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BEFORE THE SURFACE TRANSPORTATION SUBCOMMITTEE OF THE SENATE  
COMMITTEE ON COMMERCE ON H.R. 15223 AND S. 3343  
MONDAY, JULY 29, 1974

Mr. Chairman, I am pleased to appear before your subcommittee to discuss the extremely important subject of railroad safety and the proposal to amend the Federal Railroad Safety Act of 1970 to authorize additional appropriations and for other purposes.

I think we are all aware of the increased attention given by the public sector to the railroad industry. The bankruptcy of a large number of railroads in the northeast and midwest section of the country has given the public sector grave concern. Further, the public demand for energy-efficient and environmentally sound forms of transportation makes it clear that the Government, Federal and State, must take the appropriate steps to help insure this Nation of a safe and economically sound rail transportation system.

This morning I would like to discuss with you FRA's railroad safety program, and the steps FRA has taken to implement the Rail Safety Act of 1970.

Partly, as a result of the energy crisis the railroad industry has experienced a noticeable increase in ton miles and train miles operated. Coupled with this increase in operations has been an increase in rail accidents and injuries. Chart 1 illustrates the increase in reportable train accidents since the establishment of the present reporting threshold of \$750 in 1957. The columns reflect an increase in both derailments and collisions. Preliminary statistics for railroad accidents reported to FRA in 1973 indicate that the number of train accidents in 1973 was 9,396, nearly a 25% increase over 1972. The largest single area of increase was derailments which increased 36% over 1972.

At the same time it should be recognized that train miles run in 1973 (probably the best single index of exposure) were at an all time high and increased 6% over 1972. Charts 2 and 3 graphically illustrate the relationship between increased ton and train miles and the increase in the number of derailments.

Also a portion of this increase may be attributable to inflationary factors in that the required reporting of train accidents was based on a monetary threshold of \$750 established in 1957. Chart 4 reflects the current trend and what that trend would have been if the reporting threshold had been adjusted as we propose for the future. I would like to submit for the record a copy of a Notice of Proposed Rule Making which

was recently published in the Federal Register, in which FRA proposes to establish a new monetary reporting threshold of \$1,750. Further, based on consideration of relevant cost factors, we intend to continually review these factors and periodically change the threshold amount where appropriate. This constant review and adjustment will eliminate the sharp fluctuations in the number of reportable accidents which result from the previous practice of infrequent adjustments as demonstrated in Chart 5.

None of these adjustments which I have referred to are intended to understate the increases in the number of accidents. Rather they are reflected to permit a proper analysis. These adjustments do not change the fact that since the middle of 1972 accidents have been increasing - a fact which is of great concern to FRA as I know it is also to this Committee.

In order to graphically illustrate other recent trends in the area of rail safety I would like to submit for the record 9 additional charts which will point out problem areas. Before doing so I believe it is appropriate to note that although none of the other modes keep accident statistics in the same detail we require of railroads, the railroad industry compares favorably in terms of safety with other modes of transportation.

- 6) Train Accidents by General Cause -- 1972 - 1973  
This chart shows that rail accidents fall into 3 major categories, led by track and roadbed defects
- 7) Train Accidents Due to Track Defects or Failures -- 1972 - 1973  
This chart shows that about 70% of all track caused accidents were due to defects in the track structure itself
- 8) Train Accidents Due to Equipment Defects or Failures -- 1972 - 1973  
This chart indicates that over 50% of the equipment caused accidents were due to car running gear, and about 20% due to the draft system
- 9) Derailments -- 1972 - 1973  
This chart shows that about 70% of all derailments were due to failure of plant and equipment
- 10) Collisions -- 1972 - 1973  
This chart shows that human factors are a major problem area especially in the case of collisions
- 11) Casualties by Class of Person -- 1967 - 1973  
This chart reflects a declining trend in casualties in the railroad industry
- 12) Casualties to Employees in all Accidents -- 1967 - 1973  
While fatalities increased the chart shows a favorable trend in casualties for railroad employees
- 13) Fatalities by Class of Person -- 1967 - 1973  
This chart shows that passenger fatalities generally are quite low - 1972 showed a new high as a result of the tragic accident in Chicago, Illinois which resulted in 44 fatalities

The Federal Railroad Safety Act of 1970 (the first major piece of railroad safety legislation enacted in almost half a century) has provided the Federal Railroad Administration with the necessary authority to make significant strides in promoting rail safety. Of great significance is the Track Safety Standards promulgated by FRA in 1971. These track standards became fully effective on October 16, 1973.

