

# **Electronic Train Management System (ETMS) Waiver Hearing**

Testimony of

United Transportation Union

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February 23, 2006



My name is James Stem. I serve as the Alternate National Legislative Director for the United Transportation Union (UTU). The UTU represents the thousands of conductors and trainmen that are directly affected by the waiver petition that is the subject of today's public hearing.

The Brotherhood of Locomotive Engineers and Trainmen and the United Transportation Union are making a joint presentation with more than one speaker. We will be glad to try to answer questions about our presentation together.

This specific waiver request is an underhanded attempt by BNSF to confuse FRA enough to ignore the severe ramifications of single person operations to the overall rail safety equation. The removal of one member of the operating crew as identified in the ETMS current Product Safety Plan creates other major safety issues that are currently resolved by the existing operation with a two or three person operating crew. ETMS does not replace the current safety function of the redundant safety crew member. ETMS is only a train control system. The documents submitted with this application fall far short of the requirements under Subpart H, and do not contain the required human factor hazard analysis. ETMS is designed only as a safety overlay system that does not change the current method of operation and is a non vital second tier system. The multiple safety functions of the second operating crew member are not replaced by ETMS. With single person operation involved in this transaction, this waiver should be rejected for these stated reasons.

Safety must be a front end activity. If major changes are requested in the overall operation, safety considerations must be resolved before any changes to a current safe operation are permitted. This ETMS system will not operate in a vacuum; it will become an integral part of the existing rail system and must deal with all the existing challenges to a safe operation. These challenges include grade crossing collisions, trespasser injuries and fatalities, hot journals on freight cars, dragging equipment, broken coupling devices, hazmat releases, shifted lading, etc.

The Collision Analysis Working Group Final Report (CAWG Final Report 2-21-06 page 13) addresses the composition of operating crews: "For freight trains, the conductor and engineer work as a team. One member points out situations that may have escaped the other's attention." Also CAWG recommends: "However, when possible, an experienced crew member should be paired with an experienced crew member." BNSF and our entire rail industry have a record number of new employees entering service because of poor judgment in hiring and record levels of rail traffic. The traffic levels are projected to continue to increase significantly in the future. We are really discussing single person operations today with inexperienced employees that have no institutional knowledge of the rail safety structure.

The BNSF Electronic Train Management System (ETMS) is designed to function only as a safety overlay system that does not change or affect the current method of operation. ETMS is a non vital system that is not designed to secure transmission of track warrants and other mandatory information in a vital way. The current design of ETMS that is

being tested is intended to enforce track authority limits to prevent train to train collisions, to enforce programmed speed restrictions, to provide an alert to encourage compliance with roadway worker limits, and this design will not enforce speed restrictions put in place by the Employee in Charge within roadway worker limits.

Under subpart H of Part 236, any approved processor based system must provide a calculation that the new system is at least as safe as the system that it will replace. This must be a real calculation, and not just a general statement of opinion. If ETMS were intended only as a safety overlay system for normal operations that did not make radically significant changes in the operational safety equation, we would not be here today. This waiver request attempts to Stop and Restart all the FRA Safety Trend Lines by removing all members of the operating crew except one. Single person operation ignores most of the historic safety responsibilities on which the existing regulatory scheme is based.

Single person operation of freight trains involves a completely different analysis of the rail safety equation and a reassessment of the entire rail safety equation that goes far beyond consideration of this specific waiver request. This waiver request is not about Subpart H of Part 236; this debate is an attempt to change the entire regulatory scheme by using the possibility of new technology as a smoke screen.

The implementation of ETMS with a qualified single locomotive engineer and the numerous required operating rule changes is not as safe an operation as the current operation with a two person train crew. The elimination of some human factor caused hazards by ETMS when it is finally complete and in operational form will not overcome the corresponding negative safety results of removing the other operating crew member from the moving train. The responsibilities of the railroad to operate safely over public crossings, to inspect the moving train at every opportunity, to open public crossings quickly when stopped, and to interact with emergency responders are issues that are not addressed by ETMS and this system was not designed to do so.

A study of the data available on the FRA website indicates there were a total of more than 11,600 grade crossing collisions between 2002 and November 2005.<sup>1</sup> This waiver request also ignores more than 3,500 trespasser incidents from 2002 – November, 2005. That is more than 15,000 documented incidents that required an immediate response from the second operating crew member for the safety of the public during the past four years. Also, the industry estimates an additional 100 trespasser fatalities each year that are ruled as suicides that are not contained in the FRA data base.<sup>2</sup>

BLET and UTU would like to have an opportunity to review the human factors analysis for ETMS. We are also requesting the documents that BNSF is obligated to submit with respect to both the performance and findings associated with the requisite human factor

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<sup>1</sup> 3077 (2002), 2975 (2003), 3067 (2004) and 2641 (January – November 2005)

<sup>2</sup> 2002 – 935 (540 fatalities, 395 injuries); 2003 – 899 (500 fatalities, 399 injuries); 2004 – 885 (482 fatalities, 403 injuries) and January – November 2005 – 813 (485 fatalities, 355 injuries).

hazard analysis for single person operation. We could not find those documents in the docket or any human factor analysis for ETMS performed by BNSF. We are assuming that BNSF has performed the required analysis under the regulation and made a timely submission of the analysis to FRA. If this human factor analysis has not been submitted, then this waiver request cannot be properly considered.

