



## ADVISORY BOARD ON RADIATION AND WORKER HEALTH

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July 5, 2006

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The Honorable Michael O. Leavitt  
Secretary of Health and Human Services  
Department of Health and Human Services  
200 Independence Avenue, S.W.  
Washington, DC 20201

Dear Mr. Secretary:

The Advisory Board on Radiation and Worker Health (The Board) has evaluated SEC Petition-00028 concerning workers at the Y-12 Plant under the statutory requirements established by EEOICPA and incorporated into 42 CFR Sec. 83.13 (c) (1) and 42 CFR Sec. 83.13 (c) (3). The Board respectfully recommends a Special Exposure Cohort (SEC) be accorded to all employees of the DOE or DOE contractors or subcontractors who were monitored or should have been monitored for:

- (1) thorium exposures while working in Building, 9201-3, 9202, 9204-1, 9204-3, 9206, or 9212 at Y-12 for a number of work days aggregating at least 250 work days during the period from January 1948 through December 1957 or in combination with work days within the parameters established for one or more other classes of employees in the SEC; or
- (2) radionuclide exposures associated with cyclotron operations in Building 9201-2 at Y-12 for a number of work days aggregating at least 250 work days during the period from January 1948 through December 1957 or in combination with work days within the parameters established for one or more other classes of employees in the SEC.

This recommendation is based on the following factors:

- NIOSH found that there are insufficient bioassay or air sampling data in the available Y-12 databases to allow for the reconstruction of internal thorium exposures for employees who worked within several buildings where thorium operations took place during the

time period from January 1948 through December 1957. These buildings have been identified by NIOSH as follows: 9201-3, 9202, 9204-1, 9204-3, 9206, and 9212. The Board concurs with this finding.

- NIOSH found that there are insufficient bioassay or air sampling data in the available Y-12 databases to allow for the reconstruction of internal exposures to cyclotron workers (employees who worked in Building 9201-2). NIOSH presented information indicating that the cyclotron workers may have accumulated substantial chronic exposures through episodic intakes of a variety of radionuclides that were produced during the operation period. The Board concurs with this finding.
- NIOSH determined that health was endangered for the workers at Y-12 exposed to thorium in these operations and for the workers exposed in the cyclotron operation. The Board concurs with this determination.

The NIOSH and Board review of the available data on operations and exposures at the Y-12 facility during the time period January 1948 to December 1957 found that the data were sufficient to support accurate dose reconstructions for a number of important exposures. These include but are not necessarily limited to the following dose reconstruction scenarios:

- NIOSH demonstrated that sufficient bioassay data are available for reconstruction of internal doses for workers with potential for exposure to uranium or recycled uranium contaminants (plutonium-238 (plutonium-239 in lesser quantities), neptunium-237, and technetium-99) during the time from January 1948 to December 1957.
- NIOSH demonstrated that sufficient data are available for reconstruction of internal doses for workers involved in plutonium operations during the time period from January 1948 to December 1957 when plutonium was enriched with the calutrons.
- Monitoring records are available for individual dose reconstruction for external doses for workers at the Y-12 facility during the time from January 1948 to December 1957.

Enclosed is supporting documentation from the recent Advisory Board Meetings held in Washington, DC on June 15 and 16, 2006 and Denver, Colorado on April 25 to 27, 2006 as well as the several Advisory Board Workgroup Meetings where this special exposure cohort was discussed. This documentation includes a report on the review of the NIOSH evaluation report prepared by the Board's contractor (SC&A, Inc.), transcripts of public comments on the petition, copies of the petition and the NIOSH review thereof, and related documents distributed by NIOSH and the petitioners. If any of these items are unavailable at this time, they will follow shortly.

Sincerely,



Paul L. Ziemer, Ph.D.  
Chairman

Encl.