



A bold voice for transportation workers

December 31, 2018

Mr. Robert Lauby
Associate Administrator for Railroad Safety, Chief Safety Officer
Federal Railroad Administration
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

**RE: American Short Line Railroad Association Petition for Waiver of Compliance
Docket No: FRA-2009-0078**

Dear Mr. Lauby,

On behalf of the Transportation Trades Department, AFL-CIO (TTD), I am pleased to respond to the American Short Line Railroad Association's Petition for Waiver of Compliance regarding hours of service requirements (HOS). TTD consists of 32 affiliate unions representing workers in all modes of transportation, including those covered by FRA's HOS regulations.¹ For this reason, we have a vested interest in this waiver.

In its petition, ASLRRA requests a modification to an existing waiver which permits railroads to allow train employees to work six consecutive days followed by 24 hours of rest before returning to work (as opposed to 48 hours off duty). As a condition of granting this waiver, FRA required that work could not be performed between midnight and six a.m. ASLRRA's modification requests that FRA permit railroads to participate in a pilot program wherein midnight to six a.m. work would be permitted. For reasons explained below, we believe this petition would result in a more fatigued workforce and jeopardize rail safety, and should thus be rejected by FRA.

ASLRRA's waiver was first granted in 2010, and was not opposed by TTD or our rail unions. It is important to note, however, that the prohibition of late night/early morning shifts was a key factor for labor's neutrality and eventual approval by FRA. When FRA examined the petition, it

¹ Attached is a complete list of TTD's 32 affiliate unions.



used the Fatigue Avoidance Scheduling Tool (FAST), and made an explicit determination that the waiver would not reduce safety for scheduled assignments that do not extend into the early morning hours. FRA's decision made clear that it would not permit the waiver to cover that time period without further evidence that safety would not be undermined. The burden is thus on ASLRRRA (or others) to demonstrate to federal regulators that tasking an operating employee to work six days a week with only 24 hours of rest, including late night/early morning shifts will not increase fatigue at a level to which safety is threatened. We believe that ASLRRRA has failed to meet this burden and the proposed modifications should be rejected by FRA.

Broadly speaking, we are deeply concerned with the chipping away of hours of service protections through the exemption process. While we understand the Administrator has broad authority to approve waivers to current regulations, it is also important that FRA avoid backdoor regulations through progressively more expansive waivers. FRA must consider both the statutory obligations of the agency to promote safety and the intent of Congress in its efforts to reduce fatigue among railroad workers. FRA should reject exemption proposals that create a safety environment that undermines the intention of, and the inherent protections in, the original regulation.

Before we address the specific research and proposal laid out by ASLRRRA, we are obligated to respond to the underlying assumption in its request—the denial or minimization that there are unique fatigue concerns related to early morning operations and that any such concerns could be easily ameliorated. Decades of research makes it clear that this is not the case.

Previous studies show that the risk of human-factor accidents on railroads increases 20 percent by working during the hours from midnight to three a.m.² When FRA's own Collision Avoidance Working Group looked into this issue, it found that of 19 accidents it examined in which fatigue was cited as a cause, almost all occurred between midnight and eight a.m. Even the author of ASLRRRA's study, Dr. Patrick Sherry, has been clear on this point previously, testifying before the House Subcommittee on Railroads, Pipelines and Hazardous Materials in 2007 "...fatigue cannot be totally eliminated. Approximately 22 percent of over the road rail operations occur between midnight and 6:00 a.m. when people are naturally less alert and risk is elevated by 10 to 20 percent".³

The risks associated with early morning operations are clear, and supported by available evidence. Given that, the FRA must be extremely cautious when considering proposals that will carry the risk of increasing fatigue during these shifts—as this modification would. As FRA stated in its 2010 decision letter, it would be incumbent on a petitioner to prove that any modification would not reduce safety. ASLRRRA attempts to do so in their filing, but ultimately the evidence they have provided thus far, and their proposed future pilot, fall well short of this objective.

