

Attachment C

Statement of Work

C.1. Purpose of Contract

The National Institute for Occupational Safety and Health (NIOSH) Office of Compensation Analysis and Support (OCAS) is responsible for conducting individual dose reconstructions on employees of the Department of Energy (DOE) and its predecessor agencies, its contractors and subcontractors, and Atomic Weapons Employers (AWEs) under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA). To support NIOSH's role under EEOICPA, OCAS has retained the services of a contractor to assist in the implementation of a number of major program elements. Under EEOICPA a federal advisory board, the Advisory Board on Radiation and Worker Health (The Board), is required to review a reasonable sample of dose reconstructions for scientific validity and quality, assess the methods for dose reconstruction, and review SEC petitions. To support the Board, NIOSH OCAS requires the services of a contractor(s) to assist in the implementation of a number of tasks related to independent review of the dose reconstruction process.

C.2. Background and Need

In October 2000, Congress and President Clinton enacted EEOICPA, establishing a federal compensation program for employees of the DOE, its contractors and subcontractors, and Atomic Weapons Employers (AWEs). On July 31, 2001, covered employees with cancer, beryllium disease, or silicosis that may be related to work at nuclear weapons production programs of DOE and its predecessor agencies began applying to the Department of Labor (DOL) under the procedures and requirements of 20 CFR Part 30 for lump sum cash benefits of \$150,000 and medical benefits. Also, EEOICPA establishes a Special Exposure Cohort (SEC) consisting of employees with 22 specific cancers who worked at three named DOE facilities or participated in certain nuclear tests and who meet certain other requirements. These employees' cancers are presumed to be radiation related. The EEOICPA permits other groups of employees to petition NIOSH to be added to the SEC.

For most employees with cancer, EEOICPA and the DOL regulation require a determination by DOL that the cancer was "at least as likely as not" related to the occupational radiation dose incurred by the employee. Criteria and guidelines for making this determination are established by EEOICPA. On May 2, 2002, the Department of Health and Human Services (HHS) published 42 CFR 81 as a final rulemaking in the Federal Register (Vol. 67, No. 85). This rule will be used to determine the probability of causation for a claimant's cancer. To make this determination, DOL will request NIOSH to provide an estimate of the radiation dose received by the employee.

EEOICPA also established a federal advisory board, The Advisory Board on Radiation and Worker Health (Advisory Board) which has among its charges the task of reviewing a reasonable

sample of the dose reconstructions for scientific validity and quality, assess the methods and procedures for dose reconstruction, and review Special Exposure Cohort (SEC) petitions.

NIOSH and DOL expect a large number of cancer claims under EEOICPA in the initial five to ten years, many of which will require NIOSH dose estimates. More than 650,000 workers have been employed by DOE and its contractors and subcontractors, not including the employees of the AWEs. Currently, NIOSH has approximately 9,000 claims in its possession that require dose reconstructions. While the rate of claims receipt varies, about 200 claims each week are referred to NIOSH by the Department of Labor.

On May 2, 2002, HHS issued 42 CFR Part 82 as a final rule that describes the general methods which NIOSH will be required to use in estimating occupational radiation doses under EEOICPA (Federal Register Vol. 67 No. 85). These proposed methods are designed to provide fair and efficient processing of high volume of dose reconstructions. NIOSH will also seek to obtain dosimetry and relevant records and information on a facility or site-wide basis for DOE sites as well as for AWE sites to reduce the volume of records and information that would need to be collected (at greater expense of time and resources) for each individual claim. NIOSH is establishing a Microsoft SQL Server 2000 relational database management system to house these records. The database will include individual claimant data, 'site profile' data and 'worker profile' data.

NIOSH has awarded a five-year dose reconstruction contract to provide technical support for the dose estimation, dose reconstruction, and evaluation of SEC petitions on the scale expected under EEOICPA (NIOSH Contract No. 2002-N-00201). This contract award is available on the NIOSH OCAS web site (www.cdc.gov/niosh/ocas).

In addition, NIOSH OCAS requires substantial technical support for the Advisory Board on Radiation and Worker Health to conduct the review of the dose reconstruction process. The purpose of this procurement is to obtain the services of a contractor(s) to assist the Advisory Board in the review of the NIOSH OCAS dose reconstruction program.

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C.3. Contract Tasks

The Contractor shall provide senior project staff to direct and manage project activities, document work performed by Contractor personnel, prepare reports documenting progress and problems and interface with the Advisory Board.

The Contractor shall document all of the individual steps for each work assignment performed so that any aspect of a technical review can be evaluated at any point during the course of performance. The Contractor shall maintain a filing system of all material relevant to each technical review undertaken. The filing system shall be cross-referenced in a manner that allows all material to be easily accessed.

