U.S. Department of Transportation
Federal Railroad Administration

Administrator

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Federal Railroad Administration's Response to the Petitions for Reconsideration of its Final Rule on the Hours of Service of Railroad Employees, 76 FR 50360 (Aug. 12, 2011)

1. Introduction

The Federal Railroad Administration (FRA) received two petitions for reconsideration of its final rule establishing hours of service requirements for train employees providing commuter and intercity rail passenger transportation, published at 76 FR 50360 on August 12, 2011 (Final Rule). One petition was filed jointly by the Association of American Railroads (AAR) and the American Public Transportation Association (AAR/APTA Petition). The second petition was filed by the Southeastern Pennsylvania Transportation Authority (SEPTA Petition).[1] FRA denies both petitions (collectively, the Petitions) for the reasons discussed below.

The Final Rule requires that some work schedules for train employees providing commuter and intercity rail passenger transportation be analyzed using an approved biomathematical model of human performance and fatigue (fatigue model), and provides additional requirements for schedules that violate the model-specific fatigue threshold. The Final Rule provides that two models have been approved for the analysis required by the Final Rule: the Fatigue Avoidance Scheduling Tool™ (FAST) and Fatigue Audit

[1] The SEPTA Petition was styled by SEPTA as "Comments" on the Final Rule. FRA procedural regulations at 49 C.F.R. part 211 do not contain a provision providing for comments on a final rule; therefore, the SEPTA Petition is being treated as a petition for reconsideration under 49 C.F.R. § 211.29.

InterDyne™ (FAID). The Petitions argue that FRA erred in establishing a fatigue threshold for FAID, and assert that the fatigue threshold in the rule should be replaced with the proposed alternative. Similar arguments were also made in comments on FRA's proposed rule, which was published at 76 FR 16200 (Mar. 22, 2011) (Proposed Rule), and FRA addressed these arguments in response to those comments in the promulgation of the Final Rule. Final Rule at 76 FR 50378-79. FRA denies this aspect of the petitions for the reasons discussed in the Final Rule as well as in this document.

The AAR/APTA Petition also requests that the Final Rule be amended on the basis of alleged failure to properly calculate the costs of the rule. FRA denies this aspect of the Petition, as the costs and benefits of the rule were properly calculated, as further discussed below.

The Petitions also request clarifications on how the rule will be applied to certain situations. The arguments in support of these requests do not provide a reason why "compliance with the rule is not possible, is not practicable, is unreasonable, or is not in the public interest," within the meaning of 49 C.F.R. § 211.29(a). While FRA denies the Petitions as to these subjects, the issues raised by the Petitions are discussed in more detail below.

2. Fatigue Threshold of FAID Model

The Final Rule establishes a fatigue threshold for the FAID biomathematical model of performance and fatigue as a FAID score of greater than or equal to 72 for 20 percent or more of the time worked in a duty tour (FAID score of 72). 49 C.F.R. § 228.407(c)(2). The Petitions request that FRA replace the FAID score of 72 for the FAID fatigue threshold with a FAID score of 90. The AAR/APTA Petition requests that FRA change the FAID fatigue threshold permanently and relies heavily on a report by

Dr. Patrick Sherry, "Preliminary Results of FAST-FAID Calibration Study" (Sherry Report), which FRA considered as a comment on the Proposed Rule prior to FRA's promulgation of the Final Rule. The SEPTA Petition instead requests that the FAID score for the fatigue threshold be adjusted temporarily (also to a score of 90) to provide an opportunity for more review of FRA's calibration of the FAID fatigue model. FRA believes that the determination in the Final Rule of an appropriate fatigue threshold for the FAID fatigue model is well supported and that neither the Sherry Report, nor SEPTA's bare assertions that a more lenient threshold might later be justified are sufficient cause to change the threshold. The Sherry Report specifically does not provide reliable evidence that the threshold should be changed due to issues with the methodology of the report, incorrect statements in the report concerning the results of the FAID calibration study, and the failure of the report to adequately explain the processes used and decisions made in reaching its conclusions.

FRA has several concerns regarding the overall methodology presented in the Sherry Report. First, the 101 work schedules analyzed in the Sherry Report are taken from a pool of all schedules. However, the purpose of establishing a fatigue model threshold is to identify the point at which the risk of a human factors accident involving people working certain types of schedules begins to increase. This threshold point, for the purpose of the Final Rule, is used to determine those schedules where safety may be compromised. Specifically, the threshold is used to identify those schedules where the risk of a fatigue-related accident is greater than that of chance. The Sherry Report did not look at accident data, nor did the report focus on schedules that might be identified as particularly fatiguing. The Final Rule is concerned with the threshold beyond which

safety may be compromised. Although information regarding the fatigue scores for all schedules may be useful to the railroad industry in other ways, this data does not provide insight into the risk of a fatigue-related accident. As FRA has previously stated in its response to the AAR comments on the Proposed Rule relying upon the Sherry Report,

> the analysis that they provided uses statistics, rather than fatigue science, to equate a FAST score of 70 with a FAID score of 90, based on where the effectiveness scores produced in the analyzed schedules were clustered. FRA does not believe that this is an appropriate basis for establishing a threshold for the purposes of this rulemaking.

