

been disseminated to or among all the interested parties despite the high degree of interest in the occurrence. The Board concludes, therefore, that there is a need for one agency to be designated to investigate the occurrence of "dangerous articles incidents" (with other involved agencies and organizations participating as interested parties), to write and publish the report of the investigation, to determine cause, to make recommendations which in its opinion will tend to prevent such incidents, and to act as the repository for all the pertinent related information.

Because of the additional hazards created when restricted commodities are subjected to accident conditions, emergency personnel who must be at the scene may be unknowingly placed in jeopardy. For this reason the Board sees a need for implementation of a threat notification system which would insure that the proper local authorities (police, fire, rescue personnel) are promptly notified of any additional hazard potential in the event of en route accidents involving aircraft transporting hazardous materials.

It should be noted that air carrier operators are currently required to report the existence of explosives, radioactive materials, or other dangerous articles carried, in their initial notification of accident/incident and overdue aircraft in accordance with Part 430 of the NTSB regulations. Upon receipt of this information, the Board will make every effort to notify the local authorities of any potential hazards.

#### IV. RECOMMENDATIONS

On the basis of the findings discussed in the previous section of this report, the National Transportation Safety Board submits the following recommendations:

That the AEC or Agreement States, as appropriate:

1. Require the consignees of all shipments of Type B or larger amounts of radioactive materials to assure that these shipments are promptly picked up from the carrier's facility, and are delivered to and monitored without delay at the facility of the consignee.
- That the Secretary of the Department of Transportation:
  2. Establish an Advisory Working Group, composed of representatives of shippers, carrier management and labor, governmental modal and safety organizations, and the public, to inquire into the need for additional private or regulatory safety controls in the air transportation of hazardous materials, and to advise him of any changes found to be necessary.
  3. Continue to pursue vigorously the stated objectives of the Hazardous Materials Regulations Board to develop a revised and standardized format for all hazardous materials regulations of the Department, and a regulatory system based on technically standardized criteria encompassing all modes.
  4. Adopt the label revision proposed in the Third Revised Draft of the IAEA Regulations for the Safe Transport of radioactive materials. In addition to adopting this proposed label, which should provide a more conspicuous area in which to mark the Transport Index, it is recommended that the Department of Transportation stress the need for making this index as conspicuous and legible as possible.
  5. Initiate action to amend appropriate regulations to provide guidance in regard to the separation, in storage, of aggregates of packages of radioactive materials, when the total transport index of more than one group of packages exceeds 50. The new regulations should

be developed along the lines provided by the regulations of the International Atomic Energy Agency.

- A-72-91
6. Consider a revision to the regulations which permit either a drop test or inclusion of an absorbent material requirement for Type B or larger shipments, to include *both* requirements in the case of liquid radioactive materials, or to include a requirement for redundancy of containment such as the enclosure of the inner container in a sealed plastic bag. Standards for containment of liquid and powder form radioactive materials should be reviewed with consideration given problems associated with manufacturing imperfections, maintenance problems, and human error aspects, for both new and reused Type B and larger shipping containers.

That the Federal Aviation Administration:

- A-72-92
7. Accelerate its efforts to inspect and monitor air carriers in order to insure compliance with regulations concerning the handling and carriage of radioactive materials.
- A-72-93
8. Accelerate its consideration to require all Part 121 air carriers to develop and initiate approved training programs concerning hazardous materials, and to require inclusion of pertinent material in the carrier's Operations Manuals. It is also recommended that consideration should be given to establishing a similar manual requirement for those Part 135 operators who regularly transport these materials.
- A-72-94
9. Require that air carriers have available one responsible, well-trained individual who is designated to accept all hazardous materials received for shipment.

That all interstate air commerce operators:

- A-72-95
10. Take cognizance of Part 430.6 of the National Transportation Safety Board's regulations (14 CFR 430.6) and insure

that the Board is advised without delay any time that explosives, radioactive materials, or other dangerous articles were carried aboard an aircraft involved in an aircraft accident or incident in order that the Board may promptly notify emergency personnel at the scene of any possible additional hazard potential created by these materials.

The Safety Board also wishes to reiterate and reemphasize the following recommendation made in Safety Recommendation I-71-2, issued August 17, 1971 that:

- A-72-96
11. "The Hazardous Materials Regulations Board and Department of Transportation Administrations act to amend 49 CFR 170.15(b) to establish appropriate limitations on the time duration, number of shipments, or amount of equipment which will henceforth be authorized under the terms of each Special Permit."

Finally, the Safety Board's study reveals the need for one federal agency to assume the responsibility for the investigation of transportation incidents involving radioactive materials. This study disclosed that one incident was investigated, wholly or in part, by three federal agencies, two State agencies and three private organizations, only one of which is publishing a report of its findings. A similar problem appears to exist as to incidents involving the transportation of other "dangerous articles," particularly in intermodal transportation incidents. The Board, therefore, intends to undertake discussions with the appropriate Administrations within the Department of Transportation and other interested federal agencies, to arrive at an understanding which will clarify the overall responsibility for the investigation of incidents involving the transportation of radioactive materials and other "dangerous articles."

It is the Board's expectation that, through such discussions and coordination, an effective program can be undertaken which will provide