

Additionally, “a dedicated lab which can do low volume and high volume sampling” will be established, Epstein said. With these upgrades, the area around Three Mile Island will have “the most sophisticated citizens monitoring network in the country,” he said.

As part of the agreement, 20,000 potassium iodide tablets and “thousands” of liquid KI doses will be procured in 2009. Epstein, who said he has been disappointed with previous KI distribution efforts by the NRC and the state of Pennsylvania, said the KI would be made available to local populations free of charge. Liquid oral doses of KI, which the NRC and the state are not distributing, are more suitable for children and seniors than tablets, he said.

Exelon Nuclear spokeswoman Beth Rapczynski said May 21 that the company also agreed to increase its contributions to local charities and emergency management organizations from \$245,000 in 2007 to more than \$300,000 in 2008.

Separately, Exelon Nuclear reached an agreement last week with the Lower Dauphin School District to more than double the property taxes paid by Three Mile Island to the district, Rapczynski said. Under that agreement, the company will pay the district \$930,000 annually from 2008 through 2017, up from \$450,000 in 2007.

Epstein said last week that he “wasn’t involved in the negotiations” between Exelon and the school district. However, he said, “I made it clear to Exelon that unless there was progress being made to address the tax issue, I would be unable to settle.”

Under the settlement with Epstein, Exelon Nuclear also agreed to continue its “long-standing” policy that “ensures that no storage of low-level or high-level radioactive waste from other nuclear power plants will take place at Three Mile Island for a period of ten years from the date that the NRC renews TMI Unit 1’s license.” TMI-1’s January 2008 application for a 20-year license renewal is currently under review by NRC staff.

Exelon Nuclear also agreed not to oppose decommissioning of TMI-2 during the 20-year period of extended operation of TMI-1, if the license renewal request is approved, unless decommissioning “adversely affects the safe operation” of unit 1. TMI-2 was permanently shut down after a partial core melt accident in March 1979.

“The whole point of the settlement agreement is that we wanted to ensure an open channel of communication between [Exelon], so that we can work together to address issues of concern that may come up,” Rapczynski said. She said Epstein has “agreed not to intervene in any Exelon proceeding, including license renewal” but was not barred from stating his opinions about nuclear power and Three Mile Island. Epstein has “very strong opinions about a variety of topics, including plant operations, and that will not change,” she said.

Epstein noted last week that the NRC had already granted license renewals for 48 units and denied none. “At some point you have to step back and examine what’s in the best interest of the community: cooperation or protracted litigation,” he said. Epstein said he views the agreement as “an

opportunity to unify the community.”

“We’re not an antinuclear group; we’re a community group,” Epstein said. “The reality is the plant’s here and it’s going to be here for a while. Even if it shut in 2014,” when TMI-1’s current operating license expires, “there are legacy issues that need to be monitored long into the future. It’s better to have a good relationship than protracted acrimony,” he said —*Steven Dolley, Washington*

Questions about future of HEU had role in Maple’s end, AECL says

The recent decision by Atomic Energy of Canada Ltd. to scrap its troubled Maple reactor project was in part due to uncertainty about the continued commercial viability of producing medical isotopes from high-enriched uranium, a spokesman for the crown corporation said May 22.

Observers also said AECL’s decision, announced May 16, was likely to accelerate the worldwide phase-out of HEU for medical-isotope production.

The two Maple reactors were to replace the National Research Universal, or NRU, reactor, which started operating in 1957. Under licenses issued by NRC, the US supplies HEU for the Maple and NRU reactors, all of which are located at AECL’s Chalk River site in Ontario.

In a press release, AECL said it was abandoning work on the project, launched more than a decade ago, on the basis of a review that included “the costs of further development, as well as the time frame and risks involved.”

AECL spokesman Dale Coffin said a main factor was the units’ inability to operate with a negative power coefficient of reactivity. Reactivity coefficients indicate the degree to which reactivity will change in response to a particular parameter. In a 2003 analysis, the Canadian Nuclear Safety Commission said a positive coefficient is “contrary to the core design characteristic analyzed in the Final Safety Analysis Report and could have a negative impact on safety” (INRC, 22 Sept. ‘03, 10).

The latest tests of the reactivity coefficient earlier this year were “not favorable,” Coffin said. At that point, it was clear that AECL would not have Maple-1 in commercial production by October of this year — the goal stated in the latest version of the timetable for the much-delayed project — and there was “no indication” of when the problem would be resolved, he said.

The second key factor, Coffin said, was an apparent “movement” by other isotope producers toward low-enriched uranium targets for production of molybdenum-99. Questions about both the economics of conversion and the “technology risk” — that is, whether AECL could maintain isotope production with LEU at the same levels that it has with HEU — were factors, he said.

