

PNWD--1980-04-HEDR

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HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT

Monthly Report

September 1992

Prepared for the Technical Steering Panel
and the Centers for Disease Control
under Contract Number 200-92-0503(CDC)/18620(BNW)

Battelle
Pacific Northwest Laboratories
Richland, Washington 99352

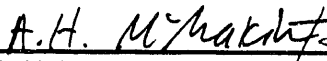
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HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT

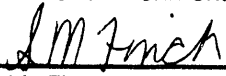
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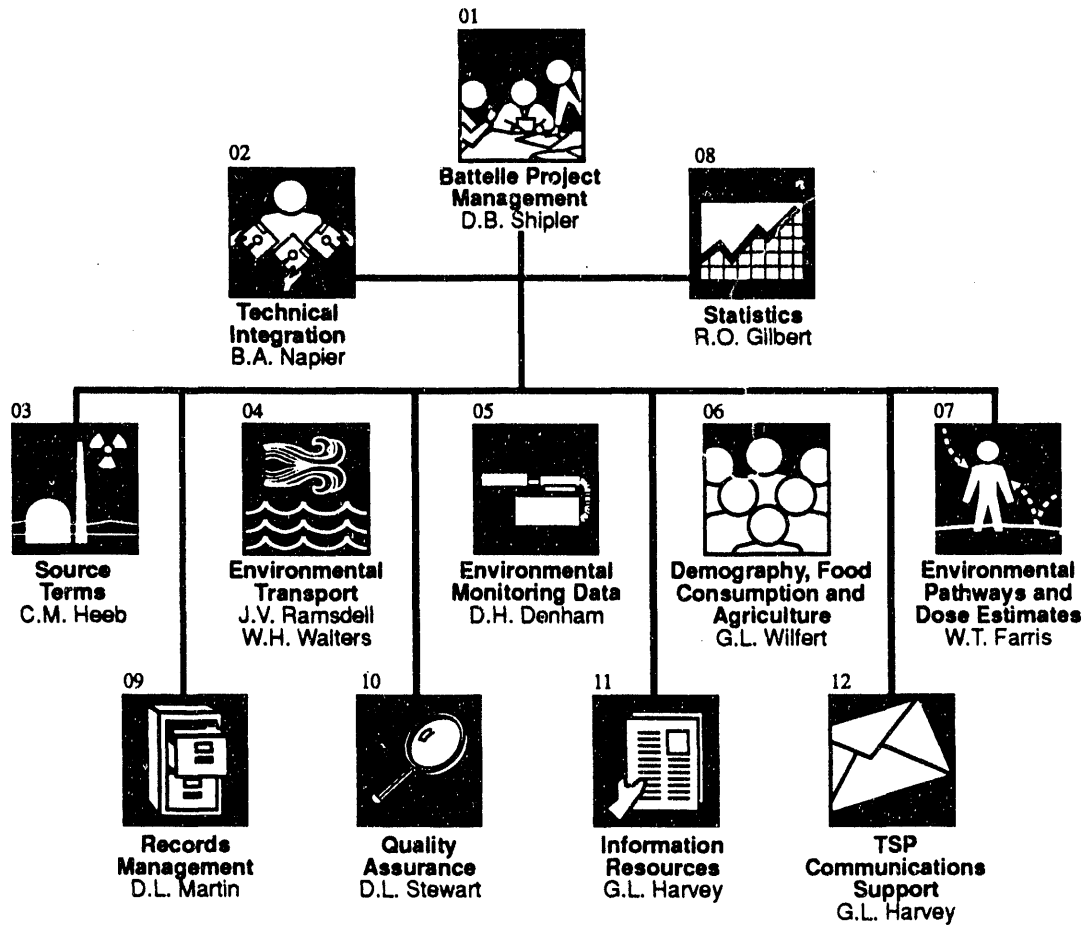
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Preface

This monthly report summarizes the technical progress and project status for the Hanford Environmental Dose Reconstruction (HEDR) Project being conducted by Battelle Pacific Northwest Laboratories (BNWL) under contract with the Centers for Disease Control (CDC). The Technical Steering Panel (TSP), which is composed of experts

in numerous technical fields related to the project, provides technical direction of the project.