In November 1973 FRA, issued minimum safety standards for railroad freight cars. These standards describe defective conditions, prescribe inspection requirements for freight car components, and require journal bearings to be lubricated at prescribed intervals. These standards also prohibit or restrict use of certain cars and various makes and models of car components which are unsafe or not suited for general railroad service. These standards became effective January 1, 1974.

It is our belief that the implementation of these two sets of standards in combination will have a long range beneficial effect on safety of operations in the rail industry particularly in the area of derailments. I would emphasize the phrase long range effect, because I think it is important that this Committee understand that we are talking about a period of some four to five years during the initial portion of which derailments may continue to increase. This is not because these standards are ineffective, as some have charged, but rather because a certain amount of lead time is required for their effects to become apparent.

The conditions responsible for the present increase in derailments are the result of at least a decade of deferring maintenance on track and equipment by the railroad industry so as to make ends meet. Until this year, there was no prohibition against doing so. Now there is and we are preparing to field, in cooperation with the States, an inspection force capable of enforcing compliance with the standards. This in itself raises problems as most graphically demonstrated in connection with Penn Central's application for the exemption of some 6,900 miles from minimum Federal standards last fall. We avoided the easy choices -- to require them to cease operations over the substandard track on the one hand, or to unconditionally exempt the trackage involved. After public hearings at which all relevant interests urged that continued operations be permitted, we decided to do so upon a set of stringent conditions and under close surveillance. Our experience under this exemption convinces us incidentally, that the Class I standard, or the so called minimum Federal standard, is indeed the appropriate safe minimum standard for track maintenance.

A further example closer to home is the condition of Penn Central's track between Louisville, Kentucky and Chicago, Illinois. Increases in the number of derailments in this area and the inability of Amtrak trains to operate with reasonable speeds caused FRA to conduct an investigation of the condition of this track. We found such track to be in marginal condition.

To enforce these two sets of standards, we have substantially increased the Office of Safety inspection force in the areas of track and motive power and equipment. Chart 14 illustrates Office of Safety staffing increases from 1970 through 1974.

We anticipate further increases in the total rail safety inspection force with the implementation of the State Participation Program established under Section 206 of the Rail Safety Act of 1970. In the summer of 1971 initial contact was made with the Governor of each State concerning the State Participation Program. After gathering considerable information FRA, on December 6, 1973 issued regulations implementing section 206 of the Rail Safety Act establishing criteria which a State agency must meet to assist FRA in investigation and surveillance activities with respect to the enforcement of Federal track safety rules. FRA representatives have conducted a number of meetings with State personnel in various locations around the country. Some problems with certain aspects of the program were identified during these initial meetings with the States. FRA has since then issued and distributed to all State agencies revised guidelines clarifying FRA regulations in these problem areas -- that is, the degree and application of Federal control, qualifications for track inspectors, and the statutory provisions for Federal payments. Under these revised guidelines FRA has issued a certification for 7 States, and has entered into an agreement with one state. Applications are pending from two other States. An additional 5 States including Indiana have

indicated their intention to participate if the FY 1974 appropriation of funds for this purpose is extended as proposed by the House. Chart 15 sets forth a complete listing of the total number of States involved in this program. FRA is in the process of issuing initial guidelines for equipment inspection. We hope to have these guidelines available to the States this Fall so that their program can be enlarged to include equipment inspection.

At the same time, we have made every effort to increase the efficiency of our inspection effort. To that end, we have recently reorganized the Office of Safety field inspection force to combine the locomotive and car inspection functions. This was done primarily because the new equipment standards are more similar to preexisting locomotive inspection standards than to our prior car safety standards issued under the Safety Appliance Act. While using a single inspector to inspect both cars and locomotives will not be important at major terminals because these terminals require more than one inspector, it will be important at outlying points. At such points there are relatively few locomotives and/or pieces of equipment. Travel to and from the inspection points consumes a major fraction of the total time available for inspection. Under these circumstances the availability of a single inspector to inspect both should result in significant efficiencies which will be directly translatable

into more inspections than would otherwise have been performed. Also we are allocating inspection time on the basis of accident experience.