² Hursh, Raslear, Kaye and Falzone (2006)

³ Dr. Patrick Sherry, Testimony to House Subcommittee on Railroads, Pipelines and Hazardous Materials, February 13, 2007.

In order to get FRA approval for its pilot, ASLRRA has provided a baseline study, conducted by Dr. Sherry, which seeks to demonstrate that the pilot could proceed safely. However, we have several concerns with the usefulness of the information collected. In the first component of the baseline study, employees self-report their total sleep and their level of sleepiness according to the Epworth Sleepiness Scale (ESS). First, we note that the sample size is concerningly small. The study collected information from a total of 151 individuals, but not all of them completely filled out their surveys, meaning for certain variables, as few as 112 responses have been collected. Further, in the survey's total hours of sleep calculation, it states that at most, only 27 of the employees surveyed were actually working during the higher risk time window. While establishing baselines and control groups is a key part of any statistical analysis, ASLRRA's study attempts to suggest that the sleep and sleepiness data associated with just 27 individuals is enough to conclusively demonstrate safety. It is not clear that such a small sample is even statistically significant, much less appropriate as the basis for a significant regulatory modification.

As mentioned, the study employs the ESS, which is a self-administered questionnaire with eight questions concerning fatigue. While ESS can be a useful tool, it has a number of limitations that Dr. Sherry does not address. First, ESS was created to measure daytime sleepiness. Daytime and nighttime sleepiness may not be equivalent for a number of reasons, including circadian rhythms and hormone production. If ESS is to be seamlessly applied to nighttime sleepiness, proof of its efficacy for that purpose must be provided, which ASLRRA has not done. Additionally, the creator of ESS, Dr. Murray Johns, has enumerated a number of limitations for the use of the scale.⁴ These include:

- The ESS should not be used in isolation in circumstances where the scores could determine outcomes with potential legal implications, such as granting or withholding a driver's license.
- The ESS does not usually enable accurate predictions to be made of a person's level of drowsiness, and hence their crash risk, when driving a vehicle at some particular time.

Both of these concerns are relevant to this proceeding and unaddressed in ASLRRA's petition. Dr. Sherry's study clearly does intend to use ESS scores as a predictive tool to determine risk and the propensity for an accident. That the developer of the system recommends against using it for this purpose is of concern. Additionally, the study also seeks to make use of the scale to determine legal outcomes, in this case FRA's ultimate decision to grant or deny the waiver modification. In this regard, we focus on Dr. Johns' stipulation regarding ESS' use in isolation.

ASLRRA and Dr. Sherry would claim that ESS is not being used in isolation in its baseline study, as the study also includes the collection of sleep logs from participants. However, Dr. Sherry collected a total of 43 sleep logs, of which only 25 are from employees working during the higher risk shift times. As with the ESS results, ASLRRA purports that it can make conclusions regarding fatigue and safety based on a small pool of barely more than two dozen subjects. As the sleep log

⁴ Johns, M. About the ESS – Epworth Sleepiness Scale. epworthsleepinessscale.com

elements of the study suffer from the same sample size issue, they cannot be considered as the confirming secondary documentation that Dr. Johns suggests that ESS requires for the determination ASLRRA seeks.

Additionally, ASLRRA's study misrepresents the ESS scores to appear more favorable. As mentioned, ESS is an eight question test on fatigue, in which participants score each question on a scale of 0-3, with the three being the most severe. Dr. Sherry's baseline study suggests that all as well as 56.3% of employees tested are below the "cutoff" of a score of 10.0. However, this also means that 43.7% are above a 10.0. ESS rates scores of 11.0 and higher as "excessive daytime sleepiness". ASLRRA states that this is un concerning, as only 12.5% of the respondents are at or above the clinical cutoff of 15.0 It is important to note that in this proceeding, FRA has no interest in clinical sleepiness as it relates to a medical diagnosis. FRA's interest is in sleepiness as it relates to an individual's ability to perform safety-sensitive functions safely. By ASLRRA's own admission, over forty percent of its workers are excessively fatigued with scores over 10. Compare this to Dr. Johns's own research, where he found that a sampling of adults in Australia who have no evidence of a chronic sleep disorder had a mean ESS score of just 4.6. Dr. Sherry's own research speaks to the fact that fatigue is a major problem for railroads, and must not be worsened.

