

**PROPOSED AMENDMENTS TO PART 228—HOURS OF SERVICE OF
RAILROAD EMPLOYEES**

For the reasons set forth in the preamble, FRA proposes to amend part 228 of chapter II, subtitle B, title 49 of the Code of Federal Regulations to read as follows:

1. The authority citation for part 228 is revised to read as follows:

Authority: 49 U.S.C. 20103, 20107, 21101-21109; Sec. 108, Div. A, Public Law 110-432, 122 Stat. 4860-4866; 49 U.S.C. 21301, 21303, 21304, 21311; 28 U.S.C. 2461, note; 49 CFR 1.49; and 49 U.S.C. 103.

2. The table of contents of part 228 is revised to add items for new subpart F and new appendix D, to read as follows:

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Subpart F--Substantive Hours of Service Requirements for Train Employees Engaged in
Commuter or Intercity Rail Passenger Transportation

228.401	Applicability.
228.403	Nonapplication, exemption, and definitions.
228.405	Limitations on duty hours of train employees engaged in commuter or intercity rail passenger transportation.
228.407	Analysis of work schedules; submissions; FRA review and approval of submissions.
228.409	Requirements for railroad-provided employee sleeping quarters during interim releases and other periods available for rest within a duty tour.
228.411	Training.
228.413	Compliance date.

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APPENDIX D: GUIDANCE ON FATIGUE MANAGEMENT PLANS

3. Section 228.1 is amended by removing the word "and" at the end of paragraph (a), adding the word "and" at the end of paragraph (b), and adding new paragraph (c), to read as follows:

§ 228.1 Scope.

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(c) Prescribes substantive hours of service requirements for train employees engaged in commuter or intercity rail passenger transportation.

4. Section 228.5 is amended by adding definitions of two additional terms to read as follows:

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Associate Administrator for Railroad Safety/Chief Safety Officer means the Associate Administrator for Railroad Safety/Chief Safety Officer, Office of Railroad Safety, Federal Railroad Administration, 1200 New Jersey Ave., SE., Washington, DC 20590, or any person to whom he or she has delegated authority in the matter concerned.

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FRA means the Federal Railroad Administration.

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5. Part 228 is amended by adding the following new subpart:

Subpart F—Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation

§ 228.401 Applicability.

The requirements of this subpart apply to railroads and their officers and agents, with respect to their train employees who are engaged in commuter or intercity rail passenger transportation.

§ 228.403 Nonapplication, exemption, and definitions.

(a) General. This subpart does not apply to a situation involving any of the following:

- (1) A casualty;
- (2) An unavoidable accident;
- (3) An act of God; or
- (4) A delay resulting from a cause unknown and unforeseeable to a railroad or its officer or agent in charge of the employee when the employee left a terminal.

(b) Exemption. The Administrator may exempt a railroad having not more than a total of 15 train employees, signal employees, and dispatching service employees from the limitations imposed by this subpart on the railroad's train employees who are engaged in commuter or intercity rail passenger transportation. The Administrator may allow the exemption from this subpart after a full hearing, for good cause shown, and on deciding that the exemption is in the public interest and will not affect safety adversely. The exemption shall be for a specific period of time and is subject to review at least annually. The exemption may not authorize a railroad to require or allow its train employees to be on duty more than a total of 16 hours in a 24-hour period.

(c) Definitions. In this subpart—

Commuter or intercity rail passenger transportation has the meaning assigned by section 24102 of title 49, United States Code, to the terms “commuter rail passenger transportation” or “intercity rail passenger transportation.”

Train employee who is engaged in commuter or intercity rail passenger transportation includes (i) a train employee who is engaged in commuter or intercity rail

passenger transportation regardless of the nature of the entity by whom the employee is employed and (ii) any other train employee who is employed by a commuter railroad or an intercity passenger railroad. The term excludes a train employee of another type of railroad who is engaged in work train service even though that work train service might be related to providing commuter or intercity rail passenger transportation.

