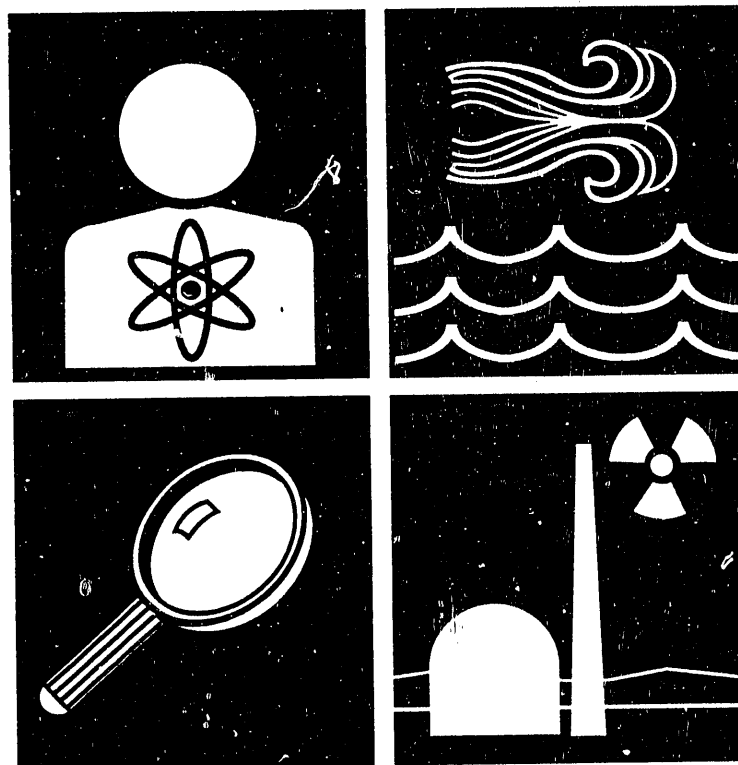


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# Hanford Environmental Dose Reconstruction Project

## Monthly Report

November 1991



Prepared for the Technical Steering Panel



PNL-6450-49-HEDR

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HANFORD ENVIRONMENTAL DOSE  
RECONSTRUCTION PROJECT

◆ Monthly Report

November 1991

Prepared for the Technical Steering Panel

Pacific Northwest Laboratory  
Richland, Washington 99352

MASTER

**HANFORD ENVIRONMENTAL DOSE  
RECONSTRUCTION PROJECT**

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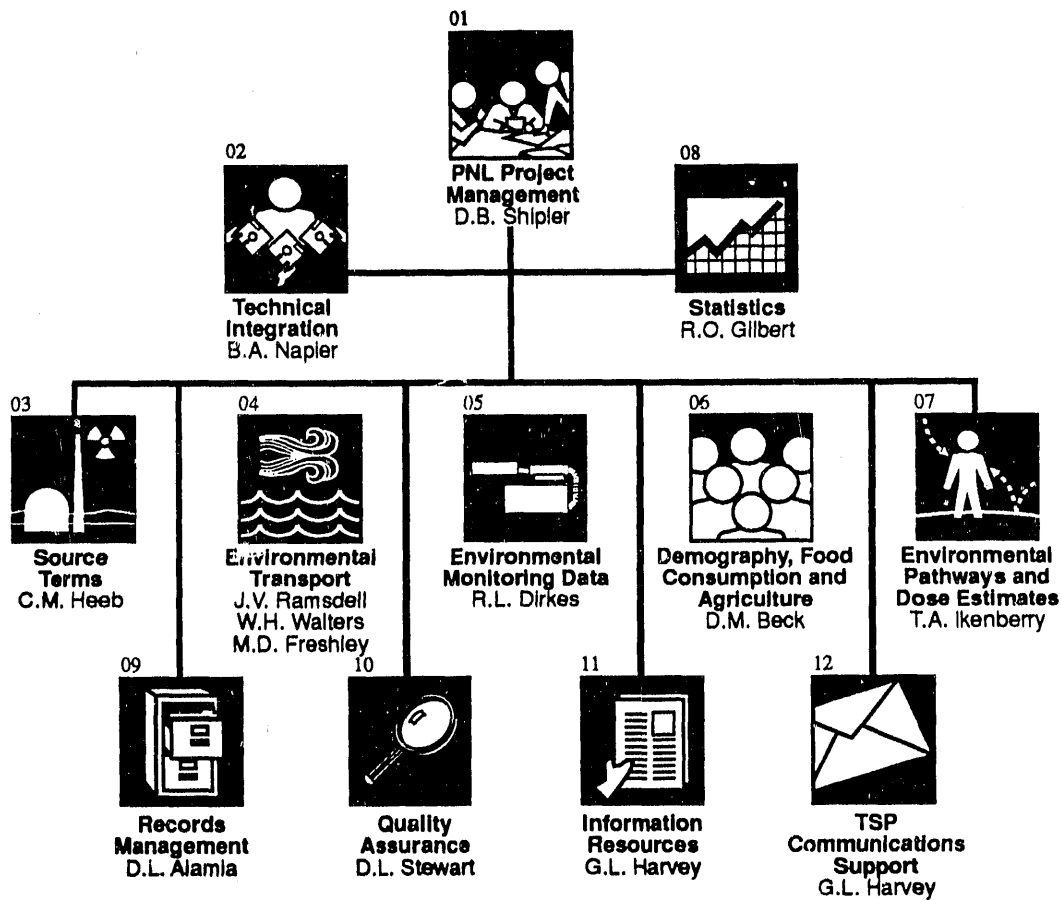
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## Preface

This monthly report summarizes the technical progress and project status for the Hanford Environmental Dose Reconstruction (HEDR) Project being conducted at the Pacific Northwest Laboratory (PNL)<sup>(a)</sup> under the direction of a Technical Steering Panel (TSP). The TSP is composed of experts in numerous technical fields related to this project and represents the interest

of the public. The U.S. Department of Energy (DOE) funds the project.

Figure 1 shows the PNL organizational structure of the HEDR Project. Table 1 shows the status of PNL work to comply with directives issued by the TSP.



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FIGURE 1. Organizational Structure of the Hanford Environmental Dose Reconstruction Project

<sup>(a)</sup> Battelle Memorial Institute operates the Pacific Northwest Laboratory.

**TABLE 1. Status of Directives<sup>(a)</sup>**

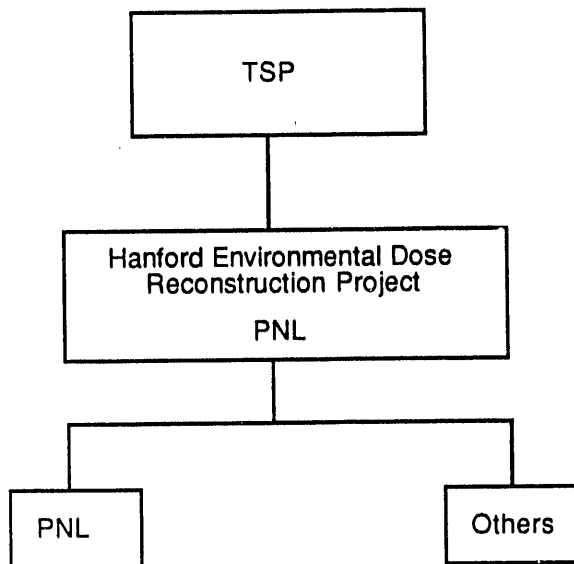
		<u>Complete</u>	<u>Ongoing</u>	<u>Phase I</u>	<u>FY 1991</u>
88-1	(a) Proposals		x		
	(b) Source Terms			x	x
88-2	Vegetation			x	x
88-3	Status Reports		x		
88-4	Ground Water			x	x
88-5	Maps	x			
88-6	Resumes	x			
89-1	Indian Tribes			x	x
89-2	Bioassay Data			x	
89-3	Document Handling		x		
89-4	Reactor Purging			x	x
89-5	Phased Approach	x		x (modified 2/14/91)	
89-6	Meeting Materials		x		x
89-7	Tech Communication		x		
89-8	Phase II Planning	x			x (modified 2/14/91)
89-9	Project QA Plan		x	x (revised)	x (revised)
89-10	Contracts with Tribes			x	x
90-1	Project Direction (Task Plans)		x		x
90-2	Dose Cut-Off Limit (deferred)				

---

<sup>(a)</sup> Note: For simplicity, TSP directives are identified here using only key words. The complete directives are available from the TSP.

## Executive Summary

The objective of the Hanford Environmental Dose Reconstruction Project is to estimate the radiation doses that individuals and populations could have received from nuclear operations at Hanford since 1944. The project is being managed and conducted by the Pacific Northwest Laboratory (PNL) under the direction of an independent Technical Steering Panel (TSP).



The TSP consists of experts in environmental pathways, epidemiology, surface-water transport, ground-water transport, statistics, demography, agriculture, meteorology, nuclear engineering, radiation dosimetry, and cultural anthropology. Included are appointed technical members representing the states of Oregon, Idaho, and Washington, a representative of Native American tribes, and an individual representing the public.

The project is divided into the following technical tasks. These tasks correspond to the path radionuclides followed, from release to impact on humans (dose estimates):

- Source Terms
- Environmental Transport
- Environmental Monitoring Data
- Demographics, Agriculture, Food Habits
- Environmental Pathways and Dose Estimates.

The Source Terms Task develops estimates of radioactive emissions from Hanford facilities since

1944. These estimates are based on historical measurements and production information.

The Environmental Transport Task reconstructs the movement of radioactive materials from the areas of release to populations. Movement via the atmosphere, surface water (Columbia River), and ground water is studied.

The Environmental Monitoring Data Task assembles, evaluates, and reports historical environmental monitoring data.

The Demographics, Agriculture, Food Habits Task develops the data needed to identify the populations that could have been affected by the releases. Population and demographic information are developed for the general population within the study area. This information will also be developed for several special population groups, including Native American tribes in the study area, Army personnel who were stationed at Hanford, Hanford construction workers, and migrant farm workers.

In addition to population and demographic data, the food and water sources and consumption patterns for populations are estimated because they provide a primary pathway for the intake of radionuclides. Historical dairy farming practices and milk distribution systems are studied because milk is a significant pathway for iodine-131 to enter the human body. Cows could have eaten vegetation contaminated with this radionuclide. The production and distribution of exposed fruit and vegetables are also being reconstructed.

Lifestyle and food habit information will also be developed for individuals included in the Hanford Thyroid Disease Study as a basis for dose estimates and for other interested individuals.

The Environmental Pathways and Dose Estimates Task uses the information produced by the other tasks to estimate the radiation doses individuals could have received from Hanford radiation.

Project reports and Hanford-originated references used in the reports are made available to the public in a public reading room. Project progress is documented in this monthly report, which is available to the public.

