



Brotherhood of Locomotive Engineers and Trainmen

A Division of the Rail Conference of the International Brotherhood of Teamsters

Pretzel Logic

CLEVELAND, September 23 — Since the BLET's release in late July of a comprehensive study of remote control locomotive ("RCL") operations authored by renowned railroad work organization expert Dr. Frederick C. Gamst and former Federal Railroad Administration ("FRA") Associate Administrator for Safety George A. Gavalla, the silence from FRA, the Association of American Railroads ("AAR") — the industry's lobbying arm — and the United Transportation Union ("UTU") has been deafening.

However, in less than a week, FRA, AAR and UTU have joined forces in an effort to sidestep the impact of the Gamst/Gavalla Report ("Report") in a way that only underscores, once again, the industry's folly in its implementation of RCL technology, FRA's continuing abdication of its statutory duty to ensure the safety of the nation's railroad industry, and UTU's role as the industry's lapdog.

Last week — and more than four months after its Final Report to Congress on the safety of RCL became overdue — FRA fired the first salvo with the public release of a September 9, 2005 letter from Associate Administrator for Safety Daniel C. Smith to AAR and to the American Short Line and Regional Railroad Association. That letter, while purporting to caution the industry about inappropriate use of RCL technology, establishes beyond any reasonable doubt the consequences of FRA's failure to regulate affirmatively RCL operations, because the agency raised more questions than it answers.

FRA acknowledged that, as early as May of 2004, it had concerns about the use of RCL outside of yard switching operations and that it had been "surprised to learn that railroads had some RCL operations on main tracks." After "an additional year of monitoring and evaluating the non-incident movements by RCLs over main track," FRA concluded "that, given the limitations of RCL technology, non-incident movements over main track by RCLs can pose an unacceptable safety risk and thus should be strictly limited."

FRA admitted that a "primary problem with the current state of the RCL technology is that it is inadequate to control in-train forces during heavy-haul operations," and "similarly, ... that the way to operate the RCL over the main track, and its variously graded conditions, without pulling the train apart, may require manipulating the remote control device in a way that is counter-intuitive to the way it was designed to be used." Thus, FRA conceded, the current industry practice of using RCL for main track movements has created "the absurd situation of allowing an RCO [Remote Control

Operator] to perform all the same operations as a train service locomotive engineer, just with different equipment and significantly less training.”

In describing the operational hazards created by using RCL for main track movements, FRA stated the following:

“... FRA’s initial concern was that the current technology might not be suitable to control in-train forces during train movements. The speed control feature on the remote control transmitter ... works like an automobile’s cruise control. A speed is selected, and the computer will increase locomotive power until the desired speed is reached. The computer will then automatically maintain the selected speed using locomotive power and brakes. ... Since plus or minus fluctuations in speeds greater than 0.5 mph often occur as trains move over the main track, the independent air brake will constantly apply and release, or locomotive power will increase or decrease, causing the train slack to run in and out as the train progresses. The longer and heavier the train, the more dramatic this slack action becomes. ... This function is not desirable when controlling longer trains on the main track because the computer works faster than the train air brake system. For example, under certain track profiles (short downhill, uphill track configurations), the system could apply and release the brakes before the brakes fully apply on the rear of a long train. This would create a situation where the brakes would be releasing on the head end of the train at the same time they are applying on the rear end. This condition could cause excessive in-train forces.”

There are several problems with FRA’s description. First, it relies upon a false analogy: an automobile’s cruise control does not alternately apply throttle and brake; it increases acceleration to maintain or increase speed, and relies upon gravity and the weight of the coasting vehicle to reduce speed.

Second, the Gamst/Gavalla Report established that RCOs will sometimes manipulate the beltpack controls to compensate for the actions of the speed control circuit. See Report at pp. xvii, 31, 85. Thus, this train control deficiency also is present in switching operations, a fact conveniently omitted from FRA’s letter. This operational risk is a function of the technology, and exists regardless of the setting in which it is employed.

Third, and as any experienced locomotive engineer can tell you, the repeated application and release of the automatic brake in a short time frame, as described by FRA, will result in the “dribbling away” of automatic brake pipe pressure, which is a known hazard. When that point is reached, there no longer is an ability to safely control the speed of the train regardless of manual or automatic manipulation of the airbrakes.

Behind Door #2

Notwithstanding the false analogy and incomplete description of the deficiency of the RCL speed control system, FRA stated three findings that were right on point:

- further modification of RCL technology will not “overcome these limitations while providing a level of safety equal to that of conventional operations on the main line”;
- a communication failure, which results in the on-board computer immediately stopping the movement, “on high-speed main tracks could prove catastrophic”; and
- “there is no sound reason to introduce *additional* causes of undesired air brake applications.” (emphasis in original)

Based upon the above, it would appear to be a fairly straight-forward conclusion that — other than the occasional pull-out onto a main track to clear a switch — using RCL on main tracks is fraught with danger. However, in spite of this evidence, and nearly a year and a half after being blindsided by the industry’s expansion of RCL to an extent not previously disclosed, FRA has chosen to continue to let the fox guard the henhouse.