Type 1 assignment means an assignment to be worked by a train employee who is engaged in commuter or intercity rail passenger transportation that requires the employee to report for duty no earlier than 4:00 a.m. on a calendar day and be released from duty no later than 8:00 p.m. on the same calendar day. For the purposes of this subpart, FRA considers a Type 1 assignment to present an acceptable level of risk for fatigue that does not exceed the defined fatigue threshold under a scientifically valid, biomathematical model of human performance and fatigue specified by FRA at § 228.407(c)(1) or approved by FRA at § 228.407(c)(2) .

Type 2 assignment means an assignment to be worked by a train employee who is engaged in commuter or intercity rail passenger transportation that requires the employee to be on duty for any period of time between 8:01 p.m. on a calendar day and 3:59 a.m. on the next calendar day. A Type 2 assignment that does not exceed the defined fatigue threshold under a scientifically valid, biomathematical model of human performance and fatigue specified by FRA at § 228.407(c)(1) or approved by FRA at § 228.407(c)(2) and does not require the employee to be on duty for any period of time between midnight and 4:00 am may be considered a Type 1 assignment.

§ 228.405 Limitations on duty hours of train employees engaged in commuter or intercity rail passenger transportation.

(a) General. Except as provided in paragraph (c) of this section, a railroad and its officers and agents may not require or allow a train employee engaged in commuter or intercity rail passenger transportation to remain or go on duty—

(1) Unless that employee has had at least 8 consecutive hours off duty during the prior 24 hours; or

(2) After that employee has been on duty for 12 consecutive hours, until that employee has had at least 10 consecutive hours off duty; or

(3) After that employee has initiated an on-duty period each day for six consecutive calendar days including one or more Type 2 assignments, unless that employee has had at least 24 consecutive hours off duty at the employee's home terminal during which time the employee is unavailable for any service for any railroad; except that an employee may either deadhead to the point of final release at the employee's home terminal on a seventh consecutive day or initiate an on-duty period on a seventh consecutive calendar day in order to return to the employee's home terminal, and after arrival at the employee's home terminal the employee must have had at least 24 consecutive hours off duty at the employee's home terminal during which time the employee is unavailable for any service for any railroad before being allowed or required to remain or go on duty; or

(4) After that employee has initiated on-duty periods including only Type 1 assignments in a period of 14 consecutive calendar days, and has not had at least a total of two calendar days in that 14-day period in which the employee has not initiated an on-duty period, until that employee has had at least two consecutive calendar days off duty at the employee's home terminal during which time the employee is unavailable for any

service for any railroad; except that an employee may either deadhead to the point of final release at the employee's home terminal on a fifteenth consecutive day or initiate an on-duty period on a fifteenth consecutive calendar day in order to return to the employee's home terminal, and after arrival at the employee's home terminal the employee must have had at least two consecutive calendar days at the employee's home terminal during which the employee does not initiate an on-duty period, and during which time the employee is unavailable for any service for any railroad, before being allowed or required to remain or go on duty. For the purposes of this paragraph (a)(4), a new 14-day period begins each time the employee has accumulated a total of two calendar days in which the employee has not initiated an on-duty period.

(b) Determining time on duty. In determining under paragraph (a) of this section the time that a train employee subject to this subpart is on or off duty, the following rules apply:

(1) Time on duty begins when the employee reports for duty and ends when the employee is finally released from duty;

(2) Time the employee is engaged in or connected with the movement of a train is time on duty;

(3) Time spent performing any other service for the railroad during a 24-hour period in which the employee is engaged in or connected with the movement of a train is time on duty;

(4) Time spent in deadhead transportation to a duty assignment is time on duty, but time spent in deadhead transportation from a duty assignment to the place of final release is neither time on duty nor time off duty;

(5) An interim period available for rest at a place other than a designated terminal is time on duty;

(6) An interim period available for less than four hours rest at a designated terminal is time on duty; and

(7) An interim period available for at least four hours rest at a place with suitable facilities for food and lodging is not time on duty when the employee is prevented from getting to the employee's designated terminal by any of the following:

(i) A casualty;

(ii) A track obstruction;

(iii) An act of God; or

(iv) A derailment or major equipment failure resulting from a cause that was unknown and unforeseeable to the railroad or its officer or agent in charge of that employee when that employee left the designated terminal.

