ARB/Railroad Statewide Agreement

Particulate Emissions Reduction Program at California Rail Yards

June 2005

A. Parties

The BNSF Railway Company ("BNSF") and Union Pacific Railroad Company ("UPRR") (collectively, the "Participating Railroads") and the California Air Resources Board ("ARB") (collectively, "the parties" or, individually, a "party").

B. Background

1. The factual background, regulatory setting, administrative history and current rail yard issues are complex and important. Key background information is included in Attachment C, which is incorporated into this Agreement in its entirety.

2. The parties understand and acknowledge that the joint understandings and future voluntary actions described in this Agreement will contribute to efforts in California to improve the environment and economy of California. The parties acknowledge the important relationship of this Agreement to California's broader statewide efforts on goods movement. This Agreement has been developed based on the key principles of California's goods movement efforts: (a) that the state's economy and quality of life depend upon the efficient and safe delivery of goods to and from our ports, rail yards, and borders, and, at the same time, (b) the environmental impacts associated with California's goods movement must be managed to ensure the protection of public health.

3. ARB and the Participating Railroads are committed to working together to ensure that this Agreement achieves its objectives. In entering this Agreement, the parties recognize that rail yards operated by the Participating Railroads are located throughout the state and that emissions from rail yards are a matter of state concern. Certain measures to reduce these emissions can be best addressed on a statewide rather than local level.

4. The parties also recognize that the Participating Railroads are federally regulated and that aspects of state and local authority to regulate railroads are preempted. The parties believe that a consistent and uniform statewide approach to addressing emissions at rail yards is necessary and will provide the greatest and most immediate health and welfare benefits to the people of California. Nothing in this Agreement is intended to affect the scope of existing preemption or ARB's regulatory authority.

5. The parties agree that this Agreement takes another step in the near and mid-term efforts to improve the environment for the citizens of California, and that ARB and the

Participating Railroads will continue to collaborate in order to address the environmental impacts of railroads in California.

C. Program Elements

These Program Elements apply to the California rail yards identified herein and will take effect as of June 30, 2005 (the "Effective Date"). For purposes of this Agreement, "feasible" and "feasibly" refer to measures and devices that can be implemented by the Participating Railroads, giving appropriate consideration to costs and to impacts on rail yard operations.

1. Locomotive Idling-Reduction Program.

The goal of this Program Element is to effectively eliminate non-essential locomotive idling, both inside and outside of rail yards. It is anticipated that the locomotive idling-reduction program will expedite the installation of locomotive idling reduction devices and implement highly-effective locomotive operational idling reduction procedures in California.

(a) Automatic Idling-Reduction Devices Shall Be Installed on Intrastate Locomotives Expeditiously.[1] The Participating Railroads shall install automatic idling-reduction devices on all intrastate locomotives based in California that are not already so equipped as of the Effective Date in accordance with the following schedule:

Date	Cumulative Percent of Unequipped Intrastate Locomotives To Be Equipped by Date
June 30, 2006	35%
June 30, 2007	70%
June 30, 2008	>99%

[1] All new locomotives purchased by the railroads that are used in interstate service come from the manufacturer already equipped with automatic shutdown devices. "Intrastate locomotives" have the same meaning as in 13 Cal. Code Regs. § 2299(b)(5) and 17 Cal. Code Regs. § 93117(b)(5). Note: These regulations have been adopted by the California Air Resources Board, and submitted to the California Office of Administrative Law ("OAL") for approval. OAL has until July 5, 2005 to make a determination.

(b) Performance Standards for Locomotives Equipped with Automatic Idling-Reduction Devices. The automatic idling-reduction devices shall limit locomotive idling to no more than 15 consecutive minutes. If the engine characteristics of a particular locomotive model will not allow a 15 minute shut-down cycle without risking excessive component failures, the automatic idling-reduction devices required pursuant to subsection (a) shall reduce locomotive idling by the maximum amount that is feasible.

(c) Inventory of Intrastate Locomotive Fleet. Within 60 days after the Effective Date, the Participating Railroads will provide information on their intrastate locomotive fleet based in California, including locomotive manufacturer, model number, certification level, locomotive number, the availability of automatic idling-reduction devices for each locomotive make and model, and the idling reduction limits these devices can feasibly achieve. The Participating Railroads will also provide information regarding intrastate locomotives based in California already equipped with automatic idling-reduction devices. This information shall include locomotive number, manufacturer, and model of the automatic idling-reduction device installed, the idling reduction limits that the device can feasibly achieve, date of installation, and any other information the railroad or ARB may deem necessary. Every April thereafter, the Participating Railroads agree to submit the same information for each intrastate locomotive equipped with an automatic idling-reduction device under subsection (a) during the previous 12 months. As part of its annual report to ARB, the Participating Railroads will also report the number of locomotives and overall percentage of locomotives owned by them nationwide that foreseeably may operate in California and that have been equipped with automatic idling-reduction devices during the previous 12 months.

(d) Performance Standards for Locomotives Not Equipped with Idling-Reduction Devices. Notwithstanding the Participating Railroads' obligation to install automatic idling-reduction devices on at least 99 percent of their intrastate locomotives by June 30, 2008, the Participating Railroads agree to exert their best efforts to limit the non-essential idling of locomotives not equipped with automatic idling-reduction devices. In no event shall a locomotive be engaged in non-essential idling for more than 60 consecutive minutes. The Participating Railroads shall limit non-essential idling of locomotives installed with automatic idling reduction devices to the limits specified in subsection (b).

(e) Exceptions to Idling Limits. Subsections (b) and (d) shall not apply when it is essential that a locomotive be idling. It shall be considered essential for a locomotive to idle to ensure an adequate supply of air for air brakes or for some other safety purpose, to prevent the freezing of engine coolant, to ensure that locomotive cab temperatures in an occupied cab remain within federally required guidelines, and to engage in necessary maintenance activities. The parties agree that necessary maintenance includes, but may not be limited to, fueling, testing, tuning, servicing, and repairing. Within 60 days after the Effective Date, the Participating Railroads may submit to ARB for consideration a more exhaustive listing of necessary maintenance activities that require extended idling, which shall be used in enforcement of this Program Element. An unoccupied locomotive shall include either an individual locomotive with no personnel on-board, or the trailing locomotives in a consist where only the lead locomotive

has personnel on-board. It shall be considered essential for an unoccupied locomotive not equipped with an automatic idling-reduction device to idle when the anticipated idling period will be less than 60 minutes. The Participating Railroads shall make efforts to notify train crews of anticipated wait times for such events such as train meets, track repair, emergency activities, etc. which could result in idling events greater than 60 minutes.

