

U.S. Department of Health and Human Services
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
Y-12 Plant
Oak Ridge, Tennessee



I. Designation

I, Alex M. Azar II, Secretary of Health and Human Services (HHS), 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 25, 2019

Date

[Signature on File]

Alex M. Azar II, Secretary

II. Employee Class Definition

All employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at the Y-12 Plant in Oak Ridge, Tennessee, during the period between January 1, 1977, and July 31, 1979, 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 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 September 25, 2019.

IV. Designation Findings

Infeasibility of Estimating Radiation Doses with Sufficient Accuracy

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

- NIOSH determined that the principal sources of internal radiation exposure for members of the proposed class include inhalation and ingestion of uranium, thorium (and progeny), and calutron-cyclotron-related radioisotopes from processing and production operations.
- NIOSH determined that there are also insufficient *in-vivo* monitoring data for thorium (i.e., lung counts) during the period between January 1, 1977, and July 31, 1979. Available thorium lung count data during this period are also mass-based results, and consequently NIOSH cannot use these data to determine the intake of thorium-232, thorium-228, and radium-228 with sufficient accuracy. Therefore, NIOSH lacks sufficient information to estimate the potential internal exposures with sufficient accuracy for all Y-12 employees during the period between January 1, 1977, and July 31, 1979.
- NIOSH determined that the principal sources of external radiation for members of the proposed class included exposures to beta particles, gamma photons, and neutrons.
- Consistent with its findings in prior Y-12 Plant evaluation reports, NIOSH finds that there is sufficient monitoring and source term information available to reconstruct external dose, including occupational medical dose, with sufficient accuracy, for all Y-12 Plant employees during the period between January 1, 1977, and July 31, 1979.
- NIOSH lacks sufficient information, which includes biological monitoring, air monitoring, or process monitoring information, to allow it to estimate with sufficient accuracy the potential internal exposures to thorium (including associated progeny) to which the proposed class may have been subjected. NIOSH finds that it is feasible to reconstruct external and occupational medical dose for Y-12 Plant employees with sufficient accuracy.
- Pursuant to 42 C.F.R. § 83.13(c)(1), NIOSH has concluded 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 more precisely than a maximum dose estimate for the any member of the class at the Y-12 Plant during the period between January 1, 1977, and July 31, 1979.

- Although NIOSH found that it is not possible to completely reconstruct radiation doses for the proposed class, NIOSH intends to use any internal and external 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 the Y-12 Plant during the period between January 1, 1977, and July 31, 1979, but who do not qualify for inclusion in the SEC, may be performed using these data as appropriate.
- NIOSH has determined that members of the class were not exposed to radiation during a discrete incident likely to have involved levels of exposure similarly high to those occurring during nuclear criticality incidents. However, the evidence reviewed indicates that some workers in the class may have accumulated chronic radiation exposures through exposure to various radionuclides and from direct exposure to radioactive materials. Thus, NIOSH has determined that the health of the proposed class of employees may have been endangered at Y-12 during the period between January 1, 1977, and July 31, 1979.
- 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 established for one or more other classes of employees in the Cohort.”

(2) 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.