Even worse from the standpoint of rail safety, FRA is openly encouraging the industry to plunge full-speed ahead in expanding RCL to main track operations. FRA stated that “RCOs should be as knowledgeable [concerning air brakes, train handling, signal recognition, track-train dynamics, etc. ... all subjects associated with the fundamentals of main track operations, regardless of speed or distance] as conventional engineers. Consequently, FRA believes that RCOs should receive additional training if they operate on main tracks.”

To that end, FRA advised that it will “reopen review of railroad RCO training programs where it is clear that the railroad is committed to non-incident main line movements” to determine whether RCOs receive “the equivalent level of classroom training as that provided for conventional train service engineers,” and whether they are afforded “a minimum of 120 hours of actual, documented hands-on operating experience.” If there is any doubt that this is bald encouragement, FRA also stated that it will consider crediting hours already worked in main track service in satisfaction of the 120-hour requirement.

Anticipating criticism of this green light for a practice that it has already determined to be beyond the safe capacity of RCL technology, FRA further stated the following:

- “At a minimum, we recommend that the following limitations should apply to all RCL movements requiring brake tests under 49 C.F.R. Part 232:
- a. Locomotive consist should not exceed 3000 horsepower, utilizing no more than eight (8) axles.

- b. Train length should not exceed 1000 feet (approximately 20 car lengths).
- c. Train speed should not exceed 15 mph.
- d. Operations should be prohibited on any grade of 0.5 percent or greater that extends for more than ¼ of a mile.”

Once again, however, these “recommendations” are unenforceable by FRA, irrespective of the fact that federal air brake testing requirements have been cited.

AAR Rolls On

In spite of the AAR’s stated position that RCL technology was to be used in yard operations only, some of their members have obviously moved to expand use to the main track. Additionally, AAR has seized the ball and already began to run by commenting on the overdue Final Report to Congress, AAR predicted that the “report is expected to show that employee safety is enhanced by RCL, with reductions in both injuries and injury rates when compared with conventional operations.” This claim apparently is predicated upon a pair of tables published in FRA’s May 2004 Interim Report to Congress. These tables fail to support AAR’s and FRA’s position for two reasons.

First, the tables are based on misleading calculations that actually camouflaged a degradation of safety as a result of RCL implementation. The table identified in the Interim Report as “Enclosure No. 1,” covering Part 225 reportable accidents/incidents during the period May 1, 2003, through November 30, 2003, indicates that there were 21.00 RCL accidents per million yard switching miles and 24.28 conventional accidents per million yard switching miles, which represents a ratio of approximately 0.865 RCL accidents per conventional accident. Extrapolating the data for Class I railroads, only, produces RCL and conventional accident rates of 21.24 and 24.67, respectively, for a ratio of 0.861 RCL accidents per conventional accident.

Enclosure No. 2 — covering “casualties” (i.e., Part 225 reportable injuries, occupational illnesses and deaths) — indicates casualty rates of 8.12 for RCL and 18.94 for conventional, again as measured per million yard switching miles, for a ratio of 0.429 RCL casualties per conventional casualty. Extrapolating the data for Class I railroads, only, produces RCL and conventional casualty rates of 7.20 and 19.13, respectively, for a ratio of 0.376 RCL casualties per conventional casualty.

However, this data is of little value in estimating the safety risks associated with RCL operations. RCL assignments and conventional assignments were credited with an identical number of switching miles (6 miles per hour x 8 hours per shift = 48 yard switching miles per shift) for the period covered by the data, even though typical RCL crews are comprised of two members, while conventional crews usually are comprised of three.

In fact, in Safety Advisory 2001-01, FRA's "recommended minimal guidelines" for RCL operations, FRA stated as follows:

Several commentors submitted data that indicate accidents and incidents dropped dramatically as RCL operations increased. Although FRA commends these commentors for their efforts in gathering such data, FRA notes that the data used were obtained without equal exposure metrics to allow valid comparisons between remote control and manual operations (i.e., comparisons were not equalized for the number of labor hours and number of employees). Normalizing safety data is necessary to clarify our understanding of the potential safety risks.

66 FR 10341. Accordingly, in Guideline C.4, FRA recommended "that the railroad keep a record of the total number of labor hours and the total number of employees by location for both RCL and manual switching operations to ensure that accidents and incidents are accurately measured, and that valid comparisons between the two types of operations can then be made." 66 FR 10344.