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



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Figure 1. Organizational Structure of the HEDR Project

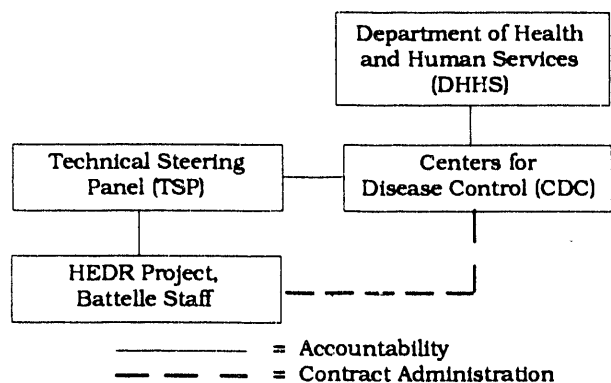
Table 1. Status of Directives^(a)

		<u>Complete</u>	<u>Ongoing</u>
88-1	(a) Proposals		x
	(b) Source Terms		x
88-2	Vegetation		x
88-3	Status Reports		x
88-4	Ground Water		x
88-5	Maps	x	
88-6	Resumes	x	
89-1	Indian Tribes		x
89-2	Bioassay Data	x	
89-3	Document Handling		x
89-4	Reactor Purging		x
89-5	Phased Approach	x (modified 2/14/91)	
89-6	Meeting Materials		x
89-7	Technical Communication		x
89-8	Phase II Planning	x (modified 2/14/91)	
89-9	Project QA Plan		x
89-10	Contracts with Tribes		x (revised annually; extended by CDC request)
90-1	Project Direction (Task Plans)		x
90-2	Dose Cut-Off Limit	x	
92-1	Demography, Food, and Agriculture Tasks		x

(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 (HEDR) 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 Battelle Pacific Northwest Laboratories (BNW) under contract with the Centers for Disease Control (CDC). The independent Technical Steering Panel (TSP) provides technical direction.



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 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 radio-nuclides 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 is also expected to be developed for several special population groups, including Native American tribes in the study area.

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 radio-nuclides. 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 be developed by the Fred Hutchinson Cancer Research Center for use in the Hanford Thyroid Disease Study (HTDS).

The Environmental Pathways and Dose Estimates Task uses the information produced by the other tasks and organizations 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.2 in Appendix A shows the status of Fiscal Year (FY) 1992 project milestone activities. The following is a summary of activities conducted by HEDR staff in September 1992:

- provided *Integrated Task Plans for the Hanford Environmental Dose Reconstruction Project, FY 1992 Through May 1994* (PNWD-2020 HEDR) to the TSP and CDC for review and comment (Milestone 0101E)
- published *Project Management Plan for the Hanford Environmental Dose Reconstruction Project* (PNWD-2021 HEDR) (Milestone 0101F)
- provided *Iodine-131 Releases from the Hanford Site, 1944 Through 1947, Vol. 1 - Text, Vol. 2 - Data* (PNWD-2033 HEDR Vols. 1&2) to the TSP and CDC for review and comment (Milestone 0302A)
- published *Commercial Production and Distribution of Fresh Fruits and Vegetables: A Scoping Study on the Importance of Produce Pathways to Dose* (PNWD-2022 HEDR) (Milestone 0603C)
- provided *Parameters Used in the Environmental Pathways (DESCARTES) and Radiological Dose (CIDER) Modules of the Hanford Environmental Dose Reconstruction Integrated Codes (HEDRIC) for the Air Pathway* (PNWD-2023 HEDR) to the TSP and CDC for review and comment (Milestones 0703B + 0205D)
- published *Declassifications, Requested by the Technical Steering Panel, of Hanford Documents Produced 1944-1960* (PNWD-2024 HEDR) (Milestone 1102A)
- published *Selected Hanford Reactor and Separations Operating Data for 1960-1964* (PNWD-2017 HEDR)
- published *Documents Containing Operating Data for Hanford Separations Processes, 1944-1972* (PNWD-2028 HEDR)
- quality assurance audit was completed. One finding and four observations were identified.
- reviewed and provided details for the software-requirements specification for the environmental accumulation and dose codes
- provided technical evaluations of statements of work proposed by the Nez Perce, Coeur D'Alene, Spokane, Colville, and Yakima tribes
- provided technical assistance to the Colville tribe regarding their response to the CDC request for proposal; reviewed the other tribes' proposal preparation progress.
- established data quality objectives for planned Native American activities in FY 1993 and reviewed specific plans for meeting these objectives with independent quality specialist
- completed a draft literature review of Native American infant feeding practices and circulated this paper for internal review
- declassified 343 Hanford-Site-originated documents, 103 of which are of potential interest/use to the HEDR Project
- provided the U.S. Department of Energy Richland Field Office (RL) Public Reading Room with 140 documents (~10,000 pages) of potential interest/use to the HEDR Project and with three packages of 25 records totalling 1,079 pages of processed project records

