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Improvements Needed in DOT's Hazardous Materials Rail Safety Program

Statement of
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Subcommittee on Transportation and
Hazardous Materials
Committee on Energy and Commerce
House of Representatives

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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify on the results of our work regarding the transportation of hazardous materials by rail. At the request of the Chairman, House Committee on Energy and Commerce, we evaluated the effectiveness of the Federal Railroad Administration's (FRA) hazardous materials inspection program and determined the extent to which the Research and Special Programs Administration (RSPA) has improved its hazardous materials information system. We will be issuing a report on the results of our work in about a week. Today, I will summarize our principal findings.

We found that FRA's hazardous materials inspection program has not been effectively implemented. As a result, FRA is not in a position to provide assurances that shippers and railroads are adhering to federal hazardous materials regulations. FRA has experienced implementation problems primarily because

-- FRA had not provided adequate guidance to inspectors on procedures to be used for inspecting shippers and railroads;

-- Inspectors were not generally using a systematic approach to target high-risk shippers and railroads for inspections;

-- Inspectors concentrated their efforts on inspecting individual tank cars rather than evaluating the effectiveness of shippers' and railroads' safety procedures; and

-- FRA does not have enough hazardous materials inspectors to effectively carry out the program.

Past reports issued by GAO and the Office of Technology Assessment (OTA) criticized RSPA for not maintaining an accurate and complete hazardous materials information system. Although RSPA has made

some improvements, the system continues to be incomplete. In addition, RSPA has not implemented past GAO and OTA recommendations to establish a program to register shippers of hazardous materials.

BACKGROUND

Within the Department of Transportation, RSPA is responsible for issuing regulations governing the transportation of over 30,000 types of hazardous materials by air, highway, pipeline, rail, and water. The Association of American Railroads estimated that about 1.1 million carloads of hazardous materials moved by rail in 1988. These materials ranged from extremely hazardous explosives and poisons, to such substances as nonflammable gasses.

FRA enforces RSPA's rail regulations through its hazardous materials inspection program. RSPA collects information on hazardous materials releases and accidents from shippers and railroads and stores this information in its hazardous materials information system. FRA uses information on releases in RSPA's system as well as information from its own hazardous materials reporting system for planning and implementing its inspection program. Shippers are responsible for properly loading hazardous materials into rail cars and transferring them to railroads for shipment. Upon receiving a loaded hazardous materials rail car from a shipper, railroads are responsible for inspecting it to ensure that it is in proper condition for transportation.

During the past 5 years, the number of defects and violations identified by FRA hazardous materials inspectors have increased dramatically. While both involve regulatory noncompliance, violations are considered more severe than defects and are forwarded to FRA's General Counsel for processing to assess civil penalties. In 1984, inspectors identified about 10,600 defects in their inspection reports. In 1988, they identified about 17,900

defects--an increase of 69 percent. Violations rose more dramatically during the 5-year period, from about 500 in 1984 to about 3,600 in 1988--a 600-percent increase. These increases are not the result of additional inspections. The number of inspections ranged from about 8,700 in 1984 to 9,100 in 1986, but then dropped to about 7,900 in 1988.

We conducted our review at RSPA and FRA headquarters offices, and at four of eight FRA regional offices (Chicago, Ill.; Fort Worth, Tex.; Philadelphia, Pa.; and San Francisco, Calif.). These four regions were selected because they accounted for about two-thirds of the total hazardous materials rail originations nationwide in 1988, and because the regions were disbursed across the country. We also interviewed officials in four state railroad inspection programs--California, Illinois, Pennsylvania, and Texas--to obtain their views on FRA's hazardous materials inspection program and what role they might play in assisting FRA.

FRA INSPECTION PROGRAM NOT EFFECTIVELY IMPLEMENTED

FRA's hazardous materials inspection program was not being effectively implemented because it was hampered by inadequate guidance and by inspectors who independently determined how they would carry out their inspection activities and did not use a consistent, systematic approach. Inspectors spent the majority of their time at railroad facilities instead of at shippers' facilities, although the risk of hazardous materials releases is greater at shipper facilities. Inspectors are not provided with up-to-date, detailed information that could be used to identify high-risk shippers and to facilitate inspection planning. In addition, inspectors generally focused on inspecting tank cars rather than evaluating safety procedures of shippers and railroads. Finally, the number of FRA hazardous materials

inspectors was not sufficient to ensure compliance with federal hazardous materials regulations.

Inadequate Headquarters Guidance Provided Field Inspectors

FRA's hazardous materials enforcement manual is its agency wide written guidance for hazardous materials inspectors. However, the manual was published in 1983 and is outdated and vague. It contains general guidance and goals that have been superseded or contradicted by FRA officials. For example, the manual states that 55 percent of an inspector's time should be spent on inspecting shippers. In 1988, FRA headquarters' officials verbally changed this criterion to 80 percent, but few field inspectors we interviewed understood this change.