# Project Summary

## Progress

Figure A.1 in Appendix A shows the status of project milestone activities. The following is a summary of activities conducted by HEDR staff in November 1991:

- issued two reports documenting references on significant airborne and waterborne radionuclides, 1944 - 1957, completing Milestones 0303A and 0304A
- began preparing the proposal to continue project work under contract to the Centers for Disease Control (CDC)
- participated in discussions with the Hanford Thyroid Disease Study and the Indian Health Service to plan for transfer of tribal contracts when HEDR work transfers to the CDC
- participated in a meeting of the Native American Working Group to discuss tribal involvement in data reduction and analysis, upcoming sensitivity analyses workshops, and policy on release of tribal dose estimates
- developed a method for dealing with the problem of the power peaking factor associated with discharge fuel, which determines iodine-131 content
- reviewed draft survey forms--for collecting food consumption and agricultural information--for the Kalispel and Yakima Tribes
- completed initial coding and testing of the revised environmental pathways model
- declassified 99 Hanford-Site-originated documents, 34 of which are of potential interest/use to the project
- gave three HEDR-related presentations at the annual meeting of the Society of Environmental Toxicology and Chemistry in Seattle. Topics were a project overview, the Geographic Information System, and risk communication.

- organized HEDR Project program of invited speakers for a 1-day session at the workshop, "Statistical Issues in Environmental Modeling and Monitoring" to be held at the National Institute of Statistical Sciences in December

## Problems or Changes and Action Taken

Development and documentation of the atmospheric transport code is still behind schedule. However, this work should be nearly on schedule by mid-January.

Staff unavailability is causing scheduled work to be delayed in Tasks 05, 06, and 07. Discussions are being held with management of those staff to obtain staffing commitments, and recruiting efforts continue.

## Planned Work for the Next Three Months

- prepare proposal for CDC by the end of December for continuing Battelle HEDR work through February 1994
- submit the following milestones to the TSP:
  - Project Management Plan
  - Draft code design specifications
  - Documented Phase I iodine-131 releases
  - Wind field modeling white paper
  - Atmospheric model documentation report
  - Groundwater and Columbia River transport reports
  - Final Phase I reports on environmental monitoring data, population, food, and milk distribution estimates
  - Vegetation data report
  - Milk report addendum and letter report on milk outside Phase I
  - Iodine-131 conversion factor report



## Budget Status

Figure 2 shows the budget status of the HEDR Project. Table A.1 in Appendix A shows FY 1992 costs and budget by task and subtasks. Figure A.2 shows TSP budget status and Figure A.3 shows Native American Research budget status.

The TSP approved a budget for PNL, the TSP, and the Native American research contracts for FY 1992 for \$5,022K. Because the funding source for the HEDR Project transfers from DOE to the CDC in FY 1992, PNL is being funded in FY 1992 initially through DOE and then through CDC. DOE is funding PNL at 80% of the spending rate of the TSP-approved budget for October 1991 through February 1992. Therefore, PNL reduced its spending rate to the 80% level (plus carryover funding from FY 1991) for October 1991 through February 1992. The PNL budget (expected from CDC) for the remainder of FY 1992 (March through September 1992) was increased to ensure the full TSP budget to perform

approved FY 1992 work. PNL assumes CDC will authorize this modified budget amount when the contract is signed between Battelle and CDC in February 1992.

## Capital Status

A request for \$178K of FY 1992 and \$23K of FY 1994 capital equipment funds was submitted to Battelle's Plans and Budget Department. The FY 1992 request of \$150K was for storage disks for the HEDR computer system, \$15K for a portable computer and a color overhead projection system to be used with the Geographic Information System computer, and \$13K for an application server. The FY 1994 request was for a Sparc workstation II and support equipment. This request will be prioritized with the other laboratory requests and submitted to the U.S. Department of Energy Richland Field Office (RL) for approval. The HEDR Project should be notified by January the amount of funding to be received.

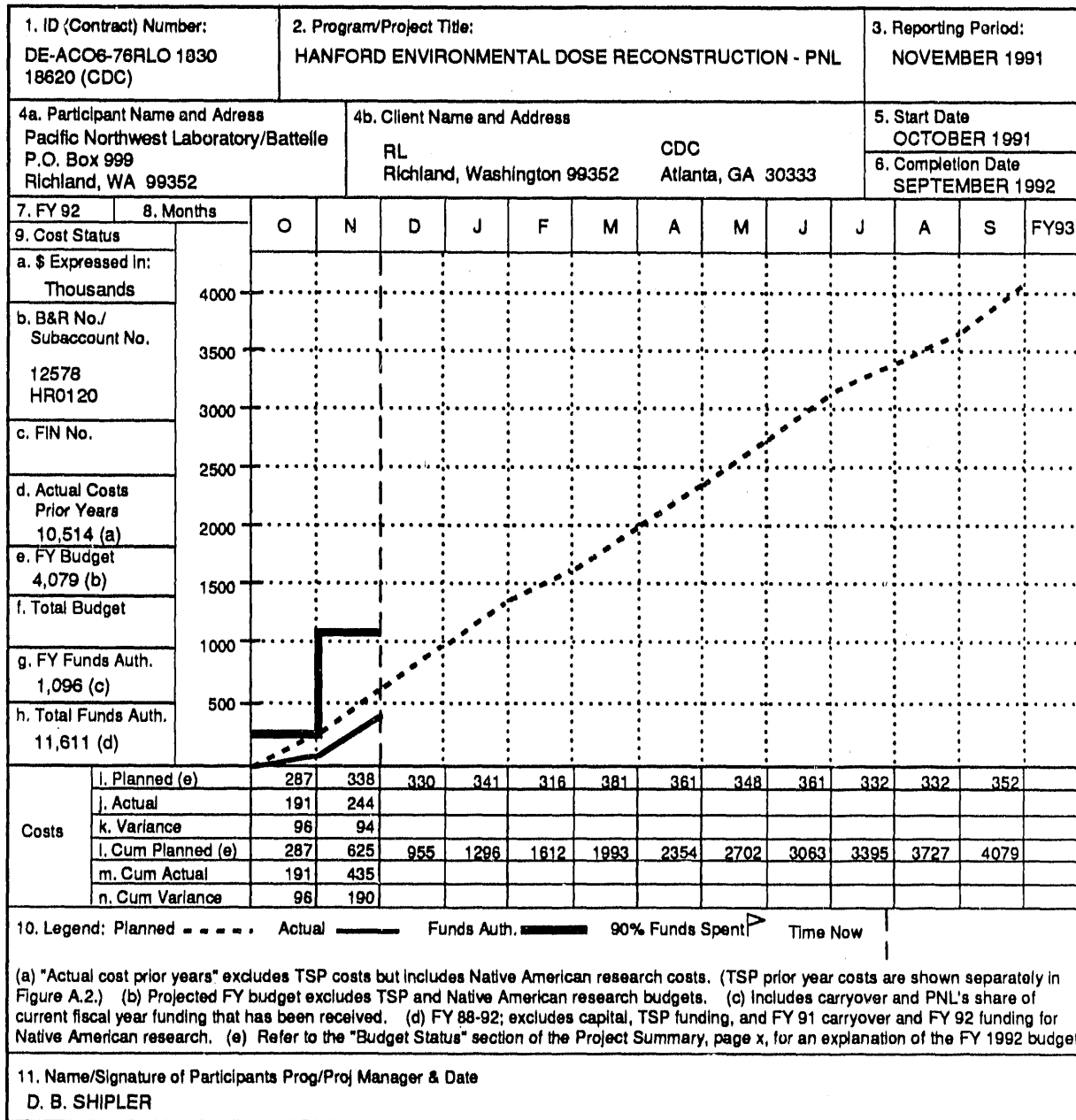


FIGURE 2. HEDR Project Budget Status - Pacific Northwest Laboratory

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## **Task 01 PNL Project Management**

### **Objective**

The objective of the PNL Project Management Task is to provide project planning, control, and management of PNL dose reconstruction work in accordance with TSP direction.

---

### **Progress**

***Milestone 0101C - Project Management Plan, due September 1991 and rescheduled to February 1992***

- began addressing internal peer review comments on the Project Management Plan

### **Other Activities**

- received word from DOE Richland Field Office (RL) staff who have talked with DOE-EH (at DOE Headquarters in Washington, D.C.) that \$1 million for the first quarter of FY 1992 has been credited to the HEDR Project account
- met with members of the TSP Native American Working Group. A letter was sent to TSP Chairman J. Till describing a process and alternatives for how Native Americans might work with HEDR staff to reduce tribal data, calculate doses, and evaluate results, including sensitivity analyses. The process will be discussed at a Working Group meeting in December.
- sent a letter to TSP Chairman J. Till, at his request, responding to written questions by a Hanford Education Action League (HEAL) member. The questions concerned activities described in the June and July monthly reports. Another letter was sent to J. Till

addressing the status of documents requested by HEAL to be reviewed and declassified.

- sent a letter to J. Till describing the distribution of FY 1991 carryover funds to complete TSP-approved work that was not completed in FY 1991
- sent outlines for the four major reports to be published in January to J. Till for comment. The reports describe the revised atmospheric dispersion model, the revised dose estimation code, and work on the Columbia River and groundwater exposure pathways, respectively.
- began preparing the proposal to continue project work under the Centers for Disease Control (CDC). Battelle Contracts staff have requested an extension of the CDC proposal due date from December 13 to December 31 because of CDC's new focus on tasks rather than just milestones, which will require more detailed work descriptions.
- gave three HEDR-related presentations at the annual meeting of the Society of Environmental Toxicology and Chemistry in Seattle: one summarizing the project, one on the use of the Geographic Information System for analyzing and displaying project data, and the third on communicating risk to non-scientists

## **Major Problem Areas or Changes and Action Taken**

Work in Tasks 05, 06, and 07 has been delayed because of staff unavailability. Completion of other critical milestone inputs is being jeopardized as well. Battelle has conducted an aggressive recruiting effort for appropriately qualified and experienced environmental scientists and environmental health physicists for more than a year, without great success. This problem is not just for the HEDR Project or the Hanford Site, but for the entire United States. In addition, the HEDR Project's need for environmental health physicists who are familiar with the radiological history and practices of the Hanford Site narrows the selection even further.

## **Variance**

The cumulative cost underrun was caused by less report production and records control activities than anticipated. Activity will increase with the upcoming reports.

## **Planned Work for the Next Three Months**

- complete Project Management Plan
- complete and submit proposal to the CDC to continue project work



## Task 02 Technical Integration

### Objective

The objective of the Technical Integration Task is to provide technical overview of the project to ensure that appropriate technical activities are planned, that appropriate information is generated, that technical task work is integrated effectively for performing the final dose calculations, and that quality technical products are produced to meet requirements.

