

HHS Determination Concerning a Petition to Add Members to the
Special Exposure Cohort
under the
Energy Employees Occupational Illness Compensation Program Act of 2000

Determination Concerning a Petition for Employees from

Chapman Valve Manufacturing Company
Indian Orchard, Massachusetts
(Building 23 and the Dean Street Facility)



I. Determination

I, Kathleen Sebelius, Secretary of Health and Human Services (Secretary), have determined that the employees defined in Section II of this report do not meet the statutory criteria for addition to the Special Exposure Cohort (SEC), as authorized under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA), 42 U.S.C. § 7384q.

June 3, 2011

Date

[Signature on file]

Kathleen Sebelius

II. Employee Class Definition

All Atomic Weapons Employees who were monitored, or should have been monitored, for radiological exposures while performing Atomic Energy Commission work at the Chapman Valve Manufacturing Company (i.e., Building 23 and the Dean Street facility) in Indian Orchard, Massachusetts, from January 1, 1948 through December 31, 1949, and from January 1, 1991 through December 31, 1993.

III. Decision Criteria and Recommendations

Pursuant to 42 U.S.C. § 7384q, to designate a class for addition to the SEC, the Secretary must determine, upon recommendation of the Advisory Board on Radiation and Worker Health (Board), that

- (1) it is not feasible to estimate with sufficient accuracy the radiation dose that the class received; and
- (2) there is a reasonable likelihood that such radiation dose may have endangered the health of members of the class.

The SEC final rule states in 42 C.F.R. § 83.13(c)(1) that it is feasible in two situations to estimate the radiation dose that the class received with sufficient accuracy. First, the rule states that radiation doses may be estimated with sufficient accuracy if NIOSH has established that it has access to sufficient information to estimate the maximum radiation dose for every type of cancer for which radiation doses are reconstructed that could have been incurred under plausible circumstances by any member of the class. Alternatively, radiation doses may be estimated with sufficient accuracy if NIOSH has established that it has access to sufficient information to estimate the radiation doses of members of the class more precisely than a maximum dose estimate.

In a letter received by the Secretary on March 30, 2011, the Board, pursuant to 42 U.S.C. § 7384q, agreed with the following NIOSH findings, effectively advising the Secretary that radiation dose can be reconstructed with sufficient accuracy for certain Chapman Valve Manufacturing Company employees in accordance with provisions of EEOICPA and the SEC final rule.

IV. Determination Findings

Feasibility of Estimating Radiation Doses with Sufficient Accuracy

The Secretary established the feasibility determination for the class of employees covered by this report based upon the findings summarized below.

- NIOSH determined that the only source term information that existed at Chapman for all periods evaluated in the Evaluation Report was natural uranium. Recycled uranium did not enter process streams until 1952, so no recycled uranium would have been processed at Chapman during the 1948 to 1949 operational period.
- NIOSH determined that for the operational period from January 1, 1948 through April 30, 1949, radioactive materials could have become airborne as a result of activities and practices associated with the machining of uranium, including a 1948 uranium fire. The principal source of internal radiation exposure was from natural uranium dust produced from the manipulation of oxidized metal during machining and related processes and from exposure during the documented fire.
- After the operations were completed, intakes of radioactive material were also possible during the residual period from May 1, 1949 through December 31, 1949, and from January 1, 1991 through December 31, 1993 because of exposures associated with the remaining residual radioactive material. NIOSH has access to sufficient radiation survey data to estimate intakes of uranium during the residual period.
- NIOSH has access to sufficient bioassay results and radiation data to estimate all workers' internal exposure to uranium for the evaluated time periods. For unmonitored workers during the operational period or unmonitored periods (i.e., the residual period), the Chapman Valve Technical Basis Document¹ analyzes the bioassay results to provide estimates of co-workers' uranium intakes.
- The principal source of external radiation doses during the operational period was natural uranium and its short-lived progeny in the form of metal rods. NIOSH has determined that adequate film badge results are available to estimate doses for Atomic Weapons Employees who worked during the 1948 to 1949 period. Further, an upper bound of external dose based on film badge dosimetry records can be used to reconstruct doses for unmonitored workers.
- NIOSH has access to beta and gamma survey data that can be used to reconstruct external radiation doses to workers during the residual contamination period.
- Although information regarding whether or not occupationally-required medical X-ray examinations were performed at Chapman Valve during the operational period is unavailable, and no records have been identified indicating that occupational medical X-rays were required during the operational period, the dose associated with X-ray exams

¹ ORAUT-TKBS-0033, Technical Basis Document for the Chapman Valve Manufacturing Company, Indian Orchard, Massachusetts. Revision 02, September 12, 2008.

can be assessed using the methodology defined in ORAUT-OTIB-0006, *Dose Reconstruction from Occupationally Related Diagnostic X-Ray Procedures*.

- NIOSH determined that it has access to sufficient information to bound internal and external dose for all members of the evaluated class during both the operational and residual periods.

In its letter to the Secretary, the Board concurred with these NIOSH findings.

Health Endangerment

Because the Secretary established that it is feasible to estimate with sufficient accuracy the radiation doses encountered by Chapman Valve Manufacturing Company employees as specified in this class, a determination of health endangerment is not required.

V. Effect of the Determination

Members of the class of employees covered by this determination and their survivors continue to be eligible to submit claims for compensation under EEOICPA. As required for cancer claims covering other DOE and Atomic Weapons Employer employees (or Atomic Weapons Employees) not included in the SEC, qualified cancer claims under Part B of EEOICPA for members of this class will be adjudicated by the Department of Labor, in part on the basis of radiation dose reconstructions which will be conducted by NIOSH.

VI. Administrative Review of Determination

The determination provided in this report may be subject to an administrative review within HHS, pursuant to 42 C.F.R. § 83.18(a). On the basis of such a review, if the Secretary decides to designate the class of employees covered by this determination, in part or in whole, as an addition to the SEC, the Secretary would transmit a new report to Congress providing the designation and the criteria and findings on which the decision was based.