



Sites with Unreviewed DR Methodology Templates and Reports

Meeting of the Subcommittee for Procedure Reviews

November 8, 2024

The National Institute for Occupational Safety and Health’s (NIOSH’s) development of a dose reconstruction (DR) methodology for many smaller sites under the Energy Employees Occupational Illness Compensation Program Act did not consist of the standard technical basis document (TBD) or site profile approach. In lieu of a TBD, NIOSH has developed for these sites a DR methodology guideline document and a DR template that contain facility-specific data, assumptions, and list of documents that provide the basis for the facility-specific data and assumptions. The Subcommittee has been provided separately an example of these documents from the Peek Street Facility, which have been reviewed by SC&A.

At the request of the Subcommittee for Procedure Reviews (SPR), NIOSH provided SC&A on July 7, 2022, with the list of facilities where DRs are completed using the DR methodology guidance and template. Table 1 lists the sites, current and previous versions of the templates, and current review status.

Table 1. List of DR templates for sites with no TBD or site profile

Site	Latest version number: date	Previous version dates ^(a)	Comments
Albany Research Center	4: 10/3/19	5/21/18, 8/24/11, 11/16/10, 7/1/09	Not reviewed
Albuquerque Operations Office	5: 5/3/22	9/23/20, 5/21/18, 8/25/11, 11/16/10, 12/14/09	Review submitted to SPR 10/25/2023. Awaiting 5 additional cases for review.
Amchitka Island Nuclear Explosion Site	32: 11/18/21	10/13/21, 8/31/20, 10/3/19, 7/17/19, 6/24/16, 5/25/16, 2/11/15, 10/28/14, 8/11/14, 10/30/13, 10/29/13, 10/10/12, 5/26/11, 2/17/11, 11/2/10, 3/4/10, 8/17/09, 3/7/09, 2/25/09, 2/20/09	Review submitted to SPR 12/18/2023. Awaiting 10 additional cases for review.
BWX Technologies ^(b)	16: 8/31/2020	11/21/19, 6/18/19, 1/23/18, 8/3/17, 5/27/16, 7/21/14, 5/20/14, 7/19/12, 5/17/12, 5/4/12, 9/1/11, 4/14/11, 2/1/11, 1/21/11, 1/19/11, 1/5/11	Not reviewed Modified under DCAS-PER-056, September 12, 2014. SPR determined PER review not necessary.

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Site	Latest version number: date	Previous version dates ^(a)	Comments
Clinton Engineer Works	8: 7/29/21	7/2/21, 8/31/20, 10/23/19, 10/3/19, 11/16/18, 11/22/17, 12/13/12, 4/17/12	Not reviewed
General Electric Ohio ^(b)	7: 10/2/19	8/5/19, 11/22/17, 7/11/16, 11/5/13, 3/2/12, 2/21/12, 9/5/11, 8/4/11, 7/28/11, 7/26/11, 7/25/11	Not reviewed
General Electric Vallecitos	9: 8/28/20	6/30/20, 10/3/19, 5/21/18, 7/25/17, 1/9/14, 9/28/11, 9/6/11, 10/16/10, 2/2/10	Recommend tasking for review at 11/8/2024 SPR meeting
Horizon	2: 11/2/2010	4/29/09	Not reviewed
International Rare Metals	3: 5/21/18	11/8/11, 11/16/10, 4/29/09	Not reviewed
Kirtland Operations Office	4: 10/3/19	5/21/18, 11/14/11, 11/16/10, 1/4/10	Not reviewed
Lake Ontario Ordnance Works	5: 10/3/19	5/21/18, 8/21/12, 8/30/11, 11/16/10, 11/6/09	Not reviewed
Latty Ave. Properties	3: 5/21/18	11/13/11, 11/16/10, 4/29/09	Not reviewed
Lovelace Respiratory Research Institute	5: 8/28/20	10/3/19, 5/21/18, 11/13/11, 11/16/10, 2/17/10	Not reviewed
Medina Modification Center	2: 10/1/19	10/12/18	Not reviewed Modified under OCAS-PER-027, October 30, 2007. SPR determined PER review not necessary
Metallurgical Lab	4: 10/4/2019	5/21/18, 8/30/11, 11/16/10, 12/14/09, 7/20/09	Not reviewed Modified under DCAS-PER-044, May 16, 2013. SPR determined PER review not necessary
Metals & Controls ^(b)	19: 10/2/19	7/17/18, 7/13/17, 7/19/16, 7/21/15, 2/18/15, 10/28/14, 9/8/14, 8/5/14, 5/20/14, 9/5/13, 2/21/12, 6/3/11, 5/10/11, 4/27/11, 4/19/11, 4/12/11, 4/11/11, 4/7/11, 4/4/11	SC&A has reviewed the SEC ER.
Middlesex	3: 5/21/18	11/13/11, 11/16/10, 4/29/09	Not reviewed
New Brunswick	4: 11/4/20	5/21/18, 2/21/12, 11/13/11, 11/16/10, 4/29/09	Not reviewed
Norton	11: 8/31/20	12/2/19, 11/6/19, 10/4/19, 5/21/18, 11/14/11, 10/18/11, 5/12/11, 11/23/10, 11/19/10, 11/7/10, 11/16/10, 10/7/10, 11/13/09	Reviewed under DCAS-PER-059
Office of Scientific and Technical Information	4: 5/5/22	5/21/18, 8/25/11, 11/16/10, 11/19/09	Not reviewed