(f) Participating Railroads' Idling Reduction Training Programs. Within 90 days after the Effective Date, the Participating Railroads and ARB agree to establish procedures, training and any other appropriate educational programs necessary to implement and execute the provisions of this section. ARB will provide the necessary training for ARB inspectors and, if a district desires to participate in this Program Element, for inspectors from local districts. The Participating Railroads will provide the necessary training for locomotive operators, local rail yard and regional dispatchers, and any other appropriate rail yard employees. Such training shall include instruction that appropriate rail yard employees shall shut down locomotives not equipped with idling-reduction devices if they become aware that nonessential idling will exceed 60 minutes. The Participating Railroads and ARB shall undertake efforts to assure compliance with the provisions of this section, including maintaining records of training. The Participating Railroads and ARB shall make every reasonable effort to minimize the amount of time to complete this training. Information on the establishment, implementation (including training schedules), and compliance with the training components of this subsection, and any other information the railroad or ARB may deem necessary, shall be provided to the designated ARB representative within 120 days of the Effective Date of this Agreement, and every April thereafter.

(g) Participating Railroads' Rail Yard Idling Reduction Program Coordinators. This subsection applies to the rail yards listed in Attachment A (the "Designated Yards"), plus the rail yards listed in Attachment B (the "Covered Yards"). To implement the standards established by this section, the Participating Railroads will establish a single point of contact (a Program Coordinator) for all Covered Yards who will be responsible for maintaining and providing records required to demonstrate compliance with this section. The name and contact information for the program coordinator for each Covered Yard shall be provided to ARB within 30 days after the Effective Date.

(h) Idling Reduction Program Community Reporting Process. Within 60 days after the effective date and in conjunction with ARB and local residents, the respective Participating Railroad shall establish a process at each Covered Yard in the state for informing members of the community regarding how they can report excessively idling locomotives and notifying them of what actions have been taken by the railroad in addressing any identified problems.

(i) ARB Locomotive Idling-Reduction Enforcement Program. A detailed enforcement protocol to determine the specific procedures for enforcing this Program Element will be developed by ARB no later than December 31, 2005, and updated as necessary, to ensure that each ARB or participating air district staff who is enforcing the provisions of this Program

Element is knowledgeable of the provisions, intent and protocols governing this section. Each notice of violation (NOV) issued for this Program Element shall include a detailed description of the alleged violation, including time, identification and location of the locomotive; all facts relating to subsection (b) (in the case of locomotives equipped with automatic idling-reduction devices); and all facts relating to subsection (d) (in the case of locomotives not equipped with automatic idling-reduction devices). If possible, every NOV shall include the Program Coordinator's acknowledgment of receipt of the railroad's copy of the notice by fax or otherwise. Copies of notices for violation of this Program Element will be provided to the Program Coordinator (or designee) upon completion or as soon as practical if the contact is not available. For an NOV issued by an air district, the district shall, within 48 hours, mail, fax or electronically transmit a copy of the NOV to the designated ARB representative. ARB shall have sole authority to assess or modify a penalty, to waive any penalty or to determine that no violation has occurred under this Program Element. In the event of a dispute between ARB and the Participating Railroad concerning a penalty, either party may activate the appeal procedures set forth in subsection (a)(iii) of Program Element 10.

2. Early Introduction of Lower Sulfur Diesel in Locomotives.

The goal of this Program Element is to achieve emission benefits from the use of cleaner, lower sulfur on-highway diesel fuel in locomotives earlier than is required under existing federal and California regulations.

(a) Supply of Lower Sulfur On-Highway Diesel Fuel to Locomotives within California. The Participating Railroads agree to maximize the use of lower sulfur on-highway diesel fuel in locomotives operating in California, and agree to ensure that, after December 31, 2006, at least 80 percent of the fuel supplied to locomotives fueled in California meets the specifications for either California diesel fuel (CARB diesel) or U.S. EPA on-highway diesel fuel.

(b) Nothing in this Program Element 2 is intended to supersede title 13, California Code of Regulations ("CCR"), section 2299, or title 17, CCR, section 93117.[2]

3. Visible Emission Reduction and Repair Program.

The goal of this Program Element is to ensure that the incidence of locomotives with excessive visible emissions is very low, so that the compliance rate of the Participating Railroads' intrastate and interstate locomotive fleets operating within California is at least 99 percent. This Program Element will also ensure that a locomotive with excessive visible emissions is repaired expeditiously.

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[2] These regulations have been adopted by the California Air Resources Board, and submitted to the California Office of Administrative Law ("OAL") for approval. OAL has until July 5, 2005 to make a determination.

(a) Fleet Average Performance Standard for Visible Emissions. Within 60 days after the Effective Date, the Participating Railroads shall establish and provide ARB with a detailed statewide visual emission reduction and repair program. This program shall be designed to ensure that the visible emissions compliance rate for each of the Participating Railroads is at least 99 percent of the Participating Railroads' intrastate and interstate locomotive fleets that operate within California, and that locomotives with excessive visible emissions are repaired in a timely manner.

(b) Statewide Visual Emission Reduction and Repair Program Components. The statewide visual emission reduction and repair program established by the Participating Railroads pursuant to subsection (a) shall include all of the following components, at a minimum:

(i) An annual inspection of each locomotive that operates in California either through the use of an opacity meter or a certified Visible Emissions Evaluator.

(ii) A process whereby any locomotive observed by any qualified railroad employee as having excessive visible emissions is expeditiously sent either for testing through the use of an opacity meter or a certified Visible Emissions Evaluator or to a repair facility pursuant to subsection (vii).

