COMPARISON OF POINT PROTECTION RULES

WUTC	GCOR	BNSF	UPRR
(1) The following definitions apply to this section: "Shove" means to back up or push cars with a locomotive rather than pulling them "Drop" and " kick" mean to release cars from a train or locomotive and allow them to coast or roll free.	**No parallel rule**	**No parallel rule**	**No parallel rule**
(2) Except when it is reasonably certain that neither people nor equipment could be in the way, when cars or engines are shoved and conditions require, a crew member must take an easily seen position on the leading car or engine, or be ahead of the movement, to provide protection. Cars or engines must not be shoved to block other tracks until it is safe to do so.	**6.5 Handling Cars Ahead of Engine 4th edition** When cars or engines are shoved and conditions require, a crew member must take an easily seen position on the leading car or engine, or be ahead of the movement, to provide protection. Cars or engines must not be shoved to block other tracks until it is safe to do so. When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed: • 20 MPH for freight trains • 30 MPH for passenger trains • Maximum speed for snow service 5th edition same as UP, BNSF will adopt.	**6.5 Handling Cars Ahead of Engine** When cars or engines are shoved and conditions require, a crew member must take an easily seen position on the leading car or engine, or be ahead of the movement, to provide protection. Cars or engines must not be shoved until the engineer knows who is protecting the point of the movement and how protection will be provided. Cars or engines must not be shoved to block other tracks until it is safe to do so. When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed: • 20 MPH for freight trains • 30 MPH for passenger trains. • Maximum timetable speed for snow service unless a higher speed is authorized by the employee in charge. **Note: When plowing snow and all employees are on the equipment, one common authority may be used by both maintenance of way employees and the train crew.** * * *	**6.5 Handling Cars Ahead of Engine (effective 4/1/04)** When cars or engines are shoved and conditions require, a crew member must provide protection for the movement. Cars or engines must not be shoved to block other tracks until it is safe to do so. When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed: • 20 MPH for freight trains • 30 MPH for passenger trains • Maximum speed for snow service * * *

WUTC	GCOR	BNSF	UPRR
(3) When railroad cars are shoved, kicked or dropped over road crossings at grade, a crew member must be on the ground at the crossing to warn traffic until the crossing is occupied. Movements over the crossing may only be made on the crew member's signal. (4) The warning required by subsection (2) is not required when crossing gates are in the fully lowered position, or it is clearly seen that no traffic is approaching or stopped at the crossing.	**6.32.1 Cars Shoved, Kicked or Dropped** When cars are shoved, kicked, or dropped over road crossings at grade, a crew member must be on the ground at the crossing to warn traffic until the crossing is occupied. Make any movement over the crossing only on the crew member's signal. Such warning is not required when: • Crossing gates are in the fully lowered position. or • It is clearly seen that no traffic is approaching or stopped at the crossing.	**Same as GCOR.**	Same as GCOR except that a different rule applies when remote control moves are made over a gated crossing equipped with cameras: **35.1.6 Road Crossing Equipped with Cameras (effective 3/4/04)** When movements are made over a road crossing equipped with cameras, unless the RCO is on the engine or a crew member is at the crossing to provide warning, the RCO must: • Be in position to observe the crossing and roadway approaches in the monitor to assure that automatic crossing warning devices activate as designed when the RCL approaches and remain activated until the crossing is occupied by engine or cars; • Make sure movement over crossing does not exceed 4 MPH until crossing is occupied.
(5) Movements performed under remote control operation are to be considered "shoving" movements, regardless of the direction or position of the remote control locomotive, except when the primary remote control operator is riding the leading locomotive.	**No parallel rule in 4th edition. 5th edition 6.5.1 Remote Control Movements** Remote control movements are considered "shoving" movements, except when the remote control operator controlling the movement is riding the leading engine in the direction of movement. Before initiating movement, the remote control operator or a crew member must be in position to visually observe the	**SSI 23(A)e** Except when the primary Remote Control Operator is riding the leading locomotive, remote control movements are to be considered "shoving" movements, regardless of direction or position of remote control locomotive.	**35.1.4 Shoving Movement (effective 6/7/02)** Except when the primary RCO is riding the leading locomotive, remote control movements are to be considered "shoving" movements, regardless of direction or position of remote control locomotive.

WUTC	GCOR	BNSF	UPRR
	direction the equipment moves. Relief of Providing Protection The remote control operator is relieved from the requirement to stop within half the range of vision for movements with engine on leading end when: 1.The remote control zone has been activated. 2.Switches/derails are known to be properly lined. 3.Track(s) within the zone are known to be clear of other trains, engines, railroad cars and men or equipment fouling track. This process must be repeated each time the remote control zone is activated.		
(6) When a remote-control zone has been activated in accordance with the railroad's own rules, the railroad may relieve the remote-control operator of the requirements in subsections (1) through (4). However, the railroad must always provide point protection, in accordance with subsections (1) through (3) of this section, at road crossings at grade or where a car or engine that is being moved could block mainline tracks.	**No parallel rule in 4th edition.** **5th edition 6.7** **Remote Control Zone** A. Entering Remote Control Zone • Before entering a remote control zone, all employees that are not part of the remote control crew must determine whether the zone is activated. Employees may receive this information from the remote control operator, other authorized employee or special instructions. • When the remote control zone is activated, track(s) within the zone must not be fouled with equipment, occupied or switches operated until the remote control zone has been deactivated or permission is granted by the remote control operator to enter the remote control zone.	**SSI 23(F)b.** When a Remote Control Zone is activated, the Remote Control Operators are relieved of point protection for pullout movements (locomotive on leading end) only. Rule 6.28 requirement to stop within half the range of vision is waived. After Remote Control Zone is activated, Remote Control Operator must ascertain that switches/derails are properly lined and track(s) within zone are clear of trains, engines, railroad cars and men or equipment fouling track before initial pullout movement. This process must be repeated each time the Remote Control Zone is activated.	**35.6.2 Activated Remote Control Zone** **(4/1/04)** When a remote control zone is activated, the RCO must ascertain that switches/derails are properly lined and track(s) within the zone are clear of trains, engines, cars and men or equipment fouling track. The RCO is then relieved of point protection and the requirement to stop in one half the range of vision for pull out movements with locomotive on the leading end only.

WUTC	GCOR	BNSF	UPRR
	B. Transfer of an Active Remote Control Zone • An active remote control zone may be transferred to other remote control operators. • A job briefing must be conducted each time the zone is transferred between remote control operators and, if applicable, other authorized employee. C. Deactivating Remote Control Zone When the remote control operator ends the tour of duty, the remote control zone must be deactivated except the remote control zone may remain active if: • Transferred. • Special instructions specify the hours the remote control zone is active.		
(7) The requirements of this section apply to a railroad unless and until it has filed with the Federal Railroad Administration, pursuant to 49 C.F.R. Sec. 217, operating rules that materially modify the requirements of Sections 6.5 and 6.32.1 of the General Code of Operating Rules (Fourth Ed., Effective April 2, 2000).	**49 C.F.R. Sec. 217**	**49 C.F.R. Sec. 217**	**49 C.F.R. Sec. 217**

U.S. Department
of Transportation

**Federal Railroad
Administration**

Administrator

**1120 Vermont Ave., NW.
Washington, DC 20590**

MAY 13 2004

The Honorable John McCain
Chairman, Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

This is in further response to your letter dated September 2, 2003, co-signed by Senator Ernest R. Hollings, on behalf of the Committee on Commerce, Science, and Transportation concerning the safety of remote control locomotive (RCL) operations. You request that the Federal Railroad Administration (FRA) conduct an assessment of the impact of RCL operations on safety, including a comparison of the rate of accidents, injuries, and fatalities involving RCLs with similar operations involving manned locomotives.

Additionally, you requested that the audit should assess the effects of RCL operations on the safety of highway-rail grade crossings, hazardous materials transportation, the safety of RCL in urban areas, any unique operation characteristics presented by RCLs, and assessment of the safety benefits of such operations. You requested that FRA's report should include any recommendations for legislative or regulatory changes FRA determines necessary and that FRA report back to the Committee with preliminary findings and initial accident statistics within six months, and that a detailed report be submitted within 18 months.

We have concluded the initial assessment of RCL operations. The enclosed document contains our preliminary findings and available RCL accident statistics, including a comparison of RCL accident and injury rates with accident and injury rates from conventional switching operations. The enclosed report also contains a brief history of FRA's efforts to ensure the safe implementation of RCL technology. FRA intends to issue its final report on RCL operations to your Committee within a year of the date of this report.

Based on the data we've collected since we added new RCL accident/incident reporting codes, RCL operations have been quite safe for the seven-month period from May to November 2003. RCL train accident rates have been 13.5 % lower than rates for conventional switching operations, and employee injury rates have been an impressive 57.1% lower than rates for conventional switching operations. To date, nearly all of the FRA reportable accidents or incidents concerning RCL operations have been the result of human error and not the RCL technology, and no accidents or incidents have been associated with technology malfunctions. No new technology is without its problems, but we are encouraged by the results of our FRA-AAR RCL Task Force in resolving issues associated with operation of this new equipment.

I appreciate your interest in railroad safety, and the FRA looks forward to continuing to work with you and the Committee on transportation issues. An identical letter has been sent to Senator Ernest R. Hollings.

Sincerely,

Allan Rutter
Administrator

Enclosure

U.S. Department
of Transportation

**Federal Railroad
Administration**

Administrator

1120 Vermont Ave., NW.
Washington, DC 20590

MAY 13 2004

The Honorable Ernest F. Hollings
Ranking Member
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

This is in further response to your letter dated September 2, 2003, co-signed by Senator John McCain, on behalf of the Committee on Commerce, Science, and Transportation concerning the safety of remote control locomotive (RCL) operations. You request that the Federal Railroad Administration (FRA) conduct an assessment of the impact of RCL operations on safety, including a comparison of the rate of accidents, injuries, and fatalities involving RCLs with similar operations involving manned locomotives.

Additionally, you requested that the audit should assess the effects of RCL operations on the safety of highway-rail grade crossings, hazardous materials transportation, the safety of RCL in urban areas, any unique operation characteristics presented by RCLs, and assessment of the safety benefits of such operations. You requested that FRA's report should include any recommendations for legislative or regulatory changes FRA determines necessary and that FRA report back to the Committee with preliminary findings and initial accident statistics within six months, and that a detailed report be submitted within 18 months.

We have concluded the initial assessment of RCL operations. The enclosed document contains our preliminary findings and available RCL accident statistics, including a comparison of RCL accident and injury rates with accident and injury rates from conventional switching operations. The enclosed report also contains a brief history of FRA's efforts to ensure the safe implementation of RCL technology. FRA intends to issue its final report on RCL operations to your Committee within a year of the date of this report.

Based on the data we've collected since we added new RCL accident/incident reporting codes, RCL operations have been quite safe for the seven-month period from May to November 2003. RCL train accident rates have been 13.5 % lower than rates for conventional switching operations, and employee injury rates have been an impressive 57.1% lower than rates for conventional switching operations. To date, nearly all of the FRA reportable accidents or incidents concerning RCL operations have been the result of human error and not the RCL technology, and no accidents or incidents have been associated with technology malfunctions. No new technology is without its problems, but we are encouraged by the results of our FRA-AAR RCL Task Force in resolving issues associated with operation of this new equipment.

I appreciate your interest in railroad safety, and the FRA looks forward to continuing to work with you and the Committee on transportation issues. An identical letter has been sent to Senator John McCain.

Sincerely,

Allan Rutter
Administrator

Enclosure

Interim Report

Safety of Remote Control Locomotive Operations

Federal Railroad Administration
May 2004

Preliminary Findings and Initial Accident/Injury Statistics

Introduction

By letter dated September 2, 2003, the Committee on Commerce, Science, and Transportation (Committee) requested that the Federal Railroad Administration (FRA) conduct an assessment of the impact of remote control locomotive (RCL) operations on safety, including a comparison of the rate of accidents, injuries, and fatalities involving RCLs with similar operations involving manned locomotives. Additionally, the Committee requested that the audit should assess the effects of RCL operations on the safety of highway rail grade crossings, hazardous materials transportation, the safety of RCLs operated in urban areas, any unique operating characteristics presented by RCLs, and an assessment of the safety benefits of such operations. The committee requested that FRA's report should include any recommendations for legislative or regulatory changes FRA determines necessary and that FRA report back to the Committee with preliminary findings and initial accidents statistics within six months, and that a detailed final report be submitted within 18 months.

FRA recognizes that RCL operations are a significant departure from traditional railroad operations. As RCL operations expand across the country, they have given rise to new issues that have never been encountered in the railroad industry. Because, RCL operations are relatively new to the U.S. railroad environment, they are carefully scrutinized by FRA and a wide range of rail industry stakeholders. Preliminary data that were prepared for this report indicate the safety record of RCL operations over the past seven months (May 1, 2003 through November 30, 2003) has been quite positive, RCL train accident rates were found to be 13.5 percent lower than the train accident rates for conventional switching operations over the same period, while employee injury rates were found to be an impressive 57.1 percent lower for RCL operations than for conventional switching operations.

The Committee can be assured of FRA's commitment to ensure the safety of this emerging technology by closely monitoring the implementation and proliferation of RCL technology and operations, by identifying and investigating potential safety issues as soon as they arise, and by working with all rail industry stakeholders to quickly mitigate RCL safety concerns.

The following report is divided into four sections: The first section provides a brief history of FRA's involvement with RCL technology and our efforts to facilitate its safe introduction into the U.S. railroad industry. The second section is a discussion of RCL safety issues that FRA has identified and has brought to the attention of the rail industry for resolution. The report discusses the status of these issues, some of which have been resolved, and some that are currently pending further investigation and resolution. FRA hopes to reach resolution of the outstanding RCL issues and make our findings known to the Committee in our final report. The third section of the report discusses several RCL related topics that FRA believes are worthy of further exploration. These issues have not been identified as posing any safety hazard; however, they may relate to the safety of RCL operations and remote control operators (RCO); and

warrant examination by our agency. The final report will discuss our findings in these areas. The fourth section of this report is a statistical comparison of the relative safety of RCL switching operations and conventional railroad switching operations.

I. The Introduction of RCL Operations In the U.S.

Remote control devices have been used to operate locomotives at various locations in the United States for many years, primarily within certain industrial sites. Railroads in Canada have made extensive use of RCLs for more than a decade. FRA began investigating remote control operations in 1994 and held its first public hearing on the subject in February 1995 to gather information and examine the safety issues relating to this new technology. On July 19, 2000, FRA held a technical conference in which all interested parties, including rail unions, remote control systems suppliers, and railroad industry representatives, shared their views and described their experiences with remote control operations. This meeting was extremely beneficial to FRA in developing facts and data about the safety issues associated with RCL technology and operations.

RCL Guidelines - Safety Advisory 2001-01

On February 14, 2001, FRA published guidelines for conducting RCL operations. See 66 Fed. Reg. 10340, Notice of Safety Advisory 2001-01 (Safety Advisory Attached). By issuing these recommendations, FRA sought to identify a set of "best practices" to guide the rail industry when implementing this technology. As this is an emerging technology, FRA believes this is the best approach because it provides flexibility to both manufacturers who are frequently upgrading RCL equipment designs and to railroads who continue to refine their RCL operations. At the same time, our Safety Advisory reinforces the importance of complying with all existing railroad safety regulations. The major railroads have used these guidelines as a basis for their own RCL programs, although not all of the recommendations have been adopted by all of the railroads.

In addition to the recommended guidelines contained in the Safety Advisory, several existing Federal railroad safety regulations pertain to RCL operations. The Advisory identified existing regulations that relate to RCL operations and technology, emphasizing that compliance with these regulations is mandatory:

> [A]lthough compliance with this Safety Advisory is voluntary, nothing in this Safety Advisory is meant to relieve a railroad from compliance with all existing railroad safety regulations. Therefore, when procedures required by regulation are cited in this Safety Advisory, compliance is mandatory. at 10343.

The Safety Advisory states that "each person operating an RCL must be certified and qualified in accordance with 49 CFR Part 240 [FRA's locomotive engineer rule] if conventional operation of a locomotive under the same circumstances would require certification under that regulation." In November 2001, all six major railroads, Burlington Northern Santa Fe Railway Company (BNSF); Conrail (CR), CSX Transportation (CSX); Kansas City Southern Railway Company (KCS); Norfolk Southern Railway (NS); and Union Pacific Railroad Company (UP) submitted to

FRA their training programs for remote control operators (RCOs) as required by Part 240. Since that initial filing, several railroads have made changes to their remote control training programs at FRA's request. FRA is closely monitoring this training and is making additional suggestions for improvement on individual railroads as they become necessary. These training programs currently require a minimum of two weeks of classroom and hands-on training for railroad workers who were previously qualified on the railroad's operating and safety rules. Federal regulations require that locomotive engineers be trained and certified to perform the most demanding type of service they will be called upon to perform. Thus, an RCO who will only be called upon to perform switching duties using an RCL would not need to be trained to operate a locomotive on main track in over-the-road operations from the control stand of the cab.

In addition to the required training, the regulations require railroads to conduct skills performance testing of RCOs that is comparable to the testing required for any other locomotive engineer performing the same type of work. Federal regulations also hold RCOs responsible for compliance with the same types of railroad operating rules and practices that other locomotive engineers are required to comply with in order to retain certification. See 49 CFR § 240.117. Any such alleged noncompliance triggers an investigation and review process. If a violation is found, the RCO will be prohibited from operating a locomotive on any railroad in the United States for a minimum of 15 days to a maximum of three years. The length of the prohibition (or revocation of the operating certificate) depends on whether the person was found to have committed other violations within the previous three years and whether the railroad, using its discretion, determined that the person had completed the necessary remedial training.

Furthermore, FRA made the connection in the Safety Advisory between the current Federal locomotive inspection requirements and the application of those requirements to the RCL technology. For example, the Safety Advisory states that "[t]he RCL system *must* be included as part of the calendar day inspection required by 49 CFR 229.21, since this equipment becomes an appurtenance to the locomotive." Id. at 10344 (emphasis added). Another example of a mandatory requirement mentioned in the guidelines is that "[t]he RCL system components that interface with the mechanical devices of the locomotive, e.g., air pressure monitoring devices, pressure switches, speed sensors, etc., should be inspected and calibrated as often as necessary, but not less than the locomotive's periodic (92-day) inspection." Id. (emphasis added); see 49 C.F.R. § 229.23. Thus, the Safety Advisory served the purpose of publishing FRA's position that the existing Federal regulations are sufficient to require inspection of the RCL equipment.

RCL Implementation and Training

On November 30, 2001, the National Railroad Passenger Corporation (Amtrak) and six of the nation's largest freight railroads: BNSF, CSX, UP, KCS, NS, and Canadian National (CN) submitted RCL training programs to FRA for approval, as required by 49 CFR Part 240. All of the aforementioned railroads submitted identical programs, which have all been approved by FRA. RCL training is currently divided into two areas: (1) training certified engineers on the new technology and (2) certifying individuals as RCOs. The former only involves training, while the latter is a full-fledged certification process. Most of these programs cover both areas. However, the majority of training involves certifying former ground crewmen, i.e., trainmen,

switchmen, and conductors, who have never operated a locomotive before. This certification training currently consists of a minimum of two weeks. The first week is composed of approximately two days in the classroom and three days of field training with the RCL. The second week entails on-the-job training, which occurs in a classification yard performing actual switching duties. This training is the minimum required by the railroad training programs. All of the railroads have assured FRA that, if additional training is needed and requested by an RCO, it will be furnished. FRA has been working closely with the railroads and rail labor organizations to ensure that proper training is provided.

The above railroads initially submitted a RCL training program to FRA that specified only one week of training: one and a half days in the classroom, two and a half days of on-the-job training, and a final day of testing. These programs were not approved. FRA would not accept an RCL training program of less than two weeks minimum of training time. The agency arrived at this position by studying the training periods that were developed and used in Canada for the past several years, by communicating with the representatives of the employees who were largely responsible for conducting these operations, and by requiring the railroads to define the duties of the RCO. All the above railroads have defined these duties as follows:

> **Remote Control Operator** (RCO) - Certified Remote Control Operator may work with equipment by means of portable controller. In the initial implementation this equipment will be used in select locations where the job will be involved in gathering and distributing freight and/or equipment that is typically required of yard, road switcher, or other similar assignments at the implementing location(s). The specific assignments involved will vary by locations and could include such work as hump, trimmer, classification operations, transfer, road switcher, industrial, and station switching.

FRA believes this definition restricts RCOs to performing "yard switching" type operations at traditional yard (slow) speeds within the "immediate vicinity" of the yards. The definition also implies some limited main track movements to move a few cars a short distance to gain access to an industrial park or shipper. Given the short RCO training periods involved, FRA does not believe RCOs are properly trained to conduct "heavy-haul" train movements on the main track or on industrial tracks that are similar to main tracks, i.e., extending through towns and over public highway-rail grade crossings for considerable distances.

During the last weeks of February 2002, the first RCL classes were conducted simultaneously on all the major railroads. FRA's major initiative during this period was to attend and evaluate these first training sessions and to obtain feedback from the trainees concerning the training curriculum. FRA made suggestions and encouraged the labor organizations and railroads to work together to evaluate these new training programs and to resolve any operating issues. FRA found that much additional training was occurring after the certification process. Given the short training period, FRA recognized that RCO operating skills would be very narrow in scope and believed RCOs would repeatedly encounter situations for which they were not adequately trained. Yard switching operations cover a broad spectrum of activities, from handling large drafts of cars weighing several thousand tons, to the precise spotting of freight cars in industries

where movements can be measured in inches. Moreover, the fundamentals of handling heavy equipment dictate that operators must be aware of the movement's characteristics in order to take action at the appropriate time.

FRA focused its inspection activities in this area and has identified many instances where RCOs were exposed to movements that they never performed during training. While teaching fundamental information may be sufficient to impart basic RCL handling skills until valuable experience is obtained, FRA believes that in this arena the RCOs should be provided practical field instruction on unfamiliar movements whenever possible. This usually entails an experienced instructor demonstrating to the RCO how the movement should be made.

Training New-Hires

The current majority of RCOs in this country were experienced train service employees before they began RCL training. They were familiar with railroad safety and operating rules and they were also familiar with working around moving freight cars in busy classification yards before they became certified RCOs. This experience is extremely important in maintaining a safe working environment. Many railroads are experiencing a large influx of new, inexperienced workers into rail operations. FRA seeks assurance that these new workers will be afforded the traditional breaking-in periods when learning their jobs, especially RCO jobs. We believe it would be inadvisable for newly hired RCOs to be confronted with learning railroad operations while simultaneously learning to switch cars by the operation of a RCL. FRA believes adequate time should be spent learning one job before moving on to the other. We intend to monitor this situation closely and consider additional modification to existing training programs to address this recent development.

RCL Operating Practices

FRA realized that RCL operations would necessitate the modification of some traditional railroad operating rules and the creation of new ones. It has been FRA's objective to ensure that safety is not compromised by these changes. One major area of interest is the rail industry's creation of remote control zones (RCZ) to relieve crews from complying with railroad operating rules requiring what is termed "point protection." Point protection rules require that the RCO must see the track ahead of the train movement each time the train changes direction to determine that the switches are properly lined and the track is clear of other movements. Complying with such rules would severely reduce the productivity of RCL operations, since the RCO must always be in a position to observe the track ahead of the train movement before moving in that direction. This would usually take the RCO away from the area of his switching duties and the RCO would be spending most of the time walking back and forth between the locomotive and the switching lead.

An RCZ is a designated area where only one RCL operation exists at a time and no highway-rail grade crossing exists. No other railroad assignments are allowed into this area unless strict procedures are followed. Therefore, once the RCO responsible for establishing the RCZ

determines the RCZ limits are clear of other movements and the route is properly routed, he or she can operate without providing point protection. RCZs are established by railroad operating rules and RCZ limits are normally identified by signs. The signs are placed at the entrance tracks to each end of the zone. Movements into the zone can only be made with permission from the RCO who established it.

FRA has expressed concerns that there is little consistency within the rail industry regarding the application and design of RCZs. In many large switching yards, the procedures for establishing and utilizing these zones can become quite complicated. We continue to monitor RCZ procedures closely and are working with the railroads to ensure that RCZs are properly established and identified. FRA believes that it is imperative that all affected railroad employees are informed of the location of RCZs and have a means to determine when RCZs are activated and when they are deactivated.

Furthermore, we have made it known to the rail industry that if RCL operations extend beyond an RCZ or are conducted without RCZ protection, then such switching movements should be protected according to existing operating rules, i.e., each time the locomotive pulls out of a track, the RCO must be able to see the track ahead of the movement to determine it is clear that all switches are properly lined for the movement.

Railroad Alternatives to Safety Advisory Recommendations:

Safety Advisory 2001-01 recommends that RCOs refrain from riding on the side of railroad freight cars. FRA is concerned that RCOs could become distracted with the added responsibility of operating the locomotive and could lose sight of their situational awareness. One major railroad has prohibited the practice of permitting an RCO to ride on the side of a railroad freight car while operating the RCL. However, most railroads have elected not to adopt this practice based on the speed control features now available on the newer remote control operating units. The railroads submit that with the speed control feature, the RCO can mount the car, set the speed, and hang onto the car with both hands. During conventional operations, a switchman would be hanging onto the car with one hand and giving signals or keying a radio with the other. The railroads contend that safety is enhanced by using the RCL technology in this manner. FRA is currently monitoring this practice to determine whether an adequate level of safety can be maintained.

The Safety Advisory also recommends, in section (A) Safety Design & Operational Requirements, Item (8) that, "Each RCL should have a distinct and unambiguous audible or visual warning device that indicates to nearby personnel that the locomotive is under active remote control and subject to movement." Association of American Railroads' (AAR) Standard S-5507, Remote Control Locomotive Standard, dated November 2002, has identical language in Section 4.1, "Safety, Design and Operational Requirements." The vast majority of the RCL locomotives are equipped with visual warning devices, such as flashing lights, strobes, or other

similar devices, that indicate the locomotive is in active remote control and subject to movement. Originally, at least two Class I railroads decided to apply stenciling or labels to the sides of the equipped locomotives with no other distinct and unambiguous audible or visual warning device. FRA believed the stenciling or labeling of the equipped locomotive only indicates that the locomotive is capable of being operated by remote control, not that the locomotive is actually in remote control mode. FRA's intent in the Safety Advisory was that warning be given at the locomotive was in active remote control service and subject to movement without anyone being on the locomotive. FRA has been working with the two railroads and both are currently in the process of installing suitable visual warning devices on their locomotives.

Technology Reliability

Currently, FRA is aware of four instances where an RCL failed to reduce speed when commanded to do so. These malfunctions were associated with computer software and wiring errors and have since been corrected. There were no accidents or incidents associated with these failures. The RCL technology is designed to fail safe. If for any reason the locomotive fails to receive proper communication, the system acts to stop the locomotive movement. FRA believes the RCL systems were designed to incorporate significant margins of safety and commends the manufacturers for their commitment to safety.

