

NEWS BRIEFS

Nuclear Power Industry Debates Proposed Epidemiology Study

This month, members of the Electric Power Research Institute (EPRI) vote on whether to proceed with a proposed \$6 million epidemiological study of the effects of occupational exposures to radiation. Disputes over the need for such an ambitious and costly study have engendered a conflict within the electric power industry.

"It's a pretty difficult decision for EPRI and the utilities," says William Mills, PhD, an Oak Ridge Associated Universities senior scientist and policy advisor based in Washington, D.C. "They've talked about the study and now if they don't go through with it they will be accused of trying to stop the data from coming out." Most everyone agrees the study will find no excess cancer—that's one reason critics say it isn't needed.

The epidemiology project would be the largest ever to compare recorded dose equivalents of ionizing radiation with observed cancer deaths. The study would include as many as 300,000 nuclear utility workers who have been monitored since 1969 and would take at least five years to complete. In addition to EPRI's \$6 million, the utilities involved would have to lay out an estimated \$2 million to put employee records into a compatible computer database.

In interviews, representatives of EPRI and individual companies offered much support for the proposal. For example, GPU Nuclear's director of radiological and environmental controls, Thomas D. Murphy says, "I think it's a study that we should do. If there is a risk and we can confirm that, I think we owe it to our employees—if there is a risk we need to tell them that."

An independent panel of the National Research Council commissioned by EPRI endorsed the study last June, asserting that it could ease concerns about the dangers of radiation and afford sound

estimates of the upper bounds of low-dose radiation risk.

One of the study's most outspoken critics, however, radiation physicist and consultant Ralph E. Lapp says the study is hotly contested within the industry. As evidence he cites an unusually lengthy dissent written by EPRI advisory committee member Michael C. Williams, manager of nuclear services at the Union Electric Company in St. Louis, Missouri. Mr. Williams acknowledged writing his objections, but declined further comment to Newsline. "We're not out to create a trial by media," he offered. "By and large these are industry issues and industry is capable of solving them."

Qualms about the study include fears that results will be misinterpreted by the press, causing unwarranted fear and even lawsuits against the utilities. "[Cancer] rates less than expected will tend to be ignored while those greater than expected will be highlighted as evidence of increased risk," wrote health physicist John A. Auxier, PhD, chairman of the Council for the American Academy of Health Physics in this month's Health Physics Society Newsletter. The former president of the Health Physics Society decries as wasteful the proposed expenditure on epidemiology, saying that the money would be better spent to reduce the known and measurable risks of nuclear power plant operation.

Critics assert that the study will only cloud issues of radiation risk at low levels. Dr. Mills says that such a study would be of some value if it could relieve workers by ruling out cancer risks, but he doubts that any epidemiology study could be so definitive. "I have serious reservations about these types of studies," he says. "I don't see that a lot will come out of it."

In his attack against the proposed study, Mr. Lapp says it overestimates the risks of low-levels of radiation extrapolated from data on the Hiroshima and Nagasaki atomic bomb survivors. Using a lower, and in his view more accurate, estimate of the expected number of excess cancer

deaths, Mr. Lapp figures that the proposed study lacks the statistical power to detect or rule out the effects of radiation on nuclear power workers.

The author of the proposal, Roy Shore, PhD, DrPH, dismisses Mr. Lapp's objection as a straw argument. "Assessing how accurate the models are is what the study is all about," says the professor at New York University's Institute of Environmental Medicine in New York City. Dr. Shore says he wouldn't be surprised if the effects of radiation turn out to be different than predicted by extrapolating the Hiroshima data. He says the study will also help answer questions about the hypothesis that radiation doses distributed over time are less carcinogenic than similar doses delivered all at once. Thus, he says, the study will have great scientific merit, and also be valuable in defending against law suits aimed at the nuclear utilities. "It's the best shot we have to evaluate the extrapolation models from the A-bomb survivors," Dr. Shore says.

Opponents maintain that enough studies have been completed to make the EPRI study unnecessary. As an alternative, Mr. Lapp suggests the study of U.S. Navy shipyard workers by the Johns Hopkins University professor Genevieve M. Matanoski, MD, DrPH. (The study included nearly 40,000 nuclear workers and found no increase in the risk of any cancers that could be attributed to radiation.) Mr. Lapp says the shipyard study is superior because it has a longer follow-up time allowing for latent cancers to appear—the shipyard data extend back a decade more than the EPRI data.