Further, the manual does not describe how inspectors can identify and target high-risk shippers, and it is not clear as to when shippers and railroads should be cited for noncompliance or how and when to update lists of shippers. The manual also does not clearly state inspectors' authority to issue violations at shippers' facilities, and several inspectors were unsure about their authority to cite shippers.

Regarding inspector's citation authority, both RSPA's regulations and the Hazardous Materials Transportation Act are clear in mandating that shippers comply with safety standards, and that FRA has the power to enforce these requirements by issuing citations to those who do not comply. Inspectors we interviewed did not generally understand their authority in this area and were reluctant to cite a shipper even when violations were noted. Most inspectors believed they could only issue a violation after the shipper had released a tank car into transportation (i.e., transferred it to the railroad). This interpretation would preclude inspectors from citing a shipper for improper loading of

hazardous materials, even though the regulations specifically address this.

High-Risk Shippers Not Targeted for Inspection

In GAO's 1987 report[1] on enhancing Department of Transportation policy and program effectiveness, we discussed ways to strengthen the management of safety programs and resources. We emphasized the importance of targeting inspection resources at high-risk conditions. FRA has recognized that the risk of hazardous materials releases is greater at shipper facilities and has verbally instructed its inspectors to spend about 80 percent of their time inspecting such facilities as mentioned previously. However, inspectors do almost the opposite, spending an average of 69 percent of their time inspecting railroad facilities. For example, during the 5-year period 1984 to 1988, the ratio of shipper inspections to railroad inspections remained fairly constant, with shipper inspections accounting for 28 to 33 percent of the total inspections performed.

Further, FRA has attempted to target its resources on the basis of risk measures, as reflected by large numbers of accidental releases of hazardous materials or defects and violations found during previous inspections. To assist inspectors in monitoring and targeting shippers for inspection, FRA headquarters annually sends its regions a listing of past inspections conducted at shipper locations and a listing of all rail-related hazardous materials incident reports received from RSPA. FRA headquarters officials stated that regional offices were expected to use the two listings to update inspection point lists and select inspection points with the highest risk. However, inspectors generally did not receive the listings. Additionally, these listings were not current or

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[1]Department of Transportation: Enhancing Policy and Program Effectiveness Through Improved Management (GAO/RCED-87-3, Apr. 13, 1987).

detailed enough to assist inspectors in identifying high-risk shippers and railroads. Rather, inspectors use their own judgment to select shippers and railroads for inspection.

Inspections Not Focused on Safety Procedures

Although the FRA guidance does not describe any specific approach to conducting inspections, inspectors should concentrate their efforts on inspecting shipper and railroad safety procedures. Shippers and railroads are required to follow safety procedures while loading and transporting rail cars that comply with federal hazardous materials safety regulations. If the procedures used by shippers and carriers are found to be adequate by FRA inspectors, the inspectors would have greater assurance that all rail cars are being loaded and transported safely. By reviewing the adequacy of safety procedures and how well these procedures are being followed, FRA inspectors can make more efficient use of their available inspection time.

However, FRA inspectors generally concentrated their effort on inspecting individual rail cars carrying hazardous materials rather than reviewing the adequacy of safety procedures. With about 1.1 million car movements in 1988 and increasing annually, inspectors can only inspect a small fraction of these cars. Therefore, the emphasis on inspecting individual cars rather than reviewing safety procedures has reduced the efficiency and effectiveness of the inspection program.

Insufficient Staff Resources

FRA does not have enough staff to accomplish its objective of ensuring that shippers and railroads are complying with safety regulations. As of May 1989, FRA had a nationwide staff of 28 inspectors to inspect an estimated 85 railroads, 15,000 shippers, and the over 1 million carloads of hazardous materials that are

carried by 100,000 tank cars and 40,000 intermodal tanks (tanks shipped by rail, truck or water). In the four regions we reviewed, regional goals stipulated that inspectors annually visit all shipper and railroad facilities; however, this was not done. In 1988, FRA inspectors visited 699, or about 30 percent, of the 2,312 inspection points in those regions.

Further, FRA inspectors have concentrated their efforts on inspecting tank cars and, because of the large numbers, can only inspect a small fraction of these cars. During the 5-year period from 1984 to 1988, FRA inspectors inspected an average of 67,000 tank cars annually. Therefore, FRA inspectors were only able to inspect about 6 percent of the carloads of hazardous materials that are subject to inspection. Further, FRA inspectors selected the tank cars judgmentally rather than statistically and, therefore, the results cannot be used to estimate the number of unsafe shipments moving by rail, or to provide assurance of the overall safety of rail shipments.

