Rec'd 7-8-97

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

Earl/John

50-184

June 19, 1997

Susan F. Shankman
Chief, Transportation Safety
and Inspection Branch
Spent Fuel Project Office, NMSS
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Ms. Shankman:

In response to your letter of February 27, 1997 and after careful analysis and discussions with the staff of the Federal Highway Administration, NIST has determined that its originally proposed route is the preferred and best route. In making this determination NIST has considered traffic patterns, distance, and historically preferred routes as allowed by DOT regulations. As stated in the enclosed letter of June 18, 1997, "It is clearly the intent of the regulations that motor carriers should take into consideration all factors available to them . . . that reduce time in transit." FHA agrees with NIST that the most direct route is not necessarily the preferable route since regulations allow, "... [a] reduction of the time in transit by avoiding areas prone to heavy traffic patterns and/or delays."

Accordingly, based on the factors listed below, the time in transit will be less than for the more direct route and the exclusive use of Interstate highways. The advantages of the proposed route are:

1. It avoids heavily congested areas which would cause considerable delays.

2. It bypasses three dense metropolitan areas.

3. The routes selected within South Carolina are the "historically preferred" routes by the State.

4. It is a proven route, that has successfully been used nine times before.

NIST respectfully requests approval of its proposed route as outlined ir our letter of October 15, 1996. NIST must have an approved route no later than the end of July 1997 in order to make timely preparations for shipments in September. Enclosed are copies of past correspondence. If you need more information, please contact my Deputy, Tawfik Raby at 301-975-6257. Thank you for your consideration.

Sincerely,

J. M. Rowe
Director
NIST Center for Neutron Research

enclosure

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NIST

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

October 15, 1996

Dr. William D. Travers
Director, Spent Fuel Project Office
Office of Nuclear Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Travers:

Subject: Advance Route Approval - Docket No. 50-184

NIST requests approval of the following proposed route for shipment of its research reactor spent fuel. This is the same route that was used in nine shipments before. The following information is provided.

a. Cargo description
   (1) There will be 40-84 fuel sections per shipment depending on the cask used. The fuel is MTR-plate-type research reactor element. Each shipment will contain approximately 2-5 Kg U-235.
   (2) Any of the following three licensed shipping casks will be used depending on availability.
      (i) BMI-1, Certificate of Compliance #5957
      (ii) GE-2000, Certificate of Compliance #9228
      (iii)NAC-LWT, Certificate of Compliance #9225
   (3) For the BMI-1, the loaded weight of the transport vehicle is approximately 29 tons and the weight of the loaded cask assembly is approximately 12 tons.
   For the GE-2000 the loaded weight of the transport vehicle is approximately 34 tons and the weight of the loaded cask assembly is approximately 17 tons.
   For the NAC-LWT, the loaded weight of the transport vehicle is about 46 tons and the weight of the loaded cask assembly is approximately 29 tons.

b. Anticipated Schedule
   (1) Approximately four shipments are anticipated in 1997.
   (2) The duration of each shipment from point of origin to destination is about one day.
   (3) The tentative schedule is for two shipments in April, 1997 and two shipments in July, 1997.

c. Route Information

(1) Shipments will originate at the NIST site, I-270 and Quince Orchard Road, Gaithersburg, Maryland with destination to U. S. DOE facilities at the Savannah River Site near Aiken, South Carolina.

(2) The proposed routing is:
NIST - I-270 - I-70 - I-81 - I-77 - I-40 - I-26 - SC-121 - SC-19 - DOE-SRS.

(3) The estimated distance over the proposed route is about 725 miles.

(4) The estimated travel time is about 18 hours based on an average speed of 40 miles per hour.

(5) The designated heavily populated areas which would be traversed on the proposed route are:

(i) Roanoke, Virginia.

(ii) Gaithersburg, Maryland to the edge of Germantown, Maryland (I-270 and Maryland Route 118).

d. Physical Protection Arrangements Planned for Heavily Populated Areas

(1) At Roanoke, Virginia, arrangements will be made with the local law enforcement. At Gaithersburg, Maryland, escort will be provided by the NIST Police.

