

**2009 Report to the Legislature  
On  
The Status of Emergency Planning For  
High-Level Radioactive Waste Transportation Accidents/Incidents,  
And the Ability of the State to Respond Adequately to an Accident**

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

**December 2009**

Minnesota Statutes, Section 116C.731 requires the Commissioner of the Department of Public Safety (DPS) to "...prepare a plan for emergency response to a high-level radioactive waste transportation accident..." In response to this requirement, in 1984 the Department's (then) Division of Emergency Services (DES) coordinated the development of such a plan. In conformance with Section 116C.731, the Department of Health (MDH), the Department of Transportation (Mn/DOT), the State Patrol and the Minnesota Pollution Control Agency (MPCA) also participated in the preparation of this document. In 1987 DES became DEM (Division of Emergency Management), and DEM coordinated the updating of the plan in March 1988, and April 1993. In 1995, in light of the growing emphasis on all-hazard emergency planning and preparedness, DEM determined that a change in the state's approach to emergency planning was warranted. Specifically, the decision was made to eliminate the stand-alone high-level radioactive waste (HLRW) transportation plan, as well as the *Minnesota Emergency Response Plan for Nuclear Power Plants*, and to incorporate their contents into an all-new, all-hazard *Minnesota Emergency Operations Plan* (MEOP). Copies of the new plan were distributed to all affected state agencies and departments, as well as a large number of other government entities and private organizations. In February 2004, the former (state) Office of Homeland Security, and the Division of Emergency Management, were consolidated into a new agency known as the Division of Homeland Security and Emergency Management (HSEM), and as a result the MEOP has been revised to include certain homeland security-related information. That process has received further impetus following the completion of the National Response Plan in December 2004, and in January 2008 the National Response Plan was replaced by the National Response Framework. Finally, in the aftermath of Hurricane Katrina the identification of serious emergency planning shortfalls at the federal, state and local government levels has resulted in a Congressionally-required National Plan Review. This mandated plan review includes a requirement that every state (and certain municipalities) describe, and assess the adequacy of, the planning it has done to ensure its preparedness for a catastrophic event. The MEOP was updated to include catastrophic type incidents.

Section 116C.731 also requires the DPS Commissioner to report annually to the Legislature on the "...status of the plan and the ability of the state to respond adequately to an accident." The Division's practice for a number of years has been to address the "status of the plan" issue two ways.

First, in order to meet federal requirements in this area, it normally updates the *Minnesota Emergency Operations Plan* at least annually. The Division coordinates this task, and in so doing, obtains the participation of and solicits comments from all of the state agencies represented on the Minnesota Emergency Preparedness and Response Committee. Utilizing this process, since 1996 the MEOP has normally been updated every year. The 2009 MEOP update was completed in late October of 2009.

Second, the Division annually contacts the State Patrol, MDH and Mn/DOT to inquire as to whether those agencies have any specific comments regarding the “status of the plan” question. (The MPCA no longer has any accident assessment responsibilities with respect to radioactive materials.) This year, some of the aforementioned agencies forwarded changes that pertained directly to the content of the MEOP and those changes were incorporated in the plan. The evacuation routes surrounding Minnesota’s Nuclear Generating Power Plants have been updated to allow for easier exit away from the affected areas. In addition, having the routes (identified) beforehand will allow for better understanding during training of our responders during drills, exercises and actual incidents.

Mn/DOT and HSEM have completed and submitted preferred routes for the shipment of spent nuclear fuel to Yucca Mountain, Nevada, the site designated for the future national repository for such fuel. This early route identification was the result of a project undertaken in 2005 by the Midwestern Radioactive Materials Transportation Committee (MRMTC). Specifically, at the invitation of the Department of Energy (DOE), the MRMTC utilized DOE-developed software to identify a suite of shipping routes in every Midwestern state, including Minnesota, which potentially would meet federal and state health and safety criteria. These routes could be used to ship high-level radioactive waste (HLRW) and spent fuel from the country’s nuclear generating plants to Yucca Mountain. In December 2005 the MRMTC forwarded the suite of potential shipment routes it had identified to the DOE. The work done by Minnesota in early route identification will be considered by DOE in the establishment of the future route selection criteria. In early 2010 the DOE is planning to release a National Transportation Framework for review and comment. Minnesota will be watching closely to see what impact the new National Transportation Framework for high level radioactive materials transport will have on the state.

At the same time that HSEM asks for comments regarding the status of the MEOP, HSEM inquires as to whether the Department of Health, the State Patrol, and the Department of Transportation have any comments regarding “...the ability of the state to respond adequately to an accident.” In response, this year both the Department of Health (MDH) and the Department of Transportation forwarded such comments.

The *Department of Health* reported on training, an area that it believes constitutes a continuing need. With respect to *training*, MDH noted the following: 1. To ensure that sufficient personnel are available for all types of radiological responses, including high-level radioactive materials accidents and incidents, three MDH staff attended Federal Emergency Management Agency (FEMA) *Radiological Emergency Response Operations* (RERO) training in the past year; 2. An MDH staff member attended FEMA's *Advanced Radiological Incident Operations* (ARIO); 3. One MDH staff attended the US Nuclear Regulatory Commission (NRC) *Introductory Health Physics Course*; 4. An MDH staff completed the 40-hour *Hazardous Waste Operations Emergency Response* (HAZWOPER) training; 5. One MDH staff assigned to the Radioactive Materials Unit attended the NRC *Transportation of Radioactive Materials Course*; and 6. An MDH staff assigned to the Radioactive Materials Unit attended the US Nuclear Regulatory Commission's two week *Health Physics Technology Course*.