At the conclusion of a contract task, the Contractor may be required to duplicate all records pertaining to the work assignment not already held by NIOSH or NIOSH Dose Reconstruction Contractor.

As an independent organization performing work on behalf of the Government, the Contractor shall provide the support services required to conduct work assignments that may include, but not be limited to, the activities listed below.

- A. Individual dose reconstructions review
- B. NIOSH OCAS 'Site Profile' and 'Worker Profile' Review
- C. Review of SEC Petitions

The work associated with each of the Government's anticipated requirements are set forth in general terms as specified below.

A. Individual dose reconstructions review

The contractor shall determine whether or not the reconstruction of dose provides a reasonable estimate of the dose (at least as needed to determine eligibility). The contractor shall determine 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 determine whether or not the data from DOE or other source is of sufficient quality necessary to obtain a reasonable estimate of dose. The contractor shall determine whether or not the dose reconstruction was performed fairly and in a manner consistent with other cases.

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 method of review will be determined by the Advisory Board Dose Reconstruction Working Group. The elements of each type of review are detailed below:

The number of individual dose reconstruction reviews is estimated to be approximately 200 in the first year (2.5% of total cases). It is expected that there will be approximately 95 Basic Review cases, 95 Advanced Review cases and 10 Blind Review cases. The Advisory Board Dose Reconstruction Working Group shall determine the cases to be reviewed and the level of review.

1. Basic Review

A. Review Data Collection

1. Determine if NIOSH received all requested data for the DOE or AWE site from any relevant data source or repository
2. Determine 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. Determine 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 dose estimate

C. Review Internal and External Dose Estimates

1. Determine whether all assumptions used in the dose determination are appropriate for a remedial compensation program and determine whether, if and to what extent 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. Determine whether the data were consistent with site radiological monitoring protocols of the time period and determine whether the protocols were adequate for monitoring the exposures
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 is 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 determine whether, how and to what extent 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 claimant's entire administrative record to determine if relevant information exists which was not considered by NIOSH
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 determine if the information from the site profile is consistent with the information used for the individual dose estimate.
3. Determine whether 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. Determine the effectiveness of the phone interview in ascertaining relevant work history information by comparing the NIOSH OCAS work history with the interview transcript, if available, and/or by independently interviewing the individual. (An interview would require consent of the individual)
2. Determine whether the claimant or survivor is satisfied with the final interview product. (An interview would require consent of the individual)
3. Determine whether, for the cases involving survivors, there has been an adequate effort to research co-located workers and other historical records to characterize the individuals work history.

C. Review Internal and External Dose Estimates

1. Determine 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 which they feel is sufficient to make a determination with regard to POC.

B. NIOSH OCAS ‘Site Profile’ and ‘Worker Profile’ Review

As part of NIOSH's effort in completing individual dose reconstructions, NIOSH is establishing a ‘Site Profile’ database for all covered sites. This database includes records relevant to dose reconstruction other than the personnel dosimetry records (e.g. – process information, characterization information, incident or occurrence reports, summary dosimetric information, etc.). The contractor shall review selected site profiles established by NIOSH to determine the quality and completeness of the profiles and the adequacy of the data for purposes of individual dose reconstructions.

The contractor shall investigate the conditions, processes, practices and incidents at selected DOE and AWE facilities covered under EEOICPA to determine the adequacy of the information available in the NIOSH Site Profile. The review should focus on whether the approach used by NIOSH / Contractor assured completeness of data necessary for purposes of determining individual eligibility for compensation. The review should include a determination of whether the contractor identified, evaluated and where appropriate incorporated all relevant data sources (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) within the site profile. One task in determining that the data identification and collection process were adequate may require the contractor to conduct interviews (one-on-one or group) with, employee representatives, advocacy organizations, health and academic researchers and site ‘experts’. The contractor may be required to conduct meetings with these individuals or groups at locations near the facilities of interest.

As part of NIOSH's effort in completing individual dose reconstructions, NIOSH is establishing a ‘Worker Profile’ database which allows for linking worker dosimetry information (e.g. linking data by job, location, time period, etc.). The contractor shall review selected worker profiles established by NIOSH to determine the quality and completeness of the profiles and the adequacy of the data for purposes of individual dose reconstructions. The review will include but not be limited to the following tasks: 1) is the data appropriate for use when individual records are not available, and 2) have all relevant records, which include personal identifiers, been incorporated into the system (e.g. occurrence reports, health and safety reports, HASL data, etc.)

The number of site profiles to be reviewed in the first year is estimated to be 10. The number of worker profiles to be reviewed in the first year is estimated to be 10.

C. Review of SEC Petitions

The contractor shall be available to assist the Board in reviewing SEC petition determinations. The contractor may be requested to assist in some or all of the SEC petition reviews. The review will include but not be limited to the following tasks: 1) Review SEC petition to determine if it was feasible to estimate individual doses for members of the class with sufficient accuracy for

purposes of compensation determination, 2) Review SEC petition to determine the adequacy of the determination of health endangerment of the class as defined in 42 CFR Part 83, and 3) Review SEC petition to determine the adequacy of the class definition.

