BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 35803

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
--PETITION FOR DECLARATORY ORDER--

UNION PACIFIC RAILROAD COMPANY'S

SUPPLEMENTAL COMMENTS TO
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PETITION FOR DECLARATORY ORDER

GAYLA L. THAL
DAVID P. YOUNG
LOUISE A. RINN
MELISSA B. HAGAN
JEREMY M. BERMAN
Union Pacific Railroad Company
1400 Douglas Street
Omaha, Nebraska 68179
(402) 544-3309

MAUREEN MAHONEY
Latham & Watkins, LLP
555 Eleventh Street, NW, Ste. 1000
Washington, D.C. 20004-1304
(202)637-2200

MICHAEL JACOB STEEL
Morrison & Foerster, LLP
425 Market Street, 31st Floor
San Francisco, CA 94104
(415)268-7350

Attorneys for Union Pacific Railroad Company

March 28, 2014

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 35803

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
--PETITION FOR DECLARATORY ORDER--

UNION PACIFIC RAILROAD COMPANY'S SUPPLEMENTAL COMMENTS TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX PETITION FOR DECLARATORY ORDER

The Union Pacific Railroad Company ("UP") hereby submits these Supplemental Comments to the Petition for Declaratory Order filed on January 24, 2014 ("Petition") by Region IX of the United States Environmental Protection Agency ("Region IX") and joins in the Supplemental Comments of the Association of American Railroads ("AAR").

We again urge the Board to find that the Interstate Commerce Commission Termination Act ("ICCTA") precludes incorporation of these Local Idling Rules into the State Implementation Act ("SIP") for the reasons set forth in the brief submitted by the AAR. We submit this brief to provide additional background on three sets of issues.

I. UNION PACIFIC HAS SUCCESSFULLY ACHIEVED DRAMATIC REDUCTIONS IN AIR EMISSIONS RESULTING FROM ITS OPERATIONS IN THE SOUTH COAST AIR BASIN

In the affidavit submitted by Lanny Schmid, UP provides further detail concerning the dramatic reductions in air emissions achieved by UP over the last several years. See Exhibit A attached hereto. Since 2005, UP has reduced emissions at its two largest rail yards in the South Coast Air Basin by more than 60%, or a total of more than 22 tons per year of particulate matter ("PM"). In contrast, the South Coast Air Quality Management District ("SCAQMD") estimates that its Local Idling Rules would have resulted in PM reductions of 10.95 tons per year in the entire air basin, or 10.95 tons per year, an amount that is less than half of what UP has achieved at just two of its yards. UP and BNSF have also achieved major reductions in locomotive

emissions as a result of the Memorandum of Agreement entered into with the California Air Resources Board ("CARB") in 1998 (the "1998 MOU"). The reductions in PM emissions resulting from the 1998 MOU are 13 times greater than what SCAQMD estimates the Local Idling Rules would have yielded.

These facts demonstrate that UP's cooperative and innovative approach has resulted in much greater reductions than the Local Idling Rules at issue in this case could have yielded even if one accepts the SCAQMD's estimates for such reductions. Furthermore, the rail yard reductions achieved by UP have occurred in the neighborhoods that have expressed the greatest concern about air quality, while the more modest reductions estimated by the SCAQMD would have been spread out over many areas where people neither live nor work.

II. THE LOCAL IDLING RULES IMPOSE UNDUE BURDENS ON THE RAILROADS.

UP submits the verified statement of Kenneth H. Hunt, Vice President for Harriman Dispatch Center and Network Operations, to update and expand upon his earlier declaration submitted with UP's Reply brief in this matter. See Exhibit B attached hereto. Mr. Hunt testifies that the recordkeeping burden of the Local Idling Rules is significant, and that compliance would lead to disruptions in UP's operations that could cascade throughout the rail network. He also refutes much of the allegedly factual testimony of the SCAQMD's witness, Mr. Paul Reistrup. In addition, Mr. Hunt explains that the compliance with differing idling limits in different jurisdictions across the country would not be possible with current technology without major disruption to rail service.

Michael E. Iden is the General Director of Car and Locomotive Engineering for UP. His testimony points out that idle control devices cannot easily be reprogrammed to change the idle time limit—it is not simply a matter of turning a dial or flipping a switch. See Exhibit C attached hereto. A trained technician must board each locomotive requiring that the idle time be changed and must then reconfigure the software settings on the device. Each idle control device manufacturer has its own requirements and processes for making such changes, and the actual process can take two hours or more.

Mr. Iden also responds to Mr. Reistrup's mistaken understanding of how event recorders work, explaining that although event recorders may record when a locomotive engine throttle is

in the idle position, this does not mean that the engine is in fact idling. Indeed, an engine that is actually shut down may have the throttle in the idle position in order to keep other locomotives in a connected consist operating. Thus, Mr. Reistrup's assertion that the SCAQMD's requirement that every idling event be recorded can be easily met by simply downloading event recorder data is incorrect.

CONCLUSION

For all of the foregoing reasons, the Board should advise EPA that the Local Idling Rules would impermissibly interfere with uniform regulatory scheme carefully crafted by Congress in adopting ICCTA, the Locomotive Inspection Act, the Federal Railroad Safety Act and the Clean Air Act.

Respectfully submitted,

MORRISON AND FOERSTER, LLP

MICHAEL JACOB STEEL
Attorneys for Union Pacific Railroad Company

March 28, 2014

EXHIBIT A

BEFORE THE

SURFACE TRANSPORTATION BOARD

Finance Docket No. FD 35803

United States Environmental Agency – Petition for Declaratory Order

AFFIDAVIT OF LANNY SCHMID

IN SUPPORT OF

SUPPLEMENTAL COMMENTS OF THE UNION PACIFIC RAILROAD COMPANY

I, LANNY SCHMID, declare as follows:

1. I submit this affidavit in support of the Supplemental Comments of the Union Pacific Railroad Company (UP) in the above-captioned matter. I have personal knowledge of the facts stated in this affidavit and if called upon to do so, I could and would competently testify thereto.

2. I am employed UP by as Director of Environmental Field Operations, with offices in Omaha, Nebraska. My duties include managing a variety of technical subject matter experts across the United States who (1) establish company policy, procedures, and processes to ensure all work units across our system comply with applicable federal, state, and local environmental air emissions regulations (predominantly mobile sources), including acting as the UP representative for/liaison between California agencies and UP management for locomotive and rail yard emissions issues; (2) develop training programs to support efforts to comply with the applicable air emissions regulations; (3) manage centrally held operating and capital budgets for air initiatives; (4) perform in cooperation with the California Air Resources Board (CARB) comprehensive annual environmental compliance inspections of locomotive idling practices at 17 designated locations within California.; (5) develop comprehensive emissions inventories from all sources at key rail yards in California as well as locomotive emissions inventories for selected geographic locations across the Union Pacific rail network; and, (6) interface routinely with various technical experts regarding the dispersion of emissions from rail activities.

