

Crew Consist Report

Single Person Train Crews: Irresponsible, Inefficient, and Unsafe - Part 1

In Part 1 of this 2-part series, RWU explores and analyzes the dangers and pitfalls of the Class One rail carrier proposal to run trains with a single crew member. Part 2 will run in the Fall issue of The Highball.

Rail carriers – like many corporations – are obsessed with the short-term operating ratio, and the desire to cut costs – especially labor costs – all with the goal of delivering short-term maximum value to stockholders. It is this drive that has been propelling rail corporations – all of them “Fortune 500” entities, which are some of the most profitable and powerful companies today – to push for single employee train crews on mainlines throughout the country. From a Wall Street perspective, this is an entirely logical and rational way to run a railroad. But rail workers, shippers, passengers and the public at large – and others who have a vested interest in safe and efficient operations – have a different take on this. For them, this concept raises numerous red flags regarding safety, efficiency, train operations in general, and the health and vitality of the rail industry in the years ahead.

Background

The rail carriers are fond of stating that there is no “evidence” to show that single crew operations are any less safe than multiple crew members. This is disingenuous on their part, as we all know that single crew train operations barely have been experimented with in North America. And *no* Class One mainline operation has ever utilized this form of operation. Saying there is no evidence that single crew operations are *not* as safe as those staffed with the traditional two-person crew begs the question, is there evidence that they *are* as safe? Of course, the answer is no. We could also postulate a myriad of other possibilities, such as: there is no evidence to show that trains are just as safe with or without a 1000-mile inspection; or likewise, there is no evidence to show that locomotives would be just as safe if only inspected weekly instead of daily. Or again, there is no evidence to show that workers need to be qualified on the territory over which they operate their trains. All of these are current practices by rule, regulation and/or law. To simply state that there is no evidence to prove that we do not need these practices, and therefore, it is safe to abolish them, is absurd.

In the case of single person train operations, just a handful of such operations have been experimented with. Two such experiences come to mind, both being unit train operations from Point A to Point B on low density tracks, including the Indiana Railroad and the Quebec, North Shore & Labrador. Another infamous example of single train crew operations (that no longer exists) was the Montreal, Maine & Atlantic (MM&A), where after two months of running trains experimentally with a single crew member, a train ran away down a steep grade, derailed and exploded, wiping out much of the downtown of a scenic lakeside Canadian town, killing 47 people, plus two known, related suicides.

The rail carriers argue that as Positive Train Control (PTC) nears complete implementation, that the second crew member is no longer needed to maintain safe train operations. Once again, the carriers’ rhetoric regarding safety rings hollow when we learn that as early as 2004, the carriers declared their intentions and desires to run trains with a single crew member, long before PTC was considered and then mandated by the Rail Safety Improvement Act of 2008. Had the rank & file rail workers and their unions not been able to hold them off, the carriers would have instituted this practice without the assistance of PTC more than a decade ago, safety apparently be damned.

The rail carriers argue that with low wage, non-union trucking as their competition, and with autonomous and platooning of trucks on the horizon, the rail carriers must cut crew costs to stay competitive. Once again, the carriers’ arguments are a bit disingenuous, when you consider that a two-person crew is easily capable of handling 200 or even 300 truckloads on one train! In addition, U.S. freight railroaders – once numbering some two million workers but now numbering less than 10% of that figure – are considered the most productive in the world, moving more tonnage per person-mile than any other.



A lone rail worker makes his way to a locomotive on Union Pacific. If UP and the other major rail carriers have their way, the standard train crew will be reduced from two to one in the cab of the locomotive across the U.S. This short-sighted profit-driven move will diminish the safety and health of rail employees, as well as put the public at greater risk. In addition, it will result in inefficient rail operations that will slow down and impede rail operations.

