



ORAU TEAM Dose Reconstruction Project for NIOSH

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PUBLICATION RECORD

EFFECTIVE DATE	REVISION NUMBER	DESCRIPTION
08/09/2005	00	Original draft technical basis document, Section 3, for Pacific Northwest National Laboratory. Draft document to refer dose reconstructors to Document No. ORAUT-TKBS-0006-3, Hanford Site – Occupational Medical Dose. Incorporates NIOSH review comments. First approved issue. Training required: As determine by the Task Manager. Initiated by Edward D. Scalsky.
06/18/2007	01	Revised to include Attributions and Annotations section. Constitutes a total rewrite of the document. No further changes occurred as a result of formal internal or NIOSH review. This revision results in no change to the assigned dose and no PER is required. Training required: As determined by the Task Manager. Initiated by Edward D. Scalsky.

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1 6.1 INTRODUCTION

2 Technical basis documents and site profile documents are not official determinations made by the
3 National Institute for Occupational Safety and Health (NIOSH) but are rather general working
4 documents that provide historic background information and guidance to assist in the preparation of
5 dose reconstructions at particular sites or categories of sites. They will be revised in the event
6 additional relevant information is obtained about the affected site(s). These documents may be used
7 to assist NIOSH staff in the completion of the individual work required for each dose reconstruction.

8 In this document the word “facility” is used as a general term for an area, building, or group of
9 buildings that served a specific purpose at a site. It does not necessarily connote an “atomic weapons
10 employer facility” or a “Department of Energy [DOE] facility” as defined in the Energy Employees
11 Occupational Illness Compensation Program Act [EEOICPA; 42 U.S.C. § 7384l(5) and (12)].
12 EEOICPA defines a DOE facility as “any building, structure, or premise, including the grounds upon
13 which such building, structure, or premise is located ... in which operations are, or have been,
14 conducted by, or on behalf of, the Department of Energy (except for buildings, structures, premises,
15 grounds, or operations ... pertaining to the Naval Nuclear Propulsion Program)” [42 U.S.C. §
16 7384l(12)]. Accordingly, except for the exclusion for the Naval Nuclear Propulsion Program noted
17 above, any facility that performs or performed DOE operations of any nature whatsoever is a DOE
18 facility encompassed by EEOICPA.

19 For employees of DOE or its contractors with cancer, the DOE facility definition only determines
20 eligibility for a dose reconstruction, which is a prerequisite to a compensation decision (except for
21 members of the Special Exposure Cohort). The compensation decision for cancer claimants is based
22 on a section of the statute entitled “Exposure in the Performance of Duty.” That provision [42 U.S.C. §
23 7384n(b)] says that an individual with cancer “shall be determined to have sustained that cancer in the
24 performance of duty for purposes of the compensation program if, and only if, the cancer ... was at
25 least as likely as not related to employment at the facility [where the employee worked], as
26 determined in accordance with the [probability of causation¹] guidelines established under subsection
27 (c) ...” [42 U.S.C. § 7384n(b)]. Neither the statute nor the probability of causation guidelines (nor the
28 dose reconstruction regulation) define “performance of duty” for DOE employees with a covered
29 cancer or restrict the “duty” to nuclear weapons work.

30 As noted above, the statute includes a definition of a DOE facility that excludes “buildings, structures,
31 premises, grounds, or operations covered by Executive Order No. 12344, dated February 1, 1982 (42
32 U.S.C. 7158 note), pertaining to the Naval Nuclear Propulsion Program” [42 U.S.C. § 7384l(12)].
33 While this definition contains an exclusion with respect to the Naval Nuclear Propulsion Program, the
34 section of EEOICPA that deals with the compensation decision for covered employees with cancer
35 [i.e., 42 U.S.C. § 7384n(b), entitled “Exposure in the Performance of Duty”] does not contain such an
36 exclusion. Therefore, the statute requires NIOSH to include all occupationally derived radiation
37 exposures at covered facilities in its dose reconstructions for employees at DOE facilities, including
38 radiation exposures related to the Naval Nuclear Propulsion Program. As a result, all internal and
39 external dosimetry monitoring results are considered valid for use in dose reconstruction. No efforts
40 are made to determine the eligibility of any fraction of total measured exposure for inclusion in dose
41 reconstruction. NIOSH, however, does not consider the following exposures to be occupationally
42 derived:

- 43 • Radiation from naturally occurring radon present in conventional structures
 - 44 • Radiation from diagnostic X-rays received in the treatment of work-related injuries
- 45

¹ The U.S. Department of Labor is ultimately responsible under the EEOICPA for determining the probability of causation (POC).

1 The Medical program at the Pacific Northwest National Laboratory (PNNL) is the same program that
2 existed at Hanford subsequent to 01/03/1965 when Battelle Memorial Institute (BMI) assumed
3 responsibility for operation of the Hanford Laboratories and certain Hanford-wide services and
4 functions as part of the Atomic Energy Commission (AEC) operations at the Hanford site. Since that
5 is the case, it has been determined that any dose reconstructions that incorporate the dose received
6 by PNNL employees as a result of required medical X-ray examinations will be determined based on
7 the programs described in the corresponding Hanford TBD, Hanford Site – Occupational Medical
8 Dose (ORAUT 2005).

9 **6.2 ATTRIBUTIONS AND ANNOTATIONS**

10 All information requiring identification was addressed in ORAUT (2005).

11 **REFERENCE**

12 ORAUT (Oak Ridge Associated Universities Team), 2005, *Hanford Site – Occupational Medical Dose*,
13 ORAUT-TKBS-0006-3, Rev. 01, Oak Ridge, Tennessee, April 11.