Major Problems or Changes and Action Taken

The receipt of HTDS data for dose calculations has slipped at least two months and may slip several more. This may impact other dose calculation milestones in late FY 1993.

A corrective action plan for revising the environmental accumulation and dose computer codes was prepared and will be presented to the TSP in October. The overall project ability to calculate doses, starting with the HTDS input approximately in March 1993, will not be adversely affected.

Planned Work for the Next Three Months

- complete and issue data management plan (Milestone 0204A)
- complete and issue key radionuclides report (Milestone 0205B)
- complete wind field modeling report (Milestone 0402A)
- complete Columbia River conceptual model letter report (Milestone 0404B)
- complete meteorological data base letter report (Milestone 0405A)

- issue environmental monitoring data report (Milestone 0501A)
- complete and issue vegetation data report (Milestone 0502A)
- complete project sensitivity/uncertainty analysis plan letter report (Milestone 0803A)
- complete and issue status of document search and data quality objectives letter report (Milestone 1103A)
- implement Task 07 (Environmental Pathways and Dose Estimates) corrective action plan
- address audit findings and observations and implement corrective actions

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.

Capital Status

The HEDR Project has been approved for \$75K of capital funding for FY 1992. Funding for the \$75K was transferred from RL to BNW in the March 1992 Financial Plan. The majority of equipment has been received and installed.

