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10-6-5

June 23, 2010

Chairman Mary Nichols and Board Members
California Air Resources Board
1001 I Street, Sacramento, CA 95818

RE: Diesel Emission and Health Risk Reductions from California Locomotives and Railyards; Petition for Rulemaking; 6/24/2010 Agenda Item 10-6-5

Dear Chairman Nichols and Members of the Board:

We, the undersigned public health, environmental and environmental justice organizations, ask you to exercise your authority in protecting the public health of California communities by **adopting regulations to reduce emissions and health risk from railyards and locomotives.** We previously filed a Petition for Rulemaking seeking enforceable regulations for California railyards and locomotives. On January 20, 2009, Executive Officer James Goldstene granted our Petition for Rulemaking in part.

After careful review of the Staff Report and the four proposed railyard agreement Commitments between the California Air Resources Board ("CARB") and Union Pacific ("UP")/Burlington Northern Santa Fe ("BNSF") (hereafter "Commitments" or "MOU Commitments")[1], we are disappointed with the level of health protections provided to the surrounding communities. **Instead, feasible, cost effective and non-preempted statewide regulatory measures are required under federal and State law. Also, the Commitments process violates the California Environmental Quality Act, is an unlawful "underground regulation," is unsupported by substantial evidence, and constitutes an abuse of discretion.**

The proposed Commitments address only four railyards and leave communities at the other fourteen California Class I railyards with projected similar or even higher future exposure to carcinogenic diesel particulate matter emissions high and dry. Movement of one dirtier locomotive alone between the yards will exceed the California Environmental Quality Act thresholds requiring further review. In addition, the proposed Commitments as well as the supporting documents are based on faulty and misleading assumptions. Further, if any of the four railyards were to experience a drop in activity by the proposed compliance deadlines of 2015 and 2020, the proposed Commitments would not result in much or any benefits over the already existing binding agreements and regulations.

The Staff Report in support of the Commitments claims that there are virtually no benefits in these high priority railyards to be achieved if CARB were to depend solely on its regulatory authority for locomotives. Thus, Staff pursues this new proposed Commitments approach with no regulations. However, there are a large number of non-preempted old and dirty medium horsepower and switch locomotives operating in California as well as other equipment whose

1 June 2010 Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority Railyards proposed by the California Air Resources Board for BNSF San Bernardino, BNSF Hobart, UP Commerce, and UP ICTF and CARB's Staff Report, Basis for Proposed Commitments and Proposed Commitments for each railyard.

emissions could be addressed by cost-effective and feasible regulations with statewide benefits.

The communities exposed to unhealthful levels of diesel particulate matter would be better served by regulations that address specific high-polluting locomotives and other equipment and operations. We have shown you that you have authority to this. Yet, the proposed Commitments give short shrift to statewide regulations with no robust alternatives or California Environmental Quality Act feasibility analysis as we repeatedly have asked for. Until such analysis is conducted, CARB lacks substantial evidence to analyze and evaluate the proposal and other alternatives to reduce railyard pollution.

Submitted herewith and incorporated by this reference in their entirety are the supporting expert reports of locomotive operations specialist Colon Fulk and court-recognized environmental consultant Dr. Petra Pless.

Background on Railyard Criteria Emissions and Health Risks

There are eighteen large Class I railyards in California operated by Union Pacific Corporation and BNSF Railway Company.[2] While rail is viewed as a "green" alternative to trucking, rail produces more ozone-forming nitrogen oxides ("NOx") per mile than trucks and rail's fuel benefit substantially decreases if the full door-to-door transport costs are considered.[3]

Rail transport accounts for significant emissions of the criteria pollutants NOx and particulate matter ("PM"). Sources at California railyards include locomotives, heavy duty diesel trucks, cargo handling equipment and refrigerated units. Locomotive emissions alone account for 158 tons per day of NOx and 4.8 tons per day of PM in the State.[4] In the South Coast Air Basin, regulators recognize that "the severity of the region's PM-2.5 (particulate matter smaller or equal to 2.5 micrometers) problem and the attainment deadline make it necessary to further mitigate locomotive emissions in 2014."[5]

Air toxics emissions from California railyards and locomotives also present a significant concern. Human health risk assessments for railyard communities in San Bernardino and Commerce show excess maximum cancer risk caused by local railyard operations as high as 3,300 per million.[6] This is far above generally accepted regulatory thresholds.[7] In fact, over

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2 California Air Resource Board, Technical Options to Achieve Additional Emissions and Risk Reductions From California Locomotives and Railyards, August 31, 2009, pp 11-13.

3 Noël Perry, July 2009 Transportation Market Outlook, Transport Fundamentals, pp. 23-24, available at www.fhwa.dot.gov/freightplanning/talking.htm.

4 California Air Resources Board, Recommendations to Implement Further Locomotive and Railyard Emission Reductions, September 9, 2009, p. 12, available at http://www.arb.ca.gov/railyard/ted/ted.htm.

5 California Air Resources Board, Meeting to Consider Approval of the Proposed State Strategy for California's State Implementation Plan -- Revised Staff Proposal, September 27, 2007, Section 1, p. 4, available at www.arb.ca.gov/planning/sip/2007sip/revcasip2007.pdf.

6 California Air Resources Board, Health Risk Assessment for the BNSF San Bernardino Railyard, June 11, 2008, p. 13, available at www.arb.ca.gov/railyard/hra/hra.htm.

7 In 1990, Congress adopted a one in one million threshold in Section 112(f) of the Clean Air Act, which requires

three million Californians are exposed by railyard sources to excess cancer risk of more than ten in one million.[8] You insist that "every feasible effort" is needed to "reduce localized risk in communities adjacent" to the State's railyards.[9]

Procedural Posture on the Petition for Rulemaking

Under State law, you "shall adopt and implement" control measures that are "necessary, cost-effective and technologically feasible" for mobile good movements sources including "heavy-duty motor vehicles," "utility engines" and "locomotives," unless preempted by federal law.[10] Moreover, the 2007 California State Implementation Plans ("SIPs") for 8-hour ozone and PM-2.5 include future commitments to reduce pollution from California railyards and locomotives.[11] Yet, the Board has not directly regulated California locomotives, instead favoring controversial contractual agreements with the railroads, or Memorandum of Understandings ("MOUs").[12] Thereafter, the Petition for Rulemaking was filed to compel CARB action.

In light of the granting the Petition for Rulemaking, several hearings, including the September 25, 2009 Board hearing were held to consider recommendations to implement further locomotive and railyard emission reductions were presented, more than 3,000 postcards from the public were submitted to the Board, as well as a sign-on letter from various health, environmental, and environmental justice **organizations asking for a commitment to enforceable measures to reduce emissions and health risk at California's railyards.** More than 30 organizations and 200 individuals from the state of California mobilized for the hearing to push for a regulatory approach for locomotives and railyards to protect the health of all residents who are adversely affected by their emissions.

At the September 25, 2009 hearing, a Technical Options Report and Recommendations Report were presented with many measures deemed feasible, cost-effective and likely not preempted by federal law.[13] Greenhouse gas reduction benefits also were explained. Yet, staff proposed a voluntary "incentive only" approach that we opposed and the Board ultimately rejected. At the

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the United States Environmental Protection Agency ("EPA") to issue technology-based standards to reduce emissions of hazardous air pollutants and consider issuing residual risk standards if the excess cancer risk to the individual most exposed would exceed one in one million.

8 *See supra* note 2 at p. 2 and note 4 at App 6-8.

9 *Id.*

10 California Health & Safety Code §§ 43013, 43018.

11 California Air Resources Board, Proposed Modifications to the Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan That Will Achieve 30 Tons Per Day of Additional Emission Reductions in the South Coast by 2014 and 88 to 93 Tons Per Day of Emission Reductions in the San Joaquin Valley by 2017, p. 7, available at www.arb.ca.gov/planning/sip/2007sip/07-28_attachment_b.pdf.

12 More information on the MOUs is available at www.arb.ca.gov/railyard/ryagreement/ryagreement.htm.

13 *See* note 4 *supra* at p. 44 and App. C.

hearing conclusion, Board Chairman Mary D. Nichols stated that "we want to make clear that regulation is not just something never to be discussed, but that it, in fact, we are going to be developing an approach to it as part of the background of the whole program really."[14]

Again, at the February 25, 2010 update hearing and now for this hearing, Staff proposes voluntary Commitments with no new statewide regulations. CARB is supposed to exchange letters with the railroads with some provisions for public participation hopefully mixed in; i.e., yet another MOU. Staff also focuses this new MOU agreement on the four highest-risk railyards only – BNSF San Bernardino, UP Commerce, BNSF Hobart and UP ICTF.

Numerous Regulatory Measures Are Likely Not Preempted And CARB Has A Duty To Regulate

As we have emphasized to you time and again, the Appendix to CARB's "Recommendations to Implement Further Locomotive and Railyard Emissions Reductions"[15] concedes that many of the potential measures to address PM criteria emissions and cancer risk at California railyards likely are not preempted by federal law. Thus, CARB should approach this issue from a position of legal strength. Please we urge that you do so. The railroads can no longer use the shield of federal preemption to avoid further regulations.

The Federal Clean Air Act ("**CAA**") delegates regulatory responsibility to CARB for criteria pollutant and air toxic control measures. Thus, pursuant to CAA sections 110(a), 172(c) and 182(b), the SIPs[16] must demonstrate attainment or include all feasible measures. CAA section 209(e) also gives California authority to regulate certain non-road engines and adopt "in-use" requirements. (*See Engine Mfrs. Ass'n v. U.S.E.P.A.*, 88 F.3d 1075 (D.C. Cir. 1996); Cal. Health & Saf. Code sections 39650 *et seq.* and 41701.)

Pursuant to this delegation, the Cal. Health & Saf. Code sections 36902, 40462, 40469 and 43018 confirm that CARB has authority to take "whatever" actions are "necessary, cost-effective and technologically feasible" to achieve the maximum degree of reduction possible from mobile sources. Further, CARB has an express duty pursuant to Cal. Health & Saf. Code sections 40702 and 43013 to regulate through rulemaking locomotive and railyard sources, unless preempted by federal law.

With this regulatory framework, CARB's **own** legal Recommendations conclude the following at pages Appendix 6-8 with emphasis added:

> "ARB staff believes that **ARB likely possesses authority** to establish emission standards

14 California Air Resources Board, Transcript of September 25, 2009 Board Hearing, pp. 269-271, available at www.arb.ca.gov/board/meetings.htm#2009.

15 *See* note 4 *supra.*

16 While SIP measures generally are intended to achieve National Ambient Air Quality Standards for criteria air pollutants, PM-10 and PM-2.5 are both criteria pollutants responsible for much of the toxic risk created by locomotive and railyard emissions in the State. Thus, a SIP measure that reduces PM from railyard sources will also reduce risk associated with air toxics emissions.

for switcher and medium horsepower locomotives that principally operate in intrastate service…

…[w]e believe that a significant portion of the approximate 400 MHP freight and passenger locomotives were manufactured prior to 1973 or exceed 133 percent of their useful lives since manufacture or last manufacture and **would fall outside of the CAA preemption** …

…[t]he other 28 options considered by staff involve local railyard sources and intrastate activities. These options …are not preempted under CAA section 209(e)(1). **ARB thus has authority** under California law and CAA section 209(e)(2) to adopt emission standards for most, if not all, of the sources covered by the options."

Thus, as it turns out, up to 150 older switcher and 400 older medium horsepower ("MHP") locomotives and numerous site-specific railyard measures likely are not preempted by federal law. In fact, the EPA. has stated in writing that such switcher and older engine controls are not preempted and "**are subject to regulation by California and the other states**." *See* 72 Fed. Reg. 15971 (April 3, 2007) (emphasis added). Also, CARB's Staff Report now confirms at p.11 that nearly "25%" of the national locomotive fleet is not preempted.[17]

CARB has a duty under federal and State law to adopt all feasible and cost-effective regulations for these sources of criteria pollutants and air toxics emissions. CARB has a legal duty to immediately initiate a rulemaking to factually analyze and study regulations for these railyard and locomotive sources. Yet, the proposed MOU Commitments give short shrift to any analysis of non-preempted, feasible and cost-effective measures. CARB performs no robust alternatives or California Environmental Quality Act analysis as we repeatedly have asked for. Until such CEQA analysis is conducted, CARB lacks substantial evidence to analyze and evaluate the proposal and other alternatives to reduce railyard pollution.

Many Non-Preempted Measures are Feasible and Cost-Effective

CARB's own documents show that many of these non-preempted measures are cost-effective and feasible.

CARB's August 2009 Technical Options report[18] concludes that statewide replacement and retrofit of many older locomotives are feasible, cost-effective and likely not preempted by federal law. In particular, Options 1 (replacement of 152 Tier 0 and older switch locomotives with Tier 3 Ultra-Low Emitting Switch Locomotives), 2 (retrofit of 244 gen-set switch locomotives with NOx and PM emission controls), 5 (repower of 400 older medium horsepower locomotives with low-emitting engines), and 7 (retrofit of 400 low-emitting medium horsepower locomotives with NOx and PM emission controls) are deemed feasible and cost-effective.

With regard to yard cargo handling equipment, Option 11, which consists of revamping all

17 See note 1 *supra* at p. 11.

18 See note 2 *supra.*

322 diesel yard truck equipment statewide into electric-powered yard trucks, would reduce PM and air toxics risks to the surrounding communities. If implemented, the trucks would reduce diesel particulate matter ("DPM") and NOx emissions from yard trucks from 0.062 tons/year to zero tons/year. The successful testing at the Port of Los Angeles of electric yard trucks shows that it is technically feasible for this option to be utilized. The cost-effectiveness of this option is $18.33 per pound ("$/lb") of NOx and DPM for 2010 emissions, $29.38/lb for 2015 emissions, and $76.90/lb for 2020 emissions.