I am not saying that our track standards or our equipment standards are perfect. Indeed, we are presently considering adding to the track standards a requirement for special inspection of field welded joints. Nor do we yet have a satisfactory answer to the problem of lateral fracture of rails which was addressed by the NTSB in a recent report on lateral fractures as an increasing cause of train derailments. We are working hard through our research program to come up with answers on this subject and when we do, you may be assured that appropriate regulations on the subject will be added to our track standards. Similarly, we presently have under consideration additions to the equipment safety standards. The point I would make is that we are moving to achieve a balance between research, regulation and enforcement in this area which should be effective in substantially reducing derailments in the future.

All of our efforts in this area will be of limited effectiveness, however, if the railroad industry simply does not have sufficient cash to make the investments necessary to comply with Federal standards. Governor John Reed, Chairman of the NTSB, in his recent testimony before the House Committee on Interstate and Foreign Commerce with respect to the extension of the Rail Safety Act stated:

"FRA accident records show a significant correlation between the financial condition of a railroad and its accident rate. In general, favorable accident rates and a profitable operation go hand in hand. The phasing in of Federal track standards did not prevent the recent rise in derailments and accidents, though the results in fatalities may have been influenced by lower speeds. The inference is that irrespective of the progress being made on railroad safety standards, and more active enforcement, safety may be more strongly influenced by secondary effects of a railroad's financial condition, or more specifically by funds available for maintenance, whether or not they come from profits."

The best means of improving the position of the industry in this respect would be by enactment of the combination of regulatory reforms and financial assistance contained in the TIA bill (H.R. 12891/S. 3237) which is presently being considered by the House. I assume that this legislation is beyond the scope of this hearing, but the financial condition of the industry is so inextricably tied into its safety performance that it cannot be ignored. We are hopeful that the TIA will be promptly considered by the Senate. For these reasons I wish to reserve on behalf of the Department comments on S. 3343, the Interstate Railroad Act of 1974 which represents an alternate means of attacking this same problem and should be considered along with the TIA or the Surface Transportation Act. I would like to say, however, that we view the focus of S. 3343 as too

narrow. The safety and financial problems of the railroads are much broader and needs the kind of overall reform that is offered by the TIA.

Additionally, in the regulatory area FRA has published proposed rules pertaining to railroad operating rules and practices, passenger train visibility, tank car-tank head shields, and tank car safety bents. Chart 16 sets forth the status of the various rules presently under consideration.

In the area of rail safety research, FRA has directed its efforts toward the development of safety regulations and the improvement of safety technology. As indicated on Chart 17 safety research is carried on under the authority of both the Railroad Safety Act and other appropriations. From a modest beginning in 1970, during FY 1974 the combined total increased to \$10 million.

Effective research requires an analysis of accident causes so that priorities can be set. FRA rail safety research closely followed these categories of accidents which occurred during 1973:

1. Track Related Accident Causes (37% of accidents)
2. Employee Related Accident Causes (24% of accidents)
3. Equipment Related Accident Causes (20% of accidents)
4. Grade Crossing Accidents (3% of accidents)
5. Miscellaneous (16% of accidents)

During 1973 there were 3,465 track related accidents resulting in over \$52 million in property damage. During 1972 there were only 2,500 track related accidents. In attacking this problem FRA has established facilities for track-train research at our High Speed Ground Transportation Test Center at Pueblo, Colorado, which includes our Rail Dynamics Laboratory and a 20 mile test track. Availability of these facilities is anticipated during 1975. Concurrently with the establishment of these facilities we initiated a 5 year Improved Track Structure Research program. This program includes safety related activities in the following areas: rail-end technology, ballast performance improvement, and correlation of track stability with user demands. In addition, we continued operation of the 4 DOT rail research test cars. Planning is now underway to advance the state-of-the-art in track geometry and ride quality testing.

Employee related train accidents in 1973 resulted in 32 of the 36 employees killed in train accidents, and 245 of the employees injured in train accidents. A high proportion of these fatalities and injuries occurred at the man/machine interface and are subject to improvement through improved employee practices and training. A significant proportion of the most serious accidents are head-on and rear end collisions which are directly attributable to employee-related causes.

Of similar high priority are equipment related accidents which result from wheel and axle failures, journal and roller bearing failures, truck failures and coupler failures. FRA in cooperation with the Association of American Railroads and the Railway Progress Institute, has identified key areas in our equipment related safety research to include track-train dynamics, suspension systems, tank car safety research and equipment surveillance.