3. My personal background and experience in railroad environmental matters covers over 28 years and includes managerial and supervisory positions in the Safety, Health, and Environment Department of UP. Those positions include (1) Environmental Engineer, mainly focusing on waste water treatment plant operations at several locations across all states in which UP operates; (2) Manager of Environmental Field Operations-Southern Region for waste and waste water facilities in the states of Texas, Louisiana, Oklahoma, Arkansas, Illinois, and Kansas; (3) Director of Environmental Field Operations-Western Region for all environmental programs, including emergency response in the states of Washington, Oregon, California, Nevada, Arizona, Utah, Idaho, and Montana; (4) Director of Environmental Field Operations-System, which entailed establishing company policy, procedures, and processes to ensure all Union Pacific work units complied with applicable federal, state, and local environmental for all air, water and waste programs, developing training programs to ensure compliance with those protocols, and managing the operating and capital budgets to support those programs; and (5) my current position as Director of Environmental Field Operations - Environmental Affairs, described earlier. UP is the largest freight railroad in the United States. It has 3,455 miles of track and 5,859 employees in the State of California. UP's core network is located in 23 states west of the Mississippi River, yet performs seamless interchange operations with other Class 1 railroads across the entire United States, Canada and Mexico as well as short line railroads within its geographic territory.

4. My 41year professional environmental career began upon graduation from the University of Nebraska (BS in Civil Engineering in 1973). I worked for 18 months at the Nebraska Department of Environmental Control in its Engineering Section reviewing waste water treatment plant designs as part of the EPA/State Construction Grants Program. While working for a major meatpacker for the next 10 years managing its waste water treatment facilities and energy conservation efforts, I acquired a Master's Degree in environmental Engineering from the University of Nebraska and obtained a Professional Engineer's License. I currently serve on the Boards of the California Council for Environmental and Economic Balance (CCEEB) and am a former Director for the Lower Platte North Natural Resource District (LPN-NRD) in eastern Nebraska. I am also a past Chairman of the Environmental Affairs Committee of the Association of American Railroads (AAR),

a non-profit incorporated association of railroads, which is a party to this proceeding. I was recently awarded the 2012 Professional Environmental Excellence Award, the highest honor for environmental professionals in the railroad industry.

The Importance of the Communities in Which We Operate

5. Union Pacific is sensitive to the health and welfare of the communities in which we operate. We recognize that being a good neighbor is a key factor in our success. This is particularly true in the South Coast Air Quality Management District (SCAQMD or District), where communities have developed around some of our rail yards.

6. Around the clock, the critical call dispatchers at UP's Response Management Communications Center (RMCC) answer phone calls from the public, law enforcement and employees reporting emergencies and other incidents, including idling locomotives. The RMCC contact number is widely publicized in the communities in which we operate. RMCC keeps detailed records of every call. In 2012, UP's RMCC handled over 800,000 calls.

7. Sixteen million people live in the greater Los Angeles area. Forty-three of these people called the RMCC about idling locomotives in 2013. Each of these calls was referred to field personnel in the Los Angeles area for resolution. Although idling locomotives are a concern for some people living near our rail yards, we take prompt action to address complaints when we receive them.

Rail is the Most Environmentally Friendly Means of Transporting Freight

8. Rail is the most fuel-efficient way to transport bulk cargo on land. Lower fuel use means lower air emissions. A single Union Pacific train can replace 300 trucks carrying the same load. If just 10% of the nation's long-haul freight currently moved on highways was diverted to rail, annual fuel savings would exceed 1 billion gallons and freight-related emissions would be significantly reduced. According to the EPA, trains emit an average of 75% less greenhouse gas emissions than trucks.
9. In 2000, on average, we could move a ton of freight 375 miles on one gallon of diesel fuel. By 2012, our initiatives helped improve that to 480 miles per gallon. We continue to upgrade and increase the fuel efficiency of our locomotive fleet. UP uses a four-

pronged approach: leading the research and development into new and lower-emission technologies, improving operations, incorporating technology and engaging employees.

Rail Yard Emission Reductions

10. Significant operational and equipment improvements have been made at all of UP's rail yards in the South Coast Air Basin in an effort to reduce emissions. Reducing emissions at rail yards directly benefit surrounding communities by targeting efforts at places where people live and work. In contrast, SCAQMD Rules 3501 and 3502 (the Local Idling Rules) would apply without regard to whether there is any community benefit. UP has analyzed each of these yards to identify opportunities for emission reduction. Where feasible, those measures have been implemented, and over the last several years major reductions have been achieved. The following paragraphs of my declaration describe the improvements UP has made at the two largest yards it operates in the South Coast Air Basin and the emissions reductions it has achieved through those investments. Similar reductions have been achieved at UP's other South Coast Air Basin yards

Intermodal Container Transfer Facility

11. Opened in 1986, the Union Pacific Intermodal Container Transfer Facility (ICTF) is a 277-acre, near-dock rail yard located approximately 5 miles from the Ports of Los Angeles and Long Beach. The facility is used for assembling trains that transport marine shipping containers to destinations throughout the country. Approximately 15% of all containers entering these ports go through the ICTF.

12. As of 2005, total diesel particulate emissions from the ICTF were 20.3 tons per year. As of 2011, UP had reduced emissions by over 70%, to 5.5 tons per year. None of these reductions were a result of regulations or requirements of the SCAQMD.

13. UP achieved this dramatic reduction in emissions by among other things, making the investments described below. These efforts directly and effectively address concerns expressed by the local community.

14. Since 2006, UP has dispensed only ultra-low sulfur fuel at the ICTF, which significantly reduces emissions of sulfur dioxides.

15. In 2012, UP replaced its model year 2005 yard hostlers at the ICTF with new on-road certified hostlers that reduced oxides of nitrogen (NOx) emissions by over 96% and particulate matter (PM) emissions by over 85%.

16. UP installed the first-ever hybrid electric crane to further reduce emissions at ICTF.

17. UP has replaced or upgraded all of the cranes and other cargo handling equipment at the ICTF to meet California's most stringent standards for cargo handling equipment.

18. On-road diesel trucks serving ICTF are not owned or controlled by UP, but must nevertheless meet the most stringent emissions standards imposed anywhere in the country.

Commerce Yard (East Los Angeles)

19. UP's Commerce or "East LA" yard is a 160-acre intermodal facility with 5 receiving tracks, 6 sorting tracks, 9 tracks for locomotive maintenance and repairs, 8 tracks for loading/unloading and 8 departure tracks. The facility operates 24 hours a day 365 days a year and nearly 40 trains a day operate through, originate or terminate in the yard.

20. UP's Commerce Yard in East Los Angeles has also been modernized in order to reduce emissions that could affect local communities. As of 2005, total diesel particulate emissions from the Commerce Yard were 12 tons per year. As of 2012, UP reduced emissions by over 60%, to 4.5 tons per year. None of these reductions were a result of South Coast Air Quality Management District regulations or requirements, which, although adopted in 2006, did not take effect because they were found to be preempted by the federal courts.

21. UP achieved this dramatic reduction in emissions by among other things, making the investments described below. These efforts directly and effectively address concerns expressed by the local community.

22. UP has replaced or upgraded all of the cranes and other cargo handling equipment at the Commerce Yard to meet California's most stringent standards for cargo handling equipment.

23. More than 80% of the switchers operating at the Commerce Yard are GenSet switchers, whose emissions of particulate matter are about 85% lower than the older conventional switchers.

24. Since 2006, UP has dispensed only ultra-low sulfur fuel at the Commerce Yard, which significantly reduces emissions of sulfur dioxides.