(iii) The annual number of visible emission locomotive inspections in the yards and in the field that each railroad commits to conduct in order to develop a base case for determining compliance with the applicable standard(s).

(iv) Provisions that the inspectors conducting inspections for the Participating Railroads under this subsection will maintain qualifications as "Visible Emissions Evaluators."

(v) Provisions that identify and screen locomotives exceeding a steady state opacity measurement of 20 percent and to repair locomotives that exceed the currently applicable visible emissions standards. "Steady state" excludes start-up, shut-down and transitional states.

(vi) The currently applicable visible emissions standard.

(vii) Provisions for routing locomotives operating in California with excessive visible emissions to the nearest Participating Railroad's repair facility within 96 hours. If travel along its scheduled route will take a locomotive with excessive visible emissions out of the state, it is the intent of the Participating Railroads to repair the locomotive expeditiously, and commit that in no event shall the locomotive reenter California without appropriate testing and

repairs having been made. Units that have been identified as having excessive visible emissions may be returned to service after demonstrating compliance with appropriate locomotive certification standards. Locomotive emissions occurring during test and repair operations shall not be considered subject to the opacity or emissions standards.

(viii) Provisions for training key employees[3] and reporting locomotives with excessive visible emissions, as prescribed in subsection (f) of this Program Element.

(ix) Provisions to promptly meet and confer on any disagreements between the Participating Railroad and ARB relating to the Program.

(c) Visible Emission Inspection and Repair Program Recordkeeping Requirements. As part of its visual emission reduction and repair program, each Participating Railroad shall record the locomotive manufacturer, model number, certification standard, unit number, test(s) performed, date, time and location of test(s), inspection or excessive visible emissions and the results of such tests. For each locomotive (including those locomotives that were repaired out of state) identified as having excessive visible emissions, the Participating Railroads shall also record which additional test(s), if any, were performed, where the defect(s) was corrected, what defect(s) was repaired, and when the unit was returned to service. These records will be retained for a period of no less than two years.

(d) Report on the Number of Visible Emissions Inspections. Within 90 days after the Effective Date, and every April thereafter, the Participating Railroads shall provide to the designated representative of ARB the total number of visible emissions inspections conducted by the railroad and the results of those inspections, and other information the railroad or ARB may deem reasonably necessary.

(e) Failure to Meet Compliance Standard. If, in any calendar year, a Participating Railroad's visible emissions compliance rate is less than the 99 percent performance standard specified in subsection (a), the affected Participating Railroad and ARB will meet and confer to agree on additional measures necessary to return the locomotive fleet to the performance standard.

(f) Training Requirements for Key Employees for Each Covered Yard. Within 90 days after the Effective Date, the Participating Railroads agree to develop and implement a training program for key employees for each Covered Yard in the State. Additionally, the Participating Railroads agree to have personnel who are certified as "Visible Emissions Evaluators" present at or near the Designated Rail Yards where locomotives are

[3] Examples include managers, supervisors and dispatchers.

maintained. Key elements of the training program include opacity inspection training to identify excessively smoking locomotives and development of company procedures explaining how an employee will report locomotive units exceeding opacity limits. The Participating Railroads shall make every reasonable effort to complete this training expeditiously.

(g) Report on Training Information. Information on the establishment, implementation (including training schedules), and compliance with the training components of this subsection shall be provided within 120 days after the Effective Date of this Agreement, and every April thereafter.

(h) Annual Review of Visible Emission Inspection and Repair Program. At least once each year, representatives of each Participating Railroad shall meet with the designated representative of ARB to review trends and issues in the locomotive visible emission inspection and repair program under this Program Element and to consider possible adjustments to the program.

(i) Participating Railroads' Visible Emission Inspection and Repair Program Coordinators. Within 30 days after the Effective Date, the Participating Railroads will establish a single point of contact (a "Program Coordinator") for each Covered Yard in the State with assigned employees who will be responsible for maintaining and providing records required demonstrating compliance with this section, including tracking units that have been reported as deviating and making certain that reported locomotives are corrected. The Program Coordinator may be an employee or a contractor. The Participating Railroads shall promptly forward the name and contact information of the selected program coordinators to the designated ARB staff.

(j) Community Reporting Process. Within 60 days after the Effective Date and in conjunction with ARB, the local district and local residents, the respective Participating Railroad shall establish a process at each Covered Yard for informing members of the community on how they can report locomotives which they believe have excessive visible emissions and notifying them of what actions have been taken by the railroad in addressing any identified problems.

4. Early Review of Impacts of Air Emissions from Designated Yards.

Feasible measures that can be implemented to reduce the impact of air emissions from rail yards should be pursued expeditiously. The goal of this Program Element is to expedite the implementation of actions that are feasible in the Designated Yards.

(a) Early Review of Existing Impacts of Air Emissions from Rail Yards. Within 120 days after the Effective Date, each Participating Railroad will review the air emissions from each of the Designated Yards identified on Attachment A to determine if feasible changes could lessen the impacts of locomotive and associated rail yard equipment emissions in adjacent residential neighborhoods while maintaining the Participating Railroad's ability to operate the yard efficiently. As part of this review, the Participating Railroads shall meet with

members of the community and local air districts to discuss the concerns of the community and ways to address their concerns.

(b) Early Evaluation of Feasible Mitigation Measures at Rail Yards. Within 180 days after the Effective Date of this Agreement, the Participating Railroads shall provide ARB with a progress report on how the Participating Railroads plan to implement feasible mitigation measures in the Designated Yards. Measures which should be considered include, but are not limited to, providing a greater buffer between emission sources and the community, local modifications to the Participating Railroads' system-wide idling requirements for anticipated low temperatures, and efficiency measures that reduce emissions. ARB and the Participating Railroads shall meet and confer as appropriate to expeditiously finalize the draft Plan.

(c) Meeting on the Health Risk Assessment Data. Within 60 days after finalization of a health risk assessment developed under Program Element 5 below, ARB, the air district, community member representatives and the Participating Railroads will meet to discuss the findings of the health risk assessment and to discuss the concerns of the community. The plan developed under subsection (b) shall be updated to include any additional feasible measures identified in the Designated Yards.