In the original ETMS waiver, many operating rules were amended to accommodate the operation. This current waiver request identifies 15 additional operating rules that will be required to be changed. The actual number of operating rules that will require amendment or suspension is much higher than the identified 15 rule changes listed in the waiver request. This waiver request contemplates a brand new operational scheme not currently supported by safety data and in direct conflict with the existing operating rule requirements today.

Historically, each train has been considered as a self-contained operating unit that had the capability of moving safely in and out of terminals and sidings, and moving on main track with a variety of methods of operation. Each train was able to set out defective cars en-route, to provide self inspection and repair for dragging equipment, shifted lading, hot journals, broken coupling devices, sticking brakes, and to open public grade crossings when necessary. Each operating crew today is trained, equipped, and expected to make simple repairs or to take other action to ensure the safety of their train and the public. Each operating crew is also trained and equipped to interact with local emergency responders following a derailment, a grade crossing collision, a trespasser injury or fatality, and other operational events.

The local emergency responders that will be affected by this decision should be allowed to offer their input into this public safety debate.

Single person operation arrogantly ignores the responsibility of the railroad for the safety of its employees, the local communities that they travel through, the local emergency responders, and the general public. ETMS is not designed to reduce the numbers of hot journals on freight trains. ETMS has no affect on reducing the numbers of grade crossing collisions or the striking of trespassers. ETMS has no affect on busted air hoses, broken coupling devices, or shifted lading. ETMS is not designed to interact with emergency responders following a derailment or a collision. ETMS is not designed to open a public grade crossing to allow emergency vehicles and the general public to cross.

The current method of operation today addresses these identified safety requirements by having a qualified, trained employee at hand to provide immediate response to critical safety needs.

ETMS was designed only as a safety overlay system to enhance operational safety. It was not designed to replace all historical existing safety functions of the conductor. By definition, a safety overlay system does not change the method of operation and the current method of operation remains in place.

Where are the attachments to this waiver request that should address these significant operational safety issues? Are there other documents that address the necessity of waiving provisions of 12 other FRA Safety Regulations? Are there other documents that address the justification for changing more than two dozen additional operating rules currently contained in GCOR if this waiver request is granted? BLET and UTU have also identified many other operating rules that will require modification using this new system even in the current operating environment with two person crews.

The other broad issue involved in this waiver is a subtle attempt to gain FRA's tacit approval of single person operation in dark territory without this system in operation. When this system has failed, is suspended, or individual components have failed, the expectation of this waiver request is that train operations will continue.

If one train sustains any operational failure (grade crossing collision, derailment, hot journal, broken coupling device, etc), then every other train with single person operation on that route will be unable to open a grade crossing and will be able to make only limited reverse movements. The safety of the entire rail operation is compromised by the creation of this new concept of train movements that are not independent functioning units.

For FRA to be able to properly consider this specific waiver request, all affected regulations, operating rules, and the current level of responsibility for public safety must be scrutinized during this process.

This waiver request is an underhanded attempt to get FRA to ignore their chartered responsibilities of providing a safe place to work for employees and to protect rail passengers and the general public.

ETMS does not meet the core functions of a Processor Based PTC System and does not qualify as a defined PTC System as identified in Subpart H of Part 236. The current design of ETMS does not enforce for roadway worker protection, it only provides an alert to warn the crew of an approaching roadway worker authority restriction.

The primary vendor for ETMS (WABTEC) has designed a non vital system intended for deployment as an overlay to existing train control systems. A similar system being developed for the Alaska Railroad by Union Switch and Signal does meet the core functions of a defined PTC system (Subpart H of Part 236) and does enforce roadway worker protection in defined limits. The Alaska Railroad is demanding a truly vital system. Nothing in the design standards of the Alaska Railroad System indicates there is any justification for changing the safety equation by removing a member of the operating crew. The Alaska Railroad system demands secure transmission of track warrants and other mandatory information in a vital way; ETMS does not meet this criteria.

We are here today considering radical changes in the rail safety equation because of potential implementation of a second tier train control system that is still under

development. This debate is about global rail safety values, not just about a Positive Train Control issue.

In its submission, BNSF states that during the use of single person operation, a Utility Employee may be provided to handle any events that require a second person to assist the locomotive engineer outside the cab of the locomotive. This statement asks the reader to ignore the fact that the territory involved in this waiver request and our rail system all over the country has many locations that are simply inaccessible by highway vehicle. This statement also assumes that the single person on the locomotive will be able to communicate with the utility employee to identify the assistance needed. If there are 30 trains within a 100 mile radius and a single train has a grade crossing collision, the other 29 trains are also stopped. Does this request for waiver identify how many utility employees will be available, and how they will be transported to the needed location? Has there been an analysis of this radically new proposed operation's affect on the communities served?