Outreach Efforts

FRA has worked hard to maintain an open dialogue with all rail industry stakeholders to share observations and ideas, to discuss issues and to examine trends related to RCL safety. At FRA's request, the Association of American Railroads (AAR) convened a task force composed of representatives from railroads that conduct RCL operations. The purpose of the task force is to facilitate the identification and resolution of safety issues associated with RCL operations. Also, FRA has done substantial outreach to the rail labor organizations that represent RCOs to learn firsthand about the safety concerns of operators so that we may address those concerns in an effective and timely manner. Additionally, FRA representatives have made presentations at all of the United Transportation Union's (UTU) regional meetings during the years 2002 and 2003 and several meetings of the Brotherhood of Locomotive Engineers (now known as the Brotherhood of Locomotive Engineers and Trainmen or BLET.) We also developed an RCL question and answer (Q&A) document that is posted on FRA's website. The Q&As clarify the responsibilities of the RCO and railroad under existing Federal safety regulations. We also developed a simple, user friendly format to guide union representatives and railroad employees who wish to submit safety complaints or information regarding RCL safety and operations.

Continued Oversight

FRA will continue to exercise careful oversight during the expansion of RCL operations. FRA inspectors are monitoring the evolving remote control operations and have had good success in working with railroads to resolve any safety concerns revealed by the inspections. Further, FRA has developed accident/injury reporting codes for RCL operations to ensure that any future

safety hazards related to such operations can be easily identified, investigated, and analyzed for the purpose of discovering any potential safety risks associated with this evolving technology. To date, nearly all of the FRA reportable accidents or incidents concerning RCL operations have been the result of human error and not the RCL technology. As noted previously, there were no accidents or incidents associated with the technology malfunctions. Consequently, FRA's Office of Research and Development is conducting a study of "root cause" analysis of RCL accidents and incidents to determine whether certain types of human errors may be more likely to occur in RCL operations than in conventional switching operations. Both railroad labor and management are participating in this study.

II. Identification and Resolution of RCL Issues - RCL Task Force

To address the concerns that had been identified during the early stages of RCL implementation, FRA felt it would be useful to have a forum composed of representatives from the railroads that conduct RCL operations. On October 4, 2002, FRA conducted a teleconference with the AAR wherein we recommended that AAR establish a task force to work closely with FRA on issues that arise during the implementation of RCL technology. We also suggested, that the individuals on this task force should serve as points-of-contact, who can expeditiously address RCL concerns identified by FRA on their respective railroads. Two meetings have been held thus far between FRA and the AAR task force, the most recent being on May 7, 2003. In addition to the AAR, the following railroads are represented on the task force: Burlington Northern Santa Fe Railway Company; CSX Transportation; Union Pacific Railroad Company; Kansas City Southern Railway Company; Norfolk Southern Railway; Canadian National/Illinois Central; and Amtrak. Representatives from the American Shortline and Regional Railroad Association and Transport Canada are also on the task force and participate in the discussions. The purpose of the group is to address FRA concerns regarding RCL operations and technology.

FRA is pleased that the rail industry has taken a proactive approach by establishing this forum to discuss emerging RCL issues. It has been apparent that there are many issues involving RCL operations that are new to all parties. FRA believes, that as this technology continues to evolve, it is of the utmost importance that all stakeholders work together to ensure the safety and reliability of RCL operations. If this approach is successful in maintaining a high level of safety, it will obviate the need for new regulations in this area. However, should FRA identify significant safety concerns involving RCL operations that are not successfully addressed through

collaborative efforts, FRA will not hesitate to exercise its regulatory authority. As a matter of information, the following are the issues that FRA has raised with the AAR task force regarding the implementation of RCL operations.

Operating Practices Issues

Issue 1: RCL operations outside of yard switching operations

FRA's Safety Advisory 2001-1 was intended to address RCL use in yard switching operations as is evident by the fact that nowhere in the guidelines did FRA ever address the many obvious safety concerns associated with RCL operations outside of yard switching operations. At the time the guidelines were issued, FRA based its expectations for RCL use on the Canadian experience, which according to representatives from Transport Canada the Canadian rail safety regulatory agency is limited to yard switching operations. If FRA had believed that U.S. railroads intended to operate RCLs outside of yard switching operations, FRA would have addressed that issue in the guidelines or through some other mechanism.

Generally, FRA does not believe the current state of RCL technology and the current level of RCO training are sufficient to support RCL heavy-haul train operations, i.e., large numbers of cars or high tonnage, outside of the yard switching operations. For instance, we note that the current state of RCL technology does not permit the control of in-train forces to the extent that is possible by operations from the locomotive control stand. Furthermore, the various railroad RCL training and certification programs that have been received and approved by FRA are tailored to yard switching type operations.

During our first meeting of the task force on December 7, 2002, virtually all railroad industry representatives indicated that they were unaware of RCL operations outside of the yard switching environment. However, during our most recent meeting of May 7, 2003, several main track RCL operations were identified, that could no longer be described as yard switching operations. FRA requested that the parties report back to FRA the locations and descriptions of all main track RCL operations currently in existence on their systems; in this instance, FRA's request included both heavy-haul operations and those operations that are yard type operations but involve incidental movements on main track - which can often be located within a yard. The AAR supplied to FRA the requested information for the industry.

FRA has dispatched regional safety inspectors to investigate all the known locations where RCL operations occur on main tracks. Most of the RCL main track movements were found to be short movements with limited numbers of cars and the RCOs were appropriately trained; thus, FRA has generally found these incidental movements to be safe and has not taken exception to them. Meanwhile, in some of the cases where there were heavy-haul operations, the railroads are learning that the equipment has limitations outside of the yard switching environment; in other

instances, where the main track operations have not been shown to be unsafe but approach the limits of what may be considered an appropriate use of RCL technology, railroads have complied with FRA's request not to expand these types of operations to other locations.

FRA will continue to monitor and evaluate the RCL main track operations, especially those that stretch the limits of the technology. At each location where main track RCL operations occur, we determine whether the technology can adequately accommodate the demands of the main track operations and whether the level of RCO training is sufficient. We recognize that in some instances, traditional train handling techniques may not apply to these operations given the unique characteristics of this technology. This may necessitate developing specific RCL train handling techniques. Although, FRA's evaluation of this issue is not complete, it also appears that, given the design features of the current technology, some type of restrictions on locomotive horsepower and train length may be appropriate for RCL main track operations to reduce the possibility of excessive in-train forces.

Status: FRA's knowledge about the capabilities and safety parameters of RCL operations on main track continues to evolve; therefore, FRA continues to evaluate these operations and may decide whether additional guidance is necessary. FRA intends to report its findings and actions regarding this issue to the Committee in its final report.

Issue 2: RCOs riding freight cars while actively engaged in operating the RCL

On March 7, 2003, after an incident where an RCO was thrown from the side of a moving train that he was operating, FRA Administrator Allan Rutter sent letters to all the major railroads urging them to prohibit the practice of allowing RCOs to ride the side of freight equipment when the RCO was actively engaged in controlling the movement of the RCL. This recommendation was also contained in our RCL Safety Advisory.

FRA continues to believe that, to ensure the necessary level of safety for RCOs, all railroads should adopt the recommendation in the Safety Advisory regarding this issue. The recommendation in the Safety Advisory states, "When operating an RCL, the RCO should not ride on a freight car under any circumstances." The recommendation does not preclude an RCO from riding on a rail car, locomotive or caboose when not actively engaged in operating the RCL. We believe that operating an RCL transmitter is a significantly more complex task than operating a radio. CSX is the only major railroad that has adopted this recommendation. The other railroads believe the practice is safe.

Status: FRA will continue to monitor and evaluate this activity. We will compare the safety experience of CSX with the other railroads in our evaluations. FRA intends to report its findings and actions regarding this issue to the Committee in its final report.

Issue 3: Hours of Service requirements for RCL supervisors/instructors

Generally, supervisors do not perform covered service and would not be limited in the number of hours they can legally work. However, any railroad supervisor who instructs student RCL operators when performing revenue switching operations is considered actively involved with train movements under the Hours of Service Laws in the same manner as any certified RCL operator. Since these individuals are performing covered service, both the RCL operator and the RCL supervisor/instructor must maintain hours of duty records and be covered under their railroad's alcohol and drug testing program, including pre-employment, reasonable cause, reasonable suspicion, and post-accident random testing.

FRA maintains that RCL supervisors/instructors are covered under the Hours of Service Laws when they are the only certified RCOs on the assignment working and they are engaged in directly supervising uncertified RCOs in training who are switching cars in revenue service. The railroads indicated that they intend to abide by the Hours of Service requirements as outlined by FRA.

Status: This issue has been resolved.

Issue 4: Application of Federal safety regulations regarding unattended locomotives

A question arose regarding the application of Federal safety regulations requiring the securement of unattended locomotives relative to RCLs. The regulation requires certain procedures to prevent the unintended movement of locomotives when the locomotive is left "unattended." For traditional locomotive operations, a locomotive is considered unattended when there are no crew members in the immediate vicinity to control its movement. Given that an RCL can be controlled by an RCO who is a considerable distance away from the locomotive, railroad representatives asked when should an RCL be considered as "unattended."

FRA responded that it considers an RCL to be unattended when its operator is out of the immediate vicinity of the RCL and cannot respond immediately to an unauthorized movement, regardless of whether or not that individual is wearing an active remote control transmitter.

Under these conditions, FRA expects the locomotive handbrake to be applied, and if applicable, the locomotive air brakes fully applied. All railroads agreed with FRA's guidance and issued operating instructions to that effect.

Status: This issue has been resolved.

Issue 5: Point protection and remote control zones

The leading cause of train accidents in conventional switching operations involves the failure of train crews to provide "point protection" for the train movement. As noted above, point protection refers to the practice (required by railroad operating rules) of having a member of the train crew in position to see the track ahead of the train movement to ensure that the track is clear and that switches are properly lined each time the train changes direction. Failure to provide point protection has also been a causal factor in many RCL train accidents.

Establishing point protection for RCL operations raises challenges since there is no engineer on the locomotive to provide the point protection on that end of the train movement. While one solution would be to require an RCO to protect the point each time there is an RCL train movement, this practice would greatly reduce the speed and efficiency of RCL operations because RCOs would constantly have to reposition themselves from the point of the movement to the point in the train where cars are coupled or uncoupled. To meet this challenge, railroads have adopted a Canadian practice of establishing RCZs.

FRA has seen a wide array of differing procedures used by railroads to establish RCZs. There is often variation of RCZ procedures across individual railroads. Some RCZ procedures appear to be more effective than others, and some RCZ procedures appear to be excessively complicated. Also, FRA has found varying levels of training and oversight regarding the implementation of RCZs. While FRA supports the establishment of RCZs as a means of providing point protection, we have concerns about the implementation of RCZs on various properties and locations.

Status: The railroads have been advised that FRA will conduct audits covering an RCZ and railroad operations testing to ensure train crew compliance with point protection rules and RCZ procedures. All railroads agreed to focus operating rule efficiency tests on RCL operations to determine compliance with rules and instructions relating to point protection (stopping within half the range of vision) and establishing/re-establishing RCZs. Audits will be conducted during the remainder of the safety assessment period. FRA intends to report its findings and actions regarding this issue to the Committee in its final report.

Mechanical Issues

Issue 6: Distinct and unambiguous RCL warning devices

Safety Advisory 2001-01, Section (A) Safety Design & Operational Requirements, Item (8), states, "Each RCL should have a distinct and unambiguous audible or visual warning device that indicates to nearby personnel that the locomotive is under active remote control and subject to movement." AAR Standard S-5507, Remote Control Locomotive Standard, dated November 2002, has identical language in Section 4.1, "Safety, Design and Operational Requirements." FRA intended that RCLs should be equipped with active warning devices that can alert people on the ground whether the RCL was currently being operated in the remote mode. Two of the railroads on the AAR task force expressed some disagreement with FRA's interpretation of the language in its Safety Advisory and in the Standard S-5507. These railroads believed that a passive warning device, such as a sign or stencil, would suffice as an adequate warning device.

The majority of the RCL locomotives are equipped with visual warning devices, such as flashing lights, strobes, or other similar devices, that indicate the locomotive is in active remote control mode and subject to movement. Only two Class I railroads had decided to apply stenciling or labels to the sides of the equipped locomotives with no other active, unambiguous audible or visual warning device. Stenciling or labeling of an RCL only indicates that the locomotive is capable of being operated in remote control and not that the locomotive is actually in remote control mode. FRA's intent in the Safety Advisory was to encourage railroads to give warning that the locomotive was in active remote control service and subject to movement at any time.

In discussion with the RCL task force, FRA commented that many railroads (including Class I carriers, regional railroads and short lines) have elected to use flashing lights, strobe lights, other arrangements of lights and audible warning devices to meet this important recommendation. We informed the task force of our firm belief that the use of stenciling or labels does not provide sufficient warning to grounds persons and other crews that a locomotive is operating in remote mode. Such signs are difficult to read from a distance or at night. Also, they fail to distinguish when the locomotive is operating remotely from when it may be operating in the conventional mode. As a result of our discussions, all the railroads on the task force have agreed to utilize active warning devices on their RCLs. These active warning devices are either already in place or in the process of being installed.

Status: This issue has been resolved.

Highway- Rail Grade Crossings

Issue 7: Remote operation of RCLs over highway-rail grade crossings

Under all circumstances, when railroads are conducting "switching operations"[1] over public highway-rail grade crossings, train crews are required by federal regulation to provide proper protection at the crossing. All railroads have operating rules in effect to comply with the regulation. Typically, these railroad operating rules require crews engaged in switching operations to approach the crossing at a very slow speed until a member of the crew has observed the activation of the crossing warning devices (if the crossing is equipped with flashing lights and/or gates) for a sufficient length of time to provide adequate warning to motorists. If there are no active warning devices at a crossing, the switching crew must provide flag protection for the RCL movement over the crossing.

These railroad operating rules essentially require train crew members to be at the crossing each time a switching movement travels over the crossing. There is one exception to this railroad rule that applies at crossings equipped with gates when it can be determined that the gates are in the fully lowered position and that the crossing is clear of vehicles and/or pedestrians. If all the conditions of this exception are met, railroad operating rules allow the movement to proceed over the crossing without a train crew member being physically located on the crossing.

To increase the productivity of RCL operations, one major railroad has begun utilizing a remote camera system to provide the required protection. In conventional operations, a locomotive engineer was always positioned in the cab of the locomotive and could provide this protection. Without the engineer or another crew member in the locomotive or at the point of the movement, the RCO must determine that the crossing protection is working and the crossing is clear of vehicles and pedestrians before proceeding over the crossing. This would entail the RCO walking up to the crossing each and every time the RCL operates over the crossing to make these determinations. With the installation of a remote camera system, the RCO remains on the switching lead and observes the crossing from a video monitor. The railroad believes that crossing protection rules can be observed using this system and it has installed cameras at several crossings.

Once FRA became aware that this system was being implemented, we immediately requested that the railroad cease any further installations until an evaluation of the system could be conducted to determine whether the remote camera system could offer the same or better level of

---

[1]Switching operations entail operating a locomotive back and forth many times on a switching lead track to classify freight cars. Because of the location of rail yards, many switching lead tracks have crossings over them.

protection for switching movement over crossings as the traditional methods. The railroad complied with FRA's request.

FRA headquarters staff and field inspectors visited and evaluated this system at two locations: Rochelle, IL, and Warm Springs, CA. Following these evaluations, FRA made the following recommendations:

- Before camera assisted RCL operations are permitted at highway-rail grade crossings, a Crossing Diagnostic Team should evaluate the crossing. The Diagnostic Team should have representatives from the railroad, FRA, the State Department of Transportation (or another state agency having jurisdiction over the highway), and local government authorities. The Diagnostic Team should evaluate the suitability of each crossing for remote camera operations. They should consider factors such as average daily traffic counts; number of highway lanes; highway speed limits; number of railroad tracks; volume of school bus, transit bus, emergency vehicle, large truck and hazardous material traffic over the crossing; minimum RCL operator sight distances of roadway approaches to the crossing; and other relevant factors that could effect the safety of the crossing. The Diagnostic Team should also consider the appropriate number of cameras and appropriate camera angles needed to provide for the remote operation of RCLs' over the crossing.
- Remote cameras should only be used at crossings equipped with warning lights, gates, and constant warning and motion sensor devices.
- The cameras should be arranged so as to give the RCO a view of the rail approaches to the crossing from each direction to accurately judge the locomotive's proximity to the crossing.
- The cameras should be arranged so as to give the RCO a clear view to determine the speed and driver behavior (e.g. speeding, driving erratically) regarding any approaching motor vehicles.
- Either, the camera resolution should be sufficient to determine whether the flashing lights and gates are working as intended or the crossing should be equipped with a remote health monitoring system that is capable of notifying the RCO immediately if the flashing lights and gates are not working as intended.
- The railroad should notify local FRA offices when this type of protection has been installed and activated at a crossing to ensure that FRA grade crossing specialists and signal inspectors can monitor these operations.

We also suggested, that if a highway-rail crossing were equipped with supplemental safety devices that prevent motorists from driving around lowered gates, then perhaps some of the above recommendations may not be necessary to permit the safe remote operation of RCLs.

However, a Diagnostic Team should make such determinations. FRA recognizes that camera assisted remote operation of RCLs may not be a viable alternative at all highway-rail grade crossings.

Status: The railroads are currently considering FRA's recommendations. To our knowledge, there have not been any new camera installations to permit remote operation of RCLs over highway-rail grade crossings. FRA intends to continue to monitor these operations and report any further findings and actions regarding this issue to the Committee in its final report.

III. Additional Areas of Inquiry

FRA is examining several topics related to RCL technology and operations outside of its work with the AAR task force. The additional areas of inquiry are not necessarily associated with any alleged safety risk; rather, these inquiries are intended to broaden our understanding of the nature of RCL technology and operations to optimize their safety and effectiveness. We will briefly outline these areas of inquiry below and we intend to provide the Committee with a more detailed assessment of the results of our inquiry in our final report.

Inquiry Topic 1: Root cause analysis and probabilistic risk assessment

Despite the very positive preliminary safety data that indicates that RCL operations may lead to fewer accidents and injuries than conventional operations, FRA believes that it is prudent to undertake a formal root cause analysis of RCL accidents and injuries and to conduct a safety risk assessment of RCL operations. Root cause analysis is a method of identifying system vulnerabilities after a loss has occurred while risk assessment is a pro-active method of identifying system vulnerabilities before there is any type of "loss" (e.g., personnel, property, productivity). Whenever a new technology or process is introduced into a work environment, it is common to expect a change in the nature and distribution of workplace accidents and injuries. While the new technology or process may very well prove to be much safer than the existing technology or process a root cause analysis and a risk assessment should be performed as they are both tools that can help identify ways to minimize losses and maximize operating efficiencies.

FRA's Office of Research and Development has contracted with Foster-Miller Inc., a company with vast experience and an excellent reputation in the area of transportation safety research, to conduct a root cause analysis of incidents involving remotely controlled locomotives. The project has already received the support of the railroad industry. Railroad members of the AAR task force have agreed to cooperate with the study and so have the two operating rail unions who represent RCOs, the United Transportation Union and the Brotherhood of Locomotive Engineers and trainmen. A protocol for performing the root cause analysis has been prepared and was discussed with stakeholders at a meeting held on December 15, 2003.

Work on the probabilistic risk assessment is underway. The main focus of this work will be the human contribution to risk (i.e., human error). Currently, the contractor is defining scenarios for the assessment that can be used to make appropriate comparisons. Event trees and fault trees have been established and will be used to evaluate these scenarios which will reflect the most common types of operations. FRA will report on the findings of the root cause accident analysis and probabilistic risk assessment in the final report to the Committee.

Inquiry Topic 2: Electromagnetic fields generated by remote control units

The remote control units, also known as "beltbacks" control the RCL by transmitting radio signals. Like all radio transmitters, these units emit electromagnetic fields (EMF). The manufacturers of remote control units have asserted that the EMFs generated by their equipment pose no safety hazard and meets all applicable standards for EMF transmission. To be prudent, FRA has decided to investigate the EMF levels generated by RCL transmitters to verify that these transmissions remain at safe levels.

We have enlisted the services of the John A. Volpe National Transportation Systems Center (Volpe Center) to conduct this investigation. The Volpe Center requested and received information from all of the manufacturers of remote control devices regarding Radio Frequency characteristics and FCC license documentation. The Volpe Center will now review the information received from the manufacturers and evaluate it. The next task is to perform an independent validation and verification of the EMF emissions and susceptibility to electromagnetic interference. We will report our findings to this Committee in our final report.

Inquiry Topic 3: RCL signal system integrity

Of paramount importance in RCL operations are the signals which direct the movement of the locomotive. The implications of an unauthorized movement can be severe and result in injury, death or a breach in security. FRA sought to protect the integrity of the RCL system by recommending certain RCL design features in its Safety Advisory in the section entitled "Safety Design and Operational Requirements." 66 Fed. Reg. at 10343.

The manufacturers of this equipment have asserted that they have designed sophisticated signal relay systems to protect the integrity and security of the RCL. The signals or bits of information sent to the RCL are encrypted with a unique address for that particular locomotive. If a control signal fails, or is corrupted, or is interfered with in any way, the RCL system immediately acts to stop locomotive movement. Additionally, the RCLs are equipped with manual emergency "shutdown" push buttons on each side of the RCL. These buttons allow anyone close to the locomotive to immediately shut the locomotive down in the event of an emergency. FRA intends to review RCL signal integrity and security to verify industry claims that this technology does not pose a safety and security risk.

IV. RCL Operational Data

Effective May 1, 2003, the new RCL accident/incident reporting codes came into effect. By developing these codes, FRA is able to obtain data specifically relating to RCL operations. With this data, FRA can identify the types of injuries and accidents that may be associated with RCL operations (see enclosures 1, 2 and 3). The initial data reported on Enclosure 1 indicated that the RCL ratio of accidents per one million yard switching miles is 13.5 percent less than the conventional ratio of accidents per one million yard switching miles. Enclosure 2 shows that the RCL ratio of employee injuries per one million yard switching miles is 57.1 percent less than the conventional ratio of accidents per one million yard switching miles. Following is a table which compares train accident rates and casualty rates between RCL and conventional switching operations.

FRA recognizes that there may be several factors that help account for the disparity in the accident and injury rates, such as the relative simplicity of switching operations where RCLs have been instituted, or the relative age distribution of RCOs vs conventional switching crews. Nonetheless, a 57 percent reduction in injury rates is substantial and may reflect inherent safety advantages of the technology and the careful attention that the rail industry and FRA are devoting to the implementation of RCL operations.

Conclusion to Preliminary RCL Report

FRA recognizes that the growth and evolution of this technology is not yet complete. Railroads will continue to explore innovative uses for RCL operations, while RCL manufactures will continue to expand the capabilities of RCL technology. We wish to assure the Committee that FRA will continue to actively work with all interested parties to closely monitor the continued use and expansion of RCL operations, to identify potential safety issues as soon as they arise, and to address any safety issues as quickly and effectively as possible. FRA intends to issue a final RCL report to this Committee within one year of the date of this report. The final report will report on the resolution of the open items discussed above. It will also provide additional safety data, based on 18 months of RCL operations. In addition, the final report will contain findings and recommendations regarding any additional activities that FRA deems necessary to ensure the continued safety of RCL operations. Such recommendations could include further guidance based on the identification of additional best practices or recommendations regarding possible regulatory action, if it is deemed necessary.

In closing, we commend all the railroad industry stakeholders who have worked diligently with FRA over the last three years to bring about the safe implementation of RCL operations. We look forward to an on-going partnership to ensure the continuing safety of RCL operations wherever they may occur on our Nation's railroad network.

Enclosures

Enclosure No. 1

Comparison - Reportable Rail Equipment Accidents/Incidents on Yard/Industry Tracks Involving RCL Operations and Conventional Operations (May 1 through November 30, 2003)

Reporting Threshold: For calendar year 2003, a rail equipment accident/incident must be reported to the Federal Railroad Administration if the combined amount of equipment and track damage exceeds $6,700.

					Yard Switching Miles			Ratio of Accidents per 1 Million Yard Switching Miles		
Distribution of Accidents by Railroads:	RCL	Conv	Total	% RCL	RCL	Conv	Total	RCL	Conv	Total
Union Pacific Railroad (UP)	97	192 =	289	33.6	3,251,051	5,651,059 =	8,902,110	29.84	33.98	32.46
Burlington Northern Santa-Fe (BNSF)	39	149 =	188	20.7	2,080,873	5,585,742 =	7,666,615	18.74	26.68	24.52
CSX Transportation Inc. (CSX)	27	147 =	174	15.5	2,070,967	5,272,965 =	7,343,932	13.04	27.88	23.69
Norfolk Southern Railroad (NS)	5	91 =	96	5.2	431,750	7,104,466 =	7,536,216	11.58	12.81	12.74
Alton and Southern Railway (ALS)	4	3 =	7	57.1	217,564	333,903 =	551,467	18.39	8.98	12.56
Belt Railway Company of Chicago (BRC)	3	7 =	10	30.0	77,537	171,688 =	249,225	38.69	40.77	40.12
Kansas City Southern (KCS)	3	29 =	32	9.4	212,022	526,238 =	738,260	14.14	55.11	43.35
Conrail Shared Assets (CRSH)	1	20 =	21	0.0	24, 528	1,046,154 =	1,070,682	40.77	1 9.12	19.61
Montana Rail Link (MRL)	1	2 =	3	33.3	155,293	113,250 =	268,543	6.44	17.66	11.17
San Luis & Rio Grande Railroad (SLRG)	1	0 =	1	100.0	697	3,500 =	4,197	1,434.72	0.00	238.27
Birmingham Southern (BS)*	0	1 =	1	0.0	0	9,835 =	9,835	0.00	101.68	101.68
California Northern (CFNR)	0	1 =	1	0.0	3,623	2,963 =	6,586	0.00	337.50	151.84
Cleveland Works Railway (CWRO)*	0	7 =	7	0.0	0	4,622 =	4,622	0.00	1,514.50	1,514.50
Consolidated Grain & Barge (CGBX)	0	0 =	0	0.0	9,002	0 =	9,002	0.00	0.00	0.00
Florida East Coast (FEC)	0	3 =	3	0.0	5,900	241,718 =	247,618	0.00	12.41	12.11
Illinois Central (IC)	0	24 =	24	0.0	4,770	1,478,104 =	1,482,874	0.00	16.24	16.18
Indiana Railroad (INRD)	0	2 =	2	0.0	5,945	17,825 =	23,770	0.00	112.20	84.14
Jefferson Warrior Railroad (JEFW)	0	0 =	0	0.0	4,942	266 =	5,208	0.00	0.00	0.00
McKeesport Connecting Railroad (MKC)*	0	0 =	0	0.0	0	5,416 =	5,416	0.00	0.00	0.00
Pennsylvania Southwestern RR (PSWR)	0	0 =	0	0.0	36,216	3,354 =	39,570	0.00	0.00	0.00
Puget Sound & Pacific (PSAP)	0	1 =	1	0.0	1,462	1,648 =	3,110	0.00	606.80	321.54
Wheeling & Lake Erie (WE)	0	6 =	6	0.0	1,212	109,235 =	110,447	0.00	54.93	54.32
Wisconsin Central (WC)	0	2 =	2	0.0	25,632	611,632 =	637,264	0.00	3.26	3.14
Total =	181	687 =	868	20.9	8,620,986	28,295,583 =	36,916,569	21.00	24.28	23.51

* Designates railroads that operate remote control locomotives, but only in that portion of their operations designated as a "plant railroad."

