



## MEETING MINUTES

### Transportation/Waste Committee

755 East Flamingo Road, Las Vegas, NV 89119

July 9, 2008

**CAB Members Present:** Ted Oom, Chair; Robert Johnson, Bill Lindsey, John McGrail, Herb Spiegel, Hal Sullivan

**Liaisons Present:** Bob Gamble, Nye County

**Department of Energy (DOE):** Kelly Snyder, DDFO; E. Frank DiSanza, Waste Management Federal Project Director

**Facilitator:** Rosemary Rehfeldt, Navarro Research and Engineering, Inc.

**CAB Technical Advisor:** Helen Neill, Ph.D., University of Nevada, Las Vegas

After review of the meeting's agenda, Ted Oom gave his opening remarks by stating that criteria must be set for whatever route is used to transport low-level waste (LLW) to the Nevada Test Site (NTS) in order to determine the best routes.

E. Frank DiSanza told the committee that Lee Stevens with Navarro Research and Engineering, with assistance from Dr. Ruth Weiner with Sandia National Laboratory (SNL), is conducting the transportation study requested by the CAB. The objective of the study is to determine the radiological risk for the routes used by the NTS generators to ship LLW and MLLW to the NTS. Once the risk is determined, the routes can be compared.

The modeling software that will be used is RADTRAN. RADTRAN is a nationally accepted standard program and code for calculating the risk of transporting radioactive waste. This program combines user-determined demographic, routing, transportation, packaging, and materials data with meteorological data (partly user-determined) and health physics data to calculate expected radiological consequences of incident-free radioactive materials transportation and associated accident risks. Mr. DiSanza anticipated the study would be completed by September 2008.

To provide background information to the committee, Mr. DiSanza quoted from the U.S. Department of Transportation's (DOT) National Hazardous Materials Requirements Subpart D – Routing of Class 7 (Radioactive) Materials §397.101 Requirements for motor carriers and drivers.

- Except as provided in paragraph (b) of this section or in circumstances when there is only one practicable highway route available, considering operating necessity and safety, a carrier or any person operating a motor vehicle that contains a Class 7 (radioactive) material, as defined in 49 CFR 172.403, for which placarding is required under 49 CFR part 172 shall:

- Ensure that the motor vehicle is operated on routes that minimize radiological risk;
- Consider available information on accident rates, transit time, population density and activities, and the time of day and the day of the week during which transportation will occur to determine the level or radiological risk; and
- Tell the driver which route to take and that the motor vehicle contains Class 7 (radioactive) materials.

Mr. DiSanza explained that the DOE met with stakeholders in the mid-1990s and transportation issues were high on their list of concerns. DOE decided to address these transportation issues by conducting a transportation study using a RADTRAN-like model to determine the radiological risk for national and state of Nevada transportation routes. The results of this transportation study are part of the Final 1996 NTS Environmental Impact Statement (EIS).

Mr. DiSanza then continued to read Subpart D, which answers the question of highway route controlled quantities:

- Except as otherwise permitted in this paragraph and in paragraph (f) of this section, a carrier or any person operating a motor vehicle containing a highway route controlled quantity of Class 7 (radioactive) materials, as defined in 49 CFR 173.403(l), shall operate the motor vehicle only over preferred routes.
  - For the purposes of this subpart, a preferred route is an Interstate System highway for which an alternative routes is not designated by a State routing agency; a State-designated route selected by a State routing agency pursuant to §397.103; or both of the above.
  - The motor carrier or the person operating a motor vehicle containing a highway route controlled quantity of Class 7 (radioactive) materials, as defined in 49 CFR 173.403(l) and (y), shall select routes to reduce time in transit over the preferred route segment of the trip. An Interstate System bypass or Interstate System beltway around a city, when available, shall be used in place of a preferred route through a city, unless a State routing agency has designated an alternative route.

Mr. DiSanza explained that the NTS generator does not ship highway route controlled quantity waste to the NTS. He also explained that the State of Nevada had chosen not to identify preferred routes. Therefore, the portion of Subpart D above does not apply to LLW and MLLW shipments to the NTS.

Regarding the CAB-requested transportation study, the model will use RADTRAN to determine radiological risk. As mentioned before, Dr. Ruth Weiner at SNL will be working with NSO on the study. She is currently designing entry scripts for the study data. A more recent set of data will be used. The NSO is determining what the shipment data will look like based upon historical data from shipments received, and working on how this data will be normalized. The study will take into account the current major routes being used to transport LLW and MLLW to the NTS. This will include the NV-160 route. Additionally, RADTRAN calculations include the person driving the motor vehicle.

RADTRAN population data is based upon the 2000 census, so a better estimate of population needs to be determined. RADTRAN has the ability to enter alternate population data points, for example, persons per square mile.

Mr. DiSanza offered the CAB two options as to how they would like SNL to perform the study:

1. Use the Desert Research Institute's (DRI) data set and create the input data from that study. The DRI study employed the following method:
  - a. Radiation detection equipment was placed at the entry to the NTS. This equipment was called a "PIC," and would simulate approximately where a person would be standing.
  - b. One thousand trucks were surveyed as they drove through the array.
  - c. The trucks contents were measured by calculating the distance between where the truck was and where the "person" stood, and a radiation dose was calculated. Approximately 90% of the shipments read zero.
  
2. Assume that all shipments to the NTS are at a maximum level for DOT regulations – 13 to 14 millirems per hour – which is the most conservative estimate. These calculations take time, distance, and shielding into consideration.

Many questions were asked that could not be answered without Dr. Weiner's input. As a result, the NSO offered to invite Dr. Weiner to give a presentation to the CAB regarding the RADTRAN model. The committee agreed that they would like to have her give a presentation and would place the request before the Board at the Full Board meeting. Mr. DiSanza said that he would set up a meeting with Dr. Weiner.

The committee asked if DOE was prepared if there was a transportation accident. Mr. DiSanza replied that if a shipment has an incident, it is the carrier's responsibility to address any issues, including clean-up. However, if the carrier requests help from DOE, DOE resources can be deployed to assist the first responders. The NTS has resources that can be mobilized within the state of Nevada.

The meeting adjourned at 4:30 p.m.