Option 21 in CARB's August 2009 Technical Options involves installation of an Advanced Locomotive Emission Control System ("ALECS") near locations where locomotives are idling and would reduce PM and toxic risk to the surrounding communities. ALECS are stationary control devices (hoods) that reduce DPM emissions. ALECS hoods have been shown to reduce NOx and DPM emissions by 90% during service and idling periods at UP Roseville. An ALECS unit with 12 hoods (at UP Roseville) is estimated to cost $25,000,000. The cost effectiveness is about $23/lb of NOx and PM for 20 years for the UP Roseville railyard, using Carl Moyer calculations.

Yet, despite the cost effectiveness conclusions for statewide regulation of these locomotive and yard equipment sources at the eighteen large Class I railyards, CARB's MOU Commitments proposal avoid statewide regulations.

CARB's Proposal Violates the California Environmental Quality Act

The MOU Commitments select four California railyards as "High-Priority Railyards," while essentially ignoring the remaining fourteen Class I Railyards throughout the State ("non-high-priority railyards"). This is despite the fact that pollution levels at the fourteen "non-high-priority" railyards are also at unacceptably high levels that threaten public health and the environment. As discussed below, our experts have conclude that the Railyard Proposal may result in increased pollution at the fourteen non-high-priority railyards since the railroad companies are likely to move clean equipment to the four selected "high priority" railyards while moving older, dirtier equipment to the fourteen remaining railyards. Mr. Fulk shows that such movement is in fact contemplated in the Commitments and there is no prohibition on such backsliding. This could result in significant increases of air pollution at already heavily polluted railyards such as UP Oakland, UP Roseville, BNSF Barstow, and others, which currently fall just slightly below the levels of pollution at the four high-priority yards.

For this reason, commentors urge CARB to adopt statewide regulations that would apply equally to all eighteen Class I railyards, and would require all of the railyards to take action to reduce their pollution by implementing all technologically and economically feasible pollution control measures that are not preempted by federal law. At the very least, an environmental impact report ("EIR") is required to analyze the potential adverse impacts of the MOU Commitments, including any increases of pollution at the fourteen non-high-priority railyards, and mitigation measures to reduce these impacts. The EIR should consider feasible alternatives to the MOU Commitments, including the adoption of statewide regulations applicable to all railyards. Until

such CEQA analysis is conducted, CARB lacks substantial evidence to analyze and evaluate the proposal and other alternatives to reduce railyard pollution. We incorporate by this reference all exhibits hereto, as well as the expert comments of Dr. Petra Pless and Mr. Colon Fulk.

An EIR Is Required Where There Is A "Fair Argument" Supported By Expert Evidence That The Project May Have Adverse Environmental Impacts

The California Environmental Quality Act ("CEQA"), Pub. Res. Code § 21000 *et seq.*, applies to agency projects that may have an adverse environmental impact. *Communities for a Better Environment v. So. Coast Air Qual. Man. Dist. (ConocoPhillips)* (2010) 48 Cal. 4th 310; *Friends of Mammoth v. Board of Supervisors*, 8 Cal.3d 247, 259 (1972). CEQA's procedural and substantive requirements are "interpreted . . . to afford the fullest possible protection to the environment within its reasonable scope of the statutory language." *Friends of Mammoth*, 8 Cal.3d at 259. CEQA has two broad purposes: 1) avoiding, reducing or preventing environmental damage by requiring alternatives and mitigation measures (14 Cal. Code Regs. § 15002(a)(2)-(3) (hereinafter "**Guidelines**"); and 2) providing information to decisionmakers and the public concerning the environmental effects of the proposed project (14 Cal. Code Regs. § 15002(a)(1)).

The EIR is the "heart" of CEQA. *Dunn-Edwards v. BAAQMD*, (1992) 9 Cal.App.4th 644, 652 (1992). CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report except in certain very limited circumstances. A negative declaration may be prepared instead of an EIR only when a lead agency determines that a project "would not have a significant effect on the environment." Pub. Res. Code, § 21080(c). Such a determination may be made only if "[t]here is no substantial evidence in light of the whole record before the lead agency" that such an impact may occur. *Id.*, § 21080(c)(1).

A negative declaration is improper, and an EIR is required, whenever substantial evidence in the record supports a "fair argument" that significant impacts may occur, even if other substantial evidence supports the opposite conclusion. (*CBE v. SCAQMD*, *supra*; *Mejia v. Los Angeles*, 130 Cal.App.4th 322 (2005).) "Substantial evidence includes … expert opinion." Pub. Res. Code § 21080(e)(1); 14 Cal. Code Regs. § 15064(f)(5). Since "[t]he adoption of a negative declaration … has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." (*Citizens of Lake Murray v. City Council of San Diego*, 129 Cal.App.3d 436, 440 (1982).) A negative declaration may be prepared instead of an EIR when, after preparing an initial study, a lead agency determines that a project "would not have a significant effect on the environment." (*Quail Botanical Gardens v. City of Encinitas*, 29 Cal.App.4th 1597 (1994); § 21080(c).) Such a determination may be made, however, only if "[t]here is *no* substantial evidence in light of the whole record before the lead agency" that such an impact *may* occur. (*Id.*, § 21080(c)(1) (emphasis added).)

"Significant effect upon the environment" is defined as "a substantial or potentially substantial adverse change in the environment."[19] (Pub. Res. Code § 21068; 14 Cal. Code Regs. § 15382.) A project "may" have a significant effect on the environment if there is a "reasonable probability" that it will result in a significant impact. (*Sundstrom v. City of Mendocino*, 202 Cal.App.3d 296, 309 (1988).) If any aspect of the project could result in a significant impact on the environment, an EIR must be prepared even if the overall effect of that project is beneficial. (14 Cal. Code Regs. § 15063(b)(1).)

Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. (Pub. Res. Code § 21082.2(c).) As a matter of law, "substantial evidence includes ... expert opinion." Pub. Res. Code § 21080(e)(1); 14 Cal Code Regs § 15064(f)(5). Under the Guidelines, substantial evidence means:

> "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency. . ." (14 Cal. Code Regs. § 15384(a).)

The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (Citizens *Action to Serve All Students v. Thornley*, 222 Cal.App.3d 748, 754 (1990).) An agency's decision not to require an EIR can be upheld only when there is no credible evidence to the contrary. (*Sierra Club v. County of Sonoma*, 6 Cal.App.4th, 1307, 1318 (1992).)

As discussed below, highly-qualified experts have submitted evidence herewith that clearly establishes that the Project may have significant adverse environmental impacts. An EIR is therefore required.

CEQA Applies to CARB's Adoption of the Commitments

The MOU Commitments Proposal at issue here is a CEQA "project." Under CEQA, a project is a discretionary activity undertaken by an agency that may cause a direct physical change in the environment. (Pub. Res. Code § 21080(a); 14 Cal. Code Regs. § 15378.) A CEQA "project" includes the "issuance of rules, regulations, plans, or other general criteria." (14 CCR §15168(a)(3); *Bozung v. Local Agency Formation Comm'n* (1975) 13 Cal.3d 263, 277-279; *Dunn-Edwards v. BAAQMD*, 9 Cal.App.4th at 658-659.) The courts have held that CEQA applies to the promulgation of rules and regulations unless there is some basis to find the agency exempt. (Pub. Resources Code §§ 21000 (g), 21001(f)&(g), 21092, 21106; 14 Cal. Code Regs. §15168(a)(3); *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 195.) CEQA even applies to

19 Under the CEQA Guidelines, "significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise and objects of historic or aesthetic significance. . ." 14 Cal. Code Regs. § 15382.

the adoption of building standards for plumbing fixtures and other devices. (*Plastic Pipe and Fittings Assoc. v. Calif. Bldg. Stds. Comm'n* (2004) 124 Cal. App. 4th 1390.)

A clear example is provided by the case of *Dunn-Edwards v. BAAQMD*, 9 Cal.App.4th at 658-659. In that case the Bay Area Air Quality Management District ("BAAQMD") adopted a rule requiring low-VOC paints for the laudatory goal of reducing ozone-forming pollution. However, the court held that the rule was a discretionary action with potentially significant adverse impacts – namely, VOCs might be replaced with more toxic chemicals. CEQA review was therefore required. Likewise, in this case, although CARB is attempting to adopt a program to reduce pollution, this discretionary action may have unintended adverse impacts at the fourteen non-high-priority railyards. CEQA review is therefore required.

Therefore, CARB's decision of whether to adopt the Commitments proposal a "project" subject to CEQA.

The Commitments Proposal is a Discretionary Action

CEQA "shall apply to discretionary projects proposed to be carried out or approved by public agencies ..." (Pub. Res. Code § 21080(a).) Section 15002(i)(2) of the CEQA Guidelines provides that "whether an agency has discretionary or ministerial control over a project depends on the authority granted by the law providing the controls over the activity." In *Natural Resources Defense Council v. Arcata National Corporation*, 59 Cal.App.3d 959, 968 (1976), the court summarized the distinction between discretionary and ministerial: "a discretionary act is one which requires personal deliberation, decision and judgment, while a ministerial act amounts only to the performance of a duty in which the officer is left no choice of his own." Courts have found that discretion exists where the approving agency can impose reasonable conditions based on professional judgment. (*San Diego Trust & Sav. Bank v. Friends of Gill*, 12 Cal.App.3d 203 (1981) (city's power to temporarily stay demolition of an allegedly historic building although "arguably" ministerial, was deemed discretionary); *People v. Dept. of Housing & Community Develop.*, 45 Cal. App.3d 185 (1975) (issuance of a conditional permit held to be discretionary in view of its containing both fixed design and construction specifications and generalized standards requiring the use of judgment).)

Here, there is no question that this Project is a discretionary action. CARB clearly has discretion to alter or amend the Commitments proposal or to adopt an entirely different proposal such as statewide regulation. The action is therefore "discretionary" within the meaning of CEQA.

Adoption of the Proposed Commitments is Not Exempt from CEQA

Categorical exemptions do not apply since there is a reasonable possibility that the Commitments may have an adverse environmental impact. CEQA exemptions are narrowly construed in light of statutory authority that limits exemptions to projects determined not to have a significant environmental impact. (*East Peninsula Ed. Council., Inc. v. Palos Verdes Peninsula Unified*, 210 Cal.App.3d 155, 171 (1989) (project not exempt.) Exempt activities are either expressly

identified by statute (*i.e.*, statutory exemptions, (Pub. Res. Code § 21080.01 et seq.; 14 Cal. Code Regs. §§ 15261-15285.) or those that fall into one of more than two-dozen classes deemed categorically exempt by the Secretary of Resources (*i.e.*, categorical exemptions, Pub. Res. Code §§ 21080(b)(10); 14 Cal. Code Regs. §§ 15300). Exemptions cannot be unreasonably expanded beyond their terms. "If legitimate questions can be raised about whether the project might have a significant impact and there is any dispute about the possibility of such an impact, the agency cannot find with certainty that a project is exempt." (*Davidon Homes v. City of San Jose*, 54 Cal.App.4th 106, 117 (1997) (citations omitted).)

CARB may argue that the Commitments are exempt from CEQA under Categorical Exemptions Class 7: Actions taken by regulatory agencies to maintain, restore, or enhance a natural resource when the regulatory process involves environmental protection procedures, or
Class 8: Actions taken by regulatory agencies to maintain, restore, or enhance the environment, when the regulatory process involves environmental protection procedures. This argument has been repeatedly rejected by the courts.

In *Dunn-Edwards v. BAAQMD*, supra, the court explained that categorical exemptions do not apply at all if there is a fair argument that a project may have significant adverse environmental impacts due to unusual circumstances. As the *Dunn-Edwards* court explained:

> Projects which are categorically exempt from CEQA are those projects which have been determined not to have a significant effect on the environment. (§ 21084.) Consequently, Guidelines section 15300.2, subdivision (c) states: "A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." Stated another way, a project is only exempt from CEQA "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." (Guidelines, § 15061, subd. (b)(3).) Thus, here, as in *Friends of "B" Street*, if the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law.
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> In *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, the plaintiffs filed a petition for writ of mandate requiring the Fish and Game Commission to suspend its promulgated hunting season and to revoke hunting permits for black bear. The plaintiffs contended that prior to setting the hunting season, the commission had failed to prepare an EIR. The defendants claimed the commission was categorically exempt from CEQA pursuant to Guidelines former section 15107, the predecessor regulation to Guidelines section 15307. The Supreme Court disagreed. "The secretary is empowered to exempt only those activities which do not have a significant effect on the environment." (Pub. Resources Code, § 21084.) It follows that where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper." (*Wildlife Alive*, supra, at pp. 205-206.) The court concluded the setting of hunting and

fishing regulations had the potential for a significant environmental impact, which was both favorable and unfavorable. When the impact may be either adverse or beneficial, it is particularly appropriate to apply CEQA which is carefully conceived for the purpose of increasing the likelihood that the environmental effects will be beneficial rather than adverse." *Dunn-Edwards v. BAAQMD*, 9 Cal.App.4th at 657, *see* also, *International Longshoremen's & Warehousemen's Union v. Board of Supervisors* (1981) 116 Cal.App.3d 265 (Air District rulemaking not exempt from CEQA due to possible increase in NOx pollution).)

As demonstrated in this letter and the supporting expert materials, there is a "fair argument" that the Project will have a significant impact on the environment.

