



## MINNESOTA DEPARTMENT OF PUBLIC SAFETY

# 2011 Annual Report to the Legislature: High-level radioactive waste transportation emergency response plan status and the state's accident response capability

*In compliance with Minnesota Statutes, section 116C.731, subdivision 4*

COMPILED BY:



MINNESOTA DEPARTMENT OF PUBLIC SAFETY  
DIVISION OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT

IN COOPERATION WITH:



MINNESOTA DEPARTMENT OF PUBLIC SAFETY  
MINNESOTA STATE PATROL



MINNESOTA DEPARTMENT OF HEALTH



MINNESOTA DEPARTMENT OF TRANSPORTATION  
OFFICE OF FREIGHT AND COMMERCIAL VEHICLE OPERATIONS

## **Legislative Requirement**

Minnesota Statutes, section 116C.731, requires the commissioner of the Department of Public Safety (DPS) to report annually to the Legislature on the status of the plan for emergency response to a high-level radioactive waste transportation accident and the ability of the state to respond adequately to an accident.

The DPS Division of Homeland Security and Emergency Management (HSEM) updates the *Minnesota Emergency Operations Plan* (MEOP) annually. HSEM coordinates this task with all of the state agencies represented on the Minnesota Emergency Preparedness and Response Committee. The MEOP addresses response to all hazards, including high-level radioactive waste (HLRW). The 2011 MEOP update was completed in late October 2011.

HSEM annually contacts the Minnesota State Patrol, the Minnesota Department of Health (MDH) and the Minnesota Department of Transportation (MnDOT) to solicit specific comments regarding the status of the HLRW transportation aspects of the MEOP. The Minnesota Pollution Control Agency no longer has any accident assessment responsibilities with respect to radioactive materials.

This year, several agencies forwarded changes that pertained directly to the content of the MEOP. Those changes were incorporated into the plan. The evacuation routes surrounding Minnesota's nuclear generating power plants have been updated to allow for easier egress from the affected areas. Having the routes pre-identified allows for better training of responders during drills, exercises and actual incidents.

## **Minnesota Department of Health**

To ensure that sufficient personnel are available for all types of radiological responses, including HLRW accidents and incidents, two MDH staff members attended Federal Emergency Management Agency (FEMA) Radiological Emergency Response Operations training in 2011.

## **Minnesota Department of Transportation, Office of Freight and Commercial Vehicle Operations**

All MnDOT hazardous materials specialists completed the Specialized Radioactive Materials Transportation Training Program sponsored by the U.S. Department of Transportation (USDOT), Transportation Safety Institute.

The USDOT Federal Motor Carrier Safety Regulations require a Commercial Vehicle Safety Alliance (CVSA) Level VI pre-trip inspection of each vehicle carrying highway route controlled quantities (HRCQ) of radioactive materials. Hazardous materials specialists from the MnDOT Office of Freight and Commercial Vehicle Operations are certified to conduct CVSA Level VI inspections. To maintain CVSA Level VI certification, inspectors attend biennial recertification training; a MnDOT hazmat specialist is a certified CVSA Level VI recertification training instructor. All MnDOT hazmat specialists have completed Hazardous Waste Operations Emergency Response training and the required annual update training.

MnDOT hazardous materials specialists and Level VI certified State Patrol commercial vehicle inspectors carry radiation detection survey meters. A MnDOT hazardous materials specialist is on-call and available for dispatch by the Minnesota duty officer for any hazardous materials transportation incident (including radioactive materials), 24 hours a day, 7 days a week. MnDOT hazmat specialists review HLRW pre-shipment notices, submitted to HSEM pursuant to Minn.Stat. §116C.731, for compliance with hazardous materials transportation regulations. Hazmat specialists contact the shipper or transporter if discrepancies are discovered to ensure that the shipment is properly documented before it enters Minnesota.

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*High-level radioactive waste transportation emergency response plan status*

All highway carriers of HRCQ of radioactive materials must possess a hazardous materials safety permit from the USDOT. To maintain the safety permit, these carriers must maintain a satisfactory safety rating with the USDOT. Carriers with less than satisfactory ratings, or high crash or out-of-service inspection rates, are not issued safety permits or will have an existing permit suspended. MnDOT hazmat specialists check for valid safety permits during all Level VI inspections.

The MnDOT hazardous materials transportation incident database shows no radioactive materials transportation incidents for 2011.

## **Minnesota Department of Public Safety Minnesota State Patrol**

The Minnesota State Patrol has two commercial vehicle inspectors positioned in greater Minnesota trained to conduct Level VI radioactive transportation inspections. One inspector is located in the Detroit Lakes area and the other is in the Duluth area. These are specialized inspections conducted on HRCQ of radioactive materials entering Minnesota from another country and HLRW that may be shipped through Minnesota. At this time no shipments requiring Level VI inspections have come into Minnesota from Canada. State Patrol receives notification from HSEM on all shipments of HRCQ of radioactive materials and HLRW.