Site	Latest version number: date	Previous version dates ^(a)	Comments
Peek Street Facility	4: 12/7/20	5/21/18, 11/16/11, 11/16/10, 6/28/10, 2/2/10	Reviewed. Findings in progress.
Salmon Nuclear	NA (just notes)	NA	Not reviewed
South Albuquerque Works	1: 5/5/22	NA	Not reviewed
Spencer Chemical	7: 8/26/20	10/4/19, 5/21/18, 1/16/12, 8/12/11, 11/16/10, 3/4/10, 3/7/09, 2/20/09	Not reviewed
Vitro NJ	4: 10/4/19	5/21/18, 11/16/11, 11/16/10, 4/29/09	Not reviewed
Vitro PA	4: 8/31/20	10/4/19, 5/21/18, 1/16/12, 5/13/11	Not reviewed
Vitro TN	3: 5/21/18	1/16/21, 11/16/10, 4/29/09	Not reviewed
W.R. Grace-MD	4: 10/4/19	5/21/18, 8/7/14, 2/22/12, 10/10/11	Not reviewed
Wah Chang ^(b)	11: 10/4/19	4/16/18, 7/17/17, 7/19/12, 5/7/12, 1/16/12, 10/25/11, 10/14/11, 10/7/11, 11/16/10, 2/17/10	Not reviewed Modified under DCAS-PER-048, September 27, 2013. SPR determined PER review not necessary
Westinghouse Atomic Power Development Plant	7:10/4/19	12/18/18, 5/21/18, 2/23/12, 8/16/11, 11/16/10, 3/4/10, 2/11/10, 11/19/09	Not reviewed
Westinghouse Electric Corp-NJ	4: 10/4/19	4/7/17, 9/25/12	Not reviewed
Westinghouse Nuclear Fuels Division	13: 8/31/20	10/4/19, 5/21/18, 10/25/16, 4/29/15, 5/20/14, 2/21/14, 1/21/14, 2/19/13, 11/1/12, 8/31/11, 11/16/10, 7/6/10, 10/19/09, 10/15/09, 9/21/09, 8/25/09	Reviewed under DCAS-PER-052
Winchester	4: 10/4/19	5/21/18, 1/16/12, 11/16/10, 4/29/09	Not reviewed

(a) The number of revisions to the DR Template over the years is not an indication that there were revisions to the DR methodology. Revisions to templates are common to update tool integration and references.

(b) Technical basis document/site profile is being developed.

Note: ER is evaluation report; NA is not applicable; PER is program evaluation report; SEC is Special Exposure Cohort.

The SPR will determine which sites will be reviewed by SC&A. SC&A's review will include:

- Assess the DR methodology guidance for completeness of data sources, consistency between DR guidance and data sources, technical accuracy of the guidance, and the scientific basis and adequacy of the data.
- Compare the DR methodology document to the DR template for consistency.

- Review representative number of cases adjudicated using the DR methodology guidance and template. The primary focus is to determine (1) if the DR template accurately follows information in the DR methodology document, and (2) if the guidance was accurately applied for these DRs.
- The case reviews will also attempt to evaluate professional judgements used in the DR process and make a summary comparison of those judgements. The professional judgement assessment will be a joint effort of the Dose Reconstruction Review Methods Work Group and the SPR. This collaborative effort and approach to assessing professional judgements was approved by the Advisory Board on Radiation and Worker Health at its December 7, 2023, meeting.

In addition to the DR methodology templates listed in table 1, SC&A has identified several NIOSH-issued reports that have not been tasked for review. Table 2 lists those reports along with a brief summary of the document content.

Table 2. NIOSH-issued reports not tasked for review

Document number	Document title	Document summary
DCAS-PER-088, rev. 0 11/12/2019	Pacific Proving Ground	Assesses the effect of issuing revision 3 to PPG TBD. Changes include updating beta-to-gamma ratios for fresh fallout, use of 95th percentile co-exposure dose, and reevaluation of co-exposure data using film badge data.
DCAS-PER-089, rev. 0 10/17/2018	Bliss and Laughlin Steel, Appendix D Rev 01	Assesses the effect of issuing revision 01 to Battelle-TBD-6000, Appendix D. Ingestion intakes increased for all operational and residual period years, and nonpenetrating doses increased during the residual period.
DCAS-PER-090, rev. 0 7/17/2019	Grand Junction Operations Office	Assesses the effect of issuing revision 1 to GJOO site profile. This revision included numerous guidance modifications for calculating external and internal doses.
ORAUT-OTIB-0076, rev. 00 7/10/2014	Guiding Reconstruction of Intakes of Thorium Resulting from Nuclear Weapons Programs	OTIB provides details on how to evaluate chest counts, whole-body counts, and urinalysis data after intakes of thorium-232.
ORAUT-OTIB-0080, rev. 01 9/01/2020	Internal Dosimetry Co-Exposure Data for Area IV of the Santa Susana Field Laboratory and the De Soto Avenue Facility	OTIB establishes an internal co-exposure model for SSFL workers. NOTE: External co-exposure model was reviewed under SSFL WG. Last WG meeting was October 2020.
ORAUT-OTIB-0084, rev. 00 11/15/2013	Internal Coworker Dosimetry Data for Nuclear Metals, Inc.	Document issued to establish an internal co-exposure model for Nuclear Metals, Inc. NOTE: OTIB does not meet DCAS-IG-006 guidelines. Is NIOSH planning to revise OTIB-0084?
ORAUT-OTIB-0092, rev. 00 2/22/2024	Correction Factors for Neutron Dose Measured with Nuclear Track Emulsion, Type A Film	New document that describes a method for estimating the amount of underreported neutron dose as measured by nuclear track emulsion, Type A film

Note: GJOO is Grand Junction Operation Office; ORAUT is Oak Ridge Associated Universities Team; OTIB is ORAUT technical information bulletin; PPG is Pacific Proving Ground; SSFL is Santa Susana Field Laboratory; TBD is technical basis document; WG is work group.