25. UP installed an automatic gate system in 2012, which reduced truck queuing and idling time and, in doing so, eliminated the prior backlog of dray trucks waiting to deliver intermodal containers to the Commerce Yard from the adjacent city streets.

26. UP has routinely re-evaluated yard operations to identify opportunities to relocate operations within the yard to locations further from neighboring residences to reduce their impacts.

27. Even if the Local Idling Rules had taken effect when they were adopted in 2006, any reductions in emissions at the Commerce Yard and the ICTF resulting from the application of those rules would have been inconsequential. As set forth in the declaration of Gary Rubenstein submitted in this proceeding, the SCAQMD estimated that the total emission reductions of 0.03 tons per year for the entire South Coast Air Basin. Mr. Rubenstein explains that this estimate is grossly overstated and based upon inaccurate and unreliable data and indeed CARB has stated that these regulations "are likely to achieve little, if any, emission reductions."

28. Even assuming that such reductions would in fact occur, the portion occurring at the Commerce Yard and ICTF would have been some small fraction of that basin-wide number. Furthermore, assuming that the SCAQMD's estimate was correct, at just the Commerce Yard and ICTF, UP has achieved reductions of more than double what the SCAQMD estimated their Local Idling Rules would yield for all railroads operating in the entire South Coast Air Basin.

Fleet Improvements

The 1998 MOU

29. In July 1998, the State of California, through CARB, UP and the BNSF Railway Company (BNSF), entered into a Memorandum of Mutual Understandings and

Agreements, known as the South Coast Locomotive Fleet Average Agreement, under which the railroads and CARB agreed to implement the Statement of Principles - South Coast Locomotives Program. The South Coast Locomotives Program was mutually agreed to by CARB, the railroads and the U.S. Environmental Protection Agency (EPA) in May 1997 (the 1998 MOU). Attached hereto as Exhibit A (Trial Exhibit No.8) is a true and correct copy of the 1998 MOU.

30. This voluntary agreement requires the railroads to use on average the cleanest available locomotive technologies in the Los Angeles Basin by 2010. CARB, UP and BNSF agreed to liquidated damages for non-compliance, as well as mitigation provisions. As subsequently noted in the 2005 MOU (defined below) entered into by the railroads and CARB in 2005, "[t]he 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." CARB has documented UP's full compliance with the 1998 MOU. UP is well-positioned to fully comply until the MOU's expiration in 2030.

31. Based on CARB's analyses, UP estimates that the PM reductions resulting from the railroads' compliance with the 1998 MOU are approximately 0.41 tons per day. The PM reductions resulting from the 1998 MOU are thus about 13 times greater than the reductions that would have resulted from enforcing the Local Idling Rules.

The 2005 MOU

32. On June 24, 2005, UP and BNSF entered into a voluntary Memorandum of Understanding (2005 MOU) with the CARB entitled the "CARB/Railroad Statewide Agreement - Particulate Emissions Reduction Program of California Rail Yards." The statewide 2005 MOU included an enforceable idle-reduction plan for non-essential idling, with specified, escalating monetary penalties for violations of the idling provisions, and emissions-reduction initiatives that went beyond what the CARB had legal authority under California or federal law to impose unilaterally. UP and BNSF have already incurred substantial costs to comply with the requirements of the 2005 MOU in an effort to reduce rail-related emissions of particulate matter and other pollutants.

33. UP has fully complied with the 2005 MOU.

Innovation

34. UP has pioneered locomotive technology research and set the standard for railroads across the country. We have worked with locomotive suppliers, governmental organizations, engineering researchers and others to explore nearly a dozen technological improvements to our locomotive fleet for the past several decades. Some, like UP's pioneering work in the Genset locomotive, resulted in worldwide application. Others laid the foundation for further research and development. A few, such as the LNG fueled switchers in the mid 1990's and the Green Goats in the early 21st century, did not succeed, but did provide valuable information and experience that led to later successful technological innovations.
35. Green Goats—the world's first diesel-battery hybrid switch locomotives—were first tested by UP in 2002, leading to the purchase of a total of 11 in California and 10 in Texas in 2005. Similar in concept to a hybrid automobile, Green Goats depend entirely on a small diesel-powered engine to charge a large bank of onboard storage batteries, which in turn powers the locomotive. With this technology, fuel consumption was reduced by at least 16%, while emissions of nitrogen and particulate matter were reduced by approximately 80%. Repeated battery-caused fires, poor locomotive availability and severely reduced operability resulting from limited energy (battery) storage capability led the UP to abandon the Green Goat project after 10 years of work to improve performance. Should battery technology evolve in the coming years, experience with the Green Goats will speed the development of hybrid locomotives.
36. The earlier LNG research and development efforts identified several significant technological and operational deficiencies that caused the project to be shelved, yet did lead to the development of rail tender cars that will be key components of line haul locomotive testing program UP will conduct in late 2014.
37. Although UP does not design or manufacture locomotives, it has spent over $6.5 million on locomotive research and development since 2000.
38. Locomotives do not require maximum horsepower all the time, so UP initiated development of a switching locomotive that uses multiple smaller, far lower emitting, diesel engines to produce the required horsepower when needed. This allows engines to be powered up quickly, instead of idling in the rail yard until needed. The idea was to

package the diesel engine, electrical generator and radiator in one compact, easily replaced module called a Generator Set, or "Genset." The latest Genset switchers are equipped with six traction motors instead of the four found on traditional rail yard switching locomotives to allow use in more demanding hump service in our classification yards. The two additional traction motors help push rail cars over the "humps" in rail yards before gravity takes the cars into destination-specific tracks. Using the Genset switchers also reduces greenhouse gas emissions from the switchers by up to 37%.

39. Our fleet of 172 ultra-low emission GenSets working in California, Texas and the Chicago area represents the industry's largest, and accounts for nearly half of the GenSets working world-wide.
40. Since 2000, we have invested approximately $6.5 billion to purchase locomotives that meet the EPA's updated emissions guidelines and an additional $200 million to upgrade older locomotives. During this time period, Union Pacific retired more than 2,750 older locomotives and overhauled or rebuilt nearly 4,600 diesel engines with emissions control upgrades.
41. Nearly 90% of our 8,400 locomotives are certified under existing U.S. Environmental Protection Agency Tier 0, Tier 1, Tier 2 or Tier 3 emissions standards. Our investments in new "switching" locomotives, which are designed to move trains or cars within a rail yard, also have helped us improve fuel efficiency and reduce emissions.
42. Beginning in mid-2009, UP engineers worked closely with locomotive manufacturer Electro Motive Diesel (EMD) to reduce the size of the 3800 horsepower (HP) engine in a standard freight locomotive engine to create the space needed to install three experimental emissions-reducing technologies. The resulting 3000 HP engine, known as the SD59MX, then was fitted with exhaust gas recirculation (EGR) to reduce emissions and demonstrate the capability of that technology on a large, medium speed diesel engine in the demanding railroad environment. EMD and UP funded the development of ten of these locomotives for use in the South Coast Air Basin in California.
43. One of the SD59MX locomotives was upgraded with the addition of two more emissions-reducing technologies: diesel oxidation catalysts (DOC) and diesel particulate filters (DPF), known as the UP9900. UP and the California Air Resources Board jointly funded analysis of the locomotive to verify 85% reduction in particulate matter emissions using

in part a grant created by the California legislature. UP9900 is based in Roseville and is used for operations in California.

