



U.S. Department
of Transportation
**Federal Railroad
Administration**

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RCZs*
Memorandum

Date: February 22, 2002

Reply to Airm of:

Subject: **RCL Concerns and Inspection Procedures**

From: **Edward W. Pritchard**
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To: **Regional Administrators**
Deputy Regional Administrators
OP Specialists
MP&E Specialists

Background

On February 14, 2001, the Federal Railroad Administration (FRA) published guidelines for remote control locomotive (RCL) operations in the Federal Register. The guidelines were issued in Safety Advisory 2001-01¹. This advisory consists of recommendations only and is not enforceable. However, it carries much weight in the rail industry and has been readily adopted. Please encourage railroads to follow the recommendations based on safety concerns. FRA has the authority to respond to any safety concern brought to its attention. It is understood that there will be many issues that will not be covered by current FRA policy. These issues will be addressed on a case-by-case basis as they arise. FRA is relying on the expertise of its inspectors to identify problem areas and bring them to the attention of the railroad, and if applicable, to FRA headquarters for resolution.

The advisory notified railroads that, under 49 CFR Part 240, RCL training would be considered a material modification of the railroad's engineer certification program, which would require the railroad to amend its program and submit it to FRA for approval. Headquarters has been getting numerous calls from labor organizations and FRA personnel alike concerning RCL operations. These operations are new to all of us and represent a significant departure from the conventional railroad operations we are familiar with. In an effort to keep you all apprised of the latest developments associated with RCL operations and our approach to them, the

¹This advisory can be obtained from FRA's web site. Click on Safety, Operating Practices Division, Safety Advisories, Safety Advisory 2001-01.

following information and guidance are provided.

RCL Training Programs

On November 30, 2001, six of the nation's largest railroads (BNSF, CR, CSX, KCS, NS, and UP) submitted RCL training programs to FRA for approval. All the aforementioned railroads submitted an identical program, which has been approved by FRA. RCL training is currently divided into two areas: (1) training certified engineers on the new technology and (2) certifying individuals as remote control operators (RCOs). As you can see, the former is merely a training issue, and the latter is a full-fledged certification process. Most of these programs cover both areas. However, the majority of training, as it stands right now, will involve certifying former ground crewmen, i.e., trainmen, switchmen, and conductors. This certification training will consist of a minimum of two weeks, approximately two days in the class room and eight days of on-the-job training. The second week of on-the-job training will be conducted in the yard performing actual switching duties.

The above railroads first submitted a training program to FRA that only specified one week's training: one and a half days in the classroom, two and a half days of on-the-job training, and a final day of testing. These programs were not approved. We stated we would accept a tentative minimum two-week training program and would judge the extent of this training based on the performance of the RCOs who completed the class and also on their evaluations of the training they received.

During the last weeks of February 2002, the first RCL classes were conducted simultaneously on all the major railroads. We are getting feedback from various sources that the trainees on CSX, BNSF, and CR are concerned that the length of the training period (two weeks) isn't long enough. Although this may just be a preliminary reaction, we need to follow up on final evaluations of the training courses. If the trainees notify the railroad of any concerns, we are interested to know how the railroad responds. The road foremen on all the aforementioned railroads have indicated they would allow trainees more training time if requested by the trainee.

Inspection Guidance: It is imperative that we focus on the feedback from the trainees at the end of these first classes and also on the skills performance test procedures given to them. The bottom line: the railroad must have procedures in place to determine that these individuals have the skills to safely operate a train "in the most demanding class or type of service that the person will be permitted to perform." [see 49 CFR 240.127(b) and 240.211(a)]. If the RCOs are required to handle large, heavy drafts of cars, put trains together, and move them from one location to another, they should have performed these same moves during training and during a portion of the skills performance test. If the RCOs are required to move drafts of cars with train air brakes cut in, they should have experienced these types of moves also and should be tested on them. The test should not be superficial. We should encourage the labor organizations and railroads to work together on evaluating these new training programs.

Another concern is that the on-the-job training may not meet training program requirements.

The programs specify 40 hours of training in the yard during the second week of training. Because of software glitches or because of a limited number of locomotives to operate, trainees may not receive the full extent of the training. It is FRA's position that all trainees must receive the full 40 hours of hands-on experience. If trainees must take turns operating the equipment, then only the actual operating hours should be counted toward the 40-hour training requirement.

RCL Operation Parameters

In order to determine the amount of training that should be provided for RCOs, we required the railroads to define the duties of the RCO. All the above railroads have defined these duties as follows:

Remote Control Operator (RCO) - Certified Remote Control Operator may work with equipment by means of portable controller. In the initial implementation this equipment will be used in selected locations where the job will be involved in gathering and distribution of freight and/or equipment that is typically required of yard, road switcher, or other similar assignments at the implementing location(s). The specific assignments involved will vary by locations and could include such work as: hump, trimmer, classification operations, transfer, roadswitcher, industrial and station switching.

Based on this definition, RCO operations are not restricted to yards. The above definition explains that the RCOs are restricted to performing yard switching "type" operations which are conducted at traditional yard (slow) speeds. Therefore, these assignments could operate on industrial leads or main tracks at slow speeds, including to and from switching locations provided these movements are consistent with the training received.