The rail carriers assert that even the Federal Railroad Administration (FRA) claims that there is no reason to abstain from single person train crews, thus there being no need for any such rule or regulation. This is of course, the same agency that a few short years earlier proclaimed on April 9, 2014, its intent to require two-person crews “for most main line train operations including those trains carrying crude oil.” FRA Administrator Joseph C. Szabo at that time flatly stated, “We believe that safety is enhanced with the use of a multiple person crew - safety dictates that you never allow a single point of failure ... Ensuring that trains are adequately staffed for the type of service operated is critically important to ensure safety redundancy.”

The difference? The current FRA Administrator appointed by President Trump – Ron Batory – is a lifelong railroad executive, squarely in the pocket of the rail carriers, appointed to the position as a gift to the freight rail industry.

So, we have on the one hand, the rail industry and the oversight administration taking the position that single person train crew operations are safe, efficient, and necessary. While on the other hand, the railroad workers and their unions of both crafts – engineer and conductor – are dead set in opposition. Who to believe? Let’s take a closer look at the situation.

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An Inevitable Decline in Safety

Despite what FRA chief Batory has claimed in recent years, as noted previously – which represents an agency about-face from its earlier position (NOTE: the current FRA has also done an about face on a series of other rail safety related issues, including movements of Liquefied Natural Gas (LNG) by rail, Electro Pneumatic (ECP) braking, and oil train regulation) - the Agency itself released a 41-page report on January 13th, 2020 by its own Office of Research, Development and Technology, which contradicts Batory. Researchers at the Volpe Center over a period of years performed cognitive task analyses (CTAs) that examined the mental demands placed on rail workers - including operating personnel in the locomotive cab - as they engaged with technology and performed their jobs. *“Results from the locomotive engineer and conductor CTAs indicate that train crews, a primary example of an elemental team in railroad operations, exhibit characteristics of high performing teams that are found across industries,”* the report said. *“These include mutual performance monitoring – to catch and correct errors – and active support of each other’s activities ... These teamwork activities went beyond the requirements of formal operating rules and were not explicitly covered in training,”* the report states.

Importantly, the Volpe research notes that PTC, *will not provide all the cognitive support functions the conductor currently provides to the locomotive engineer.* This scientific research builds upon earlier findings at Volpe, first released in December of 2013: *“The locomotive engineer and conductor function as a joint cognitive system, meaning that conductors and locomotive engineers jointly contribute to the set of cognitive activities required to operate the train safely and efficiently ... While each crew member has a distinct set of formal responsibilities, in practice they operate as an integrated team, contributing knowledge and backing each other up as necessary... When operating on the mainline, conductors not only serve as a ‘second pair of eyes’, alerting the locomotive engineer to upcoming signals and potential hazards (e.g., activity at grade crossings; people working on or around the track), they also contribute knowledge and decision-making judgment ... Conductors also serve an important, redundant check and backup role, reminding locomotive engineers of upcoming work zones and speed restrictions ... If necessary, they will also handle unanticipated situations and activate the emergency brake, in cases where the locomotive engineer has not responded quickly enough... Conductors have developed a variety of skills and strategies that enable them to handle non-routine situations safely and efficiently.”*

Rank & file railroad conductors and engineers can verify the finding of the Volpe Center, from years of cumulative collective experience in train operations of all kinds, under all conditions, from routine to extreme.

Fatigue: Long an issue with current and past train operations, the National Transportation Safety Board (NTSB) has cited crew fatigue as a major factor in several deadly accidents over the years. Despite this, and despite the numerous studies that show the dangers of fatigued workers as analogous with the dangers of workers under the influence of alcohol, the industry has ALWAYS denied it has any role in creating and perpetrating a workplace that practically guarantees that train crews will be subject to frequent fatigue. Without a second crew member to assist, a

single crew member would of course be expected to carry out numerous other duties, in addition to operating the locomotive. Tasks that the conductor now handles include:

- Radio communications with dispatchers, signal maintainers, track inspectors and other railroad personnel.
- Keeping a record of the train manifest, including the location of all hazardous materials in the train.
- Making minor fixes to the locomotive interior, including mirrors, windshield wipers, lighting, ventilation, windows, etc.
- Assisting with food, drink and other amenities.
- Looking up rules and instructions when in doubt.
- Stocking the locomotive with ice, water, and other necessities.
- Obtaining and copying orders from the dispatcher.
- Making adjustments to trailing units as needed.
- Performing necessary outside work, including consist prep and air tests.