44. The UP9900 research will be very useful in helping UP and the locomotive manufacturers to meet EPA's Tier 4 engine standards, which take effect January 1, 2015 and will reduce emissions from locomotives throughout the United States.
45. Using California Goods Movement grant funds, UP also acquired an additional fifteen SD59MX locomotives for use in and around Roseville and the major freight corridors in Northern California. These locomotives reduce both NOx and PM by approximately 60%, and like the research on the UP9900, should help UP and the locomotive manufacturers meet EPA's Tier 4 engine standards.
46. While the UP9900 is the signature unit in a series of twenty-five locomotives that UP is testing in California, all twenty-five of these locomotives have performed well, both operationally and technologically. This joint effort by UP, EMD and CARB has not only reduced emissions from current operations, it has provided valuable knowledge and experience that is enabling the development of new locomotives that will comply with US EPA's Tier 4 standards.
47. We evaluated experimental technology, such as oxidation catalysts (Oxicat) and diesel particulate filters (DPF). Initial tests showed the Oxicats reduced particulate emissions by 50%, hydrocarbons by 38% and carbon monoxide by 82%. DPFs reduced particulate matter by more than 70%. While these efforts did not prove viable for retrofit of the technologies onto existing switch or line haul locomotives, they did provide excellent design and operational data that served as a basis for future development and optimization of after treatment technology for the locomotive industry.
48. We are continuing to test an ultra-low emitting Genset locomotive that has been fitted with DPF to further reduce particulate matter emissions beyond its normal low level. Normally low PM emissions from the Genset are reduced by over 90%, to 0.02 grams/BHp-Hr, which is below the UP EPA Tier 4 switch locomotive standard.

Employee Engagement

49. The employees operating our locomotives are key players in reducing the amount of fuel we use. Through simulator training and peer coaching, locomotive engineers are honing their train operating techniques to conserve energy. Additionally, the employee-driven

Fuel Masters Unlimited conservation program, which offers financial rewards to train crews who are able to improve fuel efficiency, provides direct incentives for fuel-saving efforts. Other employee efforts under way include assigning power by tons per axle to reduce fuel consumption and locomotive wear, and increasing use of distributed power to reduce in-train forces and drag while saving fuel and train starts.

I declare under the penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed on this 28th day of March 2014, at Omaha, Nebraska.

Lanny Schmid

EXHIBIT B

BEFORE THE

SURFACE TRANSPORTATION BOARD

Finance Docket No. FD 35803

United States Environmental Agency – Petition for Declaratory Order

AFFIDAVIT OF KENNETH H. HUNT

IN SUPPORT OF

SUPPLEMENTAL COMMENTS OF THE UNION PACIFIC RAILROAD COMPANY

I, KENNETH H. HUNT, declare as follows:

1. I submit this affidavit in support of the Supplemental Comments submitted by the Union Pacific Railroad Company (UP) in the above-captioned case. I have personal knowledge of the facts stated in this affidavit and if called upon to do so, I could and would competently testify thereto.

2. I am employed by as UP's Vice President for Harriman Dispatch Center and Network Operations. My responsibilities include the management of UP's dispatching of trains throughout the UP network. From 2005 to 2008, I served as Assistant Vice President - Operations, Western Region. I was directly responsible for operations in UP's Los Angeles Service Unit, the portion of UP's rail system that would be most directly impacted by the South Coast Air Quality Management District's Rules 3501 through 3503. From 2008 to 2012, I served as Regional Vice President - Operations, Western Region. I make this declaration in support of UP's Supplemental Comments before the Surface Transportation Board. I have personal knowledge of the facts stated in this declaration, and if called as a witness, I could and would competently testify thereto.

3. I have been employed in the rail industry for over 32 years. My experience is described in the declaration I prepared in 2006 as my direct testimony in the matter of *Association of American Railroads v. South Coast Air Quality Management District* (the "AAR case"), which was filed with UP's Reply Brief in this matter on February 14, 2014 (the "2006 Declaration").

4. My declaration is based upon my education, training and personal business experience with UP and the rail industry. Because of my 32 years of experience in the industry, I am intimately familiar with all manners of rail equipment and rail operations.

5. I believe that, except as otherwise discussed in this declaration, the facts and opinions set forth in my AAR case declaration remain true and correct.

6. In this declaration, I provide testimony regarding issues specific to rail operations in Southern California of which I have personal knowledge and the interplay between these issues and the South Coast Air Quality Management District's (SCAQMD or District) Rules 3501 and 3502 (the Local Idling Rules). My testimony supplements and updates that of several other UP employees whose declarations were submitted in connection with the AAR case, such as Douglas Wills, Mike Bryzatis, Tom Haley, Ben Ritter, and John Ready. As I explained in my 2006 Declaration, I believe the Local Idling Rules will substantially degrade rail service in the Los Angeles Service Unit and beyond and as such will significantly interfere with UP's rail operations in the Los Angeles Basin and eastward. My conclusions have not changed with the passage of time. In particular, Rule 3502(d) imposes a strict 15-minute idling limitation and 30-minute unattended locomotive limitation, without an exception to maintain brake pressure or consideration the potential for an increased remanufacturing obligation. Rule 3501(d)'s record-keeping requirements would adversely affect UP's constrained rail operations by taking valuable crew time to create records solely for the purpose of imposing a burden that would effectively force the adoption of different locomotive technology.

10. I have also read the statement submitted by Paul Reistrup on behalf of the SCAQMD (the "Reistrup Statement"). I disagree with his conclusions and opinions, many of which are predicated on a misunderstanding of the relevant facts.

11. In this declaration I explain my opinion that the Local Idling Rules will substantially interfere with and unduly burden rail operations in the Los Angeles Basin, noting the misstatements and misunderstandings in Mr. Reistrup's submission.

12. I do not believe Mr. Reistrup is qualified to provide these opinions concerning Class I freight operations because he has not been involved with such operations, other than for a brief period in early intermodal operations more than 40 years ago. Other than that brief

assignment in the late 1960s and early 1970s, his experience in Class I railroad operations was limited to passenger operations at CSX and Amtrak, and even that experience ended more than 10 years ago. Rules 3501 and 3502 do not apply to passenger rail services. Furthermore, because passenger rail service is generally given scheduling priority over freight services, his experience with passenger services is not relevant to the impacts on freight operational fluidity, velocity and integration at issue in this proceeding. Mr. Reistrup's experience at a short line (non-Class I) railroad hauling coal during the 1980s is also not applicable to the issues a Class I freight operation confronts, particularly in a complex operating environment such as the South Coast Air Basin.

Recording of Idling Events

13. Mr. Reistrup offers the opinion that Rule 3501 is a "very simple reporting requirement" that imposes "no additional burden" on the railroads. Reistrup Statement at 5, 7. This opinion rests upon a series of incorrect factual assertions.

14. First, Mr. Reistrup asserts that railroads already keep track of "how long a locomotive idles." Reistrup Statement at. 3. This is not correct.