Finally, both the ESS and sleep logs used in the baseline study are self-reporting surveys. As Dr. Sherry surely is aware, bias in self-reporting has long been a key issue across many branches of research.⁵⁶⁷ Numerous studies have demonstrated that individuals are prone to inaccuracy in self-reporting due to a number of different biases, and that this problem is particularly acute in regards to the self-reporting of physiological symptoms, like pain or sleepiness.⁸⁹ This is not to say that self-reported data is without value. TTD and its affiliates continue to strongly support efforts to gather information from frontline workers on conditions that affect them.

However, given the substantial risks inherent in introducing greater fatigue to railroad operations, the bar must be set higher than the self-reported fatigue of two dozen employees. For example, ASLRRA and Dr. Sherry could have included some form of cognitive testing to support the self-reported data. This could have included tools such as reaction time testing, like a psychomotor vigilance test (PVT). Including a more objective test alongside ESS and the sleep logs would have provided a more complete picture of the fatigue that the tested employees were or were not experiencing. Unfortunately, ASLRRA has not included such research.

⁵ Stone, Arthur A., et al., eds. *The science of self-report: Implications for research and practice*. Psychology Press, 1999.

⁶ Donaldson, Stewart I., and Elisa J. Grant-Vallone. Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology* 17.2 2002

⁷ Schwarz N. How The Questions Shape The Answers. *American Psychologist*. 1999

⁸ Lyznicki JM, Doege TC, Davis RM, Williams MA. Sleepiness, driving, and motor vehicle crashes. *JAMA*. 1998

⁹ Robinson, Michael E., et al. "Bias effects in three common self-report pain assessment measures." *The Clinical Journal of Pain* 13.1 1997

In sum, the combination of small sample size and the lack of conformational cognitive testing like PVT to support self-reported data has resulted in a baseline study which fails to compellingly make the case that the expansion of the waiver would not reduce safety. For FRA to consider the modification, ASLRRA is obligated to present information that provides a persuasive challenge to the abundance of existing research on fatigue, particularly in the midnight to six a.m. window. It has not done so, and FRA should not allow the pilot program to proceed.

If FRA determines that the information presented in the baseline study is sufficient to consider the modification, we also have serious concerns with the pilot program as proposed. Critical to reducing fatigue during these shifts is a proposed mandatory napping countermeasure. Dr. Sherry asserts that in his computer models of fatigue, a nap of at least 30 minutes is effective in combating sleepiness. TTD does not reject the argument that proper breaks can have positive impacts on fatigue and alertness.

However, as employees who work on trains and in railyards in the real world can attest, a computer simulation is unlikely to duplicate actual conditions. This contradiction identifies a fatal flaw inherent in the pilot program. While ASLRRA states that the 30-minute nap will relieve fatigue concerns, it also states that employees will be expected to nap on chairs or in locomotive cabs, naturally uncomfortable locations, and will be expected to be immediately and continuously asleep for the designated napping period. These are unrealistic expectations that will not always play out as intended, and cannot be relied on as a pillar of fatigue mitigation. The proposal also states that employees can be woken in the case of emergency, as if the sudden presence of an emergency resolves a worker's level of fatigue.

As with the baseline study, ASLRRA's pilot also fails to adequately measure the fatigue of the workforce being examined. It continues to rely on self-reported data through sleep logs, but also adds two perplexing new elements to its collection of "Behavioral Data". Dr. Sherry proposes to observe employees using a Fitbit or Jawbone device. These devices, through contact with skin and internal motion sensors, can monitor variables like movement, sleep patterns, and heart rate. However, they unequivocally do not monitor fatigue. It is an overstatement of their capabilities to claim that the analysis of Fitbit or Jawbone data presents an accurate picture of how tired employees are—they are limited to an approximation of how long the device believes the employee was asleep.

