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**2008 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**

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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, over time it is anticipated that the MEOP will be 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. 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. In 2008 the National Response Framework (NRF) was updated and it now replaces the National Response Plan. The MEOP is continually being updated to include catastrophic type incidents and is reviewed annually by FEMA.

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, HSEM 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 2008 MEOP update was completed in late September of 2008.

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. 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, by 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. DOE is slated to initiate the very lengthy process of identifying and selecting shipment routes starting in 2009. The work done by Minnesota in early route identification will be considered by DOE in the establishment of the route selection criteria. In early 2009 the DOE will be releasing the new National Transportation Plan for review and comment. Minnesota will be watching closely to see what impact the new National Transportation Plan for high level radioactive materials transport will have on the state.

HSEM also supported preparedness by having additional staff take advanced level radiological emergency training. In order to ensure that sufficient personnel are available for all high-level radioactive materials accidents and incidents; four staff attended Radiological Emergency Response Operations (RERO) training in the past year; three staff attended FEMA's Radiological Accident Assessment Course (RAAC); four staff attended training for dose projection using RASCAL, a computer dose modeling program and four staff attended the Weapons of Mass Destruction Radiological/Nuclear Hazardous Materials Technicians Course. The Division continues to enhance the skill levels of staff through comprehensive training.

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, two staff attended Radiological Emergency Response Operations (RERO) training in the past year; 2. One of the staff assigned to the MDH Radioactive Materials Unit attended Advanced Radiological Incident Operations (ARIO); 3. Two MDH staff assigned to the Radioactive Materials Unit attended Health Physics in Radiation Emergencies training at the DOE's Radiation Emergency Assistance Center/Training Site (REAC/TS) in Oak Ridge, Tennessee; 4. One MDH staff attended FEMA's Radiological Accident Assessment Course (RAAC); 5. Two MDH staff attended the US Nuclear

Regulatory Commission training for dose projection using RASCAL, a computer dose modeling program; and 6. MDH reports that they provided radiological training to two Chemical Assessment Teams in 2008.

Mn/DOT Hazardous Materials staff maintained "Level 6" re-certification training in Radioactive Materials Transportation inspections in 2008. Federal Regulations require Level 6 certified officers to perform a pre-shipment inspection of all vehicles carrying shipments of Highway Route Controlled Quantities (HRCQ) of Radioactive Materials (RAM). This training is also relevant to RAM spill response, and is designed to prevent incidents involving radioactive materials from occurring during transport of those materials. Mn/DOT stated "This training will permit Mn/DOT to proactively respond to HAZMAT spills, with an enhanced degree of safety, and to return the roadway to normal conditions more quickly."

There were no reported RAM transportation incidents in Minnesota in 2008. Mn/DOT Hazardous Materials Specialists received radioactive materials incident response training from the FBI in July, 2008, and from the US EPA national response team during the Republican National Convention in September, 2008.

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 reported that three of its Office of Maintenance - Emergency Management staff completed the Weapons of Mass Destruction Radiological/Nuclear Awareness train-the-trainer course offered by the Department of Homeland Security. 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."

All highway carriers of HRCQ of RAM must possess a Hazardous Materials Safety Permit from the USDOT, and Hazardous Materials Specialists from Mn/DOT monitor the status of these carriers. The Mn/DOT Office of Freight and Commercial Vehicle Operations is reviewing its procedures on hazardous materials routing to assure radioactive HRCQ are operated on routes that minimize radiological risk. Mn/DOT issued 12 Overweight/Overdimension Permits for highway transport of radioactive casks and equipment in 2008.

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 grant 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 estimate is 2017, at the earliest.) Consequently, all the states have found it very difficult to engage in any meaningful planning in preparation for the future shipments. However, the DOE is expected to initiate its route identification and selection process in 2009, and the conclusion of the selection process will assist Minnesota and other states in their shipment preparations.

Lastly, in December of 2008 HSEM was informed by the State of Wisconsin that the University of Wisconsin in Madison is planning to ship HLRW material in 2009 and 2010. The routes for shipments have been finalized, and will not include any routing through Minnesota at this time. Minnesota is also closely watching the development of a 10-year DOE shipment campaign that will be transferring spent nuclear fuel between sites in Georgia and Idaho and this shipment campaign may be considering the use of an alternative northerly route that could impact Minnesota in the future.

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