### Progress

**Milestone 0202A - Draft Code Design Specifications, due April 1991 and rescheduled to January 1992**

- received internal clearance on this report and began preparing it for transmittal to the TSP for review

**Milestone 0203B - Submit Hanford Scenario to VAMP, due FY 1991 and rescheduled to March 1992**

- identified data sets for terrestrial vegetation, milk, and human exposure for the 1963 PUREX Plant accidental release of iodine-131. These data sets are being organized for submission to the International Atomic Energy Agency as a test case for the Validation of Model Predictions (VAMP) model validation exercise.

**Milestone 0204B - Letter Report: Recommendation on Modeling or Monitoring Approach for River Pathway, due FY 1993**

- continued developing decision analysis techniques for project application. Worked with staff to structure and organize an example application on sufficiency of monitoring data for dose calculations for the Columbia River exposure pathway.

### Other Activities

- attended a meeting of the HEDR Native American Working Group in Richland to discuss potential tribal work scope and project involvement

### Major Problem Areas or Changes and Action Taken

None.

### Variance

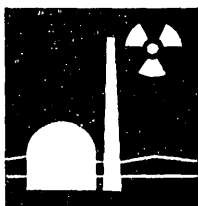
The cumulative cost underrun was caused by a delay in starting work on Milestone 0205A, Letter Report: Updated Design Specifications. This delay is not expected to impact the schedule.

### Planned Work for the Next Three Months

- begin efforts to prepare project data management plan (Milestone 0204A)
- attend Native American Working Group meetings

- submit outline for VAMP Hanford scenario (Milestone 0203B)
- continue coordinating efforts with Hanford Thyroid Disease Study personnel
- coordinate with Surface Water Modeling Subtask to develop recommendation on sufficiency of monitoring data for surface water dose calculations





## Task 03 Source Terms

### Objective

Source terms are the amount and type of radioactive materials released to the environment. The objective of the Source Terms Task is to develop estimates of radioactive emissions since 1944 from Hanford facilities based on historical measurements and production information. Source term estimates are used by Environmental Transport Task members to reconstruct the concentrations of radionuclides in the environment.

### Progress

**Milestone 0302A - Documented Phase I Iodine-131 Releases, due May 1991 and rescheduled to February 1992**

- developed a method for dealing with the problem of the power peaking factor associated with discharged fuel. This factor determines iodine-131 content. The method involves calculating a discharge average power trajectory with uncertainty based upon measured data on pile power flattening. This provides an estimate of the peaking factor for each fuel element discharge. Uncertainty in the trajectory will be treated stochastically, i.e., 100 "realizations" of the peaking factor will result. This data will be used as an input file to the existing Source Term Release Model, which models all other source term uncertainties.

**Milestone 0303A and 0304A - Documented Significant Airborne Radionuclides, 1944-1957, and Documented Significant Waterborne Radionuclides, 1944-1957, due July 1991, rescheduled to November 1991, and completed**

- issued two letter reports on airborne and waterborne release references

### Other Work

- located reactor daily operating data and identified sporadic references providing quantitative information covering separations plant operation. Began defining a chronology of target goal exposures, which will enable a reconstruction of amounts of fuel available for reprocessing from the daily reactor operating data. This work is required to fill in gaps in separations plant data.

### Major Problem Areas or Changes and Action Taken

Milestone 0302A, the iodine closure document, will be delayed until February. This will have no impact on Task 04 air transport model requirements. The delay is caused by unanticipated detail that the data provide, and staff are taking this opportunity to make the highest quality release estimates.

Work on Milestones 0307A and 0307B (letter reports on Hanford operations, 1944-1991) was delayed while work focused on completing Milestone 0302A. The same applies to Milestone 0304B, surface-water source terms report.

## **Variance**

The cumulative underrun was caused by a delayed start on Milestones 0307A and 0307B, as explained under "Major Problem Areas or Changes and Action Taken."

## **Planned Work for the Next Three Months**

- complete the iodine closure document
- update the source term bibliographic database
- begin construction of reactor and separation facility operations database
- begin work on methods for river release estimation



## Task 04 Environmental Transport

### Objective

The objective of the Environmental Transport Task is to reconstruct the movement of radioactive materials (the source term information) from the areas of release to the environment. Radionuclide movement via the atmosphere, Columbia River, and groundwater are studied.

### Progress

**Milestone 0402A - Wind Field Modeling White Paper, due FY 1991 and rescheduled to March 1992**

- received peer review comments. Revision is being delayed until input is available from the Source Terms Task that will permit evaluation of the uncertainty in dispersion estimates associated with uncertainty in release times.

**Milestone 0402B - Atmospheric Model Documentation Report, due December 1991 and rescheduled to February 1992**

- continued development, which is nearly complete

**Milestone 0402D - Meteorological Data Report, due December 1991 and rescheduled to March 1992**

- continued entry of meteorological data for 1944 - 1947. Additional meteorological data needed for the extended model domain have been ordered from the National Climatic Data Center.

**Milestone 0403A - Groundwater Report, due December 1991 and rescheduled to January 1992**

- continued writing report

**Milestone 0404A - Columbia River Pathway Summary Report, 1944-1989, due December 1991 and rescheduled to March 1992**

- continued evaluation and sorting of data for the river pathway below McNary Dam (Wallula Gap). A separate summary in the report is being prepared for the monitoring data collected between Priest Rapids and McNary dams. The data are being sorted first with respect to location (e.g., McNary to Bonneville, Bonneville to Pacific Ocean). Under each location, the data are being sorted into specific locations (e.g., Astoria) and water, sediment, and biota concentrations.

The report chapter that summarizes the available data will identify the reasons for sampling and methods of analysis.

### Major Problem Areas or Changes and Action Taken

Development and documentation of the atmospheric transport code are still behind schedule. With the current level of effort, this work will continue to be behind schedule until completed in February.

Evaluation and summary of river data are still behind schedule. This slip will affect the documentation schedule (Milestone 0404A).

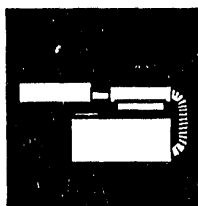
Progress on Milestones 0402A and 0402D has been deferred so as not to impact Milestone 0402B (atmospheric model report), which is scheduled to be provided to the TSP before its February meeting. This shifting of work was agreed to by the TSP in October 1991.

### **Variance**

No significant cumulative variance.

### **Planned Work for the Next Three Months**

- complete the wind field modeling report (Milestone 0402A)
- complete restructuring of the atmospheric model code (Milestone 0402B)
- complete groundwater pathway report (Milestone 0403A)
- complete Columbia River pathway report (Milestone 0404A)
- continue work on databases for use with the revised atmospheric model



## Task 05 Environmental Monitoring Data

### Objective

The objective of the Environmental Monitoring Data Task is to search, retrieve, evaluate, and summarize key historical measurements of the concentrations of radionuclides in the environment around the Hanford Site. Radionuclide concentrations have been measured at various times in air, drinking water, foods, fish, the Columbia River, soil, and in other materials. These measurements are evaluated to estimate their accuracies and then used by the Environmental Pathways and Dose Estimates Task to estimate radiation doses and by the Environmental Transport Task to calibrate and validate computer models.

### Progress

**Milestone 0501A - Environmental Monitoring Data Final Report, due December 1991 and rescheduled to February 1992**

- initiated the incorporation of final revisions based on initial TSP reviews. A final draft for HEDR Project Office and editorial review is expected to be ready in January.

**Milestone 0502A - Vegetation Data Report, due FY 1991 and rescheduled to March 1992**

- continued working on the draft version of this report

**Milestone 0502B - Vegetation Monitoring Data (1948-1951), Bias and Data Correction, due February 1992 and rescheduled to March 1992**

- waiting to receive draft report from subcontractor

**Subtask 0503 - Monitoring Document Search and Inventory**

- continued work on monitoring document search and inventory activities. Details necessary to finalize a subcontract in support

of this activity are nearing completion. Staff are expected to be available in December.

**Subtask 0504 - Surface-Water Monitoring Data**

- continued preparing a summary of the Hanford-oriented Columbia River monitoring activities for the time period 1944 through 1990. This summary will be included in Milestone 0404A, Columbia River Pathway Summary Report.

### Major Problem Areas or Changes and Action Taken

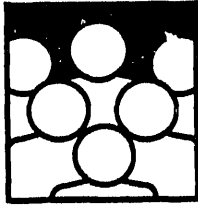
Milestones 0501A (Environmental Monitoring Data Final Report) and 0502A (Vegetation Data Report) continue to be delayed because of staff unavailability (see "Major Problem Areas or Changes and Action Taken" in Task 01, page 1.2).

### Variance

The cumulative cost underrun was caused by delays in the establishment of subcontract work orders and in the lag time associated with the subcontract billing process. All subcontracts are expected to be in place and costs associated with their activities will enter the system in December.

**Planned Work for the Next  
Three Months**

- finalize Phase I report (Milestone 0501A, Environmental Monitoring Data Report)
- complete the summary of the available river monitoring data for inclusion into Milestone 0404A
- complete the vegetation monitoring data report (Milestone 0502A)



## **Task 06 Demography, Food Consumption and Agriculture**

### **Objective**

The objective of the task is to develop the demographic, food consumption, and food production and distribution information needed to estimate doses. Demographic information for populations that may have been exposed to radionuclides during the time period of interest is developed for the general population and for several special population groups that are not adequately represented by the U.S. Census.

Sources and quantities of food and water consumed by these populations will be estimated. Milk produced from cows represents a significant food pathway for iodine-131 if the cows ate vegetation contaminated with radionuclides. Dairy farming practices and milk distribution systems are studied to identify the populations that may have consumed potentially contaminated milk. Production administration of exposed fruits and vegetables are also studied.

---

### **Progress**

***Milestone 0601A, 0601B, and 0601C - Population, Food Consumption, and Milk Distribution Estimates Final Reports, due December 1991 and rescheduled to February 1992***

- continued addressing TSP comments on these Phase I reports

***Milestone 0603A - Phase I Milk Report Addendum, due FY 1991 and rescheduled to January 1992***

- included most of this information in Milestone 0601C. Additional information was gathered by two expert judges.

***Milestone 0603B - Letter Report on Milk Outside Phase I, due FY 1991 and rescheduled to February 1992***

- milk production and distribution data were collected and analyzed by Washington State

University's (WSU's) Social and Economic Sciences Research Center for areas outside of the Phase I area.

***Milestone 0603D - Milk Production/Distribution Report, 1994-1991, due FY 1993***

- held discussions with TSP member D. Price at WSU to define the composition of the agricultural producer survey and to identify members of the survey design team

***Subtask 0605 - Native American data***

- organized and participated in conference calls to discuss plans for preparation of scoping papers, one of the activities anticipated for the period after CDC assumes control of the tribes' HEDR contracts but before the integrated contracts are in place. Conference calls were with staff from the Hanford Thyroid Disease Study and the Indian Health Service Public Health Practice Program.

