



ILLINOIS DEPARTMENT OF PUBLIC HEALTH

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8005150020

April 10, 1980

Marie Janinek, State Relations Officer  
Office of State Programs  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Ms. Janinek:

This is the third quarter report for the third contract year regarding the joint study on surface transportation of radioactive material within the state of Illinois. The surveillance period extended from December 7, 1979, to March 7, 1980.

During this third quarter, the following information was obtained from the state troopers' reports involved in the study:

- A. There were nineteen (19) surveillance stops with seventeen (17) stops occurring along interstate highways.
- B. Of the nineteen (19), nine (9) were contract carriers, seven (7) were common and three (3) were private carriers.
- C. A total of 242.606 curies of radioactive material was present for sixteen (16) shipments. Also, a total of 74,654 pounds was present for the two surveillance stops involving fuel cycle LSA radioactive material. During one surveillance stop containing radiopharmaceuticals, the state trooper was unable to determine the activity or the isotopes being transported.
- D. The radiation readings conducted in the cab of the vehicles ranged from background to 0.5 mR/hr with an average of 0.11 mR/hr.
- E. The application class for the radioactive material shipment's stops was five (5) fuel cycle LSA, five (5) waste-fuel cycle LSA, eight (8) industrial, and one (1) medical.
- F. The Transport Index varied between 0.5 and 20.0 with an average of 3.94 for nineteen (19) shipments as indicated on the shipping papers or determined by the state troopers.
- G. "Notice of Apparent Violations" citations were issued to six (6) carriers due to the following D.O.T. related items being in noncompliance. Four (4) shipments had two or more violations present.

1. No shipping papers or improper shipping papers (i.e., radioactive material not indicated, proper shipping name for isotope not listed).
  2. Transport Index not listed or incorrectly listed in shipping papers or shipping labels.
  3. No placards on vehicle or placard missing.
  4. Carrier's driver not trained or instructed on handling emergency situations involving radioactive material.
  5. Nuclide and activity not listed on package as well as no shipping label (i.e., yellow II) on package.
- H. The normal form in which the radioactive material was shipped was solid for eighteen (18) shipments and liquid for one (1) shipment.
- I. Surveillance shipment stops occurred in the following districts:
1. Oak Brook district had three (3) stops.
  2. Joliet district had four (4) stops.
  3. Sterling district had two (2) stops.
  4. Rock Island district had one stop.
  5. Pesotum district had one stop.
  6. Springfield district had two (2) stops.
  7. Effingham district had three (3) stops.
  8. Maryville district had two (2) stops.
  9. DuQuoin district had one stop.
- J. The vehicles surveyed were of exclusive use in sixteen (16) instances.

The anticipated increase in surveillance stops has been hindered during this time period due to the additional training sessions being conducted for several troopers. The data available from this number of surveillance stops continues to indicate the carriers are not conforming to Department of Transportation regulations.

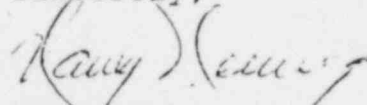
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The Illinois Department of Law Enforcement is anticipating the purchase of a complete set of surveillance instruments (i.e., ionization survey instrument and scintillation probe with an alarm rate meter) for each hazardous materials trooper. The implementation of this program could greatly enhance the surveillance study since there will be forty-five state troopers actively involved. This subject will be discussed further in our final report.

We are still interested in conducting a concentrated study for seven days around O'Hare Airport in Chicago during the month of July or August, 1980. This study could be effective in validating radiopharmaceutical shipment and carrier compliance with Department of Transportation regulations. Funding for this special study to defray costs for travel and per diem for twelve troopers apparently is not available at the State level. Therefore, if the Nuclear Regulatory Commission is interested in pursuing this study, we would like to discuss possible financial arrangement through your agency. We also wish to discuss the acquisition of two recorders, procured by N.R.C., that would be attached to alarm rate meters with scintillation probes placed at the strategic highways entering the State and within the State of Illinois to reveal frequency of radioactive material shipments. This was recommended in our last final report and could improve the quality of the surveillance study by allowing the troopers to concentrate on the most productive geographical locations.

If you have any questions, or desire additional information, please feel free to contact this office at 217/782-2342.

Sincerely,



Maury Neuweg, Chief  
Division of Radiation Protection

JMS:blm

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