



MINNESOTA DEPARTMENT OF PUBLIC SAFETY

2018 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



MINNESOTA DEPARTMENT OF HEALTH

MINNESOTA DEPARTMENT OF PUBLIC SAFETY

HOMELAND SECURITY AND EMERGENCY MANAGEMENT

MINNESOTA STATE PATROL

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 (HLRW) transportation accident and the state's ability 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 the state agencies represented on the Minnesota Emergency Preparedness and Response Committee. The MEOP addresses response to all hazards, including HLRW. The 2018 MEOP update was completed in August 2018.

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 MEOP's contents. 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 and exercises and actual incidents.

Minnesota Department of Health

To ensure sufficient personnel are available for all types of radiological responses, including HLRW incidents, nine MDH staff members attended Federal Emergency Management Agency (FEMA) Radiological Emergency Response Operations training, FEMA Advanced Radiological Incident Operations training and/or FEMA Radiological Accident Assessment Concepts training.

Additionally, MDH continues to partner with Minnesota Responds Medical Reserve Corps to maintain and expand a registry of radiation professionals willing to assist during a radiological event. Minnesota Radiation Emergency Volunteers (MREV) currently has nearly 70 members throughout the state. Trainings 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 has hazardous materials (HM) specialists who have completed the U.S. Department of Transportation (USDOT) Transportation Safety Institute (TSI) Specialized Radioactive Materials Course.

The USDOT Federal Motor Carrier Safety Regulations require a Commercial Vehicle Safety Alliance (CVSA) level VI pre-trip inspection be completed on each vehicle carrying highway route controlled quantities (HRCQ) of radioactive materials. In 2018, two MnDOT HM specialists completed the biennial recertification training needed to

remain certified as a CVSA level VI inspector. In addition, MnDOT HM staff have completed the required update training for Hazardous Waste Operations Emergency Response. This training certifies HM specialists and allows them to conduct the required level VI inspections on vehicles transporting HRCQ radioactive materials.

In 2018, there were no shipments of HRCQ radioactive materials identified as originating in Minnesota. Thus, there were no level VI inspections needed meeting the criteria for HRCQ radioactive materials.

OFCVO currently has HM specialists on-call through the Minnesota duty officer, around the clock, for any incident where HM is being transported, including radioactive materials. MnDOT HM specialists review HLRW pre-shipment notices, submitted to DPS-HSEM pursuant to Minnesota Statutes, section 116C.731, for compliance with HM transportation regulations. HM specialists contact the shipper or transporter if discrepancies are discovered, ensuring each shipment is properly documented before it enters Minnesota. There were no transportation incidents reported involving high-level radioactive materials during this calendar year.

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 rates or out-of-service inspection rates are not issued safety permits or will have existing permits suspended. MnDOT HM specialists check for valid safety permits during all level VI inspections. This is an additional safety measure intended to ensure that only carriers with good safety management practices are used to transport HRCQ of radioactive materials on the roadways.

Minnesota Department of Public Safety Minnesota State Patrol

The Minnesota State Patrol has one commercial vehicle inspector in Minnesota trained to conduct level VI radioactive transportation inspections. The inspector is located in the Detroit Lakes area. The inspector performs specialized inspections on HRCQ of radioactive materials entering Minnesota from another country and HLRW shipped through Minnesota. At this time, no shipments requiring level VI inspections have come into Minnesota from Canada. The State Patrol receives notification from DPS-HSEM on all shipments of HRCQ of radioactive materials and HLRW.

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

DPS-HSEM coordinates 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. Seven DPS-HSEM staff members attended four FEMA and Nuclear Regulatory Commission (NRC) advanced-level radioactive materials response trainings in 2018, and taught one advanced-level, multi-day radioactive materials training with 12 students. DPS-HSEM also 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 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 November 2013, courts ordered 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 commission's progress.

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. Both sites 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.

Minnesota Statutes, section 116C.731, subdivision 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 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 be in 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 from the plants to a repository 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 Department of Energy funding to cover the cost of the planning, training and exercising necessary 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. The starting date and number of potential Xcel Energy shipments to a repository each year can only be estimated at this time, so planning for them is extremely difficult.

2018 Radioactive Material Shipments

Minnesota and Wisconsin raised concerns to the USDOT that some routes used for shipments 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 some of the corridor states, primarily because historically there have been only occasional shipments with final destinations in Minnesota.

The company sending the majority of shipments through Minnesota was MDS Nordion in Canada. Nordion indicated they had changed some of their routing of shipments due to the fees imposed by the shipping corridor states and are more frequently using a Wisconsin-Minnesota-South Dakota routing for shipments because of the economic impact of the fees from other states. The state of Wisconsin started escorting shipments this year and implemented fees on shipments.

Minnesota saw a slight decrease in the number of shipments of higher level radioactive materials (cobalt 60 special form) in the last year. In 2018, the number of shipments was 14, up one from 13 the previous year.

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.