- met with TSP and Washington State Department of Ecology staff in Richland and Olympia to review plans for hands-on tribal involvement in data reduction and analysis, scoping studies, preparation for tribal participation in the sensitivity analysis workshops scheduled for May, 1992, and Native American Working Group adoption of the policy statement or data and document release
- discussed data entry procedures and other quality issues regarding the compilation of food consumption and population data that have been gathered to date by the Colville, Umatilla, and Kalispel Tribes
- reviewed and commented on a revised draft of the Kalispel Tribe survey form on food consumption and agricultural practices
- reviewed a draft of the Yakima Tribe survey form on food consumption

### **Major Problem Areas or Changes and Action Taken**

Survey work to reconstruct agricultural distribution patterns has been delayed because contracts are not yet in place with Washington State University. The University will conduct the work under subcontract to Battelle.

The TSP Native American Working Group has not yet established a process agreeable to the tribes on discussing, documenting, and releasing information related to Native American data and dose estimates. Consequently, Battelle is delaying release of tribal dose estimates until an agreement is reached.

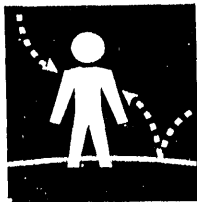
### **Variance**

The cumulative cost underrun was caused by a delay in placing subcontracts for FY 1992 work in Subtask 0603, Milk and other Food Model Development, and by less-than-anticipated support for the Native American work.

### **Planned Work for the Next Three Months**

- complete Phase I reports
- review tribal interview guides for the Warm Springs Tribe
- review preliminary tribal food consumption data
- contribute to development of the Native American Continuing Research Plan
- contribute to discussions concerning integration of HEDR with the Hanford Thyroid Disease Study and the Public Health Practice Training program





## Task 07 Environmental Pathways and Dose Estimates

### Objective

The objective of the task is to use calculated and measured concentrations of radionuclides provided by members of the Environmental Transport Task and the Environmental Monitoring Data Task to calculate doses to populations, representative individuals, and specific individuals. These calculations include doses via direct transfer of radionuclides from concentrations in air and water to people (such as via breathing, drinking, and immersion). The calculations also include doses from radionuclide concentrations in air and water transferred through environmental pathways, such as soil, plants, animals, and fish, to people.

### Progress

**Milestone 0702A - Documentation Report of Air Exposure Pathways and Dose Code, due December 1991 and rescheduled to February 1992**

- completed initial coding of the environmental pathways model, including a restructuring of the input section to provide more efficient input of parameter values. The code was tested with best-estimate input parameters on a 31 x 31 spatial grid using air concentration and deposition data for 33 days (beginning on December 26, 1944) provided by Task 04 HEDR atmospheric transport staff. The code now runs significantly faster than it did prior to restructuring the input section, and it has proven to be much easier to "debug" and test.

Coding of the individual dose model continued and is nearing completion. Development has begun on a post-processor and report generator program that will read the binary results from the individual dose code. The post-processor will produce a tabular report that lists and summarizes total dose or selected dose components received by an individual over a specified time period. It will also be capable of accessing and reporting environmental and food product

concentrations produced by the environmental pathways model.

Work was begun on the report documenting the revised codes.

**Milestone 0703A - Letter Report: Iodine-131 Parameters and Dose Factors, Phase I, due November 1991 and rescheduled to February 1992**

- awaiting technical review on draft letter report, which was completed in October

**Milestone 0703B - Letter Report: Iodine-131 Parameters and Dose Factors, Revised Model, due February 1992**

- continued literature review and documentation of iodine-131 parameters and dose factors

### Major Problem Areas or Changes and Action Taken

Implementation and testing of the revised air pathway code has continued to take longer than expected. This has resulted in extending the milestone due date for documentation (Milestone 0702A).

Task work in general has been delayed by staff unavailability and difficulties recruiting new staff (see "Major Problem Areas or Changes and Action Taken" in Task 01, page 1.2).

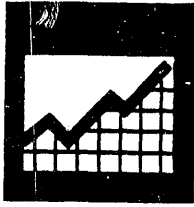
### **Variance**

The cumulative cost overrun was caused by competing responsibilities in other projects.

### **Planned Work for the Next Three Months**

- complete documentation on revised air pathway code (Milestone 0702A)

- transfer and convert the code and data to the Sun-4 computer
- complete literature search and documentation of iodine-131 parameters and dose factors for revised air pathway code (Milestone 0703)
- complete the parameter selection sub-model
- Meet with Hanford Thyroid Disease Study personnel to gather information to help in determining the structure of the individual data input sub-model of the revised air pathway code



## Task 08 Statistics

### Objective

The objective of the task is to provide statistical support to other technical tasks and develop and apply sensitivity and uncertainty analyses. Sensitivity analyses will be used to identify parameters with the greatest influence on dose estimates. Sensitivity analyses results will be used to focus resources where the benefit in terms of accurate dose estimates is greatest. Uncertainty analyses enable the project to determine the extent to which the accuracy and precision of the dose estimates are influenced by accuracy and precision in the input parameters.

---

### Progress

**Milestone 0802A - Iodine-131 Conversion Factor Report, due September 1991 and rescheduled to February 1992**

- conducted statistical analyses and graphic summaries. Completed writing the draft report; distributed the report to coauthors and other statisticians for review before final revision and transmittal to the HEDR Project office.

### Other Activities

- met with staff from Task 07 (Environmental Pathways and Dose Estimates) to discuss progress on model parameters report and assist with statistical aspects; provided written comments on latest partial draft of the report
- organized HEDR Project program of invited speakers for a 1-day session at the workshop "Statistical Issues in Environmental Modeling and Monitoring" to be held at the National Institute of Statistical Sciences (NISS), Research Triangle Park, North Carolina, December 9-10, 1991

### Major Problem Areas or Changes and Action Taken

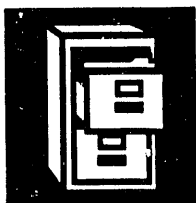
None.

### Variance

The cumulative cost underrun was caused by required travel on other projects.

### Planned Work for the Next Three Months

- complete Milestone 0802A, iodine-131 conversion factor report, for HEDR Project review before transmittal to the TSP, and revise report based on TSP comments
- participate in NISS workshop in December
- assist in preparing Milestone 0703A report on iodine-131 parameter and dose factors used in phase I
- review latest project network design
- initiate planning for workshop on sensitivity, uncertainty, verification, and validation □



## **Task 09 Records Management**

### **Objective**

The objective of the Records Management Task is to provide storage and control of completed project records, maintain an automated inventory of all project documentation, and provide a reference service to project staff and the TSP.

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### **Progress**

- received project records from the HEDR Project Office (107 records/2,390 pages)
- verified, processed, and stored project records (63 records/2,772 pages)
- transferred two packages of records to the RL Public Reading Room (14 records/259 pages)
- provided a copy of the database to "downwinder" attorneys for current litigation work, at their request

### **Major Problem Areas or Changes and Action Taken**

None.

### **Variance**

The cumulative cost underrun was caused by less-than-anticipated records management activities.

### **Planned Work for the Next Three Months**

- continue processing incoming project records and transferring processed project records to the RL Public Reading Room
- contact CDC staff to determine whether Battelle's records management procedures agree with CDC's requirements and, if there are any discrepancies, make appropriate changes to the procedures
- incorporate the record tracking information for the project office prior to 8/89 onto the current database



## Task 10 Quality Assurance

### Objective

The objective of this task is to ensure continuous quality assurance (QA) support and coordination with all project tasks. This objective is met through the identification and documentation of QA requirements in the form of a QA Plan and periodic monitoring of project activities during the life of the project to ensure compliance with these requirements.

---

### Progress

*Milestone 10B - Internal Audit Report, rescheduled to October 1991, and completed*

- resolved issues regarding the corrective action response to Battelle's internal audit report. The primary issue regarding the corrective actions proposed was that the audit response did not identify when the verification activities would be completed. The response has been revised to indicate verification activities will be performed by the end of April, 1992.

### Other Work

- revised software requirements documents for the several computer codes that the HEDR Project uses

### Major Problem Areas or Changes and Action Taken

None.

### Variance

The cumulative cost underrun was caused by staff unavailability.

### Planned Work for the Next Three Months

- issue remaining HEDR procedure: HEDR-TP-3, "HEDR Documentation of Critical Decisions"
- develop action tracking procedure to be used for documenting results of meetings with technical staff
- continue performing oversight activities to check for compliance to technical, QA, and data quality objective requirements



## Task 11 Information Resources

### Objective

The objective of the Information Resources Task is to work with other tasks to meet information needs, including ensuring that all data referenced in the reports are publicly available and establishing a microcomputer-based tracking system for ready retrieval of historical information.

---

### Progress

#### *Subtask 1102 - Declassification*

- declassified 99 Hanford Site-originated documents, 34 of which are of potential interest/use to the project. Table 11.1 shows the status of declassification to date.
- prepared a memorandum for the HEDR Project Office, which was then transmitted to the TSP, detailing review results of a July 1991 request for specific documents

#### *Subtask 1103 - Resource Identification and Availability*

- added new citations to the tracking system that now contains more than 5,000 citations
- provided the RL Reading Room with 41 documents of potential interest/use in the HEDR Project. A title listing of these reports is given in Appendix B.
- completed verification of TSP member B. Shleien's annotated bibliography
- continued to identify and collect separations processes operating information for years 1948 forward. There are gaps in the daily information for B and T Plants and a sparse amount of daily data for the REDOX and PUREX Plants.

### RL Public Reading Room Activity

- in November, the RL Reading Room had 5 HEDR users and distributed 50 HEDR reports

### Major Problem Areas or Changes and Action Taken

At the direction of the HEDR Project Manager, S. Gydesen is now focusing on searching for source terms information to be used by Task 03 staff. Consequently, declassification activities have been shifted to declassifiers in the PNL Classification Office. Additional staff are being recruited who will be authorized to declassify documents.

### Variance

No significant cumulative variance.

