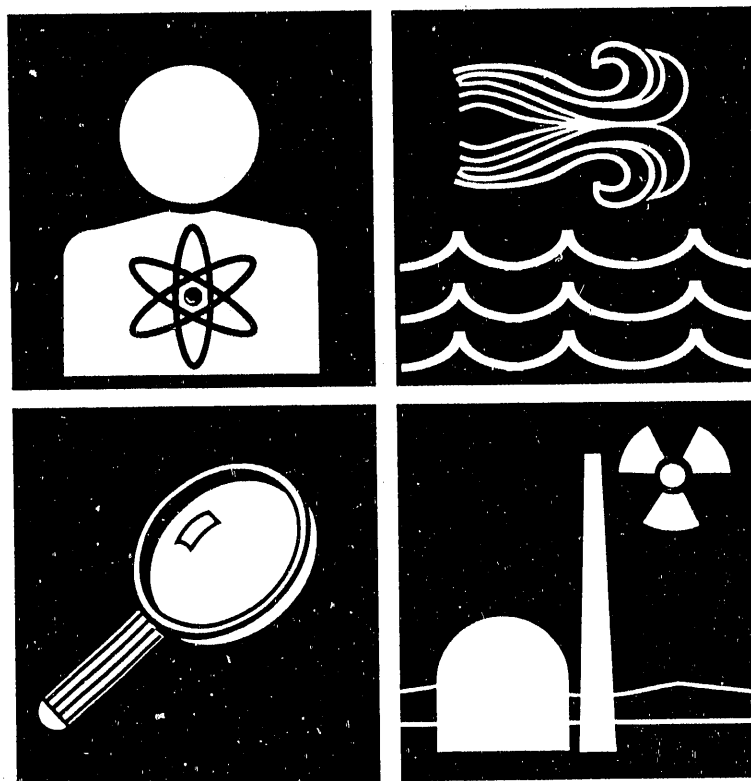


Hanford Environmental Dose Reconstruction Project

Monthly Report

January 1992



Prepared for the Technical Steering Panel



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HANFORD ENVIRONMENTAL DOSE
RECONSTRUCTION PROJECT

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Pacific Northwest Laboratory
Richland, Washington 99352

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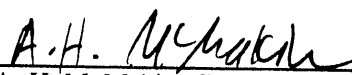
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HANFORD ENVIRONMENTAL DOSE
RECONSTRUCTION PROJECT

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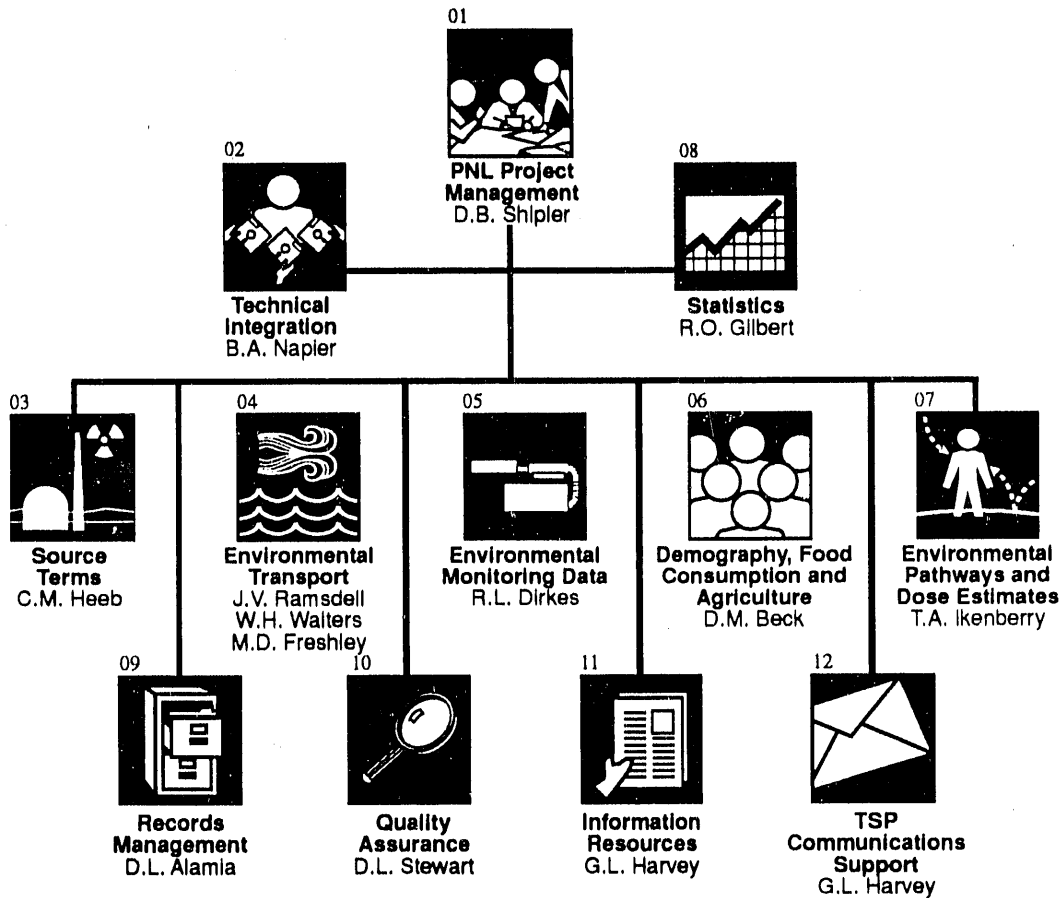
D. B. Shipler, Manager
Hanford Environmental Dose Reconstruction Project

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)^(a) 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

^(a) Battelle Memorial Institute operates the Pacific Northwest Laboratory.

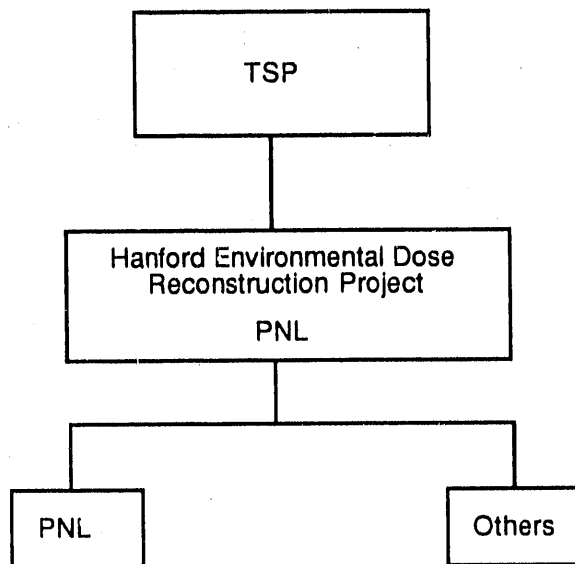
TABLE 1. Status of Directives^(a)

		<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)	

(a) 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, Washington, and Idaho, 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
- Demography, Food Consumption, and Agriculture
- 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 Demography, Food Consumption, and Agriculture 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.

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 January 1992:

- completed the report, "Ground-Water Contribution to Dose from Past Hanford Operations," and submitted it to the TSP for review
- completed the report, "Final Design Specification for the Environmental Pathways and Dose Model," and submitted it to the TSP for review
- verified, processed, and stored 181 project records; and transferred 29 records to the U.S. Department of Energy Richland Field Office (RL) Public Reading Room
- declassified 25 documents of potential use to the project
- completed development of the reactor peaking factor model for use in source terms estimation
- formed a design team for an agricultural producers survey of the 19 counties surrounding Hanford. Team members represent WSU, PNL, and the TSP. This information is needed by experts who will estimate the points of origin and destinations of milk and other produce in the Project area between 1945 and 1951. A contract has been signed with the Social and Economic Sciences Research Center of Washington State University (WSU) to do this work.
- continued to review and finalize the report from WSU on milk information in counties outside the Phase I area
- sent the Phase I population estimates report to J. Till, TSP Chair, for final approval
- revised generic guidance concerning work orders for tribes, following their submittal of preliminary food consumption data, and discussed this guidance with members of the Native American Working Group
- worked with Centers for Disease Control (CDC) and Indian Health Service staff in preparing for a February 19 session regarding sensitivity analysis and model validations concepts that will form the subject of the next Native American Working Group meeting
- discussed data entry procedures and other quality issues regarding the compilation of food consumption and population data with the Colville Confederated Tribes
- met with TSP members to discuss the upcoming uncertainty and sensitivity analysis workshop. The workshop will take place after the trial runs of the dose code are completed and analyzed.
- met with TSP members to discuss quality assurance (QA) implementation, results of the latest audit, and QA for data from the Hanford Thyroid Disease Study
- developed a plan for TSP meetings with regional agribusiness representatives in February 1992

Major Problems or Changes and Action Taken

Unavailability of key staff continues to delay project work. Recruiting efforts continue.

The iodine closure document (Milestone 0302A) was delayed to the end of June while detailed atmospheric release information is analyzed.

Milestone 0603A, Addendum to the Phase I Milk Model Report, was dropped, as approved by the TSP Demography Subcommittee. Some of the information was covered in the Phase I milk model report; the remaining information will be included in the agricultural producer survey.