Final Rule at 76 FR 50378.

An additional methodological concern with the Sherry Report is how the schedule data were chosen. Although the AAR/APTA Petition indicates that the sample was a random sample "covering shifts throughout the day," neither the Petition nor the original Sherry Report discloses how the sample size was chosen, what method of random sampling was used, or how the overall population was determined. Moreover, as discussed above, even a sample covering shifts throughout the day may not be sufficient to determine those schedules that may indicate an increased risk for a fatigue-related accident. In the absence of this information, it is impossible to determine the underlying population whose work schedules were the source of the data in the Sherry Report and if the data are a representative sample of that population.

FRA also has concerns regarding the methodology used to generated the sample in the Sherry Report, as the percentages of morning, afternoon, and night start times shown in the report do not coincide with the percentages of start times obtained from the Gertler and DiFiore (2009) report, "Work Schedules and Sleep Patterns of Railroad Train

and Engine Service Employees in Passenger Operations" (Diary Study). For the Diary Study, the United Transportation Union (UTU) and Brotherhood of Locomotive Engineers and Trainmen (BLET) distributed study packets to their members. A 41-percent response rate was reached for the study. As part of the data analysis for the Diary Study, the data were examined for response biases and there were no non-response biases observed in the data – thus indicating the sample returned was representative of the population. FRA compared the start times from the Diary Study data to the start times in the Sherry Report data using the definitions of morning, afternoon, and night starts provided in the Sherry Report. Using the Sherry Report's definitions, the FRA Diary Study reported approximately 38.01 percent of morning start times compared to 61 percent morning start times in the Sherry Report. Afternoon start times were reported at 54.08 percent in the FRA Diary Study and 36 percent in the Sherry Report. Night start times were reported at 7.89 percent in the FRA Diary Study and 3 percent in the Sherry Report. Upon analysis, these differences were statistically significant ($\chi^2(2) = 765.83$, $p < .001$). This disparity between start times reported in the FRA Diary Study and the Sherry Report raises further concerns about the validity and representativeness of the Sherry Report sample.

In addition to the lack of congruence between these two samples, the Sherry Report binning of the schedules is problematic. In the report, morning schedules are listed with on-duty times between 3:30 AM and 10:00 AM and off-duty times between 11:30 AM and 10:00 PM. Afternoon schedules are listed with on-duty times between 10:00 AM and 9:00 PM and off-duty times between 1:00 PM and 3:00 AM. Finally, night schedules are listed with on-duty times between 9:30 PM and 3:30 AM and off-duty

times between 7:00 AM and 9:30 AM. There is a great deal of overlap between the on-duty and off-duty periods of the bins, so that, for example, a schedule with an on-duty time of 10:00 AM could be counted as a morning schedule, an afternoon schedule, or both. In addition, there is not a clear separation between schedules classified by the Final Rule as Type 1 schedules and schedules classified by the Final Rule as Type 2 schedules, as all data bins include some schedules that would be classified as Type 2 schedules. Sherry Report at 6.

In addition to the methodological issues discussed above, FRA has also discovered several factual errors, inconsistencies, and misrepresentations in the Sherry Report. For instance, the Sherry Report states, "Examining the means for FAST and FAID reported in the Tabac [sic] & Raslear (2010) study on page 16, the mean of FAST and FAID is 69 and 59 respectively." Sherry Report at 9. There is no such information found on page 16 of the Tabak and Raslear (2010) report "Procedures for Validation and Calibration of Human Fatigue Models: The Fatigue Audit InterDyne Tool" (FAID Report). While the information is not present in the FAID Report, FRA has calculated the means, which are not 69 and 59, as stated in the Sherry Report, but rather 71.5 and 45.1, respectively.

The Sherry Report also misrepresents the goal of calibration of a model by stating, "[t]he goal of a calibration study is to show that the two models are in fact related mathematically." Sherry Report at 7. This was not the goal of the validation and calibration studies. The FAID Report defines "calibration" as follows:

> the assignment of numerical values to represent aspects of empirical observations. In the case of human fatigue and performance, the calibration of a fatigue scale would start with the assignment of values to a well-rested or "Not Fatigued" state and to the most fatigued condition or "Severely Fatigued."

FAID Report at 1. The FAID Report also provides the *Webster's New Collegiate Dictionary* definition of calibration as "a set of graduations to indicate values or positions." FAID Report at 5. The mathematical relationship of two models is typically demonstrated via correlational analysis. This confusion of terms may have led to the Sherry Report's expressed concern with the use of data bins in the FAID report rather than correlating raw data.

The Sherry Report also mischaracterizes the nature of the analysis performed in the FAID Report, stating, "[s]ince accidents are so rare in the industry it is clear that theirs was an unusual data set." Sherry Report at 9. The FAID Report did not use a data set for analysis, but rather used the entire population of accidents over a 2½-year period. The Sherry Report also erroneously states on page 5 that most of the accident data provided by the Hursh, Raslear, Kaye, and Fanzone (2006) report "Validation and Calibration of a Fatigue Assessment Tool for Railroad Work Schedules" (FAST Report) falls between 11 p.m. and 5 a.m. However, Figures 2 and 3 of the FAST Report on pages 12 and 13 show that most of the accident data in the report are not between the hours of 11 p.m. and 5 a.m.