### Planned Work for the Next Three Months

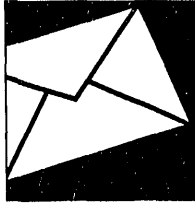
- from the prioritized list of Hanford Site originated classified documents, declassify with or without deletions, those documents reviewed by TSP members and identified as being of use to the project
- identify and collect documents that address reactor purges, 1944-1971

**TABLE 11.1. Declassification by Task 11 Staff of Hanford-Originated Documents**

<u>Documents Declassified</u>	<u>Hanford Historical</u>	<u>HEDR-Related<sup>(a)</sup></u>
March 1987 - September 1987 (FY 1987)	35	27
October 1987 through September 1988 (FY 1988)	52	37
October 1988 through September 1989 (FY 1989)	186	177
October 1989 through September 1990 (FY 1990)	455	236
October 1990 through September 1991 (FY 1991)	1,323	599
October 1991 through November 1991 (FY 1992)	<u>121</u>	<u>50</u>
TOTAL (March 1987 - November 1991) <sup>(b)</sup>	2,172	1,126

- (a) Reported in HEDR monthly reports and included in a HEDR master listing in the RL Public Reading Room. Some of these are from the list requested by the TSP and the public.
- (b) Of the original title listing/selected by the TSP to be declassified (1,450 documents), 116 documents remain to be declassified.

- continue to add to the information resources tracking database and provide documents to the RL Public Reading Room in an orderly, timely fashion
- look for information that may explain in detail, and support data in, "green run" document HW-17381 DEL
- identify significant documents that address fuel element failures that occurred in now decommissioned Hanford production reactors
- continue to develop "packing lists" for boxes of retired Hanford records of potential interest/use to the project
- identify and retrieve data on ruthenium releases from separations processes



## **Task 12 TSP Communications Support**

### **Objective**

The objective of this task is to assist the TSP in developing and implementing communications strategies to further establish an effective, informative dialogue with interested audiences, provide public and media relations support, and manage activities that foster a better understanding of the HEDR process and its progress.

---

### **Progress**

**Milestone 1202B - Videotape, due July 1991, rescheduled to October 1991, and completed**

- completed changes to the TSP videotape, which were prompted by CDC comments, and duplicated nearly 500 half-inch labeled and boxed videotapes to TSP communications Subcommittee staff for distribution

### **Other Activities**

- received copies of revised TSP fact sheets numbers one through three and distributed them to HEDR staff for review. Comments were returned to the TSP Communications Subcommittee.
- conducted planning and review session with TSP Communications Subcommittee staff on upcoming focus groups activities, progress on TSP videotape distribution, and poster development. HEDR staff participated in a conference call with TSP staff to provide input on survey analysis and strategies for conducting focus groups in FY 1992.
- provided general information to the DOE Richland Field Office, Office of Communications, in response to a citizen's

question regarding the HEDR Project and the Hanford Thyroid Disease Study. Referred them to the toll-free telephone number for additional materials and mailing list registration.

### **Major Problem Areas or Changes and Action Taken**

None.

### **Variance**

The cumulative cost underrun was caused by less TSP communications support than anticipated.

### **Planned Work for the Next Three Months**

- assist the TSP in planning and development of focus groups and TSP poster
- attend TSP Communications Subcommittee meeting in December



**Appendix A**  
**Milestones, Schedule and Costs**

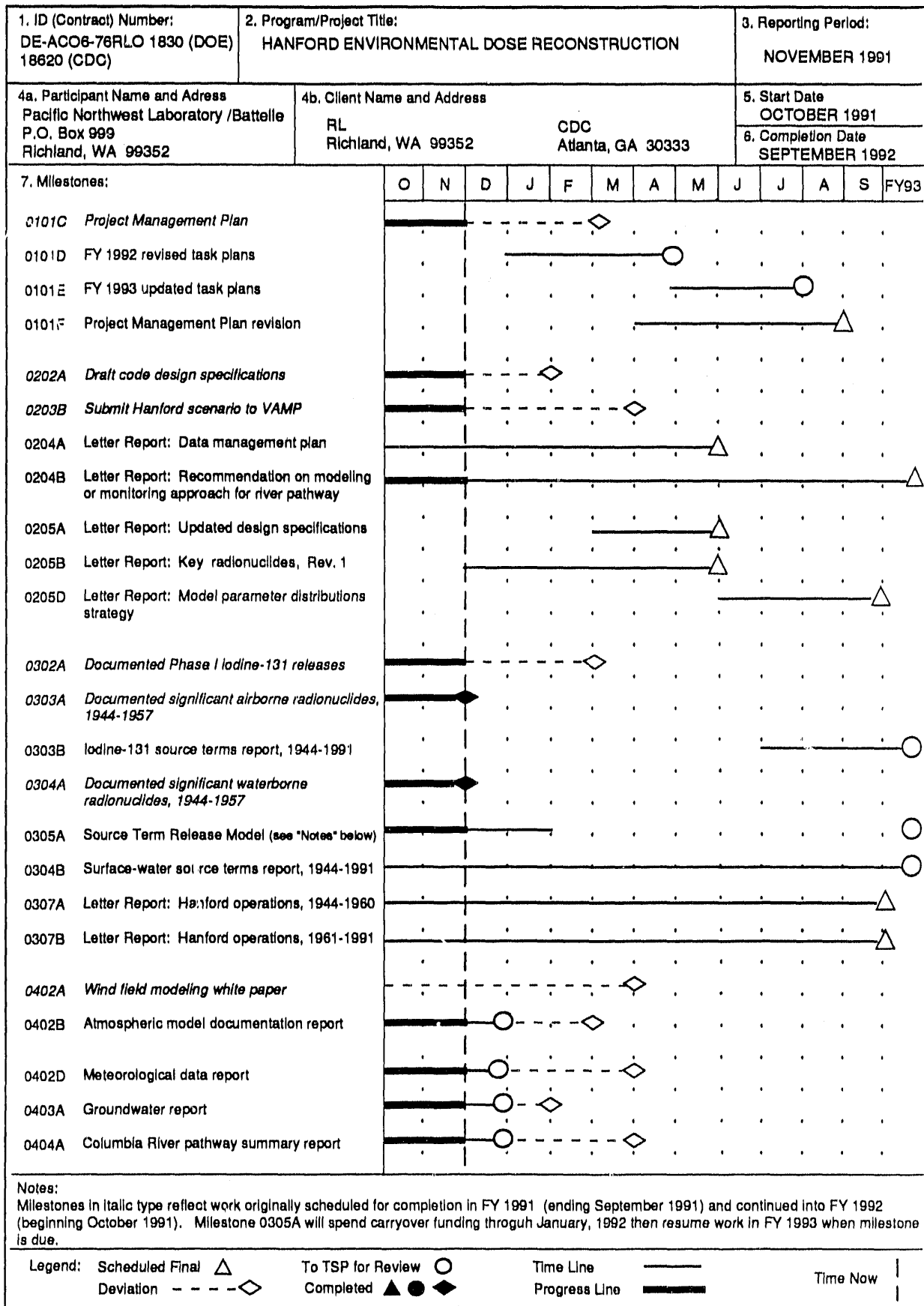


FIGURE A.1. HEDR Project Milestones

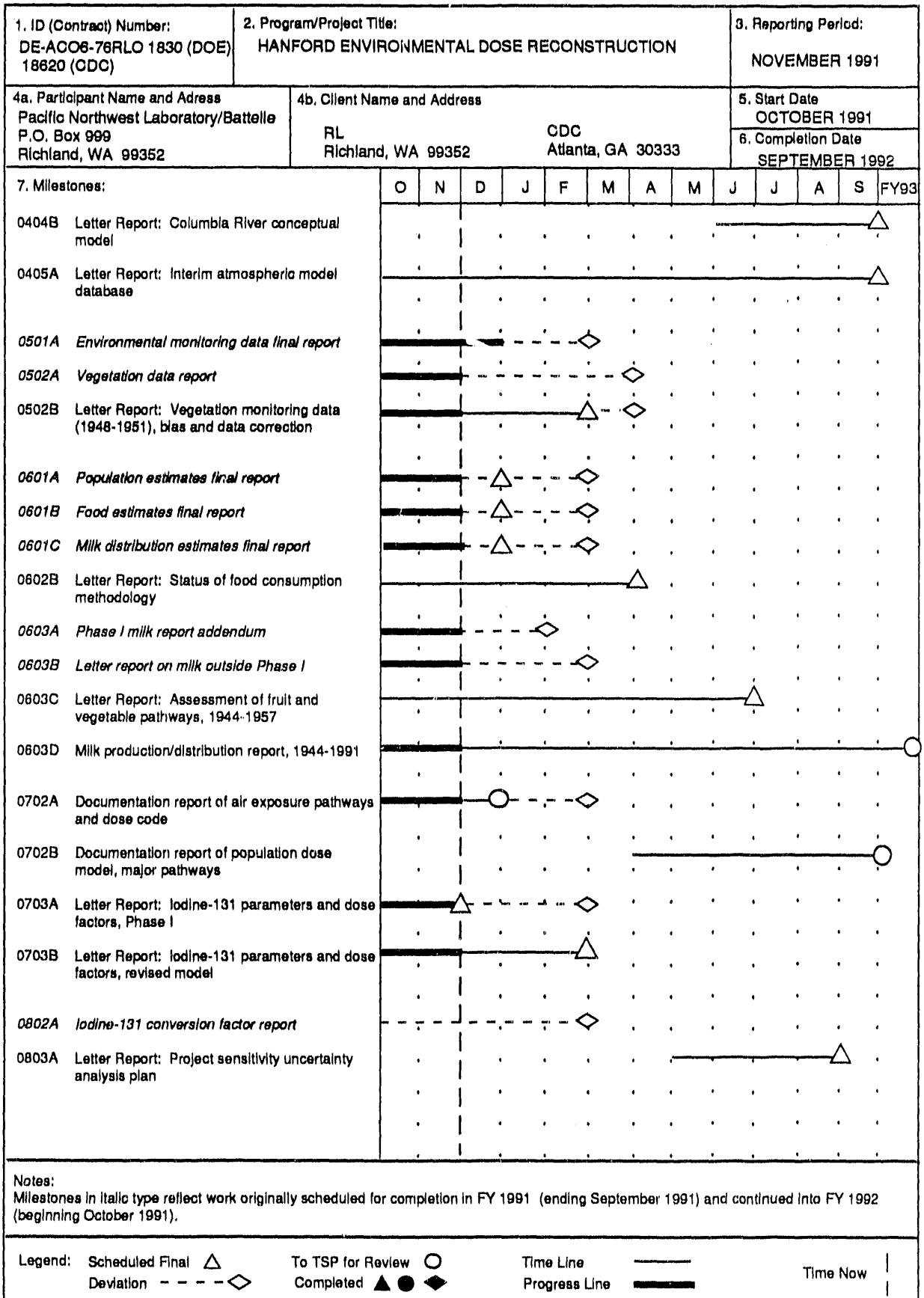


FIGURE A.1. HEDR Project Milestones (contd)