Sensitivity analyses of the air-pathway dose model have been delayed because the dose code is not yet operational. This delay has caused the uncertainty and sensitivity analysis workshop to be pushed ahead several months (sensitivity results are needed before the workshop can be conducted).

G. Harvey, Task 12 leader, has been assigned the management of Task 11.

Planned Work for the Next Three Months

- negotiate a contract to continue HEDR work with the CDC and sign contract in April 1992
- submit the following milestones to the TSP:
 - Project Management Plan
 - Documented Phase I iodine-131 releases
 - Wind field modeling white paper
 - Atmospheric model documentation report
 - Report on air model sensitivity/uncertainty
 - Phase I reports on environmental monitoring data, food, and milk distribution estimates
 - Vegetation data report
 - 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. 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 March 1992. Therefore, PNL reduced its spending rate to the 80% level (plus carryover funding from FY 1991) for October 1991 through March 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.

Capital Status

The HEDR Project received approval for \$75K of the \$150K requested for storage disks for the HEDR computer system. The remaining \$75K for storage disks will be allocated in FY 1993. Other items requested but not funded will be resubmitted for consideration in FY 1993.

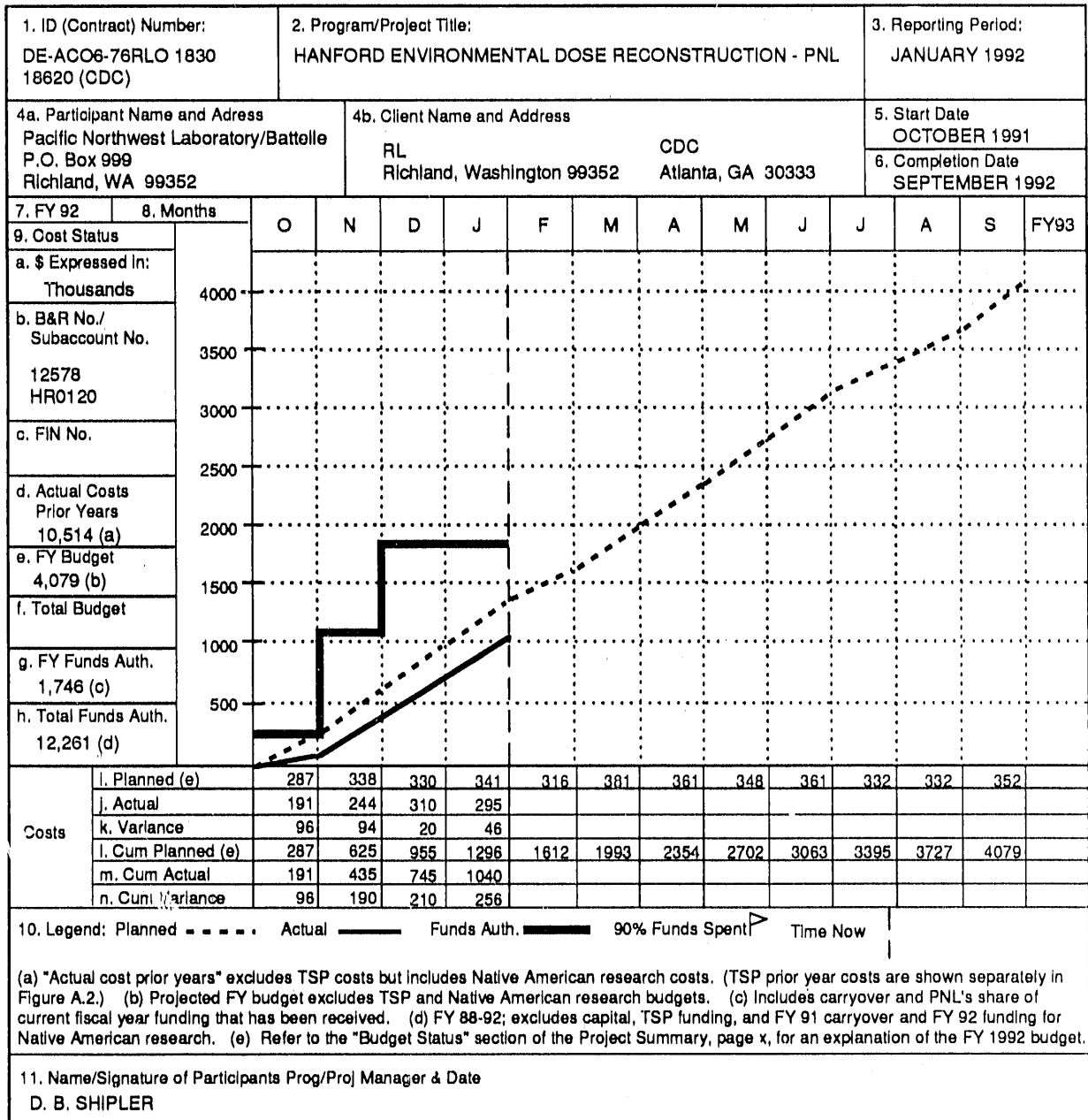


FIGURE 2. HEDR Project Budget Status - Pacific Northwest Laboratory

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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-approved task plans.

Progress

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

- continued to address internal comments

Other Activities

- supplied information to the Defense Contractor Audit Agency on cost estimates Battelle provided in the Centers for Disease Control (CDC) proposal
- met with Battelle Subcontracts management and Battelle Legal to discuss the status of HEDR subcontracts management (TSP and Native American tribes) and the strategy for any proposed continuation of these activities
- met with the TSP Native American Working Group to provide information on subcontracts and on scope problems
- discussed status of declassification work with PNL's Classification Office manager and forecasted future HEDR declassification work

Major Problem Areas or Changes and Action Taken

Worked with managers of key HEDR staff to obtain staffing commitments. This involves

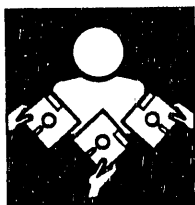
support for R. Dirkes, T. Ikenberry, and B. Napier, and a replacement for D. Beck, who has accepted a job with the U.S. Department of Energy - Headquarters (DOE-HQ).

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- estimate the cost of administering all current subcontracts for the TSP and Native Americans through June 30, 1992, by request of the Centers for Disease Control (CDC)
- prepare mid-year review of FY 1992 Task Plans
- prepare for April TSP meeting
- respond to CDC questions on the Battelle proposal to continue HEDR work
- issue the Project Management Plan



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, and that technical task work is integrated effectively for performing the final dose calculations.

Progress

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

- submitted this report to the TSP for review

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

- continued to organize Hanford data sets for presentation to the International Atomic Energy Agency as a test case for the Validation of Model Predictions (VAMP) model validation exercise

Milestone 0204A - Letter Report, Data Management Plan, due May 1992

- met with Task 10, Quality Assurance, and Battelle Process Quality Department staff to discuss project data, data-handling procedures, and potential contents of the data management plan. A response to the HEDR quality assurance (QA) audit indicates that the data management plan will require that inputs to the project dose model be verified before being entered into the central database.

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

- revised screening dose and uncertainty estimates and added cost estimates for use in a decision-support model. Screening estimates were made for three time periods and five locations along the river. This information was summarized for inclusion in the Columbia River Pathway Summary Report, Milestone 0404A. The results of the decision-analysis model are being prepared for TSP presentation before the Astoria meeting.

Milestone 0205B - Letter Report: Key Radionuclides, Rev. 1, due May 1992

- used calculations performed for Milestone 0204B to support the surface water portion of the revision to the key radionuclides report

Other Activities

- met with the TSP Native American Working Group in Spokane, Washington, to discuss the structure of the model and its necessary input parameters

- met with TSP members in Richland, Washington, to discuss the status of the project computer code, documentation, and the initial screening dose estimates for the river pathway

Major Problem Areas or Changes and Action Taken

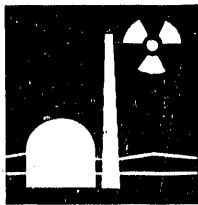
Staff activities have been directed toward other HEDR tasks. Because of the delays in completing the project computational model, the letter report on updated design specifications will be delayed. A major portion of that document was anticipated to be the definitive design of the surface water dose model, but that design should not be finalized before receiving TSP input at the TSP meeting in Astoria, Oregon. Staff activities will focus on Milestones 0204A and 0205B after current commitments are completed.

Variance

The cumulative underrun was caused by staff support directed to other tasks. This should improve following the February TSP meeting.

Planned Work for the Next Three Months

- attend Native American Working Group meetings
- attend VAMP meeting in March 1992 to present the Hanford scenario
- continue coordinating efforts with Hanford Thyroid Disease Study personnel
- prepare project data management plan
- coordinate activities with the Surface Water Modeling Subtask to develop recommendations 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 June 1992

- completed peaking factor model development. Trial runs were made that validate the model by comparing calculated and recorded fuel discharge burnup. Acceptable agreement was achieved in this comparison. The model can be used to provide estimates of the ratio of power seen by each discharge to the pile power -- essentially a multiplier on the calculated iodine-131 content of the discharged fuel.
- reviewed radiation monitoring laboratory record books that provide the date and time of day for many fuel dissolving operations. In addition, one of these notebooks contains measurements of iodine-131 dissolver off-gas evolution rates during the course of dissolving. Analysis of these data will establish the release profile and attendant uncertainty ranges for the release model.