Distribution of Accidents by State:	RCL	Conv	Total
Texas	28	75 =	103
Arkansas	19	10 =	29
Illinois	18	79 =	97
California	14	41 =	55
Missouri	13	14 =	27
Kansas	10	15 =	25
Nebraska	10	17 =	27
Alabama	8	14 =	22
Washington	8	16 =	24
Maryland	7	11 =	18
Colorado	5	15 =	20
Minnesota	5	14 =	19
North Dakota	5	1 =	6
Oregon	5	10 =	15
Ohio	4	52 =	56
North Carolina	3	15 =	18
Florida	2	15 =	17
Kentucky	2	11 =	13
Louisiana	2	23 =	25
Wyoming	2	10 =	12
Georgia	2	25 =	27
Michigan	2	3 =	5
Tennessee	2	22 =	24
Utah	2	11 =	13
Indiana	1	29 =	30
Montana	1	4 =	5
South Carolina	1	2 =	3
Other States (RCL Railroads Only)	0	133 =	133
Total =	181	687 =	868

Distribution by Month:	RCL	Conv	Total
May	18	114 =	132
June	15	107 =	122
July	26	98 =	124
August	31	102 =	133
September	39	100 =	139
October	21	70 =	91
November	31	96 =	127
Total =	181	687 =	868

Distribution by Major Cause Classification:	RCL	Conv	Total	% RCL
Train Operations - Human Factors	110	355 =	465	23.7
Miscellaneous Causes	26	91 =	117	22.2
Track, Roadbed and Structures	23	200 =	223	10.3
Signal and Communications	15	14 =	29	51.7
Mechanical and Electrical Failures	7	27 =	34	20.6
Total =	181	687 =	868	20.9

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

Union Pacific:

San Antonio, Texas	12	(2)	Wide gage (due to defective or missing crossties)
		(2)	Shoving move, absence of man on leading end of movement
		(1)	Coupler mismatch, high/low
		(1)	Coupling speed excessive
		(1)	Passed couplers
		(1)	Cars left foul
		(1)	Object or equipment fouling track
		(1)	Defective or missing crossties/Coupler mismatch, high/low
		(1)	Switch previously run through
		(1)	Switch improperly lined
N. Little Rock, Arkansas	11	(2)	Other general switching rules
		(1)	Shoving move, absence of man on leading end of movement
		(1)	Failure to comply with restricted speed
		(1)	Switch improperly lined
		(1)	Instructions to train/yard crew improper
		(1)	Yard skate slide and failed to stop car
		(1)	Classification yard automatic control system retarder failure
		(1)	Failure to release handbrakes on car(s)
		(1)	Automatic hump retarder failed to slow car-foreign matter on wheels
		(1)	Switch (hand operated) stand mechanism broken, loose or worn
Kansas City, Missouri	9	(6)	Yard skate slide and failed to stop car
		(1)	Buffing or slack action excessive-train handling
		(1)	Failure to comply with restricted speed
		(1)	Cars left foul
Pine Bluff, Arkansas	8	(2)	Other signal failures
		(1)	Improperly Loaded Car
		(1)	Cars left foul
		(1)	Broken rail, horizontal split head
		(1)	Switch not latched or locked
		(1)	Flangeway clogged
		(1)	Shoving move, absence of man on leading end of movement

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

North Platte, Nebraska	8	(2)	Classification yard automatic control system retarder failure
		(2)	Interaction lateral/vertical forces
		(1)	Power switch failure
		(1)	Radio communication, failure to comply
		(1)	Other train operation/human factor
		(1)	Buffing or slack action excessive-train handling
Kansas City, Kansas	7	(2)	Other general switching rules
		(1)	Passed couplers
		(1)	Knuckle broken or defective
		(1)	Failure to couple
		(1)	Other rail/joint bar defects
		(1)	Remote control transmitter defective
Roseville, California	6	(1)	Shoving move, absence of man on leading end of movement
		(1)	Switch previously run through
		(1)	Radio communication, improper
		(1)	Other general switching rules
		(1)	Instructions to train/yard crew improper
		(1)	Failure to apply sufficient handbrake(s) on car(s)
Fort Worth, Texas	3	(1)	Vandalism of on-track equipment (e.g., brakes released)
		(1)	Lateral drawbar force on curve excessive-train makeup
		(1)	Use of brakes, other
Hermiston, Oregon	3	(1)	Classification yard automatic control system retarder failure
		(1)	Shoving move, absence of man on leading end of movement
		(1)	Humping or cutting off in motion equipment susceptible to damage
Houston, Texas	3	(1)	Classification yard automatic control system switch failure
		(1)	Other train operations/human factor cause
		(1)	Broken rail - transverse/compound fissure
Laporte, Texas	3	(3)	Classification yard automatic control system retarder failure
Dallas, Texas	2	(1)	Failure to comply with restricted speed
		(1)	Switch point worn or broken

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

Denver, Colorado	2	(1)	Passed couplers
		(1)	Switch improperly lined
Northlake, Illinois	2	(1)	Switch improperly lined
		(1)	Failure to comply with restricted speed
Rochelle, Illinois	2	(2)	Switch improperly lined
Seattle, Washington	2	(1)	Moving cars with loading ramp not in position
		(1)	Failure to properly secure hand brake on car(s)
Tacoma, Washington	2	(1)	Switch damaged or out of adjustment
		(1)	Shoving move, man on leading end of movement, failure to control
Eugene, Oregon	1	(1)	Other brake components damaged, worn, broken or defective
Laredo, Texas	1	(1)	Deviation from uniform top of rail profile
Melrose Park, Illinois	1	(1)	Shoving move, absence of man on leading end of movement
St. Louis, Missouri	1	(1)	Other track geometry defects
Salt Lake City, Utah	1	(1)	Passed couplers
Stockton, California	1	(1)	Shoving move, absence of man on leading end of movement
W. Sacramento, California	1	(1)	Wide gage (due to defective or missing crossties)
Pioneer, Utah	1	(1)	Shoving move, man on end of movement, failure to control
Tracy, California	1	(1)	Wide gage (due to defective or missing crossties)
Portland, Oregon	1	(1)	Broken rail-base
Green River, Wyoming	1	(1)	Load shifted
Cheyenne, Wyoming	1	(1)	Switch improperly lined
Total =	97		

Burlington Northern Santa Fe:

Galesburg, Illinois	4	(1)	Switch point worn or broken
		(1)	Other frog, switch or track appliance defect
		(1)	Broken rail, detail fracture from shelling or head check
		(1)	Other signal failures
Barstow, California	3	(1)	Failure to allow air brakes to fully release before proceeding
		(1)	Use of switches, other
		(1)	Coupler retainer pin/cross key missing

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

Kansas City, Kansas	3	(1)	Object on or fouling track (motor vehicle not at a crossing)
		(1)	Buffing or slack action excessive-train handling
		(1)	Shoving move, absence of man on leading end of movement
Denver, Colorado	2	(1)	Shoving move, absence of man on leading end of movement
		(1)	Failure to comply with restricted speed
Everett, Washington	2	(1)	Other general switching rules
		(1)	Worn rail
Grand Forks, North Dakota	2	(1)	Switch damaged or out of adjustment
		(1)	Failure to comply with restricted speed
Lincoln, Nebraska	2	(1)	Classification yard automatic control system retarder failure
		(1)	Yard skate slide and failed to stop car
Minneapolis, Minnesota	2	(1)	Coupling speed excessive
		(1)	Shoving move, man on end of movement, failure to control
St. Louis, Missouri	2	(1)	Shoving move, absence of man on leading end of movement
		(1)	Track damage caused by non-railroad interference with track
San Bernardino, California	2	(1)	Failure to properly secure hand brake on car(s)
		(1)	Object such as lading chains or straps fouling wheels
Temple, Texas	2	(1)	Failure to properly secure hand brakes on car
		(1)	Turnout frog (spring) worn or broken
Amarillo, Texas	1	(1)	Shoving move, absence of man on leading end of movement
Birmingham, Alabama	1	(1)	Buffing or slack action excessive-train handling
Dilworth, Minnesota	1	(1)	Wide gage (due to defective or missing ties)/due to loose gage rods
E. Grand Forks, N. Dakota	1	(1)	Shoving move, absence of man on leading end of movement
Fridley, Minnesota	1	(1)	Switch improperly lined
Logistics Park, Illinois	1	(1)	Failure to properly secure engine(s)
Mandan, North Dakota	1	(1)	Failure to comply with restricted speed
Memphis, Tennessee	1	(1)	Yard skate slid and failed to stop cars
Minot, North Dakota	1	(1)	Shoving move, absence of man on leading end of movement
Northtown, Minnesota	1	(1)	Instructions to train/yard crew improper

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

Pasco, Washington	1	(1)	Manual intervention of class yard auto control system modes by optr
Spokane, Washington	1	(1)	Interference with railroad operations by non-railroad employee
Springfield, Missouri	1	(1)	Shoving move, man on end of movement, failure to control
Total =	39		
CSX:			
Cumberland, Maryland	6	(2)	Speed, other
		(1)	Buffing or slack action excessive-train handling
		(1)	Retarder, improper manual operation
		(1)	Side bearings missing
		(1)	Other communication equipment failure/Knuckle broken or defective
Tarrant, Alabama	3	(1)	Failure to comply with restricted speed
		(1)	Failure to stop train in clear
		(1)	Object or equipment on or fouling track
Cincinnati, Ohio	3	(1)	Broken rail, transverse/compound fissure
		(1)	Switch previously run through
		(1)	Shoving move, absence of man on leading end of movement
Louisville, Kentucky	2	(1)	Buffing or slack action excessive-train handling
		(1)	Other signal failures
Atlanta, Georgia	1	(1)	Shoving move, absence of man on leading end of movement
Baltimore, Maryland	1	(1)	Shoving move, man on end of movement, failure to control
Jacksonville, Florida	1	(1)	Failure to apply sufficient hand brakes on cars
Evansville, Indiana	1	(1)	Shoving move, absence of man on leading end of movement
Hamlet, N. Carolina	1	(1)	Shoving move, man on end of movement, failure to control
Mobile, Alabama	1	(1)	Failure to comply with restricted speed
Montgomery, Alabama	1	(1)	Switch previously run through
Nashville, Tennessee	1	(1)	Failure to properly secure engine(s)
Riverside, Illinois	1	(1)	Brake rigging down or dragging
Rocky Mount, N. Carolina	1	(1)	Switch improperly lined/Shoving move, absence of man at lead end of movement
Savannah, Georgia	1	(1)	Shoving move, man on end of movement, failure to control
Wilmington, North Carolina	1	(1)	Independent (engine) brake, improper use (except actuation)
Walbridge, Ohio	1	(1)	Passed couplers
Total =	27		

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

Norfolk Southern:			
Birmingham, Alabama	2	(1)	Yard skate slide and failed to stop car
		(1)	Switch improperly lined
Childs, S. Carolina	1	(1)	Failure to comply with restricted speed
Oakwood, Michigan	1	(1)	Switch improperly lined
Jasper, Florida	1	(1)	Other misc. causes (Ineffective braking contamination brake shoes)
Total =	5		
Alton and Southern:			
E. St. Louis, Illinois	4	(1)	Shoving move, man on end of movement, failure to control
		(1)	Yard skate slid and failed to stop cars
		(1)	Radio communication, failure to give/receive
		(1)	Failure to comply with restricted speed
Total =	4		
Belt Railway of Chicago:			
Bedford Park, Illinois	2	(1)	Switch improperly lined
		(1)	Extreme Environmental Conditions-Extreme Wind Velocity
Chicago, Illinois	1	(1)	Switch improperly lined
Total =	3		
Kansas City Southern:			
Shreveport, Louisiana	2	(1)	Shoving move, absence of man on leading end of movement
		(1)	Failure to comply with restricted speed
Wylie, Texas	1	(1)	Cars left foul
Total =	3		
Conrail Shared Assets:			
Detroit, Michigan	1	(1)	Passed couplers
Total =	1		
Montana Rail Link:			
Missoula, Montana	1	(1)	Shoving move, absence of man on leading end of movement
Total =	1		

Railroad/Location Distribution of Reportable Rail Equipment Accidents involving Remote Control Locomotives:

San Luis & Rio Grande:

Monte Vista, Colorado	1	(1)	Object or equipment fouling track (motor vehicle not at crossing)
Total =	1		

Grand Total = 181

Listing of Remote Control Accidents in Chronological Order: May 1 - November 30, 2003:

5/01/03	NS	Oakwood	MI	Human - H702	Switch improperly lined
5/04/03	MRL	Missoula	MT	Human - H306	Shoving move, absence of man on leading end of movement
5/04/03	UP	N. Little Rock	AR	Misc - M407	Automatic hump retarder failed to slow car -foreign matter on wheels
5/05/03	CSX	Tarrant	AL	Human - H401	Failure to stop train in clear
5/05/03	UP	Ft. Worth	TX	Misc M502	Vandalism of on-track equipment (e.g., brakes released)
5/06/03	BNSF	Grand Forks	ND	Track - T311	Switch damaged or out of adjustment
5/06/03	UP	Kansas City	KS	Human - H399	Other general switching rules (movement entered RCL zone)
5/10/03	UP	Dallas	TX	Track - T314	Switch point worn or broken
5/11/03	UP	N. Little Rock	AR	Human - H702	Switch improperly lined
5/11/03	UP	North Platte	NE	Human - H210	Radio communication, failure to comply
5/11/03	BNSF	Spokane	WA	Misc - M501	Interference with railroad operations by non-railroad employee
5/15/03	NS	Jasper	FL	Misc - M599	Other misc. causes-Ineffective braking contamination brake shoes
5/17/03	BNSF	Lincoln	NE	Misc - M408	Yard skate slid and failed to stop car
5/19/03	UP	Hermiston	OR	Signal - S007	Classification yard automatic control system retarder failure
5/23/03	UP	Hermiston	OR	Human - H306	Shoving move, absence of man on leading end of movement
5/26/03	CSX	Cincinnati	OH	Track - T220	Broken rail - Transverse/compound fissure
5/28/03	BNSF	Springfield	MO	Human - H307	Shoving move, man on end of movement, failure to control
5/28/03	UP	North Platte	NE	Signal - S007	Classification yard automatic control system retarder failure
6/02/03	UP	North Platte	NE	Misc - M405	Interaction of lateral/vertical forces
6/07/03	UP	Kansas City	MO	Misc - M408	Yard skate slid and failed to stop cars
6/14/03	CSX	Rocky Mount	NC	Human - H702/H306	Switch improperly lined/Shoving move, absence of man on lead end
6/14/03	BNSF	Galesburg	IL	Track - T314	Switch point worn or broken
6/14/03	UP	Roseville	CA	Human - H211	Radio communication, improper
6/20/03	BNSF	Everett	WA	Human - H399	Other general switching rules
6/20/03	BNSF	Minneapolis	MN	Human - H601	Coupling speed excessive
6/20/03	UP	Seattle	WA	Human - H018	Failure to properly secure hand brake on car(s)
6/23/03	ALS	E St. Louis	IL	Human - H307	Shoving move, man on end of movement, failure to control
6/24/03	NS	Childs	SC	Human - H607	Failure to comply with restricted speed
6/25/03	UP	Kansas City	KS	Human - H312	Passed couplers
6/25/03	UP	Tracy	CA	Track - T111	Wide gage (due to defective or missing crossties)

Listing of Remote Control Accidents in Chronological Order: (continued):

6/27/03	UP	Pine Bluff	AR	Misc - M204	Improperly loaded car
6/28/03	CSX	Cincinnati	OH	Human - H704	Switch previously run through
6/30/03	BNSF	Galesburg	IL	Track - T399	Other frog, switch or track appliance defect
7/01/03	UP	Kansas City	MO	Human - H503	Buffing or slack action excessive, train handling
7/03/03	UP	Kansas City	MO	Misc - M408	Yard skate slid and failed to stop car
7/05/03	BNSF	Temple	TX	Human - H018	Failure to properly secure hand brakes on car(s)
7/06/03	UP	Dallas	TX	Human - H607	Failure to comply with restricted speed
7/07/03	BNSF	St. Louis	MO	Human - H306	Shoving move, absence of man on leading end of movement
7/08/03	BNSF	Galesburg	IL	Track - T207	Broken rail - Detail fracture from shelling or head check
7/08/03	UP	San Antonio	TX	Mech - E31C	Coupler mismatch, high/low
7/08/03	UP	Kansas City	MO	Misc - M408	Yard skate slid and failed to stop car
7/10/03	UP	Roseville	CA	Human - H306	Shoving move, absence of man on leading end of movement
7/11/03	UP	San Antonio	TX	Human - H306	Shoving move, absence of man on leading end of movement
7/14/03	UP	Pine Bluff	AR	Human - H302	Cars left foul
7/16/03	UP	Rochelle	IL	Human - H702	Switch improperly lined
7/17/03	BRC	Bedford Park	IL	Human - H702	Switch improperly lined
7/17/03	CSX	Mobile	AL	Human - H607	Failure to comply with restricted speed
7/17/03	UP	Kansas City	KS	Human - H399	Other general switching rules
7/17/03	UP	Tacoma	WA	Track - T311	Switch damaged or out of adjustment
7/20/03	BNSF	Barstow	CA	Human - H514	Failure to allow air brakes to fully release before proceeding
7/22/03	UP	San Antonio	TX	Human - H302	Cars left foul
7/23/03	BNSF	Denver	CO	Human - H306	Shoving move, absence of man on leading end of movement
7/23/03	CSX	Tarrant	AL	Human - H607	Failure to comply with restricted speed
7/25/03	UP	San Antonio	TX	Track - T205, E31L	Defective or missing crossties/Coupler mismatch, high/low
7/26/03	UP	N Little Rock	AR	Human - H306	Shoving move, absence of man on leading end of movement
7/28/03	BNSF	Kansas City	KS	Human - H306	Shoving move, absence of man on leading end of movement
7/28/03	CSX	Jacksonville	FL	Human - H020	Failure to apply sufficient hand brakes on cars
7/31/03	BNSF	St. Louis	MO	Misc - M506	Track damage caused by non-railroad interference with track
7/31/03	CSX	Cumberland	MD	Human - H503	Buffing or slack action excessive, train handling
8/02/03	BNSF	Minneapolis	MN	Human - H307	Shoving move, man on end of movement, failure to control

Listing of Remote Control Accidents in Chronological Order: (continued):

8/05/03	UP	N Little Rock	AR	Human - H607	Failure to comply with restricted speed
8/05/03	UP	Rochelle	IL	Human - H702	Switch improperly lined
8/05/03	UP	San Antonio	TX	Track - T110	Wide gage (due to defective or missing crossties)
8/09/03	BNSF	Temple	TX	Track - T318	Turnout frog (spring), worn or broken
8/09/03	NS	Birmingham	AL	Misc - M408	Yard skate slid and failed to stop car
8/10/03	CSX	Tarrant	AL	Misc - M402	Object or equipment on or fouling track
8/12/03	UP	Pine Bluff	AR	Track - T212	Broken rail, horizontal split head
8/13/03	UP	Cheyenne	WY	Human - H702	Switch improperly lined
8/13/03	UP	St. Louis	MO	Track - T199	Other track geometry defects
8/14/03	CSX	Walbridge	OH	Human - H312	Passed couplers
8/14/03	UP	San Antonio	TX	Misc - M402	Object or equipment on or fouling track
8/15/03	ALS	E St. Louis	IL	Misc - M408	Yard skate slid and failed to stop cars
8/16/03	BNSF	Minot	ND	Human - H306	Shoving move, absence of man on leading end of movement
8/17/03	UP	Houston	TX	Signal - S006	Classification yard automatic control system switch failure
8/18/03	BNSF	Mandan	ND	Human - H607	Failure to comply with restricted speed
8/18/03	UP	Pine Bluff	AR	Human - H703	Switch not latched or locked
8/18/03	UP	North Platte	NE	Signal - S011	Power switch failure
8/20/03	UP	Roseville	CA	Human - H399	Other general switching rules
8/21/03	BNSF	Galesburg	IL	Signal - S099	Other signal failures
8/21/03	UP	Pine Bluff	AR	Signal - S099	Other signal failures
8/21/03	UP	San Antonio	TX	Human - H601	Coupling speed excessive
8/22/03	BNSF	Lincoln	NE	Signal - S007	Classification yard automatic control system retarder failure
8/22/03	UP/BN	Tacoma	WA	Human - H307	Shoving move, man on leading end of movement, failure to control
8/22/03	UP	Kansas City	MO	Human - H607	Failure to comply with restricted speed
8/25/03	UP	Roseville	CA	Human - H704	Switch previously run through
8/27/03	UP	Seattle	WA	Human - H311	Moving cars with loading ramp not in position
8/30/03	BNSF	Northtown	MN	Human - H305	Instructions to train/yard crew improper
8/30/03	KCS	Shreveport	LA	Human - H607	Failure to comply with restricted speed
8/30/03	UP	Kansas City	KS	Mech - E330C	Knuckle broken or defective
8/30/03	UP	Stockton	CA	Human - H306	Shoving move, absence of man on leading end of movement

Listing of Remote Control Accidents in Chronological Order: (continued):

9/01/03	BNSF	Kansas City	KS	Misc - M402	Object on or fouling track (motor vehicle not at a crossing)
9/01/03	CSX	Cumberland	MD	Human - H313	Retarder, improper manual operation
9/01/03	UP	LaPorte	TX	Signal - S007	Classification yard automatic control system retarder failure
9/01/03	UP	Melrose Park	IL	Human - H306	Shoving move, absence of man on leading end of movement
9/02/03	UP	Pine Bluff	AR	Track - T402	Flangeway clogged
9/02/03	UP	Pine Bluff	AR	Signal - S099	Other signal failures
9/02/03	UP	San Antonio	TX	Track - T110	Wide gage (due to defective or missing crossties)
9/04/03	CSX	Cumberland	MD	Human - H699	Speed, other
9/06/03	BNSF	Birmingham	AL	Human - H503	Buffing or slack action excessive-train handling
9/07/03	BNSF	Barstow	CA	Human - H799	Use of switches, other
9/08/03	BNSF	SanBernardino,	CA	Human - H018	Failure to properly secure hand brakes on car(s)
9/09/03	CSX	Nashville	TN	Human - H017	Failure to properly secure engine(s)
9/09/03	UP	N. Little Rock	AR	Human - H305	Instructions to train/yard crew improper
9/09/03	UP	San Antonio	TX	Human - H312	Passed couplers
9/11/03	ALS	E St. Louis	IL	Human - H212	Radio communication, failure to give/receive
9/11/03	CSX	Cumberland	MD	Human - H699	Speed, other
9/12/03	KCS	Shreveport	LA	Human - H306	Shoving move, absence of man on leading end of movement
9/13/03	UP	Ft. Worth	TX	Human - H506	Lateral drawbar force on curve excessive - train make-up
9/15/03	UP	Pioneer	UT	Human - H307	Shoving move, man on end of movement, failure to control
9/15/03	UP	San Antonio	TX	Human - H306	Shoving movement, absence of man on leading end of movement
9/16/03	UP	Hermiston	OR	Human - H317	Humping/cutting off in motion equipment susceptible to damage
9/17/03	BNSF	Kansas City	KS	Human - H503	Buffing or slack action excessive-train handling
9/17/03	UP	Houston	TX	Human - H999	Other train operations/human factor cause
9/18/03	CSX	Hamlet	NC	Human - H307	Shoving move, man on end of movement, failure to control
9/18/03	UP	Kansas City	MO	Misc - M408	Yard skate slid and failed to stop cars
9/18/03	UP	Green River	WY	Misc - M201	Load shifted
9/19/03	UP	N. Little Rock,	AR	Signal - S007	Classification yard automatic control system retarder failure
9/20/03	BNSF	Logistics Park,	IL	Human - H017	Failure to properly secure engine(s)
9/20/03	UP	Kansas City	KS	Human - H310	Failure to couple
9/21/03	UP	Ft. Worth	TX	Human - H099	Use of brakes, other

Listing of Remote Control Accidents in Chronological Order: (continued):

9/25/03	NS	Birmingham	AL	Human - H702	Switch improperly lined
9/26/03	UP	N. Little Rock	AR	Misc - M408	Yard skate slid and failed to stop cars
9/26/03	UP	Laredo	TX	Track - T103	Deviation from uniform top of rail profile
9/27/03	CSX	Evansville	IN	Human - H306	Shoving move, absence of man on leading end of movement
9/27/03	UP	North Platte	NE	Misc - M405	Interaction of lateral/vertical forces
9/28/03	UP	North Platte	NE	Signal - S007	Classification yard automatic control system retarder failure
9/29/03	SLRG	Monte Vista	CO	Misc - M402	Object or equipment fouling track (motor vehicle not at crossing)
9/29/03	UP	Kansas City	KS	Track - T299	Other rail and joint bar defects
9/30/03	UP	Kansas City	MO	Human - H302	Cars left foul
10/01/03	KCS	Wylie	TX	Human - H302	Cars left foul
10/01/03	UP	North Platte	NE	Human - H503	Buffing or slack action excessive-train handling
10/02/03	CSX	Savannah	GA	Human - H307	Shoving move, man on end of movement, failure to control
10/02/03	CSX	Cumberland	MD	Mech - E43C	Side bearings missing
10/06/03	CSX	Baltimore	MD	Human - H307	Shoving move, man on end of movement, failure to control
10/07/03	CSX	Wilmington	NC	Human - H525	Independent (engine) brake, improper use (except actuation)
10/09/03	UP	LaPorte	TX	Signal - S007	Classification yard automatic control system retarder failure
10/09/03	UP	Roseville	CA	Human - H305	Instructions to train/yard crew improper
10/12/03	CSX	Louisville	KY	Signal - S099	Other signal failures
10/13/03	UP	Kansas City	MO	Misc - M408	Yard skate slid and failed to stop cars
10/14/03	BNSF	Amarillo	TX	Human - H306	Shoving move, absence of man on leading end of movement
10/18/03	UP	N. Little Rock	AR	Human - H019	Failure to release handbrakes on car(s)
10/19/03	BNSF	Grand Forks	ND	Human - H607	Failure to comply with restricted speed
10/20/03	UP	Portland	OR	Track - T202	Broken rail - base
10/23/03	CSX	Cincinnati	OH	Human - H306	Shoving move, absence of man on leading end of movement
10/24/03	BNSF	Pasco	WA	Human - H316	Manual intervention of class yard auto control sys modes by optr
10/25/03	CSX	Louisville	KY	Human - H503	Buffing or slack action excessive-train handling
10/26/03	ALS	E. St. Louis	IL	Human - H607	Failure to comply with restricted speed
10/27/03	BNSF	Barstow	CA	Mech - E33C	Coupler retainer pin/cross key missing
10/28/03	UP	San Antonio	TX	Human - H704	Switch previously run through
10/31/03	BNSF	Fridley	MN	Human - H702	Switch improperly lined

Listing of Remote Control Accidents in Chronological Order: (continued):

11/01/03	CSX	Cumberland	MD	Mech	- S013/E30C	Other comm. equip. failure/Knuckle broken or defective
11/02/03	BNSF	Memphis	TN	Misc	- M408	Yard skate slid and failed to stop cars
11/03/03	CSX	Riverdale	IL	Mech	- E07C	Brake rigging down or dragging
11/03/03	UP	Northlake	IL	Human	- H702	Switch improperly lined
11/05/03	UP	Denver	CO	Human	- H312	Passed couplers
11/07/03	CRSH	Detroit	MI	Human	- H312	Passed couplers
11/07/03	UP	Denver	CO	Human	- H702	Switch improperly lined
11/07/03	UP	N. Little Rock,	AR	Human	- H399	Other general switching rules
11/07/03	UP	North Platte	NE	Human	- H999	Other train operation/human factors
11/09/03	BRC	Chicago	IL	Human	- H702	Switch improperly lined
11/09/03	CSX	Montgomery	AL	Human	- H704	Switch previously run through
11/10/03	UP	Pine Bluff	AR	Human	- H306	Shoving move, absence of man on leading end of movement
11/11/03	BNSF	Dilworth	MN	Track	- T110/T112	Wide gage (due to defective or missing ties)/(due to loose gage rods)
11/11/03	UP	Roseville	CA	Human	- H020	Failure to apply sufficient number of handbrake(s) on car(s)
11/11/03	UP	Salt Lake City	UT	Human	- H312	Passed couplers
11/12/03	UP	Eugene	OR	Mech	- E04C	Other brake components damaged, worn, broken or disconnected
11/13/03	BNSF	Everett	WA	Track	- T222	Worn rail
11/14/03	CSX	Atlanta	GA	Human	- H306	Shoving move, absence of man on leading end of movement
11/17/03	UP	LaPorte	TX	Signal	- S007	Classification yard automatic control system retarder failure
11/17/03	UP	Kansas City	MO	Misc	- M408	Yard skate slid and failed to stop cars
11/17/03	UP	San Antonio	TX	Human	- H702	Switch improperly lined
11/18/03	UP	Sacramento	CA	Track	- T110	Wide gage (due to defective or missing crossties)
11/19/03	UP	Northlake	IL	Human	- H607	Failure to comply with restricted speed
11/22/03	BNSF	Denver	CO	Human	- H607	Failure to comply with restricted speed
11/22/03	UP	N. Little Rock,	AR	Track	- T309	Switch (hand operated) stand mechanism broken, loose or worn
11/23/03	BNSF	SanBernardino,	CA	Misc	- M410	Object such as lading chains or straps fouling wheels
11/23/03	BRC	Bedford Park	IL	Misc	- M105	Extreme Environmental Condition-Extreme Wind Velocity
11/23/03	UP	Kansas City	KS	Signal	- S101	Remote control transmitter defective
11/26/03	UP	N. Little Rock,	AR	Human	- H399	Other general switching rules

Listing of Remote Control Accidents in Chronological Order:(continued):

11/30/03	BNSF	Grand Forks	ND	Human - H306/H702	Shoving move, abs. of man on lead end of move/Switch imp. lined
11/30/03	UP	Houston	TX	Track - T220	Broken rail - Transverse/compound fissure

Total RCL = 181

Note: The reportable rail equipment accidents/incidents shown above are those that occurred when remote controlled locomotives were in use, and did not necessarily occur because of the use of a remote controlled locomotive.