In addition, railroad rules prohibit reading non-railroad materials, do not allow for distractions such as radios or taped music, and disallow napping. With no one to talk to on a single person crew, the lone operator has no respite from the job for the full tour of duty (up to 12 hours). And with the inherent inefficiencies of single person crew operations lengthening the average trip (see under *Decreased Efficiency*), fatigue would no doubt become an even greater safety hazard should single person crews be implemented.



Restricted Speed: Current PTC does not protect against collisions at “Restricted Speed.” When trains enter a “restrictive” block, PTC is not set up to stop the train before it encounters and overruns a derail, misaligned switch, or train/engine ahead. Two in the cab is a safety overlay in this circumstance. A crew of one in this very common situation is much more vulnerable than a crew with a second person.

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PTC Failure: Like any technology, PTC is prone to fail. This can be the result of a failure on the locomotive or the wayside equipment. When either of these failures occurs, the train crew operates according to signal indication and standard operating rules *without* the protection afforded by PTC. The carriers make the case that single person crews are safe now that PTC is in effect. This begs the question, are single person crew operations safe when PTC is inoperable? According to their own logic, the answer can only be NO.

Switching: When a train is setting out or picking up cars, PTC in many cases offers no protection. Since the lone operator is now subject to a greater level of fatigue as a result of single crew operations, there is a greater danger that mainline switching accidents will increase.

Derailments: When a train derails or otherwise suffers a mishap, the conductor can swiftly move into action, being immediately present, and make expedited decisions on what must be done. Equipped with the train's manifest, s/he knows where the hazardous materials are located and can take action to potentially avoid further destruction/danger/loss of life. The most notable example of such action – action that would have been impossible with a single person crew – was in a Castleton, ND wreck in 2013, when the conductor was able to pull the hind end of an oil train away from the remainder of the burning train by utilizing the train's DPU (rear-end locomotive). And there are numerous examples where crew members were able to assist another who may have been injured in the wreck.

Pedestrian and Vehicle Strikes: Just as in the aftermath of derailments, in the moment following a pedestrian/vehicle strike, an expedited response by the train crew can save lives and property. It stands to reason that a lone crew member cannot respond as quickly as a two-person crew is able to. As it

now stands, the conductor is often the first on the scene after the crash, able to explain its nature, location, and logistics to the engineer by radio, who in turn reports this info to the train dispatcher, who relays the information to first responders and other nearby train crews as necessary. The conductor may decide to “cut” the train to unblock a crossing or take other measures to facilitate rescue efforts. With a single person crew, the operator would be obliged by rule to tie handbrakes on the train, a time-consuming procedure, prior to being able to walk back and investigate. Upon arrival, the operator would not be able to cut the crossing or otherwise move the train. The operator might obtain assistance from the utility worker, but this worker would, in most cases, be miles – and possibly hours – away from the scene.

Miscellaneous Issues: With just one crew member, there is no one to assist in case of emergency. When a crew member leaves the cab of the locomotive, especially in remote areas, at night, and/or in remote locations, should anything happen (slip, trip, fall injury; snake bite; heart attack, stroke, assault, etc.) there would be *no one* to be aware nor take action to assist. Unable to return to the locomotive, it is possible that the worker would be unable to communicate her/his condition to the dispatcher. Even aboard the locomotive and able to communicate the condition, s/he has no one to administer first aid, CPR, or any other assistance until help arrives, which could be hours away.

To be Continued in the Fall issue of *The Highball*

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