ETMS is not designed to replace the existing regulatory scheme or the historic application of railroad safety obligations. This request for waiver of a few safety regulations is an insult to the rail safety community that understands the significant change in safety functions that single person operation requires.

If BNSF desires a debate about the safety adequacy of single person operation in dark or signaled territory, then there should be public debate about the significance of that operation instead of this diversionary attempt to confuse the real issue with potential new technology.

This specific waiver request is an underhanded attempt to confuse FRA enough to ignore the severe ramifications of single person operations to the overall rail safety equation. The documents submitted with this application by BNSF fall far short of the requirements under Subpart H, and do not contain the required human factor hazard analysis. ETMS is designed only as a safety overlay system and is a non vital system. ETMS does not replace the safety functions performed by the second member of the operating crew.

With single person operation involved in this transaction, this waiver should be rejected for these stated reasons.

## Appendix A

Federal Regulations that are also involved in this waiver request that are not itemized in the ETMS Waiver Request or in the Product Safety Plan. This request requires a waiver of provisions in many more regulations other than Subpart H of Part 236:

- **211 – Rules of Practice** - 211.9(C) – This ETMS Waiver request does not list the numerous other regs that will be affected by the granting of This Specific Waiver or the significant impact that this requested operation will have on the railroads shippers, the communities served by this railroad, and the impact on local and state governments and their emergency responders
- **214 – Railroad Workplace Safety** - The interaction between trains operating with a single person and roadway maintenance machines and hi-rail vehicles – This waiver completely changes the safety equation for the protection of Roadway Workers.
- **215 – Railroad Freight Car Safety Standards** – This waiver will effectively relieve BNSF from inspection of equipment in moving trains by the operating crew as required by this part and four operating rules in GCOR.
- **217- Railroad Operating Rules** – This waiver also affects 217.7 and 217.11 and if granted will require an amendment of **several dozen** operating rules.
- **218 - Railroad Operating Practices** – This waiver assumes exemption from several required provisions in Part 218, including relief from flag protection as defined in 218.37 (a) (iv).
- **220 – Radio Communications** – With single person operation, communication and redundancy are issues not addressed by this waiver request. Will 220.61 allow the electronic transmission of track warrants over a non vital system?
- **225 – Railroad Accident / Incident Reporting** – This waiver will have to create an asterisk in all the Accident/Incident data that FRA maintains to address the significant change in the trend lines.
- **228 – Hours of Service of Railroad Employees** – Single person operation is only covered by existing Hours of Service Requirements – If the “so-called redundant” safety crew member is removed, then the industry will find itself in the unprecedented position of a lone operating crew member working for 12 hours without relief or respite. There is no data whatsoever establishing that such a method of operation is safe. Furthermore, the issue of allowable time on duty for a lone engine crew member traditionally has been handled in collective bargaining. FRA should not permit itself to be a patsy in BNSF’s attempt to avoid its responsibility to bargain on this issue.
  - o The issue of work schedules for the single person must also be addressed. Each employee must know at least 14 days in advance exactly what time each day they must report for duty.

- **229 – Railroad Locomotive Safety Standards** – This regulation will also need to be adapted for single person operation. The alerter system requirements, the toilet requirements, and the communication issues must be addressed with this significant change to the safety equation.
- **232- Brake System Safety Standards** – Brake test requirements, including line of road testing requirements must be reviewed.
  - o The requirements for two way end of train devices and the process involved if these devices fail enroute must be considered with Single Person Operation scenarios. This operation will require a significant weakening of these existing requirements.
- **234 Grade Crossing Signal System Safety** – What allowance for single person operation will be required when a grade crossing needs to be flagged as a result of an activation failure, or other malfunction?
- **236 Signal and Train Control Systems** - The requirement in Subpart H for a new system to be validated as maintaining the same level of safety or higher before implementation can not be met with Single Person Operation because there is no available baseline for a single-person operation on any freight railroad.
- **240 Locomotive Engineer Certification** – This regulation training requirements will have to be adjusted to allow single person operation and address normal personal bathroom breaks, signal awareness procedures, and multiple communication devices the single person will be responsible for using.

**Appendix B** – **27** GCOR Operating Rules that will be affected or significantly amended if this waiver is granted:

1.4, 1.6, 1.9, 1.12, 1.28, 1.29, 1.43, 1.47

2.14

5.8.3, 5.9.3

6.20, 6.21, 6.22, 6.23, 6.27, 6.29.1, 6.29.2, 6.31, 6.32.2, 6.32.3, 6.32.5, 6.32.6

8.4, 8.19

9.12.3, 913.1