Mn/DOT Hazardous Materials specialists from the Office of Freight and Commercial Vehicle Operations participate in the Commercial Vehicle Safety Alliance “Level 6” inspector certification program. This program trains commercial vehicle inspectors to perform inspections on trucks carrying Highway Route Controlled Quantities (HRCQ) of radioactive materials. The USDOT regulations require Level 6 certified officers to perform a pre-trip inspection of all vehicles carrying shipments of HRCQ of radioactive

materials. Only one HRCQ shipment was noted in 2009. That shipment originated in Canada, and was transported to South Dakota.

There were no reported RAM transportation incidents in Minnesota in 2009.

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 rates, are not issued safety permits, or will have an existing permit suspended. Mn/DOT hazmat specialists will check for valid safety permits during all Level 6 inspections.

Mn/DOT indicated its responders are trained annually to “respond to nuclear generating plant incidents, using the Department’s standard operating procedures,” and that HSEM staff assist with this training by providing “general knowledge of the affect radiation has on the body and proper REM levels and dosimetry readings.” Mn/DOT is prepared to provide training to field employees in the advent of HLRW shipments.

In addition to forwarding the foregoing training information, Mn/DOT reiterated that any information it can obtain as to the rail and shipment routes that will be used to transport HLRW would “allow for better coordination with our HAZMAT staff and District Offices.” The Department believes that having advance knowledge of the routes in question would definitely improve Minnesota’s “ability to respond adequately to an accident.”

In 1997 a consortium of eight utilities (known as Private Fuel Storage [PFS]), including (then) Northern States Power Company, submitted an application to the Nuclear Regulatory Commission (NRC) for establishment of a private fuel storage facility to be constructed in the State of Utah. In the following year HSEM began focusing on the potential impact of that facility on the shipment of HLRW through Minnesota. Such shipments, of course, would require additional emphasis on Minnesota’s preparedness for and response to a potential HLRW transportation accident/incident. Consequently, in 1998 the division initiated discussions with Xcel Energy regarding the possible shipment by that Corporation of HLRW to the proposed storage facility in Utah. In February of 2005 the Atomic Safety and Licensing Board submitted its recommendation to the NRC that the Commission grants a license, and in September of 2005 the NRC authorized its staff to do so. PFS has indicated it is possible that the storage facility could be operational in 4-5 years. However, the actual project completion date would be impacted by a number of variables, one of which is whether or not the necessary customer base can be established to fund construction of the facility, and if it can be, how long that process might take. Division staff will continue to monitor the status of the PFS project, and will coordinate with both Xcel Energy and affected state and local government personnel, as necessary.

An ongoing HLRW issue of continuing concern has been discussed in the last several Annual Reports. That issue is the current lack of funding for state agency HLRW transportation accident/incident preparedness and response activities. There are two parts to this problem. First, Minnesota Statutes, Section 116C.731, Subdivision 3, requires shippers of HLRW to pay a \$1,000 fee for each vehicle carrying HLRW through the State of Minnesota. This fee is considerably smaller than those currently charged by some other states, and it will not offset the true cost for inspection and escort of the shipments. The same Statute also mandates that the fees be paid to the DPS commissioner, who in turn is to deposit the fees in the State’s General Fund. As explained in several previous Reports, because the fees in

question are deposited in the General Fund, they are not accessible to the state agencies that will likely incur considerable expenses in order to prepare for and respond to HLRW shipments. Secondly, because the (potential) Xcel shipments discussed above would constitute shipments by a private company rather than Department of Energy shipments, they would 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 would not be eligible to receive any DOE funding to cover the cost of the shipment-related planning, training, and exercising that would likely be deemed necessary in order to adequately prepare for the shipments. Nor would federal funding be available to purchase additional radiation detection/protection equipment, should Minnesota determine that such equipment would be beneficial. Lastly, because both the starting date of the potential Xcel shipments to Utah and the number of those shipments each year can only be estimated at this time, planning for them is extremely difficult.

The Department of Energy is charged with taking all actions necessary to permit the future shipment of HLRW and spent fuel to the Yucca Mountain site in Nevada, the location of the national repository that is under construction at this time. To-date, however, the DOE has not identified the suite of routes that will be used to ship the waste and spent fuel to Yucca Mountain, nor the date when such shipments will be initiated. The current construction at Yucca Mountain is on hold and the funding for transportation planning is being reduced. Consequently, all the states have found it very difficult to engage in any meaningful planning in preparation for the future shipments.

Substantial planning, training and exercising would be needed in Minnesota in advance of any HLRW shipment campaigns.

With the Federal Administration placing the Yucca Mountain Repository site in Nevada on hold and the public law that was enacted making Yucca Mountain the only repository site that is permitted, there is now a stalemate on moving forward in establishing a repository until the public law is changed allowing consideration of sites other than Yucca Mountain or construction resumes at Yucca Mountain.

The Monticello and Prairie Island Nuclear Generating Plants are continuing to add capacity to their on-site dry cask storage facilities and will need to continue to expand the on-site dry cask storage capacity until a federal repository is established and spent fuel can be shipped.

Lastly, in 2009 the State of Wisconsin and the University of Wisconsin in Madison had one shipment of HLRW material and the routing of that shipment did not impact Minnesota.

In the coming year HSEM will, review and comment on the National Transportation Framework and continue to track high-level radioactive waste issues that may impact the State of Minnesota.