The industry simply ignored this guideline and, instead, provided only "yard switching miles" data to FRA, despite FRA's determination that data which was not normalized was not valid for comparison purposes. Had FRA promulgated a rule governing RCL, it could have compelled the industry to provide labor hours and headcount data; publishing "guidelines" placed FRA in a position where it was forced to accept whatever data the industry provided. Nevertheless, converting yard switching miles into crew member hours — based on the standard composition of RCL and conventional crews — and recalculating the rates produces a stunning reversal in what is shown.

With respect to reportable accidents/incidents, the appropriate rates are 62.99 RCL accidents per million crew member hours and 48.56 conventional accidents per million crew member hours for all railroads, and 63.72 RCL and 49.34 conventional for Class I railroads only. Based upon the metric that FRA, itself, has identified as valid, the RCL to conventional accident ratios change from 0.865 to 1.297 for all railroads, and from 0.861 to 1.291 for Class I railroads only.

Similarly, the casualty rates under the valid metric are 24.36 for RCL and 37.89 for conventional for all railroads, and 21.61 for RCL and 38.25 for conventional for Class I railroads only. The ratios of RCL to conventional casualties rise from 0.429 to 0.643 for all railroads, and from 0.376 to 0.565 for conventional. Thus, not only does a valid data analysis demonstrate that RCL is far less safe than its proponents claim, it also establishes that the accident/incident rate for RCL is higher than that for conventional operations.

Second, and even if the flaw with the reported data did not exist, AAR cannot draw conclusions from yard switching data that bear any relationship to the potential level of RCL safety in main track operations. Ignoring both the Gamst/Gavalla Report and

FRA's own warnings, AAR has chosen to play Pollyanna while it continues to expand the use of RCL.

Given that AAR, first, withheld from FRA its intention to deploy RCO in main track operations and, second, provided data that FRA had previously stated would not afford a valid basis for comparison, it is small wonder that AAR is confident in its ability to "resolve" FRA's concerns. The fact remains, however, that a shell game remains a shell game, no matter how many times it is played.

UTU Treachery

This brings us to UTU. The banner headline screaming "FRA echoes UTU RCL safety concerns" on September 16th is nothing more than the crudest form of spin. UTU's conduct over the past five years tells a far different story.

It is true that, when FRA held its July 19, 2000 technical conference on RCL, UTU joined BLET in urging a careful, reasoned approach to implementation of the technology. However, UTU abandoned that position shortly thereafter, and — when we filed a Petition for Rulemaking governing RCL in November of 2000, which FRA simply ignored — UTU sat mutely, as it did when FRA published its recommended "guidelines" the following February.

Then, in September of the following year, in the middle of our Seventh Quinquennial Convention, UTU signed an agreement with the National Carriers' Conference Committee ("NCCC") claiming the right to the work. In legal action and arbitration that followed, NCCC argued that "the RCO's use of a remote control transmitter is completely different from what engineers do." See, e.g., NCCC Opening Submission to Special Board of Adjustment ("SBA") No. 1141 at p. 42.

UTU argued that the work of the yard ground crew had not changed with the introduction of RCL; rather, "instead of giving hand or lantern or radio signals to control the movement of the locomotive, electronic signals are transmitted to a microprocessor, a computer on the engine, which then performs the work that was formerly done by the locomotive engineer." Transcript of Proceedings before SBA No. 1141 at p. 213.

These arguments — that the work of the yard engineer had been eliminated — served as the basis for the arbitrator's ruling that the NCCC/UTU agreement was valid. He held that while "operation of the locomotive is the exclusive domain of the engineer ... control is not," because ground crews exercise control to the extent that they provide signals for movement. See Award of SBA No. 1141 at pp. 21-22. The arbitrator also held that operation of remote control locomotive was performed by the "on-board computer," and that all the RCO did was send a signal to the computer via the beltpack. Id. at p. 23.

Since that time UTU has taken another 180° turn, and is trying to reclassify RCOs as "mini-engineers." As we reported in August, UTU proposed a scheme whereby the

engineer's position on switching crews in two BNSF yards in Washington and Oregon would be eliminated, with the switch foreman becoming trained to operate locomotives to perform the switching in a conventional operation.

This insidious encroachment on the exclusive work of the locomotive engineer by UTU has become the subtext for UTU's "training" mantra, which has been at the center of all UTU efforts since the summer. Significantly, UTU now wraps itself in FRA's letter on main track RCO operations to further this end.

On September 16th, UTU President Paul C. Thompson, right-hand man for Byron Boyd — who is currently serving a two-year sentence in federal prison for corruption and racketeering — at the time the RCL agreement with NCCC was signed, applauded FRA's position, claiming it reflected UTU's desires that the industry "increase the use of mentoring programs that focus on local conditions" and that "more attention must be devoted to upgrading skills to match introduction of new technology."