15. Second, Mr. Reistrup argues that train crews already collect the information required by Rule 3501 because "[c]rews regularly track all of the major events that occur during a shift" and "idling events are likely to correspond to details that the railroad personnel are already recording." Reistrup Statement at 6, 7. Most idling events, especially those lasting less than an hour, are not considered "major events." Nor do they all constitute reportable "delays." Train crews do not track each time a locomotive idles—something that can happen many times per day on each train UP operates. For example, each time a train "meets" another train, that is, when a train must pull onto a siding to allow another train (or multiple trains) to pass, the train on the siding must idle so that it is ready to resume travel as soon as the tracks clear. Similarly, when picking up or delivering goods at a customer facility, access may be delayed, resulting in idling. In our yards, trains must idle as they await their departure clearance. None of these events would be a "reportable delay."

16. The only way to be sure to record every idling event that exceeds 30 minutes is to record every idling event, since it is generally not known how long an idling event will last until

the event is concluded. In the South Coast Air Basin, UP locomotives idle hundreds of times each day. As set forth in the declarations submitted in connection with the AAR case, the burdens of recording every idling event are significant and would result in major operational delays. UP does not currently have any system in place to record idling events.

17. Due to the burden imposed by Rule 3501's recordkeeping requirements, UP would effectively be forced to comply with the SCAQMD's rules by installing idle control devices set at 15 minutes on UP's entire fleet. Even this extreme burden, however, would not fully satisfy the rules because many UP trains have "foreign power," that is, locomotives owned by other railroads. This foreign power makes up about 15% of the fleet of locomotives operating on UP trains in the South Coast Air Basin at any given time. UP would have no way of assuring that these foreign power locomotives had the required idle control devices set at 15 minutes.

Idle Time Limits

18. Mr. Reistrup also opines that the railroads can achieve compliance with the idling time limits in Section 3502 without any material burden. Reistrup Statement at 9-11. This opinion is also predicated on irrelevant and/or erroneous factual assumptions.

19. Mr. Reistrup notes that locomotive engineers are "trained to shut down idling locomotives, isolate or shut down unneeded locomotives in trains, pace trains and adjust acceleration and braking to conserve fuel." See page 4 of the Reistrup Statement. This, of course, is true, but has little to do with the issues presented in this proceeding, which must determine whether such activities are driven by the need to conserve fuel and maintain system velocity or by arbitrary rules imposed by local agencies that do not take into account critical operating and safety issues.

20. Mr. Reistrup goes on to say that "because the railroads already use idle-control technologies on most of the locomotives operating in the Basin, they can either set the idle control technology to 15 minutes, or set the idle-control technology at 30 minutes and ensure that the engines are actually shut down under the conditions set forth in Rule 3502." See page 5 of the Reistrup Statement. As explained in the affidavit submitted by Michael Iden, this statement is misleading in that it suggests that the idle time setting on

an automatic idle control device can be reset with the flip of a switch. It cannot. Such a change requires reprogramming the software on a mainframe and on the individual idle control devices in each locomotive by a person with training and experience in such programming. These idle-control system programs are proprietary systems owned by the manufacturer. Neither locomotive crews nor the UP mechanical department has such training. It is not practicable to stop the train and have a trained technician available to board the train so that the software can be altered when locomotives enter and depart the South Coast Air Basin, as well as any other jurisdiction that may elect to adopt a rule at variance with the EPA's national rule. And as noted above, UP operates a significant number of foreign power locomotives, which UP has neither the knowledge, training or legal authority to modify.

21. Although the Local Idling Rules would effectively establish a national minimum standard requiring the railroads to install anti-idling devices set at 15 minutes on locomotives entering the South Coast Basin in order to reduce the burdens of compliance, even that equipment-forcing burden would not solve all of the problems presented by the rules.

22. Mr. Reistrup appears to be unaware of complexities of idle-control devices that the Local Idling Rules fail to address. For example, idle control devices are designed to disengage after a certain number of engine shutdowns in order to avoid damaging engine components and requiring remanufacture at a date earlier than currently required by the EPA's national rule. Compliance with the Local Idling Rules idling prohibitions would often require multiple shutdowns in the course of a day. Because such shut-downs are likely to occur several times per day, the idle control devices can be expected to disengage, resulting in a violation of Rule 3502, or an over-ride that damages the engine.

23. Similarly, in distributed power trains, the lead locomotive must maintain a radio connection with the remote locomotives. Shutting down the remote locomotives would break that critical link. In order to reestablish that link so that the train can resume travel, a qualified technician or the locomotive engineer must walk from the lead locomotive at the head of the train to the locomotive to be linked, board the locomotive and reestablish the link. In trains with distributed power—that is, a locomotive at the head of the train and one at the end of the train, and perhaps even one in the middle of the train—

reestablishing a link will require walking the length of the train and back. On a 7,000 foot train, this is a walk of almost three miles round trip, and could take an hour to complete just the walking portion of the work. Notably, these circumstances are fully addressed in the U.S. Environmental Protection Agency's (USEPA's) federal rule on idling, but not in the Local Idling Rules.

24. Mr. Reistrup also asserts that shutting down an unattended locomotive is a "good practice from a safety perspective" and argues that the railroads' concerns about maintaining brake pressure are a "red herring." Statement at 10-11. Suffice it to say that train securement is an issue of critical importance and UP's concerns and efforts to ensure safe operation are most certainly *not* some artificial "red herring." The facts surrounding the impact of Rule 3502 on braking systems are laid out in detail in paragraphs 47 to 50 of the Declaration of Douglas Wills submitted in the AAR case and in support of UP's Reply brief filed with the Surface Transportation Board on February 14, 2014. The facts set forth in Mr. Wills' declaration, which I supported in my own declaration in the AAR case, remain accurate and true today.

25. As stated in Mr. Wills' declaration, when leaving a train unattended UP requires its crews to leave a locomotive, usually the lead, idling to maintain air brake pressure and to set sufficient hand brakes under federal and UP rules to ensure that the train does not move. More importantly, if the crew expected the train to move within a short time, under the current UP rule, they would also leave all of the trailing locomotives idling. In such a circumstance, the train could be readied for movement in less than 15 minutes. Rule 3502, however, would require this same crew to shut down all of its locomotives. Before this train could be readied to move, a crew would have to restart the locomotives and recharge and test the air brakes before releasing any of the handbrakes. Rule 3502's application would delay this train at least 45 minutes and likely more.

26. Shutting down locomotives as required by Rule 3502(d) would delay trains attempting to leave terminals, attempting to leave sidings, and meeting or being passed by other trains. It would even delay crews involved in the building of other outbound trains because delayed trains that have already been fully assembled will occupy limited yard space,

preventing arriving trains from entering the yard to be dismantled so new trains can be built.

27. Mr. Reistrup disagrees with UP's assessment of the burden and in effect argues that UP is being too conservative with respect to safety, but he does nothing to refute the facts set forth by UP. Although Mr. Reistrup dismisses the air brake safety concern, the USEPA takes the issue seriously. The EPA rules expressly permit locomotives to continue idling to maintain air pressure for brakes. 40 C.F.R 1033.115(g)(2)(ii). The Local Idling Rules directly conflict with the USEPA rule—there is no exception in the Local Idling Rules that would allow idling to address air brake pressure concerns, as Mr. Reistrup's statement implicitly confirms.

