

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

Nuclear Metals, Inc.

West Concord, Massachusetts



I. Designation

I, Sylvia M. Burwell, Secretary of the U.S. Department 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.

July 11, 2014
Date

[Signature on File]
Sylvia M. Burwell

II. Employee Class Definition

All Atomic Weapons Employees who worked at the facility owned by Nuclear Metals, Inc. (or a subsequent owner) in West Concord, Massachusetts, during the period from January 1, 1980, through December 31, 1990, 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.

NIOSH determined that there is insufficient information to estimate the radiation dose of individual members of the class with sufficient accuracy under the two abovementioned situations. 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 June 10, 2014.

IV. Designation Findings

Infeasibility of Estimating Radiation Doses with Sufficient Accuracy

The Secretary designates the class of employees covered by this report based upon the findings summarized below.

- Principal sources of internal radiation for members of the proposed class included exposure to natural and depleted uranium, thorium oxides and metals existing either separately or as alloys, and uranium and thorium progeny.
- NIOSH was unable to obtain sufficient internal monitoring data specific to thorium and thorium progeny for the period from January 1, 1980, through December 1990. NIOSH has not found an indication that the site's routine air sampling program was directed at assessing potential thorium exposures, and cannot show that sampling locations were chosen to include thorium-handling work areas. In the absence of a complementary thorium-specific bioassay program, the gross-alpha air results available to NIOSH for the period from 1980 through 1990 are insufficient to support efforts to bound the internal dose from thorium and thorium progeny.
- Consequently, NIOSH has determined that it does not have access to sufficient personnel monitoring, workplace monitoring, or source term data to estimate with sufficient accuracy internal exposures to thorium and thorium progeny for Nuclear Metals, Inc. workers for the period from January 1, 1980, through December 31, 1990.
- NIOSH found that it is feasible to reconstruct internal doses from natural and depleted uranium for employees during the recommended SEC period using available claimant data, site monitoring data, and information in procedure *Internal Coworker Dosimetry Data for Nuclear Metals, Inc.*, ORAUT-OTIB-0084.
- Principal sources of external radiation for members of the proposed class included exposures to gamma and beta radiation associated with handling of radioactive materials in production or research activities. Thorium, uranium metal, and uranium compounds constituted the principal external radiation dose-producing material sources for members of the class.
- External monitoring data available to NIOSH consist of film badge and thermoluminescent dosimeter results covering the entire AWE operational period. NIOSH determined that reconstruction of monitored external is feasible for the period from January 1, 1980, through December 31, 1990.
- Consistent with the findings presented in NIOSH's 2012 evaluation of the period from October 29, 1958, through December 31, 1979, NIOSH determined that sufficiently accurate reconstruction of occupational medical dose is feasible for the period from January 1, 1980, through December 1990 using information and methods available in ORAUT-OTIB-0006.
- Therefore, NIOSH concluded that reconstruction of external doses, including occupational medical doses, is feasible for the period from January 1, 1980, through December 31, 1990.
- Although NIOSH found that it is not possible to completely reconstruct radiation doses for the proposed class, NIOSH intends to use any internal monitoring data that may become

available for an individual claim (and that can be interpreted using existing NIOSH dose reconstruction processes or procedures). Therefore, dose reconstructions for individuals employed at Nuclear Metals, Inc. during the period from January 1, 1980, through December 31, 1990, but who do not qualify for inclusion in the SEC, may be performed using these data, as appropriate.

- 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.
- The Board concurred with NIOSH's recommendation to add the proposed class of workers 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).

V. 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. §§ 7384l(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. § 7384l(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."

VI. 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.