Of continuing intense public concern are hazards related to rail-highway grade crossings. While the total number of rail highway accidents has remained relatively constant, these accidents result in a high incidence of fatalities. In recognition of the fact that this area is one of primary concern to highway users, FRA has been actively working with FHWA to arrive at appropriate solutions to the problems of safety at grade crossings. This effort to date has resulted in the publication of two joint reports on the subject and we are continuing to work actively with FHWA and NHTSA in implementing the mandate of the Highway Act of 1973.

This summarizes the efforts FRA is making to promote railroad safety.

Railroad safety will continue to be a matter of vital concern for the foreseeable future, and the Federal Government will have continuing responsibility in this area. For this reason we proposed in H.R. 14077 that the Federal Railroad Safety Act of 1970, as amended, be amended to permanently authorize appropriations for the continuation of the rail safety program, including the control over the transportation of hazardous materials.

Nevertheless, sections 2 and 4 of H.R. 15223, as passed by the House would amend sections 212 and 303 of the Federal Railroad Safety Act of 1970 to authorize to be appropriated to the Secretary for fiscal year ending June 30, 1975 amounts not to exceed \$35 million for the rail safety program, and \$3,000,000 for the control of the transportation of hazardous materials. In addition, the bill would allocate the \$35 million for specified purposes in the administration of our rail safety program. For the reasons outlined in the justification of our bill we would have preferred that appropriations for our rail safety program be permanently authorized. Similarly the specified allocation of the authorized amounts would, in our judgment, create administrative inflexibility.

Section 3 of H.R. 15223, would amend the penalty provisions of the Accident Reports Act (45 USC 39) to conform to the penalty provisions of the Rail Safety Act as we requested.

In our original proposal (H.R. 14077) we proposed to amend the penalty provisions of various other railroad safety Acts to conform to the penalty provisions of the Rail Safety Act of 1970, so as to provide uniform enforcement procedures for all safety rules and regulations. We further proposed to repeal certain obsolete statutes which are unnecessary to an effective rail safety program. Additionally, we recommended amendments to the Locomotive Inspection Act to conform that Act with the provisions of Reorganization Plan #3 of 1965. These measures were not adopted by the House. We urge favorable consideration of these recommendations by your subcommittee, as we feel that such measures will greatly enhance the enforcement of our rail safety program.

Section 6 of H.R. 15223 would require the Secretary to issue regulations governing rail transportation of Class A explosives requiring -

- 1) The use of cars with roller bearings and with either composition brakeshoes or spark shields;
- 2) Spacer cars between cars containing such explosives as the Secretary finds to be necessary and prudent; and
- 3) Inspection of the car selected to transport such explosives and the loading thereof, and inspection of such car en route

We strongly oppose this provision. It is our view that such requirements should be imposed by regulation after in depth study and analysis rather than by legislation. This proposal is an obvious result of two recent rail accidents involving the detonation of military ordinance. In response to these accidents and based on recommendations of NTSB, FRA promulgated Emergency Order #3 which provided that cars carrying Class A explosives must have spark shields, special brakeshoes, and be inspected far more frequent than had previously been the case. Since the promulgation of the Order there have been no further explosions. FRA is satisfied that it has eliminated the cause of these recent explosions. In our judgment, this Emergency Order obviates the need for requirements 1 and 3 noted above.

It is our view that the requirement for spacer cars between cars carrying explosives would increase the hazards surrounding the transportation of explosives. In the first place the requirement for spacer cars would increase the handling of cars carrying explosives in making up a train. Second the proposal does not require the spacer car to be in the same condition as is required of the car carrying the explosives. To permit such cars to be in inferior condition would increase operating hazards. To make such requirements applicable the spacer cars would require the establishment of a dedicated car fleet which in turn would aggravate car shortages and

increase the cost of transportation of explosives by rail, possibly diverting such explosives to the highway. Everyone agrees that transportation of explosives by highway is far more hazardous than transportation by rail. Rather than legislate such requirements, we strongly recommend that such considerations be left to administrative regulation. Permanent regulations expanding upon the requirements of the Emergency Order presently in effect are presently well along in the rule making process and should be ready for publication in final form shortly. We urge the Committee to reject this proposed legislative preemption of the safety regulatory process in this area as it did when a similar provision was included in the House proposed legislation which ultimately became the Regional Rail Reorganization Act of 1973.

This completes my formal statement, Mr. Chairman, and I will be pleased to answer any questions you may have.

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