

Pinellas Plant Site Profile Update

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Background

- DOE operations 1957 to 1997
 - Plant was located in Clearwater, FL
 - Produced precisely-timed neutron generators used to initiate nuclear explosions
 - Accelerator-type neutron generators produced at Pinellas gradually replaced polonium-beryllium initiators manufactured at the Mound site
 - Also fabricated other weapons components that included: lightning-arrestor connectors, specialty capacitors, crystal resonators, magnetics, and optoelectronic devices

Background—cont.

- September 1994, Pinellas stopped producing weapons-related components and began to change its mission to environmental management
 - The Department of Energy (DOE) transferred much of the Pinellas production capability to the Kansas City Plant in Missouri and the Sandia National Laboratory in New Mexico
- DOE completed cleanup of the site in December 1997
- Contractors
 - General Electric Company (1957-1992)
 - Lockheed Martin Specialty Components, Inc. (1992-1997)

History of the Site Profile Review

- 2005 – Initial Pinellas Plant TBD completed
- 2006 – TBD updates (page changes) completed for the External (2), Site Description and X-ray sections
- May 2007 – SC&A review of the Pinellas profile submitted
 - 11 primary issues and 8 secondary issues
- June 2008 – Pinellas Work Group meeting
 - Agreement in principle for satisfying SC&A issues

October 2011 WG Meeting

- **Updates to the Pinellas Plant Site Profile**
 - **July 2011 –**
 - **Introduction (ORAUT-TKBS-0029-1, Rev 01)**
 - **Site Description (ORAUT-TKBS-0029-2, Rev 02)**
 - **Occupational Environmental Dose (ORAUT-TKBS-0029-4, Rev 01)**
 - **Occupational Internal Dose (ORAUT-TKBS-0029-5, Rev 01)**
 - **August 2011 – Occupational External Dose (ORAUT-TKBS-0029-6, Rev 01)**
 - **October 2011 – Occupational Medical Dose (ORAUT-TKBS-0029-3, Rev 01)**

October 2011 WG Meeting—cont.

- Discussion of the review matrix
 - 11 primary and 8 secondary issues
 - Primary issues include:
 1. Reconstruction of doses in the absence of early health physics, industrial hygiene, and environmental records
 2. Potential doses from insoluble metal tritides not sufficiently addressed
 3. Minimum detectable concentrations and uncertainties for plutonium and bioassay measurements are inadequately addressed (Occupational Internal Dose; ORAUT-TKBS-0029-5)

October 2011 WG Meeting—cont.

- Discussion of the review matrix—cont.
 4. Assessment of personnel badging policy during early years needs further review
 5. Problems with personnel dosimetry
 6. Decontamination and decommission (D&D) era of Pinellas operations is not sufficiently addressed
 7. Missing internal dose estimation methods for unmonitored workers (e.g., maintenance and support personnel)

October 2011 WG Meeting—cont.

- Discussion of the review matrix—cont.
 8. Potential missed dose for depleted uranium
 9. The TBD fails to adequately define and assess occupational medical exposure
 10. Techniques and protocols increase uncertainty of dose conversion factors listed in the TBD
 11. Frequency and type of X-ray exposure is uncertain

Work Group Path Forward

- NIOSH – revising Pu bioassay section of the TBD
- SC&A
 - Reviewing documents to verify changes reported by NIOSH
 - Revisiting Pu bioassay data
 - Conducting personnel interviews (December 9, 2011)