(c) Emergencies. A train employee subject to this subpart who is on the crew of a wreck or relief train may be allowed to remain or go on duty for not more than four additional hours in any period of 24 consecutive hours when an emergency exists and the work of the crew is related to the emergency. In this paragraph, an emergency ends when the track is cleared and the railroad line is open for traffic.

§ 228.407 Analysis of work schedules; submissions; FRA review and approval of submissions; fatigue mitigation plans.

(a) Analysis of work schedules. Each railroad subject to this subpart must perform an analysis of one cycle of the work schedules (the period within which the work schedule repeats) of its train employees engaged in commuter or intercity rail passenger

transportation and identify those work schedules intended to be assigned to its train employees, that, if worked by such a train employee, put the train employee at risk for a level of fatigue at which safety may be compromised. A level of fatigue at which safety may be compromised, hereafter called "the fatigue threshold," shall be determined by procedures that use a scientifically valid, biomathematical model of human performance and fatigue that has been approved by the Associate Administrator for Railroad Safety/Chief Safety Officer pursuant to paragraph (c)(1) of this section, or previously accepted pursuant to paragraph (c)(2) of this section. Each work schedule that exceeds the fatigue threshold must be--

(1) Reported to the Associate Administrator for Railroad Safety/Chief Safety Officer on FRA Form WXYZ as provided in paragraph (b) of this section, no later than the date that is 180 days after the effective date of the final rule;

(2) Either—

(i) Mitigated by action in compliance with the railroad's fatigue mitigation plan that has been approved by the Associate Administrator for Railroad Safety/Chief Safety Officer as specified in paragraph (b) of this section, no later than the date that is 180 days after the effective date of the final rule; or

(ii) Supported by a determination that has been approved by the Associate Administrator for Railroad Safety/Chief Safety Officer as specified in paragraph (b) of this section, that the schedule is operationally necessary, and that the fatigue risk cannot be sufficiently mitigated by the use of fatigue mitigation tools to reduce the risk for fatigue to a level within the fatigue threshold, no later than the date that is 180 days after the effective date of the final rule; or

(iii) Both, no later than the date that is 180 days after the effective date of the final rule; and

(3) Approved by FRA for use in accordance with paragraph (b) of this section.

(b) Submissions of certain work schedules and any fatigue mitigation plans and determinations of operational necessity or declarations; FRA review and approval. (1)

No later than the date that is 180 days after the effective date of the final rule, using FRA Form WXYZ, the railroad shall submit for approval to the Associate Administrator for Railroad Safety/Chief Safety Officer the work schedules described in subparagraphs (i) and (ii) of this paragraph. The railroad shall identify and group the work schedules as follows:

(i) Work schedules that the railroad has found, using a validated model (as specified in paragraph (c)(1) of this section or approved by FRA in accordance with paragraph (c)(2) of this section) to present a risk for a level of fatigue that is at or greater than the fatigue threshold, but that the railroad has determined can be mitigated by the use of fatigue mitigation tools so as to present a risk for a level of fatigue that is less than the fatigue threshold. The fatigue mitigation tools that will be used to mitigate the fatigue risk presented by the schedule must also be submitted.

(ii) Work schedules that the railroad has found, using a validated model (as specified in paragraph (c)(1) of this section or approved by FRA in accordance with paragraph (c)(2) of this section), to present a risk for a level of fatigue that is at or greater than the fatigue threshold, but that the railroad has determined cannot be mitigated so as to present a risk for a level of fatigue that is less than the fatigue threshold by the use of

fatigue mitigation tools, and that the railroad has determined are operationally necessary. The basis for the determination must also be submitted.

(2) If a railroad performs the analysis of its schedules required by paragraph (a) of this section, and determines that none of them presents a risk for fatigue that requires it to be submitted to the Associate Administrator for Railroad Safety/Chief Safety Officer pursuant to this paragraph, that railroad shall, no later than the date that is 180 days after the effective date of the final rule, submit to the Associate Administrator for Railroad Safety/Chief Safety Officer a written declaration, signed by an officer of the railroad, that the railroad has performed the required analysis and determined that it has no schedule that is required to be submitted.

(3) FRA will review submitted work schedules, fatigue mitigation tools, and determinations of operational necessity. If FRA identifies any exceptions to the submitted information, the agency will notify the railroad within 120 days of receipt of the railroad's submission.

