

Final Report

Safety of Remote Control Locomotive (RCL) Operations



Federal Railroad Administration

March 2006

Findings on the Open Issues in the Interim Report

Four items listed in the interim report required further evaluation. The following are the results of FRA's additional analysis of these items:

1. RCOs Riding on Cars

Traditional railroad safety rules require employees who are riding the side of railroad cars to always maintain three points of contact, i.e., both feet firmly placed on the ladder rung and one hand gripping a ladder rung or hand-hold. The other hand may then be used to give hand signals or key a radio microphone during transmissions.

Safety Advisory 2001-01 recommends that RCOs refrain from riding cars under any circumstances while actively engaged in operating the RCL. This recommendation was developed taking into account former RCL equipment that required the manipulation of two levers simultaneously to control speed (throttle and brake). However, new state-of-the-art RCL technology incorporates a speed control feature that allows the RCO to dial in a specific speed (similar to cruise control on an automobile), and then grasp the car with both hands. This enables the RCO to maintain four points of contact, which exceeds the industry safety standard of three. Both the railroads and the labor organization responsible for conducting the majority of RCL operations in the country have indicated that riding cars while operating the RCL could be performed safely. As an added measure of safety, it was noted that industry practices empower employees to choose when it is safe to ride a car and when it is not.

The FRA was concerned that the added responsibilities of operating a locomotive while riding the side of a car could distract a RCO's situational awareness; however, the data appear to indicate otherwise. The data show that 124 injuries occurred involving riding the sides and ends of cars during the assessment period. Of those, 94 were injuries during conventional operations and 30 during RCL operations. Of the 30 RCL injuries specifically related to RCOs riding cars, 17 occurred to non-operating RCOs and 13 occurred to operating RCOs. Although the numbers are small in these calculations, the data do not indicate that operating RCOs are injured any more often than non-operating RCOs.

The FRA is recommending that when new speed control technology is used, the option of riding on the side of freight cars should be left to the discretion of the individual RCO, who can best make this determination based on the prevailing conditions at the time. However, in those cases in which RCL systems require the manipulation of two levers simultaneously to control speed, FRA continues to recommend that those operating the equipment should not ride the side of cars.

2. Point Protection and Remote Control Zone Procedures

The leading cause of train accidents in switching operations involves the failure to provide point protection for the train movement. As discussed earlier (p.10), establishing point protection for RCL operations raises challenges since there is no engineer on the locomotive to provide the point protection on that end of the movement. While one solution would be to require an RCO to protect the point, i.e., walk from the switching lead to the front of the locomotive to determine that the track is clear, this practice would greatly reduce the efficiency of RCL operations. To