

Environmental Law

Nuclear Commission Transfers Authority

Rules are tightened on remediation of radioactive materials

By John McGahren and John Corbett

In September 2009, New Jersey completed an agreement with the U.S. Nuclear Regulatory Commission (NRC) whereby the state assumed NRC's regulatory authority over certain classes of radioactive materials. Effective September 30, 2009, New Jersey became the 37 "NRC Agreement State," under Section 274 of the Federal Atomic Energy Act of 1954 (as amended), which means the New Jersey Department of Environmental Protection's Bureau of Environmental Radiation now has sole licensing, rulemaking, inspection and enforcement authority for certain radioactive materials formerly under NRC's jurisdiction. NJDEP's authority to enter into the agreement and regulate these materials derives from Section 9.1 of the New Jersey Radiation Protection Act (N.J.S.A. 26:2D).

As with all agreement states, NRC retains jurisdiction over New Jersey's commercial nuclear power plants, fuel cycle facilities and materials at federal facilities in the state, as well as uranium and thorium milling wastes defined in Section 11e (2) of the Atomic Energy Act (e.g., licensed material at Stepan Company's Maywood facility), but formally relinquished to NJDEP

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via the agreement full authority for radioactive materials defined in Sections 11e(1), (3) and (4) of the Atomic Energy Act. In short, these materials are source material (uranium and thorium), special nuclear material or SNM (i.e., enriched plutonium and uranium) in subcritical mass quantities, SNM byproducts and naturally occurring and accelerator-produced byproducts, also known as NARM.

NJDEP also assumed sole regulatory authority for land disposal of received byproducts, source and SNM materials in the state, although New Jersey has no such disposal sites. New Jersey is a member of the Atlantic Interstate Low-Level Radioactive Waste Compact, an agreement with Connecticut and South Carolina which facilitates out-of-state disposal of these materials, and therefore may never have need for one.

Under the agreement, NRC transferred approximately 500 materials licenses to NJDEP and NJDEP retained authority over certain licenses and is combining dual state/NRC licenses into single New Jersey licenses. The transfer gives New Jersey approximately 700 materials licenses, ranking it seventh among the 37 NRC Agreement States. By contrast, New York has approximately twice as many licenses.

NJDEP's agreement with NRC can be terminated at any time by NRC or the state. NRC reviews agreement state performance under the Integrated Materials Performance

Evaluation Program (IMPEP) implemented by its Office of Federal and State Materials and Environmental Management Programs (FSME). FSME typically reviews an agreement state's program every four years, focusing on staffing, training and the technical quality of each state's inspection, licensing and incident response.

NJDEP's regulations regarding these materials, codified in N.J.A.C. Title 7 Chapter 28, largely parallel NRC's, but need not be identical for agreement state status. All that is required is that NRC determine that the regulations and NJDEP's program are adequate to protect health and safety and compatible with the federal program. NRC reviewed the state's program following then-Governor Corzine's formal request in October 2008, made this determination and solicited public comment on the proposed agreement last summer. Following the comment period, the agreement was formalized and took effect September 30, 2009.

A significant part of NJDEP's regulations incorporate by reference NRC's regulations. However, important differences between NJDEP's program and NRC's point to a more restrictive — and potentially costly standard for remediating radioactive contamination under state regulations. Under Federal standards (10 CFR 20.1402), sites are acceptable for unrestricted use if residual radioactivity meets a total effective dose equivalent (TEDE) of 25 millirems per year above background, including drinking water sources. NRC regulations also require that residual radio-

activity be reduced to levels “as low as reasonably achievable,” also known as ALARA. NRC’s ALARA principle takes into consideration various factors such as the purpose of the licensed activity and the state of technology and cost/benefit considerations.

By contrast, NJDEP regulations require that regulated material sites meet a dose criteria standard of 15 millirems per year above background for unrestricted license termination, and otherwise meet state groundwater or surface water criteria, as applicable. NJDEP’s regulations make no mention of the ALARA principle. Any additional conditions for cleanup must be in accordance with NJDEP’s Industrial Site Recovery Act (ISRA) regulations.

Another important distinction involves the state’s alternative standards for remediation. NRC allows restricted conditions license termination (i.e., with institutional controls) under certain conditions, including a demonstration that the failure of the institutional controls would not result in a dose to a member of the public in excess of 100 millirems per year, or 500 millirems per year if the licensee can demonstrate that the lower dose is not technically achievable,

prohibitively expensive or might actually result in more harm to the public. NJDEP makes no allowance for the 500 millirem per year standard, drawing the line at 100 millirems, and otherwise requires the same criteria as for unrestricted use.

Finally, federal regulations require dose equivalency (TEDE) calculations to determine the peak annual dose expected within the first 1,000 years following decommissioning. NJDEP, by contrast, uses 1,000 years as a minimum — not a maximum and requires that the calculations be performed to whenever the time of peak dose is when the peak exceeds 1,000 years.

The potential impact of New Jersey’s agreement state status on remediation of radioactive materials has already flared up in Shield Alloy Metallurgical Corp.’s (SMC’s) motion to the NRC to stay the transfer of authority pending judicial review of the transfer. SMC sought the stay to prevent NJDEP from assuming oversight of the decommissioning of its low-level radioactive source materials site in Newfield. SMC had a plan pending before the NRC to cap and monitor the wastes, which the state opposed. Upon transferring authority, NRC informed SMC it had discontinued review of the plan and forwarded

the matter to NJDEP. NJDEP has requested a state-compliant plan that will require removal of the source material at substantially higher cost. In papers submitted with its stay motion, SMC estimated the difference between its capping and monitoring plan and NJDEP’s removal plan at \$55 million (\$70 million for removal vs. \$15 million for capping and monitoring). The company submitted comments opposing New Jersey’s Agreement state request, and following the agreement petitioned NRC to stay transfer of authority for the site to NJDEP. In January, a three-member NRC panel denied SMC’s stay request, and the issues surrounding the site may ultimately be resolved in court.

In summary, New Jersey’s newly-conferred agreement state status means that New Jersey firms terminating licenses and decommissioning facilities with source materials, subcritical mass SNM and SNM byproducts and NARM now deal with regulators closer to home, but face considerably tighter state regulatory standards and scrutiny in doing so. NJDEP now makes the call, not NRC, and firms are encouraged to adapt their legal and technical approaches toward their licenses, termination and remediation accordingly. ■