Remote Control Accidents That Included Hazardous Material Shipment(s):

Thirty eight of the 181, RCL accidents listed above included hazardous materials shipments. The thirty eight RCL accidents included 315 cars carrying hazardous material. Seventy two of the 315 cars were damaged or derailed. One of the 315 cars experienced a hazardous material release. With respect to similar conventional railroad operations, there were 887 accidents that included hazardous material shipments. The 887 accidents included 1,647 cars carrying hazardous material. Two hundred seven of the 1,647 cars were damaged or
derailed. Four of the 207 cars experienced a hazardous material release.

	Remote Control Operations	Conventional Railroad Operations
Number of Accidents	38	887
Cars transporting hazardous materials	315	1,647
Cars damaged or derailed	72	207
Cars releasing hazardous materials	1	4

Listing of Remote Control Accidents That Included Hazardous Material Shipment(s):

Date	RR	City	State	Cause	Cars Carrying	Cars Damaged or Derailed	Cars Releasing
5/15/03	NS	Jasper	FL	Misc - M599	8	8	0
6/25/03	UP	Kansas City	KS	Human - H312	9	2	0
6/30/03	BNSF	Galesburg	IL	Track T399	5	0	0
7/01/03	UP	Kansas City	MO	Human - H503	1	1	0
7/05/03	BNSF	Temple	TX	Human - H018	1	1	0
7/08/03	BNSF	Galesburg	IL	Track - T207	1	1	0
7/17/03	UP	Kansas City	KS	Human - H399	4	0	0
7/23/03	BNSF	Denver	CO	Human - H306	3	3	0
7/28/03	CSX	Jacksonville	FL	Human - H020	1	0	0
8/09/03	BNSF	Temple	TX	Track - T318	2	2	1
8/10/03	CSX	Tarrant	AL	Misc - M402	1	0	0
8/12/03	UP	Pine Bluff	AR	Track - T212	5	0	0
8/17/03	UP	Houston	TX	Signal - S006	5	3	0
8/30/03	KCS	Shreveport	LA	Human - H607	16	0	0
9/01/03	UP	LaPorte	TX	Signal - S007	36	25	0
9/02/03	UP	Pine Bluff	AR	Signal - S099	1	1	0
9/07/03	BNSF	Barstow	CA	Human - H799	9	0	0
9/11/03	ALS	E St. Louis	IL	Human - H212	1	1	0
9/17/03	BNSF	Kansas City	KS	Human - H503	1	1	0
9/17/03	UP	Houston	TX	Human - H999	7	0	0
9/18/03	CSX	Hamlet	NC	Human - H307	16	1	0
9/28/03	UP	North Platte	NE	Signal - S007	13	0	0
10/01/03	UP	North Platte	NE	Human - H503	2	0	0
10/02/03	CSX	Cumberland	MD	Mech - E43C	21	0	0
10/07/03	CSX	Wilmington	NC	Human - H525	8	0	0
10/09/03	UP	LaPorte	TX	Signal - S007	46	4	0
10/14/03	BNSF	Amarillo	TX	Human - H306	25	1	0
11/01/03	CSX	Cumberland	MD	Mech - S013/E30C	12	2	0
11/02/03	BNSF	Memphis	TN	Misc - M408	1	0	0
11/07/03	UP	North Platte	NE	Human - H999	16	1	0
11/11/03	BNSF	Dilworth	MN	Track - T110/T112	4	3	0

11/13/03	BNSF	Everett	WA	Track	- T222	2		2		0	

Listing of Remote Control Accidents That Included Hazardous Material Shipment(s) continued:

11/14/03	CSX	Atlanta	GA	Human	- H306	1		0		0	
11/17/03	UP	LaPorte	TX	Signal	- S007	2		0		0	
11/17/03	UP	Kansas City	MO	Misc	- M408	8		5		0	
11/22/03	BNSF	Denver	CO	Human	- H607	14		0		0	
11/26/03	UP	N. Little Rock	AR	Human	- H399		5		1		0
11/30/03	UP	Houston	TX	Track	- T220	3		0		0	

GIBSON KINERK L.L.P.

REXANNE GIBSON*
DANIEL L. KINERK*
DAVID M. REEVE*

* Also Admitted In Oregon

ATTORNEYS AT LAW
SUITE 607
110 110TH AVE. N.E.
BELLEVUE, WASHINGTON 98004
(425) 462-9584
Facsimile: (206)625-6517

SARAH E. HALL
KEVIN S. MACDOUGALL
ROBERT E. WALKLEY

FACSIMILE COVER SHEET

TO: Carole J. Washburn W.U.T.C.

FROM: RE Walkley

RE:

FAX NO.:

DATE: 6/11/04 **TIME:** 4:59 ~~2:30~~ pm

MESSAGE: Hard copy to follow via U.S. mail

TOTAL NO. OF PAGES INCLUDING COVER SHEET: _____

If you did not receive the correct amount of pages, please contact this office at 425-462-9584.

242597

U.S. Department of Transportation
Federal Railroad Administration

Administrator

1120 Vermont Ave., NW.
Washington, DC 20590

OFFICE OF CHIEF COUNSEL
03 MAY -2 PM 12:36

MAY 1 2003

FRA-2000-8422-4

Mr. Edward Wytkind
Executive Director
Transportation Trades Department, AFL-CIO
888 16 Street, NW, Suite 650
Washington, D.C. 20006

Dear Mr. Wytkind:

The Federal Railroad Administration (FRA) has reviewed your letter dated March 11, 2003, urging FRA to favorably act upon the petition for rulemaking submitted by the Brotherhood of Locomotive Engineers (BLE) on the use of remote control locomotives (RCL). In that same letter, you also stated that "[u]ntil such a rule can be implemented, we [TTD] request that the agency issue an emergency order stopping all remote control operations." Because your letter raised two separate issues, I will address them individually.

I. BLE's Rulemaking Petition

On July 19, 2000, FRA held a technical conference to examine the use of RCL operations in the railroad industry. This public meeting allowed all interested parties, including the BLE and other rail unions, to present their views and describe their experiences with remote control operations. The conference examined all safety aspects of RCL operations, including (1) design standards, (2) employee training, (3) operating practices and procedures, (4) test and inspection procedures, and (5) security and accident/incident reporting procedures. BLE participated at the conference and submitted written comments to the docket (Docket No. FRA-2000-7325). BLE stated in its comments that it

> has consistently argued for safety above all other considerations. We recognize that a given technology is not necessarily unsafe in some circumstances, but in other circumstances it can never be made safe enough. This is especially true given the constantly changing environment of U.S. railroad operations .... With this in mind BLE will proceed with an open mind, holding to the principal [sic] that rail safety is our primary goal.

BLE also requested that FRA "recognize that: a one size-fits-all approach will not work in RCL use [because] ... each railroad is different [and] we recognize that the adoption of 'best practices' has served this industry well."

On November 16, 2000, BLE filed a petition asking FRA to conduct a regulatory proceeding on RCL use. BLE referred to the technical conference FRA had held and argued that the record FRA had developed justified a rulemaking.

In February 2001, FRA issued Safety Advisory 2001-01 "which establishes recommended minimal guidelines for the operation of remote control locomotives." See 66 Fed. Reg. 10340 (Feb. 14, 2001). Based on the agency's review of information presented at the technical conference, FRA concluded that "[b]ecause this technology is not widely used in railroad operations, FRA has limited data on which to base an objective safety analysis and must therefore proceed prudently." Furthermore FRA stated that "[b]ecause information currently available to FRA does not lead to the conclusion that RCL operations should be prohibited on safety grounds, FRA has elected to proceed cautiously."

By issuing the guidelines, FRA effectively declined to establish the rules sought by BLE in its November 2000 petition for rulemaking. Although FRA did not officially deny BLE's petition, issuance of the guidelines implicitly conveyed FRA's conclusion that rules were not necessary at the time, and that FRA's guidelines constituted the agency's present conclusions concerning RCL operations.

FRA's guidelines are comprehensive, covering all aspects of RCL operations. Safety Advisory 2001-01 covers seven subjects: (1) safety design and operational requirements; (2) training of persons who operate the devices; (3) operating practices for safe use of the devices; (4) security of the devices when not in use; (5) inspection and testing of the devices; (6) notification of remote control use and protection of nearby workers; and, (7) accident-incident reporting procedures. While the guidelines are comprehensive, FRA made clear that "[i]n those situations [where a railroad may not be able to obtain complete consistency with these recommendations,] railroads are encouraged to develop alternative designs or practices which offer at least equivalent or greater levels of safety." Thus, FRA's guidelines allow railroads "to tailor their own RCL operations" as needed to allow for differences in the design of equipment, or differences in operating practices among railroads.

Although the voluntary nature of the RCL guidelines allows for some flexibility, FRA expressly warned railroads that some of the RCL design criteria and operating procedures were mandatory requirements.

> FRA emphasizes that although compliance with this Safety Advisory is voluntary, nothing in this Safety Advisory is meant to relieve a railroad from compliance with all existing railroad safety regulations. Therefore, when procedures required by regulation are cited in this Safety Advisory, compliance is mandatory.

Id. at 10343. For example, the safety advisory made clear that the RCL system must be included as part of the required calendar day inspection for locomotives and RCL system components interfacing with the mechanical devices of the locomotive are subject to the required 92-day

periodic inspection. Similarly, FRA clearly stated that each RCL operator must be certified and qualified in accordance with 49 C.F.R. Part 240 if conventional operation of a locomotive under the same circumstances would require certification under that regulation. Furthermore, FRA made clear that each railroad must include RCL operating rules and procedures in its written program of operational tests and inspections required under 49 C.F.R. Part 217.

As explained more fully below, FRA continues to monitor RCL use closely. If at any time FRA concludes that voluntary guidelines, combined with enforcement of the existing relevant rules, are not sufficiently protecting employees and the public, we will take additional action which may include rulemaking.

II. TTD's Emergency Order Request

FRA's Emergency Authority Generally

FRA's authority to issue an emergency order is based on 49 U.S.C. § 20104, which states:

> If, through testing, inspection, investigation, or research carried out under this chapter, the Secretary of Transportation decides that an unsafe condition or practice, or a combination of unsafe conditions and practices, causes an emergency situation involving a hazard of death or personal injury, the Secretary immediately may order restrictions and prohibitions, without regard to section 20103(e) of this title, that may be necessary to abate the situation. (Emphasis supplied.)

This authority has been delegated to the Federal Railroad Administrator. 49 C.F.R. §1.49(m).

Because this extraordinary remedy does not require prior notice to the affected party or an opportunity to be heard prior to issuance of the order, Congress declared that such an order can be invoked only in "an emergency situation involving a hazard of death or injury to persons." FRA thus has no legal authority to issue such an emergency order unless such an emergency situation exists.

The Basis for TTD's Emergency Order Request

TTD asserts that FRA should issue an emergency order stopping all remote control operations [presumably, nation-wide] until FRA can implement a rule addressing the issues raised in the BLE's rulemaking petition. TTD offers no evidence of a safety emergency and presumably relies on its arguments advanced in support of BLE's rulemaking petition to also support its emergency order request. TTD states that FRA's Safety Advisory 2001-01 does "not actually require carriers to adopt all the safety procedures listed" in the Safety Advisory and that the recommended guidelines "do not go far enough to ensure that this technology is implemented and utilized safely." TTD, as an example of its claim, states that training for a remote control

operator (RCO) is inadequate as compared to that of a train service engineer. TTD also suggests that a rule is warranted because "there have been over 40 accidents involving remote control operations . . . [including one this year in which] a CSX [Transportation (CSXT)] trainman was killed when he was struck by a moving boxcar that was being pushed by a locomotive being operated remotely."

The Basis for FRA's Decision

Based on current safety data available to FRA, there is nothing that would indicate that RCL operations are any less safe than conventional operations. Nonetheless, FRA has elected to proceed cautiously in its approach to these operations and therefore issued Safety Advisory 2001-01 in February 2001. In issuing the Safety Advisory, FRA sought to identify a set of "best practices" to guide the rail industry when implementing RCL technology. As this is an emerging technology, FRA believes this approach serves the railroad industry by providing flexibility to both manufacturers designing the equipment and to railroads in their different operations, while reinforcing the importance of complying with all existing railroad safety regulations. All of the major railroads have used these recommendations as the basis for their own RCL operating procedures.

Regarding the enforcement of Federal regulations as they apply to RCL operations, the Safety Advisory explains that compliance with existing relevant regulations is mandatory. 66 Fed. Reg. at 10343.

The Safety Advisory clearly states that "each person operating an RCL must be certified and qualified in accordance with 49 CFR Part 240 [FRA's locomotive engineer rule] if conventional operation of a locomotive under the same circumstances would require certification under that regulation." In November 2001, all six major railroads submitted to FRA their training programs for remote control operators (RCOs) as required by Part 240. Since that initial filing, several railroads have made changes to their remote control training programs at FRA's request. FRA is closely monitoring this training and making additional suggestions for improvement on individual railroads as they become necessary. These training programs currently require a minimum of two weeks classroom and hands-on training for railroad workers who were previously qualified on the railroad's operating and safety rules. Federal regulations require that locomotive engineers be trained and certified to perform the most demanding type of service they will be called upon to perform. Thus, an RCO that will only be called upon to perform switching duties using an RCL would not need to be trained to operate a locomotive on main track from the control stand of the cab. This training is no different than that afforded other locomotive engineers trained only for switching service in that both are limited to training in the type of service they will be called upon to perform.

In addition to the required training, the regulations require railroads to conduct skills performance testing of RCOs that is comparable to the testing required of any other locomotive engineer performing the same type of work. Federal regulations also hold RCOs responsible for

compliance with the same types of railroad operating rules and practices that other locomotive engineers are required to comply with in order to retain certification. See 49 C.F.R. § 240.117.

FRA will continue to exercise careful oversight of RCL operations. FRA inspectors are monitoring the evolving remote control operations and have had good success in working with railroads to resolve any safety concerns revealed by the inspections. Further, FRA has developed accident/injury reporting codes for RCL operations to ensure that any future safety hazards related to such operations can be easily identified, investigated, and analyzed for the purpose of discovering any potential safety risks associated with this evolving technology.

We have reviewed each of the 40 incidents to which you refer to the extent we have received any specific information on them. More than half of the 40 incidents you listed were not reported to FRA because they did not result in a serious injury to any employee nor did the railroad on-track equipment, signals, track, track structure, or roadbed incur damages meeting or exceeding the reporting threshold established by FRA regulation. See 49 C.F.R. § 225.5 (defining "accident/incident"). To date, none of the FRA reportable accidents or incidents concerning RCL operations have been the result of the RCL technology (although a few have been the result of non-RCL equipment failures, e.g., Union Pacific Railroad's Hinkle, Oregon, incident on June 9, 2002, was caused by a retarder failure); instead, nearly all of the FRA reportable accidents or incidents concerning RCL operations have been the result of human error. Meanwhile, FRA is currently exploring "root cause" analysis of these types of events to determine whether the human errors may have been inherent to RCL operations.

The tragic incident you described in your letter occurred on February 16, 2003, in Dewitt Yard, in Syracuse, when a secondary RCO was fatally struck by a freight car that had been kicked during an RCL operated switching movement. Although FRA has not yet issued its final report regarding the investigation of this accident, at this point there is no indication the operation of the RCL caused the incident. The fatally injured employee was engaged in a classification operation at the time of the incident and a transcript of radio communications indicates that this person had acknowledged that he was ready to accept the movement over the same track upon which he was run over.

Subsequent to the accident, FRA conducted three safety audits of yard and switching activities (including RCL operations) on the Albany Division of CSXT. The audits entailed sending teams of FRA safety inspectors to all major CSXT yards in the Albany Division, including the Dewitt Yard. In addition, the Safety Analysis branch within FRA's Office of Safety contributed FRA data regarding train accidents and injuries for CSXT in New York State. During the first audit, which occurred on February 21 - 23, FRA found no systemic safety concerns with CSXT's remote control operations. During FRA's second audit, which occurred on March 3 - 6, the only RCL issue that caused lingering concern was that CSXT did not have a standard which would ensure the ongoing education of a certified RCO who has not worked an RCL job for an extended period of time; FRA's regional personnel have reminded CSXT of this regulatory requirement and FRA will continue to closely monitor compliance with it. 49 C.F.R.

§ 240.123(b) and App. B, § 3. During the third audit, which occurred on April 15 - 17, FRA found no systemic safety concerns with CSXT's remote control operations.

FRA has also addressed the security of RCL operations and believes that adequate safeguards are in place to ensure system integrity. Of paramount importance in RCL operations are the signals which direct the movement of the locomotive. The implications of an unauthorized movement can be severe. FRA sought to protect the integrity of the RCL system by recommending certain RCL design features in its Safety Advisory. Under the heading "Safety Design and Operational Requirements" FRA listed the following relevant recommendations:

- Although an RCT [remote control transmitter] can have the capability of control, at different times, different locomotives equipped with remote-control receivers [RCR], it should be designed to be capable of controlling only one RCR equipped locomotive at a time. (A locomotive may consist of one or more engines operated from a single control).

- An RCT having the capability to control more than one RCL should have a means to lock in one RCR "assignment address" to prevent simultaneous control over more than one locomotive.

- Each locomotive equipped with an RCR should respond only to the RCTs assigned to that receiver.

- The RCT should be designed to require at least two separate actions by the remote control operator before RCL movement can begin (in order to prevent accidental movement).

- When an RCT's signal to the RCL is interrupted for a set period, not to exceed five seconds, the remote-control system should cause:
  a. full service application of the locomotive and train brakes; and
  b. elimination of locomotive tractive effort.

The manufacturers of this equipment have designed sophisticated signal relay systems to protect the integrity of the system. The signals or bits of information sent to the RCL are encrypted with a unique address for that particular locomotive. If a control signal fails, is corrupted, or is interfered with in any way, the RCL system immediately acts to stop locomotive movement. Additionally, the RCLs are equipped with manual emergency "shutdown" push buttons on each side of the RCL. These buttons allow anyone close to the locomotive to immediately shut the locomotive down in the event of an emergency.

In addition to the above measures to ensure the safety and security of RCL operations, the railroad industry has undertaken a security risk assessment to identify potential security needs and enhancements. One of the key issues examined in the assessment was the security of

information, including the security of data radio transmissions like the kind used to operate RCLs. FRA is working with the Transportation Security Administration and the railroad industry to ensure the security and integrity of all critical data radio transmissions.

Based on the foregoing, I find that the conditions required by 49 U.S.C. § 20104(a) for issuance of an emergency order are not present. I find that conditions or practices nation-wide have not created an emergency situation involving a hazard of death or injury to persons and I am, therefore, unable to grant your request to issue an emergency order directing all railroads to cease all remote control operations. Should FRA's follow-up activities on any major railroad indicate that an emergency order is the appropriate remedy, we will not hesitate to act.

Conclusion

For the reasons explained above, FRA does not intend to take further action in connection with BLE's rulemaking petition at this time. Moreover, FRA has declined to issue the emergency order you have requested because no emergency has been shown to exist.

Finally, I have in fact met with BLE's president and discussed briefly the issue of RCL operations. Our meeting occurred in Florida in February of this year. I am always willing to discuss safety issues. However, on the narrow issue of whether a rule is necessary concerning RCL operations, BLE has decided to bring a legal action against FRA, and FRA has decided not to explore that issue further with BLE while BLE maintains its suit, which FRA believes to be lacking in merit.

Please note that FRA's policy of investigating every legitimate rail safety report (anonymous and otherwise) has not changed under this administration. Each year FRA expends substantial resources investigating numerous safety concerns raised by employees and rail labor organizations. Certainly, FRA's investigation of the fatality on CSXT, the related audits, and the follow-up work planned are recent and continuing examples of FRA's commitment to respond to our own, and the rail community's, safety concerns.

I hope this information is helpful and alleviates the concerns expressed by your organization. I appreciate your interest in transportation safety and look forward to working with you on other transportation issues of importance to you and your members.

Sincerely,

Allan Rutter
Administrator

2 of 73 DOCUMENTS

UNION PACIFIC RAILROAD COMPANY; SOUTHERN PACIFIC TRANSPORTATION COMPANY; BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, Plaintiffs-Appellants, and BROTHERHOOD OF LOCOMOTIVE ENGINEERS; UNITED TRANSPORTATION UNION, Intervenors, v. CALIFORNIA PUBLIC UTILITIES COMMISSION; P. GREGORY CONLON; JESSIE J. KNIGHT; HENRY M. DUQUE; JOSIAH L. NEEPER; RICHARD A. BILAS; COMMISSIONERS OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION, in their individual capacities, Defendants-Appellees. UNION PACIFIC RAILROAD COMPANY; SOUTHERN PACIFIC TRANSPORTATION COMPANY; BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, Plaintiffs-Appellees, and BROTHERHOOD OF LOCOMOTIVE ENGINEERS; UNITED TRANSPORTATION UNION, Intervenors, v. CALIFORNIA PUBLIC UTILITIES COMMISSION, Defendant-Appellant, and P. GREGORY CONLON; JESSIE J. KNIGHT; HENRY M. DUQUE; JOSIAH L. NEEPER; RICHARD A. BILAS; COMMISSIONERS OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION, in their individual capacities, Defendants.

No. 01-15141, No. 01-15531

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

346 F.3d 851; 2003 U.S. App. LEXIS 11887; 2003 Cal. Daily Op. Service 5179; 2003 Daily Journal DAR 6579

February 13, 2003, Argued and Submitted, San Francisco, California
June 17, 2003, Filed

SUBSEQUENT HISTORY: US Supreme Court certiorari denied by *Cal. Public Utils. Commn v. Union Pacific R.R., 157 L. Ed. 2d 887, 124 S. Ct. 1040, 2004 U.S. LEXIS 42 (U.S., 2004)*

PRIOR HISTORY: [**1] Appeal from the United States District Court for the Northern District of California. D.C. No. CV-97-03660-TEH (PJH) D.C. No. CV-97-03660-TEH. Thelton E. Henderson, District Judge, Presiding. *Union Pac. R.R. v. California PUC, 109 F. Supp. 2d 1186, 2000 U.S. Dist. LEXIS 11617 (N.D. Cal., 2000)*

DISPOSITION: District court's judgment AFFIRMED IN PART, REVERSED IN PART, and REMANDED.

CASE SUMMARY:

PROCEDURAL POSTURE: Plaintiff railroads filed an appeal, and defendants, the California Public Utilities Commission (CPUC) and the commissioners both filed appeals of a decision of the United States District Court for the Northern District of California, which determined that certain of the rules promulgated by the CPUC were preempted by federal law, and that two rules were not pre-empted.

OVERVIEW: The CPUC promulgated regulations to govern railroad safety hazards and the railroads challenged the rules, claiming that they were pre-empted by federal law. The first rule challenged on appeal involved actions that the railroads would need to take when passing through a steeply graded pass in California. The court disagreed with the district court and held that the safety hazard identified by the steep pass was not a matter that was essentially local and was covered by federal legislation under the Federal Railroad

Safety Act, *49 U.S.C.S. § 20101.* The court held that the CPUC's imposition of a fine if a railroad did not comply with its own rules was not preempted by federal law because the federal regulations did not cover the same subject matter. The court held that the CPUC 's requirement that the railroad internal rules be approved by the CPUC was not preempted by federal law, and the issue was remanded to see if there was a conflict with the Commerce Clause. The court agreed with the district court that the CPUC's training regulations were preempted by federal law.

OUTCOME: The court affirmed portions of the district court's judgment when the court determined that the state regulations were not pre-empted by federal law, reversed in part on one regulation that it found was pre-empted, and remanded the matter for further evaluation of certain regulations.

LexisNexis (TM) HEADNOTES - Core Concepts:

Transportation Law > Rail Transportation > Maintenance & Safety
[HN1] The Federal Railroad Safety Act (FRSA) *49 U.S.C.S. § 20101* is a supplement to the Safety Appliance Act and the Locomotive Boiler Inspection Act to promote safety in every area of railroad operations and reduce railroad-related accidents and incidents. *49 U.S.C.S. § 20101.* The FRSA delegates to the Secretary of Transportation the authority to prescribe regulations and issue orders for every area of railroad safety supplementing laws and regulations in effect on October 16, 1970. *49 U.S.C.S. § 20103*(a).

