U.S. Department
of Transportation

**Federal Railroad
Administration**

Administrator

1120 Vermont Ave., NW.
Washington, DC 20590

APR 6 2006

The Honorable Daniel K. Inouye
Ranking Member
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Senator Inouye:

Enclosed is the Final Report on the Safety of Remote Control Locomotive (RCL) Operations, which was requested by the Committee on Commerce, Science, and Transportation. The Federal Railroad Administration (FRA) conducted an assessment of the impact of RCL operations on safety, including a comparison of the rate of accidents, injuries, and fatalities involving RCLs with similar operations involving manned locomotives.

Additionally, the committee requested that the audit assess the effects of RCL operations on the safety of highway-rail grade crossings, hazardous materials transportation, RCLs in urban areas, any unique operational characteristics presented by RCLs, and the safety benefits of such operations. FRA sent the Committee an interim report in May 2004 with preliminary findings and initial accident statistics.

The enclosed final report contains our findings and available RCL accident statistics, including a comparison of RCL accident and casualty rates with those from conventional switching operations. The report also contains a brief history of FRA's efforts to ensure the safe implementation of RCL technology.

Based on the data collected from December 2003 through December 2004 (this period begins where the interim report period ended), RCL and conventional train accident rates were virtually identical for those major railroads that made extensive use of both types of operations. For the industry as a whole, RCL train accident rates were approximately 25 percent higher than the train accident rates for conventional switching operations, i.e., 22.42 vs. 17.89 accidents per million yard switching miles (MYSM). The higher rate for RCL operations is largely because the railroad that historically has had the lowest human factor train accident rate relies almost exclusively on conventional switching. Employee injury rates were approximately 20 percent lower for RCL operations than for conventional switching operations, i.e., 6.49 vs. 8.14 per MYSM, an effect that may be in part attributable to crew size.

The study shows that, when comparing all railroads, RCL operations result in more train accidents than conventional operations. This result, which is different than our preliminary finding, appears to be based on two factors. First, because the larger data sample taken for the final report provided a more complete picture of comparisons and contrasts, FRA has introduced enhanced programming methodology to eliminate accidents involving through and local freight trains that derailed while entering or leaving a yard or industry track and are not due to RCL operations. Injuries to crew members of through and local freight trains that occurred in a yard or on industry tracks were also excluded. Second, a closer look at the data indicate that approximately 85 percent of the yard switching miles were generated by only three (BNSF, CSX, and UP) of the 38 railroads evaluated. A comparison of accident rates for these three railroads indicates a rate of 24.09 for RCL operations and a rate of 24.52 for conventional operations. A comparison of injury rates for the three railroads indicates a rate of 6.58 for RCL operations and a rate of 9.54 for conventional operations. FRA believes that the accident and injury data developed from this enhanced methodology results in a better representation of the relative safety of the two modes of switching operations.

During the assessment period, two fatalities occurred involving RCL operations, and two fatalities occurred involving conventional operations under comparable circumstances.

FRA has regulated RCL operations as part of crosscutting programs applicable to both RCL and conventional operations, including oversight of railroad operating rules, locomotive engineer qualification and certification, inspection of locomotives, and accident/incident reporting (49 CFR Parts 217, 240, 229, and 225). Currently, only requirements for accident/incident reporting contain provisions specific to RCL operations; although RCL-specific actions have been taken under other regulatory programs (in particular, review and approval of RCL operator training and qualification).

As explained above, on those major railroads where RCL technology has been extensively utilized, safety performance has been roughly equivalent to that of conventional switching. While this record does not provide a basis for singling out RCL for further regulation, neither does it exclude the need for further attention in appropriate contexts. As FRA has explained in the National Rail Safety Action Plan (May 16, 2005 at page 3), "[h]uman factors constitute the largest category of train accidents, accounting for 38 percent of all train accidents over the last five years." If the promise of RCL—better control of switching movements—were being realized, human factor train accidents would have fallen significantly over the last several years as RCL operations have become more prevalent. Instead, human factor-caused events have remained the most prominent category of train accidents. Although personal injury rates have continued to fall for ground employees in switching service, individual RCL-related events clearly indicate the potential for loss of life (as is the case with respect to conventional switching, as well).

On May 18, 2005, the Railroad Safety Advisory Committee (RSAC) accepted a task to consider further actions that might be taken to reduce human factor-caused train accidents and employee injuries in switching operations. The Operating Rules Working Group has been formed and

began its work in July 2005, and they are required to submit a report on initial recommendations by February 2006. The RSAC working group was unable to reach consensus on regulatory requirements. However, FRA did receive valuable information and will pursue a rulemaking to Federalize certain operating rules relating to the proper handling of switches, protection of the point in shoving movements, and leaving cars in the clear (not "out to foul"). Better compliance with these rules in both conventional and RCL switching operations could dramatically reduce human factor train accidents and also better protect the safety of employees working in yards and terminals.

Regarding the current use of RCL technology in classification yards, FRA believes these operations can be conducted safely, provided employees are properly trained for the duties they are expected to perform and provided railroads maintain proper oversight during these operations. FRA strongly believes that remote control technology should not be expanded beyond yard switching operations, with limited exceptions that involve short distances, limited tonnage and grades.

The FRA found no reduction in safety associated with RCL in the contexts of highway-rail grade crossing safety or the transportation of hazardous materials.

I appreciate your interest in railroad safety, and the FRA looks forward to continuing its work on transportation issues with you and the Committee. An identical letter has been sent to Senator Ted Stevens.

Sincerely,

Joseph H. Boardman
Administrator

Enclosure