

Savannah River Site Status Update

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Advisory Board on Radiation and Worker Health 112th meeting

Idaho Falls, Idaho
August 9-10, 2016

Deliverables schedule

- Co-worker Models
- Neptunium
- Thorium
- Metal Hydrides
- Subcontractor follow-up

Co-worker models

DCAS to use “interim” Technical Information Bulletin¹ (TIB)

First DCAS co-worker model using the *Draft Co-worker Implementation Guidance*

To include the tritium and exotic radionuclides² coworker models operations, construction trade workers

Scheduled completion through review cycles and delivered to the Savannah River Site (SRS) workgroup in October 2016

¹ ORAUT-OTIB-0081 Revision 3

¹ Note to public: TIBs may be found at: <http://www.cdc.gov/niosh/ocastibsnum.html/>.

² Americium (Am); Curium (Cm); Californium (Cf); and Thorium (Th)

Co-worker models

Revision 4 of ORAUT-OTIB-0081 (Rev 4) to contain all remaining radionuclides of interest¹

Scheduled completion February 2017

¹Plutonium, uranium, neptunium, mixed fission products, strontium, cesium, and cobalt

Neptunium evaluation

1. ORAUT-RPRT-0065: *An Evaluation of Neptunium Operations at Savannah River Site*
2. ORAUT-RPRT-0077: *Evaluation of Personnel Health Physics and Department Codes to Identify Neptunium Workers at the Savannah River Site*
3. ORAUT-RPRT-0080: *An Evaluation of PuFF construction worker exposure potential to the Np-237 billet line*

ORAUT-RPRT-0065: An Evaluation of Neptunium Operations at Savannah River Site

- ✓ This report gives an overview of the neptunium (Np) operations conducted at SRS
- ✓ Describes the radiation safety monitoring and the personnel monitoring methods
- ✓ Compares doses calculated using urinalysis versus whole body counting to illustrate that the whole body count methods are bounding for co-worker models

Scheduled completion August 2016

ORAUT-RPRT-0077: Evaluation of Personnel Health Physics and Department Codes to Identify Neptunium Workers at SRS

- ✓ This report will demonstrate that we can identify the workers who were potentially exposed to neptunium using dosimetry codes to support the use of limited data in a co-worker model
- ✓ **Example:** we know reactor area workers were not monitored for neptunium because there was no potential for exposure. Previous report identifies that 235-F, HB-Line, and 300 area are the primary exposure areas where there is monitoring data

Scheduled completion September 2016

ORAUT-RPRT-0080: An Evaluation of PuFF* construction worker exposure potential to the Np-237 billet line in 235-F

- ✓ This report will focus solely on construction worker exposures to the Np-237 billet line in 235-F during new construction of the *Plutonium Fuel Fabrication Facility (PuFF)
- ✓ This was a major construction undertaking that occurred simultaneously with neptunium billet production in another part of the building that was isolated

Scheduled completion December 2016

Thorium

1. ORAUT-RPRT-0070: *Thorium Exposures post 1972 at the Savannah River Site*
2. ORAUT-RPRT-0081: *Thoron exposures at the Savannah River Site*

ORAUT-RPRT-0070: *Thorium Exposures post 1972 at the Savannah River Site*

- ✓ Post-1972 Th exposures report will describe SRS Th work
- ✓ Show NIOSH can identify employees, who were most highly exposed to Th, were monitored for exotic nuclides through May 1980 to support co-worker use
- ✓ After the May 1980, will support use of 10% of the DAC to bound the Th doses when Th operations and inventory were minimal (Evaluation based on air monitoring and contamination surveys)

Scheduled completion January 2017

ORAUT-RPRT-0081: *Thoron exposures at the Savannah River Site*

- ✓ This report will demonstrate the appropriateness of a bounding approach based on tank farm air monitoring

Scheduled completion date January 2017

Metal hydrides (tritides)

1. ORAUT-RPRT-0072: *Metal Hydride exposures at the Savannah River Site*
2. Discusses research work, operations, and the associated exposures to metal hydrides at the SRS

Scheduled completion October 2016

Subcontractor follow-up

In June 2016, NIOSH and Oak Ridge Associated Universities (ORAU) identified a large collection (\approx 3000 pages) of job plans

The plans detailed various work, including construction and renovation work in the 773A area

NIOSH will take samples of workers listed on these job plans to evaluate whether they were monitored and whether those records are available

Scheduled completion for this effort is February 2017

Summary

#	Issue Topic	Deliverable	Completion
1	Co-worker Models	Initial or interim ORAUT-OTIB-0081 (Rev 3)	Oct . 2016
		Full ORAUT-OTIB-0081 (Rev 4)	Feb. 2017
2	Neptunium	ORAUT-RPRT-0065 – Np Operations	Aug. 2016
		ORAUT-RPRT-0077 - Identification	Sep. 2016
		ORAUT-RPRT-0080: <i>PuFF Construction</i>	Dec. 2016
3	Thorium	ORAUT-RPRT-0070: Thorium Exposures - 1972	Jan. 2017
		ORAUT-RPRT-0081: Thoron Exposures	Jan. 2017
4	Metal Hydrides	ORAUT-RPRT-0072: Metal Hydride exposures	Oct. 2016
5	Subcontractor Follow-up	Job Plan Evaluation of Construction work	Feb. 2017