Transportation Law > Rail Transportation > Maintenance & Safety
[HN2] The United States Secretary of Transportation has delegated authority to enact regulations pertaining to railroad safety to the Federal Railroad Administration.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN3] The Federal Railroad Safety Act, *49 U.S.C.S. § 20101,* provides that the rules regulating railroad safety shall be nationally uniform to the extent practicable, and expressly preempts state authority to adopt safety rules, save for two exceptions. *49 U.S.C.S.§ 20106.* States are permitted to adopt railroad regulations if the U.S. Secretary of Transportation has not prescribed a regulation or issued an order covering the subject matter of the state requirement. Alternatively, if the United States Department of Transportation has covered the subject matter, a State may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety or security when the law, regulation, or order (1) is necessary to eliminate or reduce an essentially local safety hazard; (2) is not incompatible with a law, regulation, or order of the United States government; and (3) does not unreasonably burden interstate commerce.

Transportation Law > Rail Transportation > Maintenance & SafetyTransportation Law > Rail Transportation > State & Local Regulation
[HN4] Other circuits have created a workable definition construing an "essentially local safety hazard," under the Federal Railroad Safety Act, *49 U.S.C.S. § 20101,* defining it as one which is not adequately encompassed within national uniform standards. The exception is designed instead to enable the states to respond to local situations which are not statewide in character and not capable of being adequately encompassed within national uniform standards. The second exception permits state regulation only when local situations are not capable of being adequately encompassed within uniform national standards. Such definition provides an accurate inquiry, and the United States Court of Appeals for the Ninth Circuit adopts it.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN5] 49 C.F.R. § 217 requires the Railroads (1) to file copies of their operating rules with the Federal Railroad Administration (FRA), (2) to conduct tests and inspections to determine compliance with their operating rules, (3) to keep records of these tests and inspections and to report annually to the FRA, and (4) to train their employees periodically on their operating rules.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN6] Instead of fining a railroad for non-compliance with an internal operating rule, the Federal Railroad Administration (FRA) files a deficiency, which has no definitive adverse consequences. An FRA inspector cannot recommend a violation for civil penalties against a railroad nor a railroad employee for a violation of a railroad operating rule. It is expected, however, that the inspector would file a deficiency for such an observance. The FRA Operating Manual only allows sanctions if a railroad fails to promote and require compliance with its operating rules in the spirit intended by the regulation.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN7] In promulgating 49 C.F.R. § 217, the Federal Railroad Administration noted that it has two purposes: (1) to collect information necessary for the formulation of uniform operating rules, and (2) to inform the

railroads' employees of the meaning and application of the company's operating rules so as to reduce non-compliance with the railroads' operating rules.

Transportation Law > Rail Transportation > Maintenance & SafetyTransportation Law > Rail Transportation > State & Local Regulation
[HN8] The standard for "covering" under the Federal Railroad Safety Act, *49 U.S.C.S. § 20101* is not easy. As the United States Supreme Court has explained, to prevail on the claim that the regulations have pre-emptive effect, petitioner must establish more than that they "touch upon" or "relate to" that subject matter, for "covering" is a more restrictive term which indicates that pre-emption will lie only if the federal regulations substantially subsume the subject matter of the relevant state law. The term "covering" is in turn employed within a provision that displays considerable solicitude for state law in that its express pre-emption clause is both prefaced and succeeded by express saving clauses. 49 C.F.R. § 217 must do more than "relate to" to a state's regulation, it must "substantially subsume" the same subject matter. To avoid the unintended encroachment on the authority of the states, a court must proceed cautiously.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN9] 49 C.F.R. pt. 217 does not require the railroads to comply with any regulations, but rather sets the stage for further rulemaking.

Transportation Law > Interstate Commerce > Federal PreemptionAdministrative Law > Judicial Review > Standards of Review > Standards Generally
[HN10] An agency's interpretation of the preemptive effect of its regulations is entitled to deference where Congress has delegated authority to the agency, the agency's interpretation is not contrary to a statute, and agency expertise is important to determining preemption.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN11] 49 C.F.R. § § 217.7-217.11 requires the railroads (1) to file copies of their operating rules with the Federal Railroad Administration(FRA), (2) to conduct tests and inspections to determine compliance with their operating rules, (3) to keep records of these tests and inspections and to report annually to the FRA, and (4) to train their employees periodically on their operating rules. 49 C.F.R. § 217 does not require federal approval of any changes to the rules.

Transportation Law > Interstate Commerce > Federal PreemptionTransportation Law > Rail Transportation > Maintenance & SafetyTransportation Law > Rail Transportation > State & Local Regulation
[HN12] The federal training regulations do "substantially subsume" the subject of employee training. To "ensure" that railroad employees understand the railroads operating rules, *49 C.F.R. § 217.1* states that each railroad shall periodically instruct each employee on the meaning and application of the railroad's operating rules in accordance with a written program. *49 C.F.R. § 240.123* requires specific training regarding continuing education for certified locomotive engineers.

Transportation Law > Rail Transportation > Maintenance & SafetyTransportation Law > Rail Transportation > State & Local Regulation
[HN13] The Locomotive Boiler Inspection Act prohibits railroads from using a locomotive unless the locomotive or tender and its parts and appurtenances are in proper condition and safe to operate without unnecessary danger of personal injury. *49 U.S.C.S. § 20701.* The United States Supreme Court has held that this statute "occupies the field" regarding the design, the construction and the material of every part of the locomotive and tender and of all appurtenances. The court has interpreted this mandate as occupying the field of locomotive equipment, but not locomotive use.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN14] The Safety Appliance Act (SAA) requires rail cars to be equipped with enumerated safety features, such as certain types of couplers, brakes, running boards, and hand-holds. *49 U.S.C.S. § 20302.* The SAA requires that railcars be equipped with automatic couplers that do not need to be disengaged by workers positioned between cars. *49 U.S.C.S. § 20302*(a)(1)(A). The SAA occupies the entire field with respect to the requirements for those safety devices covered under the SAA.

Transportation Law > Interstate Commerce > Federal Preemption
[HN15] Although, on its face, the Commerce Clause, U.S. Const. art. 1, § 8, cl. 3, only provides congressional authority to regulate interstate commerce, the United States Supreme Court has interpreted the clause to prohibit the states from unduly interfering with interstate commerce absent congressional consent.

Constitutional Law > Congressional Duties & Powers > Commerce ClauseTransportation Law > Interstate Commerce > Federal Preemption
[HN16] When a statute has only indirect effects on interstate commerce and regulates evenhandedly, the United States Court of Appeals has examined whether the state's interest is legitimate and whether the burden

on interstate commerce clearly exceeds the local benefits. To prevail, a plaintiff must demonstrate that the state's regulations impede substantially the free flow of commerce from state to state or that there is need of national uniformity that can only be regulated by the national government.

COUNSEL: Maureen E. Mahoney, Latham & Watkins, Washington, D.C., argued the cause for the plaintiffs-appellants-cross-appellees and filed briefs; William S. Carnell, Latham & Watkins, Washington, D.C., Carol A. Harris, Union Pacific Railroad Company, San Francisco, California, and Richard E. Weicher and Ward D. Werner, The Burlington Northern & Santa Fe Railway Company, Fort Worth, Texas, were on the briefs.

Patrick S. Berdge, Public Utilities Commission of the State of California, San Francisco, California, argued the cause for the defendants-appellees-cross-appellants and filed briefs; Gary M. Cohen and Ellen S. Levine, Public Utilities Commission of the State of California, San Francisco, California, were on the briefs.

Lawrence M. Mann, Alper & Mann, Washington, D.C., argued the cause for the intervenors United Transportation Union and Brotherhood of Locomotive Engineers, and filed a brief.

Irene M. Solet, Attorney, Appellate Staff Civil Division, Department of Justice, Washington, [**2] D.C., argued the cause for the amicus curiae, United States, and filed briefs; Kirk K. Van Tine, General Counsel, Rosalind A. Knapp, Acting General Counsel, Paul Geier, Assistant Attorney General Counsel, and Paul Smith, Senior Trial Attorney, Department of Transportation, Washington, D.C., S. Mark Lindsey, Chief Counsel, Daniel C. Smith, Assistant Chief Counsel, and Colleen Brennan, Trial Attorney, Federal Railroad Administration, Washington, D.C., and Robert D. McCallum, Jr., Assistant Attorney General, Stuart E. Schiffer, Acting Assistant Attorney General, Robert S. Mueller, III, United States Attorney, David W. Shapiro, United States Attorney, and Douglas Letter, Attorney, Appellate Staff Civil Division, Department of Justice, Washington, D.C., were on the briefs.

JUDGES: Before: William C. Canby, Jr., Diarmuid F. O'Scannlain, and William A. Fletcher, Circuit Judges. Opinion by Judge O'Scannlain.

OPINIONBY: Diarmuid F. O'Scannlain

OPINION: [*855] O'SCANNLAIN, Circuit Judge:

We must decide whether California's regulations governing railroad track standards and internal railroad rules, which were adopted in response to train derailments within the state, are preempted by federal railroad safety [**3] laws or regulations.

I

On July 14, 1991, a train operated by the Southern Pacific Transportation Company derailed at the Cantara Loop near Dunsmuir, [*856] California and spilled metam sodium into the Sacramento River. The metam sodium killed fish and vegetation along the river for forty miles and caused wide-spread health problems for area residents. Two weeks later, a Southern Pacific train was also involved in another toxic spill resulting from a derailment near Seacliff, California.

The California legislature responded to these accidents by directing the California Public Utilities Commission ("CPUC") to identify "local safety hazards on California's railways and to adopt regulations "to reduce the potential rail-road hazards" at those sites. *Cal. Pub. Util. Code § § 7711, 7712.* CPUC was directed to consider factors such as (1) the severity of the grade and curve, (2) the value of special skills of train operators in negotiating such sites, (3) the value of special railroad equipment in negotiating the rail segment, (4) the types of commodities transported on the segment, (5) the hazard posed by the release of the commodity into the environment, (6) the proximity of railroad activity [**4] to human activity or sensitive environmental areas, and (7) the history of accidents at or near hazard sites. *Id. § 7711(d), (e).*

CPUC was further directed to consider "establishing special train operating standards for trains operated over railroad sites identified as posing a local safety hazard." *Id. § 7712(c).* Specifically, CPUC was required to consider standards governing 'the length, weight, and weight distribution" of trains and "special training, personnel and performance standards for operators of trains" that travel on the identified sites. *Id. § 7712(c), (d).*

In August 1991, CPUC ordered an investigation into the Dunsmuir and Seacliff derailments. In December 1994, CPUC issued its decision regarding the derailment, which found the Cantara Loop to be a "local safety hazard." CPUC concluded that the derailment was caused by track-train dynamics ("TTD") and the configuration of the train cars. In this case, light empty railcars were placed at the head-end of the train on a severe grade and curve combination. *Re S. Pac. Transp. Co., 57 CPUC 2d 386, 400-01 (Nov. 22, 1994).* The light railcars were pulled off the inside radius of the Cantara Loop [**5] by the heavier loaded railcars behind them causing the train to derail. *Id.* CPUC concluded that the railroad "knew or should have known" of the likelihood of derailment due to the unsafe configuration. *Id.* The

railroad, however, was not in violation of any FRA rules or of its own internal TTD rules, and accordingly, no disciplinary action was taken against it. *Id. at 404.*

Following the California legislature's direction, CPUC also issued an order in March 1992 instituting an investigation into all potential railroad safety hazards in California. CPUC issued a final order in 1997 identifying nineteen sites located in California mountains as local safety hazards n1 and adopting regulations governing operations at thirteen of these sites. *See* Rulemaking on Comm'ns Own Motion to Provide for Mitigation of Local Rail Safety Hazards within California, *75 CPUC 2d 1, 120-43, available at 1997 WL 616304* (Sept. 3, 1997) (hereinafter "1997 CPUC Rulemaking"). CPUC's order required the Railroads: (1) to cooperate in developing performance-based standards for train configuration based on TTD; (2) to develop standards for dynamic braking [**6] systems; [*857] (3) to equip trains with two-way end-of-train telemetry devices; (4) to institute new training programs; (5) to install more hot bearing trackside defect detectors; (6) to adopt heightened standards for securing standing trains; (7) to maintain current track strength at one particular site; and (8) not to discipline railroad employees who report violations of the new regulation. *75 CPUC 2d at 168-73.* According to CPUC, these rules were enacted "out of sheer necessity to protect California's people, its environment and its commerce against the disastrous consequences of recent rail accidents and toxic spills." *Id. at 2.*

n1 These nineteen sites encompass approximately 4.2 of all the track in the state. Rulemaking on Comm'ns Own Motion to Provide for Mitigation of Local Rail Safety Hazards within California, *75 CPUC 2d 1, 5, available at 1997 WL 616304* (Sept. 3, 1997 Cal. Pub. Util. Comm'n).

On October 9, 1997, Union Pacific Railroad, Southern Pacific Transportation Company, [**7] n2 and Burlington Northern & Santa Fe Railway Company (collectively "the Railroads") sued to enjoin some of the regulations contending that they were preempted by, among other laws, the *Federal Railroad Safety Act* ("FRSA"), the *Locomotive Boiler Inspection Act* ("LBIA"), or the *Safety Appliance Act* ("SAA"), and that they impermissibly burdened interstate commerce. The United Transportation Union and Brotherhood of Locomotive Engineers (collectively "the Unions") intervened as party defendants. n3

n2 Since the case's inception Union Pacific has acquired Southern Pacific. *See* Appellants' Opening Brief at 3 n.1.

n3 Several environmental groups, Friends of the River, California Sport-fishing Protection Alliance, Sacramento River Preservation Trust, and United Anglers, also collectively intervened as party defendants in the district court. We granted their motion to withdraw as parties and thus they were not involved with this appeal.

The district court granted the Railroads' motion for a preliminary injunction [**8] in part on November 26, 1997. We affirmed the grant on September 4, 1998, without resolving the merits of the underlying legal challenges. *See Union Pac. R.R. v. Cal. Pub. Utils. Comm'n, No. 97-17302, 1998 U.S. App. LEXIS 22118, at *3 (9th Cir. Sept. 4, 1998).*

On July 20, 2000, the district court, in a memorandum and order that were later amended, granted both parties' motions for summary judgment in part. n4 The court concluded that the following CPUC rules were preempted: n5 (1) rule requiring the Railroads to cooperate in the development and implementation of performance-based train make-up standards for sites 1, 3, 4, 7, 9, 12, 16, 22, 23, 26, 28, 29, and 31; n6 (2) rule requiring the Railroads to obtain [*858] CPUC approval prior to making changes to their own internal TTD rules; and (3) rule requiring separate training program for train make-up rules. *Union Pac. R.R. v. Cal. Pub. Utils. Comm'n., 109 F. Supp. 2d 1136, 1218-19 (N.D. Cal. 2000).* The court held the following CPUC rules were not preempted: n7 (1) rule requiring the Rail-roads to comply with their own train make-up rules at sites 1, 3, 4, 7, 9, 12, 16, 22, 23, 26, 28, 29, 31; and (2) rule [**9] governing track standards at site 9, a ten-mile stretch of track which includes the Cantara Loop, the site of the 1991 derailment. *Id. at 1219.*

n4 In a previous decision, on December 14, 1998, the district court held that (1) *Cal. Pub. Util. Code § 7672.5* is not preempted by the *Hazardous Materials Transportation Act* ("HMTA") or the FRSA and that (2) *Cal. Pub. Util. Code § 7673(c)* is preempted by the HMTA. *Union Pac. R.R. Co. v. Cal. Pub. Utils. Comm.*, No. C97-3660, at 15 (N.D. Cal. Dec. 14, 1998) (order on motion for reconsideration). It also reconfirmed an earlier decision that *Cal. Pub. Util. Code § 7672 (b)-(c)* is preempted by the HMTA. *Id.* The parties did not appeal this determination and do not challenge these rulings here.

n5 The district court also found the following rules preempted, although CPUC did not appeal this portion of the district court's ruling: (1) rule requiring that all trains operating over sites 6 and 25 utilize a two-way-end-of-train telemetry device; (2) rule requiring the Railroads to cooperate in the development and implementation of new standards for dynamic brakes based on total train braking performance criteria; and (3) rule requiring implementation of state-approved locomotive maintenance program. *Union Pac. R.R. v. Cal. Pub. Utils. Comm'n., 109 F. Supp. 2d 1186, 1218-19 (N.D. Cal. 2000)* [**10]

n6 The district court amended its memorandum and order on December 19, 2000. Originally, the district court held that the CPUC rules governing only 7 of the 13 sites were preempted; the December 19 amendment concluded that the CPUC rule governing all 13 sites was preempted.

n7 The district court also found that CPUC's rule requiring that at least one hot bearing trackside defect detector be installed at site 25 was not preempted. *Union Pac. R.R., 109 F. Supp. 2d at 1219.* The Railroads did not appeal the district court's ruling on this issue.

After the district court amended its memorandum and order on December 20, 2000, the Railroads filed a timely notice of appeal. CPUC filed a motion for reconsideration, which was denied on March 14, 2001. Shortly thereafter, the CPUC filed its timely notice of appeal. As amicus curiae, the United States of America, on behalf of the U.S. Department of Transportation ("DOT") and the Federal Railroad Administration ("FRA") filed briefs supporting the Railroads in part and CPUC in part.

II

[HN1] The FRSA was passed in 1970 as a supplement [**11] to the SAA and LBIA "to promote safety in every area of railroad operations and reduce railroad-related accidents and incidents." *49 U.S.C. § 20101*; *accord CSX Transp., Inc. v. Easterwood, 507 U.S. 658, 661, 123 L. Ed. 2d 387, 113 S. Ct. 1732 (1993).* The FRSA delegates to the Secretary of Transportation the authority to "prescribe regulations and issue orders for every area of railroad safety supplementing laws and regulations in effect on October 16, 1970." n8 *49 U.S.C. § 20103(a).*

n8 [HN2] The Secretary of Transportation has delegated authority to enact regulations pertaining to railroad safety to the FRA. *See Mich. S. R.R. Co. v. City of Kendallville, 251 F.3d 1152, 1154 (7th Cir. 2001)* ("Regulations [under the FRSA] are promulgated and enforced by the Federal Railroad Administration.").

[HN3] The FRSA provides that the rules regulating railroad safety "shall be nationally uniform to the extent practicable," and expressly preempts [**12] state authority to adopt safety rules, save for two exceptions. *Id. § 20106.* States are permitted to adopt railroad regulations if the Secretary of Transportation has not "prescribed a regulation or issued an order covering the subject matter of the State requirement." *Id.* Alternatively, if the DOT has "covered the subject matter,

> A State may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety or security when the law, regulation, or order (1) is necessary to eliminate or reduce an essentially local safety . . . hazard; (2) is not incompatible with a law, regulation, or order of the United States Government; and (3) does not unreasonably burden interstate commerce.

Id. Both of these exceptions to preemption are at issue in this appeal.

A

The Railroads first challenge the district court's determination that CPUC's rule regarding track strength for a ten-mile segment of track near Dunsmuir, California ("Site 9") was not preempted, *i.e.*, they contend that it was not an "essentially local safety hazard." The CPUC regulation [*859] at issue requires the Railroads to maintain improvements they made to [**13] the track strength, which are above minimum federal levels, and to obtain CPUC approval for any change. *See* 1997 CPUC Rulemaking, *supra, available at 1997 WL 616304.*

There is no dispute that the FRA has issued regulations covering track strength. *See 49 C.F.R. pt. 213* (setting forth minimum federal track safety standards). The Railroads' appeal centers on the FRSA's second savings clause: whether the state may enforce a more stringent regulation than what is currently required under federal law. As noted above, to be valid, the regulation must be "necessary to reduce or eliminate an essentially

local safety hazard," be compatible with federal law, and not "unreasonably burden interstate commerce." *49 U.S.C. § 20106.*

The Railroads contend that the district court applied the wrong standard to determine what constitutes an "essentially local safety hazard." In arriving at its definition, which CPUC and the Unions support, the district court first concluded that the modifier "essentially" was significant. *Union Pac. R.R., 109 F. Supp. 2d at 1203.* Instead of requiring a "uniquely" local safety hazard, as the railroad [**14] industry had suggested during the drafting of the FRSA, Congress adopted the modifier "essentially," thus implying that it need not be unique to that locale. *Id. 1203-04.* Moreover, the district court noted that while national uniformity is an important objective of the FRSA, railroad safety is the primary concern. *Id. at 1204.*

The district court held that the combination of a 14 percent curve, the sharpest main line track curve in California, and a steep grade n9 make Site 9 ripe for danger. n10 *Id. at 1206.* The grade-curve combination is most hazardous on a bridge that crosses the Sacramento River, the same river that was devastated by the 1991 derailment, and "the severity of the environmental risk from future accidents [at this site] can only be described as enormous." *Id.* The court held that although the grade-curve combination may not be unique because there are sharper curves in other mountainous states (*e.g.*, a 16 percent curve in Colorado and a 14 percent curve in Idaho), Site 9 was "essentially a local safety hazard" because it "exhibited a combination of peculiar or distinctive features or characteristics (including [**15] environmental or demographic features) that are neither typical nor common or otherwise 'state-wide' in nature, and which create a safety hazard." *Id.*

n9 After the 1991 accident, the grade was changed from 2.28 degrees to less than 1 percent. *Union Pac. R.R., 109 F. Supp. 2d at 1206 n.26.* Since 1991, there have been no accidents at the site.

n10 Trains derail here at "a rate eight times higher than that on the rest of this line." *1997 CPUC Rulemaking, supra, at 127, available at 1997 WL 616304.* The chances for such a random number of derailments at this site is "less than 1 in a trillion." *Id.* The Railroads do not dispute the calculations, but argue that CPUC is looking at the wrong data. The historical rate is no longer accurate given the changes to the track structure and the absence of derailments since 1991; CPUC in issuing its orders considered only derailment rates between 1976 and 1991. *75 CPUC 2d at 35 n.36.* Because the methodology used by CPUC does not affect our ultimate conclusion, we need not decide whether CPUC's calculations were indeed faulty.

[**16]

The definition of an "essentially local safety hazard" is a question of first impression in this circuit. While we agree with the district court that a hazard need [*860] not be unique to be "essentially local," n11 we do not agree that the modifier "essentially" is as broad as the district court reads it to be. Rather than relying solely on the frequency with which a hazard occurs, as the district court held, we conclude that the word "essentially" requires us to inquire into the nature of the hazard itself to determine whether it is the type of hazard that is properly dealt with on a local level. *See Burlington N. & Santa Fe Ry. v. Doyle, 186 F.3d 790, 795 (7th Cir. 1999)* (Congress intended the exception to apply to "safety concerns of a local rather than national character."); Webster's Third New Int'l Dictionary 777 (1986) (defining "essentially," in relevant part, as that which is "fundamental"). *Cf. S. Pac. Co. v Arizona, 325 U.S. 761, 767, 89 L. Ed. 1915, 65 S. Ct. 1515 (1945)* (stating in a another context that "matters of local concern" are those, "which, because of their number and diversity, may never be adequately dealt with by Congress"). Thus, [**17] the frequency of occurrence within the state, while relevant, is not dispositive.

n11 The Railroads contend that the Supreme Court's opinion in *Easterwood* requires an "essentially local safety hazard" to be a hazard unique to a locality. While the Court did note that the state's common law of negligence is not an "essentially local safety hazard" because it "addresses all hazards caused by lack of due care, not just those owing to unique local conditions," *Easterwood, 507 U.S. at 675*, the Railroads overstate the importance of the Court's phrasing. In context, the Court was stating the uncontroversial notion that hazards which are statewide are not local safety hazards, nothing more. We decline to ascribe to the Court the intention to define precisely an "essentially local safety hazard" without any discussion.

Our sister circuits, which have plumbed the statutory history of the FRSA, have come to a similar conclusion and [HN4] have created a workable definition of an "essentially local safety [**18] hazard," defining it as one which is not "adequately encompassed within national uniform standards." *See, e.g., Nat'l Ass'n of*

Regulatory Util. Comm'rs v. Coleman, 542 F.2d 11, 14-15 (3d Cir. 1976) ("The exception was designed instead to enable the states to respond to local situations which are not statewide in character and not capable of being adequately encompassed within national uniform standards."); *Norfolk & W. Ry. v. Pub. Utils. Comm'n, 926 F.2d 567, 571 (6th Cir. 1991)* ("The second exception . . . permits state regulation only when local situations are 'not capable of being adequately encompassed within uniform national standards.'"); *see also, e.g., Burlington N. R. Co. v. State, 805 F. Supp. 1522, 1528 (D. Mont. 1992)* (adopting definition from *Nat'l Ass'n of Regulatory Util. Comm'rs, 542 F.2d at 14-15*); *Union Pac. R.R. v. Pub. Util. Comm'n, 723 F. Supp. 526, 530 (D. Or. 1989)* ("PUCO's permanent regulations do not address essentially local safety hazards because the permanent regulations are statewide in character and capable of being addressed adequately in uniform national standards. [**19] "). Such definition provides an accurate inquiry, and we adopt it.

2

Having determined the relevant test, we now turn to whether the safety hazard at issue in this case is one that is "essentially local." CPUC contends that Site 9 is a local safety hazard because of the abnormally high derailment rate at the site and its steep grade/sharp curve combination. We conclude these factors are not sufficiently local to fall within the "essentially local safety hazard" exception.

First, the high derailment rate is, itself, unremarkable: all steep grades and sharp curves increase the risk for derailment. *See, e.g.*, Declaration of Scott M. Dennis in [*861] Support of Plaintiffs' Motion for Summary Judgment 6, 8-9 (Dec. 14, 1999) (noting that heavy grade sites often have elevated derailment rates); Fed. R.R. Admin., U.S. Dep't of Transp., Report to Senate Committee on Commerce, Science, and Transportation and the House Committee on Energy and Commerce, Forward through the 90s: Selected Issues in the Transportation by Rail of Hazardous Materials 6 (Sept. 1994) (hereinafter "FRA, Forward through the 90s") (acknowledging that "rail lines in difficult terrain, which can have severe grades and curves, [**20] present operating difficulties and dangers greater than rail lines on relatively easy terrain" which can "cause potentially dangerous derailments"). Because Site 9 contains the highest steep grade/sharp curve combination in the state, one would also expect that it would have a correspondingly high historical derailment rate.

