

OCAS-PER-025 and DCAS-PER-033,  
Subtasks 1–3  
EVALUATION OF HUNTINGTON PILOT  
PLANT (HPP) TBD REVISIONS

SC&A Report Dated July 18, 2013

Presented to the  
Advisory Board's Procedures Review Subcommittee  
November 7, 2013

# PER Summary

- PER-025 (2007) was issued due to the addition of electron dose to the TBD in 2004.
- PER-033 (2011) was issued because of the revisions in the TBD that occurred in 2008.

# TBD Revisions

- A summary of the HPP TBD (OCAS-TKBS-0004) revisions is as follows:
  - 10/31/2003, Rev. 00
  - 01/16/2004, Rev. 01
  - 08/12/2008, Rev. 02

# PER-025 NIOSH Issue

- NIOSH stated that the revised HPP TBD (Rev. 01 of January 16, 2004) could potentially increase assigned dose to claimants whose claims had previously been processed, with a resulting POC <50%, using an earlier version of the HPP TBD (Rev. 00 of October 31, 2003) because of the added section concerning electron dose.

# PER-025 NIOSH Number of Claims

- NIOSH identified one HPP claim with a POC <50% that was potentially impacted due to the issuance of the January 16, 2004, TBD revision.

# PER-025 NIOSH Corrective Action

- NIOSH provided a plan of corrective action to resolve the issue created by the revision by requesting that claims be returned for a new dose estimate.

# PER-033 NIOSH Issues

- NIOSH stated that several changes in the DR methodology occurred in the 2008 revision to the TBD:
  - The estimate of internal dose increased from 1956 through 1963 and for 1978 and 1979.

# PER-033 NIOSH Issues (continued)

- The inhalation estimate for operators went from approximately 3.83 pCi/day (1,400 pCi/yr) to 44 pCi/day.
- The original intake was the geometric mean of a lognormal distribution with a geometric standard deviation of 4.3. *The new estimate is a single bounding value.*

# PER-033 NIOSH Number of Claims

- NIOSH found that there were 32 HPP potentially impacted claims completed with a POC <50% prior to the issuance of the August 13, 2008, TBD revision.

# PER-033 NIOSH Corrective Action

- NIOSH provided a plan of corrective action to resolve the issues created by the revision by recalculating the dose for each of the 32 claims using all current DR methods, including the current version of the TBD. From that recalculated dose, a new POC was determined.

# SC&A's Evaluation of PER-025 & 033 Subtasks 1 (Issues) & 2 (Corrective Action)

- In conjunction with SC&A's evaluation of OCAS-PER-025 and DCAS-PER-033, SC&A performed a paragraph-by-paragraph comparison of the following documents to determine if there were any changes in the later revisions that could potentially increase the assigned dose:
  - 01/16/2004, Rev. 01 was compared to 10/31/2003, Rev. 00
  - 08/12/2008, Rev. 02 was compared to 01/16/2004, Rev. 01.

# SC&A's Evaluation (continued)

- From this evaluation, SC&A identified the following changes that have the potential to increase assigned dose during DR:
  - Electron Skin Dose
  - Occupational Medical Dose
  - Shallow Dose
  - Period of Internal Intake
  - Internal Intake Values

# Electron Dose

- **Electron Skin dose** – This change was addressed in OCAS-PER-025, and was the basis for initiating OCAS-PER-025. *SC&A evaluated OCAS-PER-025 and found it to sufficiently address this issue. SC&A had no findings from this comparison.*

# Occupational Medical Dose

- **Occupational Medical Dose** – The Occupational Medical Dose Section 9.0, page 17 of Rev. 02, recommends using ORAUT-OTIB-0006 to assign medical x-ray doses. However, it is recommended in Rev. 01 to use organ doses as listed in Table 8, page 12, of the TBD. Comparing the recommended dose in ORAUT-OTIB-0006, Table 6-5, to Table 8 of the TBD Rev. 01 indicates that this change could cause an increase in dose to the skin, stomach, and thymus in some cases. *However, if a new DR is performed as recommended by DCAS-PER-033 using the current TBD, this issue will be addressed.*

# Shallow Dose

- **Shallow Dose** – Table 6, page 17, in Rev. 02 provides for lower annual deep and shallow dose assignments than those recommended on page 12 of Rev. 01; except Rev. 02 recommends an annual dose of 1.000 rem shallow dose to the hands and forearms for Operators and Maintenance personnel, whereas only 0.85 rem per year skin dose is recommended in Rev. 01, page 12, without reference to hands or forearms. This could result in an increase in assigned skin dose in some cases. *However, if a new DR is performed as recommended by DCAS-PER-033 using the current TBD, this issue will be addressed.*

# Period of Internal Intake

- **Period of Internal Intake** – Table 5, page 16, of Rev. 02 provides a summary of the recommended inhalation and ingestion intakes for the periods 1956–1963 and 1978–1979. However, Rev. 01 addresses the period 1951–1963, but does not specifically address the period 1978–1979. Therefore, in some cases, the inclusion of the period 1978–1979 could increase the assigned dose. *However, if a new DR is performed as recommended by DCAS-PER-033 using the current TBD, this issue will be addressed.*

# Intake Values

- **Internal Intake Values** – Table 5, page 16, of Rev. 02 provides a summary of the recommended inhalation and ingestion intakes for the periods 1956–1963 and 1978–1979. The values assigned in this table were derived from an updated inhaled intake of 44 pCi/d of total uranium. Table 5, page 8, of Rev. 01 recommends only 3.83 pCi/d; therefore, in some cases, this change could increase the assigned dose. *However, if a new DR is performed as recommended by DCAS-PER-033 using the current TBD, this issue will be addressed.*

# Summary of Subtasks 1 & 2

- SC&A evaluated the TBD changes (concerning occupational medical dose, extremity shallow dose, periods of internal intake, and internal intake values) and concurs with NIOSH's corrective action plan.
- SC&A found that OCAS-PER-025 and DCAS-PER-033 sufficiently addressed the changes in the HPP TBD and that the PERs recommended proper corrective actions.

# OCAS-PER-025

## Subtask 3 (Number of claims)

- SC&A used the NOCTS database system to verify that only one HPP claim was impacted by OCAS-PER-025, and that a new DR had been performed for this claim.

# DCAS-PER-033

## Subtask 3 (Number of claims)

- SC&A used the NOCTS database system to verify that there were 32 HPP claims impacted by DCAS-PER-033. It is recommended that SC&A review the 32 remaining claims as described in Subtask 4 below.

# Subtask 4

## Selection of DRs to Audit for PER-025

- Because there was only one case that was impacted by PER-025, it is recommended that SC&A review this case and evaluate the recalculated and assigned doses to verify that they conform to the new recommendations in the revised TBD and OCAS-PER-025.

## Subtask 4

### Selection of DRs to audit for PER-033

- Because there were numerous (32) claims impacted by PER-033, it is recommended that SC&A review this list of claims and select 5 to 10 of the claims that would most likely be impacted by DCAS-PER-033. SC&A will then evaluate the recalculated and assigned doses to verify they conform to the new recommendations in the revised TBD and DCAS-PER-033.

# Questions?