Los Alamos National Laboratory (SEC-00109)

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Advisory Board on Radiation and Worker Health (ABRWH)

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Petition timeline

Special Exposure Cohort (SEC) petition received April 3, 2008

Qualified for evaluation May 29, 2008

NIOSH evaluated “All service support workers from January 1, 1976 through December 31, 2005”

Evaluation Report (ER) actions

- ✓ Revision 0 approved January 1, 2009
- ✓ Revision 1 approved August 15, 2012

Resulting action

The Secretary of the Department of Health and Human Services (DHHS) added the following class to the Special Exposure Cohort (SEC)

> "All employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico from January 1, 1976, through December 31, 1995, 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 in the Special Exposure Cohort."

1975 through 1995 SEC class bases

- Identified infeasibility included the inability to bound unmonitored intakes of exotic alpha emitters, fission products, activation products, tritium (STCs), Sr/Y-90, Th-230 and Th-232
- End date of December 31, 1995, for the class based on the presumption that LANL would have been in full compliance with 10 CFR 835, *Occupational Radiation Protection* at the time

NIOSH committed to evaluate post-1995 issues

Occupational Radiation Protection[1]

- Requires internal dosimetry programs (including routine bioassay programs) for Radiological workers who, under typical conditions, are likely to receive a committed effective dose equivalent of 0.1 rem (0.001 Sv) or more from all occupational radionuclide intakes in a year
- Given this requirement, in the absence of individual internal dosimetry data, intakes would be unlikely to have resulted in greater than 0.1 rem CEDE and the infeasibility to reconstruct dose would not exist

[1] 10 CFR 835

Progress reports on ER Addendum

- Since ER Rev. 1, NIOSH received more information, documents, and procedures about the post-1995 use of exotic radionuclides
- Work with these radionuclides (especially after 1995) has been sporadic and there are correspondingly few bioassay data

[1] 10 CFR 835

Progress report on ER addendum – cont.

- NIOSH, Sanford Cohen & and Associates, and the Oak Ridge Associated University Team went to LANL in November 2015
- Met LANL Health Physics (HP), including Managers, Dosimetrists, and field personnel to better understand how compliance with *Occupational Radiation Protection under 10 CFR 835* was achieved
- New documents were captured including RWPs, respirator use, air sampling, radiation surveys, HP checklists, routine monitoring instructions, and external exposure data

Progress report on ER addendum – cont.

- During November 2015 site visit, LANL provided information and documents specific to
  - Special Tritium Compounds
  - 10 CFR 835 RPP
  - And their Dosimetry Matrices program
- Spring 2016 NIOSH began considering the dose reconstruction implications of compliance with 10 CFR 835 for unmonitored workers
  - *Unlikely to have received exposures exceeding 40 DAC-hrs per year*

Progress report on ER addendum – cont.

- NIOSH is reviewing compliance with 10 CFR 835
  - Review assessments – focusing on findings, response, and corrective action
  - Review Nonconformance Tracking System (NTS) for 10 CFR 835 violations, site response, and corrective action
  - Review Occurrence Reporting System (ORPS)

Progress report on ER addendum – cont.

Questions when Reviewing Findings

1) (SEC Perspective) Do the findings identify unmonitored exposures that may prevent reconstructing exposures to a defined class of workers?

2) (DR Perspective) Do the findings identify a programmatic flaw that would suggest the unmonitored workers could have received exposures in excess of 40 DAC-hrs per year?

Path forward for addendum

- NIOSH has reviewed available assessments
- Recently NIOSH, SC&A, and ORAUT gained access to the NTS system

  LANL – nonconformance reports have been reviewed and selected by NIOSH/ORAUT team. They are being downloaded and loaded to the SRDB
- DOE is working on access to ORPS
- After review of all the assessments and reports the addendum can be completed
- The current project schedule has the Addendum being completed by late February 2017