Because the shipyard study covers far fewer exposed persons than the EPRI study would—40,000 compared to 300,000 workers—Dr. Shore maintains that his proposed study will lead to an understanding of risk not possible with the shipyard data. "Follow-up time doesn't begin to make up the difference," he says.

When asked about the study's chances, Leeka Kheifets, EPRI's project officer,

NEWS BRIEFS

emphasizes the support for the study, including the majority approval of EPRI's advisory committee. "I think we've laid a lot of ground work," she says, "now it's up to the industry to decide." ■

J. Rojas-Burke

Finding a Home for the MRS

In search of temporary storage depots for commercial, high-level nuclear waste, U.S. Nuclear Waste Negotiator David Leroy has offered \$100,000 grants to 623 states and Indian tribes for the purpose of conducting feasibility studies for hosting a monitored retrievable storage (MRS) facility. The grants will be administered by the U.S. Department of Energy (DOE). So far, the only applicants are Grant County, North Dakota and the Mescalero Apache Indians of south-central New Mexico.

Mr. Leroy, whose office operates independently from the DOE, is under pressure to find temporary host sites for the high-level waste because law requires the federal government to begin accepting waste for the nation's 111 nuclear power plants as early as 1998. The only site being explored as a permanent repository—Yucca Mountain, Nevada—could not operate until 2010.

Although the Nuclear Regulatory Commission (NRC) pronounced the nation's 72 reactor storage sites safe for a period of up to 50 years, pressing issues surrounding the safety and storage capacity of these sites have spurred an active search by Congress for a temporary storage site. Says Mr. Leroy, "The country's current reactor sites have varying states of ability to continue storing waste. The storage pools are filling up and many of these sites are in the shadow of urban areas." He adds that "The siting of reactors and storage pools was never contemplated in terms of geology, wetlands, transportation, or isolating waste away from human beings. Reactors were

placed near urban centers where electricity is needed."

A typical MRS would require a minimum of 450 to 500 acres of land and would be in place for approximately 40 years, says a spokesperson for the Office of the U.S. Nuclear Waste Negotiator. Unlike a permanent repository, in which nuclear waste would be stored deep beneath the ground, an MRS facility would provide above-ground storage and, according to Mr. Leroy, would be located in an area convenient to rail and truck transport.

The economic advantages of hosting an MRS could be attractive to some communities. According to Terry Lindsey, Manager of the Radiation Control Programs at the Division of Environmental Engineering, North Dakota Department of Health and Consolidated Laboratories, Grant County, North Dakota applied for a grant because "the area is experiencing economic problems and they're looking for job opportunities."

Some anti-nuclear activists believe that hosting an MRS is unsafe and that high-level nuclear waste should be stored at nuclear power plants where it was created. Greenpeace's radioactive waste campaigner Chris Zimmer says: "The government is fishing for some way to dispose of this waste and they're bribing Indian tribes with high employment opportunities." David Leroy claims otherwise: "The selection process wasn't designed to pick out any sovereigns based on racist or economic characteristics. We don't target anyone. I have made and will continue to make the same offer available to states and tribes with the same method of communication."

If a state or tribe agrees to accept a temporary, high-level nuclear waste facility, their decision made with the federal government may not be vetoed by a state or tribe sharing the same land. However, says Mr. Leroy, "We'll have to consult with all affected entities and build a consensus so that Congress

doesn't have another pile of political problems." ■

Leigh Silverman

Medicine in the News

Conventional wisdom holds that medical investigators depend on professional journals to communicate medical knowledge, but a recent study suggests that popular newspapers may strongly influence the flow of scientific information.

To see if investigators are more likely to cite papers that have been reported in the popular press, a group of sociologists led by David P. Phillips, PhD, of the University of California at San Diego compared the number of references in the Science Citation Index for research articles in the *New England Journal of Medicine* that were, or were not covered in the *New York Times*.

The study found that research reported in the *Times* received about 70% more scientific citations in the first year after publication. The findings were presented in the October 17, 1991 issue of *The New England Journal of Medicine*.

Since newspaper coverage could simply be a marker of the most significant research articles, the sociologists compared citations during a three-month strike at the *Times* in 1978 when the paper published an "edition of record" that was not sold or delivered. Research articles reported by the newspaper during the strike were no more likely to be cited than those not covered.

Newspapers appear to "amplify" the transmission of medical information from journals to the biomedical community, the researchers wrote, perhaps by repeating readers' exposure to material or otherwise drawing attention to specific studies among the overwhelming flood of journal articles. (See *Newsline*, December 1991, p. 25N.) Whether newspapers distort the transmission of medical information to the biomedical community should be the subject of further study, the report concluded. ■