

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

Linde Ceramics Plant
Tonawanda, New York



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.

April 21, 2011
Date

Signature on file
Kathleen Sebelius

II. Employee Class Definition

All Atomic Weapons Employees who worked at the Linde Ceramics Plant in Tonawanda, New York, from January 1, 1954 through December 31, 1969, 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.

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 March 22, 2011.

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.

- NIOSH evaluated the feasibility of completing dose reconstructions for employees who worked at the Linde Ceramics Plant in Tonawanda, New York, during the period from January 1, 1954 through July 31, 2006. For the purpose of the petition evaluation, this period was divided into a renovation period (January 1, 1954 through December 31, 1969) and the balance of the residual period (January 1, 1970 through July 31, 2006) based on the distinct activities and exposure potentials that took place during the two time periods
- The principal source of internal radiation doses for members of the proposed class at the Linde Ceramics Plant was the potential inhalation or ingestion of residual contamination in the uranium processing buildings (Buildings 14, 30, 31, 37, and 38). Workers could have been exposed by the resuspension of uranium and uranium progeny contamination within the buildings. Outside the buildings, the potential resuspension of contaminated soils on the Linde site could also have exposed workers to uranium and uranium progeny.
- No personnel bioassay monitoring results have been identified for Linde Ceramics workers during the 1954 to 2006 period; however, NIOSH has obtained survey data, including air monitoring data, for both the decontamination activities at Linde (conducted just prior to the start of the residual radiation period) and several distinct, major investigations during the residual radiation period. The residual period surveys include soil characterizations, building surveys, and air sampling results.
- NIOSH obtained source term information for onsite uranium and uranium progeny during the operational period (1942 through 1953). NIOSH also has radiological survey data from surveys conducted during the decontamination of the Linde facilities, following the cessation of operations and removal of source term materials.
- Since NIOSH did not locate urinalysis, chest counting, or other bioassay monitoring data for the residual contamination period, NIOSH's evaluation report (ER) determined internal exposure based on radiological source term and area monitoring data from the decontamination work prior to 1954 and from the later portion of the residual contamination period. Potential internal exposures from uranium and progeny during the residual contamination period can be divided into the following exposure scenarios: 1) exposure during general building occupancy (no renovation or remediation activities); 2) exposure from outdoor soil contamination; 3) exposure during building renovation; and 4) exposure during site remediation (Formerly Utilized Sites Remedial Action Program (FUSRAP)). NIOSH's evaluation of exposures for scenario one (general building occupancy) is based on the methodology contained in ORAUT-TKBS-0025.

- Based on available Linde decontamination and decommissioning (D&D) survey data and residual radiation surveys conducted in association with FUSRAP activities, NIOSH believed it had the necessary data to support bounding internal exposures for uranium, uranium progeny, and radon during the residual period. Radioactive operations terminated at the end of the operational period and source-term materials were removed from the site. NIOSH's position was that the application of these survey data would result in overestimates of doses during general activities, as well as during the highest potential exposure conditions for the period evaluated in the ER (January 1, 1954 through July 31, 2006).
- The principal source of external radiation doses for members of the proposed class at the Linde Ceramics site was direct beta-gamma exposures from residual contamination that was generated by uranium processing (Buildings 14, 30, 31, 37, and 38). Cleanup of the Linde facilities began before June 30, 1949 when Step III production was shut down.
- NIOSH located limited personnel external dosimetry data for Linde workers during the residual period. Area monitoring data and contamination surveys performed as part of the FUSRAP and remediation surveys are available and provide information regarding potential external exposures to workers who worked at the site during the residual contamination period.
- NIOSH has determined, and the Board concurred, that there was the potential for exposure to significant dose levels during the renovation period from 1954 through 1969. To account for this potential of exposure, NIOSH proposed using survey data taken during the decontamination activities (which took place during the operational period) as the basis for developing an upper bound for the exposure. In order for radiological data from one time period to be considered informative about exposures during another time period, there should be some similarity of conditions and processes between the two periods. The NIOSH ER regarded the decontamination activities at the end of the operational period to be sufficiently similar to renovation activities during the residual period. Therefore, NIOSH believed that radiological data from the former were informative about exposures during the latter. Although NIOSH has proposed claimant-favorable dose reconstruction methods in its ER for workers at the Linde site during the renovation period, the uncertainty (as discussed by the Board) concerning what activities actually took place during renovation and the impact such activities might have had on the resulting dose levels suggests that the dose reconstruction methods may not account for all exposure scenarios during building renovation.
- Specifically, some Board members noted that the decontamination activities were conducted with the knowledge that workers were exposed to a radiological environment. Consequently, radiological control measures appropriate for the time were likely utilized during decontamination activities. On the other hand, renovation activities during the residual contamination period were conducted in what was expected to be a non-radiological environment, so no radiological control measures would be adopted. Additionally, worker accounts describe removal of heavy equipment and other activities during the renovation period that

would be expected to reveal contaminated surfaces that would not have been decontaminated during the decontamination efforts at the end of the operational period. Therefore, the Board was not convinced that radiological data from the decontamination efforts during the operational period were sufficiently informative about exposures in the renovation period. Based upon this concern, the Board determined that such data could not be used in dose reconstructions for the renovation period.

- There is insufficient support for NIOSH's position that the decontamination activities at the end of the operational period were sufficiently similar to renovation activities during the renovation period. Because of the proposed differences between the two periods, NIOSH cannot be certain that the radiological data from the decontamination efforts during the operational period sufficiently account for exposures during the renovation period. Therefore, it is not feasible to reconstruct radiation doses with sufficient accuracy for the renovation period.
- X-rays are not considered for the residual contamination period (ORAUT-TKBS-0025). That is because the site was not considered a radiological worksite by the employer during the residual contamination period, so no medical exams would be conducted for purposes of screening radiological workers.
- 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.
- Although NIOSH found that it is not possible to reconstruct radiation doses for the proposed class, NIOSH intends to use any internal and external monitoring data that may become available (and that can be interpreted using existing NIOSH dose reconstruction processes or procedures) for an individual claim. Dose reconstructions for individuals employed at the Linde Ceramics Plant during the period from January 1, 1954 through December 31, 1969, but who do not qualify for inclusion in the SEC, may be performed using these data as appropriate.
- The Board recommended the proposed class for addition to the SEC and the NIOSH Director concurred with its recommendation.

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), the NIOSH Director 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), the NIOSH Director 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) The Board and the NIOSH Director 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 NIOSH Director concurred with the Board’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. §§ 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.”

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.