Milestones 0307A and 0307B - Letter Reports, Hanford Operations, 1944-1960 and 1961-1991, respectively, due September 1992

- continued to process Hanford document reference material for reconstructing the operations of Hanford reactors and separations plants

Major Problem Areas or Changes and Action Taken

The iodine closure document (Milestone 0302A) will be delayed until the end of June. This delay will impact Task 04 air transport model requirements and preparations for the sensitivity/uncertainty workshop. The slippage is necessary because of the unexpected amount of additional time-of-day release information that must be analyzed and the need to revise the release model to accept stochastic input from the peaking factor model. These activities were not anticipated in the original milestone schedule, but they make possible substantially more accurate and detailed source term estimates than were envisioned at the time the original schedule was developed.

Variance

The cumulative underrun is caused by the delay in starting work on Milestone 0304B, the surface water source terms report. The delay has no impact on delivery of this milestone because planned work this fiscal year can be completed in the remainder of FY 1992.

Planned Work for the Next Three Months

- continue construction of reactor and separation facility operations database
- begin work on river release estimation methods
- complete the iodine closure document (Milestone 0302A)



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

- continued preparing report, which will be provided to the TSP for its February meeting

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

- continued entering meteorological data for 1944 - 1947. Meteorological data for 1946 for the extended model domain were received from the National Climatic Data Center.

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

- completed the report, "Ground-Water Contribution to Dose from Past Hanford Operations," and submitted it to the TSP for review
- began preparing presentation on this report for the February TSP meeting

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

- added discussion of information and data from the U.S. Public Health Study conducted from 1951 through 1953. Begin addressing initial internal review comments.

Major Problem Areas or Changes and Action Taken

Milestone 0402A, Wind Field Modeling White Paper, is awaiting revision following peer review. 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.

The meteorological data report (Milestone 0402D) is behind schedule. It will be prepared when the code documentation and supporting reports are complete.

Preparation of Milestone 0404A was delayed because of other work commitments. The report

will be provided to the TSP for review in March, and progress will be discussed at the February TSP meeting.

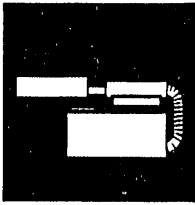
Variance

The cumulative cost overrun in Subtask 0402 is the result of additional time spent on the code documentation during November and December and addition of a second person entering meteorological data.

No significant cumulative variance for Subtasks 0403 and 0404.

Planned Work for the Next Three Months

- complete Columbia River Pathway report and atmospheric model documentation report
- incorporate comments received from the TSP into the groundwater report and issue revised (final) version of the report
- complete wind field modeling white paper when input data are available
- complete meteorological data report
- complete the numerical verification of the atmospheric model code
- start preliminary sensitivity studies on the atmospheric model
- continue work on data bases 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 April 1991 and rescheduled to March 1992

- received review comments on draft report. Began comment resolution and document revision.

Monitoring Document Search and Inventory (Subtask 0503)

- continued work on the Monitoring Document Search and Inventory activities. The Environmental Monitoring Document Database (EMDD) continues to grow. Cross-comparisons with the HEDR Information Resources Tracking System (HIRTS) has resulted in several editorial corrections in the EMDD title entries and requests for several additional documents. Bibliographic checklists continue to be updated to accurately reflect document contents.
- provided three disk copies of the EMDD in support of a class action suit subpoena. Because the database is on the VAX, using a

Foxbase system, it required a considerable amount of effort to provide useable PC-based copies.

Surface Water Data (Subtask 0504)

- provided limited input for resolution of comments on the Milestone 0404A report. Further discussion is provided in the Task 04 section of this report.

Major Problem Areas or Changes and Action Taken

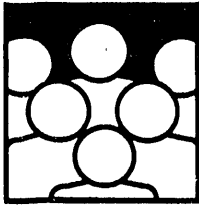
Milestones 0501A and 0502A continue to slip, though a draft of 0501A was completed. Subcontracts were finalized, which should provide additional staff support to the various activities.

Variance

The cumulative cost overrun, which has decreased over the last two months, was caused by delays in the establishment of subcontract work orders and in the lag time associated with the subcontract billing process. Costs associated with subcontract activities are now entering the system. January expenditures were in line with budget estimates.

Planned Work for the Next Three Months

- finalize Phase I report (Milestone 0501A, Environmental Monitoring Data report)
- support Surface-Water Transport Subtask in comment resolution and document revision in support of Milestone 0404A, Surface-Water Pathway Report
- complete the vegetation monitoring data report (Milestone 0502A)
- prepare for and participate in the February TSP meeting as necessary



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. In particular, 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.

Progress

Milestone 0601A - Population Estimates Final Report, due April 1991 and rescheduled to March 1992

- completed this Phase I report (by addressing TSP comments) and sent it to J. Till for final approval

Milestone 0601B - Food Estimates Final Report, rescheduled to March 1992

- verified the acceptability of Battelle's responses to TSP comments with TSP member R. Morrill

Milestone 0601C - Milk Model Estimates Final Report, rescheduled to March 1992

- continued to address TSP and HEDR Project Office comments

Milestone 0602B - Letter Report: Status of Food Consumption Methodology, due March 1992

- revised the draft report, which has been discussed in detail with TSP member D. Price

Milestone 0603B - Letter Report on Milk Outside Phase I, due September 1991 and rescheduled to March 1992

- continued to review and finalize the draft report from Washington State University (WSU)

Milestone 0603D - Report on Milk Production/Distribution, 1944-1991, due March 1993 (FY 1993)

- formed the survey design team, including staff from WSU, PNL, and the TSP. The team is responsible for the design and implementation

of an agricultural producers' survey in the 19 counties surrounding the Hanford Site. A contract has been put in place with WSU's Social and Economic Sciences Research Center. A Statement of Work for the first two tasks (survey design and development of a sampling frame) has been drawn up. Copies of the Statement of Work were sent to TSP members Morrill and Price; their comments will be incorporated into the final Statement of Work.

Native American Data (Subtask 0605)

- revised generic guidance concerning work orders for tribes, following their submittal of preliminary food consumption data, and discussed this guidance with members of the Native American Working Group
- worked with CDC and Indian Health Service staff in preparing for a February session regarding sensitivity analysis and model validation concepts that will form the subject of the next Native American Working Group meeting
- reviewed the draft text of a TSP fact sheet regarding Native American participation in the HEDR Project
- discussed data entry procedures and other quality issues regarding the compilation of food consumption and population data with the Colville Confederated Tribes
- continued to examine potential data sources for applicability in scoping activities involving a regional model of residential mobility
- held informal discussions with Native American Working Group members regarding the contents of the Federal Archives at the Sand Point facility in Seattle
- received some unpublished demographic data regarding several tribes in the mid-1960s. Alternative data structures are being feasibility-tested for a regional mobility model. We are seeking a specific data record format to incorporate into Statements of Work for the next series of work orders for some or all of the tribes.

Major Problem Areas or Changes and Action Taken

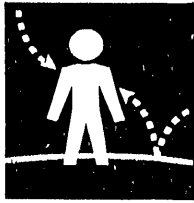
Milestone 0603A, Addendum to Phase I Milk Model Report, was dropped because some of the information has been included in the final Phase I milk model report, and the additional information will be gathered as part of the agricultural producer survey to be conducted in FY 1992. This change was discussed with and approved by members of the TSP Demography Subcommittee. This change will result in a more cost-effective collection effort without affecting major deliverables.

Variance

The cumulative cost overrun continues to be caused by a delay in placing a subcontract with WSU for FY 1992 work on Subtask 0603, Milk/Other Food Model Development.

Planned Work for the Next Three Months

- participate in discussions of model development and assumptions relevant to Native American concerns
- participate in discussions regarding sensitivity analysis and model-validation techniques
- 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
- design and implement an agricultural survey for the 19-county area
- write a paper on the methodology of the food consumption study □



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 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 - Report Documenting Air Exposure Pathways and Dose Code, due December 1991 and rescheduled to February 1992

- completed the final draft of the documentation for environmental accumulation and individual dose codes and began clearing the document through PNL

Milestone 0703A - Letter Report on Iodine-131 Parameters and Dose Factors Used in Phase I, due November 1991 and rescheduled to March 1992

- continued reviewing and revising this letter report

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

- continued work on the draft report, which will be available for internal review in March

Major Problem Areas or Changes and Action Taken

Milestone 0703A, the letter report on Phase I iodine-131 parameters and dose factors, remains behind schedule because of lowered priority and staff commitments to other work. Completion of Milestone 0702A will make additional staff available.

