NOTICE OF SAFETY ADVISORY 97-2 - Securing unattended rolling equipment.

On September 18, 1997, FRA published Safety Advisory 97-2 in the Federal Register (Vol. 62, No. 181, page 49046), addressing safety practices to reduce the risk of casualties from runaway locomotives, cars, and trains caused by a failure to properly secure unattended rolling equipment left on sidings or other tracks. It reads as follows:

A fatal head-on collision between a Union Pacific Railroad Company (UP) freight train and an unattended, runaway UP locomotive consist near Fort Worth, Texas, on August 20, 1997, has caused FRA to focus on the effectiveness of certain railroad procedures for protection of people and property from hazards caused by failure to properly secure locomotives, cars, and other rolling equipment left unattended on sidings or other tracks.

FRA and the National Transportation Safety Board (NTSB) are investigating the accident. In addition, FRA inspection teams are on UP's property to conduct safety assurance reviews on all aspects of the issue. The facts and findings developed in the investigations will be published when the individual investigations are complete.

In the meantime, FRA's preliminary findings indicate that the UP crew applied the hand brake on the lead locomotive of the locomotive consist, and then applied the independent air brake. The crew then released the independent brake to verify that the hand brake would hold, which it appeared to do. The crew then reapplied the independent brake. Three of the four locomotives in the locomotive consist were already shut down. The remaining locomotive was then shut down and the crew left the locomotive consist unattended. Sometime later, however, it is believed that the air brakes eventually leaked off and that the single hand brake did not, by itself, sufficiently secure the locomotive consist, enabling it to roll out of the siding eastward and onto the main track where it collided head-on with a UP freight train.

Securement Procedures: The Federal power brake regulations at 49 CFR 232.13 (f) require that, "The automatic air brake must not be depended upon to hold a locomotive, cars or train, when standing on a grade, whether locomotive is attached or detached from cars or train. When required, a sufficient number of hand brakes must be applied to hold train, before air brakes are released. When ready to start, hand brakes must not be released until it is known that the air brake system is properly charged."

Based upon FRA's review of the Fort Worth incident, and its awareness of other incidents involving improper securement of rolling equipment, it appears evident that further guidance regarding securement procedures may be of assistance to our nation's railroads. This advisory may be especially beneficial to those railroads that may not be aware of current practices in the industry regarding securement of rolling equipment. Accordingly, FRA believes that the following recommended procedures for the proper securement of unattended rolling equipment can be taken to reduce the likelihood of future accidents, which each railroad can then adapt to meet its own individual circumstances.

Recommended Action: FRA believes that the likelihood of further accidents, such as the one that occurred on the UP on August 20, 1997, would be greatly reduced by the inclusion of certain additional measures into railroads' procedures for securement of unattended locomotives, cars, and trains left on sidings or other tracks. Therefore, FRA recommends that each railroad adopt and implement its own procedures incorporating the following actions, or equally effective measures, with respect to a locomotive, car, or train that is left unattended:

1. Consistent with the railroad's rules and procedures, place each locomotive, car, or train on a track that is protected by a permanent derail or apply a portable derail, if available.

2. On cars:

(a) Apply the appropriate number of handbrakes; to assist crewmembers in this regard, railroads should develop and implement a process or procedure, such as a matrix, that would provide specific guidance in determining the appropriate number of hand brakes to apply, considering grade, tonnage, and other local conditions prevalent at the time of securement, for example, high winds, or extreme cold;

(b) where appropriate, remove slack from the train, or as commonly referred to in the industry, "bunch the slack;" and

(c) detach any locomotives from the cars to allow an emergency brake application.

3. On locomotives, fully apply all hand brakes on all unattended locomotives in the consist. If the grade exceeds one percent, or whenever it is otherwise required by railroad rules, in addition, chock or chain the front and back of at least one pair of wheels in the locomotive consist. Railroads should develop and implement procedures that would then verify that the hand brakes will hold the locomotive consist. Further, railroad instructions should address:

(a) The throttle position;
(b) status of the reverse lever;
(c) position of the generator field switch;
(d) status of the independent brakes;
(e) position of the isolation switch; and
(f) position of the automatic brake valve. The above procedures should also take into account winter weather conditions as they relate to throttle position and reverser handle.

FRA may modify Safety Advisory 97-2, issue additional safety advisories, or take other appropriate necessary action to ensure the highest level of safety on the Nation's railroads.

Issued in Washington, DC on September 15, 1997. Edward R. English, Director, Office of Safety Assurance and Compliance.