28. With respect to the operational burdens of restarting locomotives that have been shut down to comply with idling prohibition or to avoid the recordkeeping and reporting burdens of Rule 3501, Mr. Reistrup says that, based on his "direct experience," shutting down a locomotive does not increase the time to resume service. Reistrup Statement at 11. Restarting a locomotive is not simply like restarting your car. As stated in paragraph 49 of Mr. Wills' declaration, restarting a train's locomotives, tying and untying hand brakes, reestablishing the link with other locomotives on the train and recharging and testing the air brakes would delay the train for at least 45 minutes.

29. The delays caused by shutting down of locomotives are among the constraints on capacity currently experienced in the Los Angeles Service Unit. Mr. Reistrup cites UP's Locomotive Fuel Conservation and TPA Compliance Rule, which requires the manual shutdown of locomotives that are going to be unattended for 15 minutes or more, and argues that this is no different than the Local Idling Rule requirement. See UP Rule 31.8.7. However, Mr. Reistrup seems to ignore the EPA-approved exceptions to the shutdown requirements. These exceptions (brakes, linked locomotives) are incorporated into UP Rule 31.8.7, but are not allowed by the Local Idling Rules.

30. In short, UP's operating rules necessarily strike a balance between operational flexibility, fuel savings and emissions reductions. A strict 15-minute rule would remove virtually all operational flexibility and significantly impair the Los Angeles Service Unit's ability to timely and efficiently operate a rail system. I believe that compliance with Rules 3501

and 3502 would be very detrimental to UP's network and would result in significant delays, disruptions and reduced rail capacity in the Los Angeles Basin and beyond. Allowing local agencies throughout the country to impose their own differing local idling rules would, in my opinion, have catastrophic consequences for the rail industry.

I declare under the penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed on this 18th day of March 2014, at Los Angeles, California.

Kenneth H. Hunt

EXHIBIT C

BEFORE THE

SURFACE TRANSPORTATION BOARD

Finance Docket No. FD 35803

United States Environmental Agency – Petition for Declaratory Order

AFFIDAVIT OF MICHAEL E. IDEN

IN SUPPORT OF

SUPPLEMENTAL COMMENTS OF THE UNION PACIFIC RAILROAD COMPANY

I, MICHAEL E. IDEN, declare as follows:

1. I submit this affidavit in support of the Supplemental Comments of the Union Pacific Railroad Company (UP) in the above-captioned case. I have personal knowledge of the facts stated in this affidavit and if called upon to do so, I could and would competently testify thereto.

2. I am employed by UP as General Director of Car and Locomotive Engineering, reporting to the Chief Mechanical Officer. My current job responsibilities include identifying, researching, testing and when practical implementing or assisting in implementing new locomotive-and-freight car related technologies (including Distributed Power (DP) (placing line-haul locomotives at mid-train and end-of-train position(s) on long freight trains); Electronically-Controlled Pneumatic braking systems (ECP braking); Positive Train Control (PTC); improved locomotive operator cab and fuel tank crashworthiness; improved equipment aerodynamics; emissions control devices and technologies such as diesel particulate filters and exhaust gas recirculation; and the use of alternative fuels such as liquefied natural gas. I am also UP's lead technical representative with the Association of American Railroads (AAR), locomotive manufacturers and various agencies on locomotive emissions issues. I have also managed and approved the manufacturing specifications for all new locomotives at UP since 1995, covering a total of 5,386 of UP's 8,310 locomotives (65% of UP's current locomotive fleet and 21% of all locomotives currently operating in the United States).

3. My personal background and experience in railroad engineering matters covers over 41 years and includes management positions in railroad facility engineering (track, signals, yard facilities, etc.); transportation operations planning including horsepower demand and fuel consumption forecasting; locomotive specification, design, manufacturing, maintenance and operations; train operating procedures including fuel conservation and derailment prevention practices. Upon joining UP in July 1995, I was initially made responsible for all locomotive engineering, training and quality assurance. Between 1995 and 1998 I managed the technical assimilation of the UP locomotive fleet (then numbering about-3,500 locomotives) with the 700+ unit locomotive fleet of the Chicago & North Western (CNW) acquired in 1995 and the 2,000 unit locomotive fleet of the Southern Pacific (SP) acquired in 1996. From 1978 to 1995, I was employed by the Chicago & North Western Transportation Co., in various positions, starting as a Senior Operations Analyst in 1978 and progressing in 1994 to Assistant Vice-President Motive Power. Prior to working at CNW, I was employed between 1974 and 1978 as a Mechanical Engineer at the Electro-Motive Division of General Motors Corp. (EMD), in LaGrange, Illinois, in locomotive manufacturing and engine test cell engineering. My first employment in the railroad industry began in 1972 as a Management Trainee in Engineering & Research at the Southern Railway in Atlanta, Georgia, leaving as an Associate Engineer in 1974. I have been actively involved in railroad industry matters throughout my career. Currently I am chairman of the AAR Locomotive Committee which establishes performance standards for safety and interoperability of freight locomotives and also chairman of the AAR's Natural Gas Fuel Tender Technical Advisory Group developing performance standards for natural gas fuel tenders; I am also the only remaining charter member of the Locomotive Committee dating back to its formation in 1992. Previously I have served as chairman of the AAR Technology Outreach Committee which funds graduate engineering student research at three U.S. universities and one Canadian university, and also served as the founding chairman of the AAR's Coupling Systems and Truck Castings Committee, which was formed to improve the quality of steel castings used by the railroad industry. I am the author of two U.S. patents and co-author of four U.S. patents related to various aspects of railroad technology, and I have four additional U.S. patent filings in process. I have also authored

or co-authored numerous technical papers published by the American Society of Mechanical Engineers (ASME) during rail transportation and internal combustion engine conferences. In 2012 I was awarded the AAR John H. Chafee Environmental Excellence Award (for calendar year 2011).

4. My 41 year professional engineering career began upon graduation from the Milwaukee School of Engineering (with a Bachelor of Science degree in mechanical engineering) in 1972. I also graduated from Northwestern University Graduate School of Management (with a master of management degree in transportation operations and railroad finance) in 1978 in a General Motors fellowship program. I am a registered professional engineer in the states of Nebraska and Wisconsin, and have held a federal locomotive engineer certificate ("Federal Railroad Administration (FRA) locomotive engineer license") since 1992. At various times in my career I have also periodically operated locomotives on line-haul freight, yard switching and commuter passenger trains.

5. Mr. Paul Reistrup in his Verified Statement (page 9) refers to "GenSet" locomotives. A Genset locomotive is a lower-horsepower switching locomotive that is equipped with 2-or-more truck-derivative diesel engines and can achieve lower emissions than larger single-engine higher-horsepower line-haul locomotives. Genset locomotives are not, however, suited for the same over-the-road long-distance duties as are the higher-horsepower locomotives. Genset locomotives have been certified by the California Air Resources Board (CARB) as being "Ultra-Low Emitting Locomotives (ULELs)" under the terms of the Memorandum of Understanding (MOU) signed by CARB, the UP and the BNSF Railway on July 1, 1998. I am intimately familiar with "Genset" locomotives and their capabilities to reduce exhaust emissions and environmental impact because I was the originator of the Genset locomotive concept back in February 2002. UP became the first railroad to acquire a Genset locomotive when the world's first Genset prototype locomotive was delivered to UP on December 1, 2005. UP has since acquired a total of 172 Genset locomotives of which 61 operate in the South Coast Air Basin.