In particular, Dr. Pless and Mr. Fulk conclude that the Commitments are likely to result in increased pollution at the fourteen non-high-priority railyards, far in excess of applicable CEQA significance thresholds. Based on the emission estimates, it can be concluded that relocation or exchange of MHP or switch to the quantitative mass emission significance thresholds in lb/day established by the Bay Area Air Quality Management District ("BAAQMD"), the Mojave Desert Air Quality Management District ("MDAQMD"), and the Sacramento Metropolitan Air Pollution Control District ("SMAQMD"). In some instance the movement of one locomotive alone will exceed these CEQA thresholds requiring further review. Even relocation and exchange of relatively clean, newer engines for ones that comply with one emission standard, *i.e.*, Tier, lower may result in increased emissions of pollutants high enough to result in significant adverse impacts on air quality. Further, according to the analysis of Mr. Colon Fulk, it is quite possible, if not likely, that UP and BNSF would implement the Proposed Commitments by moving at least this many locomotives, which could cause significant adverse impacts on air quality at UP Roseville, UP Oakland, BNSF Barstow or other railyards.

Thus, Dr. Pless and Mr. Fulk's analysis proves that there is at least a fair argument that the MOU Commitments may have an adverse environmental impact by increasing pollution at the fourteen remaining railyards, including Oakland, Richmond, Roseville, Barstow and others. Therefore, the MOU Commitments may not be exempted from CEQA.

CARB Failed to Proceed in a Manner Required by Law in Exempting the Commitments from CEQA Review

In granting an exemption, the agency must proceed in the manner prescribed by law, otherwise it abuses its discretion. (*Dehne v. County of Santa Clara*, 115 Cal.App.3d 827, 843 (1981).) The determination that a project falls under a categorical exemption requires discretionary fact-finding. (*CalBeach Advocates v. City of Solana Beach*, 103 Cal.App.4th 529, 541 (2002).) Here, as in the case of *Dunn-Edwards v. BAAQMD*, "the administrative record contains no indication that the District ever considered the exemption issue." (9 Cal. App. 4th at 656.) Thus, the record lacks any substantial evidence to support a CEQA exemption.

"Preliminary environmental review ... supported by evidence in the record" must be conducted before an exemption decision can be made. *Davidon Homes*, 54 Cal.App.4th at 117. "Only with a considered analysis of the purposes and policy behind this law, and a careful analysis of the proposed project, can an agency apply an exemption to a specific project which appears to meet the exemption criteria." (*Dehne*, 115 Cal.App.3d at 843 (record showed a "scrupulous effort ... to ensure a thorough and objective consideration of whether this project would be categorically exempt").) "At a minimum, the administrative record must disclose substantial evidence of every element of the contended exemption..." (*Western Mun. Water Dist. v. Superior Court*, 187 Cal.App.3d 1104, 1113 (1986) (exemption improper).)

All this also applies to the so-called "common sense" exemption, "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." (14 Cal. Code Regs. § 15061(b)(3); emphasis added.) Courts have construed this exemption strictly, and have held that claims that adverse impacts will result are sufficient to remove the project from the exemption. (*Myers v. Board of Supervisors*, 58 Cal. App.3d 413, 427 (1976).)

The record shows no considered or scrupulous CEQA exemption analysis. There is no evidence that CARB conducted an initial study or the required preliminary review to determine whether CEQA applies to this project. Instead, it appears that CARB intends to approve the proposed project with no CEQA review and no CEQA exemption, despite clear evidence that the Commitments may have significant adverse environmental impact on the fourteen non-high-priority railyards throughout the state. This would constitute a clearly unlawful "informal CEQA exemption."

CARB's Proposal Constitutes an Unlawful "Underground Regulation"

CARB's Commitments proposal constitutes an unlawful "underground regulation", unlawfully adopted pursuant to the rulemaking procedures of the California Administrative Procedures Act ("APA"), Gov. Code, § 11340 *et seq*.

The APA applies to regulations. P*acific Gas & Electric Co. v. Department of Water Resources* (2003) 112 Cal.App.4th 477, 503-504. A regulation is "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." (Gov. Code, § 11342.600.)

> The APA establishes the procedures by which state agencies may adopt regulations. The agency must give the public notice of its proposed regulatory action (Gov. Code, §§ 11346.4, 11346.5); issue a complete text of the proposed regulation with a statement of the reasons for it (Gov. Code, § 11346.2, subds. (a), (b)); give interested parties an opportunity to comment on the proposed regulation (Gov. Code, § 11346.8); respond in writing to public comments (Gov. Code, §§ 11346.8, subd. (a), 11346.9); and forward a file of all materials on which the agency relied in the regulatory process to the Office of Administrative Law (Gov. Code, § 11347.3, subd. (b)), which reviews the regulation for

consistency with the law, clarity, and necessity (Gov. Code, §§ 11349.1, 11349.3). *Tidewater Marine Western, Inc. v. Bradshaw* (1996) 14 Cal.4th 557, 568.

Section 11340.5(a) provides "[n]o state agency shall issue, utilize, enforce, or attempt to enforce any guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule, which is a regulation as defined in Section 11342.600, unless the guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule has been adopted as a regulation and filed with the Secretary of State pursuant to this chapter."

To be deemed a regulation subject to the APA, an agency must intend its rule to apply generally, rather than in a specific case. The rule need not, however, apply universally; a rule applies generally so long as it declares how a certain class of cases will be decided. *Pacific Gas & Electric*, 112 Cal.App.4th at 504. To be deemed a regulation subject to the APA, an administrative policy must "implement, interpret, or make specific the law enforced or administered by [the agency] or . . . govern [the agency's] procedure." Gov. Code, § 11342(g); *Tidewater*, 14 Cal.4th at 571.

The Commitments proposal meets this test for an "underground rulemaking" without proper APA procedures. The MOUs apply generally to the class of the four high-risk railyards (San Bernardino, BNSF Hobart, UP Commerce, and UP ICTF) and to both Class I carriers – BNSF and UP. Moreover, the MOU Commitments implement the law enforced by CARB and govern its procedure with regard to these railyards. If an agency adopts a regulation without complying with the APA requirements it is deemed an "underground regulation" (Cal. Code Regs., tit. 1, § 250) and is invalid. (*Modesto City Schools v. Education Audits Appeal Panel* (2004) 123 Cal.App.4th 1365, 1381.) Because the Commitments are an underground regulation without APA compliance, they cannot be enforced.

CARB's Conclusions Lack Substantial Evidence and Constitute an Abuse of Discretion

CARB must act in the manner required by law and its findings must be supported by substantial evidence in the record. Code Civ. Proc. §§ 1085 and 1094.5; *Topanga Ass'n v. County of Los Angeles*, 11 Cal.3d 506, 515 (1974). The inquiry under Code of Civil Procedure § 1094.5(b) (c) is whether there is a prejudicial abuse of discretion, defined to include instances where the administrative record before the agency shows that its administrative decision "is not supported by the findings, or the findings are not supported by substantial evidence." (*Topanga*, 514-515.) "Implicit in section 1094.5 is a requirement that the agency which renders the challenged decision must set forth findings to bridge the analytic gap between the raw evidence and ultimate order or decision." (*Id.* at 515.) The inquiry under Code Civ. Proc. § 1085 is whether there is a "prejudicial abuse of discretion." While the two standards of review are superficially different, in practice the courts have interpreted them to be the same.) *Western States Petroleum Ass'n v. Superior Court*, 9 Cal.4th 559, 573 (1995).)

Here, CARB's findings and the proposed Commitments, riddled with contradictions and inconsistencies, do not meet this standard. The Commitments address only four railyards and, thus, leave communities at other railyards with projected similar or even higher future exposure

to carcinogenic diesel particulate matter emissions high and dry. In addition, the proposed Commitments as well as the supporting documents are based on faulty assumptions. Different 2005 baselines are used for some yards and the 2020 emissions calculations are entirely speculative. Further, if any of the four railyards were to experience a drop in activity by the proposed compliance deadlines of 2015 and 2020, as has been observed in the past few years, the proposed Commitments would not result in much or any benefit.

As environmental consultant Dr. Pless explains in depth in her attached report incorporated in its entirety herein:

- The proposed Commitments do not guarantee that any equipment at the four railyards would be replaced, repowered, or remanufactured if railyards experience a decrease in activity;

- CARB fails to provide data or documents to review its conclusions;

- The Commitments fail to define a methodology for future fleet inventories and emission calculations;

- CARB presents incorrect and deceptive information with respect to the effectiveness of the Commitments;

- Different and incorrect baseline data and growth rates are used repeatedly without substantial evidence;

- The MOU commitments do not address all railyards that would benefit the most from diesel particulate matter emission reductions;

- There is a reasonable possibility that the proposed Commitments would result in significant increases of criteria pollutant emissions at other railyards, requiring review under the California Environmental Quality Act; and

- Instead of the proposed MOU Commitments, the CARB should develop regulations to comply with requirements set forth in the Federal Clean Air Act and the California Health and Safety Code.

Please review the analysis, figures, tables and conclusions in Dr. Pless' accompanying report.

Conclusion

Neighboring railyard communities have experienced first-hand the harmful impacts of the emissions emanating from UP and BNSF railyards and we cannot continue to delay this regulatory process. The communities exposed to unhealthful levels of diesel particulate matter would be better served by regulations that address specific high-polluting locomotives and other equipment and operations. We have shown you that you have authority to this. Yet, the proposed Commitments give short shrift to statewide regulations with no robust alternatives or California Environmental Quality Act feasibility analysis as we repeatedly have asked for. Until such analysis is conducted, CARB lacks substantial evidence to analyze and evaluate the proposal and other alternatives to reduce railyard pollution.

The entire record pertaining to the Petition for Rulemaking including the Petition, written and oral record of all 2009 and 2010 hearings and submissions on this topic including our letters of February 25, 2009, September 23, 2009 and February 23, 2010 for the related public meetings, and all public comments up to and including this June 24, 2010 hearing are hereby incorporated by this reference.

We thank you in advance for considering these requests and look forward to working with you and your Staff on a plan that will truly achieve strong health-protective measures for California communities.

Sincerely,

Angelo Logan
Director, East Yard Communities for Environmental Justice

Bill Gallegos
Executive Director, Communities for a Better Environment

Penny Newman
Executive Director, Center for Community Action and Environmental Justice

Attachs.

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BY EMAIL

June 23, 2010

Gideon Kracov
Attorney at Law
801 South Grand Avenue, 11th Floor
Los Angeles, California 90017

Re: Review of California Air Resources Board's Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority California Railyards

Dear Mr. Kracov,

Per your request, I have reviewed the *Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority Railyards*[1] proposed by the California Air Resources Board ("CARB") for four railyards operated by the Burlington Northern and Santa Fe Railway Company ("BNSF") and Union Pacific Railroad Company ("UP"), specifically BNSF San Bernardino, BNSF Hobart, UP Commerce, and UP Intermodal Container Transfer Facility ("ICTF")/Dolores railyards, which includes the CARB's *Basis for Proposed Commitments* documents[2] and *Proposed Commitments*[3] for each railyard. I have also reviewed CARB's *Recommendations to Implement Further Locomotive and Railyard Emission Reductions*[4], CARB's *Technical Options to Achieve Additional Emissions and Risk*

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[1] California Air Resources Board, Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority Railyards, June 2010. Hereafter "Proposed Actions Document."

[2] California Air Resources Board, Basis for Proposed Commitments to Reduce Particulate Matter at the BNSF San Bernardino Railyard, June 15, 2010; California Air Resources Board, Basis for Proposed Commitments to Reduce Particulate Matter at the BNSF Hobart Railyard, June 15, 2010; California Air Resources Board, Basis for Proposed Commitments to Reduce Particulate Matter at the UP Commerce Railyard, June 15, 2010; and California Air Resources Board, Basis for Proposed Commitments to Reduce Particulate Matter at the UP ICTF/Dolores Railyards, June 15, 2010. Hereafter "Basis for Proposed Commitments."

[3] California Air Resources Board, Commitments for BNSF San Bernardino Railyard, June 15, 2010; California Air Resources Board, Commitments for BNSF Hobart Railyard, June 15, 2010; California Air Resources Board, Commitments for the UP Commerce Railyard, June 15, 2010; and California Air Resources Board, Commitments for the UP ICTF/Dolores Railyards, June 15, 2010. Hereafter "Proposed Commitments."

[4] California Air Resources Board, Recommendations to Implement Further Locomotive and Railyard Emission Reductions, September 2009. Hereafter "Recommendations Document."

Reductions from California Locomotives and Railyards[5], and health risks assessments[6] and mitigation plans for these four railyards.[7]

As discussed in my comments, the CARB's goal of reducing diesel particulate matter emissions and health risks in California may not be achieved with the Proposed Commitments for a number of reasons. The table of contents below summarizes the organization of my comments.

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[5] California Air Resources Board, Technical Options to Achieve Additional Emissions and Risk Reductions from California Locomotives and Railyards, August 2009. Hereafter "Technical Options Report."

[6] California Air Resources Board, Health Risk Assessment for the BNSF Railway San Bernardino Railyard, June 11, 2008; California Air Resources Board, Health Risk Assessment for the BNSF Railway Hobart Railyard, November 2, 2007; California Air Resources Board, Health Risk Assessment for the Union Pacific Railroad Commerce Railyard, November 2007; and California Air Resources Board, Health Risk Assessment for UP Intermodal Container Transfer Facility (ICTF) and Dolores Railyards, April 22, 2008. Hereafter "Health Risk Assessments."

[7] Environ, Diesel Particulate Matter Mitigation Plan for the BNSF Railroad San Bernardino Rail Yard, August 21, 2008; Environ, Diesel Particulate Matter Mitigation Plan for the BNSF Railroad Hobart Rail Yard, September 26, 2008; Sierra Research, Diesel Particulate Matter Mitigation Plan for the Union Pacific Railroad Commerce Rail Yard, August 18, 2008; and Sierra Research, Diesel Particulate Matter Mitigation Plan for the Union Pacific Railroad ICTF and Dolores Rail Yards, August 25, 2008. Hereafter "Mitigation Plans."