To address that gap, ASLRRA proposes that "Supervisory personnel will be asked to observe and rate people participating in the study periodically to assess any risk of fatigue or sleepiness". Placing the burden of determining if a worker is fatigued on a supervisory employee with no particular training in monitoring fatigue or physiological observation is highly improper. Once again, the ASLRRA proposal exposes workers to more fatigue, but fails to quantify these risks in a way that FRA can judge whether they promote safety and worker health.

Finally, we believe that FRA should address outstanding fatigue-based mandates before it proceeds with any regulatory action which introduces more fatigue to the railroad industry. Section 103 of the Railroad Safety Improvement Act of 2008 required that FRA promulgate a regulation creating a risk reduction program for railroads, which would include mandatory and badly needed fatigue

management plans. Section 108 of the same law also requires the creation of two pilot programs on fatigue. One pilot would measure the impacts of conveying shift time information to employees in a timelier manner, allowing them to better schedule rest. The other would examine the impacts of requiring railroads that use unscheduled duty call shifts to give employees shifts not subject to call following an unscheduled call shift. FRA has yet to complete these requirements, and regardless of the outcome of this waiver modification, we urge FRA to act on these important and overdue Congressional mandates to reduce fatigue in the railroad industry.

Even more apropos, FRA currently has an open docket (FRA-2017-0002-N-5) regarding a study on the fatigue of locomotive engineers as it relates to their commute time, and in particular as it relates to late night/early morning shifts. FRA cannot simultaneously acknowledge that its safety mission requires more research into engineer fatigue early in the morning under current conditions while also proceeding with a pilot which makes these conditions worse. As discussed, ASLRRA's proposed pilot will not answer these questions for FRA, but will put railroad safety and the health of employees at risk.

For these reasons, we urge FRA to reject ASLRRA's petition for a modification of its waiver. ASLRRA has failed to prove that the modification to begin its proposed pilot program will not reduce safety. For this reason, the modification should be rejected.

Sincerely,

A handwritten signature in cursive script that reads "Larry I. Willis".

Larry I. Willis
President



Transportation Trades Department, AFL-CIO
A bold voice for transportation workers

TTD MEMBER UNIONS

Air Line Pilots Association (**ALPA**)
Amalgamated Transit Union (**ATU**)
American Federation of Government Employees (**AFGE**)
American Federation of State, County and Municipal Employees (**AFSCME**)
American Federation of Teachers (**AFT**)
Association of Flight Attendants-CWA (**AFA-CWA**)
American Train Dispatchers Association (**ATDA**)
Brotherhood of Railroad Signalmen (**BRS**)
Communications Workers of America (**CWA**)
International Association of Fire Fighters (**IAFF**)
International Association of Machinists and Aerospace Workers (**IAM**)
International Brotherhood of Boilermakers, Iron Ship Builders,
Blacksmiths, Forgers and Helpers (**IBB**)
International Brotherhood of Electrical Workers (**IBEW**)
International Longshoremen's Association (**ILA**)
International Organization of Masters, Mates & Pilots, ILA (**MM&P**)
International Union of Operating Engineers (**IUOE**)
Laborers' International Union of North America (**LIUNA**)
Marine Engineers' Beneficial Association (**MEBA**)
National Air Traffic Controllers Association (**NATCA**)
National Association of Letter Carriers (**NALC**)
National Conference of Firemen and Oilers, SEIU (**NCFO, SEIU**)
National Federation of Public and Private Employees (**NFOPAPE**)
Office and Professional Employees International Union (**OPEIU**)
Professional Aviation Safety Specialists (**PASS**)
Sailors' Union of the Pacific (**SUP**)
Sheet Metal, Air, Rail and Transportation Workers (**SMART**)
SMART-Transportation Division
Transportation Communications Union/ IAM (**TCU**)
Transport Workers Union of America (**TWU**)
UNITE HERE!
United Mine Workers of America (**UMWA**)
United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service
Workers International Union (**USW**)

These 32 labor organizations are members of and represented by the TTD