It is estimated that Milestone 0703B, the iodine-131 parameters report for the revised air pathway codes, will be approximately one month late (March 1992). Completion of Milestone 0702A also will make other staff available for this milestone.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- complete letter report on Phase I iodine-131 parameters and dose factors (Milestone 0703A)
- complete the report on iodine-131 parameters and dose factors for the revised air pathway codes (Milestone 0703B)
- transfer and convert the revised air pathway codes (the environmental accumulation and individual dose codes) to the HEDR Sun-4/490 workstation
- complete parameter selection programs for the environmental accumulation and individual dose codes
- complete the report generator program for the environmental accumulation and individual dose codes



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 December 1991 and rescheduled to April 1992

- revised the draft report, "Uncertainty and Sensitivity Analysis of Historic Iodine-131 Vegetation Measurements in 1945-1947," to address review comments. This latest draft is being formally peer-reviewed by statisticians within PNL.

Milestone 0803A, Letter Report: Project Sensitivity/Uncertainty Analysis Plan, due August 1992

- met with three members of the TSP to discuss plans for the uncertainty and sensitivity analysis workshop being organized by the Statistics Task. The workshop is planned for the summer or early fall of 1992, as soon as the trial runs of the dose code are completed and analyzed.

Statistics Technical Planning, Control, and Reporting (Subtask 0801)

- coordinated HEDR staff in reviewing a summary of four HEDR Project presentations made at the workshop "Statistical Issues in Environmental Modeling and Monitoring,"

sponsored by the National Institute of Statistical Sciences (NISS), Research Triangle Park, North Carolina, on December 9-10, 1991. The summary was written by Dr. Jerry Sacks, Executive Director of NISS, for publication in *AmStat News*, the monthly news magazine of the American Statistical Association.

- met frequently with Statistics Task staff and other HEDR Project staff to plan, coordinate, and review statistics task activities to support HEDR Project milestones

Analysis of Model Reliability (Subtask 0803)

- continued to develop source term uncertainty analysis model and conduct uncertainty analyses to support the report for Milestone 0302A, Documented Phase I Iodine-131 Releases
- met frequently with the Assistant Project Manager for Technical Integration to plan and coordinate model reliability activities for the project

General Statistics Support

- met with Tasks 02 and 06 staff to help design the survey of agricultural producers in 1945 and 1951 to be conducted in 1992 by a subcontractor. This information is needed by experts who will provide estimates of origin

and destination of milk and other produce over the project study area in the 1945-1951 time period.

- began planning a strategy for eliciting expert opinion for parameters and their probability distributions for transport and dose models

Major Problem Areas or Changes and Action Taken

Sensitivity analyses of the air-pathway dose model have been delayed because the dose code is not yet operational. This delay has caused the uncertainty and sensitivity analysis workshop to be pushed ahead several months (sensitivity results are needed before the workshop can be conducted).

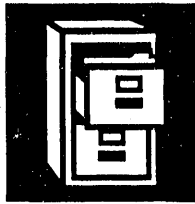
Variance

The cumulative underrun was caused by delays in conducting sensitivity analyses (because of the delay in completing the dose code) and the unavailability of required staff.

Planned Work for the Next Three Months

- complete statistical assistance for the Milestone 0302A source term report

- give a presentation about the uncertainties of the iodine-131 source term at the February TSP meeting
- continue planning the uncertainty and sensitivity analysis workshop to be held in the summer or fall of 1992
- complete the Iodine-131 Conversion Factor Report (Milestone 0802A) and submit it to the TSP for review and comment
- develop a strategy for eliciting information about models and model parameters from experts
- assist in preparing the Model Parameters Report for Milestone 0703A
- continue assistance in designing the agricultural producer survey
- continue to provide statistical and analytical (uncertainty/sensitivity) support to the Technical Integration Assistant Project Manager and other staff
- review draft project reports for statistical issues



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.

Progress

- received project records from the HEDR Project Office - 53 records, totalling 874 pages
- verified, processed, and stored project records - 181 records, totalling 3126 pages
- transferred three packages of records to the RL Public Reading Room - 9 records, totalling 420 pages
- monitored the TSP review of the PNL records stored in the DOE Records Holding Area. This is a PNL requirement for any review that does not include the manager directly responsible for the PNL records in storage.
- provided records management guidance to Task 06 staff

Major Problems or Changes and Action Taken

None.

Variance

The cumulative cost underrun was caused by a fluctuation in the workload and staff assignments to other obligations.

Planned Work for the Next Three Months

- process incoming project records
- transfer processed records to the RL Public Reading Room
- revise the HEDR Records Inventory and Disposition Schedule/File Index (RIDS) to keep it current and incorporate filing system changes



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

- performed assessment of software QA implementation for Tasks 02, 04, and 07
- prepared QA requirements relating to data traceability and records for the WSU Statement of Work
- met with TSP members D. Barth and K. Kopecky to discuss QA implementation, results of the last audit, and QA for data from the Hanford Thyroid Disease Study survey.

Major Problem Areas or Changes and Action Taken

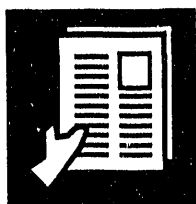
None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

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



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 micro-computer-based tracking system for ready retrieval of historical information.

Progress

Planning, Control, and Reporting (Sub-task 1101)

- provided three copies of the HEDR Information Resources Tracking System (HIRTS) database to the PNL Records Manager for response to subpoena for specified HEDR records

Milestone 1102A, Letter Report: Declassified, Prioritized Document List, due September 1992

- declassified 25 documents that originated on the Hanford Site, which are of potential interest or use to the HEDR Project. Table 11.1 shows the status of declassification to date.

TABLE 11.1. Declassification of Hanford-Originated Documents

<u>Documents Declassified</u>	<u>Hanford Historical</u>	<u>HEDR-Related^(a)</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)	1323	599
October 1991 through January 1992 (FY 1992)	<u>517</u>	<u>87</u>
TOTAL (March 1987 - January 1992)	2568	1163

(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.

Resource Identification and Availability (Subtask 1103)

- added new citations to the tracking system that now contains more than 5,200 citations
- provided 29 documents to the RL Public Reading Room that are of potential interest or use to the HEDR Project

Milestone 1103A, Letter Report: Status of Document Search and Data Quality Objectives Efforts, due September 1992

- prepared the first draft of a letter report containing information necessary to reconstruct daily reactor operating data for 1960. Collection of data for 1961-1964 was initiated at month's end. Completion is not expected until July 1992.
- verified all references in the remainder of HEDR reports scheduled for publication in February and assured their public availability
- coordinated the visit of G. Caldwell and K. CharLee to examine approximately 60 boxes of Hanford historical records at the Records Holding Area, 712 Building, in Richland during a two-day visit in January
- made necessary arrangements with the Records Holding Area staff to fill Dr. G. Caldwell's request to review about 60 classified boxes of Hanford historical records
- prepared for M. Robkin's visit on January 31 to review approximately 60 documents that B. Cook had suggested as potentially relevant to HEDR needs

RL Public Reading Room Activity

The Reading Room had 11 HEDR users and distributed 24 HEDR reports in January 1992.

Major Problem Areas or Changes and Action Taken

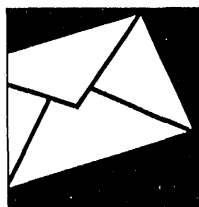
G. Harvey, Task 12 leader, has been assigned the administrative responsibilities of Task 11 leader.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- watch for information that may explain in detail and support data in the "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 or use to the HEDR Project
- identify and collect documents that address reactor purges from 1944 to 1971
- 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 1203B - Media Analysis 1991, due January 1992 and rescheduled to February 1992

- drafted a letter report reviewing newspaper and magazine articles collected between September 1991 and January 1992. An assessment of the articles was conducted, resulting in a categorization of topics and ranking of selected issues by number of stories and column inches.

Other Activities

- discussed activities and developed a plan for TSP meetings with regional representatives of the agricultural community, before and during the TSP public meeting in February 1992 in Pasco, Washington. These activities are designed to improve interactions and enhance communications with this audience.
- investigated request from TSP member P. McGavran about collection of data in the Moscow, Idaho, area decades ago. Provided her with the 1989 Hanford Annual Environmental Monitoring Report.