FRA also noticed some statistical inconsistencies and anomalies in the Sherry Report. The sample size (n) changes throughout the statistical analyses described in the Sherry Report. It is not uncommon for different analyses of a sample to have different sample sizes or degrees of freedom due to data errors or missing data. However, when this occurs, it is customary to report why the differences in sample size or degrees of freedom exist in the data. Without this information, a conclusion cannot be drawn as to whether missing values are the result of data errors and missing values, or the result of

"cherry picking" data points by removing data points in an effort to make a stronger statistical argument.

An additional anomaly results from the Sherry Report's conclusion that the underlying relationship between FAST and FAID is not linear but rather curvilinear. Sherry Report at 8. In the discussion of the regression analysis calculated to predict FAST scores from FAID scores using the Sherry Report data, Dr. Sherry determined that the cubic equation is the model that best fits the data. However, the linear model accounts for 53.1 percent of the variance, whereas the cubic model accounts for 55.9 percent of the variance. The Sherry Report details neither why a curvilinear relationship between the models is more appropriate nor why a difference of 2.8 percent of the variance is deemed sufficient to violate the principle of parsimony, which requires as part of sound model design that additional parameters be added to a model only to the extent necessary. The Sherry Report offers no justification for why Dr. Sherry concluded that four parameters was the correct number compared to two or three parameters.

A similar anomaly exists on page 10 of the Sherry Report, where a normal curve is fit onto the data in the FAST histogram.[2] Figure 1 is from page 10 of the Sherry Report. Certain aspects of the figure have been labeled to illustrate problems with the interpretation presented of the figure in the Sherry Report. The label "A" shows the

[2] "Histogram" means "a diagram consisting of rectangles whose area is proportional to the frequency of a variable and whose width is equal to the class interval." Oxford Dictionaries, Oxford University Press (April 2010).

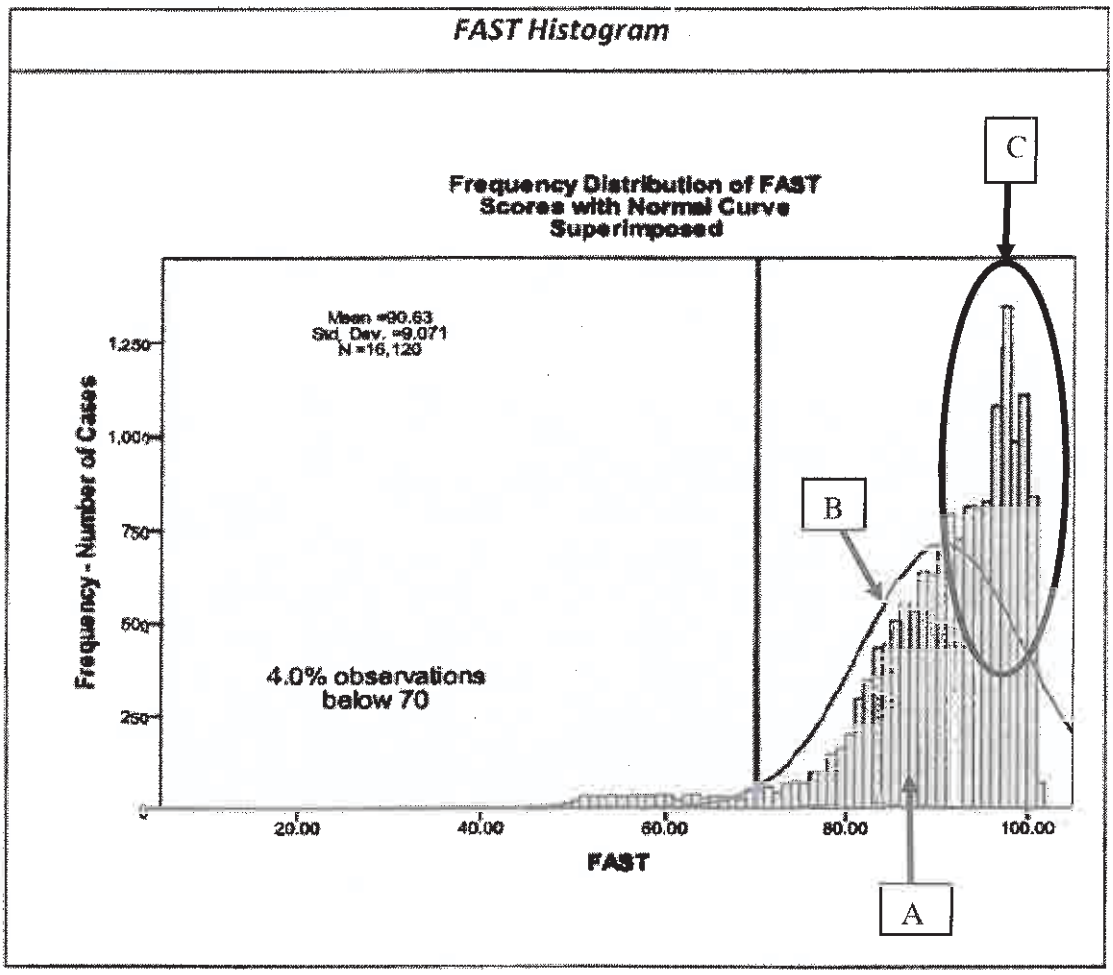

Figure 1. The graphic from page 10 of the Sherry Report.