In addition to the 100,000 tank cars that carry hazardous materials, approximately 40,000 intermodal tanks are subject to inspection by FRA. These cars are used to meet transportation needs different from those of regular tank cars, and therefore represent an increase in the universe of hazardous materials rail containers, rather than replacements of existing shipping containers. As such, they represent additional work for the FRA inspectors. Statistics on the use of these intermodal tanks are not readily available, but railroad officials indicated that their use is growing.

Because of budget restrictions, FRA was not actively seeking applicants to fill six vacant positions or to add additional positions. Currently, FRA does not have statutory authority to allow states to assist it in performing hazardous materials inspections as they do in other rail safety inspection areas.

Twenty-one states have adopted the federal hazardous materials regulations, and 12 states have their own hazardous materials inspection programs. Officials in four states we visited said that they would be interested in assisting FRA. However, FRA has not sought statutory authority to certify state inspectors to participate in its hazardous materials program.

ACTION NEEDED TO IMPROVE HAZARDOUS MATERIALS DATA BASE AND REGISTER SHIPPERS

RSPA has been criticized by both GAO and OTA for having inaccurate and incomplete information on hazardous materials releases in its data base. RSPA has made some improvements in its data base, including increasing the information required to be reported. However, RSPA needs to take additional actions to make its data base more complete, such as requiring shippers to submit reports on hazardous materials releases and collecting data from other sources to better ensure that all releases are being reported. Further, despite prior GAO and OTA recommendations, RSPA has not established a program to register hazardous materials shippers and, therefore, does not know the universe of the organizations being regulated.

Hazardous Materials Data Base Incomplete

RSPA is the official Department of Transportation repository of information on hazardous materials releases. Carriers must report any unintentional release of hazardous materials during transportation or during loading, unloading, or temporary storage related to transportation to RSPA in writing as prescribed by federal regulations.[2] RSPA's Office of Hazardous Materials Transportation enters this information into its hazardous materials information system, which OTA found to be the best available source of information on hazardous materials spills.

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[2]49 C.F.R., Sections 171.15, 171.16, 174.45, and 174.48.

RSPA has taken a number of actions to improve the accuracy and completeness of its data base, including expanding the information required to be reported on a hazardous materials release, increasing staff to ensure accurate recording of data, and pursuing misreporters and nonreporters of hazardous materials releases. But RSPA has not taken actions to correct some longstanding and continuing problems. In particular, RSPA does not (1) routinely use other data sources to verify the accuracy and completeness of the information in its data base, (2) require updated incident reports when data changes from the original report, and (3) require shippers to report hazardous materials incidents in addition to railroads who currently report. As a result, RSPA's hazardous materials data base does not contain complete information on rail accidents involving hazardous materials releases. For example, 96 railroad accidents in 1987 and 1988 involved hazardous materials releases and should have been reported to RSPA. However, 23 accidents, or 24 percent, were not reported.

Shippers Registration Program Not Established

RSPA has not established a shippers hazardous materials registration program. As a result, rail shippers are identified by FRA only through an inspection process that, at best, does not systematically seek out new or existing shippers, and at worst, is haphazard or ineffective in doing so, as discussed previously. Because of incomplete data on the universe of shippers, FRA lacks assurance that all shippers are subject to inspection and are following the hazardous materials safety regulations that apply to them.

RSPA has the authority to require the registration of hazardous materials shippers, but, despite GAO and OTA recommendations, has so far declined to do so. A RSPA official said that a registration program would have to be established through a formal rule-making

process that would take 2 or more years to complete. At this time, RSPA has not initiated such a process. We continue to believe that RSPA should establish a shipper registration program in order to identify shippers of hazardous materials.

CONCLUSIONS

In conclusion Mr. Chairman, I want to point out that our forthcoming report recommends that the Secretary of Transportation direct the FRA and RSPA Administrators to take action to correct the deficiencies we noted in their hazardous materials safety programs. Implementation of our recommendations should result in the safer transportation of hazardous materials and greater protection of the public.

We believe that the Administrator, FRA needs to improve the effectiveness of FRA's hazardous materials inspection program by updating FRA's hazardous materials manual, clarifying inspectors' authority to write violations at shipper facilities, establishing a new inspection approach that targets high-risk shippers and railroads for inspection, and requiring inspectors to evaluate the adequacy of safety procedures in addition to inspecting tank cars. Further, the Administrator should take action to determine (1) staffing needed to implement the hazardous materials inspection program and (2) states' interest in assisting FRA in conducting hazardous materials inspections. If sufficient state interest exists, legislative changes to authorize state inspectors to perform FRA hazardous materials inspections should be requested.

We also believe that the Administrator, RSPA, should take action to improve the completeness of its hazardous materials information system and to establish a shippers hazardous materials registration program.

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Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions you may have.