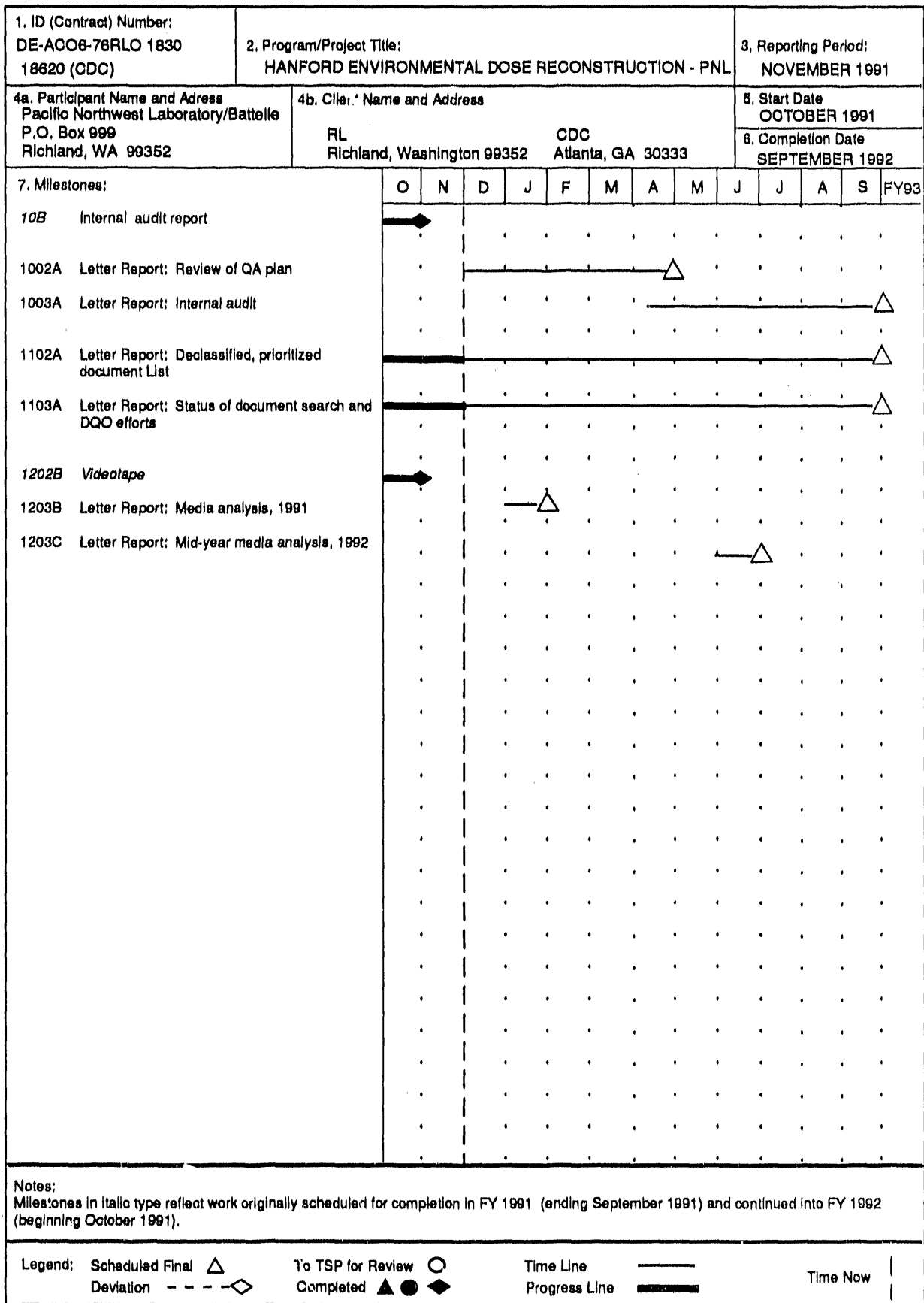


FIGURE A.1. HEDR Project Milestones (contd)

TABLE A.1. Cost Summary (Dollars in Thousands)

	November 1991			FY 1992 to Date (October 1991 - September 1992)				Budgeted FY Labor Hours		
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum Planned Variance		TSP (c) Approved FY Budget	
<b>HEDR Project Tasks</b>										
Task 01 - Project Management (d)										
0101 Project Planning & Control	37	0	37	63	9	72	101	29	722	7,566
0102 Final Phase I Reports	1	0	1	3	0	3	5	2	12	250
0103 Project Administration	18	7	25	36	12	48	64	16	379	5,271
0104 Project Peer Review	5	1	6	7	0	7	0	-7	14	120
Subtotal Task 01	61	8	69	109	21	130	170	40	1,128	13,207
Task 02 - Technical Integration										
0201 Tech Planning/Control/Rep	3	1	4	13	1	14	11	-3	66	664
0204 Proj Tech Cord /Analysis	4	1	5	5	1	6	13	7	78	785
0205 Path & Dose Model Require	1	0	1	5	0	5	20	15	131	1,335
Subtotal Task 02	8	2	10	23	2	25	44	19	274	2,784
Task 03 - Source Terms										
0301 Tech Planning/Control/Rep	1	5	6	9	5	14	13	-1	54	475
0302 Closure of Ph I Iodine Rel	0	0	0	0	0	0	3	3	5	54
0304 Rad Releases to Water	0	0	0	1	0	1	3	2	99	870
0305 Source Term Release Model	2	0	2	2	0	2	3	1	5	54
0307 Rad Release Data Avail/Rev	18	3	21	21	3	24	33	9	182	2,154
Subtotal Task 03	21	8	29	33	8	41	55	14	344	3,607

TABLE A.1. Cost Summary (Dollars in Thousands)

	November 1991			FY 1992 to Date (October 1991 - September 1992)				Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Cum(b) Planned	TSP (c) Approved FY Budget	
Task 04 - Environmental Transport								
0401 Tech Planning/Control/Rep	0	0	0	1	0	0	56	576
0402 Atmospheric Model Develop	27	1	28	44	1	22	214	2,228
0403 Groundwater Transport	5	0	5	10	0	32	61	684
0404 Surface Water Transport	8	1	9	15	0	19	114	1,224
0405 Atmospheric Model Databas	0	1	1	1	0	8	72	940
0406 Atmospheric Model Calculat	0	0	0	0	0	0	31	355
Subtotal Task 04	40	3	43	71	1	81	547	6,007
Task 05 - Environmental Monitoring Data								
0501 Tech Planning/Control/Rep	2	0	2	5	0	7	43	394
0502 Terrestrial Monitoring Data	2	0	2	5	0	21	67	621
0503 Environmental Monitoring Dai	0	0	0	0	0	9	44	518
0504 Surface-Water Monitoring	6	0	6	9	0	13	15	186
Subtotal Task 05	10	0	10	19	0	50	169	1,719
Task 06 - Demography, Food Consumption & Agriculture								
0601 Tech Planning/Control/Rep	0	0	0	6	0	6	40	421
0602 Food Consumption	0	0	0	0	0	3	60	512
0603 Milk/Other Food Model Dev	0	0	0	1	1	35	340	1,481
0605 Native American Data	0	8	8	0	8	18	100	309
Subtotal Task 06	0	8	8	7	9	62	540	2,723

TABLE A.1. Cost Summary (Dollars in Thousands)

	November 1991			FY 1992 to Date (October 1991 - September 1992)			TSP (c) Approved FY Budget	Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$		
Task 07 - Environmental Pathways & Dose Estimates								
0701 Tech Planning/Control/Rep	2	0	2	6	0	6	3	55
0702 Path & Dose Code Dev/Doc	16	1	17	32	5	37	-3	1,924
0703 Path & Dose Model Paramet	5	0	5	8	0	8	8	466
0705 Dose Calculations	0	0	0	0	0	0	2	412
Subtotal Task 07	23	1	24	46	5	51	10	3,393
Task 08 - Statistics								
0801 Tech Planning/Control/Rep	3	0	3	5	2	7	1	50
0802 Stats Support for Tech Work	12	0	12	15	0	15	9	1,234
0803 Analysis of Model Reliability	13	0	13	18	0	18	4	1,639
Subtotal Task 08	28	0	28	38	2	40	14	3,282
Task 09 - Records Management								
0901 Tech Planning/Control/Rep	1	0	1	1	0	1	1	19
0902 Project Records Management	2	0	2	5	0	5	2	1,632
Subtotal for Task 09	3	0	3	6	0	6	3	1,933
Task 10 - Quality Assurance								
1001 Tech Planning/Control/Rep	2	0	2	4	0	4	2	374
1002 QA Program Development	0	0	0	0	0	0	1	245
1003 QA Verification	1	0	1	0	0	0	2	184
Subtotal Task 10	3	0	3	4	0	4	5	803

TABLE A.1. Cost Summary (Dollars in Thousands)

	November 1991			FY 1992 to Date (October 1991 - September 1992)				TSP (c) Approved FY Budget	Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Cum(b) Planned	Cum Variance		
<b>Task 11 - Information Resources</b>									
1101 Tech Planning/Control/Rep	3	0	3	7	0	7	0	40	966
1102 Hanford Document Declass	3	0	3	5	0	5	0	52	1,179
1103 Hanford Info Resources Iden	7	0	7	12	0	13	1	65	1,141
Subtotal Task 11	13	0	13	24	0	24	1	157	3,286
<b>Task 12 - TSP Communications Support</b>									
1201 Tech Planning/Control/Rep	2	0	2	4	0	4	-2	29	482
1202 TSP Public Outreach Support	0	0	0	0	0	0	2	10	52
1203 Comm Assessment Research	2	0	2	2	0	2	0	14	134
1204 TSP Meeting/Material Sup	0	0	0	1	0	1	2	26	152
Subtotal - Task 12	4	0	4	7	0	7	2	79	820
<b>Subtotal, HEDR Project Tasks</b>	<b>214</b>	<b>30</b>	<b>244</b>	<b>387</b>	<b>48</b>	<b>435</b>	<b>190</b>	<b>4,049</b>	<b>43,564</b>
Management Reserve	0	0	0	0	0	0	0	30	0
<b>Subtotal, Project Tasks Plus Management Reserve</b>	<b>214</b>	<b>30</b>	<b>244</b>	<b>387</b>	<b>48</b>	<b>435</b>	<b>190</b>	<b>4,079</b>	<b>43,564</b>



TABLE A.1. Cost Summary (Dollars in Thousands)

	November 1991		FY 1992 to Date (October 1991 - September 1992)				Budgeted FY Labor Hours		
	Labor \$	Non- Labor \$(a)	Total \$	Labor \$	Non- Labor \$(a)	Total \$ Planned		Cum Approved FY Budget	Variance
Technical Steering Panel (e)	0	45	45	0	47	47	73	300 (f)	0
Native American Research	0	0	0	0	0	0	44	110 (f)	0
<b>TOTAL</b>	<b>214</b>	<b>75</b>	<b>289</b>	<b>387</b>	<b>95</b>	<b>482</b>	<b>307</b>	<b>4,489</b>	<b>43,564</b>

- (a) Non-labor dollars include expenses such as travel, publication production, procurements, and subcontracts.
- (b) The monthly planned amounts are given in the cost section of Figures 2, A.2, and A.3, pages xi, A.9 and A.10, respectively.
- (c) "TSP approved FY Budget" is the approved FY 1992 budget from the FY 1992 Task Plans plus the allocation of FY 1991 carryover funds as approved in a letter from D. B. Shipley to J. E. Till, dated 11-19-91.
- (d) Project management includes activities such as project control and administration, project communications, subcontract administration, records control, and peer review.
- (e) TSP costs are administered through subcontracts which are reflected as non-labor costs. Actual TSP expenses include both labor and non-labor.
- (f) FY budget assumes Technical Steering Panel and Native American contracts will transfer to CDC in conjunction with the signing of a contract between Battelle and CDC on February 28, 1992.