histogram of the frequency distribution of FAST scores. Note that the histogram bars tend to increase in height (frequency) as the FAST score increases from a value of 70 to a value near 100. The label "B" shows the normal distribution curve that has been drawn to theoretically represent the FAST histogram, "A." Note that the normal distribution curve has a height (frequency) near zero at FAST scores below 60. Above 60, the normal distribution curve increases until it reaches a peak of about 700 at a FAST score of approximately 90. At FAST scores above 90, the normal distribution curve decreases steadily. By contrast, as can be seen in the part of the graphic labeled "C," the FAST histogram continues to increase to a peak value of more than 1250 at FAST scores above

90. A normal distribution clearly does not resemble the FAST histogram. In fact, visual inspection of the histogram suggests that the FAST data are distributed as a power function rather than a normal distribution. Also, a visual inspection of the data plot presented on page 9 of the Sherry Report that details the relationship between FAST and FAID in commuter rail work schedules suggests that the data represent two separate populations rather than a single population. Figure 2 shows the graphic from page 9 of the Sherry Report. Figure 3 shows the same graphic with labels to illustrate the point that there appear to be two distinguishable clusters of data points in the graphic.

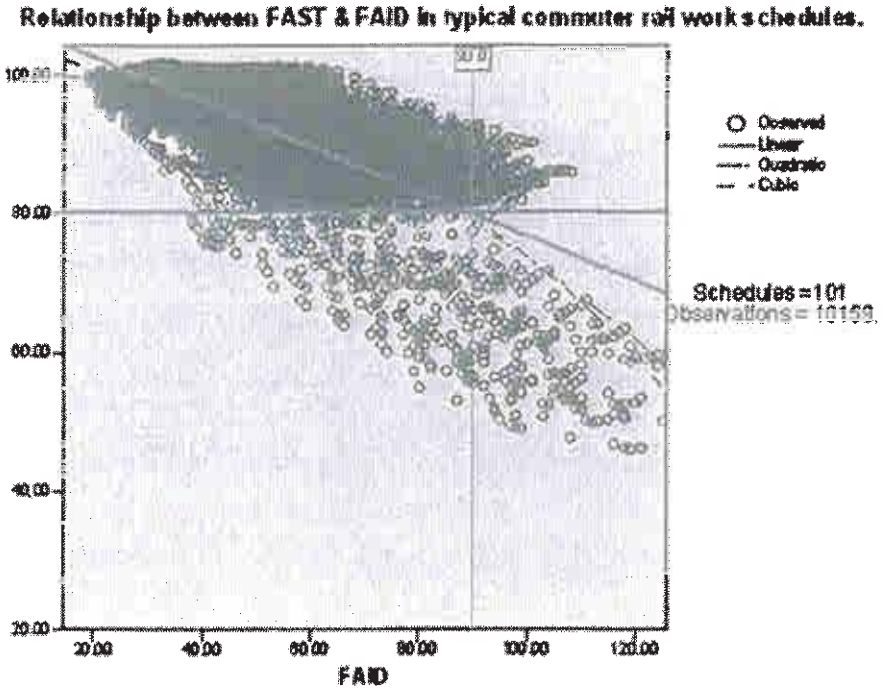

Figure 2. Graphic from page 9 of the Sherry Report.