Moreover, although a high derailment rate may be evidence of an existing hazard, it says nothing about the nature of the hazard itself. Once the federal government has covered the subject matter, as it has done here, states have authority only over those hazards which are "essentially local." The character of the grade/curve combination at issue here does not meet the definition of an "essentially local safety hazard." There are many curves in the United States that share the same characteristics as the one at issue here; there is nothing "fundamentally" local about the steep grade/sharp curve combination. *See* Supplemental Declaration of Gary P. Wolf in Support of Plaintiffs' Motion for Summary Judgment and Opposition to Counter-Motion at 2-3 (Jan. 31, 2000) (stating that the risk of derailment from improper train make up at "the California sites is not materially [**21] different from the risks encountered on curves in heavy grade terrain throughout the country"); Supplemental Declaration of Scott M. Dennis in Support of Plaintiffs' Motion for Summary Judgment and Opposition to Counter-Motion, amd. exs. C & D (identifying similar curves and grades throughout the nation); *see also Burlington N., 805 F. Supp. at 1528* ("Certainly, 'mountain grades' are not unique. They occur in many places of Montana and throughout the nation and are not peculiar to a particular locality."). The FRA is aware of the particular dangers on steep grade/sharp curve tracks and has adopted regulations covering the track strength on these areas. If the FRA standards are ineffective, they raise concerns for the numerous other localities around the country that have similar mountainous curves. The federal government could easily and adequately address such concerns. n12

n12 Our conclusion that the track standards at Site 9 raise an issue of national concern is reinforced by two congressional hearings on the Dunsmuir derailment in 1991, which culminated in the adoption of legislation that required DOT to conduct "an assessment of regulations, rules, orders, or standards that address rail operations or procedures associated with carrying hazardous materials on rights-of-way having significant grades or high degrees of curvature." Rail Safety Enforcement and Review Act § 16(4), Pub. L. No. 102-365, 106 Stat. 972, 981 (1992); *see also* FRA, Forward through the 90s, *supra*, at 5-6 (noting that the FRA will "launch formal regulatory action" to prevent accidents such as the Dunsmuir derailment following the completion of studies to review train make up standards).

[**22]

CPUC and the Unions contend, however, that we should look not only at the danger, but at the consequences of an accident as well. Once the risk of severe environmental damage is considered, they aver,

the hazard becomes "essentially local." The Railroads and the United States dispute CPUC's argument and contend that environmental consequences can be [*862] considered only if related to the probability of accidents.

We decline to determine whether environmental consequences can ever be considered in determining whether a condition is an "essentially local safety hazard" because in this case they clearly cannot be. As the United States argues in its brief, considering environmental consequences without looking to the hazard itself would allow a state to regulate the track strength or any other potential concern in tunnels and on bridges in every population center. This broad definition would effectively prohibit the FRA from ever being able to preempt state law, contrary to Congress's stated goal of uniformity in railroad safety to the extent practicable. To preserve Congress's express intention, we thus conclude that the external concerns must also be fundamentally local in nature.

The [**23] external risk in this case is the chance of severe environmental damage to the Sacramento River in the event of a derailment. While undoubtedly the damage is local in that the consequences of a derailment will affect only those dependent upon the river, the risk is not one that is fundamentally different from those of other locales. Indeed, the Railroads note that more than 10,000 miles of track are adjacent to waterways in North America: individuals dependent on their local waterway in every case would be devastated should an accident occur.

Because the steep grade/sharp curve combination can be adequately addressed by national standards, we conclude that Site 9 fails to meet the FRSA's definition of an "essentially local safety hazard." Accordingly, we need not address whether the remaining savings clause requirements are met.

B

The Railroads also challenge CPUC's regulations governing its internal TTD rules. TTD is a general term covering almost any subject that affects a train's ability to stay on the tracks, including track geometry, speed limits, and train handling techniques. CPUC's regulations concentrate on one aspect of TTD: train configurations, also known as train make-up. [**24] Train configuration focuses on the order in which a train is assembled. "Specifically, train make-up . . . involves placing cars in a train such that they balance the forces within the train. Here, relevant considerations include empty versus loaded cars, short versus long cars, and the effects of terrain and curvature." *Union Pac. R.R., 109 F. Supp. 2d at 1194* (ellipsis in original) (internal quotation marks and citation omitted).

There are no federal train make-up rules; rather, the Railroads' internal rules govern their trains' configuration. For the purposes of this appeal, CPUC imposes two relevant TTD train configuration rules. n13 First, it requires Railroads to comply with their own internal rules and provides civil penalties for violations of those rules. *1997 CPUC Rulemaking, supra, at 169, available at 1997 WL 616304.* Second, it requires Railroads to obtain approval before making any changes to its internal TTD rules. *Id.* at app. A.1.

n13 CPUC also requires the Railroads to participate in developing and in implementing performance-based TTD rules. The Railroads did not challenge the district court's holding that the regulation was not preempted by the FRSA. The Railroads did, however challenge the district court's conclusion that the regulation violates the *Commerce Clause.* Discussion of this issue is found in Part IV.A, *infra.*

[**25]

The district court concluded that CPUC's regulation providing for civil penalties [*863] for violations of the Railroads' internal rules was not preempted by the FRSA, a decision which the Railroads appeal. The court also held, however, that requiring CPUC approval before Railroads could change their internal rules was preempted, a decision which CPUC appeals. These arguments are addressed in turn.

1

The district court held that the CPUC rule requiring Railroads to comply with their own internal rules was not "covered" by the FRSA because the FRA takes no "compliance-related" action relating to the information provided by the Railroads. Under CPUC's regulation, if a railroad failed to comply with its own TTD rule, it would be subject to civil penalties, *see Cal. Pub. Util. Code § 7724.5*; under the FRA's regulations, however, a violation of a railroad's TTD rule does not result in any penalty. The disagreement among the parties is whether *49 C.F.R. pt. 217* "covers" the same "subject matter" as CPUC's regulation. n14

n14 CPUC argues that we have held that *Part 217* cannot preempt state law. This is not entirely true. We have noted that "because the FRA neither approves nor adopts the railroad's rules in any manner, the rules do not have the force of law and therefore cannot preempt [an Oregon statute requiring a locomotive to be equipped with a certain audio device]." *S. Pac.*

> *Transp. Co. v. Pub. Util. Comm'n, 9 F.3d 807, 812 n.5 (9th Cir. 1993)*. In context, we merely held that the Railroads' rules themselves had no preemptive effect and thus the state could institute operating rules above those required by the Railroads. Here, the state is seeking to enforce compliance with the Railroads' rules themselves, a subject that the FRA has arguably addressed.

[**26]

a

The Railroads contend that *Part 217* deals with the risk of accidents attributable to noncompliance with railroad operating rules, including the Railroads' TTD rules, and the Railroads' efforts to ensure adherence to their own safety regulations. The United States and CPUC, on the other hand, contend that *Part 217* has a "far different emphasis and scope" than the CPUC rules. In the United States's view, *Part 217* addresses all internal operating rules, not just the TTD rules, and does not mandate compliance with any of them; all the Railroads must do is conduct and document regular compliance testing and training.

Part 217 [HN5] requires the Railroads (1) to file copies of their operating rules with the FRA, (2) to conduct tests and inspections to determine compliance with their operating rules, (3) to keep records of these tests and inspections and to report annually to the FRA, and (4) to train their employees periodically on their operating rules. The FRA does not regulate the content of the Railroads' operating rules relevant to this appeal. n15 Although the Railroads' operating rules do include TTD rules, no regulation specifically discusses the Railroads' TTD rules, and, in fact, [**27] no federal regulation requires the Railroads to include TTD rules within their operational rules.

> n15 The FRA does require minimum operating rule standards relating to alcohol and drug use. *See 49 C.F.R. pts. 218, 219.*

Moreover, there is little doubt that the consequences of *Part 217* and CPUC's regulation are different. [HN6] Instead of fining a railroad for non-compliance with an internal operating rule, the FRA files a deficiency, which has no definitive adverse consequences. *See* Fed. R.R. Admin., U.S. Dep't of Transp., Operating Practices Compliance Manual 4-5 (May 1998) (hereinafter "FRA, Operating Practices Compliance Manual") ("An inspector cannot recommend a violation for civil penalties against a railroad nor a railroad employee [*864] for a violation of a railroad operating rule. It is expected, however, that the inspector would file a deficiency . . . for such an observance."). The FRA Operating Manual only allows sanctions if a railroad "fails to promote and require compliance with its operating rules [**28] in the spirit intended by the regulation." *Id.* at 4-9.

The FRA required training on the Railroads' operating rules in part, however, because it was aware that safety is compromised when Railroads fail to comply with their own rules. The FRA noted,

> Many accidents are attributable to a lack of compliance with railroad operating rules or a misinterpretation of their intended application. If a company's employees have a better understanding of the existing rules, even with their shortcomings, the chances for noncompliance or misinterpretation should be reduced. Therefore, each railroad would be required to conduct an approved program of instruction. . . .

Id.; *see also* FRA, Operating Practices Compliance Manual, *supra*, at 4-5 ("Clearly when compliance effectiveness erodes, the accident/incident risk and rate increase. Given this circumstance, examination has found that, in these cases, the intent and requirements of the regulation have been compromised."). n16 [HN7] In promulgating *Part 217*, the FRA thus noted that it had two purposes: (1) to collect information necessary for the "formulation of uniform operating rules," and (2) to inform the Railroads' employees [**29] of the "meaning and application of the company's operating rules" so as to reduce non-compliance with the Railroads' operating rules. *38 Fed. Reg. 12,617 (1973).*

> n16 The FRA has also explicitly adopted the position that *Part 217* enforces compliance with the Railroads' operating rules in other contexts. For example, when addressing human factors in railroad safety, the FRA stated that *Part 217* requires the Railroads to "conduct programs of instruction, operational tests and inspections to enforce compliance with their own safety rules." *43 Fed. Reg. 10,588 (1978)*; *see also* Safety Directive 97-1, *62 Fed. Reg. 35,330 (1997)* (stating that one of the objectives of Part 217 is to "improve employee compliance with railroad operating rules.").

Here, the parties' arguments concern whether such secondary purpose is sufficient to cover the regulations

at issue: we are asked to decide whether mandating training to increase compliance with the Railroads' internal operating rules [**30] "covers" a different subject matter from CPUC's regulation, which mandates compliance with the Railroads' internal TTD rules through civil penalties.

b

[HN8] The standard for "covering" under the FRSA is "not . . . easy." n17 *S. Pac. Transp. Co. v. Pub. Util. Comm'n, 9 F.3d 807, 812 (9th Cir. 1993)*. As the Supreme Court has explained,

> to prevail on the claim that the regulations have pre-emptive effect, petitioner must establish more than that they [*865] "touch upon" or "relate to" that subject matter, for "covering" is a more restrictive term which indicates that *pre-emption will lie only if the federal regulations substantially subsume the subject matter of the relevant state law.* The term "covering" is in turn employed within a provision that displays considerable solicitude for state law in that its express pre-emption clause is both prefaced and succeeded by express saving clauses.

CSX Transp., Inc. v. Easterwood, 507 U.S. 658, 664-65, 123 L. Ed. 2d 387, 113 S. Ct. 1732 (1993) (citations omitted) (emphasis added). In accordance with *Easterwood, Part 217* must do more than "relate to" to CPUC's regulation, it must "substantially subsume" [**31] the same subject matter. To avoid the "unintended encroachment on the authority of the states," we must proceed cautiously. *Mich. S. R.R. v. City of Kendallville, 251 F.3d 1152, 1153 (7th Cir. 2001)* (citing *Easterwood, 507 U.S. at 664*).

> n17 The Railroads argue that *United States v. Locke, 529 U.S. 89, 108, 146 L. Ed. 2d 69, 120 S. Ct. 1135 (2000)* instructs us that where there is a "history of significant federal presence" there is no "presumption against preemption." The Railroads contend that railroad safety is one such area, and therefore we should not be reluctant to find preemption. Their argument is not convincing. *See CSX Transp., Inc. v. City of Plymouth, 283 F.3d 812, 817 (6th Cir. 2002)*. First, the Court's "presumption against preemption" was a product of statutory interpretation. *Easterwood, 507 U.S. at 664*. Second, FRSA was only enacted in 1970. Prior to that time railroad safety was largely regulated by the states. This is much different from the maritime law at issue in *Locke*, which has been almost exclusively federally regulated since the Founding. *Locke, 529 U.S. at 99*.

[**32]

Both parties, the United States, and the Unions rely on *Easterwood* in arguing their case for and against preemption. In *Easterwood*, the Court considered the preemptive effect of federal regulations on state negligence law. There, the widow of a man killed at a railroad crossing had brought a wrongful death diversity action against the railroad for negligence under Georgia law in failing to maintain adequate warning devices at the crossing and for operating the train at an excessive speed.

The Court first addressed whether state law regarding adequate warning devices was preempted by federal regulations. The Court noted that *23 C.F.R. pt. 924*, which requires the state to take certain steps before receiving federal funding for train crossings, and the FHWA's Manual on Uniform Traffic Control Devices for Streets and Highways, which sets forth standards for traffic control devices, "but not a legal requirement for installation," did not cover the subject matter of state negligence law. *507 U.S. at 668-69*. Rather than preempting state law, these regulations establish the "general terms of the bargain between the Federal and State Governments" and allocate responsibility [**33] between the different actors. *Id. at 667*.

The Court stated, however, that *23 C.F.R. § 646.214(b)(3)* and *(4)*, which *require* the installation of certain warning devices at a crossing or FHWA approval if federal funds participate in the installation at a crossing, preempt all state negligence claims regarding the adequacy of the safety requirements at the crossing. *Id. at 670*; *see also Norfolk S. Ry. v. Shanklin, 529 U.S. 344, 352, 146 L. Ed. 2d 374, 120 S. Ct. 1467 (2000)* (holding that any installation performed pursuant to these sections preempts state law as to the adequacy of the safety requirements). In that particular case, the Court held that while the federal government installed some new circuitry at the crossing at issue and gates at all the adjacent crossings, the final plans for the crossing were shelved when the city refused to approve construction for a traffic island needed for full installation. *Easterwood, 507 U.S. at 671-72*. According to the Court, the preliminary steps the federal government participated in were insufficient to "cover" the subject matter of safety requirements. [**34] *Id. at 672*.

We consider the Court's instruction on this point helpful. Like *Part 924*, [HN9] *Part 217* does not require the Railroads to comply with any regulations, but rather sets the stage for further rulemaking. The federal

government determined that, as an initial matter, it would test compliance with the railroads' operating rules. Although it [*866] took initial steps in determining whether a railroad should be penalized for a violation of its own rule, it never penalized negligent compliance.

The Railroads, however, point to the Court's discussion of Easterwood's second claim: whether state negligence law as applied to unsafe operating speeds was preempted. In addressing this claim, the Court concluded that *49 C.F.R. § 213.9(a)*, which sets the maximum allowable operating speeds for all trains, "covered" the claim of negligence based on unsafe operating speeds. *Id. at 674-75*. The Court noted that although the FRA's speed regulations were primarily concerned with derailment risks, not safe grade crossings, they were enacted only after track condition hazards were taken into account, and thus preempted a state negligence claim for [**35] traveling at an unsafe speed. *Id.* The Railroads argue that the secondary purpose of *Part 217* similarly covers CPUC's regulation.

Here, although the FRA may have had the same purpose in mind as CPUC, the FRA failed to "cover" the actual subject matter: the FRA was aware that dangers existed, but it chose to test compliance rates rather than seek to mandate compliance with any particular rule. This is insufficient to preempt CPUC's regulation. *Id. at 675* ("*Section [20106]* does not . . . call for an inquiry into the Secretary's purposes, but instead directs the courts to determine whether regulations have been adopted that in fact cover the subject matter of train speed."); *Burlington N. R.R. v. Montana, 880 F.2d 1104, 1106 (9th Cir. 1989)* (holding that the state cannot "regulate train safety problems that the FRA has already addressed").

Furthermore, the FRA's determination that its regulations do not substantially subsume the subject matter of CPUC's regulation deserves some deference in this instance. As we have noted, [HN10] "an agency's interpretation of the preemptive effect of its regulations is entitled to deference where Congress has delegated [**36] authority to the agency, the agency's interpretation is not contrary to a statute, and agency expertise is important to determining preemption." *Indus. Truck Ass'n v. Henry, 125 F.3d 1305, 1311 (9th Cir. 1997)*; *accord United States v. Mead Corp., 533 U.S. 218, 234-35, 150 L. Ed. 2d 292, 121 S. Ct. 2164 (2001)*. The United States argues that the Railroads' interpretation of *Part 217* would handcuff the agency. The agency would be forced either to adopt regulations before collecting all of the relevant data or to forgo regulating at all. It would no longer be able to take a piecemeal approach to regulating, where, as here, it contends that it chose to test compliance rates rather than mandate compliance. Certainly this is a situation where at least the FRA's determination is entitled to deference to the extent that its interpretation has the "power to persuade." *Skidmore v. Swift & Co., 323 U.S. 134, 140, 89 L. Ed. 124, 65 S. Ct. 161 (1944)*; *accord Mead, 533 U.S. at 235*.

Even if *Part 217* could arguably be interpreted to cover the same subject matter, the agency's determination is persuasive. The agency has narrowly interpreted [**37] the preemptive scope of the FRSA, and has concluded that because *Part 217* explicitly covers training programs, and does not coerce the Railroads to comply, *Part 217* does not cover the same subject matter as CPUC's regulation. This interpretation is consistent with the Supreme Court's requirement that the federal regulation do more than merely relate to the subject matter at hand; rather, it must "substantially subsume" the matter.

[*867] The FRA's interpretation does not "too finely slice[ ] the subject matter of the . . . regulations." *Doyle, 186 F.3d at 801*. Under the distinction the FRA creates, it retains its ability to demand uniformity in railroad safety and may expressly preempt the state regulation by taking non-compliance action against the Railroads in any manner it chooses. Until the FRA chooses to do so, however, we conclude that *Part 217* does not cover the same subject matter as CPUC's rule.

2

CPUC appeals the district court's determination that the Railroads' internal TTD rules were "covered" by FRA regulations. n18 The district court held that CPUC's regulation was preempted because "it would be totally inconsistent [for the FRA] to defer to the railroads [**38] regarding the content of their rules, but then require that the rules, or modifications thereto, be subject to 'approval' by the different states." *Union Pac. R.R., 109 F. Supp. 2d at 1196*. The Railroads agree with the court and contend that *Part 217* already addresses the "safety concern" that CPUC wishes to regulate: whether Railroads should be able to change their own TTD operating rules without prior approval.

n18 The district court also concluded that the regulation was not valid under the second savings clause because it was not necessary to reduce an essentially local safety hazard. The parties do not appeal this determination.

To decide this issue, we must once again look to whether *49 C.F.R. pt. 217* covers the state regulations at issue. As noted above, [HN11] *49 C.F.R. §§ 217.7-.11* requires the Railroads (1) to file copies of their operating rules with the FRA, (2) to conduct tests and inspections

to determine compliance with their operating rules, (3) to keep records [**39] of these tests and inspections and to report annually to the FRA, and (4) to train their employees periodically on their operating rules. *Part 217* does not require federal approval of any changes to the rules.

The question is whether the FRA, by not requiring federal approval of the Railroads' operating rules, "substantially subsumed" the subject matter. It is clear that *Part 217* seeks to gather information regarding the Railroads' rules and requires training to ensure compliance with them. n19 It is much less pellucid, however, that it "covers" the subject of government approval.

> n19 No one contends that the substance of the Railroads' rules cover the subject matter. Clearly, the FRA, not the Railroads, must "cover" CPUC's regulations. *See S. Pac., 9 F.3d at 812 n.5.*

The Railroads cite to the FRA's explicit rejection of prior state approval for training programs because such a requirement would "seriously impair rail management's flexibility to amend [its] programs in light of changing [**40] operating conditions." *39 Fed. Reg. 41,176.* But there is no evidence that the FRA applied the same reasoning to the Railroads' internal operating rules. There was simply no need for the FRA to have considered whether approval of operating rules was appropriate. In fact, the FRA explicitly noted that it was not addressing the content of the Railroads' rules, but rather reserved that issue for future rulemaking. *See 38 Fed. Reg. 12,617* ("The information to be gained through the implementation of these requirements is considered necessary to the formulation of uniform operating rules."); *see also* FRA, Forward Through the 90s, *supra*, at 84 (noting that the FRA did not expect to begin formally regulating TTD rules until at least 1996).

[*868] Because the FRA merely deferred making a rule, rather than determining that no regulation was necessary, the state can legitimately seek to fill this gap. *See Tyrrell v. Norfolk S. Ry. Co., 248 F.3d 517, 525 (6th Cir. 2001)* ("No evidence in this case demonstrates that the FRA considered track clearance requirements and explicitly decided that no regulation in the area was necessary."); *Doyle, 186 F.3d at 802*; [**41] *Mo. Pac. R.R. v. R.R. Comm'n, 833 F.2d 570, 575-76 (5th Cir. 1987)*. Without evidence of a decision that no FRA regulation was needed in this area, we must conclude that CPUC's regulation is not preempted. We must therefore reverse the district court's determination and remand for proceedings on *commerce clause* grounds not inconsistent with this opinion.

C

CPUC also appeals the district court's determination that its training regulations are preempted by federal law. CPUC's training regulations require the Railroads to administer train configuration tests to all "employees who perform service" at the thirteen sites at issue to ensure the Railroads' own operating rules are correctly applied. 1997 CPUC Rulemaking, *supra*, at app. A.2, *available at 1997 WL 616304*. CPUC does not dispute that the federal regulations require the Railroads to conduct some training, but instead insists that the current training is not adequate. It contends that railroad employees needed better training, "especially at rail segments which have historically high accident rates or particularly demanding operational characteristics." *Id. at 81*. Because the federal regulations [**42] do not regulate the content of the Railroads' training program and randomly test employees, CPUC argues that its regulation has not been covered by the FRA.

This argument is unpersuasive. It is clear that [HN12] the federal training regulations do "substantially subsume" the subject of employee training. *See Easterwood, 507 U.S. at 664*. To "ensure" that railroad employees understand the Railroads operating rules, *section 217.1* states, "each railroad . . . shall periodically instruct each [ ] employee on the meaning and application of the railroad's operating rules in accordance with a written program. . . ." *Section 240.123* requires specific training regarding continuing education for certified locomotive engineers. While CPUC's regulations are more specific and stringent than the federal government's, they both mandate training on the Railroads' own internal operating rules for the same safety concerns. *Cf. Burlington N. R.R., 880 F.2d at 1106; Doyle, 186 F.3d at 801-02*. We agree with the district court that CPUC's regulation is preempted by the FRSA.

III

To the extent that the FRSA did not preempt CPUC's regulations mandating compliance [**43] with the Railroads' internal operating rules, the Railroads contend that the regulation is preempted by the LBIA and the SAA because CPUC asserts jurisdiction over the Railroads' selection of locomotives and couplers. Because we concluded that the FRSA did not preempt CPUC's imposition of civil penalties against the Railroads for failing to follow their own internal operating rules, we must address the Railroads' claims.

A

The Railroads' TTD rules restrict the size and number of locomotives that can haul freight over certain routes. The Railroads argue that CPUC, by adopting the Railroads' internal rules, has asserted jurisdiction to enforce locomotive decisions: [*869] if the railroad chooses a locomotive that does not comply with its own rules, it is subject to fines.

[HN13] The LBIA prohibits Railroads from using a locomotive unless "the locomotive or tender and its parts and appurtenances . . . are in proper condition and safe to operate without unnecessary danger of personal injury." *49 U.S.C. § 20701*. The Supreme Court has held that this statute "occupies the field" regarding "the design, the construction and the material of every part of the locomotive and tender [**44] and of all appurtenances." *Napier v. Atl. Coast Line R.R., 272 U.S. 605, 613, 611, 71 L. Ed. 432, 47 S. Ct. 207 (1926)*; *see also Marshall v. Burlington N., Inc., 720 F.2d 1149, 1152 (9th Cir. 1983)*. We have interpreted this mandate as occupying the field of locomotive equipment, but not locomotive use. As we noted in *Southern Pacific*,

> The Supreme Court's decision in *Napier* describes the LBIA as regulating the 'design, the construction and the material' of every part of the locomotive, but does not mention the *use* of locomotive parts. Because the Oregon law neither limits nor expands the type of equipment with which locomotives are required to be equipped, it neither interferes with the goals of the LBIA nor substantially interferes with its implementation.

S. Pac., 9 F.3d at 811 (emphasis in original).

Here, like the regulation at issue in *Southern Pacific*, CPUC's regulation neither "limits nor expands the type of equipment"; rather, it merely requires that the Railroads follow its own regulations regarding the number or order of locomotives, *i.e.*, regulates the use of locomotives. Accordingly, [**45] CPUC's regulation is not preempted by the LBIA.

B

The Railroads' internal operating rules require employees to limit the weight of trailing tonnage behind different kinds of couplers, as recommended by the manufacturers. The rules restrict trains to trailing a maximum weight of 5400 tons behind a "Standard" coupler and to a greater maximum trailing tonnage, 8500, behind "High Strength" couplers. If the Railroads entrain too much tonnage behind either coupler, at designated sites, they may be subjected to fines under CPUC's regulations.

[HN14] The SAA requires rail cars to be equipped with enumerated safety features, such as certain types of couplers, brakes, running boards, and hand-holds. *49 U.S.C. § 20302*. Relevant to this appeal, the SAA requires that railcars be equipped with automatic couplers that do not need to be disengaged by workers positioned between cars. *Id. § 20302(a)(1)(A)*. The SAA occupies the entire field with respect to the requirements for those safety devices covered under the Act. *Gilvary v. Cuyahoga Valley Ry., 292 U.S 57, 60-61, 78 L. Ed. 1123, 54 S. Ct. 573 (1934)* ("So far as the safety equipment of such vehicles is [**46] concerned, these acts operate to exclude state regulation whether consistent, complementary, additional, or otherwise."); *Jordan v. S. Ry., 970 F.2d 1350, 1354 (4th Cir. 1992)*; *see also S. Ry. v. R.R. Comm'n, 236 U.S. 439, 447, 59 L. Ed. 661, 35 S. Ct. 304 (1915)*. Thus, both parties agree that if CPUC's TTD rules regulate the use of couplers, then the regulation is preempted.

The Railroads and the United States argue that the CPUC regulation impermissibly regulates the use of couplers. CPUC counters that its rule solely regulates railcar placement because couplers are part of the car and cannot be interchanged. The only discretion for the employee is car placement, *i.e.*, train configuration. A car [*870] with a standard coupler may have to be configured in the rear of the train so that there is less trailing tonnage behind it, but in its view, the regulation of the configuration does not regulate the use of couplers.