I. The Proposed Commitments May Not Be Implemented, Thereby Merely Postponing Development of CARB Regulations

The Proposed Commitments do not require any action by UP and BNSF beyond those required under existing binding agreements and regulations until the year 2015. Yet, if the railroad companies cannot demonstrate compliance with the reductions specified in the Proposed Commitments in 2015 and beyond, there is no penalty involved. Upon failure to demonstrate compliance, the CARB would then resort to developing regulations.[8] Thus, the railroad companies may merely be buying time by entering into the Proposed Commitments.

II. The Proposed Commitments Do Not Guarantee That Any Equipment at the Four Railyards Would Be Replaced, Repowered, or Remanufactured If Railyards Experience a Decrease in Activity

The Proposed Commitments require that BNSF and UP reduce diesel particulate matter emissions from the four railyards by 85% by 2020 compared to the 2005 baseline emission levels.[9] The emission reductions attributable to the Proposed Commitments beyond those that will be achieved via existing binding agreements and regulations vary from 9% to 20% by 2015 and from 7% to 17% by 2020. (*See* Comment V.) According to the Proposed Commitments, these emission reductions have to be achieved "regardless of the potential increases in railyard activity levels, such as the number of container lifts."[10]

The CARB appears to discount the possibility that any of the four railyards could potentially experience negative growth, *i.e.*, a decrease in activity, due to, for example, national and global economic reasons or rerouting of existing business. In this case, a certain percentage reduction of emissions at the respective railyard would be achieved simply through avoided emissions from activity that did not occur. Indeed, at least two railyards, BNSF San Bernardino and BNSF Hobart, have experienced negative growth of container lifts since 2006, showing that negative growth is undeniably a realistic possibility. Container lifts at BNSF San Bernardino decreased by 4.1% from 2007 to 2008; container lifts at BNSF Hobart sharply decreased by 12.1% from 2006 to 2007 and by 11.2% from 2007 to 2008. (*See* Figure 1.)

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[8] Proposed Actions Document, p. 1, and Proposed Commitments, pp. A2-10/A2-11, B2-10/B2-11, C2-10/C2-11, and D2-10/D2-11.

[9] Proposed Commitments, pp. A2-4, B2-4, C2-4, D2-4.

[10] *Ibid.*

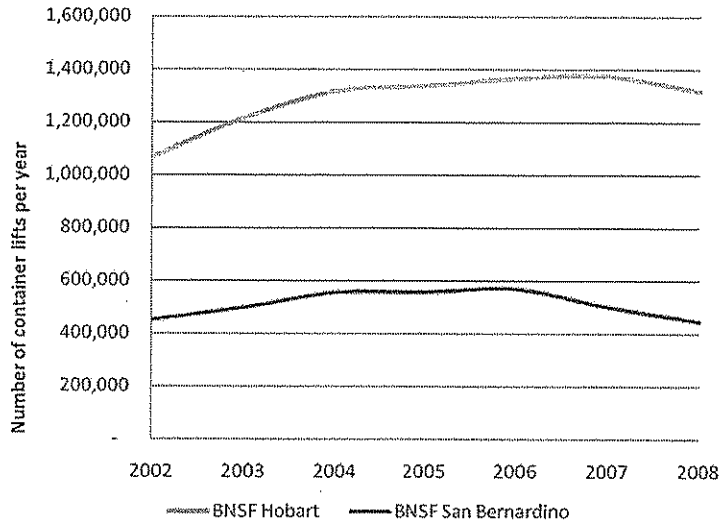

Figure 1: BNSF San Bernardino and BNSF Hobart historic activity data for number of container lifts per year
Data from Mitigation Plans

In case of negative growth (decrease in activity), the Proposed Commitments would not achieve an 85% percent reduction at the respective railyards and potentially would not achieve anything beyond the existing binding agreements and regulations, all the while future incremental cancer risks due to these railyards still by far exceed health-based significance thresholds. (*See* discussion in Comment VI.)

III. The CARB Fails to Provide Adequate Information for Review

The CARB's Proposed Actions Document fails to provide any backup data and calculations for the presented 2005 baseline emission estimates and projected future emissions reductions that would be achieved by the Proposed Commitments. Due to the lack of documentation, the presented emission estimates cannot be verified.

Other recent CARB documents for the respective railyards present very different estimates for 2005 baseline and projected future emissions as summarized in attached Table A-1. Because the CARB did not provide any backup data and calculations reviewers cannot compare the data in the Proposed Actions Document to the prior documents to figure out why the emissions estimates in the various documents differ.

IV. The Proposed Commitments Fail to Define a Methodology for Future Fleet Inventories and Emission Calculations

The Proposed Commitments fail to set out a methodology for future fleet inventories and emission calculations. Establishing an exact methodology is important to create inventories that are comparable to the established 2005 baseline emissions and avoid any errors in the determination of inventory and emissions.

CARB's own documents use differing growth rates, resulting in differing emission estimates and projected future reductions. Prior CARB documents for the four railyards assumed different growth rates for the four railyards to calculate projected future emissions:, the August 2009 Technical Options Report assumed a uniform 1% growth rate for all railyards for all activities, and the August 2008 Mitigation Plans assumed different growth rates for each railyard and (*See* attached Table A-1 and discussion in Comment V.A.) The projected 3% future growth rate is not supported by the past growth rates at any of the four railyards, particularly not in the current economic climate. Also, the UP Commerce Railyard Mitigation Plan incorrectly determined the past growth rate (1.59%) as the average annual percent change at 0.8%.[11] Consequently, the projected lift count data were incorrectly determined based on an assumed 1.0% future growth rate and projected future emissions were underestimated in this document.

To avoid such errors in any future emission calculations and ensure that the methodology used for determining the 2005 baseline emissions is the same as the methodology used for estimating emissions to demonstrate compliance with the emission reduction requirements set forth in the Proposed Commitments, a precise methodology for establishing the inventory and calculating emissions must be created. The 1998 Memorandum of Understanding between the CARB and BNSF and UPF, for example, included a 79-page appendix setting out the procedures for calculating emissions.[12]

V. The CARB Presents Incorrect and Deceptive Information with Respect to the Effectiveness of the Proposed Commitments

Most of the information regarding the effectiveness of the Proposed Commitments contained in the CARB's Proposed Actions Document is based on unreliable or incorrect assumptions and is deceptively presented.

A. The 2005 Baseline Emissions Data and Projected Future Growth Rates Are Used Without Substantial Evidence

Various documents prepared for the four railyards, specifically the Basis for Proposed Commitments, the August 2009 Technical Options Report, and the August 2008 Mitigation Plans, rely on differing 2005 baseline emissions in tons per year ("tons/year") and growth rates to estimate future emissions and emissions reductions

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[11] Furthermore, the average annual percent change is incorrectly calculated by including the percent change from 1997 to 1998, when 1998 was the first year representative for current operations. If correctly calculated, *i.e.*, without the percent change from 1997 to 1998, the average annual percent change would be 1.65%. *See* Sierra Research, Diesel Particulate Matter Mitigation Plan for the Union Pacific Railroad Commerce Rail Yard, August 18, 2008, Appendix B "Growth Data."

[12] Memorandum of Mutual Understandings and Agreements, South Coast Locomotive Fleet Average Emissions Program, July 2, 1998, Appendix C; http://www.arb.ca.gov/msprog/offroad/loco_flt.pdf.

under the existing program, *i.e.*, the 1998 and 2005 memoranda of understanding between the CARB and BNSF/UP. These differing assumptions result in dramatically different emission estimates and inconsistent percentage emission reductions determined in these documents, as shown in attached Table A-1.

For example, for BNSF San Bernardino, the Basis for Proposed Commitments relies on a lower 2005 baseline (22.2 tons/year) than either the Technical Options Report (22.4 tons/year) or the Mitigation Plan for the same railyard (22.4 tons/year) and estimates lower remaining emissions in 2020 (4.9 tons/year) than either the Technical Options Report (6.0 tons/year) or the Mitigation Plan (5.4 tons/year). For BNSF Hobart, the Basis for Proposed Commitments relies on a lower 2005 baseline (24.2 tons/year) than either the Technical Options Report (24.7 tons/year) or the Mitigation Plan for the same railyard (24.7 tons/year) and estimates lower remaining emissions in 2020 (5.7 tons/year) than the Technical Options Report (5.9 tons/year) but higher remaining emissions than the Mitigation Plan (4.2 tons/year). For UP Commerce, the Basis for Proposed Commitments and the Technical Options Report rely on the same 2005 baseline (12.1 tons/year), which is considerably higher than that used in the Mitigation Plan for the same railyard (9.6 tons/year); the Basis for Proposed Commitments estimates lower remaining emissions in 2020 (3.2 tons/year) compared to the Technical Options Report (5.9 tons/year) but higher compared to the Mitigation Plan (2.9 tons/year).

These examples illustrate that the inventory and estimated emission reductions can be easily manipulated by making changes to underlying assumptions such as the growth rate, the gallons of fuel consumed, or the number of equipment complying with various emission standards.

For example, to estimate future emissions and emission reductions that would be achieved in future years, the Basis for Proposed Commitment documents assumed future growth rates uniformly at 3% for all four railyards and all activities at these railyards. The CARB states that these future growth rates were "based on a 1.5% per year increase in fuel use, which equates to a roughly 3% per year increase in containers based on historic growth rates over the last 12 years."[13] However, the assumed future growth rates of 3% are not supported by information on historic activity contained in the Mitigation Plans, which demonstrate that each of the four railyards historically experienced dramatically fluctuating activity levels of both container lifts and mainline traffic, and the growth rate in the past decade was nowhere near 3% for most activities at three of the railyards.

Figure 2 illustrates the dramatic percent change in activity for container lifts and mainline traffic at the BNSF San Bernardino and BNSF Hobart railyards from 1999 through 2008 and activity and diesel fuel consumption at the UP Commerce railyard.

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[13] Basis for Proposed Commitments, pp. A1-3, B1-3, C1-3, and D1-3.

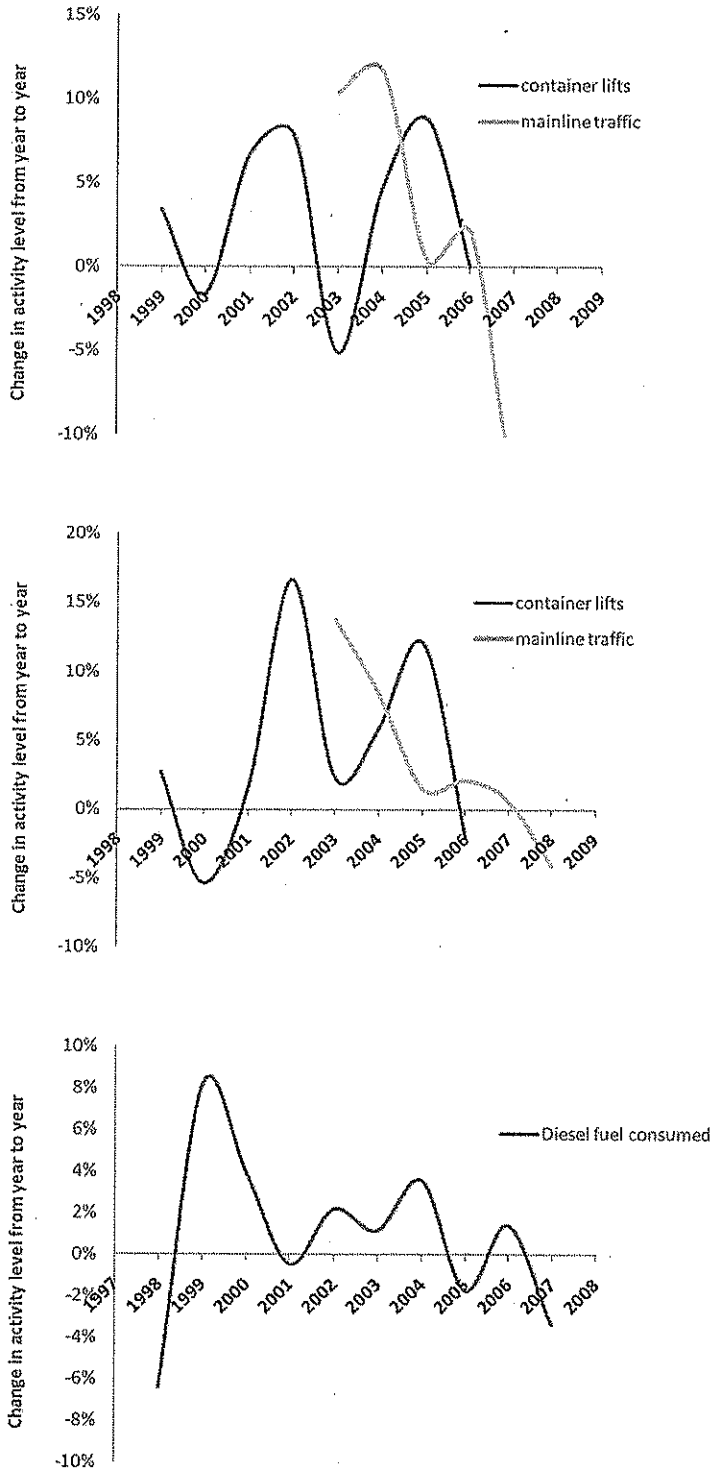

Figure 2: Change in activity level from year to year at BNSF San Bernardino (top), BNSF Hobart (center), and UP Commerce (bottom)

Clearly, any growth rates that are determined from these past activity data are highly unreliable due to the dramatically fluctuating percent change from one year to the next. Clearly, the growth rates cannot be easily predicted from past activities, and also as noted above, there is the possibility of a negative growth in the future. For what it is worth, at the BNSF San Bernardino railyard, the growth rate for container lifts based on these available activity data from 2002 through 2008 was negative at -0.2%. If only the last three years are considered as an indicator for the current economy, the growth rate would be negative at -7.3%. In either case, the assumed 3% growth rate is clearly incorrect except for mainline traffic, which indeed experienced a growth rate of 3.0% from 1999 through 2007. At the BNSF Hobart railyard, the growth rate for container lifts based on available activity data from 2002 through 2008 was 3.5%. If only the last three years were considered, the growth rate would be negative at -0.5%. For mainline traffic the growth rate from 1999 through 2007 was 4.0% and from 2005 through 2008 was 4.8%. For the UP Commerce railyard, the growth rate from 1996 through 2007 was 1.6% for the amount of diesel fuel consumed, which is close to the CARB's estimate. (*See* also Footnote 11.) Finally, the UP is planning to modernize the UP ICTF railyard facility, doubling the capacity.[14] The CARB elsewhere assumes container lifts will increase from a count of 626,000 in 2005 and reach full operational capacity at 1.5 million container lifts by 2016.[15] If these numbers indeed materialize, the associated growth rate would be 8.3%.