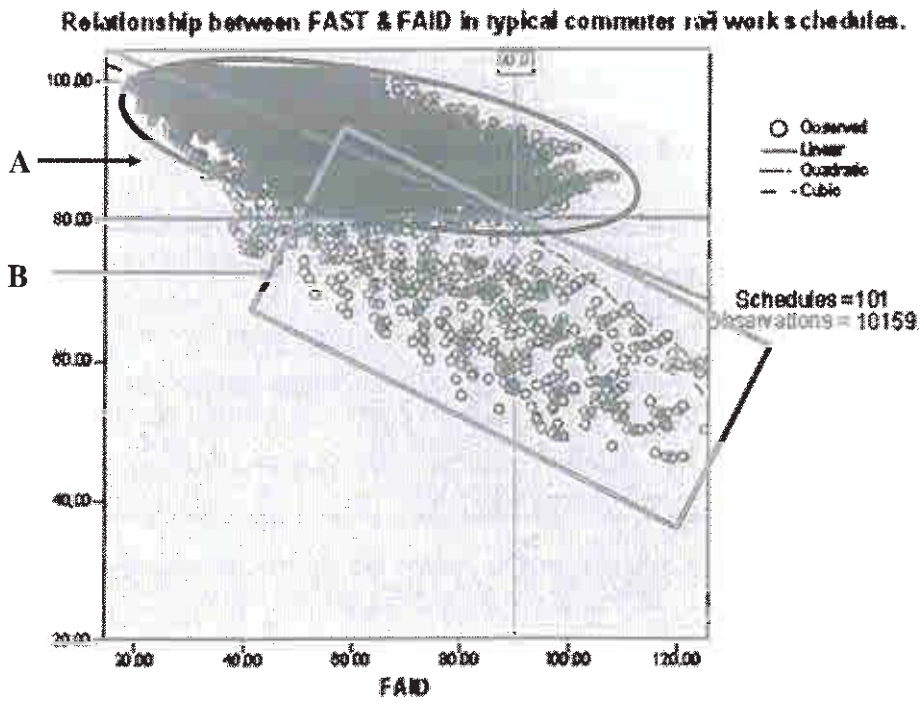

Figure 3. Same as Figure 2, but with labels to indicate two distinct clusters of data points.

Visual examination of Figure 2 and Figure 3 indicates, clearly, that there are two distinct groups of data points in this graphic. Label "A" shows a dense cluster of points with an approximately oval shape that extends from a FAST score of 80 to 100 on the ordinate (y-axis) and from a FAID score of 20 to 110 on the abscissa (x-axis). Label "B," by contrast, is far less dense and has a rectangular shape. The extent of overlap with "A" is indeterminate, but "B" extends down to a FAST score of 50 and a FAID score of more than 120. There are very few high fatigue scores, and these are all in the "B" cluster. This suggests an inhomogeneous data set with a population that has fatigue "B," and a population that has very little fatigue "A." It is also evident from this data plot that the data used in the Sherry Report did not include enough schedules at risk for fatigue for analysis.

In the Final Rule, FRA noted these issues with the Sherry Report, in response to the comments on the Proposed Rule that relied on that report. As explained in both the Final Rule and in this response, the Sherry Report shows numerous problems with methodology, factual errors and misrepresentations, and statistical inconsistencies and anomalies. Such a report does not make a compelling, sound scientific argument for disturbing the scientific judgment of FRA that the appropriate fatigue threshold for the FAID model is a FAID score of 72, and that a score greater than or equal to 72 for 20 percent or more of the time worked in a duty tour will violate the threshold for the purposes of the Final Rule.

By similar reasoning, FRA also rejects the suggestion of the SEPTA Petition that the fatigue threshold for the FAID model be relaxed temporarily to allow for additional time to analyzing the fatigue threshold of 72, which FRA justified by the FAID Report. While FRA remains open to new evidence that might suggest changing the fatigue threshold for an existing, FRA-approved fatigue model, and has established a process to provide for the FRA approval of a new fatigue model, the mere potential for new scientific evidence to be developed in the future is insufficient justification for ignoring the existing evidence, which FRA concludes supports the Final Rule's existing fatigue threshold for FAID of 72.

3. Assessment of Costs

The AAR/APTA Petition asserts that FRA has failed to consider the distributional impacts of the Final Rule in determining the appropriate fatigue threshold for the FAID model. The Petition references a statement made during the meetings of the Railroad Safety Advisory Committee working group involved in the rulemaking that led to the Final Rule, but mischaracterizes the question that was asked and the answer that was

provided. When asked during the RSAC working group if FRA could obtain, for itself, a license to distribute FAST to all publicly-owned passenger railroads, FRA stated that the cost of such a wide license to FRA would be too high for the agency. However, AAR and APTA do not consider the fact that the cost of a license for FRA to distribute the fatigue model would be higher than the cost of a license for an individual railroad or group of railroads to use the fatigue model.

AAR and APTA also assert that FRA failed to consider the costs of acquiring a model. However, despite noting that the costs of acquiring a license to use one of the models are transfer payments that are not generally included within the cost/benefit analysis of a final rule under Office of Management and Budget procedures for conducting such analyses, FRA did properly consider the distributional impacts of requiring railroads to have access to a fatigue model in order to perform the necessary analysis of work schedules. FRA's research indicates that the fatigue models will be available to railroads for far less than the amount suggested by APTA in its comments on the Proposed Rule and that the distributional effects are not unreasonable. Final Rule at 76 FR 50378-79.

FRA also rejects the contention of AAR and APTA that the agency has structured the rule such that a more expensive model (FAST) is preferable to a less expensive model (FAID) without adequate justification. This assertion is related to the claims made by AAR and APTA, discussed above, with regard to the FAID threshold, discussed above. In determining the FAID model's fatigue threshold, FRA ultimately established the threshold at the point where there is only a one-percent chance of a false positive (i.e., a schedule violates the fatigue threshold of the FAID model while not actually posing a risk

for the level of fatigue indicated by the threshold). As discussed above, FRA does not find the Sherry Report persuasive in its argument that the FAID threshold is incorrectly established at a FAID score of 72 rather than 90. Accordingly, FRA does not have a basis for concluding that it has made the ostensibly more expensive model (FAST) preferable under the regulation to the ostensibly less expensive model (FAID). To the extent that one model is preferable to another as a result of the calculation of a fatigue threshold, that result is a consequence of the model's design rather than FRA's Final Rule.