- discussed options with local cable television for airing the TSP videotape and interviewing TSP members about the HEDR Project. This opportunity is expected to be considered when the TSP convenes for the public meeting in Pasco in February.
- initiated planning and arrangements for a TSP overview presentation to members of the Canadian Parliament for a visit to the Hanford Site scheduled for March 1992. Several members of the Parliament, their staff, and Canadian media have requested information regarding the HEDR Project.
- provided map and photo information for the TSP Native American fact sheet
- investigated the possibility of purchasing a notebook computer and software for TSP Communications Subcommittee staff use
- began researching and preparing informational outlines for the development of TSP fact sheets on sensitivity and HEDR dose model
- arranged to photograph the TSP during the February public meeting

- participated in a TSP Communications Subcommittee meeting in Portland
- provided general information on the HEDR Project to P. McLay, California Department of Health
- arrange visit and project briefing for Canadian Parliament members
- prepare and submit two outline drafts of HEDR fact sheets on sensitivity and dose model to the TSP Communications Subcommittee
- attend TSP Communications Subcommittee meeting in April

Major Problem Areas or Changes and Action Taken

None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- coordinate meetings with the TSP and regional agricultural interests to enhance involvement and communications

Appendix A
Milestones, Schedule and Costs

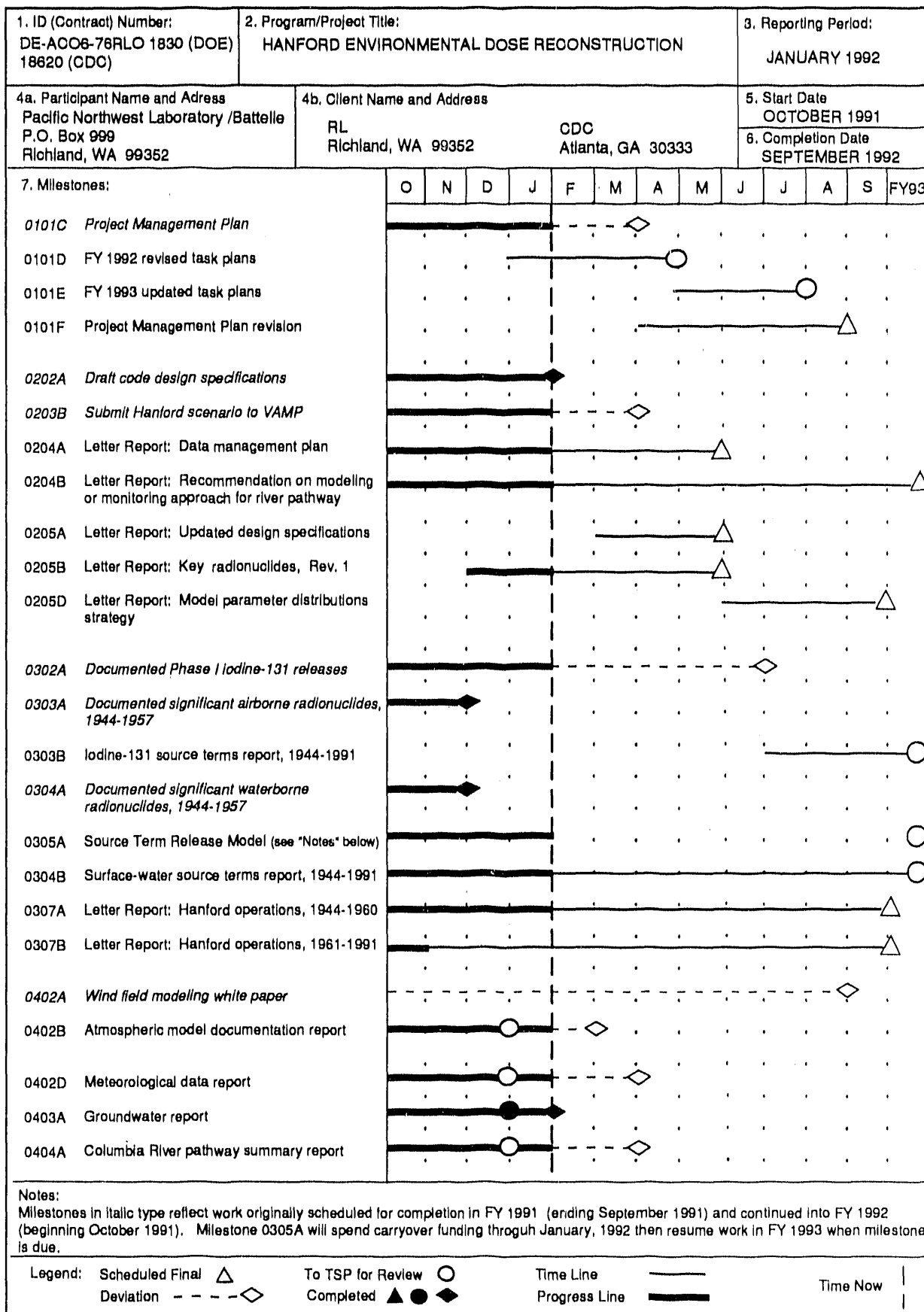


FIGURE A.1. HEDR Project Milestones

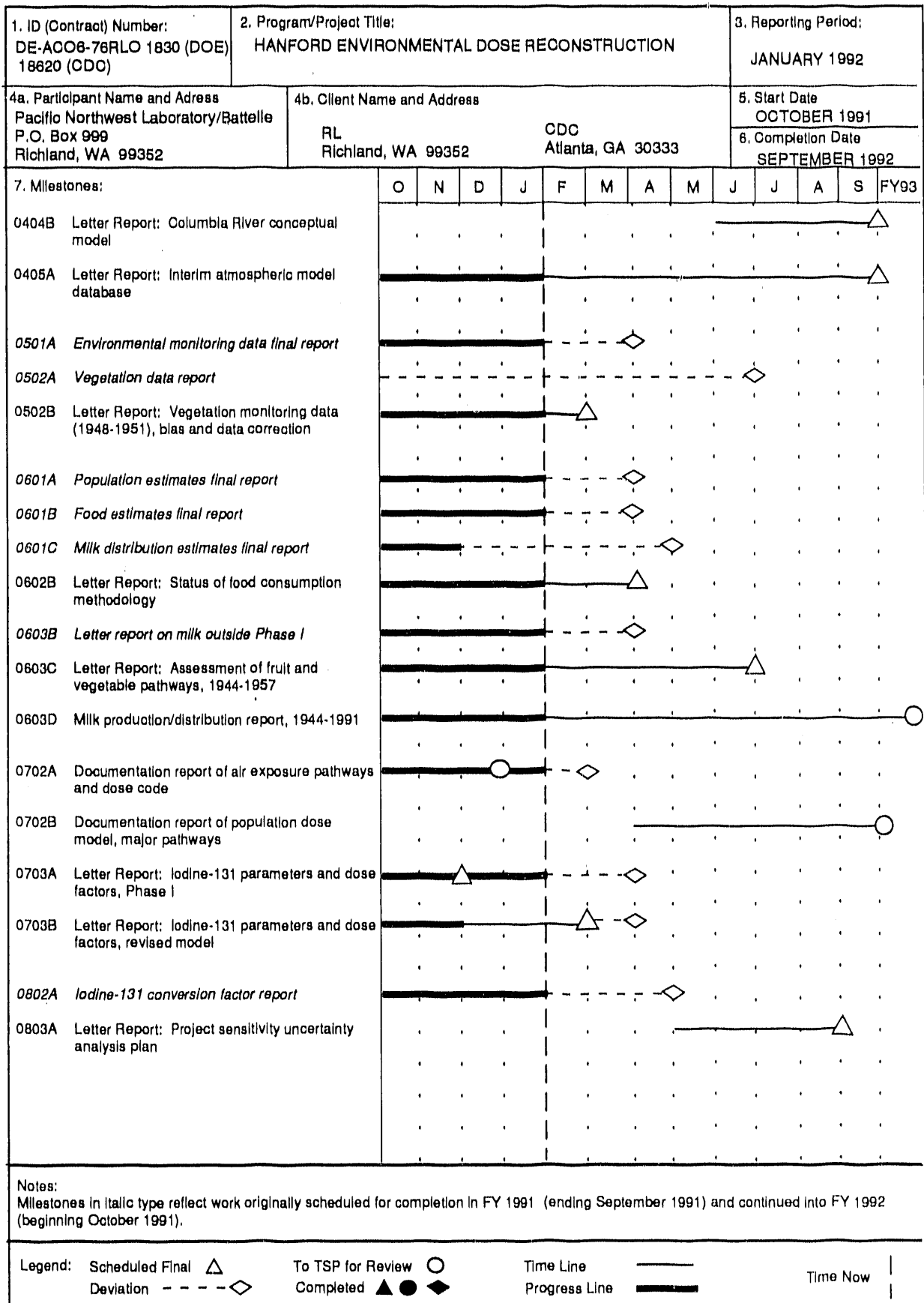


FIGURE A.1. HEDR Project Milestones (contd)