Clearly, the assumption of a 3% future growth rate at all railyards is entirely speculative and arbitrary. Consequently, because of the inconsistent assumptions, the presentation of the tons of diesel particulate matter emissions per year that would purportedly be reduced by the Proposed Commitments is equally speculative and most likely incorrect. In the case of UP Commerce railyard it likely resulted in the presentation of deceptive information regarding the number of tons of diesel particulate matter emissions that would in reality be reduced if past growth rates are indeed any indication of future growth.

B. The Percentage Reductions Attributable to the Proposed Commitments Are Deceptively Presented

Further, the presented incremental emission reductions in future years attributable to the Proposed Commitments, given as percentages, while correctly calculated, are also deceptive as they demonstrate high percentages of reduction when the values of reduced emissions in tons are rather small when compared with the 2005 baseline. (The caveat to these estimated emission reductions on a mass basis is that they rely on the assumed 3% growth rate for each of the railyards. Because these growth rates are highly speculative, as discussed above, these values are also speculative and likely incorrect.)

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[14] Union Pacific, The Intermodal Container Transfer Facility Modernization Project; http://www.uprr.com/customers/intermodal/featured/ictf/index.shtml.

[15] Mitigation Plan for UP Commerce, p. 14.

CARB states that the additional emission reductions attributable to the Proposed Commitments vary from 9% to 20% in 2015 and from 32% to 50% in 2020. But even if the numbers are accurate, this overstates reduction percentage. On a mass basis, emission reductions vary from 0.4 tons to 1.8 tons by 2015 and from 1.4 tons to 3.6 tons by 2020. Table 1 shows the 2005 baseline emissions (Row 1), the projected future emissions with the existing program (Row 2), and the additional emission reductions attributable to the Proposed Commitments in future years as presented by the respective Basis for Proposed Commitments for all four railyards on a mass basis (Row 3) and on a percent basis (Row 4).

Table 1: 2005 Baseline emissions, projected future emissions with the existing program, and additional emission reductions attributable to the Proposed Commitments in future years

Row		BNSF San Bernardino	BNSF Hobart	UP Commerce	UP/ICTF Dolores
1	2005 baseline emissions	22.2 tons	24.2 tons	12.1 tons	20.3 tons
2	Future emissions with existing program	8.9 tons by 2015 7.0 tons by 2020	7.4 tons by 2015 5.7 tons by 2020	4.1 tons by 2015 3.2 tons by 2020	5.8 tons by 2015 4.4 tons by 2020
3	Additional emission reduction in future years attributable to Commitments	1.8 tons by 2015 3.6 tons by 2020	1.5 tons by 2015 2.1 tons by 2020	0.4 tons by 2015 1.4 tons by 2020	0.5 tons by 2015 1.4 tons by 2020
4	Additional emission reduction attributable to Commitments in future years	20% by 2015 50% by 2020	20% by 2015 37% by 2020	10% by 2015 44% by 2020	9% by 2015 32% by 2020
5	Additional emission reduction from 2005 baseline attributable to Commitments	8% by 2015 17% by 2020	6% by 2015 9% by 2020	3% by 2015 11% by 2020	3% by 2015 7% by 2020

Thus, in reality, Table 1, Row 5, shows that the additional emission reductions attributable to the Commitments determined based on the 2005 baseline emissions are much smaller, varying from only 3% to 8% by 2015 and from 7% to 17% by 2020. The emission reductions compared to the 2005 baseline convey a better sense of the effectiveness of the Proposed Commitments in reducing emissions and associated adverse health impacts than those presented by the Proposed Commitments.

Of course, taking into account the above discussion of growth rates, the public would be better served by a presentation of future emission estimates, both as percentages and on a mass basis, that does not account for growth rates but rather is based on a per equipment or activity level.

C. The Locomotive Fuel Consumption, Used to Estimate Emissions from Locomotives Are Inappropriate and Result in Unreliable Emission Estimates

Assuming that the Proposed Actions Document is based on the same methodology employed in the Technical Options Report, the estimates of 2005 baseline and future emissions at the four railyards rely on the assumption that all MHP at the

four railyards consume the same amount of diesel fuel per year, 100,000 gallons per year regardless of which emission standard they meet. Pre-Tier 0 and Tier 0 switch locomotives were assumed to consume 50,000 gallons of diesel fuel and ULELs, Tier 3 and Tier 4 switch locomotives were assumed to consume 40,000 gallons per year "due to a 20% reduction due to a 20% reduction with ULESLs: gensets, electric hybrids, and LNGs."[16] These numbers appear to be speculative and inappropriate. Cleaner engines will require less fuel and are likely different for locomotives complying with various emission standards. Therefore, future emissions from the respective engines could be considerably lower than estimated by the CARB. Thus, the Proposed Commitments could result in the replacement of far fewer old and dirty locomotives than if CARB were to regulate these locomotives.

VI. The Proposed Commitments Do Not Address All Railyards that Would Benefit the Most from Diesel Particulate Matter Emission Reductions

The Staff Report included in the Proposed Actions Document states that the four railyards subject to the Commitments were selected because they have the greatest emissions of diesel particulate matter and associated health risks to neighboring residents.[17] (This statement as written is incorrect as the UP Roseville railyard has the third highest individual emissions; however, the combined emissions from the UP Commerce and BNSF Hobart railyards, which are located adjacent to each other, are higher.) The selection of the four highest emitting railyards is arbitrary and does not take into account the effect of future emission reductions due to existing agreements and regulations by 2020, which result in a different ranking of the highest emitting railyards and associated health risks. Table 2 summarizes the Maximum Individual Cancer Risk ("MICR") estimates for 2005 for the 18 Class I railyards in California, the percentage reduction due to existing binding agreements and regulations by 2020, and the projected MICRs by 2020.

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[16] Technical Options Report, p. 177 and 189.

[17] Proposed Actions Document, p. 2.

Table 2: Maximum incremental cancer risk and reduction by 2020 due to existing binding agreements and regulations at Class I Railyards in California

Railyard	2005 MICR[a] (per million)	2005 MICR Rank	Reduction by 2020[a]	2020 MICR (per million)	2020 MICR Rank
San Bernardino	2500	1	76%	600	1
UP ICTF	800	2	73%	216	4
UP Roseville	645	3	61%	252	2
UP Hobart	500	4	76%	120	6
UP Commerce	500	5	76%	120	7
UP Oakland	460	6	71%	133	5
BNSF Barstow	450	7	45%	248	3
UP City of Industry	450	8	76%	108	8
UP LATC	250	9	63%	93	9
BNSF Watson	175	10	64%	63	12
UP Colton	150	11	42%	87	10
UP Stockton	150	12	72%	42	13
BNSF Stockton	120	13	46%	65	11
UP Mira Loma	100	14	67%	33	14
BNSF Richmond	100	15	73%	27	15
BNSF Commerce Eastern	100	16	81%	19	17
BNSF San Diego	70	17	63%	26	16

a Data from Technical Options Report, Table A-4, p. 155.

As Table 2 shows, the estimated MICRs in 2020 at all 14 railyards still by far exceed the health-based significance threshold of one in one million established by the federal Clean Air Act.[18] Table 2 also shows that the remaining incremental cancer risks in 2020 attributable to the combined emissions from the UP Hobart and UP Commerce railyards (MICR 120 per million + MICR 120 per million = MICR 240 per million) are somewhat lower than the individual emissions from UP Roseville and BNSF Barstow railyards (MICR 252 per million and MICR 248 per million, respectively). This is, in part, due to the fact that these railyards would experience a lower percentage reduction (Roseville 61%, Barstow 45%) due to existing agreements and regulations than the four selected railyards (73%-76%) and thus would have higher emissions and associated estimated incremental cancer risks in 2020. Therefore, the UP Roseville and BNSF Barstow railyards should also be addressed as the high-priority railyards. UP Oakland will have the fifth highest remaining incremental cancer risk in 2020 (MICR 133 per million), falling just outside of the top four, and is therefore left out of the Proposed Commitments' goals regarding emission reductions.

[18] *See* Clean Air Act, Section 112(f)(2)(a).

VII. There Is a Reasonable Possibility that the Proposed Commitments Would Result in Significant Increases of Criteria Pollutant Emissions at Other Railyards, Requiring Review under the California Environmental Quality Act

Rather than the dirtier equipment from the four high-priority yards being repowered and destroyed, it could potentially be moved to any of the other 14 Class I railyards (*e.g.*, UP Roseville, UP Oakland or BNSF Barstow) in California, moved out of state, or sold to regional or shortline railroad companies in order to meet the fleet-wide average emission reductions set forth in the Proposed Commitments, unless these locomotives were covered by existing binding agreements that tether the respective engines to the four railyards or prohibit the transfer of such older, dirtier locomotives into their fleet at the other 14 Class I railyards in California, smaller railyards. This would result in an increase of criteria pollutant emissions including nitrogen oxides ("NOx") and volatile organic compounds ("VOC"), which are both ozone precursors, as well as diesel particulate matter at other railyards.

The CARB claims that re-directing of old, dirty units to other railyards in the region, state, or country is "unlikely given the mechanisms the railroads are using to upgrade their fleet." The CARB explains that to meet the performance standards under the Proposed Commitments, it "expects" the railroads to upgrade many locomotives by repowering or replacing the existing large diesel engine in an existing locomotive with multiple smaller, cleaner engines or a single new engine with advanced controls, which means that there would be no old, dirty locomotives to route to other communities. The CARB further "expects" that the railroads will target introduction of the newest, cleanest line-haul locomotives to provide interstate service between California and points east, while the cleanest yard locomotives will be operated at the priority railyards or within the region.[19]

However, the CARB's expectations alone are not sufficient evidence that relocation of older, dirtier equipment would not occur. The CARB's expectations also appear to be contradicted by the experience of railroad expert Mr. Colon Fulk, whose testimony is submitted herewith. Mr. Fulk maintains that movement of locomotives between railyards is a routine activity and occurs fairly frequently. Moreover, as of 2008, there were still 130 pre-Tier 0 and 20 Tier 0 MHP locomotives and 34 pre-Tier 0 and 29 Tier 0 switch locomotives operating in the South Coast air basin.[20] It seems unlikely that all these locomotives have been repowered, remanufactured or replaced since 2008 and it is therefore unlikely that none of these locomotives are operating at the four railyards. Finally, even exchange of relatively new, *e.g.*, MHP or switch locomotives complying with the U.S. Environmental Protection Agency ("EPA") emission standards Tier 3 and Tier 4, could result in significant emissions increases at the railyard that receives the lower tiered locomotive, as demonstrated below.

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[19] Proposed Actions Document, p. 19.

[20] Technical Options Report, pp. 177 and 189.

Relocating locomotives to other railyards in California could therefore result in increased emissions at those other railyards which are not subject to the Proposed Commitments or other binding agreements far in excess of applicable significance thresholds for particulate matter and other pollutants under the California Environmental Quality Act ("CEQA"). Table 3 compares emissions in pounds per day ("lb/day") of NOx and particulate matter smaller than 10 micrometers ("PM10") and smaller than 2.5 micrometers ("PM2.5") from operating medium horsepower ("MHP") and switch locomotives that comply with various EPA emission standards to the quantitative mass emission significance thresholds in lb/day established by the Bay Area Air Quality Management District ("BAAQMD"), the Mojave Desert Air Quality Management District ("MDAQMD"), and the Sacramento Metropolitan Air Pollution Control District ("SMAQMD"). Other air districts have established significance thresholds at comparable levels.

Table 3: Comparison of NOx, PM10 and PM2.5 emissions from MHP and switch locomotives and mass-based significance thresholds for emissions established by three air districts[a]

Pollutant	Locomotive Emissions (lb/day)								Mass Emission Significance Thresholds (lb/day)		
	MHP				Switch				BAAQMD[c]	MDAQMD[d]	SMAQMD[e]
NOx	*pre-Tier 0* **169.7**	*Tier 0* **119.6**	*Tier 3* 37.7	*Tier 4* 16.3	*pre-Tier 0* **109.3**	*Tier 0* **87.9**	*Tier 3* 15.1	*Tier 4* 6.5	54	137	65
PM10[b]	*pre-Tier 0 and Tier 0* 7.2		*Tier 3* 0.4		*pre-Tier 0 and Tier 0* 4.3		*Tier 3* 0.6		82	82	none
PM2.5[b]	*pre-Tier 0 and Tier 0* 7.1		*Tier 3* 0.4		*pre-Tier 0 and Tier 0* 3.7		*Tier 3* 0.6		54	82	none

a Emissions calculated based emission factors and annual fuel consumption from Recommendations Report, Appendix E, p. 175, and Appendix F, p. 190

b PM10 and PM2.5 emissions calculated based on speciation profiles for diesel-powered stationary internal combustion engine (Profile 117: PM10/PM: 0.96; PM2.5/PM 0.937); see http://arb.ca.gov/ei/speciate/profphp05/pmprof_list.php?a=goto&value=1

c Bay Area Air Quality Management District, California Environmental Quality Act, Air Quality Guidelines, June 2010, p. 2-2; http://snipurl.com/xo2ru [www_baaqmd_gov]

d Mojave Desert Air Quality Management District, California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, February 2009, p. 10; http://snipurl.com/xo2vl [www_mdaqmd_ca_gov]

e Sacramento Metropolitan Air Pollution Control District, SMAQMD Thresholds of Significance Table, December 2009; http://snipurl.com/xo2zp [www_airquality_org]

Based on the emission estimates presented in Table 3, it can be concluded that relocation or exchange of MHP or switch locomotives may result in exceedance of the mass emission significance thresholds established by the BAAQMD, MDAQMD, or SMAQMD, as illustrated by the following examples:

- Relocating one Pre-Tier 0 or Tier 0 MHP or switch locomotive to a railyard located within the San Francisco Bay Area air basin (*e.g.*, UP Oakland, BNSF Richmond), the Mojave Desert air basin (*e.g.*, BNSF Barstow), or the Sacramento Valley air basin (*e.g.*, UP Roseville) would result in exceeding the mass daily significance thresholds for NOx emissions established by the

BAAQMD, MDAQMD, and SMAQMD, assuming the locomotive would operate at the same level of activity.