4. Application of Limitation on the Number of Consecutive Calendar Days that an Employee May Initiate One or More Type 2 Assignments (49 C.F.R. § 228.405(a)(3)(ii))

In the SEPTA Petition, the railroad discusses the application of § 228.405 (a)(3)(ii), which is the limitation on the number of consecutive calendar days of initiating an on-duty assignment for employees working one or more Type 2 assignments. SEPTA's concern is that the provision requires an employee to have 24 consecutive hours free from any service for any railroad carrier after initiating an on-duty period each day on any six or more consecutive days. A copy of § 228.405(a) is attached for ready reference at the appendix to this response to the Petitions. SEPTA argues that § 228.405(a)(3)(ii) could require an employee to have the required off-duty period repeatedly, if the employee initiates an on-duty period on a seventh or subsequent consecutive calendar day after having the required 24 hours of time off duty. For instance, an employee who initiates an on-duty period each day for six consecutive calendar days, with the final duty tour running from 1:00 a.m. to 9:00 a.m., is be required to have 24 hours of time off duty free from any service for any railroad carrier. If this employee were to receive this time off duty immediately, he or she would be eligible to

report for duty as soon as 9:00 a.m. on the next calendar day. The initiation of such a duty tour–or any duty tour prior to midnight on that seventh consecutive calendar day–would be consecutive with the prior calendar days, despite the 24 hours of time off duty. SEPTA expresses concern that the regulation might be construed to require this employee to have another 24 hours of time off duty after this seventh consecutive day.

FRA does not construe § 228.405(a)(3)(ii) to require an employee to have a second 24-hour off-duty period, when the employee has had the required 24-hour off-duty period, and then initiates an on-duty period in a calendar day consecutive to the series of calendar days in which the employee had initiated previous on-duty periods triggering the 24-hour rest requirement. FRA understands the series of six or more consecutive calendar days (but not the series of at-most 14 consecutive calendar days) to be exhausted by the employee's receiving the required 24 hours of time off duty after the requirement is triggered by the employee's initiating an on-duty period on six or more consecutive calendar days including one or more Type 2 assignments.

SEPTA's concern appears to be grounded in the language requiring the off-duty period after initiating an on-duty period "on any six or more consecutive calendar days." However, this language exists to resolve the issues discussed in the preamble relating to an employee working a Type 2 assignment after working six or more Type 1 assignments on prior consecutive calendar days, with or without a full calendar day off duty earlier in the series of at-most 14 consecutive calendar days. As was indicated in the preamble, such an employee would be required to receive 24 hours off duty after working the Type 2 assignment. However, FRA will not construe the language to imply that the sequence

of six calendar days under § 228.405(a)(3)(ii) may continue after an employee has the 24 hours of time off duty required by that section.

5. Application of Application of Limitation on the Number of Consecutive Calendar Days that an Employee May Initiate an On-Duty Period in a Period of At-most 14 Consecutive Calendar Days (49 C.F.R. 228.405(a)(3)(iii) (Section 228.405(a)(3)(iii))

The SEPTA Petition also addresses the broader consecutive-days limitation in § 228.405(a)(3)(iii), which requires that if an employee reaches the end of a series of at-most 14 consecutive calendar days without having two calendar days on which the employee did not initiate an on-duty period, the employee must, before going on duty again as a train employee, have two consecutive calendar days without initiating an on-duty period and free from any service for any railroad carrier. The specific issue raised by the SEPTA Petition relates to the application of the regulation when an employee initiates an on-duty period each day for 13 consecutive calendar days and does not initiate an on-duty period on the 14th day in the series of at-most 14 consecutive calendar days.

The regulation requires that, because the employee did not have a total of two calendar days free from initiating an on-duty period during the series of at-most 14 consecutive calendar days, the employee must have at least two consecutive calendar days on which he or she does not initiate an on-duty period prior to next initiating an on-duty period. However, while the regulation specifies that these two calendar days must be consecutive, must be at the employee's home terminal, and must be free from any service by the employee for any railroad carrier, the regulation does not explicitly specify whether the two consecutive calendar days must both be after the conclusion of the series of at-most 14 consecutive calendar days, and therefore does not squarely address the hypothetical presented in the SEPTA Petition. SEPTA expresses concern that FRA may

require that the two consecutive calendar days free from initiating an on-duty period follow the conclusion of the series of at-most 14 consecutive calendar days, such that the employee's 14th day, which, in SEPTA's hypothetical, would be free of initiating an on-duty period, would not be counted towards the fulfillment of § 228.405(a)(3)(iii)'s requirement. If this were the case, an employee in the situation discussed by SEPTA would actually be required to have three consecutive calendar days in which that employee does not initiate an on-duty period; i.e., the 14th day of the at-most 14 consecutive calendar days, plus the following two consecutive calendar days).