(d) Annual Updates on the Implementation of Mitigation Measures at Rail Yards. At least once each year, the Participating Railroads will meet and confer with the appropriate ARB, air district, and community member representatives with a progress report, which will include any new alternative practices or other feasible actions that have been implemented in the Designated Yards (including measures implemented under other provisions of this Agreement). ARB and the Participating Railroads shall also meet and confer to update the plan developed under subsection (b) to include any additional feasible measures identified in the Designated Yards.

5. Assessment of Toxic Air Contaminants from Designated California Rail Yards.

ARB, the local air districts and the Participating Railroads have worked collaboratively to start developing uniform statewide criteria and guidelines for the evaluation of toxic air contaminants from rail yards in California. Many factors may influence the risks from toxic air contaminants at a particular rail yard, including population density, rail yard activity, rail yard diesel engine population and meteorology, all of which make the extrapolation of findings from one rail yard to another difficult. The goal of this Program Element is to conduct evaluations at all Designated Yards expeditiously in order to identify the risk from toxic air contaminants that these rail yards represent in relation to risks represented by other sources in the affected communities.

(a) ARB Criteria and Guidelines. ARB will continue to develop criteria and guidelines for the identification, monitoring, modeling and evaluation of toxic air contaminants from Designated Rail Yards throughout California. ARB will continue to work collaboratively

with affected local air districts, cities, counties and the Participating Railroads to develop consistent, comprehensive and accurate criteria and guidelines for use in evaluating toxic air contaminants from Designated Yards and other sources in the affected communities statewide.

(b) Collection of Data for Overall Health Risk Assessment. Within 90 days after the Effective Date, the Participating Railroads shall submit a proposed study plan which provides an outline and timeline of components and data that will be provided to ARB in order that a health risk assessment may be completed for each Designated Yard. The timeline set forth in the proposed study plan will provide for a staggered start of the health risk assessments to better manage the associated financial and administrative burdens. Based on the study plan submitted by the Participating Railroads and approved by ARB, the railroads or their contractors will assemble the required information regarding Designated Yards at their reasonable expense for half of the Designated Yards within 18 months of the approval of the study plan, and for all of the Designated Yards within 30 months of the approval of the study plan, as set forth in Attachment A. At a minimum, for each Designated Yard, this information shall include rail yard specific activity data, an emission inventory of any resident or transient major diesel equipment (including locomotives, on- and off-road vehicles, and non-road engines) operating in the rail yard, dispersion modeling results (concentrations) of diesel emissions, collection of appropriate meteorological and demographic data, and any other information deemed reasonable and appropriate by the Participating Railroads and ARB. ARB will be responsible for assembling the required information for other sources significantly affecting the community. The Participating Railroads and ARB agree to meet and confer as to the specific nature of the data reasonably necessary for completion of the health risk assessment for the affected community, including the selection of an appropriate model(s), data formats and prioritization of the Designated Yards to be evaluated.

(c) Health Risk Assessments. After receiving the data provided in subsection (b), or any other appropriate data, ARB shall complete draft health risk assessments for the communities affected by each of the Designated Yards. The draft health risk assessments shall be performed using a methodology deemed appropriate by ARB and, to the extent possible, consistent with previous health risk analyses involving rail yards performed by ARB.

(d) Release of Health Risk Assessment Findings and Further Actions. Upon completion of a draft health risk assessment, ARB, the local air district, representatives from the affected community and the Participating Railroads will meet and confer to discuss the draft results. Within 90 days after the completion of each health risk assessment, ARB and Participating Railroads will meet and confer to finalize the risk assessment and create a process to determine what additional actions are necessary to communicate and mitigate the risks identified in the health risk assessment and put the risks in the appropriate context.

6. Funding of Mitigation Measure Components in the Agreement.

Because many of the mitigation measures specified in the Agreement will come at some expense, the parties agree that they will work cooperatively to seek any available private and public funding sources.

(a) Potential Funding Sources for Mitigation Components in the Agreement. Potential funding sources for the mitigation components contained in this Agreement, whether specifically identified or potentially to be included in the future after a feasibility determination, include, but are not limited to:

(i) The Participating Railroads and other industries.

(ii) The Carl Moyer program.

(iii) U.S. EPA programs, including the West Coast Diesel Collaborative.

(iv) Any other similar, innovative or available private and public funding sources, including funding jointly sought by both the Participating Railroads and ARB.

7. Agreement to Evaluate Remote Sensing to Identify High-Emitting Locomotives.

Several studies have been conducted with motor vehicles to demonstrate technology that can identify high-emitting in-use vehicles along roadways. It has been suggested that this same technology can be similarly employed to identify emissions from in-use locomotives along sections of track. However, to date, only one study has been conducted on locomotives, and it was not designed to demonstrate the ability to identify emissions from locomotives in relation to federal certification levels. The goal of this Program Element is to evaluate the feasibility of using this technology to measure emissions from in-use locomotives.

The parties agree to implement a locomotive remote sensing pilot program based on AB 1222 (Jones), as amended as of May 27, 2005. If AB 1222 passes the Legislature as amended on May 27, 2005, and is signed by the Governor, carrying out the provisions of that Act will serve as the pilot project in lieu of this Program Element. If the bill fails passage, is altered from its May 27th version or is not signed by the Governor, the parties agree to meet by no later than January 1, 2006 and discuss how to implement this Program Element.

8. Agreement to Evaluate Other, Medium-Term and Longer-Term Alternatives.

This Agreement will implement the foregoing currently available and feasible mitigation measures at rail yards. EPA has commenced a further rulemaking regarding "Tier 3"

locomotive emission standards, which, together with existing and potential technologies, could achieve greater than a 90 percent reduction in diesel particulate matter emissions from locomotives at uncontrolled levels. It is also envisioned that additional measures will be deemed to be feasible. The goal of this Program Element is to ensure that the evaluation and implementation of feasible mitigation measures continues expeditiously.

