

APPENDIX J

OTHER RESEARCH

Following is a partial list of subjects where further research could prove beneficial.

1. HAZMAT TRUCKING FLEET. How well the TIUS figures indicate the size of the US hazmat fleet is unclear. The 1996/97 National Fleet Survey conducted by the Federal Highway Administration showed approximately 7% of the surveyed trucks as being placarded hazmat vehicles. If the 7% hazmat figure is representative of the nation's commercial fleet, and if the base number is actually 16 + million commercial vehicles, then a national hazmat fleet of 1.2 million vehicles, not 365,000, would be the more accurate estimate. These estimates should be reconciled.

2. NON-BULK DISTRIBUTION. The situation where a home heating oil (distillate) truck makes, for example, 5-20 deliveries throughout a single neighborhood or community has been discussed. Estimates of such data, including milk runs for propane and lubricants, are included in this report's *shipment* and *movement* figures for petroleum products. How pervasive this type of delivery is elsewhere within the hazmat industry, however, is still not well understood.

For petroleum products, for example, an assumed average delivery size of lubricants (case goods) has been provided in Appendix Tables B2 and B3. It is an assumption, however, based only on preliminary review of that market sector. RSPA is aware that thousands of retail outlets in the U.S., from 24 hour convenience stores to massive discount centers to one-pump rural gasoline stations have small inventories of motor oil (anti-freeze, and many other products) that were delivered by commercial delivery vehicles. We assume that the local convenience stores rarely receive more than a few cases of motor oil per delivery. At what point in the distribution chain the delivery amounts cease being classified as HAZMAT and instead are considered consumer quantities and what sizes the average non-bulk shipment amounts actually are represent two areas where further research could provide clarification.

3. MOVEMENTS PER SHIPMENT. As discussed in the report and in Appendix C, estimating movements per shipment is an area where more information may be needed if carefully refined estimates are desired.

4. RADIOACTIVE MATERIALS (RAM). Information on the fewer than 100 shipments per year of high level radioactive waste and spent nuclear fuel transported in the U.S. is both current and rather precise. In contrast, information on the many other, very small radioactive shipments, e.g. 1-2 pound radio-pharmaceutical shipments, is considerably less current and precise. Estimates for this report are based on 1985 levels. And while not unreasonable, the estimates for number of shipments and movements, as well as the respective mode shares for truck and air carrier, could be updated and improved with additional research.

5. MOTOR FUEL DISTRIBUTION. An estimated 80,000 shipments per day are attributed in this report to the distribution of gasoline and highway diesel fuel. This market sector, however, undergoes continuing logistical and technological change. As a result, fleet

utilization, reshipment patterns, and delivery sizes are being affected on an ongoing basis. Periodic review of Department of Energy distribution data, as well as review of industry practices, can contribute improved information in this area.

6. RESIDUE SHIPMENTS. Many trucks and rail cars, especially tank trucks and rail tank cars, return from their shipment destinations with small amounts of shipment residue. Depending upon the amount, these residues are actually regulated hazmat shipments. This report and the underlying data have not considered residue shipments as part of daily shipment or movement estimates. A closer look at the number of these shipments (movements) and whether they should be included in traditional estimates warrants consideration.

7. MOTS AND COMAT. Materials of trade (MOTS) and company materials (COMAT) are both categories of potentially hazardous materials which fall outside the traditional regulatory definition of cargoes that are “in commerce.” A 1995-96 RSPA regulatory evaluation supporting HM-200 indicated that there could be as many as 1 million vehicles per day carrying MOTS aboard small trucks, service vans, etc. Similarly, large numbers of both commercial and private aircraft carry small amounts of so-called company materials (COMAT) aboard flights every day. The size of the numbers is not insignificant, and further research in these areas may be warranted.