



A Review of Program Evaluation Report DCAS-PER-090, “Grand Junction Operations Office”

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Grand Junction location nomenclature

- ◆ Site was known by several different names, depending on its mission at the time:
 - Grand Junction Facilities
 - Grand Junction Project Office Remedial Action Project
 - Grand Junction Remedial Action Project
 - Grand Junction Operations Office
- ◆ DCAS-PER-090 (“PER-090”) uses the term Grand Junction Operations Office (GJOO); SC&A will refer to it as GJOO

Grand Junction Operations Office facility operations

- ◆ 1943: Manhattan Engineer District purchased GJOO site
- ◆ Main function of facilities located at Grand Junction, Colorado:
 - Handle, process, and assay uranium ore and mine tailings
 - Uranium main material involved in operations
 - Some operations involved thorium contained in tailings and thorium ore

GJOO dose reconstruction template and DCAS-PER-047

- ◆ Unknown date: The National Institute of Occupational Safety and Health (NIOSH) created original GJOO dose reconstruction (DR) template and DR methodology
- ◆ September 5, 2012: NIOSH revised GJOO DR template and DR methodology
- ◆ March 26, 2014: NIOSH issued DCAS-PER-047 because of revisions in GJOO DR template
- ◆ February 10, 2015: SC&A issued subtasks 1–3 review of DCAS-PER-047
- ◆ October 26, 2023: SC&A reviewed two NIOSH-reworked DR cases under DCAS-PER-047, subtask 4

ORAUT-TKBS-0060 GJOO site profile

- ◆ May 18, 2018: NIOSH issued ORAUT-TKBS-0060, revision 00, site profile for GJOO
- ◆ August 17, 2021: SC&A issued review of ORAUT-TKBS-0060

Subtask 1: Identify the circumstances that necessitated DCAS-PER-090

- ◆ July 17, 2019: NIOSH issued PER-090 because 2018 site profile (ORAUT-TKBS-0060, revision 00) contained changes from September 5, 2012, GJOO DR template
- ◆ November 8, 2024: SPR tasked SC&A with subtasks 1–3 review of PER-090

SC&A review of DCAS-PER-090, subtask 1

- ◆ SC&A's review of new GJOO site profile found that PER-090 was warranted
- ◆ No findings and one observation
- ◆ Observation 1: Complete DR templates needed to allow SC&A to evaluate site profiles and program evaluation reports (PERs) correctly and efficiently
- ◆ SC&A also identified this observation in observation 1 of SC&A's 2015 subtask 1–3 review of DCAS-PER-047, but that was apparently not resolved

Subtask 2: Assess NIOSH's specific methods for corrective action

PER-090 provides the following summary of modifications to DR as a result of issuance of ORAUT-TKBS-0060:

- ◆ Photon dose conversion factor changed from deep dose equivalent to exposure for 1981–1985
- ◆ Film badge limit of detection (LOD) and unmonitored dose changed for 1981
- ◆ Unmonitored beta dose assigned 1980–present
- ◆ Neutron LOD increased for 1960–1981
- ◆ Fraction of uranium radioactive constituents changed after 1985
- ◆ Exposure to thorium added for 1986–1988 and 2001
- ◆ Uranium intake rates changed after 1985

SC&A comparison of ORAUT-TKBS-0060 to GJOO DR template for subtask 2

- ◆ Evaluated changes in 2018 ORAUT-TKBS-0060 compared to GJOO DR template of September 5, 2012
- ◆ Found PER-090 adequately addressed changes that could potentially increase assigned external or internal doses
- ◆ Concurs with seven areas of modifications to DR as summarized on previous slide
- ◆ No findings or observations

Subtask 3: Evaluate PER's approach for identifying number of DRs requiring reevaluation of dose

- ◆ NIOSH searched databases for GJOO DR cases
- ◆ Identified 125 claims that needed consideration
- ◆ 28 claims had previous probability of causation (POC) of greater than 50%
- ◆ 52 claims removed for various reasons (for administrative reasons, special exposure cohort, etc.)
- ◆ Left 45 potentially affected claims

Evaluation of 45 potentially affected claims

- ◆ 38 claims resulted in new POC below 45%
- ◆ Three claims had POC values between 45% and 50%; for those claims:
 - Interactive RadioEpidemiological Program was run 30 times with 10,000 iterations for each run
 - All three claims POC remained below 50%
- ◆ Four claims resulted in new POC greater than 50%
- ◆ NIOSH will request Department of Labor to return four claims that resulted in a POC greater than 50% for new DR

SC&A evaluation of NIOSH's approach for identifying number of DRs requiring reevaluation for subtask 4

- ◆ Due to the Cybersecurity Modernization Initiative, SC&A did not have access to NIOSH Claims Tracking System at time of review to evaluate data used to identify and quantify those cases that qualify for reevaluation
- ◆ Evaluation limited to methodology and criteria employed by NIOSH to identify cases potentially impacted by PER-090
- ◆ Found selection criteria used by NIOSH for previously completed DRs requiring reevaluation under PER-090 valid
- ◆ No findings or observations

Subtask 4: Conduct audits of a sample set of reevaluated DRs mandated by DCAS-PER-090

SC&A suggests selecting a set of reworked DRs for focused review where energy employee was assigned:

- ◆ External photon dose for a non-skin cancer case during part or all of 1981–1985
- ◆ Unmonitored external dose during year 1981
- ◆ Unmonitored beta dose after 1980
- ◆ Missed and/or unmonitored neutron dose prior to 1981
- ◆ Uranium radioactive constituents' intakes after 1985
- ◆ Intake of thorium from thorium ore during 1986–1988 and/or 2001
- ◆ Uranium intake after 1985, preferably during 1986–1990 and after 1990

Summary of SC&A review of PER-0090

- ◆ Reviewed PER-090 for GJOO
- ◆ Identified no findings
- ◆ Identified one observation:
 - Observation 1: Complete DR templates needed
- ◆ Suggested criteria for selection of reworked cases for subtask 4 focused review



Questions?