## **Minnesota Department of Public Safety Division of Homeland Security and Emergency Management**

HSEM coordinated the collection and dissemination of information to state and federal agencies on the shipments of high-level radioactive materials in Minnesota. HSEM maintains a core staff trained to coordinate response and recovery issues associated with high-level radioactive materials incidents. Three HSEM staff members attended the FEMA Radiological Emergency Response Operations training in 2011. HSEM also maintains an on-call hazardous materials response person 24 hours a day, 7 days a week.

## **Long-Term Spent Fuel Storage Update**

The Department of Energy is charged with taking all actions necessary to permit the future shipment of HLRW and spent nuclear fuel to a federal repository. The location of the national repository remains under review. Construction at Yucca Mountain is on hold and the funding for transportation planning is being cut. Consequently, states have found it very difficult to engage in any meaningful planning in preparation for future shipments.

A federal blue ribbon commission was established to reevaluate interim and long-term storage for spent nuclear fuel in the United States. The Commission released a draft report confirming the need for both interim and long term storage facilities and recommended a new process for selecting interim and long-term storage sites. HSEM will continue to monitor the progress of the Commission.

The Nuclear Regulatory Commission is reviewing the licensing for onsite dry cask storage and is expected to extend these licenses until interim or long-term storage facilities are available. The Monticello and Prairie Island Nuclear Generating Plants continue to add capacity to their onsite dry cask storage facilities and will need to continue expanding capacity until a federal repository is established and spent fuel can be shipped.

Note: Substantial planning, training and exercising will be needed in Minnesota in advance of any spent nuclear fuel shipment campaigns.

## **Transportation Fees**

An ongoing concern is the availability of funding for state agency HLRW transportation accident and incident preparedness, security escorts, and response activities.

Minn.Stat., §116C.731, subd. 3, requires shippers to pay a \$1,000 fee for each vehicle carrying HLRW through the state of Minnesota. This fee applies only to spent nuclear fuel shipments, and does not offset the true cost of inspection and escort. Fees charged by other states include HRCQ of radioactive materials and radioactive material in quantities of concern (RAMQC), and vary from \$2,500 per truck to \$3,100 per cask, with some trucks carrying as many as six casks in a single shipment.

The Minnesota statute does not require fees for HRCQ of radioactive materials or RAMQC, although HRCQ shipments require higher level inspections and may require security escorts in the future. There were no fees collected in Minnesota last year because no radioactive material shipments contained spent nuclear fuel.

The statute also mandates that the fees be deposited in the state's general fund — not a dedicated revenue fund for transportation security, preparedness and response — making them inaccessible to the state agencies that will likely incur considerable expense to prepare for, escort and respond to HLRW shipment emergencies. This seems to be in direct conflict with the federal law, which requires the fees to be used exclusively for the costs associated with safe radioactive material transportation or response to a radiological incident.

Because the two Minnesota nuclear generating plants are owned by a private company, future spent nuclear fuel shipments to a repository from the plants will not be subject to the provisions of section 180(c) of the U.S. Nuclear Waste Policy Act. As a result, the state of Minnesota will not be eligible to receive any Department of Energy funding to cover the cost of the planning, training and exercising that will be necessary to adequately prepare for the shipments. Nor will federal funding be available to purchase additional radiation detection and protection equipment, should Minnesota determine that such equipment is beneficial. Because the starting date and number of the potential Xcel Energy shipments to a repository each year can only be estimated at this time, planning for them is extremely difficult.

## **2011 Radioactive Material Shipments**

Minnesota has seen a significant increase in the number of shipments of higher level radioactive materials (cobalt 60 special form) in the past two years. In 2011 there were a total of eight shipments of high-level radioactive materials in Minnesota and in 2010 there were fifteen shipments, compared to one shipment in 2009. Seven of the 2011 shipments were HRCQ of radioactive materials and one was RAM-QC.

The company that sent the majority of the shipments, MDS Nordion in Canada, was contacted regarding the increase in shipment activity through Minnesota. Nordion indicated that they had changed their routing of shipments due to the fees imposed by the shipping corridor states and are now more frequently using a Wisconsin, Minnesota and South Dakota routing for shipments because of the economic impact of the fees.

Minnesota and Wisconsin have raised concerns that the routes being used are not the shortest and most direct, resulting in longer transportation times with greater vulnerability during transit. Minnesota currently does not provide training along shipment routes and does not provide security escorts for these types of shipments like the corridor states, primarily because historically there have been only occasional shipments with final destinations in Minnesota.

In the coming year, HSEM will review and comment on the federal rulemaking on the transportation of radioactive material and will continue to track HLRW issues that may impact the state.