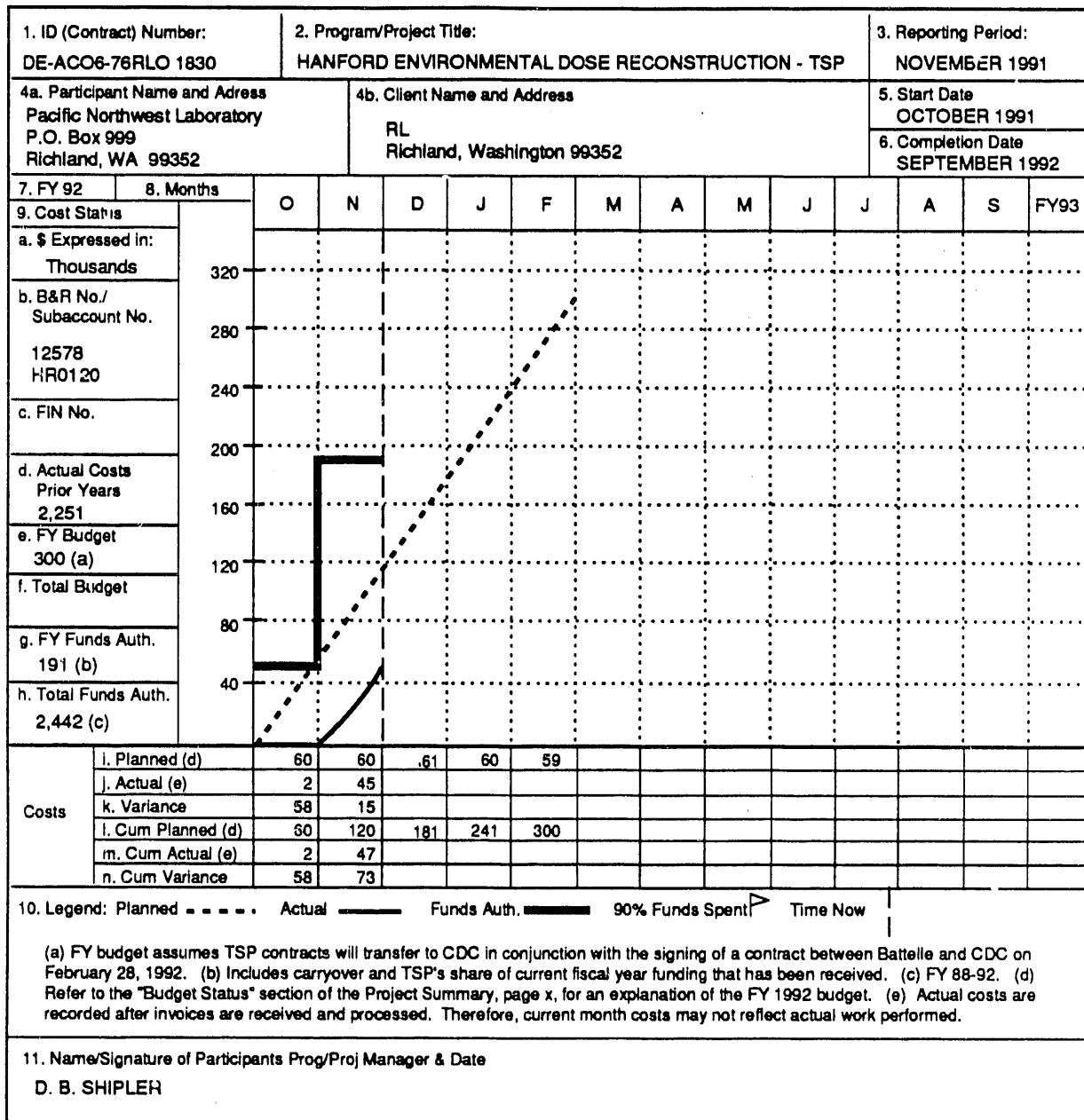


FIGURE A.2. Technical Steering Panel Budget Status

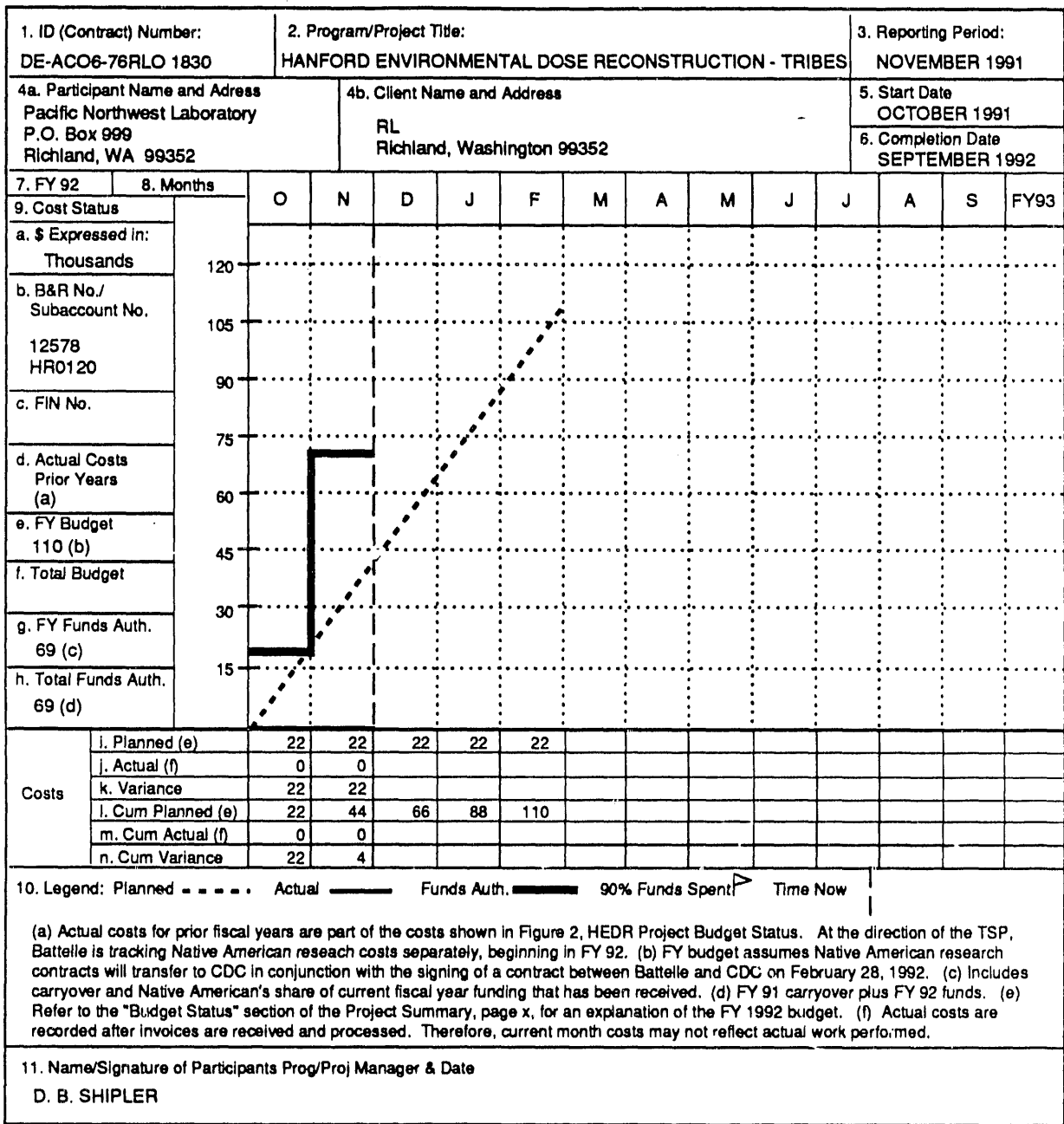


FIGURE A.3. Native American Research Budget Status

**Appendix B**

**Hanford Site-Originated Documents of  
Potential Interest/Use in the HEDR Project -  
Placed in the RL Public Reading Room  
During November 1991**

## Appendix B

### Hanford-Site-Originated Documents of Potential Interest/Use in the HEDR Project - Placed in the RL Public Reading Room During November 1991

BNWL-0752	Health Physics Considerations During PRTR Recovery and Decontamination. 17p.	05/02/68
BNWL-CC-0261	Fission Gas Inventories and Estimated Releases From PRTR HPD Fuel. 8p.	09/21/65
BNWL-CC-0505	Results of Research Concerning Phosphorus-32 in Reactor Effluent. 15p.	11/03/65
BNWL-CC-0516	Fission Product Aerosol Behavior in the PRTR Fuel Rod Failure of September 29, 1965. 54p.	11/22/55
BNWL-CC-1055	Water Treatment Variables-Nitrate System. 18p.	02/05/67
BNWL-CC-1367	Radiological Conditions Immediately Following the 09/25/65 PRTR Incident. 19p.	10/03/67
BNWL-SA-0557	Plutonium Recycle Test Reactor Experience for 1962-1966. 35p.	04/15/66
DUH-10969	Project 9336 - Hanford Retention Basin and Effluent Dilution. 2p.	09/01/43
• HAN-42598-DEL	200 Area Monthly and Weekly Reports 1950. 96p.	01/01/50
HDC-0835	Project C-187-D & C Dissolver Off-Gas Treatment. 1p.	11/22/48
HDC-1986	Project C-187-D Installation of Silver Reactor in 202-S. 3p.	01/12/51
HW-3-1766	Pile Discharge Water Monitoring Final Report IDS-19. 3p.	02/23/45
HW-3-1913	Exit Water Monitoring for Slug Jacket Failure. 4p.	03/03/45
HW-3-3138	Suspected Leak in 107-F Basin. 3p.	09/25/45
• HW-7-0116-DEL	Technical Department Letter-Weekly 5/18/44 through 7/6/44. 35p.	05/20/44
* HW-7-0428-DEL	Hanford Engineer Works Technical Progress Letter No.6, 8/11/44 through 3/17/44. 8p.	08/19/44
HW-7-1782	H.I. Report on Technical Laboratories for Week ending June 8, 1945 through Week Ending January 31, 1946. 88p.	06/11/45