FRA reads § 228.405(a)(3)(iii) to allow one of the two consecutive calendar days free from initiating an on-duty period to be within the series of at-most 14 consecutive calendar days; as a result, in the hypothetical presented by the SEPTA Petition, an employee who initiates an on-duty period on 13 consecutive calendar days could count the 14th consecutive calendar day, on which he or she does not initiate an on-duty period, as one of the two calendar days required by § 228.405(a)(3)(iii). As SEPTA describes, an alternative interpretation requiring the days free of initiating an on-duty period to follow the expiration of the series of at-most 14 consecutive calendar days would result in employees who initiate more on-duty periods needing less time off duty in order to next report for duty. In other words, an employee who initiated an on-duty period on each of the calendar days of a period of 14 consecutive calendar days would, at the end of the duty tour that began on the 14th consecutive calendar day, only be required to have two calendar days without initiating an on-duty period, while an employee who initiated on-duty periods on the first 13 calendar days of the same 14-day period, but did not initiate on on-duty period on the 14th calendar day, would have to have three calendar days

without initiating an on-duty period. The purpose of the Final Rule is to provide protection against fatigue, and FRA has no desire to interpret it in such a way as to provide less time to recuperate from fatigue for employees who, all other factors being equal, have initiated a greater number of on-duty periods.

It must be emphasized, however, that the only circumstances that allow for this result are those presented by the SEPTA Petition. If an employee initiates an on-duty period on 13 days out of the series of at-most 14 consecutive calendar days, but the day free from an initiation of an on-duty period is not the final day in the series, the employee is required to have two consecutive days without initiating an on-duty period at the end of the series of at-most 14 consecutive days, because the employee has not had two days free from initiating an on-duty period within the series. The day that was free from initiating an on-duty period earlier in the series cannot count as one of the required days, as it would not be consecutive with a second day without initiating an on-duty period, which occurs at the end of the series. Similarly, if an employee initiates an on-duty period for 12 or fewer consecutive days, with two days free of initiating an on-duty period within the series of at-most 14 consecutive calendar days, that employee is not required to have time off duty by § 228.405(a)(3)(iii), regardless of whether the two days free from initiating an on-duty period were consecutive, and a new series of 14 days begins after the second day in which an on-duty period is not initiated.

6. Transportation of Passengers for "Business Purposes"

The AAR/APTA Petition requests clarification of how the rule will apply to circumstances where a freight railroad transports "business cars" carrying individuals such as railroad personnel, labor representatives, or customers. In the Final Rule, FRA stated that trains such as "Santa trains" were more akin to the tourist, scenic, historic, and

excursion railroads that are included within the scope of the rule, and that as a result the "Santa trains" and similar train service should be and are subject to the rule. In the AAR/APTA Petition, the associations request that FRA exclude transportation "for railroad business purposes" from the scope of the rule. However, the petition lacks any discussion of what are the essential characteristics of such transportation other than to assert that such transportation is similar to work trains, which are not subject tithe Final Rule. 49 C.F.R. § 228.403(c). Without more information regarding the type of operations that AAR and APTA seek to exclude, any exception crafted by FRA will likely be over- or under-inclusive. Further, the Final Rule defines its scope by reference to "commuter rail passenger transportation" and "intercity rail passenger transportation" as those terms are defined in 49 U.S.C. § 24102 and further explained in 49 C.F.R. § 228.401(a).[3] Transportation of individuals for business purposes is unlikely to qualify as either, and is therefore likely to be excluded from the scope of the Final Rule; however, to the extent that a railroad has a specific question about the application of the law or statute to a specific set of facts, those questions should be presented to FRA specifically.

7. Unplanned Passenger Train Service

Finally, the AAR/APTA Petition requests clarification on FRA's statement in the Final Rule that "[f]or those events of which the railroad does not have advance notice, FRA will address those situations and work with the railroad on a case-by-case basis."

[3]Under 49 U.S.C. § 24102,"'commuter rail passenger transportation' means short-haul rail passenger transportation in metropolitan and suburban areas usually having reduced fare, multiple-ride, and commuter tickets and morning and evening peak period operations" and "'intercity rail passenger transportation' means rail passenger transportation, except commuter rail passenger transportation. Under 49 C.F.R. § 228.401(a), "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, including train employees who are engaged in tourist, scenic, historic, or excursion rail passenger transportation." .

Final Rule at 76 FR 50388. The AAR/APTA Petition asks, "Are the railroads to file with FRA? How? Is the filing after-the-fact?" In describing its confusion concerning this statement, the petition raises the issue of a train being delayed by a blizzard. However, such delays are accounted for in the rule: 49 C.F.R. § 228.5 provides that, under the definition of "Type 1 assignment": "a Type 1 assignment that is delayed such that the schedule actually worked includes any period of time between midnight and 4 a.m. is considered a Type 2 assignment," and under the definition of "Type 2 assignment": "[i]f a Type 2 assignment that would normally qualify to be treated as a Type 1 assignment is delayed so that the schedule actually worked includes any period of time between midnight and 4 a.m., the assignment is considered a Type 2 assignment." Accordingly, in the hypothetical presented by the AAR/APTA Petition, if the blizzard causes an unanticipated extension of a duty tour, the schedule will be considered a Type 2 assignment only if the duty tour is extended into any period of time between midnight and 4 a.m. Additionally, in circumstances that trigger the nonapplication provision (the statutory provision at 49 U.S.C. § 21102(a) and promulgated as a regulation for passenger train employees at 49 C.F.R. § 403(a)), the regulation provides for limited relief by excluding from the application of 49 C.F.R. part 228, subpart F "a situation involving any of the following: (1) [a] casualty; (2) [a]n unavoidable accident; (3) [a]n 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."

