



# MINNESOTA DEPARTMENT OF PUBLIC SAFETY

## **2021 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 (DPS-HSEM) updates the Minnesota Emergency Operations Plan (MEOP) annually. DPS-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 2021 MEOP update was completed in July 2021.

DPS-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 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 pertaining 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 sufficient personnel are available for all types of radiological responses, including HLRW accidents and incidents, eleven MDH staff members attended a Nuclear Regulatory Commission Federal RASCAL training on the computer code for making dose projections for atmospheric releases during a radiological emergency.

Additionally, MDH continues to partner with Minnesota Responds Medical Reserve Corps in maintaining and expanding a registry of radiation professionals willing to assist during a radiological event. Minnesota Radiation Emergency Volunteers (MREV) currently has over 80 members throughout the state. Training and exercises for these volunteers are coordinated through MDH in conjunction with the Department of Human Services.

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

MnDOT OFCVO currently has two Hazardous Materials Specialists (HMS) who have completed the United States Department of Transportation (USDOT), Transportation Safety Institute's, Specialized Radioactive Materials Course.

All vehicles and carriers transporting HRCQ of radioactive material are regulated by the U.S. Department of Transportation and are required to pass the North American Standard Level VI Inspection.

The USDOT, Federal Motor Carrier Safety Regulations (FMCSR,) require that a Commercial Vehicle Safety Alliance (CVSA) Level VI pre-trip inspection be completed on each vehicle carrying select radiological shipments. The CVSA Level VI criteria includes inspection procedures, enhancements to the North American Standard Level I Inspection, radiological requirements, and the North American Standard Out-of-Service Criteria for transuranic waste and highway route controlled quantities (HRCQ) of radioactive material.

Vehicles, drivers and cargo must be defect-free by the Level VI Inspection standard before they may leave their point of origin. While en-route, the Level VI out-of-service criteria is applied.

A special nuclear symbol decal was developed for vehicles meeting the Level VI Inspection criteria. The decal is affixed at the point of origin of the shipment and removed at the point of destination. It is valid for only one trip.

One of MnDOT's HMSs is currently certified as a CVSA level VI inspector. Another will be completing the required training to be Level VI certified in early 2022. In addition, all three MnDOT HMSs have completed the OSHA required update training for Hazardous Waste Operations Emergency Response. Together, these courses certify the HMS to conduct mandatory Level VI inspections on vehicles transporting HRCQ radioactive materials. In 2021, there were no shipments of HRCQ radioactive materials identified as originating in Minnesota, nor were there any instate breakdowns of those vehicles traveling through Minnesota. Therefore, there were no level VI inspections needed for HRCQ radioactive shipments.

OFCVO currently has HMSs on-call 24 hours a day, seven days a week, through the Minnesota Duty Officer, for any incident where hazardous materials, including radioactive materials, is being transported. MnDOT HMSs review HLRW pre-shipment notices, submitted to DPS-HSEM pursuant to Minn. Stat. §116C.731, for compliance with hazardous material transportation regulations. If MnDOT HMSs discover discrepancies, they can contact the shipper or transporter to ensure each shipment is properly documented before it enters Minnesota. There were no transportation incidents involving high-level radioactive materials reported in 2021.

Carriers transporting HRCQ of radioactive materials must possess a hazardous materials safety permit from the USDOT. To maintain the safety permit, 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 existing permits suspended. MnDOT HMSs can check for valid safety permits during all Level VI inspections. This is an additional safety measure intended to ensure only carriers with good safety management practices in place are used to transport HRCQ of radioactive materials on the roadways.

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

The Minnesota State Patrol currently has one Commercial Vehicle Inspector (CVI) in Minnesota trained and certified to conduct CVSA Level VI radioactive inspections. The

CVI is located in the Detroit Lakes area. After Feb. 25, 2022, the Minnesota State Patrol will have one state trooper trained and certified to conduct CVSA Level VI radioactive inspections. The trooper is located in the Metro area. Both CVI and the trooper will perform specialized inspections on Transuranic and HRCQ of radioactive materials entering Minnesota from another country and HLRW shipped through Minnesota. At this time, no shipments requiring Level IV inspections have come into Minnesota from Canada. State Patrol receives notification from DPS-HSEM on all shipments of Transuranic and HRCQ of radioactive materials and HLRW.

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

DPS-HSEM coordinated the collection and dissemination of information to state and federal agencies on the shipments of high-level radioactive materials in Minnesota. DPS-HSEM maintains a core staff trained to coordinate response and recovery issues associated with high-level radioactive materials incidents.

### **Minnesota Department of Public Safety State Fire Marshal Division**

DPS-SFMD maintains an on-call hazardous materials response person 24 hours a day, seven days a week.

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

The Department of Energy (DOE) is charged with taking all actions necessary to permit the future shipment of HLRW and spent nuclear fuel to a federal repository. A new location for a repository remains under review. Construction at Yucca Mountain has been stopped and the funding for transportation planning has been reduced. In Nov. 2013 the courts ordered the Nuclear Regulatory Commission (NRC) to restart the licensing process for Yucca Mountain and continue the licensing review until their funding runs out.

A federal blue-ribbon commission was established to re-evaluate interim and long-term storage for spent nuclear fuel in the United States. The commission released a final 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. DPS-HSEM will continue to monitor the progress of the commission.

The NRC 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 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 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 incurring expenses to prepare for, escort and respond to HLRW shipment emergencies. This seems to 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 (Xcel Energy), future spent nuclear fuel shipments to a repository from the plants may 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 may not be eligible to receive DOE funding to cover the cost of the necessary planning, training and exercising to adequately prepare for the shipments. Nor will federal funding be available to purchase additional radiation detection and protection equipment, should Minnesota determine such equipment would be 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.

## **2021 Radioactive Material Shipments**

Minnesota saw an increase in the number of shipments of radioactive materials (cobalt 60 special form) in the last year. In 2021, the number of shipments was six, up three from three the previous year. No HRCQ shipments transited Minnesota in 2021.

In the coming year, DPS-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.