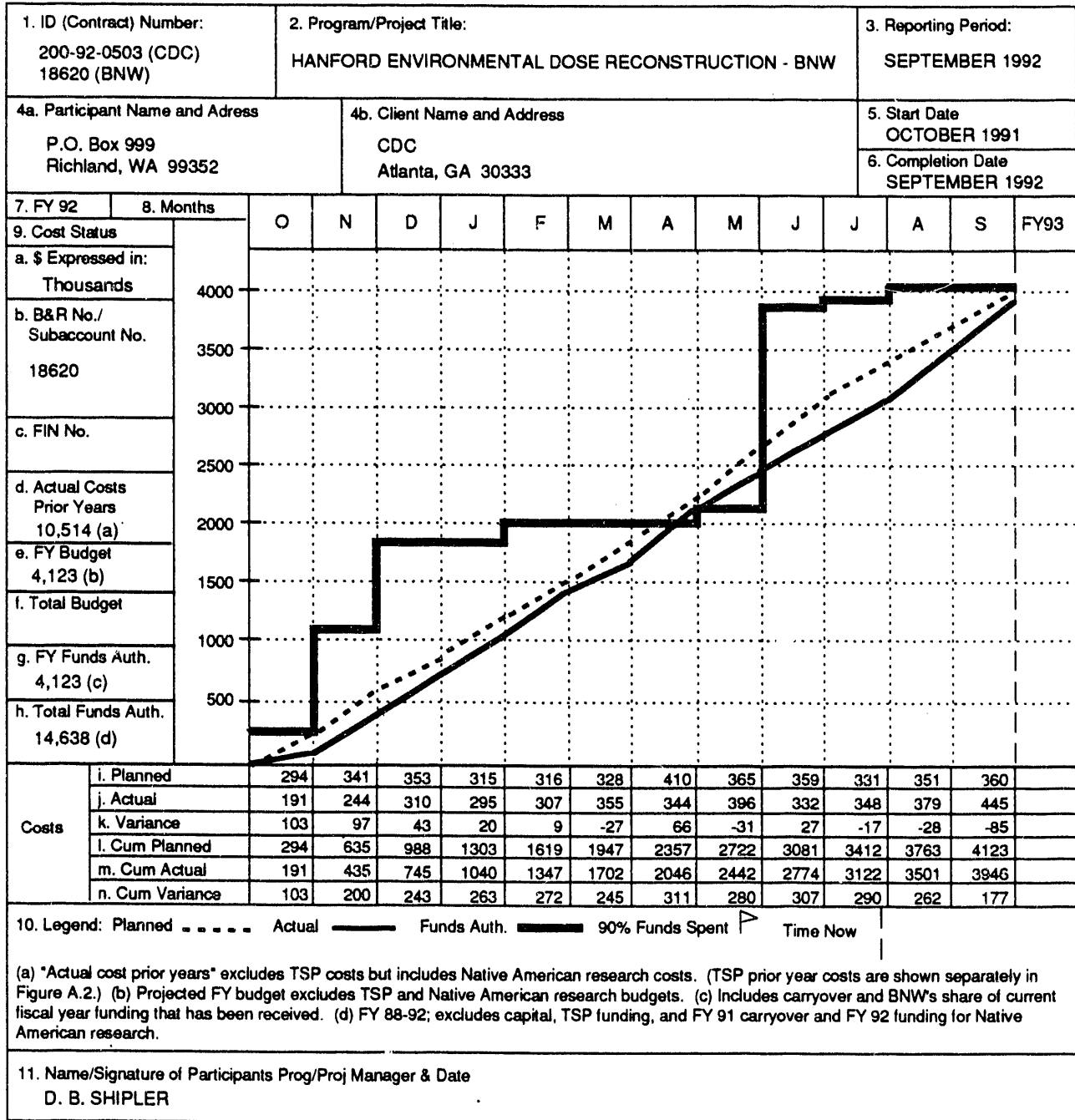


Figure 2. HEDR Project Budget Status - Battelle Pacific Northwest Laboratories

Acronyms and Abbreviations

AP	Associated Press	NFCS	National Food Consumption Survey
BNW	Battelle Pacific Northwest Laboratories	NPT	Nez Perce Tribe
CA	Coeur d'Alene Tribe	NTIS	National Technical Information Service
CDC	Centers for Disease Control	OMB	Office of Management and Budget
CIDER	calculation of individual doses from environmental radionuclides (computer code)	PARSEL	parameter selection (computer code)
CT	Colville Tribe	PNL	Pacific Northwest Laboratory (operated for DOE by Battelle Memorial Institute)
CTUIR	Confederated Tribes of the Umatilla Indian Reservation	QA	quality assurance
DESCARTES	dynamic estimates of concentrations and accumulated radionuclides in terrestrial environments (computer code)	RATCHET	regional atmospheric transport code for Hanford emissions tracking (computer code)
DOE	U.S. Department of Energy	REPGEN	report generation code
DOE-HQ	U.S. Department of Energy Headquarters	RFP	request for proposal
DQO	Data Quality Objective	RIDS	records inventory and disposition schedule
FHCRC	Fred Hutchinson Cancer Research Center	RL	U.S. Department of Energy Richland Field Office
FY	fiscal year	SESRC	Social and Economic Sciences Research Center (Washington State University)
GENII-S	generation II-SUNS (computer code)	SOW	statement of work
HEDR	Hanford Environmental Dose Reconstruction	ST	Spokane Tribe
HHIN	Hanford Health Information Network	STRM	source term release model (computer code)
HNIS	Health and Nutrition Information Service	SUNS	sensitivity/uncertainty system
HTDS	Hanford Thyroid Disease Study	TSP	Technical Steering Panel
IAEA	International Atomic Energy Agency	USDA	U. S. Department of Agriculture
IHS	Indian Health Service	VAMP	validation of model predictions program
KT	Kalispel Tribe	WST	Warm Springs Tribe
NAWG	TSP Native American Working Group	WSU	Washington State University
		YIN	Yakima Indian Nation

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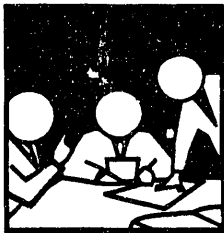
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Task 01 Battelle Project Management

Objective

The objective of the Battelle Project Management Task is to provide project planning, control, and management of Battelle dose reconstruction work in accordance with the Centers for Disease Control (CDC) contract and Technical Steering Panel (TSP) technical direction.