In other words, Thompson is perfectly willing to place the members he represents, as well as BLET members and all railroad workers who work on or near main track, in harm's way — using RCL well beyond its capabilities in a setting that FRA concedes could result in a catastrophic accident — just for the sake of another job grab. As The Who sang, "Hail to the new boss, same as the old boss."

Unanswered Questions

This recent turn of events raises a series of questions that the RCL troika must address. To FRA:

In discussing the "unique operating characteristics presented by RCLs," why does your letter fail to include the hazards arising from the autonomous and authoritarian actions of the RCL's Onboard Control Computer, as explained in the Gamst/Gavalla Report?

Why have you continued to refuse to initiate a rulemaking for processor-based RCL operations, based on the rationale used to determine that rulemaking was appropriate and necessary for processor-based Positive Train Control operations?

Since you were "surprised to learn that railroads had some RCL operations on main tracks" because guidelines instead of regulations were issued, and accepted data provided by the railroads that you had previously identified as flawed, why do you now believe that the industry will be any more forthcoming in addressing your concerns, particularly when railroads seek "credit" for RCOs operating on main track in satisfying the 120-hour operating recommendation?

Doesn't the fact that you deemed "most" main track RCO operations as adequate avoid consideration and potential mitigation of rare-event, high-risk accidents that could have catastrophic results?

One reason you conclude that conventional operations on main tracks are safer than RCL operations is that “engineers have the ability to immediately respond to these situations with considerably more controls than those afforded to RCOs.” Why did this aspect of your discussion exclude factors such as longer on-the-job experience, more experience in train handling under varying operational conditions and, above all, the kinesthetic feedback (that “seat-of-the-pants feeling”) a conventional engineer receives from his/her locomotive and train consist?

To AAR: If the “rail industry is committed to the safe implementation of this important technology,” why does it wait to be pushed by the FRA for implementation of RCL safety not extant on the railroads? Why haven’t the Class I railroads provided FRA with data delineating labor hours and employee headcounts for switching operations, as requested in February of 2001, in FRA Guideline C.4?

To UTU: You echo FRA’s findings and proposals concerning RCO on main track. Why have you not accepted the findings of the Gamst/Gavalla Report, covering mainly yard and industrial switching operations within yard limits — showing that the majority of hazards occur in such locations — in which so many UTU members participated?

Privately, some have attempted to dismiss the Gamst/Gavalla Report as a bought-and-paid-for “opinion piece.” This conveniently overlooks the fact that Dr. Gamst has contracted to perform research for FRA, for a number of U.S. and Canadian railroads, and for UTU in the past. Moreover, the implication that Mr. Gavalla, a former senior FRA safety official, is turning tricks is despicable. Instead of utilizing “focus groups” — as FRA has done in the past when conducting research — the Report was the product of a vastly broader, more comprehensive and longer term ethnographic study than ever has been undertaken by its critics, and was conducted by independent professionals with impeccable credentials.

For the record, BLET neither had nor was allowed any input whatsoever into the design, conceptualizations, methodologies, or data included in the Gamst/Gavalla Report. In fact, Dr. Gamst collected all the report’s narrative ethnographic data before BLET contracted for the report. The report was based upon data previously collected and on standard analytic procedures that were detailed in the numerous appendices, which were written by Gamst long before publication of the Report. The Report was commissioned on March 23, 2005 with Mr. Gavalla and several days later with Dr. Gamst, and was completed on May 23, 2005. It would have been impossible to (1) collect and classify the myriad ethnographic data used, which spanned several years, (2) write the eight, theoretically dense, analytic appendices, and (3) draft, redraft, and edit the Report, in a mere two months.

Publicly, of course, FRA, AAR, and UTU have chosen to ignore the Report. They have no choice but to do so, because they cannot refute the supporting narratives, conceptualizations, and methodologies employed by the authors. FRA, AAR, and UTU — in choosing to ignore the Report — are missing opportunities to improve safety. Predictable accidents that are the result of RCL hazards identified in the Report, such

as the amputation earlier this week, will cause many to ask if ignoring the Report's findings and recommendations promotes safety better than addressing them openly.

BLET National President Don M. Hahs had this to say about this latest turn of events: "I will not comment, for the present, on the legal and collective bargaining implications of FRA's letter, and the reaction of AAR and UTU. However, everyone should be mindful that scores of municipalities have joined us to voice their concern about remote control, the State of California has requested a RCL rulemaking, and the State of Washington has not closed the door with respect to its own rulemaking. We will not be deterred from keeping this issue on the front burner, because the safety of all railroad workers and the communities through which our nation's railroads operate demand no less."