- Relocating one Pre-Tier 0 or Tier 0 MHP or switch locomotive from one of the four high-priority railyards in exchange for a cleaner Tier 3 engine from one of the other railyards within the San Francisco Bay Area (*e.g.*, UP Oakland or BNSF Richmond) or Sacramento Valley air basins (*e.g.*, UP Roseville) would result increased emissions of between 73 and 132 lb/day of NOx, by far in exceedance of the mass daily significance thresholds for NOx emissions established by the BAAQMD and SMAQMD.[21]

- Relocating nine pre-Tier 0 or Tier 0 MHP locomotives from one of the four high-priority railyards in exchange for cleaner Tier 3 engines from one of the other Class I railyards within the San Francisco Bay Area air basin (*e.g.*, UP Oakland or BNSF Richmond) would result in increased emissions of 62 lb/day of PM10 and 61 lb/day of PM2.5[22] at the railyard where the Tier 3 locomotives are moved to, exceeding the mass daily significance thresholds for PM2.5 emissions established by the BAAQMD of 54 lb/day.

- Exchanging three Tier 3 MHP locomotives from one of the four high-priority railyards for Tier 4 locomotives from a railyard located within the San Francisco Bay Area air basin (*e.g.*, UP Oakland or BNSF Richmond) would result in an increase of 64 lb/day of NOx emissions at the railyard where the Tier 3 locomotives are moved to, exceeding the BAAQMD's significance thresholds for NOx emissions of 54 lb/day.[23]

- In the Sacramento Valley air basin (*e.g.*, UP Roseville), the exchange of four Tier 4 MHP locomotives for Tier 3 locomotives would result in 85 lb/day of NOx emissions, by far exceeding the SMAQMD's significance thresholds for NOx emissions of 65 lb/day.

The latter two examples illustrate that even relocation and exchange of relatively clean, newer engines for ones that comply with one emission standard (Tier), lower may

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[21] (MHP Pre-Tier 0: 169.7 lb/day NOx) – (MHP Tier 3: 37.7 lb/day NOx) = **132.0 lb/day NOx**;
(MHP Tier 0: 119.6 lb/day NOx) – (MHP Tier 3: 37.7 lb/day NOx) = **81.9 lb/day NOx**;
(Switch Pre-Tier 0: 109.3 lb/day NOx) – (Switch Tier 3: 15.1 lb/day NOx) = **94.2 lb/day NOx**; and
(Switch Tier 0: 87.9 lb/day NOx) – (Switch Tier 3: 15.1/day NOx) = **72.8 lb/day NOx**.

[22] (MHP Pre-Tier 0 or Tier 0: 7.2 lb/day PM10) – (MHP Tier 3: 0.4 lb/day PM10) = 6.8 lb/day PM10;
6.8 lb/day PM10 × 9 = **62.0 lb/day PM10**; and
(MHP Pre-Tier 0 or Tier 0: 7.2 lb/day PM2.5) – (MHP Tier 3: 0.4 lb/day PM2.5) = 6.7 lb/day PM2.5;
6.7 lb/day PM2.5 × 9 = **60.6 lb/day PM2.5**.

[23] (MHP Tier 3: 37.7 lb/day NOx) – (MHP Tier 4: 16.3 lb/day NOx) = 21.4 lb/day NOx;
21.4 lb/day NOx × 3 = **64.1 lb/day NOx**.

result in increased emissions of pollutants high enough to result in significant adverse impacts on air quality.

According to the analysis of Mr. Colon Fulk, it is quite possible, if not likely, that UP and BNSF would implement the Proposed Commitments by moving at least this many locomotives, which could cause significant adverse impacts on air quality at UP Roseville, UP Oakland, BNSF Barstow or other railyards.

Further, the above estimates of daily emissions are conservative because they assume that MHP and switch locomotives operate at the same level of activity throughout the year and, thus, emissions on any given day are the same.[24] While in general the MHP and switch locomotive utilization is relatively constant, on most railroads the weekends, especially Sundays are a somewhat slower, thereby using the MHP and switch locomotives less on Sundays. Thus, in reality, on some weekdays emissions from the railyards would be higher than estimated above.

Because NOx are ozone precursors, any increase in NOx emissions would exacerbate the existing air quality problems and impede future achievement of state and federal ozone attainment status in various air basins. The South Coast, San Francisco Bay Area, Sacramento Valley, and the southwestern portion of the Mojave Desert air basins are all designated as state and federal ozone non-attainment areas. Thus, any increase in NOx emissions would impede the respective air basin's efforts to achieve attainment in the future. Similarly, increased PM10 emissions would further exacerbate existing air quality problems and impede various air basins' future achievement of attainment status. Both the Sacramento Valley and Mojave Desert air basins are designated state and federal non-attainment areas for PM10 and the San Francisco Bay Area air basin is designated as a state non-attainment area for PM10. All three air basins are designated state and federal non-attainment areas for PM2.5.

The above conclusions also apply to other air basins in California; the three railyards and air basins discussed above serve as examples only.

Because there is a reasonable possibility that emissions of NOx and PM10 would increase beyond significance thresholds established by California air districts, this potential increase in criteria pollutant emissions should therefore be analyzed under CEQA.

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[24] Personal communication with Colon Fulk, June 22, 2010.

VIII. Instead of the Proposed Commitments, the CARB Should Develop Regulations to Comply with Requirements Set Forth in the Federal Clean Air Act and the California Health and Safety Code

The CARB 's Proposed Actions document does not provide a rigorous analysis of alternatives of the Proposed Commitments approach vs. regulatory approach with backup data for the calculations. Instead, the decision to go the route of the Proposed Commitments rests on a number of unsupported assumptions, as discussed above.

The Federal Clean Air Act ("CAA") delegates regulatory responsibility to the CARB for criteria pollutant and air toxic control measures. Thus, pursuant to CAA sections 110(a), 172(c) and 182(b), the State Implementation Plan ("SIP") must demonstrate attainment or include all feasible measures. CAA section 209(e) also gives California authority to regulate certain non-road engines and to adopt "in-use" requirements. Pursuant to this delegation, the California Health & Safety Code sections 36902, 40462, 40469 and 43018 confirm that the CARB has authority to take "whatever" actions are "necessary, cost-effective and technologically feasible" to achieve the maximum degree of reduction possible from mobile sources. Further, the CARB has an express duty pursuant to the California Health & Safety Code sections 40702 and 43013 to regulate through rulemaking locomotive and railyard sources, unless preempted by federal law.

The CARB claims that "virtually no non-preempted locomotives" operate at the four railyards. This statement appears to be contradicted by the CARB's data showing that as of 2008, there were 130 Pre-Tier 0 and 20 Tier 0 medium horsepower ("MHP") locomotives and 34 pre-Tier 0 and 29 Tier 0 switch locomotives operating in the South Coast air basin. (Statewide, there are 400 pre-Tier 0 or Tier 0 MHP locomotives and 244 pre-Tier 0 or Tier 0 switch locomotives.)[25] It appears unlikely that all these older locomotives have been remanufactured, repowered, or replaced since. Also, the Proposed Commitments confirm that at least 32 older switcher locomotives still operate at BNSF San Bernardino and BNSF Hobart.[26]

The CARB's August 2009 Technical Options document concludes that replacement and retrofit of these older, non-preempted locomotives are feasible, cost-effective and likely not preempted by federal law and could therefore be addressed by CARB regulations. In particular, Option 1 (replacement of 152 Tier 0 and older switch locomotives with Tier 3 Ultra-Low Emitting Switch Locomotives), Option 2 (retrofit of 244 gen-set switch locomotives with NOx and particulate matter emission controls), Option 5 (repower of 400 older medium horsepower locomotives with low-emitting engines), and Option 7 (retrofit of 400 low-emitting medium horsepower locomotives with NOx and particulate matter emission controls) are deemed feasible and cost effective. Thus, the CARB should implement regulations based on these options to

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[25] Recommendations Document, Appendix A, pp. A-6 through A-8.

[26] Proposed Commitments for BNSF San Bernardino and BNSF Hobart, p. A2-1 and B2-1.

reduce emissions from non-preempted locomotives to comply with its responsibilities under the CAA and California Health and Safety Code.

IX. Conclusions

In my opinion, the Proposed Commitments fall short of achieving the CARB's goal of reducing diesel particulate matter emissions from railyards and associated health risks for a number of reasons.

Most importantly, the Proposed Commitments address only four railyards and, thus, leave communities at other railyards with projected similar or even higher future exposure to carcinogenic diesel particulate matter emissions high and dry. The CARB estimates that communities across the State that are not near the priority railyards would receive about 15% of the benefits from the lower-emission locomotives brought in to meet the emission targets at the priority railyards.[27] However, as discussed in my comments above, even these marginal benefits may not materialize. Thus, the communities at the other 14 Class I railyards would not have much or even any benefit from the Proposed Commitments and would continue to be exposed to extremely unhealthful concentrations of diesel particulate matter.

Further, if any of the four railyards were to experience a drop in activity by the proposed compliance deadlines of 2015 and 2020, as has been observed in the past few years, the Proposed Commitments would not result in much or even any benefits over the already existing binding agreements and regulations.

In addition, the Proposed Commitments as well as the supporting documents are based on unreliable and faulty assumptions with respect to past and future activity and fuel consumption at the four railyards.

Finally, the staff report in the Proposed Actions Document claims that there are virtually no benefits in these high priority railyards to be achieved if CARB were to depend solely on its regulatory authority for locomotives.[28] However, it appears that there are still a large number of non-preempted old and dirty MHP and switch locomotives operating in California as well as other equipment whose emissions could be addressed by regulations.

In short, it is my opinion that the inventory-based approach used by the CARB is unreliable and likely not as effective as regulations and that CARB's expectations with respect to the effectiveness of the Proposed Commitments to reduce diesel particulate matter emissions and associated health risks from the four railyards are unrealistic, too little, and too late. The communities exposed to unhealthful levels of diesel particulate

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[27] Proposed Actions document, p. 9.

[28] Proposed Actions document, p. i.

matter would be better served by regulations that address specific high-polluting locomotives and other equipment. If the CARB chooses not to regulate but rather to continue with the Proposed Commitments, the potential increase in emissions that could result from backsliding, *i.e.*, transfer or exchange of more polluting locomotives to other railyards, requires CEQA review.

Please feel free to call me at (415) 492-2131 or e-mail at petra@ppless.com if you have any questions about the comments in this letter.

Sincerely,

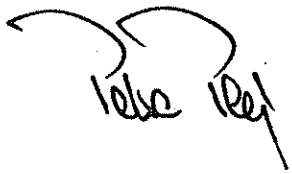

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Table A-1: Comparison of 2005 baseline emissions and projected future emissions from BNSF San Bernardino, BNSF Hobart, UP Commerce, and UP ICTF/Dolores railyards in 2010, 2015, and 2020 presented in various CARB documents

Railyard	2005 Baseline			2010			2015			2020		
	Basis for Proposed Commitments 6/2010[a]	Technical Options Report 8/2009[b]	Mitigation Plans 8-9/2008[c]	**Basis for Proposed Commitments 6/2010[a]**	Technical Options Report 8/2009[b]	Mitigation Plans 8-9/2008[c]	**Basis for Proposed Commitments 6/2010[a]**	Technical Options Report 8/2009[b]	Mitigation Plans 8-9/2008[c]	**Basis for Proposed Commitments 6/2010[a]**	Technical Options Report 8/2009[b]	Mitigation Plans 8-9/2008[c]
	Emissions (tons/year)											
BNSF San Bernardino	**22.2**	22.4	22.4	**11.7**	13.2	12.0/11.7[1]	**7.6**	9.0	8.2/7.6[1]	**4.9**	6.0	5.4/4.9[1]
BNSF Hobart	**24.2**	24.7	24.7	**10.3**	10.5	9.5	**7.4**	7.9	6.4	**5.7**	5.9	4.2
UP Commerce	**12.1**	12.1	9.6	**5.9**	11.1	5.4	**4.1**	7.7	3.7	**3.2**	5.9	2.9
UP ICTF/Dolores	**20.3**	23.7	20.3	**7.5**	14.4	11.8	**5.8**	7.9	n/a	**4.4**	6.6	n/a
	Reduction with existing program											
BNSF San Bernardino				**45%**	41%	46%/48%[1]	**60%**	60%	63%/66%[1]	**78%**	73%	76%/78%[1]
BNSF Hobart				**57%**	57%	62%	**70%**	68%	74%	**76%**	76%	83%
UP Commerce				**52%**	8%	44%	**66%**	36%	61%	**74%**	51%	70%
UP ICTF/Dolores				**63%**	39%	42%	**71%**	67%	n/a	**78%**	72%	n/a
	Projected annual growth rate assumed for calculation of future emissions											
BNSF San Bernardino										**3.0%[2]**	1.0%	0.0%/3.0%[3]
BNSF Hobart										**3.0%[2]**	1.0%	1.6%/4.0%[3]
UP Commerce										**3.0%[2]**	1.0%	1.0%[3,4]
UP ICTF/Dolores										**3.0%[2]**	1.0%	various[3,5]

1 including growth/not including growth

2 Projected annual growth rate is based on a 1.5% per year increase in fuel use, which equates to a roughly 3% per year increase in containers based on historic growth rates over the last 12 years; see Basis for Proposed Commitments, pp. A1-3, B1-3, C1-3, and D1-3.