## Appendix B

### Hanford-Site-Originated Documents of Potential Interest/Use in the HEDR Project - Placed in the RL Public Reading Room During November 1991

HW-7-4394	Repairs to the Retention Basins (bldgs. 107) In 100-B, 100-D, and 100-F. 4p.	05/25/46
HW-7-4671	Detection of Slug Failure by Means of the Activity of the Discharged Water (final Report). 12p.	08/14/46
HW-04683-T	Dissolving Data 271-B Building. 6p.	12/21/51
HW-08660	Retention Basins - Bldg. 107-100 area. 3p.	01/23/43
HW-13655	Study of Sand Filter Efficiency Data. 1p.	06/08/48
* HW-23413	Slug Jacket Failures January 1952. 21p.	02/13/52
* HW-24429	Corrosion Limits on Pile Power Levels. 14p.	05/16/52
HW-26674	REDOX Dissolver Tests. 8p.	01/05/53
HW-28257	Study of the Need for Bucket Storage in 202-S Building for Phase II capacity. 2p.	06/01/53
* HW-28739	Expansion of Water Treatment Facilities 100 Areas. 19p.	07/20/53
HW-30838	Application of the Mercury-Catalyzed Aluminum Jacket Dissolving Technique to the REDOX Process. 30p.	12/11/53
• HW-32164-DEL	Review of REDOX Plant Head-End Treatment. 19p.	06/17/54
HW-32316	Pilot-Plant Studies of Mercury Catalyzed Dissolving of Aluminum-Jacketed Fuel Elements. 22p.	07/01/54
* HW-32630-DEL	A Bibliography of Reactor Hazards. 63p.	08/02/54
HW-32823	Proposed Alternate Dissolving Flowsheets	08/13/54
HW-32848	Considerations for Additional 321 Building Mercury Dissolving Studies. 4p.	08/11/54
• HW-35201	REDOX Plant Shutdown 1-8-55 to 2-2-55. 11p.	02/15/55
* HW-36013	Operational Aspects of KW Reactor Activation. 33p.	04/01/55

## Appendix B

### Hanford-Site-Originated Documents of Potential Interest/Use in the HEDR Project - Placed in the RL Public Reading Room During November 1991

HW-41422	Physiological Parameters for Assessing the Hazard of Exposure to Ruthenium Radioisotopes. 59p.	04/01/56
• HW-60236-J-DEL	Chemical Processing Department Research and Engineering Operation Monthly Report April 1959. 20p.	05/08/59
HW-77635	Leak Repair of the 107-D Effluent Retention Basin. 3p.	06/15/63
• HW-81932-RD	Evaluation of Hanford Dissolver Capability. 28p.	04/21/64
HW-89082	Air Monitoring Information. 2p.	03/01/56
PNL-5003	Plutonium Recycle Test Reactor (PRTR) Accident. 39p.	04/03/84

•Declassified by Secretary of Energy Watkins' directive.  
\*Declassified in 1991 by earlier guidance.

## Appendix C

### HEDR Documents to the TSP - November 1991

Note: This appendix lists only publications that are new this month or have undergone some kind of change, such as being approved by the TSP. A complete list for FY 1992 will be included in the September 1992 report.



Appendix C

HEDR Documents to the TSP - November 1991

Title	Author	Date Issued	Publication No.	Additional Information	Status
Letter Report: References for Radioactive Releases to the Atmosphere from Hanford Operations, 1944-1957	RB Hall	11/91	PNL-7868 HEDR	Letter report; TSP approval not required	Published final 11/91
Letter Report: References for Radioactive Releases to the Columbia River from Hanford Operations, 1944-1957	RB Hall	11/91	PNL-7869 HEDR	Letter report; TSP approval not required	Published final 11/91

**Appendix D**

**HEDR Presentation Handouts to the TSP - November 1991**

Note: No presentation handouts were generated in November.

## Appendix E

### HEDR Open-Literature Publications and Presentations - November 1991

Note: This appendix lists publications (new this month) that present aspects of dose reconstruction in the open scientific literature; TSP approval is not required. A complete listing for FY 1992 will be included in the September 1992 report.

Appendix E

HEDR Open Literature Publications and Presentations - October 1991

Title	Author	Date Issued	Publication No.	Audience	Status
Overview of the HEDR Project	DB Shipler	10/91	PNL-SA-20022A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented 11/91
Communicating Risk to Non-Scientific Audiences	RE Lundgren, AH McMakin	10/91	PNL-SA-19488A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented 11/21
Application of a Geographic Information System to the HEDR Project	DB Shipler et al.	05/91	PNL-SA-19487A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented 11/21

**Appendix F**  
**Communications Log - November 1991**

**Appendix F**  
**Communications Log - November 1991**

<b>Initiated By/ Affiliation</b>	<b>Contact/ Affiliation</b>	<b>Type</b>	<b>Subject</b>
HA Haerer/Golder Associates	CM Heeb/PNL	Phone	Iodine closure report
CM Heeb/PNL	MA Robkin/TSP	Phone	Status on iodine closure report
MA Robkin/TSP	CM Heeb/PNL	Phone	"Green run" reference and request for information
CM Heeb/PNL	MA Robkin/TSP	Phone	Provided requested "green run" information
CM Heeb/PNL	D Whitten/NISS Workshop	Phone	NISS workshop arrangements
AH McMakin/PNL	ML Blazek/TSP	Phone, Fax	December risk analysis conference
AH McMakin/PNL	K Niles/TSP Staff	Phone	Battelle comments on TSP fact sheets
CW Holmes/PNL GL Harvey/PNL AH McMakin/PNL	K Niles/TSP Staff	Phone	Battelle comments on TSP focus group protocol
Dr. Hobson/Veterans Administration	JK Soldat/PNL BA Napier/PNL	Phone	Military doses
FO Hoffman/ORNL, VAMP	BA Napier/PNL	Phone	VAMP scenario
BA Napier/PNL	WA Bishop/TSP	Phone	NAWG meeting dates; status of Spokane tribe data use
B Shleien/TSP	BA Napier/PNL	Phone	Radionuclide data references
L Leavens/Lawyer	BA Napier/PNL	Phone	HEDR records and procedures

## Communications Log - November 1991

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
L Leavens, G Copta/ Lawyers	BA Napier/PNL	Phone	HEDR records, status of work, planning, funding
D Grossman/MIT	BA Napier/PNL	Phone	Milk contamination levels vs. FDA standards
B Shleien/TSP	BA Napier/PNL	Phone	Use of modems for access to HEDR GIS-based data
B Cook/Yakima Indian Nation	BA Napier/PNL	Phone	Dose factors
V Pierre/Kalispel Tribe NAWG	BA Napier/PNL	Phone	Interview consent forms
D Powau, kee/Nez Perce Tribe	BA Napier/PNL	Phone	"Tribal migration" form
JJ Fix/PNL Chair, CEDR Dosimetry Working Group	BA Napier/PNL	Phone	Comprehensive Epidemiological Data Resource
KA CharLee, TSP Staff	SM Finch/PNL	Phone	Missing pages for J Simpson's report
WA Bishop/TSP	SM Finch/PNL	Phone	Meeting at PNL on 11/14 and status of invoice
LE Sewell/CDC	SM Finch/PNL	Phone	Organization structure of CDC; contact for records management
K Millpointer/Tom Foulds, Esq.	SM Finch/PNL	Phone	Historical funding and budget information
SM Finch/PNL	J Richards/Umatilla Tribe	Phone	Ventura software purchase
J Reinhart/Oregon DOE	SM Finch/PNL	Phone	Invoice payment
JM Daer/PNL	KA CharLee/TSP Staff	Phone	Public availability of TSP draft report on "green run"

### Communications Log - November 1991

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
Mrs. S Davis/for TSP member S Davis	JM Daer/PNL	Phone	Payment status
JM Daer/PNL	B. Shleien/TSP	Phone	Comments on "Dose Estimates Variability Caused by Air Model Uncertainties"
RO Gilbert/PNL	KJ Kopecky/TSP	Fax	NISS workshop
B. Shleien/TSP	SP Gydesen/PNL	Phone	Connors documents; Parker letter to Travis on air monitoring
KA CharLee/TSP Staff	SP Gydesen/PNL	Phone	Use of HIRTS for TSP annotated bibliography
MA Robkin/TSP	SP Gydesen/PNL	Phone	Graph numbers in HW-17381 DEL; declassification
SP Gydesen/PNL	GG Caldwell/TSP	Phone	1955 letters
B LeFurgy/DOE-HQ Epidemiology Office	SP Gydesen/PNL	Phone	Information for future epidemiology studies
MA Robkin/TSP	SP Gydesen/PNL	Phone	F Reactor "push" on 11/16/49
NJ Germond/TSP	SP Gydesen/PNL	Phone	Iodine-129 documents to be added to HEDR collection
SP Gydesen/PNL	MA Robkin/TSP	Phone	Resolved "green run" discrepancies
B Shleien/TSP	SP Gydesen/PNL	Phone	Requested reports
K Niles/TSP Staff	GL Harvey/PNL	Phone	Upcoming communications meeting; video status
MA Robkin/TSP	RW Hanf/PNL	Phone	"Green run" vegetation data
RW Hanf/PNL	MA Robkin/TSP	Phone	"Green run" vegetation data



<b>Initiated By/ Affiliation</b>	<b>Contact/ Affiliation</b>	<b>Type</b>	<b>Subject</b>
DB Shipler/PNL	JE Till/TSP	Phone	Subpoena impacts - air model status - NAWG policy
B Shleien/TSP	DB Shipler/PNL	Phone	Soils info., data-scoping document
HA Haerer, Golder Associates	DB Shipler/PNL	Phone	Value of information analysis progress
L Leavens, Davis, Write, Tremain	DB Shipler/PNL	Phone	Downwinder deposition subpoena
JE Till/TSP	DB Shipler/PNL	Phone	FY 1991 funding, subpoena milestones
LE Sewell/CDC	DB Shipler/PNL	Phone	Cancel trip for records management review
DB Shipler/PNL	R Brich, RL	Phone	Interim funding
B Shleien, TSP	DB Shipler/PNL	Phone	Status of major deliverables, subcontract extensions
DB Shipler/PNL	H Harris, RL	Phone	Interim funding
DB Shipler/PNL	MJ Sage, CDC	Phone	Computers for subcontractors
R Brich, RL	DB Shipler/PNL	Phone	FY 1992 capital equipment funding
MJ Sage, CDC	DB Shipler/PNL	Phone	CDC workshop on epidemiology
R Brich/H Harris, RL	DB Shipler/PNL	Phone	FY 1992 capital equipment funding

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