Finally, AAR and APTA request that FRA provide more guidance concerning how to handle situations where a railroad has no advance notice of a passenger train assignment. However, FRA has explained that special events generally require advance

planning which can include the fatigue analysis required by the Final Rule. Final Rule at 76 FR 50388. Without more information about the specific type of unscheduled, unplanned, unprepared special events that AAR and APTA are referring to, FRA cannot provide specific answers. However, as a general rule, where fatigue analysis is impractical as a result of a truly unplanned special event for which there was no practical ability to conduct advance planning, FRA would expect that the railroad exercise due diligence to avoid unduly fatiguing assignments and make a good-faith effort to anticipate problems and adjust the assignments to be worked by employees so that the assignments when worked do not become unduly fatiguing. This effort may include applying mitigations that are known to be necessary for similar work assignments and looking to the fatigue analysis that has been performed to estimate the impact of similar work assignments on employees.

8. Conclusion

In conclusion, in FRA's judgment, neither the AAR/APTA Petition nor the SEPTA Petition states a basis for reconsidering the Final Rule. Accordingly, pursuant to 49 C.F.R. § 211.31, FRA hereby denies the Petitions.

Issued in Washington, DC, on

Joseph C. Szabo,
Administrator
Federal Railroad Administration

Appendix: Copy of 49 C.F.R. § 228.405(a)

Code of Federal Regulations

Title 49 - Transportation

Volume: 4
Date: 2011-10-01
Original Date: 2011-10-01
Title: Section 228.405 - Limitations on duty hours of train employees engaged in commuter or intercity rail passenger transportation.
Context: Title 49 - Transportation. Subtitle B - Other Regulations Relating to Transportation (Continued). CHAPTER II - FEDERAL RAILROAD ADMINISTRATION, DEPARTMENT OF TRANSPORTATION. PART 228 - HOURS OF SERVICE OF RAILROAD EMPLOYEES. Subpart F - Substantive Hours of Service Requirements for Train Employees Engaged in Commuter or Intercity Rail Passenger Transportation.

§ 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) In a series of at most 14 consecutive calendar days, in excess of the following limitations:

(i) That employee's first series of at most 14 consecutive calendar days begins on the first calendar day that the employee initiates an on-duty period on or after the compliance date for this paragraph (a)(3), as specified in § 228.413. A series of at most 14 consecutive calendar days either ends on the 14th consecutive day or may last for less than 14 days if an employee has accumulated a total of two calendar days on which the employee has not initiated an on-duty period before the beginning of the 14th day of the series. After the employee has accumulated a total of two calendar days on which the employee has not initiated an on-duty period, including at least 24 consecutive hours off duty as required by paragraph (a)(3)(ii) or two consecutive calendar days without initiating an on-duty period as required by paragraph (a)(3)(iii) of this section, during the employee's current series of at most 14 consecutive calendar days, a new series of at most 14 consecutive calendar days begins on the calendar day in which the employee next initiates an on-duty period. Only calendar days after the starting date of a series are counted toward the accumulation of a total of two calendar days on which the employee did not initiate an on-duty period. A calendar day on which an on-duty period was not initiated that occurred prior to the start of the new series, does not count toward refreshing the new series.

(ii) If the employee initiates an on-duty period each day on any six or more consecutive calendar days during the series of at most 14 consecutive calendar days, and at least one of the on-duty periods is defined as a Type 2 assignment, that employee must have at least 24 consecutive hours off duty prior to next initiating an on-duty period, except as provided in paragraph (a)(3)(v) of this section.

(iii) If the employee has initiated an on-duty period each day on 13 or more calendar days in the series of at most 14 consecutive calendar days, that employee must have at least two

consecutive calendar days on which the employee does not initiate an on-duty period prior to next initiating an on-duty period, except as provided in paragraph (a)(3)(v) of this section.

(iv) The minimum time off duty required by paragraph (a)(3)(ii) of this section and the at least two consecutive calendar days in which the employee does not initiate an on-duty period required by paragraph (a)(3)(iii) of this section must be at the employee's home terminal, and during such periods, the employee shall be unavailable for any service for any railroad.

(v) Paragraphs (a)(3)(ii)-(iii) of this section notwithstanding, if the employee is not at the employee's home terminal when time off duty is required by paragraph (a)(3)(ii) of this section or calendar days in which the employee does not initiate an on-duty period are required by paragraph (a)(3)(iii) of this section, the employee may either deadhead to the point of final release at the employee's home terminal or initiate an on-duty period in order to return to the employee's home terminal either on the same calendar day or the next consecutive calendar day after the completion of the duty tour triggering the requirements of paragraph (a)(3)(ii) or paragraph (a)(3)(iii) of this section.

(vi) If the employee is required to have at least 24 consecutive hours off duty under paragraph (a)(3)(ii) of this section and not to initiate an on-duty period for at least two consecutive calendar days under paragraph (a)(3)(iii) of this section, both requirements shall be observed. The required periods run concurrently, to the extent that they overlap.

(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.