(4) FRA will audit railroad work schedules and fatigue mitigation tools every two years to ensure compliance with this section.

(c) Submission of models for FRA approval; validated models already accepted by FRA. (1) If a railroad subject to this subpart wishes to use a model of human performance and fatigue, not previously approved, for the purpose of making part or all of the analysis required by paragraph (a) or (d) of this section, the railroad shall submit the model and evidence in support of its scientific validation, for the approval of the Associate Administrator for Railroad Safety/Chief Safety Officer. Decisions of the

Associate Administrator for Railroad Safety/Chief Safety Officer regarding the validity of a model are subject to review under § 211.55 of this chapter; or

(2) A railroad may use a model that is already accepted by FRA. FRA has approved the Fatigue Avoidance Scheduling Tool™ (FAST) issued on July 15, 2009 by Fatigue Science, Inc., and Fatigue Audit InterDyne™ (FAID) version 2, issued in September 2007 by InterDynamics Pty Ltd. (Australian Company Number (ACN) 057 037 635) as scientifically valid, biomathematical models of human performance and fatigue for the purpose of making the analysis required by paragraph (a) or (d) of this section.

(d) Analysis of certain later changes in work schedules. (1) Additional follow-up analysis must be performed each time that the railroad changes one of its work schedules in a manner—

(i) That would differ from the FRA-approved parameters for hours of duty of any work schedule previously analyzed pursuant to paragraph (a) of this section; or

(ii) That would alter the work schedule to the extent that train employees who work the schedule may be at risk of experiencing a level of fatigue that exceeds the FRA-approved fatigue threshold established by paragraph (a) of this section.

(2) Such additional follow-up analysis must be submitted for FRA approval as provided under paragraph (b) of this section, as soon as practicable, prior to the use of the new schedule for an employee subject to this subpart.

(e) Fatigue mitigation plans. A written plan must be developed and adopted by the railroad to mitigate the potential for fatigue for any work schedule identified through the analysis required by § 228.407(a) or (d) as at risk, including potential fatigue caused

by unscheduled work assignments. Compliance with the fatigue mitigation plan is mandatory. The railroad shall review and, if necessary, update the plan at least once every two years after adopting the plan.

(f) Consultation. (1) Each railroad subject to this subpart shall consult with, employ good faith, and use its best efforts to reach agreement with, all of its directly affected employees, including any nonprofit employee labor organization representing a class or craft of directly affected employees of the railroad, on--

(i) The railroad's review of work schedules found to be at risk for a level of fatigue at which safety may be compromised (as described by paragraph (a) of this section;

(ii) The railroad's selection of appropriate fatigue mitigation tools; and

(iii) All submissions by the railroad to the Associate Administrator for Railroad Safety/Chief Safety Officer for approval that are required by this section.

(2) For purposes of this section, the term "directly affected employee" means an employee to whom one of the work schedules applies or would apply if approved.

(3) If the railroad and its directly affected employees, including any nonprofit employee labor organization representing a class or craft of directly affected employees of the railroad, cannot reach consensus on any area described in paragraph (f)(1) of this section, then directly affected employees and any such organization may file a statement with the Associate Administrator for Railroad Safety/Chief Safety Officer explaining their views on any issue on which consensus was not reached. The Associate Administrator for Railroad Safety/Chief Safety Officer shall consider such views during review and approval of items required by this section.

§ 228.409 Requirements for railroad-provided employee sleeping quarters during interim releases and other periods available for rest within a duty tour.

(a) If a railroad subject to this subpart provides sleeping quarters for the use of a train employee subject to this subpart during interim periods of release as a method of mitigating fatigue identified by the analysis of work schedules required by § 228.407(a) and (d), such sleeping quarters must be “clean, safe, and sanitary,” and give the employee “an opportunity for rest free from the interruptions caused by noise under the control of the” railroad within the meaning of section 21106(a)(1) of title 49 of the United States Code.

(b) Any sleeping quarters provided by a railroad that are proposed as a fatigue mitigation tool pursuant to § 228.407(b)(1)(ii), are subject to the requirements of § 228.407(f).

§ 228.411 Training.

