

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

Designating a Class of Employees from
Uranium Division of Mallinckrodt Chemical Works
Destrehan Street Facility
St. Louis, Missouri

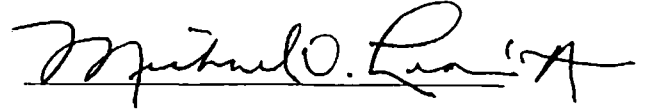


I. Designation

I, Michael O. Leavitt, Secretary of Health and Human Services ("the Secretary"), 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.

OCT 14 2005

Date



Michael O. Leavitt

II. Employee Class Definition

Department of Energy (DOE) employees or DOE contractor or subcontractor employees who worked in the Uranium Division at the Destrehan Street facility of Mallinckrodt Chemical Works from 1949 to 1957 and who were employed for a number of work days aggregating at least 250 work days, either solely under this employment or in combination with work days within the parameters (excluding aggregate work day requirements) established for other classes of employees included in the SEC.

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 ("the 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, 42 C.F.R. § 83.13(c)(1), states that it is feasible to estimate the radiation dose that the class received with sufficient accuracy under two situations. First, the rule states that radiation doses can be estimated with sufficient accuracy if it is established there is 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 can be estimated with sufficient accuracy if it is established that there is access to sufficient information to estimate the radiation doses of members of the class more precisely than a maximum dose estimate. 42 C.F.R. § 83.3(c)(1)(i).

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 dated September 15, 2005 and received by the Secretary on September 16, 2005.

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 upon the findings summarized below.

- (1) Between 1949 and 1957, the Mallinckrodt facility processed large quantities of pitchblende ore, known to contain equilibrium activities of the radionuclides present in the natural uranium decay series. After uranium was extracted from the pitchblende ore, more than 100,000 tons of residues, known as raffinate, were generated. The uranium progeny present in the pitchblende raffinate (e.g., thorium-230, protactinium-231, and actinium-227) ore were known to be present in substantial disequilibrium. The collection and storage of the raffinate at the Destrehan Street facility of Mallinckrodt Chemical Works represented a significant potential source term for internal exposure.
- (2) There is not individual bioassay monitoring or other monitoring information that can be used to quantify internal exposures to thorium-230, protactinium-231, and actinium-227 for raffinate workers specifically at the Destrehan Street facility of Mallinckrodt Chemical Works.
- (3) The specific air sample data that exists for the Destrehan Street facility of Mallinckrodt Chemical Works is insufficient to establish the internal doses from inhalation of thorium-230, protactinium-231, and actinium-227 at the site with sufficient accuracy. This is because 1) the air sample data found at Destrehan Street facility of Mallinckrodt Chemical Works do not provide radionuclide-specific information for the site; and 2) very little data are available to characterize the degree of disequilibrium in the raffinate source term at the Destrehan Street facility of Mallinckrodt Chemical Works.
- (4) Records from the Destrehan Street facility of Mallinckrodt Chemical Works indicate that during the time frame of 1949 through 1957, employees may have rotated through a number of different jobs. The changes in work assignments make it difficult to distinguish the raffinate-exposed workers from the workers who never worked with raffinate.
- (5) Thus, as governed by 42 C.F.R. § 83.13(c)(1), it is determined that there is insufficient information either 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, or to estimate

the radiation doses of members of the class more precisely than a maximum dose estimate with sufficient accuracy.

- (6) It should be noted that the Board believes, and NIOSH concurs, that the available external dose monitoring information is adequate for the reconstruction of individual external exposures; where appropriate, individual external doses can be reconstructed for specific types of cancer (e.g., skin).

Health Endangerment

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

- (1) It was found that members of the class received episodic exposures of a non-critical nature to radionuclide dusts and radon gas that could have cumulatively resulted in chronic, potentially substantial exposures to radiation. As governed by 42 C.F.R. § 83.13(c)(3), it has been established that there is a reasonable likelihood that such radiation doses may have endangered the health of members of the class.
- (2) There was no evidence from the petitioners or from other resources that would establish that the class was exposed to radiation during a discrete incident, such as a nuclear criticality incident, as defined under 42 C.F.R. § 83.13(c)(3)(i).
- (3) The Board found that the health of the class may have been endangered and that radiation exposures were not associated with a discrete incident, indicated by the Board's recommendation that the class be defined according to the 250 work day employment requirement specified under 42 C.F.R. § 83.13(c)(3)(ii).
- (4) Thus, pursuant to 42 C.F.R. § 83.13(c)(3)(ii), it is specified that a minimum duration of employment to satisfy this health endangerment criterion consists of "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."

V. Effect and Effective Date of Designation

The Secretary submits this report on designation of one additional class to the SEC for review by Congress, pursuant to 42 U.S.C. §§ 7384f(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. § 7384f(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. § 83.16(b). 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 criterion and findings on which the decision was based.