The contractor shall review all relevant methodologies and/or procedures employed by NIOSH / NIOSH contractors in conducting the SEC petition.

C.4.. Work Assignments

Although the Contractor may not be required to conduct all of the tasks set forth in this Statement of Work, the Contractor shall be capable of providing the staff necessary to conduct the required work. The timing, magnitude and scope of each requirement cannot be predicted until the Advisory Board determines the specific work to be performed. The Contractor should expect a fluctuating workload throughout the performance period of this contract and will provide the technical, professional, managerial, and clerical support required to complete the work assignment successfully. An Advisory Board representative(s) may accompany the Contractor during each field visit for the purpose of monitoring the Contractor's startup activities and may elect to remain at the site to monitor Contractor activities.

- A. As new work is identified to be performed under the contract, the Government will issue to the Contractor specific written Task Orders, developed by the Advisory Board, to accomplish the work set forth in the contract. Each Task Order issued by the Government shall set forth known work requirements, project objectives, projected levels of effort, projected schedule, required deliverables, and the Government's estimate of resources likely to be made available for the project (if required) and shall be numbered beginning with the number (1) and include the following:
1. Task Order number.
 2. Brief description of the work to be accomplished, including any deliverables, the specified period of performance, and specific reference(s) to where the work to be performed as set forth in Attachment C, STATEMENT OF WORK, of the basic contract.
 3. Special Clearances, if required.
 4. Request for date by which a technical Work Plan and financial Cost proposal in response to the Task Order must be submitted to the Government, normally not to exceed 14 calendar days from the receipt of the subject Task Order.
- B. The Contractor's Work Plan must reference the specific Task Order number and must reflect their understanding of the project requirements, including a proposed technical methodology and approach in-keeping with the Task Order requirements. The Work Plan shall include but is not limited to management and

staffing plan; project objectives; projected level of effort; projected milestones, activities, and tasks; resources; travel; schedules; deliverables (form and format); quality assurance and control plans and requirements, which shall include identification, and discussion of staff roles and responsibilities; subcontractors and consultants support; and identification and need for routine and specialized material, equipment, and supplies.

The Cost Proposal will include a budget which reflects estimated costs to accomplish the development, implementation and completion of each project's requirements.

- C. Unless otherwise indicated in the Task Order, the Work Plan shall be provided to the NIOSH Project Officer not later than 14 calendar days of receipt of the Task Order by the Contractor. The Government will normally approve, or provide directions for revision of, the Work Plan/Cost Proposal submitted by the Contractor within a 14 calendar day period from the date of Government receipt of the Work Plan. It may be necessary for the Contractor to provide revisions of the Work Plan as considered necessary by the Advisory Board and/or the Government. Under such circumstances, the Contractor will have 7 working days to submit revisions to the Work Plan if directed by the Government.
- D. Each Work Assignment will be reviewed by the Government for required clearances prior to issuance to the Contractor for performance. For work that requires particular clearances, the Contractor shall ensure that such clearance has been obtained prior to implementation of its approved Work Plan.
- E. Upon review and approval by the NIOSH Project Officer, a formal Work Authorization, as a result of the Contractor's revised Work Plan will be issued by the Contracting Officer. The Contracting Officer will issue a letter to the Contractor concurring in the approved final Work Plan/Cost Proposal and authorizing its implementation. The implementation of the Contractor's approved Work Plan is not authorized until such notification is received from the Contracting Officer. However, if requested in writing by the Project Officer, the Contractor may perform specific tasks or activities prior to receipt of the written notice from the Contracting Officer authorizing implementation of the approved Work Plan. Any deviations, revisions, or changes to the approved Work Plan shall be authorized by the Project Officer or Contracting Officer only.
- F. As such time the Contractor has expended 75 percent of the negotiated project ceiling for each Task Order, the Contractor shall notify the Contracting Officer of its projection of the resources and costs necessary to complete project tasks. The Contractor shall not exceed the negotiated task ceiling without the written authorization of the contracting Officer.

In carrying out the work assignments, the Contractor will pay all necessary travel and per diem expenses incurred by the Contractor's employees when they must travel to facilities located away from their residences. The maximum allowable expense shall not exceed that paid to a government employee making the same trip.