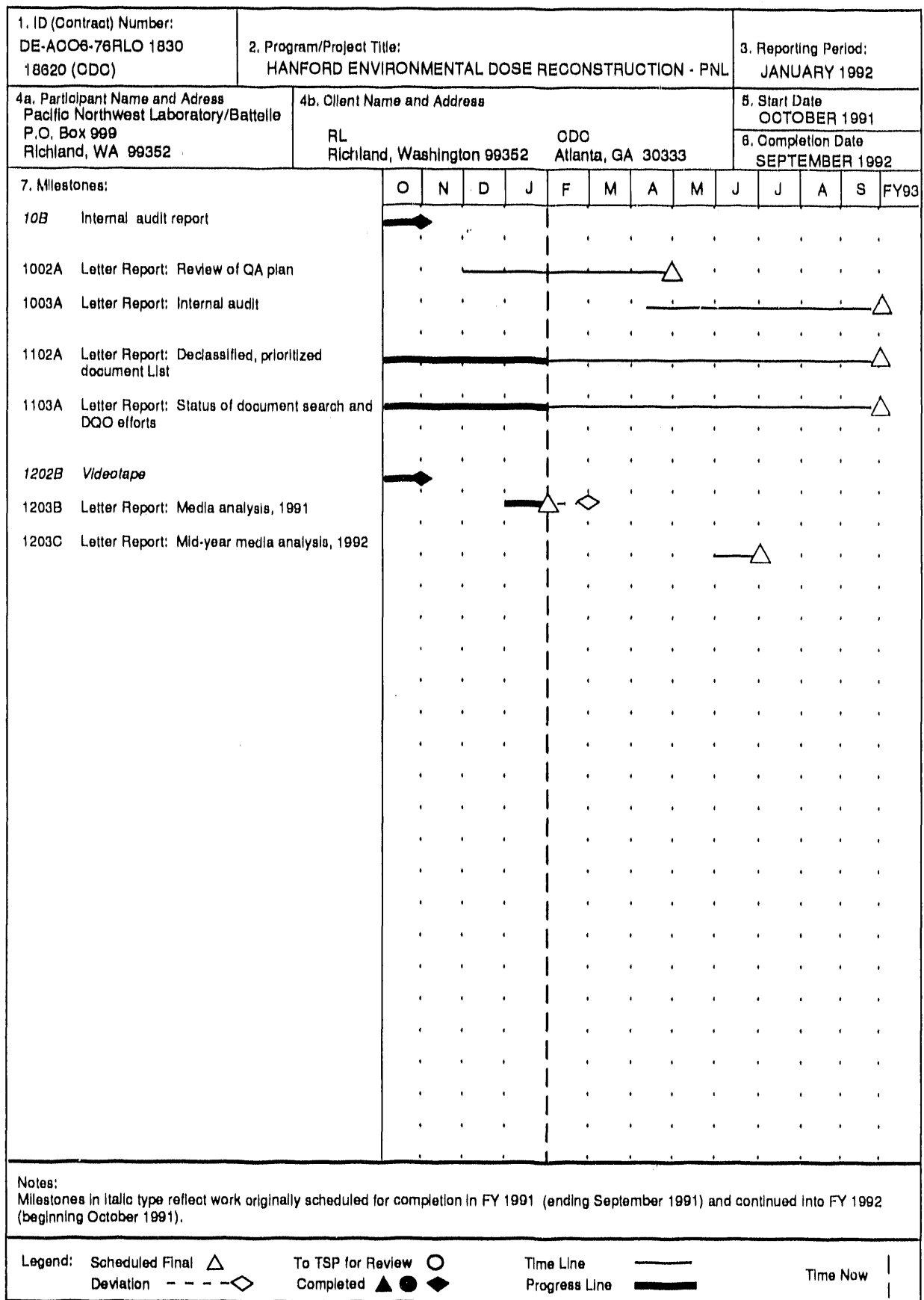


FIGURE A.1. HEDR Project Milestones (contd)

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

	January 1992		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 \$				
<u>HEDR Project Tasks</u>										
Task 01 - Project Management (d)										
0101 Project Planning & Control	53	4	57	164	37	201	205	4	722	7,566
0102 Final Phase I Reports	2	1	3	7	1	8	10	2	12	250
0103 Project Administration	20	1	21	79	15	94	119	25	379	5,271
0104 Project Peer Review	6	0	6	19	0	19	5	-14	14	120
Subtotal Task 01	81	6	87	269	53	322	339	17	1,128	13,207
Task 02 - Technical Integration										
0201 Tech Planning/Control/Rep	1	0	1	16	1	17	22	5	66	664
0204 Proj Tech Cord /Analysis	7	1	8	22	3	25	25	0	78	785
0205 Path & Dose Model Require	4	-2	2	10	-2	8	45	37	131	1,335
Subtotal Task 02	12	-1	11	48	2	50	92	42	274	2,784
Task 03 - Source Terms										
0301 Tech Planning/Control/Rep	0	1	1	11	5	16	22	6	54	475
0302 Closure of Ph I Iodine Rel	0	0	0	4	0	4	5	1	5	54
0304 Rad Releases to Water	0	0	0	1	0	1	16	15	99	870
0305 Source Term Release Model	1	0	1	1	2	3	5	2	5	54
0307 Rad Release Data Avail/Rev	15	1	16	47	7	54	50	-4	182	2,154
Subtotal Task 03	16	2	18	64	14	78	98	20	344	3,607

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

	January 1992			FY 1992 to Date (October 1991 - September 1992)			TSP (c)		Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum Planned	Approved FY Budget	
Task 04 - Environmental Transport									
0401 Tech Planning/Control/Rep	0	0	0	1	0	1	0	56	576
0402 Atmospheric Model Develop	20	1	21	86	3	89	48	214	2,228
0403 Groundwater Transport	13	6	19	37	9	46	46	61	684
0404 Surface Water Transport	8	1	9	38	2	40	33	114	1,224
0405 Atmospheric Model Databas	10	0	10	12	2	14	19	72	940
0406 Atmospheric Model Calculat	0	0	0	0	0	0	0	31	355
Subtotal Task 04	51	8	59	174	16	190	146	547	6,007
Task 05 - Environmental Monitoring Data									
0501 Tech Planning/Control/Rep	2	0	2	10	0	10	15	43	394
0502 Terrestrial Monitoring Data	6	0	6	20	-1	19	39	67	601
0503 Environmental Monitoring Dai	3	0	3	3	0	3	18	44	518
0504 Surface-Water Monitoring	0	5	5	18	5	23	15	15	186
Subtotal Task 05	11	5	16	51	4	55	87	169	1,719
Task 06 - Demography, Food Consumption & Agriculture									
0601 Tech Planning/Control/Rep	3	0	3	11	0	11	13	40	421
0602 Food Consumption	9	4	13	13	4	17	26	60	512
0603 Milk/Other Food Model Dev	1	0	1	2	1	3	119	340	1,481
0605 Native American Data	1	10	11	1	23	24	34	100	309
Subtotal Task 06	14	14	28	27	28	55	192	540	2,723

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

	January 1992			FY 1992 to Date (October 1991 - September 1992)					Budgeted FY Labor Hours	
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance		TSP (c) Approved FY Budget
Task 07 - Environmental Pathways & Dose Estimates										
0701 Tech Planning/Control/Rep	2	0	2	9	0	9	17	8	55	591
0702 Path & Dose Code Dev/Doc	14	1	15	72	9	81	68	-13	170	1,924
0703 Path & Dose Model Paramet	9	1	10	23	1	24	32	8	40	466
0705 Dose Calculations	0	0	0	0	0	0	6	6	40	412
Subtotal Task 07	<u>25</u>	<u>2</u>	<u>27</u>	<u>104</u>	<u>10</u>	<u>114</u>	<u>123</u>	<u>2</u>	<u>305</u>	<u>3,393</u>
Task 08 - Statistics										
0801 Tech Planning/Control/Rep	2	0	2	12	2	14	17	3	50	409
0802 Stats Support for Tech Work	7	0	7	30	0	30	44	14	140	1,234
0803 Analysis of Model Reliability	9	0	9	40	0	40	54	14	166	1,639
Subtotal Task 08	<u>18</u>	<u>0</u>	<u>18</u>	<u>82</u>	<u>2</u>	<u>84</u>	<u>115</u>	<u>31</u>	<u>355</u>	<u>3,282</u>
Task 09 - Records Management										
0901 Tech Planning/Control/Rep	2	0	2	4	0	4	4	0	19	301
0902 Project Records Management	1	0	1	7	0	7	13	6	72	1,632
Subtotal for Task 09	<u>3</u>	<u>0</u>	<u>3</u>	<u>11</u>	<u>0</u>	<u>11</u>	<u>17</u>	<u>6</u>	<u>91</u>	<u>1,933</u>
Task 10 - Quality Assurance										
1001 Tech Planning/Control/Rep	2	1	3	7	2	9	5	-4	31	374
1002 QA Program Development	2	0	2	2	0	2	4	2	18	245
1003 QA Verification	0	0	0	0	0	0	3	3	12	184
Subtotal Task 10	<u>4</u>	<u>1</u>	<u>5</u>	<u>9</u>	<u>2</u>	<u>11</u>	<u>12</u>	<u>1</u>	<u>61</u>	<u>803</u>

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

	January 1992		FY 1992 to Date (October 1991 - September 1992)				TSP (c)		Budgeted FY Labor Hours	
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum Planned	Approved FY Budget		
Task 11 - Information Resources										
1101 Tech Planning/Control/Rep	3	0	3	13	0	13	16	3	40	966
1102 Hanford Document Declass	5	0	5	12	0	12	15	3	52	1,179
1103 Hanford Info Resources Iden	6	0	6	24	0	24	26	2	65	1,141
Subtotal Task 11	14	0	14	49	0	49	57	8	157	3,286
Task 12 - TSP Communications Support										
1201 Tech Planning/Control/Rep	3	0	3	9	2	11	4	-7	29	482
1202 TSP Public Outreach Support	0	2	2	0	4	4	3	-1	10	52
1203 Comm Assessment Research	4	0	4	5	0	5	5	0	14	134
1204 TSP Meeting/Material Sup	0	0	0	0	1	1	6	5	26	152
Subtotal - Task 12	7	2	9	14	7	21	18	-3	79	820
Subtotal, HEDR Project Tasks	256	39	295	902	138	1,040	1,296	256	4,049	43,564
Management Reserve	0	0	0	0	0	0	0	0	30	0
Subtotal, Project Tasks Plus Management Reserve	256	39	295	902	138	1,040	1,296	256	4,079	43,564

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

	January 1992			FY 1992 to Date (October 1991 - September 1992)				Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum (b) Planned	
Technical Steering Panel (e)	1	7	8	2	55	57	241	300 (f)
Native American Research	0	12	12	0	12	12	88	110 (f)
TOTAL	257	58	315	904	205	1,109	1,625	4,482
								43,564

- (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. Shipler 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.