(a) Diesel Particulate Filters and Oxidation Catalysts. The parties previously agreed to cooperatively evaluate the feasibility of developing Diesel Particulate Filters or Oxidation Catalysts for use on Roots Blown switcher engines. This Agreement included provisions for the Participating Railroads to commit up to $5 million dollars towards this evaluation. Within 120 days after the Effective Date, the parties will determine whether to continue this evaluation. Unless the parties agree to terminate the evaluation before it is completed, the evaluation, including recommendations on the feasibility of this technology, shall be completed by December 31, 2005. A detailed description of the evaluation findings to date, as well as an assessment of the current application of this technology to locomotives in Europe, will also be completed by December 31, 2005.

(b) Funding Sources for Additional Other, Medium- and Longer-Term Alternatives. To date, the diesel particulate filter and oxidation catalyst study identified above in subsection (a) has expended approximately $1.5 million. Upon completion or termination of this study, the Participating Railroads will propose to the Executive Officer a spending plan for, at a minimum, putting any remaining funds towards the evaluation or implementation of the projects identified below in subsection (c) or of other elements required by this Agreement. Approval of the plan will be at the discretion of the Executive Officer. The parties will also work cooperatively to assure the full use of other potential funding sources for the evaluation of the projects identified below in subsection (c).

(c) Additional Measures. The parties agree to continue to meet and confer to evaluate additional measures that are feasible at the Designated Rail Yards. The initial list of possible measures includes:

(i) Accelerated replacement of line haul locomotives operating outside of the South Coast Air Basin with lower emitting locomotives.

(ii) Retrofit or rebuild of existing line haul locomotives with lower emitting technology.

(iii) The use of other lower-emitting technologies, such as LNG- or CNG-fueled locomotives, truck engine switch locomotives or battery/electric hybrid switch locomotives in Designated Yards.

(iv) Retrofit of non-locomotive diesel rail yard equipment with diesel particulate filters or other diesel particulate matter emission reduction devices.

(v) The use of cleaner fuels, including alternative diesel fuels.

(d) Meetings to Evaluate Future Potential Measures. Technical evaluation meetings will occur no less frequently than every 6 months and will be held at a time and place of mutual convenience. Community leaders, local air districts and other interested parties will be invited to attend these meetings and offer their perspectives. Within 30 days after the second meeting, the parties will jointly prepare a brief written progress report on these consultations and make the information available to any interested parties.

9. Compliance Reporting.

The goal of this Program Element is to develop effective compliance reporting for all Program Elements in this Agreement.

(a) Development of Compliance Reporting Protocols. Within 180 days after the Effective Date, the parties intend to develop a mutually acceptable compliance reporting and inspection protocol. The parties also shall meet and confer as needed regarding the sufficiency of the data provided under this Agreement.

(b) Commitment to Program Reviews. The parties will conduct periodic joint program effectiveness reviews on all elements of this Agreement upon a party's reasonable request and will consider modifying each of the Program Elements as field results are developed and reviewed.

(c) Development of Program Review Protocol. Additionally, within 180 days after the Effective Date, the Participating Railroads will develop a review protocol to ensure the highest level of program effectiveness. ARB will be asked to review and comment on the draft protocol. The results of the Participating Railroads' summarized submittals under the Program Elements in this Agreement will be provided to ARB no less than once a year.

10. Enforcement and Penalties.

The goal of this Program Element is to assure compliance with certain Program Elements specified in this Agreement.

(a) Individual Violations.

(i) Noncompliance with Idling Provisions. Violations of Program Element 1(b) or (d) (Locomotive Idling Performance Standards) or Program Element 3(b)(vii) (repair of locomotives with excessive visible emissions) of this Agreement occurring on or after September 30, 2005 shall be assessed on an individual locomotive basis (by locomotive identification number) during each calendar year according to the following schedule:

- $400 for the first violation on any day during a calendar year.

- $800 for the second violation on any subsequent day during the same calendar year.
- $1,200 for the third and any subsequent violation on any subsequent day(s) during the same calendar year.

(ii) Noncompliance with other Provisions. For all other individual violations of Program Elements specified in this Agreement, ARB will notify the Participating Railroad of any alleged noncompliance, and will provide the Participating Railroad a reasonable opportunity to remedy the alleged noncompliance. If the Participating Railroad fails to remedy the alleged noncompliance within a reasonable time, ARB may assess a penalty up to the amounts specified in subsection (a) for each day of alleged noncompliance during a calendar year.

(iii) Appeal to Administrative Law Judge or Mediator. A Participating Railroad may review all information relating to an alleged violation, may present additional information and defenses and may appeal alleged violations to an independent mediator. The parties agree to develop an efficient and fair appeal process under this subsection (a) within 90 days after the Effective Date. The adjudicatory official in the process shall be an independent mediator or arbitrator selected in a manner to be determined by the parties. The parties agree to share any costs associated with any such appeal equally. Any penalties received for violations of Program Elements specified in this Agreement will be deposited into the Carl Moyer Program account and will be distributed to the air district where the violation occurred.

(iv) Repeated Individual Violations. If ARB determines that a Participating Railroad has repeatedly committed individual violations of this Agreement in a manner that substantially impairs the goals of this Agreement, it shall meet and confer with the Participating Railroad. If, after conferring with ARB, a Participating Railroad's pattern of noncompliance is confirmed, ARB may seek the penalties provided in subsection (b) of this Program Element.

(b) Penalties for Failure to Meet Program Requirements. Failure by a Participating Railroad to implement the necessary steps to meet the performance standards, training and/or compliance date requirements specified in:

- Section 1(a) [Installation of Automatic Idling Reduction Devices];
- Section 1(f) [Idling Reduction Training Program];
- Section 2(a) [Supply of Lower Sulfur On-Highway Diesel Fuel];
- Section 3(a) [Establishment of Visible Emission Reduction and Repair Program];
- Section 3(f) [Visible Emission Training Requirements for Key Employees at Each Rail Yard];

- Section 4 [Review of Operating Practices in Each Designated Yard]; or
- Section 5 (b) [Collection of Data for Overall Health Risk Assessment],

where such failure substantially impairs the goals of this Agreement, shall result in the following penalties:

(i) After 30 calendar days beyond the compliance date: up to $10,000.