(a) Individuals to be trained. Each railroad subject to this subpart shall provide training for its employees subject to this subpart, and the immediate supervisors of its employees subject to this subpart.

(b) Subjects to be covered. The training shall provide, at a minimum, information on the following subjects that is based on the most current available scientific and medical research literature:

(1) Physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue;

(2) Opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders;

(3) Alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty;

(4) Opportunities to obtain restful sleep at lodging facilities, including employee sleeping quarters provided by the railroad; and

(5) The effects of abrupt changes in rest cycles for employees.

(c) Timing of initial training. Initial training shall be provided to affected employees as soon as practicable, and to new employees subject to this subpart within 90 days of their first working a schedule subject to analysis under this subpart.

(d) Timing of refresher training. (1) At a minimum, refresher training shall be provided every three calendar years.

(2) Additional refresher training shall also be provided when significant changes are made to the railroad's fatigue mitigation plan or to the available fatigue mitigation tools applied to an employee's assignment or assignments at the location where he or she works.

(e) Records of training. A railroad shall maintain a record of each employee provided training in compliance with this section and shall retain these records for three years.

§ 228.413 Compliance date.

(a) General. On and after the date that is 180 days after the effective date of the final rule, railroads subject to this subpart shall--

(1) Comply with this subpart with respect to their train employees who are engaged in commuter or intercity rail passenger transportation; and

(2) Be exempt from complying with the provisions of old section 21103 and new section 21103 for such employees.

(b) Definitions. In this section—

(1) The term “new section 21103” means section 21103 of title 49, United States Code, as amended by the Rail Safety Improvement Act of 2008 effective July 16, 2009.

(2) The term “old section 21103” means section 21103 of title 49, United States Code, as it was in effect on the day before the enactment of that Act.

6. Part 228 is amended by adding new Appendix D to read as follows:

APPENDIX D: GUIDANCE ON FATIGUE MANAGEMENT PLANS

Railroads subject to subpart E of this part, Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation, may wish to consider adopting a written fatigue management plan that is designed to reduce the fatigue experienced by their train employees subject to that subpart and to reduce the likelihood of accidents, incidents, injuries, and fatalities caused by the fatigue of these employees. If a railroad is required to have a fatigue mitigation plan under § 228.407 (containing the fatigue mitigation tools that the railroad has determined will mitigate the risk posed by a particular work schedule for a level of fatigue at or above the fatigue threshold), then the railroad’s fatigue management plan could include the railroad’s written fatigue mitigation plan, designated as such to distinguish it from the part of the plan that is optional, or could be a separate document. As provided in § 228.407(a)(2) and (e), compliance with the fatigue mitigation plan itself is mandatory.

A good fatigue management plan contains targeted fatigue countermeasures for

the particular railroad. In other words, the plan takes into account varying circumstances of operations by the railroad on different parts of its system, and should prescribe appropriate fatigue countermeasures to address those varying circumstances. In addition, the plan addresses each of the following items, as applicable:

(1) Employee education and training on the physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue, based on the most current scientific and medical research and literature;

(2) Opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders;

(3) Effects on employee fatigue of an employee's short-term or sustained response to emergency situations, such as derailments and natural disasters, or engagement in other intensive working conditions;

(4) Scheduling practices for employees, including innovative scheduling practices, on-duty call practices, work and rest cycles, increased consecutive days off for employees, changes in shift patterns, appropriate scheduling practices for varying types of work, and other aspects of employee scheduling that would reduce employee fatigue and cumulative sleep loss;

(5) Methods to minimize accidents and incidents that occur as a result of working at times when scientific and medical research has shown that increased fatigue disrupts employees' circadian rhythm;

(6) Alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty;

(7) Opportunities to obtain restful sleep at lodging facilities, including employee

sleeping quarters provided by the railroad;

(8) The increase of the number of consecutive hours of off-duty rest, during which an employee receives no communication from the employing railroad or its managers, supervisors, officers, or agents; and

(9) Avoidance of abrupt changes in rest cycles for employees.

Finally, if a railroad chooses to adopt a fatigue management plan, FRA suggests that the railroad review the plan and update it periodically as the railroad sees fit if changes are warranted.