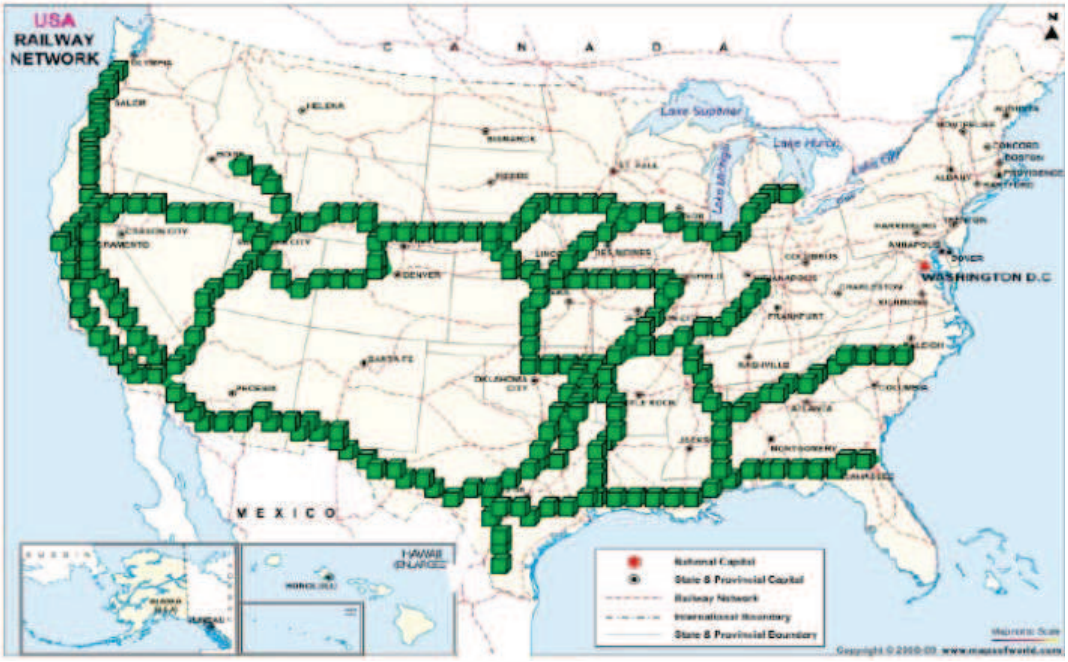
Programming of Idle Control Devices

6. As a result of my responsibilities for locomotive engineering, I am familiar with the design and operation of diesel-electric locomotive engine idle control devices and systems (as well as other parts, systems and sub-systems of diesel-electric locomotives).

7. It is important to understand that the majority of UP's 8,310 unit locomotive fleet must be interchangeable with some 20,000 other locomotives operated by other North American railroads and able to operate anywhere within the North American freight rail system (covering the US, Canada and Mexico). Although UP operates in 23 states generally west of Chicago, Memphis and New Orleans, UP locomotives are regularly interchanged to and operated by other railroads, and vice versa, in an industry practice known as "run through" train operations. Thus, UP locomotives can often be found operating on other railroads in the eastern US, in Canada and in Mexico. A single locomotive may travel throughout the country and even in Canada and Mexico in a relatively short period of time. The following map shows the various locations visited by a single UP locomotive during a 60-day sampling period.

A single locomotive travels through many states per month

(60-Day Movement of *One Class 1 Line-haul Locomotive*)



8. UP has installed idle controls on many of its locomotives, but not all of them (additional installations have been and are being made during locomotive overhauls). UP uses a variety of different idle control devices on its locomotives, including Electro-Motive Diesel (EMD), General Electric (GE), National Railway Equipment (NRE), ZTR Controls and RJ Corman-Railpower (the Manufacturers).

9. It would unduly burden UP to require it to modify the parameters of the engine idle control devices to set idle control times or modify the number of times a locomotive engine may idle in a calendar day according to the directions of every jurisdiction through which it operates a locomotive.

10. In order to modify the time that a locomotive equipped with idle controls is allowed to idle, the manufacturer must revise the software, which may be confidential business information, download that information to a laptop and schedule a trained technician to board each individual locomotive to install a new configuration file into the idle control device.

11. UP does not have technicians trained to reconfigure the idle control devices. To reduce the risk of causing a programming error, UP requires changes to the software to be made and validated by the manufacturer, not UP.

12. The installation of a new idle control configuration and testing to ensure that the reconfiguration was effective can take as long as two hours.

13. If the reconfiguration of the software is being implemented in a cold weather environment, it may not be possible to test the reconfigured program because the locomotive cannot be shut down due to the potential for freezing the engine's cooling system.

14. It would be unduly burdensome for UP to have technicians trained to reconfigure idle control devices at the borders of the jurisdictions in which it operates because there are more than 100 air quality control regions in the country, each of which could require different rules.

15. In some yard-related operations UP uses remote control locomotives (RCLs), which are operated by radio by an operator who may be physically located as much as a half mile

from the locomotive. RCLs may be equipped with idle control devices, but these devices will not engage when the locomotive is being remotely controlled. The reason that the RCL operates in this manner is to ensure the safety of people in the vicinity of the RCL.

16. When UP trains operate with foreign power, i.e., the 20,000-plus locomotives owned by other railroads and temporarily interchanged to UP, UP does not know whether the locomotive is equipped with an idle control device, or if it is so equipped, what the idle setting is. It is the responsibility of the railroad (or even of non-railroad leasing companies) that owns any locomotive to ensure that the locomotive is in compliance with applicable US Environmental Protection Agency (EPA) locomotive emissions standards. UP does not have any legal right or contractual authority to modify the idle settings on another railroad's equipment, even if it had the technical capability of doing so. That is the manufacturer's responsibility.

Reporting of Engine Idling Exceptions

17. Mr. Reistrup in his Verified Statement makes the claim that crews operating locomotives can easily collect certain data related to whether or not locomotive engines on their trains are idling or not idling. While such crew awareness and reporting may have been feasible on a railroad such as Amtrak, of which Mr. Reistrup was once the president, there are gross differences between a typical Amtrak passenger train (having 1, 2 or maybe 3 locomotives, all at the front or "head end" of the train, followed by 2-or-more passenger cars) and most of the long-haul freight trains UP operates, particularly in the western US. UP operates long-haul freight trains into and out of the LA Basin that may be upwards of 7,000 feet—almost mile and a half—long with locomotives placed at the head end, and at mid-train and/or on the rear-end.

18. Thus a UP freight train operating crew would have to be able to routinely walk or otherwise travel from the leading locomotive as far as roughly 3 miles roundtrip to assess the distributed power, or "DP locomotives" at mid-train and/or at rear-of-train to determine if the locomotive(s) were idling and why. This situational conflict shows one distinct difference between passenger train configurations and passenger locomotive operations and western US freight train configurations and freight locomotive operations.