Progress

Milestone 0101E - FY 1992-1994 Integrated Task Plans, due July 1992, rescheduled to September 1992 and completed (PNWD-2020 HEDR)

- provided *Integrated Task Plans for the Hanford Environmental Dose Reconstruction Project, FY 1992 Through May 1994* to the TSP and CDC for review and comment

Milestone 0101F - Revised Project Management Plan, due August 1992, rescheduled to September 1992 and completed (PNWD-2021 HEDR)

- published *Revised Project Management Plan for the Hanford Environmental Dose Reconstruction Project*

Other Activities

- represented BNW in discussions of HEDR Project issues with TSP and CDC in Atlanta, Georgia
- reviewed status and developed options for recovery of the dose code (Task 07)
- incorporated corrective actions into the root cause of the dose code problem
- met with J. Thomas and L. Stenbridge, both of the Hanford Education Action League (HEAL)
- extended five of the eight Native American sub-contracts through December at CDC's request. The other three should be placed by early October.
- closed on Task 04's (Environmental Transport) Quality Assurance (QA) observation of last year

- worked with J. Smith, BNW, to replace D. Stewart, the Task 10 (QA) Task Leader, who is leaving the HEDR Project
- brought J. Shaw, the new Publications Manager for HEDR, on board. A. McMakin, a Senior Technical Communication Specialist for HEDR, will be phasing out of the project in October.
- published seven HEDR Project reports

Major Problem Areas or Changes and Action Taken

The receipt of HTDS data for dose calculations has slipped at least two months and may slip several more. This may impact other dose calculation milestones in late FY 1993.

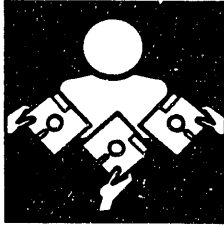
Options to complete the dose code will be presented to the TSP and CDC at the October TSP meeting. If engineering work is continued and an option is selected in January, key milestones can be met.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- meet with the TSP and CDC in Atlanta, Georgia to discuss the RATCHET (air model) code
- meet with Savannah River Operations Office staff to review information resources and declassification issues
- brief the National Academy of Science (NAS) review committee for CDC health 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, and that technical task work is integrated effectively for performing the final dose calculations.

Progress

Milestone 0204A - Letter Report: Data Management Plan, due May 1992 and rescheduled to FY 1993

- prepared a working draft prior to the HEDR QA audit. The plan will be integrated with the code data engineering work.

Milestone 0204B - Letter Report: Recommendation on Modeling or Monitoring Approach for River Pathways, due June 1992, rescheduled to July 1992 and completed (PNWD-1977 HEDR Vols. 1 and 2)

- met with the TSP Environmental Transport Subcommittee in Seattle to discuss the recommendations in this report. The Subcommittee prepared its own recommendations for the TSP based on the original recommendations of this report.

Milestone 0205B - Letter Report: Key Radionuclides, Rev. 1, due May 1992 and rescheduled to FY 1993

- halted work temporarily until October because of computer code corrective action reviews

Other Activities

- revised and detailed the software-requirements specification for the environmental accumulation and dose codes

Major Problem Areas or Changes and Action Taken

A corrective action plan for revising the environmental accumulation and dose computer codes was prepared and will be presented to the TSP in October. The overall project ability to calculate doses, starting with the HTDS input approximately in June 1993, will not be adversely affected.

