

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

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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.

February 26, 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 January 1, 1958, through December 31, 1976, 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 January 28, 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 members of the evaluated class may have received internal radiation exposure, including exposures to thorium (including associated progeny) and plutonium-241.
- Although NIOSH has determined that there are *in-vivo* monitoring data for thorium (i.e., lung counts) during the period from January 1, 1958, through December 31, 1976, these data are recorded in total thorium mass. NIOSH is unable to use these data to determine the associated quantities of thorium-232, thorium-228, and radium-228. For this reason, NIOSH cannot determine with sufficient accuracy the internal exposures that might be represented by each thorium lung measurement. NIOSH has also evaluated the available gross alpha air monitoring data at the Y-12 Plant and determined that they cannot be used to accurately reconstruct internal exposure from thorium and associated progeny.
- NIOSH has not identified biological monitoring data specific to plutonium-241 that can be used to reconstruct plutonium-241 exposure during the period from January 1, 1958, through December 31, 1966. NIOSH has identified sufficient monitoring data to reconstruct plutonium-241 beginning in 1967.
- Therefore, NIOSH lacks sufficient information to estimate the potential internal exposures with sufficient accuracy for the proposed class of workers during the period 1958 through 1976.
- Consistent with its findings in prior Y-12 Plant evaluation reports, NIOSH finds that it is able to reconstruct external dose, including occupational medical dose, for all Y-12 employees during the period from January 1, 1958, through December 31, 1976.
- 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 for the time period from January 1, 1958, through December 31, 1976.
- 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 from January 1, 1958, through December 31, 1976, but who do not qualify for inclusion in the SEC, may be performed using these data as appropriate.

- 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.”

NIOSH identified evidence from the petitioners and other resources that the Y-12 Plant experienced a nuclear criticality in Building 9212 on June 16, 1958. This is the type of high-exposure incident described in 42 C.F.R. § 83.13(c)(3)(i). However, NIOSH investigated the accident and concluded that it had sufficient information to reconstruct radiation doses that resulted from the accident. Consequently an SEC class is not warranted for those present at the time of the nuclear criticality.

(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.