

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 8, 2000

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: C. H. Keilers / R. T. Davis

SUBJECT: SRS Report for Week Ending September 8, 2000

T. Huntley, H. Massie, D. Ogg, and M. Merritt were on site this week reviewing the new plutonium disposition facilities. Merritt and Ogg also reviewed the status of Recommendation 94-1 activities.

Canyon Utilization: This week, DOE-SR outlined the Canyon Action Plan, expected this month, that is intended to identify materials throughout the complex that may require canyon processing. This will be used by DOE headquarters to make disposition decisions. Unfortunately, the plan will likely emphasize rapidly curtailing F-Canyon chemical separations – possibly as soon as late-2001 – instead of identifying the optimal disposition pathways for excess nuclear materials.

DOE stated it may be 2 to 3 years before 60 percent of the excess nuclear materials will have clear disposition pathways. Although DOE believes most of these materials do not *require* canyon processing, there still appears to be high uncertainty for some materials and high programmatic risk. DOE considers that there is minimum risk with early F-Canyon shutdown, since material could also be processed in H-Canyon or eventually by melt-and-dilute in L-Area. For example, DOE believes that SRS sand, slag, and crucible and Hanford Pu alloy could go to WIPP, and Rocky Flats composites could be processed in H-Canyon. This would shorten the F-Canyon schedule by 3 years and lengthen the H-Canyon schedule by a year or two. Other materials will likely be added later to the H-Canyon mission, further extending H-Canyon operations by years.

The site reps believe that this approach will probably not reduce operating costs significantly until well after 2006 because of the F-Canyon systems needed to support AmCm vitrification and FB-Line activities (e.g., vault operations, direct casting Rocky Flats metal through 2006). Furthermore, it probably extends by years the period that excess fissile material is at risk throughout the complex. It may make more sense – from the fiscal, safety, and safeguards perspectives – to continue to utilize both canyons and thereby disposition these materials sooner.

Recommendation 94-1: DOE is waiting on WSRC to complete studies on plutonium storage conditions before deciding on whether to meet the Interim Safe Storage Criteria (ISSC). However, WSRC does not even know yet by when a recommendation on ISSC can be made. They expect to know in mid-October. Meanwhile, DOE-SR continues to be committed to the 235-F project to achieve plutonium stabilization and packaging. This effort is being accelerated, but it is uncertain whether the schedule can be improved from the current dates (i.e., completion in 2006 to 2008).

This week, the staff and site reps toured FB-Line spaces that could be used for a STD-3013 outer can welder. It appears straight-forward to modify these spaces and install a welder similar to the one SRTC expects to deliver to Hanford in February 2001. This would likely have little impact on FB-Line operations or slow down the 235-F project. Some facility modifications would be required.

The main disadvantage is personnel radiation exposure during these modifications and subsequent welder operation. However, if DOE pursued this now, they might bring several hundred containers of plutonium metal into full compliance with STD-3013, five to seven years sooner than if DOE relies solely on the 235-F project. DOE continues to be reluctant to pursue this.