

At the Weapons Labs/DOE Sites

AT LOS ALAMOS NNSA LAYS OUT STRATEGY FOR TA-55 UPGRADES

Los Alamos National Laboratory will have either reduced accident risk at its main plutonium facility to acceptable levels by September 2011 or developed “an executable strategy” to achieve that goal, the National Nuclear Security Administration said in a new plan delivered this month to the Defense Nuclear Facilities Safety Board. A July 13 letter from the NNSA included an implementation plan for responding to the DNFSB’s concerns about seismic risk at the lab’s Technical Area 55 Plutonium Facility, noting that success in dealing with the problems is contingent on sufficient funding from Congress and the Obama Administration. Success, according to the implementation plan “depends upon securing adequate funding, including near-term expense funded projects.”

Exactly how much money might be needed remains unclear, according to an official familiar with the project. Work is now underway to pin down specific strategies, cost and work scope, and to identify the necessary funding, according to the official. NNSA issued a statement promising continued work with the Board to deal with the 1970s-era plutonium building: “NNSA has worked with the DNFSB on these issues and is committed to risk reduction and mitigation at TA-55 as part of an overall commitment to modernizing its aging, Cold War-era nuclear security infrastructure,” the agency said.

The implementation plan provides new details on how the accident risk was calculated, and on the differing assumptions that have led to reductions in the NNSA’s analysis of worst-case accident scenarios at PF-4. Discussions between NNSA and the DNFSB over the risks posed by PF-4 were triggered by a 2008 “safety basis” analysis that showed a serious risk to off site members of the public if a major earthquake caused a fire on the first floor of PF-4 and resulted in the loss of containment and a major plutonium release. The NNSA concluded that the risk of such a scenario was “beyond credible” because of an expected frequency of a sufficiently large quake of less than one in a thousand years. In addition, the NNSA’s Safety Evaluation Report concluded that controlling sources of ignition and other steps were sufficient to justify continued operation despite the identified risk.

2009 Safety Basis Evaluation Reduced Risk

The new implementation plan details changes made in a 2009 NNSA “safety basis” evaluation that resulted in a reduction in the calculated risk. The 2008 report’s calculation had been based on a fire and release of 5,000 kilograms of plutonium, while the 2009 version assumed lesser levels of plutonium release, and in less dangerous forms. The resulting risk is still eight times above the “evaluation guideline” of a 25 rem off-site exposure risk, but is still far less than the 2008 study had concluded. That new analysis is now being used to characterize the needed safety improvements.

Immediate steps being taken, according to the implementation plan, include repackaging 60 containers of plutonium-238, adding vents to 40 other containers of plutonium-238, replacing 195 air filters with new models rated to better withstand fire upgrading ventilation systems, developing plans with the Los Alamos Fire Department and other possible first responders, and developing models of ventilation and hydraulic systems, which can be used to inform decisions about future safety-class upgrades improvements to fire sprinkler systems removing combustible materials, primarily from lab areas shown to be most at risk in the accident scenarios.

Lab: Ventilation Upgrades ‘Prohibitively Expensive’

In the current fiscal year, the NNSA has allocated a total of \$13.3 million in “risk reduction” money at PF-4. The plan argues that seismic upgrades to the building’s active ventilation confinement system would be “prohibitively expensive and also unnecessary.” An upgrade of a single system, known as the “bleed-off system,” should be sufficient to keep the building’s air pressure lower than the outside air, “thereby minimizing any release of radioactive material to the environment,” the plan states.

Glovebox upgrades also will be performed, funded as part of the TA-55 Reinvestment Project. The plan calls for 10 to be completed by next July, with phasing of the work done in such a way that high-risk gloveboxes that share common utilities will be done together to minimize cost. Cost figures for the work are not yet available.

AT KANSAS CITY DEVELOPER FINALIZES FINANCING FOR NEW PLANT PROJECT

Officials involved with the National Nuclear Security Administration’s new Kansas City Plant project earlier this

month cleared the final hurdle before construction can begin on the new facility, nailing down financing for the