3 Projected annual growth rates based on:

BNSF San Bernardino (container lifts: historical activity has grown at a rate of less than zero percent from 2002 through 2008 with projected 2008 activity to be 20% below that for 2005, thus projected growth rate set at 0%; mainline traffic: growth rate of about 3% per year based on data from 1999 through 2007);

BNSF Hobart (container lifts: historical activity has grown at a rate of 3.5% per year between 2002 through 2008 but at 1.6% per year from 2003 through 2008, and at 0% from 2004 through 2008 with the 2008 activity projected to be 1.5% less than 2005, thus mid-range estimate of 1.6% chosen; mainline traffic: has been increasing at a rate of about 4% based on data from 1999 through 2007);

UP Commerce (review of historic fuel use data and other historic operational factors such as container lift counts, tons of freight, etc.);

UP ICTF/Dolores (UP is preparing to completely modernize the ICTF, which will increase container capacity and dramatically reduce diesel particulate matter, criteria pollutant, and greenhouse gas emissions. The modernized facility was assumed to incrementally increase as the modernization project is completed by 2016. For years 2007 through 2016 it was assumed that no infrastructure changes would be made at the Dolores yard and that it currently operates at its capacity. While the overall activity level at the Dolores yard is not expected to increase in future years, operations will shift to incorporate more ICTF-related activities. Other non-ICTF-related activities will be shifted to other UP facilities in the L.A. basin.).

4 The past growth rate for UP Commerce was incorrectly calculated at 0.8% instead of 1.6%. Based on this incorrectly calculated past growth rate, emission estimates in the Mitigation Plan thus assumed an average future growth rate of 1%. See Comment IV.

5 For ICTF, 2010 road power emissions calculated as 44% increase from 2005; 2012 through 2016 emission forecasts for road power activity and yard switching activity were calculated in proportion to the increasing number of lifts due to modernization of ICTF which will increase container capacity. For Dolores, it was assumed that the overall activity level at the yard is not increasing and that the yard is currently operating at capacity.

a The Basis for Proposed Commitments are attached as appendices to the California Air Resources Board, Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority Railyards, June 2010:

Appendix A: Basis for Proposed Commitments to Reduce Particulate Matter at the BNSF San Bernardino Railyard, June 15, 2010, Table 1 ;

Appendix B: Basis for Proposed Commitments to Reduce Particulate Matter at the BNSF Hobart Railyard, June 15, 2010, Table 1;

Appendix C: Basis for Proposed Commitments to Reduce Particulate Matter at the UP Commerce Railyard, June 15, 2010, Table 1; and

Appendix D: Basis for Proposed Commitments to Reduce Particulate Matter at the UP ICTF/Dolores Railyards, June 15, 2010, Table 1.

b California Air Resources Board, Technical Options to Achieve Additional Emissions and Risk Reductions from California Locomotives and Railyards, August 2009, Table A-4. Estimates include commitments UP and BNSF have made since the release of the railyard mitigation plans; see p. 154.

c Environ, Diesel Particulate Matter Mitigation Plan for the BNSF Railroad San Bernardino Rail Yard, August 21, 2008, Table 3-1 (metric tonnes converted to short tons; 2005 cargo handling equipment emissions were revised with EMFAC2007 version 2.3 emission rates and a different growth rate was applied to mainline freight and passenger traffic from that from the activity within the yard);

Environ, Diesel Particulate Matter Mitigation Plan for the BNSF Railroad Hobart Rail Yard, September 26, 2008, Table 3-1 (metric tonnes converted to short tons; 2005 cargo handling equipment emissions were revised with EMFAC2007 version 2.3 emission rates and a different growth rate was applied to mainline freight and passenger traffic from that from the activity within the yard);

Sierra Research, Diesel Particulate Matter Mitigation Plan for the Union Pacific Railroad Commerce Rail Yard, August 18, 2008, Table 1 (based on emission estimates in California Air Resources Board health risk assessment for UP Commerce Rail Yard adjusted based on new information including default engine load factor for yard hostlers, emission factors for heavy-heavy duty drayage truck operations based on new EMFAC2007 model, and emission reductions due to December 2007 California Air Resources Board Regulation to Control Emissions from In-use On-road Diesel-fueled Heavy-duty Drayage Trucks); and

Sierra Research, Diesel Particulate Matter Mitigation Plan for the Union Pacific Railroad ICTF and Dolores Rail Yards, August 25, 2008, Table 1.

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Dr. Pless is a court-recognized expert with over 10 years of experience in environmental consulting conducting and managing interdisciplinary environmental research projects and preparing and reviewing environmental permits and other documents for U.S. and European stakeholder groups. Her broad-based experience includes air quality and air pollution control; water quality, water supply, and water pollution control; biology; public health and safety; and noise studies; California Environmental Quality Act ("CEQA"), Clean Air Act ("CAA"), and National Environmental Policy Act ("NEPA") review; industrial ecology and risk assessment; and use of a wide range of environmental software.

EDUCATION

Doctorate in Environmental Science and Engineering (D.Env.), University of California Los Angeles, 2001

Master of Science (equivalent) in Biology, Technical University of Munich, Germany, 1991

PROFESSIONAL HISTORY

Pless Environmental, Inc., Principal, 2008–present

Environmental Consultant, Sole Proprietor, 2006–2008

Leson & Associates (previously Leson Environmental Consulting), Kensington, CA, Environmental Scientist/Project Manager, 1997–2005

University of California Los Angeles, Graduate Research Assistant/Teaching Assistant, 1994–1996

ECON Research and Development, Environmental Scientist, Ingelheim, Germany, 1992–1993

Biocontrol, Environmental Projects Manager, Ingelheim, Germany, 1991–1992

REPRESENTATIVE EXPERIENCE

Air Quality and Pollution Control

Projects include CEQA/NEPA review; attainment and non-attainment new source review ("NSR"), prevention of significant deterioration ("PSD") and Title V permitting; control technology analyses (BACT, LAER, RACT, BARCT, BART, MACT); technology evaluations and cost-effectiveness analyses; criteria and toxic pollutant emission inventories; emission offsets; ambient and source monitoring; analysis of emissions estimates and ambient air pollutant concentration modeling. Some typical projects include:

- Critically reviewed and prepared technical comments on the air quality, biology, noise, water quality, and public health and safety sections of CEQA/NEPA documents for numerous

commercial, residential, and industrial projects (*e.g.*, power plants, airports, residential developments, retail developments, hospitals, refineries, slaughterhouses, asphalt plants, food processing facilities, printing facilities, quarries, and mines) and provided litigation support in a number of cases filed under CEQA.

- Critically reviewed and prepared technical comments on the air quality and public health sections of the Los Angeles Airport Master Plan (Draft, Supplement, and Final Environmental Impact Statement/Environmental Impact Report) for the City of El Segundo. Provided technical comments on the Draft and Final General Conformity Determination for the preferred alternative submitted to the Federal Aviation Administration.
- For several California refineries, evaluated compliance of fired sources with Bay Area Air Quality Management District Rule 9-10. This required evaluation and review of hundreds of source tests to determine if refinery-wide emission caps and compliance monitoring provisions were being met.
- Critically reviewed and prepared technical comments on Draft Title V permits for several refineries and other industrial facilities in California.
- Evaluated the public health impacts of locating big-box retail developments in densely populated areas in California and Hawaii. Monitored and evaluated impacts of diesel exhaust emissions and noise on surrounding residential communities.
- In conjunction with the permitting of several residential and commercial developments, conducted studies to determine baseline concentrations of diesel exhaust particulate matter using an aethalometer.
- For an Indiana steel mill, evaluated technology to control NOx and CO emissions from fired sources, including electric arc furnaces and reheat furnaces, to establish BACT. This required a comprehensive review of U.S. and European operating experience. The lowest emission levels were being achieved by steel mills using selective catalytic reduction ("SCR") and selective non-catalytic reduction ("SNCR") in Sweden and The Netherlands.
- For a California petroleum coke calciner, evaluated technology to control NOx, CO, VOCs, and PM10 emissions from the kiln and pyroscrubbers to establish BACT and LAER. This required a review of state and federal clearinghouses, working with regulatory agencies and pollution control vendors, and obtaining and reviewing permits and emissions data from other similar facilities. The best-controlled facilities were located in the South Coast Air Quality Management District.
- For a Kentucky coal-fired power plant, identified the lowest NOx levels that had been permitted and demonstrated in practice to establish BACT. Reviewed operating experience of European, Japanese, and U.S. facilities and evaluated continuous emission monitoring data. The lowest NOx levels had been permitted and achieved in Denmark and in the U.S. in Texas and New York.
- In support of efforts to lower the CO BACT level for power plant emissions, evaluated the contribution of CO emissions to tropospheric ozone formation and co-authored report on same.
- Critically reviewed and prepared technical comments on applications for certification ("AFCs") for numerous natural-gas fired, solar, biomass, and geothermal power plants in California permitted by the California Energy Commission. The comments addressed construction and operational emissions inventories and dispersion modeling, BACT

determinations for combustion turbine generators, fluidized bed combustors, diesel emergency generators, etc.

- Critically reviewed and prepared technical comments on draft PSD permits for several natural gas-fired power plants in California, Indiana, and Oregon. The comments addressed emission inventories, greenhouse gas emissions, BACT, case-by-case MACT, compliance monitoring, cost-effectiveness analyses, and enforceability of permit limits.
- For a California refinery, evaluated technology to control NOx and CO emissions from CO Boilers to establish RACT/BARCT to comply with BAAQMD Rule 9-10. This required a review of BACT/RACT/LAER clearinghouses, working with regulatory agencies across the U.S., and reviewing federal and state regulations and State Implementation Plans ("SIPs"). The lowest levels were required in a South Coast Air Quality Management District rule and in the Texas SIP.
- In support of several federal lawsuits filed under the federal Clean Air Act, prepared cost-effectiveness analyses for SCR and oxidation catalysts for simple cycle gas turbines and evaluated opacity data.
- Provided litigation support for a CEQA lawsuit addressing the pollution control equipment at a proposed biomass cogeneration plant.
- Prepared comments and provided litigation support on several proposed regulations including the Mojave Desert Air Quality Management District Rule 1406 (fugitive dust emission reduction credits for road paving); South Coast Air Quality Management District Rule 1316, San Joaquin Valley Air Pollution Control District Rule 2201, Antelope Valley Air Quality Management District Regulation XIII, and Mojave Desert Air Quality Management District Regulation XIII (implementation of December 2002 amendments to the federal Clean Air Act).
- Critically reviewed draft permits for several ethanol plants in California, Indiana, Ohio, and Illinois and prepared technical comments.
- Reviewed state-wide average emissions, state-of-the-art control devices, and emissions standards for construction equipment and developed recommendations for mitigation measures for numerous large construction projects.
- Researched sustainable building concepts and alternative energy and determined their feasibility for residential and commercial developments, *e.g.*, regional shopping malls and hospitals.
- Provided comprehensive environmental and regulatory services for an industrial laundry chain. Facilitated permit process with the South Coast Air Quality Management District. Developed test protocol for VOC emissions, conducted field tests, and used mass balance methods to estimate emissions. Reduced disposal costs for solvent-containing waste streams by identifying alternative disposal options. Performed health risk screening for air toxics emissions. Provided permitting support. Renegotiated sewer surcharges with wastewater treatment plant. Identified new customers for shop-towel recycling services.
- Designed computer model to predict performance of biological air pollution control (biofilters) as part of a collaborative technology assessment project, co-funded by several major chemical manufacturers. Experience using a wide range of environmental software, including air dispersion models, air emission modeling software, database programs, and geographic information systems ("GIS").

Water Quality and Pollution Control

Experience in water quality and pollution control, including surface water and ground water quality and supply studies, evaluating water and wastewater treatment technologies, and identifying, evaluating and implementing pollution controls. Some typical projects include:

- Evaluated impacts of on-shore oil drilling activities on large-scale coastal erosion in Nigeria.
- For a 500-MW combined-cycle power plant, prepared a study to evaluate the impact of proposed groundwater pumping on local water quality and supply, including a nearby stream, springs, and a spring-fed waterfall. The study was docketed with the California Energy Commission.
- For a 500-MW combined-cycle power plant, identified and evaluated methods to reduce water use and water quality impacts. These included the use of zero-liquid-discharge systems and alternative cooling technologies, including dry and parallel wet-dry cooling. Prepared cost analyses and evaluated impact of options on water resources. This work led to a settlement in which parallel wet dry cooling and a crystallizer were selected, replacing 100 percent groundwater pumping and wastewater disposal to evaporation ponds.
- For a homeowner's association, reviewed a California Coastal Commission staff report on the replacement of 12,000 linear feet of wooden bulkhead with PVC sheet pile armor. Researched and evaluated impact of proposed project on lagoon water quality, including sediment resuspension, potential leaching of additives and sealants, and long-term stability. Summarized results in technical report.

