

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 8, 1997

MEMORANDUM FOR: G. W. Cunningham, Technical Director
FROM: J. Kent Fortenberry / Joe Sanders
SUBJECT: SRS Report for Week Ending August 8, 1997

Dan Burnfield and outside expert Ralph West were onsite this week observing DOE's review of the implementation of Integrated Safety Management at SRS.

Direct Metal Casting at FB-Line - WSRC and DOE-SR are considering direct metal casting of about 10-15kg of plutonium metal pieces currently stored at SRS. Conversion to a button provides a standard form for DOE-STD-3013 packaging and long term storage. Achieving this conversion via direct metal casting in the FB-Line eliminates the need for dissolution and additional processing and greatly reduces waste generation. A pressure chamber has been prepared for the FB-Line reduction furnace with additional insulation that allows a temperature of ~650C to melt the plutonium pieces. In preparation for direct casting, miscellaneous plutonium pieces would have to be brushed to remove PuO₂. A demonstration of direct metal casting might take place as soon as September. In addition to the small amount of metal pieces at SRS, about one metric-ton of the plutonium metal scheduled to be sent to SRS from RFETS is in the form of metal pieces. If the direct casting process proves feasible in dealing with the small amount of material at SRS, it might be employed with material from RFETS.

DOE-SR Expectations for Accident Analyses - DOE-SR is preparing to provide their expectations to WSRC relative to performance of accident analyses. These expectations primarily address recent safety documentation that DOE-SR felt presented unrealistic accident scenarios with estimated consequences that greatly exaggerate the risk of facility operation. DOE-SR plans to provide expectations relative to the development of bounding accident scenarios, including the material available for release, release mechanisms, and event initiation and propagation. In addition, DOE-SR plans to provide expectations for the demonstration of defense-in-depth systems, structures, components, or administrative controls consistent with the approach outlined in their June 24, 1997 presentation to the Board.

Verification of the Integrated Safety Management System (ISMS) at SRS - The Joe King review team has completed a 'Phase I' verification of the ISMS at SRS. In summary, the review team concluded that "safety management has been implemented through a variety of manuals of practices and supplementing procedures which provide tailored guidance to facility managers." The review team identified specific noteworthy practices, but also identified 'opportunities for improvement' they felt should be included during the annual review to update the ISMS Description Document. In addition, the review team provided a recommendation for conducting the 'Phase II' verification of the implementation of ISMS at eleven facilities of interest. The team recommended that FB-Line, RBOF, ITP/ESP, Tritium Extraction Facility (232-H), F-Tank Farm, and L-Basin be reviewed for implementation. The other facilities judged not to require further evaluation include H-Canyon, HB-Line, H-Tank Farm, DWPF, F-Canyon, and K-Basin.