Inspection Guidance: Because the RCO training is so limited in scope, any additional duties assigned to RCOs may require more training; e.g., most of the training programs will not train the RCOs to MU locomotives or to operate a locomotive in a conventional manner. Therefore, if RCOs are instructed to MU a locomotive to the RCL or to move a locomotive in a conventional manner, they are not qualified to do so. Although these duties are minimal, they do require some training to be performed safely. Other examples would be operations at increased speeds or for greater distances. This would entail additional training on physical characteristics and train handling. As these operations expand, it is entirely possible that RCOs will see their duties expand beyond the training provided. Inspectors should monitor these operations closely to determine that the RCOs have been properly trained for the duties they are to perform. Many of the RCOs may not realize the regulation affords them this right to training. Any deficiencies noted should be reported to FRA headquarters for handling.

Operating Practices

RCL operations will necessitate modifying some traditional railroad operating rules and/or creating new rules. It is FRA's responsibility to ensure that safety is not jeopardized by these

changes. For example, we are likely to see significant changes to those rules requiring stopping within half the range of vision. Those rules require that the RCO see the track ahead of the locomotive each time the locomotive pulls out of a track yet it would be difficult to comply with such rules because no one will be in the locomotive. Because maintaining such rules would severely reduce the productivity of the RCL operation, FRA will permit railroads to create remote control zones (RCZs). These RCZs are designated areas in which an RCL may operate without protecting the leading end of the movement. An RCZ is identified by signs and special instructions. The signs are placed at the entrance tracks to each end of the zone. Basically, these zones prohibit all movements other than the RCL from entering the designated area during the time RCL operations are in progress. Movements into the area can only be made with permission from the RCO.

Inspection Guidance: FRA should ensure that RCZs are properly established and identified. It is imperative that all affected railroad employees are informed of the location of RCZs and have a means to determine if they are activated or not. If RCL operations extend beyond an RCZ or are conducted without RCZ protection, FRA should ensure that the movements are protected according to operating rules; i.e., each time the locomotive pulls out of a yard track, the operator must be able to see the track ahead of the locomotive to determine the track is clear and lined for the movement. As the tour of duty progresses, RCOs may become negligent of this requirement. Another area of concern is that the RCZ's parameters are properly identified to those in the immediate vicinity (safety advisory Item F). Inspectors need to ensure that warning signs have been properly placed.

Another area of concern will be local management's attitude toward the RCL operations. Because the training period is so short, the RCOs will move very slowly during their first weeks on the job. Consequently, productivity will be drastically diminished. As a consequence, there may be pressure placed on the RCOs to move faster, perhaps beyond their abilities. Inspectors should monitor this closely by periodically observing the operations and interviewing the RCOs.

Nonconformance with the Safety Advisory

In certain instances you may find that the railroad is not conforming to the safety advisory recommendations. For example, the safety advisory recommends that RCOs not ride on the side of railroad rolling stock other than locomotives. The impetus for this recommendation was based on older RCL technology that required the RCO to continually manipulate speed and brake controls to regulate speed. This practice would certainly inhibit the RCO from focusing on his/her situational awareness. Many railroads have elected not to adopt this practice based on the speed control features now available on the new technology. With the speed control feature the RCO can mount the car, set the speed, and hang onto the car with both hands. During conventional operations, a switchman would be hanging onto the car with one hand and giving signals or keying a radio with the other. FRA's position is that riding a car using the newer RCL technology provides at least an equivalent level of safety as conventional methods.

Inspection Guidance: If the railroad does not adopt one or more of the recommended guidelines, inspectors should question the safety consequences of such actions. The safety advisory allows railroads latitude in this area with the following language:

In certain circumstances, due to the design of their equipment, or differences in operating practices, a railroad may not be able to obtain complete consistency with these recommendations. In those situations railroads are encouraged to develop alternative designs or practices which offer at least equivalent or greater levels of safety.

If alternative measures are proven unsafe, notify the railroad of our concerns and work with FRA headquarters staff to resolve the issue(s).

Identifying Technology Malfunctions

With the implementation of any new technology come the associated software failures that may have a significant adverse effect on safety. FRA has seen this first hand when locomotives with electronic air brake systems were first introduced into the industry. Engineers were reporting display screen and brake failures during train braking situations. The safety advisory recommends that railroads establish an efficient channel of communications between RCOs and local management to identify and quickly respond to these failures.

Inspection Guidance: Please ensure that the railroad has established such communication procedures and verify that they are in place and working.

Conclusion

These are just a few of the significant areas of concern that we should be looking at. I am confident that we will quickly adapt to these operations. It is of the utmost importance that the railroads are aware of FRA's presence and interest during the implementation of RCL operations, especially our concern that adequate training is provided. Your attention to this matter will secure the highest level of safety during this transition period. Since many of the areas discussed are relatively new, it is important that inspectors work closely with headquarters when addressing these issues. If further guidance is required, please contact John Conklin. MP&E issues will be addressed in a separate memo.

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