(ii) After 60 calendar days beyond the compliance date up to 180 days after the compliance date: up to $20,000 per month.

(iii) After 180 calendar days beyond the compliance date and beyond: up to $40,000 per month.

(iv) The penalties prescribed above will be waived if meeting a performance standard, training requirement and/or compliance date within this Agreement was not possible due to unforeseen and/or uncontrollable circumstances on behalf of the Participating Railroad(s). In the event that unforeseen or uncontrollable circumstances prevent a Participating Railroad from complying with any of the sections of this Agreement cited above, every reasonable effort will be made by the Participating Railroad to inform ARB as soon as possible, and shall include an explanation of the circumstances for noncompliance and how compliance will be achieved in the most expeditious manner.

(v) In determining the amount of the penalties prescribed above, ARB or any administrative appeals panel convened under section 11(a) below shall take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the compliance history of the Participating Railroad involved under this Agreement, and the corrective action taken by the Participating Railroad.

If ARB reaches a preliminary determination that a Participating Railroad has substantially failed to meet a performance standard, training and/or compliance date requirement under this Agreement, as specified in this subsection (b), ARB shall provide notice to the Participating Railroad. ARB and the Participating Railroad shall meet and confer regarding the determination within 30 days of receipt of ARB's notification. If ARB and the Participating Railroad do not reach agreement after such consultation, within 30 days ARB and the Participating Railroad shall submit their respective positions to an administrative appeals panel, in accordance with the procedures set forth in section 11(a).

(c) Enforcement of Existing Visible Emission Statutes and Regulations. Nothing in this Agreement shall limit the ability of ARB or a local air district to cite a Participating Railroad for visible emission violations as prescribed under any other appropriate, federal, state or local regulation or statute nor shall the Agreement affect the rights and defenses of a Participating Railroad.

11. Administration

(a) Consultation and Arbitration. In the event of a dispute concerning the meaning, implementation or enforcement of this Agreement, the party seeking to clarify or enforce this Agreement shall provide notice to the other party or parties affected. ARB and the Participating Railroad(s) involved shall meet and confer regarding the determination within 30 days after receipt of notification. If ARB and the Participating Railroad(s) do not reach agreement after such consultation, within 30 days ARB and the Participating Railroad(s) involved shall submit their respective positions to an administrative appeals panel. The panel shall be comprised of one member selected by ARB, one member selected by the Participating Railroad(s), and a third member selected by the initial two members. The panel shall evaluate evidence provided by the parties, shall make decisions by majority vote, and shall render its decision as expeditiously as practicable under the circumstances. If the panel finds in favor of ARB, it shall take into consideration the conduct of the Participating Railroad(s) during the pendency of the dispute, and determine whether the Participating Railroad(s) should be assessed a penalty for the period during which the matter was in dispute, considering the factors listed in section 10(b)(v). Any party dissatisfied with the outcome of the administrative appeals process may seek de novo review of the disagreement in any court of competent jurisdiction located in California. If judicial review is not sought, then the decision of the appeals panel will be binding on the parties. Each party to proceedings hereunder shall bear its own costs and fees, except that the costs and fees of the administrative appeal panel shall be split evenly among the participating parties.

(b) Full Understanding of the Parties.

(i) This Agreement constitutes all understandings and agreements among the parties with respect to the Program Elements in this Agreement, and supersedes all prior oral or written agreements, commitments or understandings with respect to the Program Elements in this Agreement. This Agreement shall be interpreted according to the laws of the United States and internal laws of the State of California.

(ii) A Participating Railroad may at any time initiate informal consultations with ARB to identify and resolve concerns or other issues regarding compliance with this Agreement. ARB may at any time initiate informal consultations with either or both of the Participating Railroads to identify and resolve concerns or other issues regarding Participating Railroad compliance with this Agreement. All parties to the Agreement agree to meet to discuss and

negotiate any revisions to the Agreement which, in the judgment of any party, are needed to address significant changes in circumstances or to assure that this Agreement continues to accomplish the objectives of the parties. Nothing in this Agreement shall limit the ability of ARB or Participating Railroads to meet and confer, upon 30 days notice, to replace or modify one or more Program Elements of this Agreement with further agreements that meet the goals and purposes of this Agreement.

(iii) No amendment to the Agreement shall be binding on the parties unless in writing and signed by authorized representatives of all parties. Parties shall not be responsible for failure to perform the terms of the Agreement where nonperformance is based upon events or circumstances that are beyond the reasonable control of the nonperforming party, and the events or circumstances affect a Participating Railroad's ability to comply with the terms of the Agreement.

(c) Release from Obligations of this Agreement. The parties agree that the Participating Railroads shall not be required to comply with more than one agreement, regulation, statute or other requirement to meet the same goal of any Program Element contained in this Agreement. If any agency proposes to adopt any requirement addressing the goal of any Program Element set forth in this Agreement and affecting any area in California, the parties agree to meet and confer regarding any such proposal before the Participating Railroads take any action that would otherwise release them from their obligations under this Agreement. The parties agree that the Participating Railroads shall perform all obligations set forth in the Program Elements of this Agreement, unless (i) an agency or political subdivision of California adopts or attempts to enforce any requirement addressing the goal of any Program Element set forth in this Agreement (other than ARB enforcement of this Agreement) and affecting any area in California, or (ii) U.S. EPA adopts or attempts to enforce more stringent requirements addressing the goal of any Program Element set forth in this Agreement and affecting any area in California. At any time when any of these events occurs, the Participating Railroads may elect in their sole discretion to be released from their obligations under the specific Program Elements of this Agreement that address the same goal as any such requirements, *provided* that the Participating Railroads shall notify ARB at least 30 days in advance of their election. Nothing in this Agreement shall limit the rights of a Participating Railroad to challenge in any forum any requirement addressing the goal of any Program Element set forth in this Agreement.