1. ID (Contract) Number: DE-AC06-76RLO 1830		2. Program/Project Title: HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION - TSP					3. Reporting Period: JANUARY 1992								
4a. Participant Name and Address Pacific Northwest Laboratory P.O. Box 999 Richland, WA 99352			4b. Client Name and Address RL Richland, Washington 99352					5. Start Date OCTOBER 1991		6. Completion Date SEPTEMBER 1992					
7. FY 92	8. Months		O	N	D	J	F	M	A	M	J	J	A	S	FY93
9. Cost Status															
a. \$ Expressed in: Thousands															
b. B&R No./ Subaccount No. 12578 HR0120															
c. FIN No.															
d. Actual Costs Prior Years 2,251															
e. FY Budget 300 (a)															
f. Total Budget															
g. FY Funds Auth. 300 (b)															
h. Total Funds Auth. 2,551 (c)															
Costs	i. Planned (d)	60	60	61	60	59									
	j. Actual (e)	2	45	2	8										
	k. Variance	58	15	59	52										
	l. Cum Planned (d)	60	120	181	241	300									
	m. Cum Actual (e)	2	47	49	57										
	n. Cum Variance	58	73	132	184										
10. Legend: Planned - - - - - Actual ——— Funds Auth. ——— 90% Funds Spent - - - - - Time Now															
(a) FY budget assumes TSP contracts will transfer to CDC in conjunction with the signing of a contract between Battelle and CDC on February 28, 1992. (b) Includes carryover and TSP's share of current fiscal year funding that has been received. (c) FY 88-92. (d) Refer to the "Budget Status" section of the Project Summary, page x, for an explanation of the FY 1992 budget. (e) Actual costs are recorded after invoices are received and processed. Therefore, current month costs may not reflect actual work performed.															
11. Name/Signature of Participants Prog/Proj Manager & Date D. B. SHIPLER															

FIGURE A.2. Technical Steering Panel Budget Status

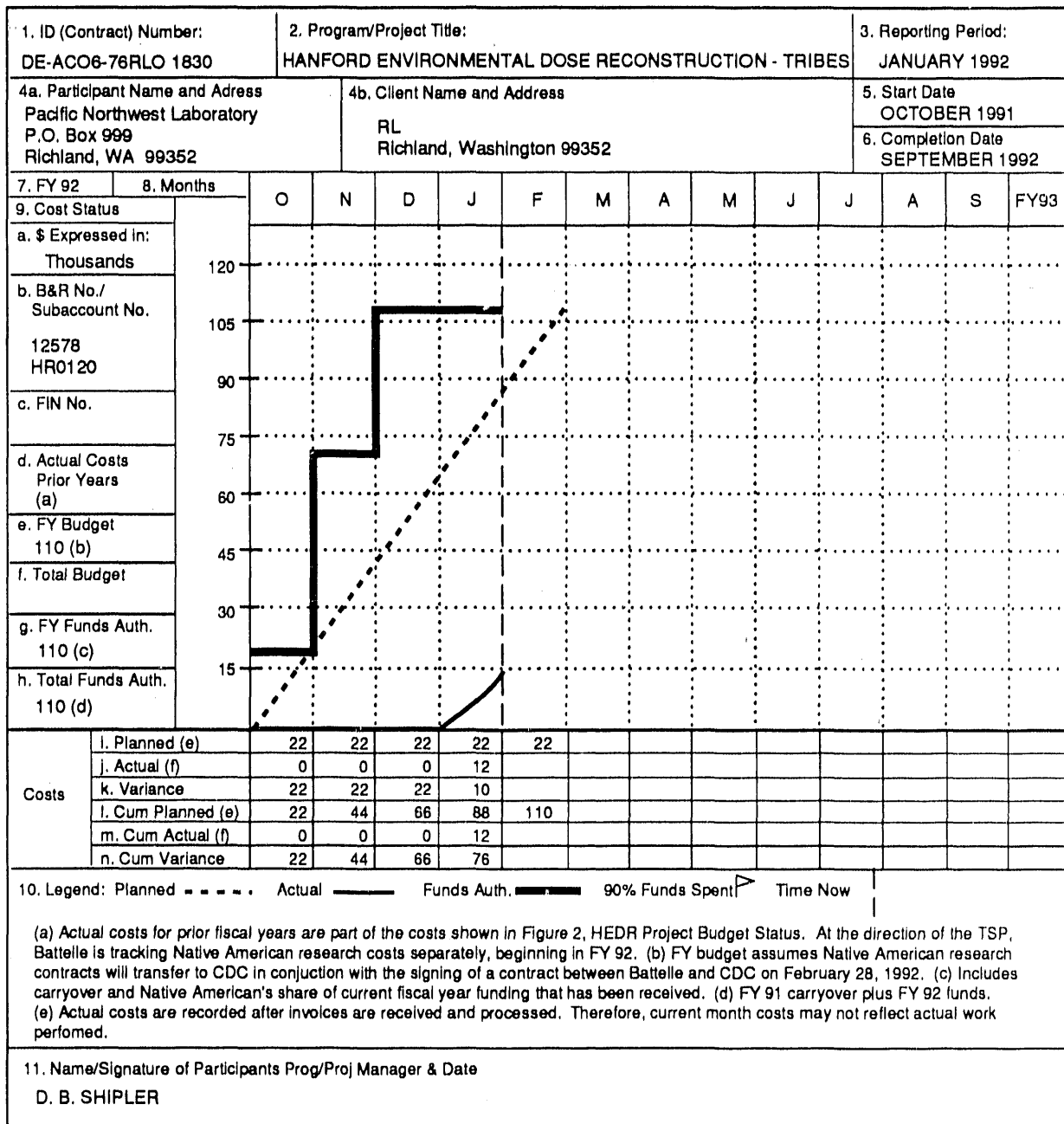


FIGURE A.3. Native American Research Budget Status

Appendix B

**Hanford Site-Originated Documents of
Potential Interest/Use in the HEDR Project -
Placed in the RL Public Reading Room
During January 1992**

Appendix B

Hanford Site-Originated Documents of Potential Interest/Use in the HEDR Project - Placed in the RL Public Reading Room During January 1992

BN-SA-1948	Concurrent Measurements of Ozone Dry Deposition Using Eddy Correlation and Profile Flux Methods. 8p.	05/09/84
BNWL-1703	Variable Thickness Transient Groundwater Flow Model Theory and Numerical Implementation. 30p.	01/01/76
BNWL-1706	Transmissivity Iterative Calculation Routine - Theory and Numerical Implementation. 120p.	05/31/75
BNWL-1754	Models and Computer Codes for Evaluating Environmental Radiation Doses. 165p.	03/01/74
BNWL-SA-5096	Surface Depletion Model for Deposition from a Gaussian Plume	03/15/76
* HW-19716	Processing of Special Low-Level Material - T Plant Only. 2p.	12/13/50
* HW-25252	Dissolver Production Tests. 4p.	08/05/52
HW-41275	Columbia River Travel Time Measurements by Float Methods. 18p.	01/04/56
HW-44355-REV1	Hanford Wells. 155p.	04/10/58
• HW-46359	H-10 Coating Waste - REDOX. 2P.	10/29/56
• HW-77387-DEL	Results of a Test of Sampling in I ¹³¹ Plumes. 78p.	04/18/63
HW-84577	Scintillation Probe Results 200 Area Waste Disposal Site Monitoring Wells. 54p.	12/17/64
HW-SA-3056	Determination of River Dispersion Factors. 20p.	05/24/63
PNL-3632	AEGIS Technology Demonstration for a Nuclear Waste Repository in Basalt. 200p.	09/12/82
PNL-4278	Dose Assessment for Sheep Exposed to Fallout from Nuclear Test Nancy. 73p.	10/31/82
PNL-6315-2	Hanford Site Ground-Water Monitoring for July through December 1987. 300p.	12/31/88
PNL-6328	Estimation of Ground-Water Travel Time at the Hanford Site: Description, Past Work, and Future Needs. 65p.	01/31/88

**Hanford Site-Originated Documents of
Potential Interest/Use in the HEDR Project -
Placed in the RL Public Reading Room
During January 1992**