(2) Communications will be provided between the transport and escort vehicles and between the transport and the transport company communication center.

If you need additional information, please contact my deputy, Tawfik Raby, at 301-975-6257.

Sincerely,

J. Michael Rowe
Chief, Reactor Radiation Division

U.S. Department of Transportation
Federal Highway Administration

400 Seventh St., S.W.
Washington, D.C. 20590

JUN 18 1997

Refer to: HSA-10

Mr. J. Michael Rowe
Chief, Reactor Radiation Division
United States Department of Commerce
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

Dear Mr. Rowe:

This is in response to your March 17 letter requesting our interpretation of the factors that a motor carrier transporting Class 7 (Radioactive) Materials may consider in selecting preferred routes that reduce time in transit pursuant to the requirements of 49 CFR Section 397.101(b)(2). Specifically you ask whether you may take into consideration avoiding densely populated areas such as the Washington, D.C. Capital Beltway, in selecting a preferred route for transporting shipments of reactor spent fuel from Gaithersburg, Maryland to Savannah River, South Carolina.

Section 397.101(b)(2) provides that "The motor carrier or... shall select routes to reduce time in transit over the preferred route segment." It is clearly the intent of the regulations that motor carriers should take into consideration all factors available to them when making the selection of preferred routes that reduce time in transit. In situations like the one you describe, where the most direct route would traverse heavily populated areas, the carrier may take into consideration factors that may cause transportation delays common to that route, such as traffic congestion, commuting patterns, time in transit, and day of the week. As a result, the regulations would allow the motor carrier to select an alternative preferred route which is not the most direct route to their destination, but results in an overall reduction of the time in transit by avoiding areas prone to heavy traffic patterns and/or delays.

I hope this information is helpful.

Sincerely yours,

Rose A McMurray

Rose A. McMurray, Director
Office of Motor Carrier
Safety and Technology

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

March 17, 1997

Rose A. McMurray
Director, Office of Motor Carrier Safety
And Technology
U.S. Department of Transportation
Federal Highway Administration
Room 3419, 400 7th Street, SW
Washington, DC 20590

Dear Ms. McMurray:

On October 15, 1996 the National Institute of Standards and Technology (NIST) applied to the Nuclear Regulatory Commission (NRC) for route approval for shipment of the NIST research reactor spent fuel from Gaithersburg, MD to Savannah River, SC. In a response dated February 27, 1997 with a carbon copy to you, NRC referenced requirements established by the U.S. Federal Highway Administration. Specifically referenced are those paragraphs explaining preferred routes and "time in transit", 49CFR397.101(b), (b) (1), and (b) (2).

It appears from the NRC response that travel time was calculated solely on the basis of distance traveled. In proposing it's route, NIST took into account both distance and traffic patterns in determining travel time. The route implied in the NRC letter passes through four heavily populated areas. In contrast, the NIST selection bypasses the three most heavily populated areas. Congestion within these areas can add significantly to the time in transit. Discussions with a member of your staff indicated that it would be prudent to consider avoiding such routes as the Capital Beltway in the Washington, DC metropolitan area, a route through which the shipment must pass on the basis of distance only. NIST has therefore concluded that an extra 120 miles is more than compensated for by avoiding travel through additional dense metropolitan areas. For these reasons, NIST has determined that its proposed route is preferable and conforms to the requirements established by FHA. It is the same route previously approved by NRC and used nine times in the past.

We respectfully request your assistance in verifying that the factors discussed above can be used in determining preferred routes. We would greatly appreciate a prompt response so that we may re-apply to the NRC for route approval. If you need further information, please contact my deputy Tawfik Raby at 301-975-6257. Thank you for your consideration.

Sincerely,

J. Michael Rowe
Chief, Reactor Radiation Division

cc: Susan F. Shankman, NRC

NIST