

## Statement of Work

### **Purpose and Description of Work:**

The contractor shall evaluate whether or not the reconstruction of dose provides a reasonable estimate of the dose (as needed to adjudicate the claim). The contractor shall evaluate and recommend whether or not the assumptions (individual case assumptions and assumptions applicable to multiple cases) made for dose reconstruction are appropriate and defensible for purposes of this program. The contractor shall evaluate whether or not the data from DOE or other sources is of sufficient quality necessary to obtain a reasonable estimate of dose. The contractor shall evaluate whether or not the dose reconstruction was performed fairly using NIOSH guidelines and in a manner consistent with other cases.

The contractor shall review all relevant dose reconstruction methodologies and/or procedures employed by NIOSH / NIOSH contractors in conducting individual dose reconstructions. The contractor shall evaluate whether methodologies and procedures are consistent with requirements under 42 CFR 82 and whether there are sufficient procedures to achieve consistent application of the requirements in 42 CFR 82.

The contractor shall conduct one of three different levels of review on the selected cases: 1) Basic Review, 2) Advanced Review, or 3) Blind Review. The level of review will be determined by the Advisory Board. The number of individual dose reconstruction reviews is estimated to be approximately 62 during the 6 month performance period of this task. It is expected that there will be approximately 40 Basic Review cases, 20 Advanced Review cases and 2 Blind Review cases. The Board shall select all cases for these reviews.

Details outlining the approach for each type of review are shown below:

#### 1. Basic Review

##### A. Review Data Collection

1. Evaluate whether NIOSH received all requested data for the DOE or AWE site from any relevant data source or repository
2. Evaluate whether the data used by NIOSH for the case was adequate to make a determination with regard to probability of causation.

B. Review Interview and Documentation provided by claimant

1. Evaluate whether NIOSH appropriately addressed all of the reported work history and events represented by the claimant including but not limited to a) incidents or occurrences, b) actual monitoring practices, c) personal protection practices, and d) work practices
2. Assure that interview information is consistent with data used for the dose estimate, and if not, evaluate whether reasonable justification is provided.

C. Review Internal and External Dose Estimates

1. Evaluate whether all assumptions used in the dose determination are appropriate for a remedial compensation program and whether the benefit of the doubt was resolved in favor of the claimant
2. Verify dose calculations are appropriate for purposes of determination of POC
3. Evaluate whether the data were consistent with site radiological monitoring protocols of the time period.
4. Evaluate the treatment of 'missed dose' and/or 'unmonitored dose' if relevant to the case.
5. The review of each dose reconstruction shall include an evaluation of all relevant portions of the methods and/or procedures used by NIOSH. This includes, but is not limited to:
  - a) Review the internal and external radiation dose reconstruction technical basis documents,
  - b) Review of methods for estimating 'missed dose' and 'un-monitored dose' (for cases related to monitoring technology and for cases where monitoring was not performed, monitoring data is not available or incomplete or otherwise inadequate),
  - c) Review of the statistical approaches developed for multiple dose reconstructions,
  - d) Review procedures used for determining whether data are sufficient to make a reasonable dose estimate,
  - e) Review methods or procedures used for substituting exposure information for unavailable or incomplete information,
  - f) Review methods for estimating uncertainty in dose and uncertainty distributions surrounding internal and external dose reconstructions on a facility and time specific basis and evaluate whether the benefit of the doubt was resolved in favor of the claimant where there were uncertainties.
  - g) Review procedures and questionnaire used for work history phone interview.

- h) Review the NIOSH methods, procedures and performance in evaluating, analyzing and validating all contractor work products

## 2. Advanced Review

The Advanced Review will include all task items in the Basic Review along with the additional tasks listed below:

### A. Review Data Gathering

1. Review the entire analysis record to evaluate if relevant information exists which was not considered by NIOSH

*Note: The dose reconstruction report and all supporting documentation associated with a case, which was previously called the administrative record, is now called the NIOSH analysis record.*

2. Review the relevant aspects of the Site Profile as they apply to the individual case and evaluate the adequacy and completeness of the site profile and evaluate whether the information from the site profile is consistent with the information used for the individual dose estimate.
3. Evaluate whether, to the extent practicable, all relevant sources of data (e.g., DOE, AWE, CDC, EML, NRC, EPA, External Health and Safety Regulators, GAO, DNFSB, Congressional Hearing Records, other research programs, research publications, publications regarding the history of the DOE complex, or administrative/court records) were identified, evaluated and where appropriate, included within the Site Profile database and where appropriate were used in the assessment of the individual dose reconstruction case.

### B. Review Work History Interview and Documentation provided by claimant

1. Evaluate the phone interview in ascertaining relevant work history information.
2. Evaluate whether, for the cases involving survivors, there has been an adequate effort to research co-located workers and other historical records to characterize the individual's work history.

### C. Review Internal and External Dose Estimates

1. Evaluate whether the dose estimate is consistent with relevant radiological information within the NIOSH site profile (e.g. air monitoring, wipe data are consistent with bioassay results)

2. Compare case information and assumptions with relevant co-worker case information and assumptions for consistency

### 3. Blind Dose Reconstruction

Using all raw data available to NIOSH the independent expert will develop an IREP dose input file that they feel is sufficient to make a determination with regard to POC. The case should be assembled in a manner consistent with NIOSH (i.e., all assumptions should be stated, relevant procedures or technical basis documented, and relevant data used for the assessment highlighted within the analysis record).

#### **Period of Performance**

The timeframe for this task is six months. Interim reports to designated Board members and to the overall Board will be required at each Board meeting (approximately every 2 months).

#### **Reporting/Deliverable Requirements**

The contractor will be required to assemble Individual case review reports, Summary review reports (summarizing findings from an assigned group of cases), and assist the Board in developing reports for HHS. The format of these reports is detailed in the Board procedure on Processing Individual Dose Reconstruction Reviews. The Board will select groups of cases and designated Board members. This will include approximately 20 cases every 2 months (with proportions of types of cases consistent with those presented in the overview of this task).