

HHS Determination Concerning a Petition to Add Members to the
Special Exposure Cohort
under the
Energy Employees Occupational Illness Compensation Program Act of 2000

Determination Concerning a Petition for Employees from
Dow Chemical Company
Madison, Illinois



I. Determination

I, Kathleen Sebelius, Secretary of Health and Human Services (Secretary), have determined that the employees defined in Section II of this report do not meet the statutory criteria 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.

June 3, 2011

Date

[Signature on file]

Kathleen Sebelius

II. Employee Class Definition

All Atomic Weapons Employees who worked at the Dow Chemical Company in Madison, Illinois, from January 1, 1961 through November 30, 2007.

III. Decision Criteria and Recommendations

Pursuant to 42 U.S.C. § 7384q, to designate a class for addition to the SEC, the Secretary must determine, upon recommendation of the Advisory Board on Radiation and Worker Health (Board), 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.

In a letter received by the Secretary on March 30, 2011, the Board, pursuant to 42 U.S.C. § 7384q, agreed with the following NIOSH findings, effectively advising the Secretary that radiation dose can be reconstructed with sufficient accuracy for certain Dow Chemical Company (Dow Madison) employees in accordance with provisions of EEOICPA and the SEC final rule.

IV. Determination 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 determined that workers during the residual period (January 1, 1961 through November 30, 2007) may have received internal and external exposure to residual uranium, thorium, and progeny contamination that was generated during the operational period (1957 through 1960).
- NIOSH has access to sufficient information to estimate the maximum internal radiation dose that could have been incurred from exposure to uranium during the residual period. Potential internal doses received from inhalation and/or ingestion of re-suspended uranium during the residual period can be reconstructed using the airborne concentration due to resuspension that was observed at other facilities performing similar operations (Battelle-TBD-6000, Rev. 0, December 13, 2006).
- NIOSH has access to sufficient information to estimate the maximum external radiation dose that could have been incurred from exposure to uranium during the residual period. Potential external doses received from surface contamination of uranium during the residual period can be reconstructed using the estimated levels that were observed at other facilities performing similar operations (Battelle-TBD-6000, Rev. 0, December 13, 2006).
- NIOSH found it has sufficient source term information, workplace monitoring data for thorium radionuclides, and process descriptions to allow adequate bounding of the total potential Atomic Energy Commission-related internal and external exposures to residual thorium during the residual period.
- Internal doses received from potential exposures to thorium and thoron can be bounded based on the available information on the Dow Madison alloy process, and on available workplace monitoring results. Potential annual inhalation intakes of thorium and thorium daughters for the January 1, 1961 through November 30, 2007 residual period can be bounded using air monitoring data obtained from 1957 through 1960 and data obtained at Dow Madison in 2006.
- External doses received from potential exposures to thorium can also be bounded; the analysis of available data and bounding methodology is contained in *NIOSH ER SEC-00079 Addendum 2, Reconstruction of Dose Resulting from Intake of Residual Thorium at Dow Chemical from 1961 through 2006*. This methodology is based on a detailed review of the external exposure measurements reported by Dow Madison.

In its letter to the Secretary, the Board concurred with these NIOSH findings.

Health Endangerment

Because the Secretary established that it is feasible to estimate with sufficient accuracy the radiation doses encountered by Dow Madison employees as specified in this class, a determination of health endangerment is not required.

V. Effect of the Determination

Members of the class of employees covered by this determination and their survivors continue to be eligible to submit claims for compensation under EEOICPA. As required for cancer claims covering other DOE and Atomic Weapons Employer employees (or Atomic Weapons Employees) not included in the SEC, qualified cancer claims under Part B of EEOICPA for members of this class will be adjudicated by the Department of Labor, in part on the basis of radiation dose reconstructions which will be conducted by NIOSH.

VI. Administrative Review of Determination

The determination 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 designate the class of employees covered by this determination, in part or in whole, as an addition to the SEC, the Secretary would transmit a new report to Congress providing the designation and the criteria and findings on which the decision was based.