CPUC's argument is not persuasive. While the car may have to be moved in its entirety to the rear of the train, it is the coupler that requires the reconfiguration. Under CPUC's regulation, if the trailing tonnage is greater than 5400 tons, [**47] standard couplers cannot be used. This is an additional safety regulation on the use of couplers and is therefore preempted by the SAA. *See Gilvary, 292 U.S. at 60-61*; *Jordan, 970 F.2d at 1354*. We must remand to the district court to determine whether CPUC may enforce the Railroads' remaining TTD rules in the absence of the coupler restrictions. n20

> n20 We are essentially in agreement with the district court on this issue. The district court held, "To the extent . . . that the CPUC would interpret its rules to require the railroads to use high strength couplers when exceeding certain maximum trailing tonnage, such couplers are among the safety appliances covered by the SAA, and thus such a requirement would be preempted by that statute." *Union Pac. R.R., 109 F. Supp. 2d at 1208 n.28*. The court concluded, however, that CPUC's regulations did not necessarily regulate

the use of couplers and thus any challenge is premature. *Id. at 1213.*

We disagree with the district court on this last point. CPUC has reserved the right to levy civil penalties against the Railroads for failing to comply with their internal TTD rules, part of which regulate the use of couplers. *See 1997 CPUC Rulemaking, supra, at 169, available at 1997 WL 616304.* Because any fine levied against the Railroads for failing to comply with their internal rules regarding couplers must fail, the Railroads' argument is reviewable. *See Freedom to Travel Campaign v. Newcomb, 82 F.3d 1431, 1434-36 (9th Cir. 1996).*

[**48]

IV

The Railroads further contend that some of CPUC's regulations, which are not preempted by federal law, run afoul of the *Commerce Clause. U.S. Const., art. 1, § 8, cl. 3.* [HN15] Although, on its face, the *Commerce Clause* only provides congressional authority to regulate interstate commerce, the Supreme Court has interpreted the clause to prohibit the states from unduly interfering with interstate commerce absent congressional consent. *See, e.g., Raymond Motor Transp., Inc. v. Rice, 434 U.S. 429, 441, 54 L. Ed. 2d 664, 98 S. Ct. 787 (1978); Pike v. Bruce Church, Inc., 397 U.S. 137, 142, 25 L. Ed. 2d 174, 90 S. Ct. 844 (1970); see also S. Pac. Co., 325 U.S. at 766-67.*

The Railroads argue that the indirect effects of CPUC's regulations will burden interstate commerce. The CPUC regulations are afforded a presumption of constitutionality, *Burlington N.R. Co. v. Department of Public Service Regulation, 763 F.2d 1106, 1114,* and the Railroads must meet this rather stringent test: [HN16] "When [ ] a statute has only indirect effects on interstate commerce and regulates evenhandedly, we have examined whether the State's interest is legitimate and whether the burden on interstate [**49] commerce clearly exceeds the local benefits." *Brown-Forman Distillers Corp. v. N.Y. State Liquor Auth., 476 U.S. 573, 579, 90 L. Ed. 2d 552, 106 S. Ct. 2080 (1986); accord Pike, 397 U.S. at 142.* To prevail, the Railroads must demonstrate that CPUC's regulations " 'impede substantially the free flow of commerce from state to state' or that train configuration, 'because of the need of national uniformity' can only be regulated by the national government." *Burlington N. R. Co. v. Dep't of Pub. Serv. Reg., 763 F.2d 1106, 1114 (9th Cir. 1985); see also Pike, 397 U.S. at 142.*

A

The district court concluded that CPUC's rule requiring the Railroads to [*871] cooperate in the development and the implementation of performance-based train make-up standards was not preempted by the FRSA, the LBIA, or the SAA, but would constitute an undue burden on interstate commerce. Initially, the district court held that such rule violated the *Commerce Clause* for seven of the 13 designated sites, but later amended its judgment to hold that the rule, in its entirety, impermissibly burdened interstate commerce at all 13 sites.

Performance-based [**50] standards are different than from make-up rules. Performance-based standards provide an underlying general mathematical formula for safety, which can be applied to any given train location to determine whether that configuration was safe. Train make-up rules, on the other hand, are a listing of acceptable individual technical provisions for the train at each location. According to CPUC, a performance-based standard would allow the Railroads to apply one formula that ensures a number of different configurations are safe at all the locations.

Because the Railroads already have train make-up rules, the CPUC contends that the development of performance-based standards, which all agree are easier to apply, would not substantially burden interstate commerce. This regulation, however, does not merely adopt the Railroads' own rules. Instead, it requires the Railroads to develop and implement new standards, subject to CPUC approval. n21

N21 In relevant part, the regulation states,

> 1. Railroads shall cooperate and work with Staff and any other interested parties, to develop and implement, subject to Commission approval, performance-based standards for train configurations based on current track-train dynamics principles, and administrative procedures for modifying the performance-based standards and the rules derived from those standards.
>
> . . . .
>
> 3. If no consensus is reached between Staff and the Railroads regarding the implementation of administrative procedures and performance-based standards for

> train configurations within 90 days from the effective date of this decision, Staff shall nevertheless submit for the Commission's consideration proposed administrative procedures and performance-based standards for track-train dynamics based on up-to-date track-train dynamics principles.

1997 CPUC Rulemaking, supra, at 168, available at 1997 WL 616304.

[**51]

While CPUC does not regulate conduct outside of California, the extra-territorial effect of its regulation is undisputed. Both parties concede that trains are not reconfigured during transit, so, for example, a train leaving Nebraska and traveling to Los Angeles would be initially configured so as to meet the most stringent standards on its trip. Thus, any rule regarding the make-up of a train will have extra-territorial effects in a number of different states. While the extra-territorial effects of only one state regulatory regime are relatively minor, if California can require the Railroads to develop and to implement performance-based standards, so can every other state, and there is no guarantee that the standards will be similar. The effect of such a patch-work regulatory scheme would be immense. *See Mich. S. R.R. Co., 251 F.3d at 1155.* As the district court found, because there is no universal standard, "subjecting plaintiffs to the extensive amount of inconsistent state regulation California's rule would necessarily permit, would undermine the need for substantial uniformity in this area and interfere with interstate commerce." *Union Pac. R.R., 109 F. Supp. 2d at 1217.* [**52]

Importantly, CPUC does not contend that performance-based standards are safer than the Railroads' train make-up rules; it contends only that the standards [*872] will be easier to apply and to comply with. Indeed, CPUC argues that it will merely mirror the Railroads' rules. The interest in easing the administrative burden of applying the Railroads' more technical rules pales in comparison to the burden of requiring potentially conflicting state standards. Under Supreme Court precedent, such extra-territorial burden is constitutionally infirm. *See Raymond Motor Transp., 434 U.S. at 445-46; S. Pac. Co., 325 U.S. at 775; see also Healy v. Beer Inst., 491 U.S. 324, 336, 105 L. Ed. 2d 275, 109 S. Ct. 2491 (1989).* We conclude that the Railroads have demonstrated that CPUC's rule, requiring the development and implementation of performance-based rules, is "clearly excessive in relation to the putative local benefits," *see Pike, 397 U.S. at 142,* and we must affirm the district court's judgment on this issue. n22

> n22 CPUC argues this claim is not ripe because no standards are issued. This argument fails because it is clear that any standard required would impermissibly burden interstate commerce. *See supra,* note 20.

[**53]

B

Having failed to convince us that the FRSA, the LBIA, and the SAA do not preempt CPUC's imposition of civil fines for violating their own train make-up rules in full, the Railroads argue that CPUC's regulation impermissibly burdens interstate commerce: n23 if California could fine them for failing to comply with their own rules, then so could every state. The Railroads contend that this regulation places an impermissible burden upon them because the state has only a minimal interest; there is no showing that safety would be increased by mandating compliance with its own TTD rules. Moreover, trains rarely derail because of train configuration: according to the Railroads, California has had only 12 derailments between 1987 and 1997 due to improper train configuration.

> n23 CPUC and the Unions contend that we should not conduct an *Commerce Clause* analysis if we determine that the regulation is not covered by federal law because the FRSA has displaced the *Commerce Clause* in this field. While Congress may displace the *Commerce Clause* to allow unfettered state regulation, it must be "unmistakably clear" in its intention to do so. *South-Central Timber Dev., Inc. v. Wunnicke, 467 U.S. 82, 91, 81 L. Ed. 2d 71, 104 S. Ct. 2237 (1984).* Here, Congress was not unmistakably clear and in fact stated that national uniformity was one of FRSA's stated goals. *49 U.S.C. § 20106.* Their argument is thus without merit.

[**54]

It is undisputed, however, that if the trains are configured according to the Railroads' present TTD rules that the risk of derailment is decreased. Certainly the state has a legitimate and very strong interest in preventing train derailments so as to protect the safety and welfare of its citizens and the environment. By ensuring compliance with the Railroads' rules, the state's

legitimate interest in decreasing train derailments, even minimally, is furthered.

The corresponding burden on the Railroads is relatively low. Presumably, the Railroads follow their own rules during all transports, so the enforcement of these rules should add little, if any, extra burden. Importantly, there is also no danger to the goal of national uniformity: CPUC adopts the Railroads' own internal rules and the Railroads themselves are the masters of such rules. As the district court noted, any confusion regarding the application of rules between neighboring states can be clarified by the Railroads. In fact, the Railroads could eliminate their TTD rules entirely if they so choose. Thus, the burden on the Railroads is only as extensive as the Railroads themselves make it.

[*873] Because the burden on the Railroads [**55] is minor and the regulation does not interfere with the goal of national uniformity, CPUC's regulation does not impermissibly burden interstate commerce. *See Burlington N., 763 F.2d at 1114.*

V

For the foregoing reasons, the district court's judgment is AFFIRMED IN PART, REVERSED IN PART, and REMANDED. n24

n24 Each party shall bear its own costs on appeal. *See Fed. R. App. P. 39(a)(4).*

LEXSEE 186 F.3D 790

Burlington Northern and Santa Fe Railway Company, Soo Line Railroad Company, Union Pacific Railroad Company, and Wisconsin Central Ltd., Plaintiffs-Appellants, Cross-Appellees, v. James E. Doyle, Attorney General of Wisconsin, E. Michael McCann, District Attorney of Milwaukee County, Thomas L. Storm, District Attorney of Fond du Lac County, et al., Defendants-Appellees, Cross-Appellants, and United Transportation Union, Intervening Defendant-Appellee, Cross-Appellant.

Nos. 98-4057, 98-4149, 98-4166

UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

186 F.3d 790; 1999 U.S. App. LEXIS 17022

May 19, 1999, Argued
July 23, 1999, Decided

PRIOR HISTORY: [**1] Appeals from the United States District Court for the Eastern District of Wisconsin. No. 97 C 1382. J.P. Stadtmueller, Chief Judge.

DISPOSITION: AFFIRMED IN PART and REVERSED IN PART.

CASE SUMMARY:

PROCEDURAL POSTURE: Plaintiffs, four railroads that operated in Wisconsin, appealed from a ruling of the United States District Court for the Eastern District of Wisconsin, which upheld a law enforced by appellees state and county officials requiring train crews to consist of at least two persons. The court also held that federal law did not preempt the statute in question.

OVERVIEW: Plaintiffs, four railroads that operated in Wisconsin, sued the Wisconsin attorney general and three county district attorneys, defendants, seeking a declaration that a Wisconsin law requiring train crews to consist of at least two persons and also requiring crew members to have certain qualifications was preempted by federal regulations. The United Transportation Union, which represented nearly all unionized trainmen in the United States, intervened as a defendant. The lower held that the parts of the statute requiring certain qualifications for engineers and train crew members were preempted, but held that the part requiring two-person crews was not. Plaintiffs appealed the ruling regarding two-person train crews. On appeal, the court held that federal regulations approved the use of one-person crews in two types of operations but not in a third. Thus, Wisconsin's two-person crew requirement was preempted in part. The decision of the lower court was therefore reversed in part for operations that met federal standards and affirmed with respect to operations that fell below federal standards, thus requiring a two-person crew.

OUTCOME: Plaintiffs, four railroads that operated in Wisconsin, prevailed in part from a ruling of the lower court, which upheld a law enforced by appellees state and county officials requiring train crews to consist of at least two persons. The court held that certain operations only required a one-person crew as provided by federal law, but that certain operations still required a two-person crew as required by state law.

LexisNexis(R) Headnotes

Transportation Law > Rail Transportation > Maintenance & SafetyTransportation Law > Carrier Duties & Liabilities > State & Local Regulation
[HN1] See *Wis. Stat. § 192.25.*

Constitutional Law > Supremacy Clause

[HN2] To avoid unintended encroachment on the authority of states, a court interpreting a federal statute pertaining to a subject traditionally governed by state law will be reluctant to find pre-emption. Thus, pre-emption will not lie unless it is the clear and manifest purpose of Congress. Evidence of pre-emptive purpose is sought in the text and structure of the statute at issue. If the statute contains an express pre-emption clause, the task of statutory construction must in the first instance focus on the plain wording of the clause, which necessarily contains the best evidence of Congress' pre-emptive intent.

Transportation Law > Rail Transportation > Maintenance & Safety
[HN3] See *49 U.S.C.S. § 20106.*

Civil Procedure > State & Federal Interrelationships > Application of State LawConstitutional Law > Supremacy Clause
[HN4] Whether invalid provisions in a state law can be severed from the whole to preserve the rest is a question of state law.

Constitutional Law > Supremacy Clause
[HN5] The factors to consider in deciding whether a statute should be severed from an invalid provision are the intent of the legislature and the validity of the severed portion standing alone.

COUNSEL: For SOO LINE RAILROAD COMPANY, UNION PACIFIC RAILROAD COMPANY, WISCONSIN CENTRAL LIMITED, BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, Plaintiffs - Appellants (98-4057): Jon P. Axelrod, DEWITT, ROSS & STEVENS, Madison, WI USA. Ronald M. Johnson, AKIN, GUMP, STRAUSS, HAUER & FELD, Washington, DC USA.

For JAMES E. DOYLE, Attorney General of Wisconsin, E. MICHAEL MCCANN, district Attorney of Milwaukee, THOMAS L. STORM, District Attorney of Found du Lac County, DANIEL BLANK, District Attorney of Douglas County, Defendants - Appellees (98-4057): James E. Doyle, Thomas C. Bellavia, OFFICE OF THE ATTORNEY GENERAL, MADISON, WI USA.

For UNITED TRANSPORTATION UNION, Intervenor - Appellee (98-4057): Marilyn Townsend, Madison, WI USA. Lawrence M. Mann, ALPER, MANN & WEISBAUM, Washington, DC USA.

For ASSOCIATION OF AMERICAN RAILROADS, AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION, Amicus Curiae (98-4057): Thomas L. Smallwood, BORGELT, POWELL, PETERSON & FRAUEN, Milwaukee, WI USA.

For BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, SOO LINE RAILROAD COMPANY UNION PACIFIC RAILROAD COMPANY, WISCONSIN CENTRAL LIMITED, Plaintiffs - Appellees (98-4149): Jon P. Axelrod, DEWITT, ROSS & STEVENS, Madison, WI USA. Ronald M. Johnson, AKIN, GUMP, STRAUSS, HAUER & FELD, Washington, DC USA.

For JAMES E. DOYLE, Attorney General of Wisconsin, E. MICHAEL MCCANN, District Attorney of Milwaukee County, THOMAS L. STORM, District Attorney of Foud du Lac County, DANIEL BLANK, District Attorney of Douglas County, Defendants - Appellants (98-4149): Susan K. Ullman, Thomas C. Bellavia, OFFICE OF THE ATTORNEY GENERAL, Madison, WI USA.

For SOO LINE RAILROAD COMPANY, UNION PACIFIC RAILROAD COMPANY, WISCONSIN CENTRAL LIMITED, BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, Plaintiffs - Appellees (98-4166): Jon P. Axelrod, DEWITT, ROSS & STEVENS, Madison, WI USA. Ronald M. Johnson, AKIN, GUMP, STRAUSS, HAUER & FELD, Washington, DC USA.

For JAMES E. DOYLE, Attorney General of Wisconsin, E. MICHAEL MCCAN, District Attorney of Milwaukee, THOMAS L. STORM, District Attorney of Fond du Lac County, DANIEL BLANK, District Attorney of Douglas County, Defendants (98-4166): James E. Doyle, OFFICE OF THE ATTORNEY GENERAL, Madision, WI USA.

For UNITED TRANSPORTATION UNION, Intervenor - Appellant (98-4166): Marilyn Townsend, Madison, WI USA.

For AMERICAN SHORT LINE RAILROAD ASSOCIATION, AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION, Amicus Curiae (98-4166): Thomas L. Smallwood, BORGELT, POWELL, PETERSON & FRAUEN, Milwaukee, WI USA.

JUDGES: Before Harlington Wood, Jr., Flaum, and Manion, Circuit Judges.

OPINIONBY: MANION

OPINION:

[*792] Manion, Circuit Judge. The plaintiffs, four railroads that operate in Wisconsin, sued the Wisconsin attorney general and three county district attorneys seeking a declaration that a Wisconsin law requiring train crews to consist of at least two persons and also requiring crew members to have certain qualifications is preempted by federal regulations promulgated under the Federal Rail Safety Act, *49 U.S.C. sec. 20101* et seq. The United Transportation Union, which represents nearly all unionized trainmen in the United States, intervened as a defendant. The district court decided the case on cross motions for summary judgment. It held that the parts of the statute requiring certain qualifications for engineers and train crew members were preempted, but held that the part requiring two-person crews was not. The railroads appeal from the ruling regarding the two-person crew requirement. We disagree with the [**2] district court's conclusion that the two-person crew requirement is preempted in no circumstances. We hold that federal regulations have approved the [*793] use of one-person crews in two types of operations but not in a third. Thus, Wisconsin's two-person crew requirement is preempted in part. The defendants cross-appeal from the finding that the statute's crew qualification provisions are preempted. We agree with the district court. We also hold that the state law is severable, so that the part that is not preempted can survive on its own. We therefore affirm the judgment of the district court in part and reverse in part.

I.

A. Wisconsin's Two-Person Crew Law and This Suit

On December 15, 1997, Wisconsin enacted [HN1] *Wis. Stat. sec. 192.25* to regulate the qualifications of train crew members and to require at least two persons in all train crews. In its entirety, the statute provides:

> (1) In this section:
>
> (a) "Certified railroad locomotive engineer" means a person certified under 49 CFR 240 as a train service engineer, locomotive servicing engineer or student engineer.
>
> (b) "Qualified railroad trainman" means a person who has successfully completed a railroad [**3] carrier's training program and passed an examination on railroad operation rules.
>
> (2) No person operating or controlling any railroad, as defined in s. 85.01(5), may allow the operation of any railroad train or locomotive in this State unless the railroad train or locomotive has a crew of at least 2 individuals. One of the individuals shall be a certified railroad locomotive engineer. The other individual shall be either a certified railroad locomotive engineer or a qualified railroad trainman. A certified railroad locomotive engineer shall operate the control locomotive at all times that the railroad train or locomotive is in motion. The other crew member may dismount the railroad train or locomotive when necessary to perform switching activities and other duties in the course of his or her job.
>
> (3)(a) The office, by rule, may grant an exception to sub. (2) if the office determines that the exception will not endanger the life or property of any person.
>
> (b) Subsection (2) does not apply to the extent it is contrary to or inconsistent with a regulation or order of the federal railroad administration.
>
> (4) Any person who violates sub. (2) may be required to forfeit [**4] not less than $ 25 nor more than $ 100 for a first offense, not less than $ 100 nor more than $ 500 for a 2nd offense committed within 3 years, and not less than $ 500 nor more than $ 1,000 for a 3rd offense committed within 3 years.

Section 192.25 was to become effective January 1, 1998. On December 31, 1997, the plaintiffs filed this suit, naming the Wisconsin Attorney General and three county district attorneys as defendants. n1 (For convenience, we will refer to these defendants as "Wisconsin.") Three of the plaintiffs are large, national railroads: Burlington Northern & Santa Fe Railway Company, Soo Line Railroad Company, and Union Pacific Railroad Company. The fourth plaintiff is a smaller, regional railroad: Wisconsin Central Limited. n2 [*794] Each plaintiff operates in Wisconsin. The complaint alleged that regulations promulgated under the Federal Rail Safety Act preempted sec. 192.25, and that the statute violated the federal and Wisconsin constitutions. The plaintiffs sought declaratory and injunctive relief. The parties agreed that Wisconsin

would not enforce the statute in part pending the outcome of this litigation, or until December 31, 1998. (The parties have not informed [**5] us whether they have agreed to continue the stay.) The United Transportation Union (UTU) later intervened as a defendant. The parties filed cross motions for summary judgment, and subsequently stipulated that the plaintiffs would dismiss without prejudice the counts raising constitutional issues. The district court granted each side summary judgment in part. The court held that sec. 192.25's crew qualification requirements were preempted by federal law but held that its requirement for two-person crews was not. The parties have each appealed parts of the district court's decision.

n1 The defendants are James E. Doyle, Wisconsin Attorney General, E. Michael McCann, District Attorney of Milwaukee County, Thomas L. Storm, District Attorney of Fond du Lac County, and David Blank, District Attorney of Douglas County. Each defendant was sued in his individual and official capacities.

n2 Two associations to which the plaintiffs belong filed an amicus curiae brief in this court and the district court. The Association of American Railroads (AAR) is a trade association whose members are large freight railroads and the National Railroad Passenger Corporation (Amtrak). Its members include plaintiffs Burlington Northern, Soo Line, and Union Pacific. AAR's members represent the substantial majority of all rail freight in the United States. The second amicus, the American Short Line and Regional Railroad Association (ASLRRA), is a trade association whose members are small and medium sized regional freight railroads. ASLRRA's members include plaintiff Wisconsin Central and two other regional railroads that operate in Wisconsin.

[**6]

B. FRSA Preemption

"The Laws of the United States . . . shall be the supreme Law of the Land . . . any Thing in the Constitution or Laws of any State to the Contrary notwithstanding." U.S. Const., Art. VI, cl. 2. Federal law, therefore, preempts state law. The Supreme Court summarized how the courts are to analyze preemption issues:

[HN2]

> In the interest of avoiding unintended encroachment on the authority of states, however, a court interpreting a federal statute pertaining to a subject traditionally governed by state law will be reluctant to find pre-emption. Thus, pre-emption will not lie unless it is the clear and manifest purpose of Congress. Evidence of pre-emptive purpose is sought in the text and structure of the statute at issue. If the statute contains an express pre-emption clause, the task of statutory construction must in the first instance focus on the plain wording of the clause, which necessarily contains the best evidence of Congress' pre-emptive intent.

CSX Transport, Inc. v. Easterwood, 507 U.S. 658, 663-64, 123 L. Ed. 2d 387, 113 S. Ct. 1732 (1993) (citations and internal quotations omitted). Because federal preemption is a question [**7] of statutory interpretation, we review this issue de novo.

In response to a perceived need for comprehensive rail safety regulation, Congress passed the Federal Rail Safety Act of 1970 (FRSA), as amended *49 U.S.C. sec. 20101* et seq. n3 The purpose of the FRSA was to "promote safety in every area of railroad operations and reduce railroad-related accidents and incidents." *49 U.S.C. sec. 20101.* Thus, the Secretary of Transportation was given broad power to regulate and a mandate to use that power: "The Secretary of Transportation, as necessary, shall prescribe regulations and issue orders for every area of railroad safety." *49 U.S.C. sec. 20103.* The Secretary regulates rail safety through the Federal Railroad Administration (FRA). The FRSA also advanced the goal of national uniformity of regulation because one of its provisions expressly preempts state laws regulating rail safety. [HN3] *49 U.S.C. sec. 20106.* Because the FRSA contains an express preemption provision, our task principally is to apply [*795] the provision according to its terms. Section 20106 provides:

> Laws, regulations, and orders related [**8] to railroad safety shall be nationally uniform to the extent practicable. A state may adopt or continue in force a law, regulation, or order related to railroad safety until the Secretary of Transportation prescribes a regulation or issues an order covering the subject matter of the state requirement. A state may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety when the law, regulation or order--

(1) is necessary to eliminate or reduce an essentially local safety hazard;

(2) is not incompatible with a law, regulation, or order of the United States Government; and

(3) does not unreasonably burden interstate commerce.

Under this scheme, then, state regulations can fill gaps where the Secretary has not yet regulated, and it can respond to safety concerns of a local rather than national character. Wisconsin does not justify sec. 192.25 as a response to a local safety hazard, so the precise issue before us is whether the Secretary "prescribed a regulation or issued an order covering the subject matter" of sec. 192.25. This issue requires us to answer three sub-issues: What is the "subject matter" of the state [**9] requirement? What action by the Secretary amounts to issuing an "order"? ("Prescribing a regulation" is a clear enough term.) When does such an order or regulation "cover" the subject matter of a state requirement?

n3 FRSA was formerly codified at *45 U.S.C. sec. 421* et seq. but was recodified without substantive change in Title 49 as part of a recodification of rail safety laws in 1994. See Pub. L. No. 103-272. Many prior court decisions interpreting FRSA refer to the prior U.S. Code sections. FRSA's preemption provision, *49 U.S.C. sec. 20106,* was codified at *45 U.S.C. sec. 434.*

The third question is the most easily answered because in Easterwood the Supreme Court thoroughly analyzed when FRA regulations "cover" the subject matter of a state requirement. Noting that "cover" was a somewhat restrictive term, the Court held that "[the party asserting preemption] must establish more than that [the regulations] 'touch upon' or 'relate to' the [**10] subject matter . . . pre-emption will lie only if the federal regulations substantially subsume the subject matter of the relevant state law." *507 U.S. at 664-65* (citations omitted). Importantly, preemption does not depend on a single federal regulation itself covering the subject matter of the state law. In Easterwood the Court found preemption by examining "related safety regulations" and "the context of the overall structure of the regulations." *Id. at 674.*

What constitutes an "order" for FRSA preemption is less clear. This term is not defined in the FRSA, and the Supreme Court has not had occasion to define it. The district court relied upon the definition of "order" in the Administrative Procedures Act, *5 U.S.C. sec. 551*(6), which defines an order to include "a final disposition, whether affirmative, negative, injunctive, or declaratory in form[,] . . . other than rule making." Certainly if an agency action constitutes an "order" under the APA definition, it would be an order for FRSA preemption. Because the actions in this case fit the APA definition, we need not decide whether an action that does not fit that definition could [**11] nonetheless be an order under sec. 20106. But we also note that "final disposition" includes informal decisions. See *Atchison, T. & S. F. R.R. v. Pena, 44 F.3d 437, 441 (7th Cir. 1994)* (en banc) (letter from the FRA's Chief Counsel announcing change in the FRA's interpretation of law was "final agency action" because letter made the FRA's position "absolutely clear"), aff'd sub nom. *Brotherhood of Locomotive Engineers v. Atchison, T. & S. F. R.R., 516 U.S. 152, 133 L. Ed. 2d 535, 116 S. Ct. 595 (1996)* (not addressing issue of "final agency action"); see also *United Transp. Union v. Lewis, 228 U.S. App. D.C. 447, 711 F.2d 233, 240 (D.C. Cir. 1983)* (court reviewed agency's interpretation of law expressed in letter). For preemption, the important thing is that the FRA considered a subject matter and made a decision regarding it. [*796] The particular form of the decision is not dispositive.

"The subject matter of the state requirement" is the safety concerns that the state law addresses. See *Burlington N. R.R. v. Montana, 880 F.2d 1104, 1106 (9th Cir. 1989)* ("[The FRSA] preempts all state regulations aimed at the same safety concerns addressed [**12] by FRA regulations."). Generally, determining the safety concerns that a state or federal requirement is aimed at will necessarily involve some level of generalization that requires backing away somewhat from the specific provisions at issue. See *Shots v. CSX Transp., Inc., 38 F.3d 304, 307 (7th Cir. 1994)* (in analyzing preemption of state negligence claim for inadequate warning device at rail crossing, court referred to "subject matter of highway safety at that crossing"). Otherwise a state law could be preempted only if there were an identical federal regulation, and, as we noted, Easterwood teaches that this is not so. See *507 U.S. at 674* (preemption found through series of related regulations and overall structure of the regulations, although no regulation directly addressed the state requirement); see also *Burlington N. R.R., 880 F.2d at 1106* (FRA regulation permitting telemetry device rather than visual inspection preempted state law requiring trains to have a caboose because both were aimed at the safety concern of monitoring brakes and signals at the rear of the train). But with too much generalizing--"public safety" or "rail safety"--our [**13] analysis would be meaningless because all FRA regulations cover those concerns.