Applied Ecology, Industrial Ecology and Risk Assessment

Experience in applied ecology, industrial ecology and risk assessment, including human and ecological risk assessments, life cycle assessment, evaluation and licensing of new chemicals, and fate and transport studies of contaminants. Experienced in botanical, phytoplankton, and intertidal species identification and water chemistry analyses. Some typical projects include:

- Conducted technical, ecological, and economic assessments of product lines from agricultural fiber crops for European equipment manufacturer; co-authored proprietary client reports.
- Developed life cycle assessment methodology for industrial products, including agricultural fiber crops and mineral fibers; analyzed technical feasibility and markets for thermal insulation materials from natural plant fibers and conducted comparative life cycle assessments.
- For the California Coastal Conservancy, San Francisco Estuary Institute, Invasive Spartina Project, evaluated the potential use of a new aquatic pesticide for eradication of non-native, invasive cordgrass (*Spartina spp.*) species in the San Francisco Estuary with respect to water quality, biological resources, and human health and safety. Assisted staff in preparing an amendment to the Final EIR.
- Evaluated likelihood that organochlorine pesticide concentrations detected at a U.S. naval air station are residuals from past applications of these pesticides consistent with manufacturers' recommendations. Retained as expert witness in federal court case.
- Prepared human health risk assessments of air pollutant emissions from several industrial and commercial establishments, including power plants, refineries, and commercial laundries.

- Managed and conducted laboratory studies to license pesticides. This work included the evaluation of the adequacy and identification of deficiencies in existing physical/chemical and health effects data sets, initiating and supervising studies to fill data gaps, conducting environmental fate and transport studies, and QA/QC compliance at subcontractor laboratories. Prepared licensing applications and coordinated the registration process with German environmental protection agencies. This work led to regulatory approval of several pesticide applications in less than six months.
- Designed and implemented database on physical/chemical properties, environmental fate, and health impacts of pesticides for a major multi-national pesticide manufacturer.
- Designed and managed experimental toxicological study on potential interference of delta-9-tetrahydrocannabinol in food products with U.S. employee drug testing; co-authored peer-reviewed publication.
- Critically reviewed and prepared technical comments on applications for certification for several natural-gas fired, solar, and geothermal power plants and transmission lines in California permitted by the California Energy Commission. The comments addressed avian collisions and electrocution, construction and operational noise impacts on wildlife, risks from brine ponds, and impacts on endangered species.
- For a 180-MW geothermal power plant, evaluated the impacts of plant construction and operation on the fragile desert ecosystem in the Salton Sea area. This work included baseline noise monitoring and assessing the impact of noise, brine handling and disposal, and air emissions on local biota, public health, and welfare.
- Designed research protocols for a coastal ecological inventory; developed sampling methodologies, coordinated field sampling, determined species abundance and distribution in intertidal zone, and conducted statistical data analyses.
- Designed and conducted limnological study on effects of physical/chemical parameters on phytoplankton succession; performed water chemistry analyses and identified phytoplankton species; co-authored two journal articles on results.
- Organized and conducted surveying and mapping of aquatic plant species in several lakes and rivers in Sweden and Germany as ecological indicators for the health of limnological ecosystems.

PRO BONO ACTIVITIES

Founding member of "SecondAid," a non-profit organization providing tsunami relief for the recovery of small family businesses in Sri Lanka. (www.secondaid.org.)

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals

PUBLICATIONS

Available upon request

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MY BACKGROUND

I have had 33 years of "on board" experience in train operations. From 1972 to 1994, I held various positions with Norfolk Southern Railway ("NS") and its predecessor Southern Railway. These positions included conductor, fireman, brakeman, locomotive engineer, District Road Foreman of Engines, and Division Road Foreman of Engines. From 1994 to 2005 I was a locomotive engineer with Amtrak. I am a Certified Class I Locomotive Engineer and have operated freight trains, local trains, passenger trains and yard engines. In addition to these duties I have investigated derailments, crossing accidents, personal injuries and almost any unusual circumstance involving the operating department of a railroad, including the analyzing of data from locomotive event recorders.

I have supervised training and created start-up training programs for railroad employees, including switchmen, trainmen, and engineers. Over my career, I have taken ongoing required and elective training in excess of 2475 hours in such subjects as train handling and operations, railroad management, crew training, operating rules, safety, mechanical, and the like. In 2006, I earned a diploma from the Railway Educational Bureau after completing in excess of 50 lessons pertaining to railroad subject matters.

I am a member of numerous professional organizations, including the National Association of Railway Safety Consultants and Investigators. I was the recipient of NS's Special Performance Award for the reduction of personal injuries in my division and have also received Amtrak's Engine Excellence Award. Past member of BLE Safety Task Force, and past Operation Lifesaver presenter.

I have appeared as a witness and given expert testimony concerning such matters as train handling, operation of switches, operation of handbrakes, slack action, rail equipment movement during switching and couplings, and evaluation of railroad employee rule compliance. I have also determined the cause of over 1000 railroad accidents or incidents.

OPINIONS ON CARB'S PROPOSAL

1. In connection with this affidavit, I have received and reviewed the June 2010 Proposed Actions to Further Reduce Diesel Particulate Matter at High Priority Railyards proposed by the California Air Resources Board ("CARB") for four railyards operated by BNSF Railway Company ("BNSF") and Union Pacific Railroad Company ("UP"), specifically BNSF San Bernardino, BNSF Hobart, UP Commerce, and UP ICTF and CARB's Staff Report, Basis for Proposed Commitments and Proposed Commitments for each railyard. I also reviewed CARB's September 2009 Recommendations to Implement Further Locomotive and Railyard Emissions and Risk Reductions from California Locomotives and Railyards and CARB's August 2009 Technical Options for Further Locomotive and Railyard Emissions and Risk Reductions from California Locomotives and Railyards

2. These CARB documents identify the inventory of locomotive and yard equipment sources and emissions at the eighteen large Class I railyards in California operated by UP and BNSF. Sources of emissions include line haul and switcher locomotives, heavy duty diesel trucks, cargo handling equipment such as yard trucks and cranes and refrigerated units.

3. Of note, CARB admits in its own legal analysis in its September 2009 Recommendations at Appendix p. 6-8 that 150 older switcher and 400 older medium horsepower ("MHP") locomotives within California likely are not preempted by federal law and can be regulated by the State. Also, CARB's June 2010 Proposed Actions Staff Report confirms at p.11 that nearly "25%" of the national locomotive fleet is not preempted.

4. CARB's August 2009 Technical Options concludes that statewide replacement and retrofit of many older locomotives are feasible, cost-effective and likely not preempted by federal law. In particular, Options 1 (replacement of 152 Tier 0 and older switch locomotives with Tier 3 Ultra-Low Emitting Switch Locomotives), 2 (retrofit of 244 gen-set switch locomotives with ozone forming nitrogen oxides ("NOX") and diesel particulate matter ("DPM") emission controls), 5 (repower of 400 older medium horsepower locomotives with low-emitting engines), 7 (retrofit of 400 low-emitting medium horsepower locomotives with nitrous oxides and particulate matter emission controls) are deemed feasible and cost effective.

5. With regard to yard cargo handling equipment, Option 11, which consists of revamping all 322 diesel yard truck equipment statewide into electric-powered yard trucks, would reduce PM and toxic risk to the surrounding communities. If implemented, the trucks would reduce DPM and nitrous oxides emissions from yard trucks from 0.062 tons/year to zero tons/year. The successful testing at the Port of Los Angeles of electric yard trucks shows that it is technically feasible for this option to be utilized. The cost effectiveness of this option is $18.33/lb of NOx and DPM for 2010 emissions, $29.38/lb for 2015 emissions, and $76.90/lb for 2020 emissions.

6. Option 21 in CARB's August 2009 Technical Options involves installation of an Advanced Locomotive Emission Control System (ALECS) near locations where locomotives are idling and would reduce PM and toxic risk to the surrounding communities. ALECS are stationary control devices (hoods) that reduce DPM emissions. ALECS hoods have been shown to reduce NOx and DPM emissions by 90% during service and idling periods at UP Roseville. An ALECS unit with 12 hoods (at UP Roseville) is estimated to cost $25,000,000. The cost effectiveness is about $23/lb of NOx and PM for 20 years for the UP Roseville rail yard, using Carl Moyer calculations.

7. Despite the cost effectiveness conclusions for statewide regulation of these locomotive and yard equipment sources at the eighteen large Class I railyards, CARB's Proposed Actions avoid statewide regulation. CARB instead focuses on an agreement-based approach focusing on the four highest-risk railyards only – BNSF San Bernardino, UP Commerce, BNSF Hobart and UP ICTF. CARB argues that regulation of locomotive and yard equipment sources at these four railyards is not warranted and that an agreement-based approach will obtain greater emissions reductions because the four railyards are subject to the 1998 Locomotive NOx Fleet Average Agreement, and allegedly there "are virtually no non-preempted locomotives" at the four railyards.[1]

8. These four highest-risk railyards deserve regulatory oversight. Yet, there is a reasonable and real probability that focusing on these four yards alone at this time (instead of regulating statewide) will negatively impact the other 14 Class I yards in the state (e.g., UP Roseville, UP Oakland, or BNSF Barstow). These four yards will receive the cleaner equipment. But the older, dirtier equipment will be routed to the other railyards. Instead of being repowered and destroyed, it is probable that the dirtier equipment could potentially be moved to the other railyards or sold to smaller railroads.

9. It is common in the rail industry to transport locomotives from terminal/yard to terminal/yard. This procedure is normally referred to as deadheading or towing a locomotive. Deadheading or towing a locomotive is done when the demand for one or more locomotives has been created at a particular railroad terminal or yard. When yard locomotives (lower horsepower locomotives dedicated to switching service) are moved from one location to another they are normally transported by regular line haul freight trains to the desired location. The locomotive is normally placed near the front of the train, behind the line haul locomotives, and is handled similar to a railcar during transit.

10. Thus, in general, yard switcher and MHP locomotives are moved and/or transported from one location to another on a fairly routine, and as needed basis. In fact, CARB's own Proposed Actions confirm this movement of the locomotives and equipment between yards. For example, CARB's switcher locomotive Commitments for

[1] CARB's disclosure and analysis of this issue is unclear. For example, as of 2008, the Technical Options document at p. 177 indicates that there were still 34 non-preempted pre-Tier 0 and 29 Tier 0 switcher locomotives operating in the South Coast Air Basin. Also, CARB's switcher locomotive proposed Commitments confirm at pp. A2-1 and B2-1 that at least 32 older switcher locomotives still exist at BNSF's San Bernardino and Hobart railyards in the Basin.

the four railyards at pp. A2-1, B2-1, C2-1 and D2-1 only apply to those switchers "more than 25 percent of annual hours or 25 percent of annual miles traveled or 25 percent of annual diesel fuel consumption." Thus, CARB's proposal expressly allows movement of the older, dirtier switcher locomotives between the various yards.

11. The demand for additional locomotives at one yard or another could be due to one or more of the following reasons:

- Increase in business;
- Rerouting of existing business;
- Locomotive repair;
- Locomotive maintenance;
- Breakdowns;
- Comply with any authoritative requirements; or
- In response to regulatory requirements such as the emissions inventories in CARB's agreement approach.

12. It is my opinion that any older, dirtier and less efficient displaced locomotives and yard equipment at the exemplar yards would simply be reassigned to the 14 other Class I railyards in California, which would have an adverse environmental impact on the 14 other railyards. First, locomotives are very expensive, and are a major cost of the operation of a railroad. Second, locomotives are a must; railroads must have locomotives to move railcars from location to location. Third, it is not likely a railroad is going to discard an expensive piece of equipment that still has some usefulness and which can be used at the 14 other, non-priority railyards.

13. It is not likely, nor is it reasonable to believe, that focusing on the four high-risk railyards would cause UP or BNSF to completely discontinue and destroy such existing locomotives or their engines. I would make the point that relocation may also occur during later years when the railroads have to demonstrate their 85% reduction and they could exchange Tier 4 for Tier 3 engines. Another point to be considered is the selling of any displaced locomotives to short line or regional railroads. It is normal and common practice, in the rail industry, for smaller railroads to purchase used locomotives from the larger Class I railroads. Should this be the case, the environmental issues still exist, the ownership of the locomotive only changed and the locomotive could continue to operate within the State of California.

14 ARB indicates at p. 19 of the Proposed Actions Staff Report that such backsliding at the other railyards is "unlikely" and that ARB staff "expects" and "anticipates" that the other 14 Class I railyards in the State will receive benefits from bringing cleaner locomotives into the four high-priority yards. CARB indicates that incentive programs tie the locomotives to their home yards. But this is speculative and belied by the proposed Commitments.

15. In reality, there is no express prohibition in CARB's proposal on backsliding at the State's other railyards. There is no calculation or inventory review that supports

CARB's expectation or anticipation with substantial evidence. Moreover, CARB's proposed switcher locomotive Commitments for the four railyards at pp. A2-1, B2-1, C2-1 and D2-1 have a "25%" threshold loophole that expressly authorizes switch locomotive movement between the various yards. If there is to be no backsliding, then the Proposed Actions should forbid it and the "25%" threshold loophole at pp. A2-1, B2-1, C2-1 and D2-1 should be deleted.

16. In sum, CARB's view is not realistic. Switchers and yard equipment are frequently moved in response to traffic increases/decreases, breakdowns and rotation of locomotive maintenance cycles -- this is part of operating a railroad. It is my opinion based on my years of experience in this industry that CARB's Proposed Action will create borrowing of the displaced locomotives and yard equipment from the high-priority railyards, when the aforementioned demands would occur. This could also skew results as the railroads prepare the inventory for calculating emission reductions. When the movement of freight is jeopardized by a shortage of locomotives during any of these events, it is my opinion railroad management will, without hesitation, bring in the dirtier, displaced locomotives and yard equipment to the other 14 other Class I California railyards to ensure a normal flow of rail traffic.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: June 22, 2010 at Sherrills Fort, North Carolina

Colon R. Fulk