(d) Rights and Responsibilities under this Agreement. Except as otherwise provided with regard to enforcement of visible emissions under Program Element 3, ARB is designated as the agency responsible for enforcement of the obligations undertaken by the Participating Railroads under this Agreement. The parties agree that the measures expressly identified in Program Element 10 are the exclusive remedy for any breach of this Agreement, and that the Participating Railroads' obligations under this Agreement cannot be enforced by an order for specific performance or similar injunction. Nothing in this Agreement shall modify

any existing rights of the public or any person or entity not a party to this Agreement. This Agreement does not create any new rights to any person or entity not a party to the Agreement.

(e) Notice. By notice given to the person listed on the signature page, the parties may specify the name of the person to whom notice must be given to satisfy any notification requirement of this Agreement.

(f) Unless terminated in writing by mutual agreement of the parties, this Agreement shall remain in effect until December 31, 2015.

IN WITNESS WHEREOF, the parties have executed this Agreement as of June 30, 2005.

CALIFORNIA AIR RESOURCES BOARD, an agency of the State of California

Signature

Catherine Witherspoon
Name (printed)

Executive Officer
Position

June 24, 2005
Date:

Address for notice:
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

THE BNSF RAILWAY COMPANY, a Delaware corporation

Signature

Carl Ice
Name (printed)

Executive Vice President, Operations
Position

June 23. 2005
Date: June 23, 2005

Address for notice:
2650 Lou Menk Drive, Second Floor,
Fort Worth, TX 76131-2830

UNION PACIFIC RAILROAD COMPANY, a Delaware corporation

Signature

Dennis J. Duffy
Name (printed)

Executive Vice President of Operations
Position

June 23, 2005
Date:

Address for notice:
1400 Douglas Street
Omaha, NE 68179

ATTACHMENT A

DESIGNATED YARDS

YARDS FOR WHICH A HEALTH RISK ASSESSMENT HAS BEEN COMPLETED UNDER PROGRAM ELEMENT 5		
Yard Name	**Operated By**	**Address**
Roseville	UPRR	

YARDS FOR WHICH RAILROADS WILL ASSEMBLE DATA WITHIN 18 MONTHS AFTER THE EFFECTIVE DATE UNDER PROGRAM ELEMENT 5		
Yard Name	**Operated By**	**Address**
Commerce	UPRR	4341 E. Washington Blvd., Commerce, CA 90023
Hobart	BNSF	3770 East Washington, Los Angeles, CA 90023
Commerce/Eastern	BNSF	Eastern Avenue, Commerce, CA
Watson/Wilmington	BNSF	1302 Lomita Boulevard Wilmington, CA 90744
LATC	UPRR	750 Lamar Street Lamar, CA 90031
Mira Loma	UPRR	4500 Etiwanda Avenue Mira Loma, CA 91752
Richmond	BNSF	303 Garrad Avenue Richmond, CA 94801

Stockton	BNSF	
Stockton	UPRR	833 East 8th Street Stockton, CA 95206

YARDS FOR WHICH RAILROADS WILL ASSEMBLE DATA WITHIN 30 MONTHS AFTER THE EFFECTIVE DATE UNDER PROGRAM ELEMENT 5		
Barstow	BNSF	200 North "H" Street Barstow, CA 92311
City of Industry	UPRR	17525 E. Arenth Avenue, City of Industry, CA 91748
Colton	UPRR	19100 Slover Avenue Colton, CA 92316
Dolores/ICTF	UPRR	2401 E. Sepulveda Blvd., Long Beach, CA 90810
Oakland	UPRR	1408 Middle Harbor Road Oakland, CA 94607
San Bernardino	BNSF	1535 West 4th Street, San Bernardino, CA 92410
San Diego	BNSF	

ATTACHMENT B

COVERED YARDS

1. **All Designated Yards**

2. **UPRR additional yards:**

   Anaheim

   Fresno

   Martinez

   Milpitas

   Montclair

   Portola

   Yermo

3. **BNSF additional yards:**

   Fresno (Calwa)

   Bakersfield

   Pico Rivera

   La Mirada

   Needles

   Pittsburg

   Riverbank

   Watson

4. If ARB subsequently determines that it would be appropriate to include additional yards as covered yards under this Agreement, ARB will notify the respectively affected Participating Railroads, and the parties will meet and confer regarding the inclusion of the identified rail yards on the list of covered yards.

ATTACHMENT C

1. The Participating Railroads operate national locomotive fleets that travel between California and other states daily, currently moving more than 40 percent of the total intercity revenue ton-miles of freight in the United States. Railroad networks are geographically widespread across the country, serving every major city in California and the United States. Efficient train transportation is an important factor in California and national economy. Railroads continue to improve their efficiency and reduce emissions per ton-mile by utilizing more efficient locomotives, improving freight movement operations, and by other means.

2. Railroads need rail yards. Rail yards perform essential functions such as making up cross-country trains, transferring containers to and from trucks and testing and repairing locomotives. Rail yard operation, maintenance, repairs, modification and capacity improvements are also essential. The railroads have decommissioned and removed many rail yards in California since WWII. This has benefited the immediate neighbors and communities where rail yards have been removed. At the same time, the railroads have found ways to increase efficiency and reduce rail congestion within the remaining rail yards. Intermodal transfer facilities are a good example of technical improvements that benefit the economy and environment of California. California will need more new, well-sited, environmentally superior facilities like these in the near future.

3. ARB has conducted an initial risk-assessment study of the Roseville Rail Yard, and concluded that the magnitude of diesel PM emissions and the size of the area impacted by these emissions justified short- and long-term mitigation measures to significantly reduce diesel PM emissions at the rail yard. ARB believes that similar emissions and exposure levels may exist at other rail yards in the state. Therefore, ARB has determined that taking feasible, practicable, cost-effective actions to lower emissions associated with rail yard operations is both necessary and prudent.

4. Following public notice and opportunity for comment, the United States Environmental Protection Agency (EPA) promulgated final emissions standards applicable to new locomotives and new engines used in locomotives on April 16, 1998 (63 Fed. Reg. 18978) under Section 213 of the Federal Clean Air Act (the "Final EPA National Locomotive Rule"). EPA adopted national emission standards consisting of several tiers, applicable to locomotives as specified in the Final EPA National Locomotive Rule. These standards include Tier 0, 1 and 2 opacity standards that govern visible emissions from locomotives covered by the EPA standards. EPA promulgated each of these emission standards based on an evaluation of technology and costs at the time of promulgation of the rule.