II.

A. Whether Section 192.25's Crew Qualification Requirements Are Preempted

The broad safety concern that sec. 192.25 is aimed at is ensuring that a train or locomotive crew can operate safely. The statute addresses this broad concern by addressing two related concerns: (1) who is qualified to operate a train or locomotive safely, and (2) what is the minimum number of crew persons needed to operate a train or locomotive safely. This section of our opinion addresses the statute's provisions regarding the first concern, and the next section addresses the statute's provisions regarding the second concern.

The statute addresses who is qualified to operate a train in three ways: sec. 192.25(1)(a) requires certain qualifications for a "Certified railroad locomotive engineer"; sec. 192.25 (1)(b) requires certain qualifications for a "Qualified railroad trainman"; and sec. 192.25(2) requires that a certified railroad locomotive engineer operate the controls of the locomotive any time the train or locomotive is moving. Federal regulations clearly cover the subject matter of these requirements. Section [**14] 192.25(1)(a) itself expressly incorporates the numerous federal regulations in 49 C.F.R. part 240 that set the qualifications of an engineer. Section 192.25(1)(b) requires that a trainman be instructed and tested in the railroad's operating procedures, and the training of railroad employees is covered by federal regulations. See, e.g., *49 C.F.R. sec. 217.11(c)* (requires tests of employees). In the face of the federal regulations, Wisconsin argues that these provisions are not preempted not because the federal regulations do not cover the subject matter of the state requirements, but because the state statute does not impose contradictory requirements. The short answer to this argument is that the text of sec. 20106 provides that a state may enforce a law "related to railroad safety until the Secretary of Transportation prescribes a regulation or issues an order covering the subject matter of the state requirement." (Emphasis supplied.) This language does not distinguish between contradictory state requirements and merely duplicative state requirements. We previously stated:

> If the Secretary promulgates a regulation that covers the subject matter of some state safety requirement, [**15] the state [*797] requirement must give way (with an inapplicable exception) even if there is no direct conflict, that is, even if the federal and state requirements would not place the railroad under conflicting duties.

Shots, 38 F.3d at 307. Moreover, Wisconsin's requirement that an engineer be at the controls of the locomotive any time it moves does directly conflict with a federal regulation: *49 C.F.R. sec. 240.7,* which excludes from the definition of locomotive engineers--and thus the requirement to satisfy all qualifications--persons who move the locomotive up to 100 feet in a repair or servicing area to inspect and maintain it. These three provisions of sec. 192.25 are therefore preempted by the federal regulations.

B. Whether sec. 192.25's Two-Person Crew Requirement Is Preempted

1. General Background

Section 192.25(2) also requires that at least two crew members be on the train or locomotive whenever it is moving, although it permits the second crew member to dismount the train to perform tasks such as switching and coupling or uncoupling. This provision expresses Wisconsin's conclusion that lone engineer and remote control operations are always unsafe. [**16] There is no federal regulation directly addressing when lone engineer or remote control operations are safe; if there were, this would be an easier case. So, as Easterwood teaches, we have to examine all related regulations and orders to see if the FRA has determined when these operations may be done. The parties make all-or-nothing arguments regarding the two-person crew requirement. That is, they argue either that the FRA has approved all one-person crew operations, or that it has approved none. We think a more flexible analysis is required because one-person crews are used in various types of operations that differ from each other considerably.

The number of crew persons on a train is determined by the operating conditions and, sometimes, by the terms of the railroad's collective bargaining agreements. Generally trains operate with two or three crew members: an engineer and a conductor and (possibly) a brakeman. (The crew members are sometimes called "trainmen.") Prior to the demise of the steam locomotive, at least two crew members were needed in the locomotive itself: the engineer and the fireman. But with the advent of diesel locomotives, the engineer can operate the locomotive [**17] by himself, and in some operations, a conductor or brakeman is not essential. Thus, some railroads operate trains with only one crew member in three different situations that are relevant to this case: "hostling" movements, "helper" movements, and "over-the-road" movements. "Hostling" movements involve short distances at a train yard. After the train has arrived at the yard and its cars are uncoupled, an employee, called a "hostler," will often move the

locomotive to another area. Locomotive movements without any attached cars are called "light" movements. "Helper" movements are another type of light movement. Sometimes a train will have to ascend or descend a restrictive grade that requires more locomotive power than it has. To assist it over the grade, a "helper" locomotive is sent from the yard and connects to the front or back of the train, which then is able to make the ascent or descent. Afterwards, the helper locomotive is uncoupled and returns to the yard. Finally, "over-the-road" movements involve hauling train cars between terminals. Presently it appears that none of the plaintiffs uses one-person crews for over-the-road movements in Wisconsin. Under their current collective [**18] bargaining agreements, Burlington Northern, Soo Line, and Union Pacific cannot use one-person crews for any over-the-road movements. They state that they would consider doing so when and if they are able to negotiate a change to their bargaining agreements. Wisconsin Central previously used one-person crews for over-the-road movements in Wisconsin, [*798] but its use of them has been dictated by the terms of safety agreements with the FRA.

The FRA has had several occasions in the 1990's to review the safety of some aspects of one-person crews. To decide the extent to which sec. 192.25's two-person crew requirement has been preempted, we must examine the FRA's various orders and regulations and determine whether they have "covered" the subject matter of safety for one-person crews in any of these different types of operations.

2. Federal Regulations and Orders Regarding Train Crew Size

a. The Blue Signal Regulations

In 1993, the FRA promulgated a new rule regarding "utility employees" temporarily assigned to work with train or yard crews. Some background is necessary to understand the FRA's rule-making. Since 1970, the FRA's regulations had distinguished "train and yard crews" [**19] from "workers." n4 The former were the engineers, conductors, and brakemen who were assigned to a particular train--"rolling equipment." "Workmen" were employees who were not a part of a particular crew but whose job required them to work on, under, or between rolling equipment doing such things as inspecting or repairing locomotives and cars. When a worker was working on, under, or between rolling equipment, he was required to comply with certain "blue signal" rules found in 29 C.F.R. part 218. Essentially, the worker posted a blue flag or sign on or near the train. No one could then move the train until he had found the worker who posted the blue signal and verified that the worker was not in danger when the train moved. Train and yard crew members were generally excluded from the blue signal requirement. The logic of the rule is simply that one of the greatest dangers to an employee working around rolling equipment is that the equipment might move unexpectedly because of a lack of communication between the crew and a worker. Because train and yard crews work together as a team and keep in constant communication, there is much less danger of the engineer unexpectedly moving the train [**20] while another crewman is, for example, uncoupling a car.

> n4 Actually the regulations first called these employees "workmen," but that term was changed to "worker" in 1993. We use the current term for convenience.

In 1993, however, the FRA modified its regulations to account for substantial changes in the typical size of train crews, and the development of a new type of employee: the "utility employee.' In announcing the new regulation, the FRA stated:

> Since promulgation of the regulation [in 1970], the size of train and yard crews has been significantly reduced through the collective bargaining process and increased operating efficiencies. Implementation of the recommendations of Presidential Emergency Board No. 219 ("PEB 219") (see Pub. L. No. 102-29, 1991) is greatly accelerating this process. Through this and prior processes, crews that once consisted of a locomotive engineer, fireman, conductor, and two trainmen, have in many cases been reduced to a locomotive engineer and conductor only.

[**21]

58 Fed. Reg. 43288. As the crew sizes decreased, many railroads began using "utility employees" who were attached temporarily to train and yard crews. Under the prior regulations, there was confusion and disagreement about whether these utility employees were train and yard crew members, thus excluded from the blue signal requirement, or were workers who were not. After studying the situation, in 1993 the FRA changed the regulations to expressly account for the changes in the industry. The new regulations defined train and yard crews, utility employees, and workers, and set out when

each was subject to the blue signal requirement. In so doing, the FRA recognized [*799] that sometimes train or yard crews had only one person, and it adopted a different standard for such crews.

The regulations provided that a utility employee could be part of train and yard crews, and so excluded from the blue signal requirement, only when an engineer was at the controls of the locomotive, or at least in the cab. *29 C.F.R. sec. 218.22(c)* & (e). The FRA explained that "the presence and vigilance of the engineer at the controls (or, at the very least, in the cab) of the controlling locomotive [**22] is essential." *58 Fed. Reg. 43291.* The FRA permitted, however, another member of the train or yard crew to go into the cab if the engineer had to perform some function outside. Id. The notice also explained:

> A single locomotive engineer in helper service, or a single hostler may not take advantage of the exclusion from blue signal protection unless joined by a utility employee. Absent a crew member to monitor the locomotive, blue signal protection is required.

Id. The exclusion of single-person train and yard crews from the blue signal protection was noted only in the preamble to the new rule, not in the text itself. The FRA later explained why it had done so:

> FRA's notice of proposed rule making requested comment on the protection needed for a single locomotive engineer performing helper or hostler service. . . . Protecting one-member crews was therefore within the scope of the notice. FRA chose not to address the subject in rule text because no comments were received. In the preamble to the final rule, however, FRA expressed discomfort with one-member crews. It was stated that a lone engineer could not take advantage of the exclusion from blue [**23] signal protection unless joined by a utility employee to ensure that the locomotive cab was always occupied.

60 Fed. Reg. 11047.

In response to the preamble's making one-person train and yard crews subject to the blue signal requirement, the AAR petitioned the FRA for reconsideration. On March 1, 1995, the FRA announced an amendment to the rule. *60 Fed. Reg. 11047.* The FRA summary stated "the amendment will permit single-person crews to work within the protections provided for train and yard crews." Id. The FRA expressed its continued concern "with the unique risk faced by lone engineers despite the current lack of evidence of a substantial injury record for one-member crews. An engineer assigned to helper or hostler service must frequently perform work, such as placing rear end markers or making connections between locomotives, that puts that employee in danger, particularly when this work is performed in congested terminals and rail yards." *60 Fed. Reg. 11047, 11048.* So the FRA issued a new regulation, *49 C.F.R. sec. 218.24* which permitted a lone engineer to work on, under, or between rolling stock without blue signal protection [**24] only if certain specified conditions were met. The regulation also covered how a single engineer in helper service would communicate with the crew he was assisting and how the two crews would go about moving their respective trains. In response to this new rule for one-person crews, the FRA received numerous comments and petitions. After reviewing them, the FRA suspended the regulation as of its effective date, May 15, 1995. *60 Fed. Reg. 30469.* The FRA also reopened the comment period on the amendment "regarding only the issue of one-person crews" and the comment period is apparently still open.

b. The Wheeling & Lake Erie Remote Control Test Program

By 1993 some railroads had begun using remote control devices with their one-person crews. These devices permitted a lone engineer working outside the cab to move the locomotive. Thus, a lone engineer would be able to perform a task that previously would have required the engineer to be in the cab moving the locomotive and communicating by radio with another crew [*800] member working on the ground. The use of these devices raised some significant regulatory compliance issues. In January 1993, the Wheeling & Lake Erie Railway [**25] Company petitioned the FRA for waivers from certain regulatory requirements so that it could use remote control devices with lone engineers. The FRA invited comment, conducted a public hearing, and then on November 18, 1994, issued a notice that it would conduct a two-year test program for remote control devices involving Wheeling & Lake Erie, although it encouraged other railroads to join the test program. *59 Fed. Reg. 59826.* The FRA allowed the continued use of remote control devices by other railroads only if they participated in the two-year test program. *59 Fed. Reg. 59827.* The UTU petitioned the FRA to prohibit any use of remote control devices, but the FRA denied that petition. See *61 Fed. Reg. 58737.*

c. Wisconsin Central's Use of One-Person Crews for Over-the-Road Movements, Use of Remote Controls, and the FRA's Review

In 1996, Wisconsin Central proposed expanding its use of one-person crews for some over-the-road movements on four new routes. (At the time Wisconsin Central used one-person crews on four other routes.) On April 25, 1996, the UTU petitioned the FRA for an emergency order banning Wisconsin Central from using one-person [**26] crews for any over-the-road movements. (The FRA has not yet ruled on this petition.) The FRA then began reviewing Wisconsin Central's use of one-person crews and asked it not to expand its use of one-person crews for over-the-road movement during the review period. Wisconsin Central agreed.

In a May 8, 1996, letter to Wisconsin Central, the FRA stated:

> We are aware that other railroads, as well as your own, currently operate one-person trains. For the most part, these operations are short, slow trains. You intend, however, to move mixed freight over long distances in these four routes. As you no doubt realize, your proposed operations are novel, and pose many complex problems.
>
> Although there are no available data proving one-person crews are unsafe, there are also no data showing operations of the type you propose to be safe. . . .
>
> The FRA listed a number of safety concerns and directed Wisconsin Central to submit an action plan detailing its operating standards for one-person crews and addressing these issues. The FRA approved Wisconsin Central's continued use of one-person crews on the four existing routes while the FRA studied the matter.

In September 1996, Wisconsin [**27] Central notified the FRA that it wanted to begin using remote control devices to move locomotives at two of its rail yards in Wisconsin. On September 17, 1996, the UTU petitioned the FRA for an emergency order banning the use of remote control devices not only by Wisconsin Central but by all railroads. (The FRA has not yet ruled on this petition either.) On November 18, 1996, the FRA announced that it would conduct public hearings in Wisconsin on the issue of Wisconsin Central's use of one-person crews and the use of remote control devices in general. The hearings were held on December 4 and 5, 1996, in Appleton, Wisconsin. Numerous persons testified regarding the safety of one-person crews and remote control devices, including then-Wisconsin State Representative John Dobyns. Dobyns admitted he was no expert on railroads, but opined that one-person crews and remote control devices were not safe. Shortly after testifying at the FRA hearings, Dobyns introduced the bill that eventually became sec. 192.25.

On January 10, 1997, the FRA wrote a letter to Wisconsin Central in which it indicated that it was reviewing the issues raised at the December hearings. The FRA permitted Wisconsin [**28] Central to continue with its then-current use of one-person [*801] crews, but told it to wait until a final FRA decision before expanding its use of one-person crews. The FRA did bar Wisconsin Central from implementing remote controlled operations, however. Due to a high accident rate, the FRA began conducting a broad study of all of Wisconsin Central's operations. On February 8, 1997, Wisconsin Central and the FRA entered into a Safety Compliance Agreement. The agreement permitted Wisconsin Central to continue using one-person crews for light movements, that is, locomotive only, but not for over-the-road movements, and it prohibited Wisconsin Central from using remote control devices. Those restrictions did not apply to Wisconsin Central's Port Inland, Michigan, terminal. This agreement ended after 12 months and was replaced with a new Safety Compliance Agreement. The new agreement praised Wisconsin Central for its compliance with the prior agreement and as a result expanded slightly the types of one-person crew movements that Wisconsin Central could conduct. The second agreement also had a 12-month term, which has now expired. The record is silent as to whether Wisconsin Central has entered [**29] into another agreement.

3. The Preemptive Effect of The Federal Orders and Regulations

As we noted above, the record shows that there are three different kinds of one-person crew operations: hostling movements, helper movements, and over-the-road movements. As we discuss in detail below, on this record, we conclude that the FRA has issued final dispositions-- "regulations" and "orders" under sec. 20106--permitting one-person crews to perform hostling and helper movements, but has not done so for one-person over-the-road operations. Thus, sec. 192.25(2)'s two-person crew requirement is preempted insofar as it bans one-person hostling and helper movements.

As we discussed above, between 1993 and 1995, the FRA considered and promulgated regulations governing when blue signal protection had to be used when a lone

engineer performed hostling or helper service. In response to a petition for reconsideration, it suspended the regulation placing additional requirements on one-person crews (*49 C.F.R. sec. 218.24*). As our description of the rule-making process shows, the FRA considered the issue of safety for one-person crews conducting these two types of operations and whether additional [**30] precautions were needed. It ultimately decided not to impose any. When the FRA examines a safety concern regarding an activity and affirmatively decides that no regulation is needed, this has the effect of being an order that the activity is permitted. See *Norfolk & W. Ry. v. Public Util. Comm'n, 926 F.2d 567, 570 (6th Cir. 1991)* (FRA decision not to impose requirement of walkways on railroad bridges preempted state requirement of such walkways); *Burlington N. R.R., 880 F.2d at 1106-07* (FRA's considering adopting rule requiring caboose but declining to do so reinforced conclusion that telemetry regulation preempted state requirement for caboose); *Missouri & P. R.R. v. Texas R.R. Comm'n, 850 F.2d 264, 267-68 (5th Cir. 1988)* (same). The district court was therefore incorrect to conclude that because *49 C.F.R. sec. 218.24* was suspended it is irrelevant to the issue of preemption. The decision to impose the added safety requirements for certain one-person operations and the decision to suspend it were final dispositions of the FRA's position on the matter, and were thus "orders" under sec. 20106.

Wisconsin argues that the subject matter of the FRA's [**31] orders and regulations was blue signal protection, not the minimum safe crew size. That argument too finely slices the subject matter of the federal regulations. The FRA considered whether a lone engineer could safely conduct hostling and helper service without blue signal or some other additional protection; it concluded that he could. Wisconsin argues that in deciding that these [*802] lone engineer operations were safe without blue signal protection, the FRA did not decide the more basic issue of whether the operations were safe at all. This argument is too narrow. So also is Wisconsin's argument that the FRA's decision that lone engineers could safely conduct hostling and helper operations without blue signal protection merely "touches upon" rather than substantially subsumes the subject of whether one-person crews were safe for these operations. The FRA's more specific conclusion that the operations were safe without added precautions encompasses the more general one that they are safe. Wisconsin's requirement that two persons conduct these operations directly contradicts the FRA's decision that one person may do them safely. Under sec. 20106, Wisconsin's requirement must give way. To [**32] the extent sec. 192.25(2)'s two-person crew requirement applies to hostling and helper operations, it is preempted.

We do not reach the same conclusion regarding one-person crews on over-the-road operations, however. The plaintiffs argue that the FRA has affirmatively approved all one-person operations, but the record does not support this argument. As we just discussed, the FRA's decisions regarding blue signal protection for one-person crews showed that the agency considered and decided the issue with regard to hostling and helper operations only. The FRA's regulations and its discussion of them in the Federal Register do not show that the agency considered the issue of one-person crews in other types of operations. The plaintiffs rely on the FRA's test program of remote control devices and the statements it made to Wisconsin Central about other railroads conducting one-person operations as evidence that the FRA approves one-person operations generally. The plaintiffs seem to argue that because the FRA is aware of one-person operations and has not proscribed them, it must necessarily approve them as safe. This does not follow. Such a position gives too much weight to agency inaction. [**33] The record shows unequivocally that the FRA is aware that the railroad industry uses one-person crews for some over-the-road operations. And it shows that the FRA has not prohibited this practice, although it currently has the matter under consideration. But what the record does not show is that the FRA has considered the issue and affirmatively decided not to regulate such operations. Only this sort of affirmative decision preempts state requirements. As the Supreme Court held in applying a different statute, "'where failure of . . . federal officials affirmatively to exercise their authority takes on the character of a ruling that no such regulation is appropriate or approved pursuant to the policy of the statute,' states are not permitted to use their police power to enact such a regulation." *Ray v. Atlantic Richfield Co., 435 U.S. 151, 178, 55 L. Ed. 2d 179, 98 S. Ct. 988 (1978)* (quoting *Bethlehem Steel Co. v. New York State Labor Relations Bd., 330 U.S. 767, 774, 91 L. Ed. 1234, 67 S. Ct. 1026 (1947)*) (omission in original). As the Fifth Circuit put it, the difference is between an agency saying "'we haven't looked at [the issue] yet,' rather than, [**34] as Ray requires, 'we haven't done anything because we have determined it is appropriate to do nothing.'" *Missouri P. R.R. v. Texas R.R. Comm'n, 833 F.2d 570, 576 (5th Cir. 1987)*. The record does not show that the FRA's consideration of one-person crews on over-the-road operations has taken on the character of an affirmative decision to do nothing; if and when it does, that decision will preempt sec. 192.25. But until it does, Wisconsin is free to require two-person crews on over-the-road operations.

There are a few more aspects of this case that require further discussion. The first is the preemptive effect of the FRA's Safety Compliance Agreements with Wisconsin Central. The plaintiffs relied on these

agreements to show that the FRA had generally approved one-person crews. As discussed above, the agreements show the FRA was aware that some [*803] railroads used one-person crews for over-the-road movements, but they do not show that the FRA had considered the issue of their safety and affirmatively approved these operations. This does not mean, however, that the agreements are totally without effect, as Wisconsin argues and as the district court seemed to think. The agreements [**35] showed that the FRA had taken jurisdiction over Wisconsin Central's operations in Wisconsin and had set out things the railroad could and could not do. These agreements, then, showed that the FRA had considered Wisconsin Central's operations and approved various aspects of it--including some one-person operations. Under Wisconsin's theory that these agreements had no preemptive effect, Wisconsin could prevent Wisconsin Central from doing precisely what the FRA had told the railroad it could do. The FRA, not Wisconsin, has the "whip hand" in railroad safety regulations, *Shots, 38 F.3d at 307.* The fact that the agreements were temporary and that the FRA was evaluating and revising its position does not mean the agreements are not final dispositions of the FRA's position on the operations expressly covered by the agreements. If a state could prohibit a railroad from doing that which the FRA expressly approved merely because the FRA was permitting the activity as part of an ongoing study of the matter, then the FRA's ability to make informed decisions would be severely curtailed. The FRA's affirmative decision that a specific activity should be permitted, even if just so that [**36] it can be studied, is a final disposition approving the activity. While the Safety Compliance Agreements don't have the broad preemptive effect that the plaintiffs argue for, they do "cover" the subject matter of all operations that they specifically permit.

We have the same view of the preemptive effect of the FRA's 1994 test program for remote control devices. To the extent the FRA approved the use of a remote control device in a particular operation with a one-person crew--apparently the only type of crew that uses such devices--necessarily the FRA had to have approved a one-person crew for that operation. Again, the FRA's more specific conclusion necessarily had to encompass the more general conclusion. Wisconsin argues, and the district court seemed to agree, that because the test program did not apply to all railroads it had no preemptive effect. It did not have the broad preemptive effect the plaintiffs argue for. But the FRA's decision to permit the use of remote control devices by railroads participating in the test program was an affirmative decision to allow those operations specifically covered by the program, and any state requirement prohibiting them would have been [**37] preempted. But an affirmative decision to permit specific operations is not, as the plaintiffs argue, necessarily an affirmative decision to permit all similar operations conducted by railroads not part of the test program. We cannot definitively state what preemptive effect the remote control test program--which is apparently no longer being conducted--would have had on a two-person crew requirement because the record is unclear as to exactly what types of operations were involved. To the extent they were hostling or helper operations, its preemptive effect on a two-person crew requirement is irrelevant because other regulations specifically approved those operations. All that is certain is that to the extent the FRA decided to permit a particular activity as part of the test program, that decision preempted any state requirements on that same subject matter. But as noted, this record does not demonstrate exactly what that extent was.

In response to Wheeling & Lake Erie's request for waivers of certain regulations to conduct remote control operations, the UTU filed a petition for an emergency order banning all remote control operations and the FRA denied that petition. The amici [**38] argue that this denial was an affirmative decision that remote control operations were generally permitted and, necessarily, that one-person crews were as [*804] well. But the record does not give any details about the FRA's deliberations leading to its conclusion to deny the UTU's petition. It is unclear what conclusions the FRA reached in making that decision. Thus, as this record stands the denial of the petition does not necessarily mean that no regulation was appropriate.

In sum, sec. 192.25's two-person crew requirement is preempted for hostling and helper operations. It is also preempted to the extent the FRA through agreements with Wisconsin Central expressly permits that railroad to conduct one-person crew operations.

C. The Severability of sec. 192.25

We have held that nearly all of sec. 192.25 is preempted by federal regulations and orders. The only part remaining is the two-person crew requirement for operations that are neither hostling nor helper service. On appeal, the plaintiffs argue that the statute's provisions are not severable, and so in preempting part we should invalidate the whole. This issue seems not to have been raised in the district court, but neither [**39] Wisconsin nor the UTU argue that this issue was waived so we will address it.

[HN4] Whether invalid provisions in a state law can be severed from the whole to preserve the rest is a question of state law. *Leavitt v. Jane L., 518 U.S. 137, 116 S. Ct. 2068, 2069, 135 L Ed. 2d 443 (1996);*

Brockett v. Spokane Arcades, Inc., 472 U.S. 491, 506, 86 L. Ed. 2d 394, 105 S. Ct. 2794 (1985). Both Leavitt and Brockett involved statutes that were partially invalid because some of their provisions were unconstitutional. We have found no case addressing the severability of a state statute that was partially preempted. We assume for purposes of deciding this case that state law would also govern this issue. Wisconsin's severability law was created by statute:

> The provisions of the statutes are severable. . . . If any provision of the statutes or of a session law is invalid, or if the application of either to any person or circumstance is invalid, such invalidity shall not affect other provisions or applications which can be given effect without the invalid provision or application.

Wis. Stat. sec. 990.001(11). " [HN5] The factors to consider in deciding whether [**40] a statute should be severed from an invalid provision are the intent of the legislature and the validity of the severed portion standing alone." In re Hezzie R. (State v. Hezzie R.), *219 Wis. 2d 848, 580 N.W.2d 660, 665 (Wis. 1998)* (quotation omitted). Section 192.25(3) provides that subsection (2) of the statute, which contains the two-person crew requirement, shall not apply to the extent it is contrary to federal regulations. This provision of course has no practical effect because the Supremacy Clause of the U.S. Constitution makes the statute apply only to the extent it does not conflict with federal law. But it does evidence a legislative intent to keep whatever part of subsection (2) was not preempted. It does not, of course, expressly show an intent to keep a part of subsection (2) when subsection (1) had also been preempted. But we think the intent is clear enough and the purpose of sec. 192.25 is not thwarted by federal preemption of subsection (1). Although the state requirements for crew qualifications are ineffective this does not mean that any miscellaneous person could operate a train in Wisconsin. Subsection (1) is preempted precisely because the FRA has [**41] covered the subject matter of crew qualifications with its extensive regulations. Indeed, the Wisconsin legislature merely adopted the federal standards for engineers and its standards for trainmen are compatible with the federal requirements and certainly less extensive. Thus, we conclude that the remaining parts of sec. 192.25 can be given effect without the preempted parts, and that the legislature so intended. We therefore decline to strike down the statute in its entirety.

III.

In conclusion, the qualification requirements for locomotive engineers in [*805] sec. 192.25(1)(a) and for trainmen in sec. 192.25(1)(b) are preempted. Section sec. 192.25(2)'s requirement that a locomotive engineer be at the controls of a locomotive anytime it moves is also preempted. Section 192.25(2)'s two-person crew requirement is preempted for hostling and helper movements. It is also preempted to the extent that one-person operations are the subject of a Safety Compliance Agreement between Wisconsin Central and FRA. Finally, the preempted portions of the statute are severable from the rest so that those provisions not preempted may stand on their own.

The judgment of the district court is therefore [**42] AFFIRMED IN PART and REVERSED IN PART.