Event Recorders

19. As a result of my responsibilities for locomotive engineering, I am familiar with the design and operation of event recorders. A locomotive event recorder is similar in function and intent to the flight data recorder on an airliner. The event recorder is an electronic device that captures various parameters as sensed on or reported by a locomotive. The federal regulations enforced by the FRA require a functional event recorder on virtually any locomotive that can be operated as a leading or controlling locomotive on the front of any freight train, but there is no regulatory requirement for standardization beyond certain locomotive parameters specified by 49 CFR 229.135(b)(3), listed below:

> (i) Train speed;
> (ii) Selected direction of motion;
> (iii) Time;
> (iv) Distance;
> (v) Throttle position;
> (vi) Applications and operations of the train automatic air brake, including emergency applications. The system shall record, or provide a means of determining, that a brake application or release resulted from manipulation of brake controls at the position normally occupied by the locomotive engineer. In the case of a brake application or release that is responsive to a command originating from or executed by an on-board computer (*e.g.*, electronic braking system controller, locomotive electronic control system, or train control computer), the system shall record, or provide a means of determining, the involvement of any such computer;
> (vii) Applications and operations of the independent brake;
> (viii) Applications and operations of the dynamic brake, if so equipped;
> (ix) Cab signal aspect(s), if so equipped and in use;
> (x) End-of-train (EOT) device loss of communication front to rear and rear to front;
> (xi) Electronic controlled pneumatic braking (ECP) message (and loss of such message), if so equipped;
> (xii) EOT armed, emergency brake command, emergency brake application;
> (xiii) Indication of EOT valve failure;
> (xiv) EOT brake pipe pressure (EOT and ECP devices);
> (xv) EOT marker light on/off;
> (xvi) EOT "low battery" status;
> (xvii) Position of on/off switch for headlights on lead locomotive;
> (xviii) Position of on/off switch for auxiliary lights on lead locomotive;
> (xix) Horn control handle activation;
> (xx) Locomotive number;

(xxi) Locomotive automatic brake valve cut in;
(xxii) Locomotive position in consist (lead or trail);
(xxiii) Tractive effort;
(xxiv) Cruise control on/off, if so equipped and in use; and
(xxv) Safety-critical train control data routed to the locomotive engineer's display with which the engineer is required to comply, specifically including text messages conveying mandatory directives and maximum authorized speed. The format, content, and proposed duration for retention of such data shall be specified in the Product Safety Plan or PTC Safety Plan submitted for the train control system under subparts H or I, respectively, of part 236 of this chapter, subject to FRA approval under this paragraph. If it can be calibrated against other data required by this part, such train control data may, at the election of the railroad, be retained in a separate certified crashworthy memory module.

20. GPS coordinate reporting by event recorders will be mandatory once PTC becomes mandatory (currently January 1, 2016), but that requirement will only apply to locomotives equipped with PTC. In other words, not all locomotives will become PTC-equipped; hence there will always be some number of locomotives that will not have GPS location coordinates available or recorded onboard. The event recorders on most locomotives do not directly record whether the engine is operating or not, let alone whether the engine is idling. That is, there is no "engine running" versus "engine stopped" data notation in event recorder data files.

21. The data collected on event recorders on UP locomotives is routinely "overwritten" or deleted on a periodic basis (as is data on flight data recorders in the aviation world) simply because such recorders cannot be practically manufactured with infinite recording capacity. The retention period of data within any locomotive event recorder can vary from 2 days to perhaps 5 or more days, depending on the locomotive's physical activity (movement) and the number of sensed or reported data parameters being recorded. There is no overall system for preserving all of the event recorder data, nor is it possible to create a system for analyzing it to identify idling events even if it were preserved, since that data is not recorded.

22. I am familiar with the "current generation" Wabtec event recorder described by Mr. Paul Reistrup in his Verified Statement submitted in this matter. UP has hundreds of these (and functionally similar) Wabtec event recorders within its locomotive fleet. While a

functional event recorder is required by the FRA, the specific parameters are not specified beyond what is listed in 49 CFR 229.135(b)(3), which is described above.

23. On page 5 of his Verified Statement, Mr. Reistrup discusses locomotive event recorders and makes comments about the data which he purports is universally recorded and how that data can be used for the purpose of reporting and managing locomotive engine idling. While "current generation" event recorders may have capability of recording ". . . the coordinates/location of the locomotive . . . ," this would require that any such locomotive also have GPS equipment onboard to produce the precise global latitude and longitude coordinates; not all locomotives are so equipped.

24. Mr. Reistrup, also misunderstands the implications of the fact that the "throttle idle" power position may be captured in an event recorder. A "throttle idle" position setting means that the throttle handle (which is a locomotive engineer's control for locomotive power output) is in the "no electrical power to the motors" setting. The fact that the throttle handle is set at idle does not necessarily mean that the locomotive is idling; in fact, it is possible, on a multiple-unit locomotive consist, to have the engineer's throttle handle in the "idle" position with the diesel engine on that locomotive unit shut down (not running at all) but with other locomotive units coupled to that locomotive unit with engines running (either in power positions or engines idling). Thus a locomotive event recorder "throttle idle" record does not in and of itself mean that the diesel engine on that locomotive is running at idle or not running (i.e., shut down). The following paragraphs provide examples of additional common situations in which the fact that a locomotive engine is in a particular throttle setting (recorded by its event recorder) does not indicate whether the locomotive engine was in fact idling.

25. A locomotive engine throttle may be in the idle position, but the engine may in fact be shut down. This could occur, for example, when two locomotives are linked. Locomotive number one may be shut down, but controlling locomotive number two, which is running. The throttle setting in locomotive one could be at idle, which would result in locomotive number two idling, but locomotive number one would still be shut down.

26. A locomotive might also be in notch 2 but with the engine run switch set to "isolate." In that case, the engine would in effect be idling with the engine running at notch 2, but without electric power being produced. This condition would not be recorded as an event occurring in the idle throttle setting.

27. UP is also using various proprietary forms of "smart locomotive consist control" software on some locomotives. This new software in effect analyzes the operation of a multi-locomotive consist to determine the most efficient allocation of diesel engine power. For example, the operator of the consist might set his or her throttle (which controls all units in that locomotive consist) to throttle position 4 (calling for roughly one-half of total power output), but the software would override that setting to obtain power from just one locomotive engine at notch 8 (full power) while causing the other locomotive diesel engine to go to throttle idle (no power for propulsion). In effect, one locomotive operating at full power could do the same work as two locomotives in "half power" and achieve fuel savings by operating just the one diesel engine at its most fuel efficient operating point. The event recorder throttle parameters would not capture this reallocation of power because the throttle setting coming from the lead or controlling locomotive is communicated equally through the entire consist. The "smart consist" software would, however, adjust individual unit power output(s) accordingly.

28. In summary, although event recorders may collect throttle setting data, this data cannot be used to reliably document idling events.

Conclusion

29. The settings on idle control devices cannot be easily changed to accommodate local rules as locomotives travel around the country. The recordkeeping requirements of the Local Idling Rules are impractical and extremely burdensome. Event recorders do not provide a viable means of meeting the recordkeeping requirements of Rule 3501. The only practicable way to comply with the Local Idling Rules would be to install idle control devices set to 15 minutes on every UP locomotive, as well as foreign power locomotives that could operate on UP's network. The number of "other railroad" locomotives that could conceivably be operated by UP in the LA Basin could be the majority of the 20,000 other locomotives operated by the other North American railroads. Such a rigid rule

would have significant operational and safety implications, which are discussed in more detail in the declaration of Kenneth H. Hunt.

Executed on this 27TH day of March 2014, at Melrose Park, Illinois.

Michael E. Iden