

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

Dow Chemical Company

Pittsburg, California



## I. Designation

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

May 21, 2015  
Date

[Signature on File]  
Sylvia M. Burwell

## II. Employee Class Definition

All Atomic Weapons Employer employees who worked for Dow Chemical Company in Pittsburg, California, from October 1, 1947, through June 30, 1957, 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 April 24, 2015.

#### 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 exposures for members of the proposed class included exposures to uranium contained in phosphate ores commercially processed to manufacture phosphate fertilizers and phosphate chemicals. The modes of potential exposure were inhalation and ingestion of uranium and its progeny during wet chemistry separation work, including evaporation and condensation operations to perform sample analyses.
- NIOSH has not located documentation giving any indication of a routine internal personnel exposure monitoring program for the period under evaluation. No internal monitoring or air sample data have been located by NIOSH. Without personnel radiation monitoring data representing the period from October 1, 1947, through June 30, 1957, NIOSH has insufficient information to appropriately characterize radioactive material intakes during Atomic Energy Commission operations.
- Consequently, NIOSH has determined that it does not have access to personnel monitoring, workplace monitoring, or sufficient source term data to estimate with sufficient accuracy internal exposures to uranium and its progeny, and for Dow Chemical Company workers for the period from October 1, 1947, through June 30, 1957.
- Principal sources of external radiation exposures for members of the proposed class included exposures to natural uranium and its progeny during development of a wet chemistry recovery process.
- NIOSH has not located any indication of external personnel exposure monitoring for the period under evaluation. NIOSH's research indicates personnel monitoring for external exposure to radiological materials was not performed. No records or documentation of any program for external dose monitoring have been located.
- Consequently, NIOSH has determined that it does not have access to personnel monitoring, workplace monitoring, or sufficient source term data to estimate with sufficient accuracy external exposures for Dow Chemical Company workers exposed during the development of uranium recovery operations from October 1, 1947, through June 30, 1957.
- NIOSH finds that it is likely feasible to reconstruct occupational medical dose for Dow Chemical Company by using claimant-favorable assumptions and the *Technical Information Bulletin, Dose Reconstruction from Occupational Medical X-Ray Procedures* (ORAUT-OTIB-0006).

- 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 Dow Chemical Company in Pittsburg, California, during the period from October 1, 1947, through June 30, 1957, 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 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.