Isotope production using LEU has been demonstrated on a relatively small scale, but the larger producers have said scaling up might not be straightforward. However, at a meet-

ing of reactor operators last December, the Netherlands' Nuclear Research and Consultancy Group said it was studying the feasibility of LEU isotope production and could be producing Mo-99 from LEU on a large scale within a decade (NuclearFuel, 17 Dec. '07, 1).

In the US, the National Academy of Sciences is conducting a congressionally commissioned study on the feasibility of producing isotopes with LEU, and there are proposals for two reactors, using different designs, to produce LEU-generated Mo-99 (Nucleonics Week, 14 Feb., 3). The Natural Resources Defense Council, an environmental and nonproliferation advocacy group, has submitted a petition for rule-making to NRC calling on the agency to set a date after which it would no longer license or otherwise support the use of HEU for civilian purposes (INRC, 31 March, 3).

Neeraj Monga, the director of research for Canada's Veritas Investment Research Corp., said in a May 21 interview that if AECL did not convert to LEU, AECL — and MDS Nordion, which markets the isotopes that AECL produces — would have to confront two significant uncertainties. The companies, he said, would have to be concerned not only about continued HEU supply from the US, but also about maintaining dominant market share in the US if there was competition from one or more producers that had the dual advantage of being US-based and using LEU.

Alan Kuperman, an assistant professor of public affairs at the University of Texas at Austin and a long-time advocate of eliminating HEU-based isotope production, said the AECL announcement helps support that goal. Even though the NRU also uses HEU, its remaining lifespan will be much shorter than the Maple reactors' would have been, he said.

But he said an issue that needs to be addressed is the fate of the 45 kilograms of HEU that AECL already has imported to Chalk River under its NRC license. NRC limited the amount of HEU it permitted AECL to receive from the US because the regulators wanted to avoid the proliferation risk of excess quantities of weapons-usable material, he said. With the abandonment of the Maple project all the material is now surplus and should be "returned immediately," he said.

NRC spokesman David McIntyre said May 22 that the agency already had contacted AECL about disposition of the HEU. He said one option being explored is to use the material at the NRU, which receives its HEU under a separate NRC license. If that is not possible, the material should be returned to the US, he said.—*Daniel Horner, Washington*

NRC sets review schedules for two new plant applications

NRC issued May 16 schedules for the staff's review of applications submitted by Progress Energy and Entergy to potentially build a total of three new reactors in the US. These applications are among nine that have been submitted to the NRC since last year.

Progress Energy is seeking a combined construction per-

mit-operating license, or COL, for two Westinghouse AP1000s at its Shearon Harris (also called Harris-1) site in North Carolina. Entergy is applying for a license to construct a GE-Hitachi ESBWR at its Grand Gulf site in Mississippi.

The staff is targeting May 2010 to issue a final environmental impact statement, or EIS, on the Shearon Harris application and April 2011 to complete a final safety evaluation report, or SER. The EIS and SER are the two major parts of NRC's review of COL applications.

The NRC staff cautioned in a letter to Progress Energy that milestones associated with the SER for the proposed Shearon Harris-2 and -3 could be impacted by the ongoing review of Westinghouse's AP1000 design certification amendment and the Tennessee Valley Authority's COL application for the proposed Bellefonte-2 and -3. TVA is the lead applicant seeking a license to potentially build the AP1000 design. NRC said that the Harris review would not be completed until after review of the TVA reference COL has been completed for the "standard sections," meaning the sections applicable to all AP1000 COL applications.

NRC's May 16 letter to Progress Energy also reiterated what it told the company in April — that there were three areas that could impact the review schedule. These areas included an incomplete recirculation screen design in the referenced AP1000 design, the need for a transportation impact analysis to evaluate road construction, and missing information needed to assess environmental impacts at the proposed intake location of the water makeup source. NRC said the recirculation screen design was being addressed by Westinghouse in the design certification amendment.

Not included in the staff's schedule was a target date for concluding the hearing process, which could push back the safety and environmental reviews if contentions are admitted. Following the mandatory hearing, the NRC commissioners will make a decision on whether the COL should be issued.

For the proposed Grand Gulf-3, the staff said it could issue a final EIS in May 2010 and a final SER in March 2011. The timing of the review for Entergy's COL request depends on whether the company keeps its commitment to provide NRC with revised sections of the application in June. NRC said in a May 16 letter that the "critical path" for the Grand Gulf review deals with geology, seismology and geotechnical engineering. The schedule also depends on the staff's review of GE-Hitachi's ESBWR design certification application, which is referenced in Entergy's filing, and Dominion's COL submittal for North Anna, which is the lead ESBWR license applicant.

The staff did not provide a target date for the completion of the hearing process or a final licensing decision by the NRC commissioners. The agency has said that a hearing is expected to add about 12 months to the review process.

For both the Shearon Harris and Grand Gulf applications, the NRC staff plans to reevaluate the review schedules when it issues the "SER with open items" to determine whether the milestones were achievable. The initial SERs are anticipated to be issued, respectively, in July 2009 and September 2009.—*Jenny Weil, Washington*