

HHS Designation of Additional Members of the
Special Exposure Cohort
under the
Energy Employees Occupational Illness Compensation Program Act of 2000

Designating a Class of Employees from
Revere Copper and Brass
Detroit, Michigan



I. Designation

I, Kathleen Sebelius, Secretary of Health and Human Services, designate the class of employees defined in Section II of this report 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.

October 6, 2010
Date

[Signature on File]
Kathleen Sebelius

II. Employee Class Definition

All Atomic Weapons Employer employees who worked at Revere Copper and Brass, Detroit, Michigan, from July 24, 1943 through December 31, 1954, for a number of work days aggregating at least 250 work days, occurring either solely under this employment or in combination with work days within the parameters established for one or more other classes of employees included in the Special Exposure Cohort.

III. Designation Criteria and Recommendations

Pursuant to 42 U.S.C. § 7384q, for the class defined in Section II of this report, the Secretary has determined, and the Advisory Board on Radiation and Worker Health (Board) has recommended, 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.

The Board, pursuant to 42 U.S.C. § 7384q, advised the Secretary to designate the class as an addition to the SEC in a letter received by the Secretary on September 7, 2010.

IV. Designation 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.

- Principal sources of internal radiation exposures for members of the proposed class included exposures to uranium and thorium particulates and fumes.
- NIOSH presented an *SEC Petition Evaluation Report for Petition SEC-00164, Revere Copper and Brass* to the Advisory Board on Radiation and Worker Health during the Advisory Board's regular meeting on August 11, 2010. This report provided NIOSH's evaluation of the feasibility of reconstructing radiation doses for workers who worked in any area and in any job capacity at the Revere Copper and Brass site during the period from July 24, 1943 through December 31, 1954, and for the residual period from January 1, 1955 through December 31, 1984.
- NIOSH has not located urinalysis or other bioassay monitoring data for the periods under evaluation at Revere Copper and Brass. During the process of its evaluation, NIOSH did not locate comprehensive information regarding the following: the specific operations performed at the site; the exact workload data for the site's radiological operations; or the thorium sources or source terms at the site during the operational period. In its Technical Basis Documents, NIOSH has identified methods to support bounding internal uranium dose for the type of metal work performed at Revere Copper and Brass during the operational period. However, NIOSH has not identified sufficient information or data to support bounding the thorium exposures for the operational period.
- NIOSH finds that it is not feasible to estimate, with sufficient accuracy, the total internal dose for workers at the Revere Copper and Brass site during the operational period from July 24, 1943 through December 31, 1954. Although NIOSH has identified significant issues impacting its ability to bound internal doses for the evaluated class during the operational period from July 24, 1943 through December 31, 1954, at the Revere Copper and Brass site, NIOSH has information about radiological conditions at the end of the operational period and has technical basis documents that utilize such information to support bounding personnel internal doses for the residual period from January 1, 1955 through December 31, 1984.
- Principal sources of external radiation exposures for employees of Revere Copper and Brass included gamma (photon) and beta radiation associated with handling and working in proximity to uranium, uranium compounds, and thorium.
- NIOSH has not identified any external monitoring records or personal dosimetry data associated with the uranium and thorium processing conducted during the periods under evaluation. This was a unique project for which there were no operational logs, minimal descriptions of activities, and little corresponding radiological data. NIOSH has not identified any radiological surveys during the

periods under evaluation. NIOSH has identified methods in its technical basis documents to bound external uranium dose for the type of metal work performed during the operational period at Revere Copper and Brass. However, NIOSH has not identified sufficient information or data to bound the thorium external exposures for the operational period.

- Therefore, NIOSH finds that it is not feasible to estimate, with sufficient accuracy, the total external dose for workers at the Revere Copper and Brass site during the period from July 24, 1943 through December 31, 1954. Although NIOSH has identified significant issues impacting its ability to bound doses for the evaluated class during the operational period from July 24, 1943 through December 31, 1954, at the Revere Copper and Brass site, NIOSH has information about radiological conditions at the end of the operational period and technical basis documents that utilize such information to support bounding personnel external doses for the residual period from January 1, 1955 through December 31, 1984.
- NIOSH found evidence that all new employees received physical exams prior to the start of work, and occupational X-ray examinations were performed every six months during the operational period. However NIOSH found no X-ray records. NIOSH believes it is possible to reconstruct with sufficient accuracy the occupational medical X-ray dose for the evaluated periods using existing technical basis documents and/or technical information bulletins.
- Pursuant to 42 C.F.R. § 83.13(c)(1), NIOSH determined that there is insufficient information to either: (1) 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; or (2) estimate the radiation doses of members of the class more precisely than a maximum dose estimate.
- NIOSH documented that it cannot complete the dose reconstructions related to this petition with sufficient accuracy for the employees who worked at the Revere Copper and Brass site during the operational period from July 24, 1943 through December 31, 1954. The basis of this finding demonstrates that NIOSH does not have access to sufficient information to estimate either the maximum radiation dose incurred by any member of the class or to estimate such radiation doses more precisely than a maximum dose estimate for that period.
- Although NIOSH found that it is not possible to completely reconstruct radiation doses for employees who worked at the Revere Copper and Brass site during the operational period from July 24, 1943 through December 31, 1954, NIOSH intends to use any reliable internal and external monitoring data that may be available for an individual claim (and that can be interpreted using existing NIOSH dose reconstruction processes or procedures) to support a partial dose reconstruction for non-presumptive cancers and/or cases that have less than 250 work days of employment.

- NIOSH finds that it is feasible to estimate, with sufficient accuracy, occupational medical dose for this class of employees using the assumptions and applicable protocols in the complex-wide Technical Information Bulletin, *Dose Reconstruction from Occupationally Related Diagnostic X-Ray Procedures* (ORAUT-OTIB-0006).
- The Board concurred with the NIOSH evaluation and recommended the proposed class for addition to the SEC.

Health Endangerment

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

- (1) Pursuant to 42 C.F.R. § 83.13(c)(3), NIOSH established that there is a reasonable likelihood that such radiation doses may have endangered the health of members of the class. Pursuant to 42 C.F.R. § 83.13(c)(3)(ii), NIOSH specified a minimum duration of employment to satisfy this health endangerment criterion as “having been employed for a number of work days aggregating at least 250 work days within the parameters established for this class or in combination with work days within the parameters (excluding aggregate work day requirements) established for one or more other classes of employees in the Cohort.”
- (2) NIOSH did not identify any evidence from the petitioners or from other resources that would establish that the class was exposed to radiation during a discrete incident likely to have involved exceptionally high-level exposures, such as a nuclear criticality incident, as defined under 42 C.F.R. § 83.13(c)(3)(i).
- (3) The Board concurred with NIOSH’s finding that the health of the class may have been endangered and defined the class according to the 250-work day requirement specified under 42 C.F.R. § 83.13(c)(3)(ii).

IV. Effect and Effective Date of Designation

The Secretary submits this report on the designation of one additional class to the SEC for review by Congress, pursuant to 42 U.S.C. §§ 7384/(14)(C)(ii) and 7384q(c)(2)(A), as amended by the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375 (codified as amended in scattered sections of 42 U.S.C.). Pursuant to 42 U.S.C. § 7384/(14)(C)(ii), as amended by the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375 (codified as amended in scattered sections of 42 U.S.C.), the designation in this report will become effective 30 days after the date of this report’s submission to Congress “unless Congress otherwise provides.”

V. Administrative Review of Designation

The health endangerment determination of the designation 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 expand the class of employees covered by this designation, the Secretary would transmit a supplementary report to Congress providing the expanded employee class definition and the criteria and findings on which the decision was based.