a separate section under Appendix 1 of Subarticle 2, e.g., by adding a section (b) to this Appendix. In doing so, we believe CARB should specify GTL fuel parameters needed for qualification as a NOx mitigation option (e.g., cetane number, aromatics content, PAH content, API gravity), and indicate the minimum volumetric ratio of GTL to biodiesel necessary for mitigation (4 vol/vol).

- <u>Additional Analysis to be Added to the Record</u>

As staff's summary of revisions included in the ADF 15-Day Package indicates, additional air quality analyses were performed in response to:

  - Updated volumes in the LCFS illustrative compliance scenario
  - The previously referenced new producer/importer exemption added in Par. 2293.6(a)(5)(C), and
  - Re-analysis of certain assumptions involving the method of introduction and distribution of RD in the market through 2023.

In staff's opinion, the combined impact of these does not change "the significance determinations in the draft Environmental Analysis that was prepared for the proposed ADF and LCFS regulations" that the Board considered in the February 19th Hearing. The NOx

increase from Biodiesel shown for each year (2015-2023) in Table 1: Updated ADF NOx Analyses is invariably lower than the corresponding figures that were reported in the ISOR, Appendix B, Table B1.

In essence, staff added an exemption that directionally increases NOx. Its impact is not reported as a separate line item but is presumably small enough to be more than compensated by the change in the assumed pathway of RD into the market. In the ISOR, staff had assumed that 40% of RD would be imported into the refineries where it would be used to blend CARB diesel and, thus, no credit would accrue for that RD volume to offset biodiesel NOx increases. In the 15-Day package, staff has essentially fixed the annual volume of RD going to the refineries (at 48 million gallons per year - MMGY) through 2023. As the total volume of RD into the state grows to 300 MMGY in 2017, 400 MMGY in 2020 and 600 MMGY in 2023, the volume of RD into refineries stays at 48 MMGY. On a percentage basis, staff's assumption in the 15 Day package means that 16% of the total RD volume into CA will go into refineries in 2017, 12% in 2020 and 8% in 2023.

Clearly the availability of this incremental RD volume provides ample NOx reductions (in staff's calculations) to offset any projected NOx increase from biodiesel or the exemptions provided. But the basis behind the change in staff's assumptions is flawed and fails to recognize the logistical features and limits of the state's fuel distribution system. Staff examined 2014 LRT data and found that only 5% of the RD volume that came into California in 2014 was purchased by refiners with LCFS obligation. Staff interpreted this to mean that refiners are still using RD as a diesel blendstock but no longer purchasing the fuel with obligation. Staff also highlighted an increase in the use of unblended RD (R100) by end users, either through fleet purchase or through retail sales.

While the 2014 breakdowns that staff relied upon can be assumed to be correct, the reliance on data from 2014 to predict the outlook through 2023 is ill-advised. This is because 2014 was a year where all stakeholders were essentially "on hold," waiting to see how the LCFS regulation would evolve as part of the re-adoption process. The relatively modest required 1% CI reduction target required for 2014 apparently did not provide sufficient incentive for refiners to insist on transfers of RD "with obligation" into their facilities. LCFS credit markets were slow, practically illiquid. According to staff's own projections and statements through the workshops leading to February 19, this will all change once the LCFS regulation is re-adopted. There is no reason to believe that the volume of RD received in refineries (with obligation) will not track with the total volume of RD receipts into the state. It is difficult to imagine how the state's infrastructure can accommodate 250-550 MMGY of RD entering the diesel pool downstream of the refineries, while also handling another 160-185 MMGY of biodiesel at the same time. It would be worthwhile for staff to double check their assumptions in this regard with CEC staff who may be better able to advise on appropriate distribution of volumes of RD entering the system.

WSPA requests that staff present stand-alone analysis of the impact of the newly proposed producer/importer exemption, i.e., using the actual 2014 data but the 2015+ biodiesel and RD projections and distribution system breakdowns employed in the ISOR. WSPA would also like to see staff perform sensitivity analyses to develop the net NOx impact for 2015-2023 as the percentage of RD received into CA refineries is increased between 20% and 80% of the total RD volume. WSPA also requests that staff perform sensitivity analysis to develop the net NOx

impact for 2015-2023 if the total volumes of RD into the state fall short of staff's projections and are closer to those predicted by the BCG analyses.