PNL-6824	Borehole Summary Report for Five Ground-Water Monitoring Wells Constructed in the 1100 Area. 231 p.	05/01/89
PNL-7199	Atmospheric Transport Modeling and Input Data for Phase I of the HEDR Project. 70p.	07/31/91
PNL-7498	Evaluation of Hanford Site Water Table Changes, 1980-1990. 60p	11/01/90
PNL-7500	1988 Hanford Riverbank Springs Characterization Report. 40p.	12/31/90
PNL-7625	Evaluation of a Multiport Groundwater Monitoring System. 96p.	03/14/91
PNL-7646	Evaluations of the Effects of the Columbia River on the Unconfined Aquifer Beneath the 100-N Area. 133p.	05/30/91
PNL-7737	Dose Estimate Variability Caused by Air Model Uncertainties. 60p.	02/28/92
PNL-7970	Iodine Production in Hanford Reactors. 2p.	01/21/74
PNL-SA-8009	Review of Gaussian Diffusion Deposition Models. 13p.	10/14/79
PNL-SA-18389	Strategies for Modeling the Uncertain Impacts of Climate Change. 20p.	07/01/90
RHO-BWI-C-101	Survey of Selected Basalt Water Wells, Pasco Basin, Washington. 150p.	05/11/81
RHO-ST-23	Geology of the Separations Areas, Hanford Site, South Central Washington. 150p.	07/30/79

- Declassified by Secretary of Energy Watkins' directive
- * Declassified in 1991 by earlier guidance

Appendix C

HEDR Documents to the TSP - January 1992

Appendix C

HEDR Documents to the TSP - January 1992

Title	Author	Date Issued	Publication No.	Additional Information	Status
Final Design Specification for the Environmental Pathways and Dose Model	B.A. Napier et al	1/92	PNL-7885 HEDR		To TSP 1/92 for review
Ground-Water Contribution to Dose from Past Hanford Operations	M.D. Freshley P.D. Thorne	1/92	PNL-7978 HEDR		To TSP 1/92 for review

Appendix D

HEDR Presentation Handouts to the TSP - January 1992

Note: No presentation handouts to the TSP were generated in January.

Appendix E

HEDR Open-Literature Publications and Presentations - January 1992

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 - January 1992

Title	Author	Date Issued	Publication No.	Audience	Status
Overview of the Hanford Environmental Dose Reconstruction Project	D.B. Shipler et al.	1/92	PNL-SA-20021 HEDR	American Nuclear Society International High-Level Radioactive Waste Management Conference 4/92 Las Vegas, Nevada	To be presented 4/92
Decision Management for the Hanford Environmental Dose Reconstruction Project	W.J. Roberts et al.	1/92	PNL-SA-20432 HEDR	American Nuclear Society International High-Level Radioactive Waste Management Conference 4/92 Las Vegas, Nevada	To be presented 4/92

Appendix F
Communications Log - January 1992

Appendix F
Communications Log - January 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
K CharLee/TSP	SP Gydesen/PNL	Phone	Arranging visits and document review
MA Robkin/TSP	SP Gydesen/PNL	Phone	Verify document number
MA Robkin/TSP	SP Gydesen/PNL	Phone	Visit to Richland
NJ Germond/TSP	SP Gydesen/PNL	Phone	Questions on review of historical records and reports
MA Robkin/TSP	SP Gydesen/PNL	Phone	Request to review documents
MA Robkin/TSP	SP Gydesen/PNL	Phone	Request new copy of HW-75520
K CharLee/TSP	SP Gydesen/PNL	Phone	Arrange details of January visit
B Shleien/TSP	SP Gydesen/PNL	Phone	Arrangement for document review
GL Harvey/PNL	ML Blazek/TSP	Phone	Visit of Canadian Members of Parliament
A Beers/TSP Staff	GL Harvey/PNL	Phone	HEDR communications contact with CDC staff
K Niles/TSP Staff	GL Harvey/PNL	Phone	Possible meeting on various HEDR topics
GL Harvey/PNL	PD McGavran/TSP	Memo	Information on Hanford Environmental Annual Report
K Niles/TSP Staff	GL Harvey/PNL	Phone	KONA interview
A Beers/TSP Staff	GL Harvey/PNL	Phone	Receipt of Cellilo Falls photos and maps
A Beers/TSP Staff	GL Harvey/PNL	Phone	Ongoing Canadian epidemiological studies
P McLay/CA Dept Health Services/Environmental Studies	GL Harvey/PNL	Phone	Request HEDR I-129 results; refer to Mark Freshley

Communications Log - January 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
GL Harvey/PNL	WA Bishop/TSP	Phone	Questions about Celilo Falls photos, map of Native American tribes locations, and project grid
MS Power/TSP Staff	GL Harvey/PNL	Phone	Dose turnover package planning, sensitivity workshop
A Beers/TSP Staff	GL Harvey/PNL	Phone	Meeting with farmers during February TSP meeting
KJ Kopecky/TSP	GL Harvey/PNL	Phone	TSP fact sheet on sensitivity
GL Harvey/PNL	PD McGavran/TSP	Phone	Rad measurements at Moscow Mountain (ID) in 1950
GL Harvey/PNL	ML Blazek/TSP	Phone	Progress on action items at TSP Communications Subcommittee meeting
GL Harvey/PNL	A Beers/TSP Staff	Phone	J Till availability to meet with agriculture community
A Beers/TSP Staff	GL Harvey/PNL	Phone	Native American photos for fact sheet
K Niles/TSP Staff	GL Harvey/PNL	Phone/ Fax	Focus group information on agribusinesses in Southeast Washington
R Cook/YIN	BA Napier/PNL	Phone	Auger electrons omitted from I-129 calculations; further study needed
L Leavens/PNL	BA Napier/PNL	Phone	Design specifications
P Houck/Indian Health Service	BA Napier/PNL	Phone	Sensitivity/uncertainty workshops for tribes
J Thomas/HEAL	BA Napier/PNL	Phone	Public announcement of 1/16/91 TSP Transport subcommittee meeting, source term Phase I estimates

Communications Log - January 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
KJ Kopecky/TSP	RO Gilbert/PNL	Phone	NISS paper, survey on agricultural products, information from experts
RO Gilbert/PNL	KJ Kopecky/TSP	Fax	Draft paper on HEDR and HTDS
RO Gilbert/PNL	KJ Kopecky/TSP	Fax	NISS workshop
RO Gilbert/PNL	KJ Kopecky/TSP	Fax	Additional information on NISS workshop
AH McMakin/PNL	K CharLee/TSP Staff	Phone	Request for A Murphy atmospheric report
HA Haerer/Golder Associates	CM Heeb/PNL	Phone	Iodine closure report status
R Brich/RL	CM Heeb/PNL	Phone	FY 1993 task plan milestones
MA Robkin/TSP	CM Heeb/PNL	Phone	Robkin's January visit to Richland
MA Robkin/TSP	SM Finch/PNL	Phone	Robkin's January visit
C Stults/Ray K. Robinson, Inc.	SM Finch/PNL	Phone	Request for project information
W Hanson/Yakima Indian Nation	SM Finch/PNL	Phone	Work orders - authorized amounts
K CharLee/TSP Staff	SM Finch/PNL	Phone	TSP meeting agenda, badge
DE Walker/TSP	SM Finch/PNL	Phone	Invoice status/TSP meeting
F Weaskus/Nez Perce Tribe	SM Finch/PNL	Phone	Invoice status
LE Sewell/CDC	SM Finch/PNL	Phone	DOE funding, FY 1991 and 1992
SM Finch/PNL	B Shleien/TSP	Phone	Q clearance granted
K Pillpointer	SM Finch/PNL	Phone	Meteorological data in summary report

Communications Log - January 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
A Beers/TSP Staff	SM Finch/PNL	Phone	FY 1992 report list
JM Daer/PNL	K CharLee/TSP Staff	Phone	Copy of TSP Directive 88-4
JM Daer/PNL	K CharLee/TSP Staff	Phone	A Murphy's atmospheric report
R Cook/Yakima Indian Nation	BA Napier/PNL	Phone	Proposed inclusion of auger electrons in I-129 dose calculations
JM Daer/PNL	K CharLee/TSP Staff	Phone	TSP meeting agenda, October - December monthly reports
R Brich/RL	DB Shipler/PNL	Phone	Activity Description Sheet requirement for HEDR
JE Till/TSP	DB Shipler/PNL	Phone	Declassification, subcontracts letter to DOE, Caldwell visit, agribusiness concerns
DS Barth/TSP	DB Shipler/PNL	Phone	TSP meeting agenda, decision support review
B Shleien/TSP	DB Shipler/PNL	Phone	Clearance status, deliverable status, subcontracts, river doses, dose code criteria
DB Shipler/PNL	P Klingeman/TSP	Phone	TSP meeting agenda
DB Shipler/PNL	MS Sage/CDC	Phone	Model workshop, contract negotiation schedule
ML Blazek/TSP	DB Shipler/PNL	Phone	Turnover package planning
LE Sewell/CDC	DB Shipler/PNL	Phone	Subcontracts administration
P Klingeman/TSP	DB Shipler/PNL	Phone	TSP meeting agenda
DS Shipler/PNL	LA Sewell/CDC	Phone	Tribal and TSP subcontracts

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