C.5. Preparation of Reports

In addition to any project-specific reports that may be required by individual Work Assignments, the Contractor shall submit the following reports:

1. Monthly Progress Reports

A monthly progress report detailing current status of each Work Assignment under the contact shall be written. The report shall be narrative in form and shall include a summary of progress toward completion of each Work Assignment, any changes in the procedures used, and problems encountered to date, including the Contractor's assessment of specific impact of such problems on estimated costs and scheduled date of completion. In addition, the report shall include the following information:

- a. Person hours of time and dollars expended on each project for the present reporting period and year to date by individual name and type of personnel utilized (clerical, professional, managerial).
- b. Cost, other than personnel, for each project including projected expenditures for the next month.
- c. Any changes in the completion dates as outlined in the original time schedules for each Task Order.

This report will be due ten days after the end of the month. The Contractor shall send one copy of the report to the Project Officer and the Contracting Officer.

2. Draft Work Assignment Report

The Contractor shall submit to the Technical Monitor for review and approval a written draft Work Assignment Report that describes the procedures used in performing all phases of the Work Assignment. The report will include, but not be limited to, an introduction including the rationale and purpose of the Work Assignment; a summary description of all the records collected and duplicated, the data abstracted and coded, the results of the data validation, and all other tasks carried, and any problems encountered in the completion of the Work Assignment. In addition, recommendations should be made for improvements in future work assignments of the same type.

3. Final Work Assignment Report

The Contractor shall submit a final report incorporating any comments and/or changes as required by the Technical Monitor.

Ad hoc Reports

Non-recurring reports may also be requested by the NIOSH Technical Monitor on an as-needed basis during the course of task performance to highlight critical project activities.

Attachment D

Example Task 1

Individual Dose Reonstruction Review : Basic

Provide a cost estimate and workplan for completing Basic Dose Reconstruction Reviews for 20 cases assuming 5 cases are assigned at the beginning of each quarter.

For the purposes of this proposal assume the breakdown of the cases is as follows:

1 st Quarter Site	# of cases	2 nd Quarter Site	# of cases	3 rd Quarter Site	# of cases	4 th Quarter Site	# of cases
Hanford	2	Y-12	2	Savanah River	1	Rocky Flats	1
INEEL	1	Metals and Control, MA	1	Combust. Eng, CT	1	LANL	1
Mallinckrodt MO	1	NUMEC, PA	1	Nevada Test Site	1	WR Grace TN	1
Allied Chemical, IL	1	Linde Ceramics NY	1	Maywood, NJ	1	Pantex, TX	1
				Harshaw Chemical, OH	1	Lawrence Livermore CA	1
TOTAL	5		5		5		5

Tasks to be performed include the following:

A. Review Data Collection

1. Determine if NIOSH received all requested data for the DOE or AWE site from any relevant data source or repository
2. Determine 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. Determine 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 dose estimate

C. Review Internal and External Dose Estimates

1. Determine whether all assumptions used in the dose determination are appropriate for a remedial compensation program and determine whether, if and to what extent the benefit of the doubt was resolved in favor of the claimant

2. Verify dose calculations are appropriate for purposes of determination of POC

4. Determine whether the data were consistent with site radiological monitoring protocols of the time period and determine whether the protocols were adequate for monitoring the exposures

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 is 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 determine whether, how and to what extent 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.

Attachment E

Example Task 2

Individual Dose Reconstruction Review : Advanced

Provide a cost estimate and workplan for completing Advanced Dose Reconstruction Reviews for 20 cases assuming 5 cases are assigned at the beginning of each quarter.

For the purposes of this proposal assume the breakdown of the cases is as follows:

1 st Quarter Site	# of cases	2 nd Quarter Site	# of cases	3 rd Quarter Site	# of cases	4 th Quarter Site	# of cases
Hanford	2	Y-12	2	Savannah River	1	Rocky Flats	1
INEEL	1	Metals and Control, MA	1	Combust. Eng, CT	1	LANL	1
Mallinckrodt MO	1	NUMEC, PA	1	Nevada Test Site	1	WR Grace TN	1
Allied Chemical, IL	1	Linde Ceramics NY	1	Maywood, NJ	1	Pantex, TX	1
				Harshaw Chemical, OH	1	Lawrence Livermore CA	1
TOTAL	5		5		5		5

Tasks to be performed include the tasks required for the Basic Review (see Attachment D, example 1) along with the following additional tasks:

A. Review Data Gathering

1. Review the entire administrative record to determine if relevant information exists which was not considered by NIOSH
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 determine if the information from the site profile is consistent with the information used for the individual dose estimate.

3. Determine whether 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. Determine the effectiveness of the phone interview in ascertaining relevant work history information by comparing the NIOSH OCAS work history with the interview transcript, if available, and/or by independently interviewing the individual. (An interview would require consent from individual)
2. Determine whether the claimant or survivor is satisfied with the final interview product. (An interview would require consent of individual)
3. Determine whether, for the cases involving survivors, there has been an adequate effort to research co-located workers and other historical records to characterize the individuals work history.

C. Review Internal and External Dose Estimates

1. Determine 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

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