5. The California Health and Safety Code designates ARB as the air pollution control agency "for all purposes set forth in federal law" (H&S Code § 39602). ARB has primary authority under California law to carry out the state's mobile source programs. For

more than thirty years, ARB has adopted stringent emission standards applying to on-road and off-road vehicles under approved EPA waivers/authorizations of preemption. The railroads operate many ARB certified heavy-duty vehicles in California now and are anticipated to operate more of them to meet goods movement demand in the future.

6. To help attain state and federal air quality standards in the South Coast Air Basin (the "South Coast"), the railroads and ARB entered into the "MEMORANDUM OF MUTUAL UNDERSTANDINGS AND AGREEMENTS — South Coast Locomotive Fleet Average Emissions Program, dated as of July 2, 1998 ("1998 MOU") to implement the "Statement of Principles — South Coast Locomotives Program," agreed to by EPA, ARB, and the Participating Railroads, and dated as of May 14, 1997 ("1997 SOP"). All conditions to the effectiveness of the 1998 MOU were satisfied or removed and the 1998 MOU took effect on January 1, 2002 in accordance with its terms. The 1998 MOU has not been amended or terminated and remains in effect on the date of this Agreement. The railroads are implementing the 1998 MOU as anticipated.

7. To implement the 1998 MOU, the railroads are purchasing and/or installing clean locomotive technologies and preparing for the rollout of the cleanest available locomotive technologies certified by the EPA during 2005-2010 period in the South Coast. The binding and enforceable program in the 1998 MOU continues to set one of the most successful public-private partnerships to achieve clean air in California. To address more recent statewide concerns about major rail yards in California, the railroads and ARB now wish to enter into a further statewide agreement to build on the emission reduction benefits achieved by the 1998 MOU.

8. It has been widely recognized that railroads need consistent and uniform regulation and treatment to operate effectively. A typical line-haul locomotive is not confined to a single air basin and travels throughout California and into different states. The U.S. Congress has recognized the importance of interstate rail transportation for many years. The Federal Clean Air Act, the Federal Railroad Safety Act, the Federal Interstate Commerce Commission Termination Act and many other laws establish a uniform federal system of equipment and operational requirements. The parties recognize that the courts have determined that a relatively broad federal preemption exists to ensure consistent and uniform regulation. Federal agencies have adopted major, broad railroad and locomotive regulatory programs under controlling federal legislation. At the state level in California, the California Legislature has specifically limited the authority of local air districts to adopt regulations affecting the design of equipment, type of construction, or particular methods to be used in reducing the release of air contaminants from locomotives. (Health and Safety Code section 40702.) The Legislature has also specifically entrusted ARB to adopt regulations pertaining to locomotives. (Health and Safety Code sections 43013(b) and 43018(d)).

9. The parties agree that reductions in locomotive idling and the reduction in operational emissions from switch locomotives are feasible methods to reduce emissions of toxic air contaminants and to protect the health and welfare of citizens of California who live near rail yard operations in the state. The parties also recognize that operation of locomotives in the

idling and switching modes is necessary for certain railroad operations. For example, it takes time to move railcars into line, and larger locomotives must wait while smaller yard locomotives assemble trains in the yard. By the same token, smaller locomotives must wait while larger road locomotives enter the yard, couple to trains and move trains safely out of the yard. The parties have determined that automatic idling-reduction devices are available for most locomotives and locomotive engines and that most of those devices should be able to limit idling to no more than 15 consecutive minutes.

10. Although the Participating Railroads have taken steps to reduce the amount of idling and switch locomotive emissions through introduction of new technologies, ARB has concluded that it is necessary to take additional steps to reduce idling on a uniform statewide basis. ARB has determined that it has authority to identify toxic air contaminants and adopt Airborne Toxic Control Measures (ATCMs) to reduce emissions from such contaminants, such as ARB's recent control measure that requires intrastate locomotives to exclusively use CARB diesel fuel starting in January 2007.

11. To address the emissions impact from rail yards across the state expeditiously, the parties agree that it is in the state's best interest to establish a statewide program that implements a uniform and consistent approach for controlling emissions of toxic air contaminants from rail yards. Statewide action is appropriate for several reasons:

(a) ARB has the resources, knowledge, and expertise to conduct a statewide program addressing toxic air contaminants from California rail yards.

(b) A uniform statewide approach would ensure that emissions from rail yards throughout the state are reduced and that all neighboring local communities receive the benefits of the reductions. At the same time, it would afford the Participating Railroads a consistent and effective way to address the emissions at its facilities.

(c) ARB has over the years been effective in developing locomotive emission reduction programs in California. ARB was the agency in California that developed, negotiated and is implementing the 1998 Memorandum of Understanding with the Participating Railroads providing for the introduction of the cleanest available locomotives in the South Coast Air Basin by 2010. The 1998 South Coast Locomotive MOU is one of the most innovative and aggressive programs for turning over an entire fleet of mobile sources anywhere.

(d) Based on the railroads' performance since the 1998 MOU, the parties anticipate that the 1998 MOU and this ARB/Railroad Statewide Agreement will ensure that feasible measures to reduce emissions of toxic air contaminants from rail yards are achieved in the most expeditious manner. ARB and the railroads wish to confirm all of their mutual understandings and agreements in the 1998 MOU and the 1997 SOP (as implemented in the 1998 MOU). Moreover, they wish to confirm and ensure that the 1998 MOU will remain fully in effect as executed and approved and that the 1998 MOU will continue to be implemented as anticipated without interference.

12. It is in the best interest of the State and its affected communities and the railroads to rely on the MOU process as the principal means to continue to make progress in reducing emissions in the future. ARB believes that this can best be accomplished through continuing cooperative efforts between the Participating Railroads and ARB that ensure statewide actions and involve communities in expanding on yard-specific assessment and mitigation efforts. All parties agree that they will continue to meet and confer so that this can be accomplished.