

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

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Determination Concerning a Petition for Employees from

Weldon Spring Plant  
Weldon Spring, Missouri



## 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.

December 7, 2012

[Signature on File]

Date

Kathleen Sebelius

## II. Employee Class Definition

All employees of the Department of Energy, Department of Energy contractors, or subcontractors who worked in any area at the Weldon Spring Plant in Weldon Spring, Missouri, during the applicable covered operational period from January 1, 1957, through December 31, 1967.

## 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 November 7, 2012, 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 Weldon Spring Plant 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 the principal source of internal radiation doses for members of the class under evaluation was inhalation of uranium and thorium during routine operations, initial cleanup, and maintenance periods. Ingestion is routinely assessed by NIOSH concurrently with inhalation exposure.
- Measured air concentrations of radon are not available for the operational period. However, the maximum occupational ambient environmental exposure for radon may be calculated using the method in a white paper and discussion at Board and Board Work Group meetings.
- NIOSH determined that it can reconstruct internal dose with sufficient accuracy for members of the class under evaluation. NIOSH located sufficient personnel monitoring data to support reconstruction of internal uranium and thorium exposures at the Weldon Spring Plant for the evaluated period of January 1, 1957, through December 31, 1967. This feasibility conclusion is based on the collective availability of uranium bioassay (urinalysis) and thorium air sampling data in sufficient quantity and quality for the entire evaluated period to adequately represent the class under evaluation. Supporting information exists related to workplace activities, area monitoring, and associated source terms.
- NIOSH determined that the principal source of external radiation doses for members of the evaluated class, other than medical X-rays required as a condition of employment, was direct beta-gamma exposures from processing uranium feed stocks to metal and other intermediate products for use at other AEC facilities across the weapons complex. A limited amount of thorium was also processed at Weldon Spring from November 1963 through 1966.
- Although NIOSH has not located specific parameters associated with occupational medical X-rays (i.e., specific information on the X-ray devices used at the Weldon Spring Plant), NIOSH will bound the occupational medical X-ray dose by using the values and methodology provided in the complex-wide Technical Information Bulletin, Dose Reconstruction from Occupationally Related Diagnostic X-Ray Procedures (ORAUT-OTIB-0006) and the Calculations and Assumptions Used in ORAUT-TKBS- 0028-3 Rev. No. 01 Weldon Spring Plant Technical Basis Document for Occupational Medical Exposure.
- NIOSH determined that the external dose reconstruction for members of the evaluated class is feasible based on the available personal external monitoring data, the analysis of the film badge results for the various job categories, survey data obtained during studies to determine the time to perform specific job functions and necessary shielding, and if necessary, a determination of missed and unmonitored neutron dose using the methods described in the SEC 143 Evaluation Report for personnel working in buildings that processed uranium (because of the alpha-

neutron reaction from uranium tetrafluoride). In addition, doses from the required medical X-rays and ambient environmental doses can be determined with sufficient accuracy for the evaluated class.

- NIOSH determined that the reconstruction of internal and external doses is feasible for the covered operational period from January 1, 1957, through December 31, 1967.
- NIOSH determined that it has access to sufficient Weldon Spring Plant site-specific information to either (1) estimate the maximum internal and external 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 evaluated class; or (2) estimate the internal and external radiation doses to members of the evaluated class more precisely than a maximum dose estimate.
- The Board concurred with the NIOSH findings.

### Health Endangerment

Because the Secretary established that it is feasible to estimate with sufficient accuracy the radiation doses encountered by Weldon Spring 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.