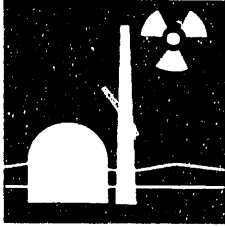
The unexpected cumulative effort toward preparing the corrective action plan has adversely impacted work planned for this month. Work on the data management plan and the dominant radionuclides report has been temporarily halted.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- complete and issue data management plan (Milestone 0204A)
- complete and issue key radionuclides report (Milestone 0205B)
- implement Task 07 corrective action plan □



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, rescheduled to September 1992 and completed (PNWD-2033 HEDR Vols. 1 and 2)

- provided *Iodine-131 Releases from the Hanford Site, 1944 Through 1947* to TSP and CDC for review and comment
- made preparations for the presentation of the early iodine-131 release results at the October 1992 TSP meeting

Major Problem Areas or Changes and Action Taken

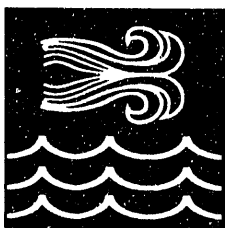
Work on the Hanford Operations 1944-1991 report (Milestone 0307A) was delayed by the effort required to complete Milestone 0302A and will be resumed in October.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- present the results of the iodine-131 releases from 1944 through 1947 at the October TSP Meeting
- complete the letter report, Hanford Operations, 1944-1991 (Milestone 0307A)
- begin work on iodine-131 releases from 1948 through 1972 □



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 is studied.

Progress

Milestone 0404A - Columbia River Pathway Summary Report, due December 1991, rescheduled to April 1992 and completed (PNL-8083 HEDR)

- addressed comments from the TSP and other reviewers

Milestone 0404B - Letter Report: Columbia River Conceptual Model, due September 1992 and rescheduled to FY 1993

- continued activities to place subcontract with Washington State University (WSU)

Milestone 0405A - Letter Report: Interim Atmospheric Model Database + Meteorological Data Report (Milestone 0402D), due September 1992 and rescheduled to October 1992

- continued work on report

Other Activities/Subtask Activities

- discussed presentation of results of RATCHET model runs with TSP members, A. Murphy and K. Kopecky

Major Problem Areas or Changes and Action Taken

Until source terms are transferred from Task 03 following the TSP meeting in October, the Wind Field Modeling White Paper (Milestone 0402A) will be delayed.

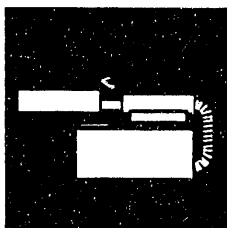
The problems in placing a subcontract with WSU continue to delay the completion of Milestone 0404B.

Variance

No significant cumulative variance for subtasks 0402 and 0403. The cumulative underrun in subtask 0404 was caused by a delay in placing a subcontract with WSU.

Planned Work for the Next Three Months

- complete wind field modeling report (Milestone 0402A)
- complete Columbia River conceptual model letter report (Milestone 0404B)
- complete meteorological database letter report (Milestone 0405A)
- continue meteorological data entry (1948-1949)
- conduct RATCHET tests
- begin model sensitivity/uncertainty tests



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 FY 1991 and rescheduled to FY 1993

- resolved comments and restructured the final draft document

Milestone 0502A+B - Vegetation Data Report (1945-1951) + Letter Report: Vegetation Monitoring Data (1949-1951), Bias and Data Correction, due FY 1991 and rescheduled to November 1992

- concluded that these reports should be issued as originally proposed; i.e., as two separate reports, because it was determined that an even more efficient use of time and money would result by not duplicating in the 0502A+B report the data given in the Phase I, 0501A report. Once that data is removed from the 0502A+B report, the more logical grouping of information would then be according to the two analytical methods used: vegetation pellets and chemical extraction of iodine-131. The milestone numbers will revert to those numbers and titles originally assigned.

Major Problem Areas or Changes and Action Taken

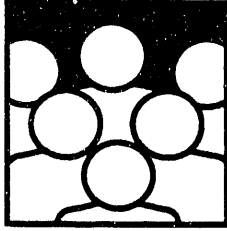
None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- issue Phase I report (Milestone 0501A)
- continue revising and issue the early vegetation monitoring data and reconstructed conversion factor report, 1945-1948 (Milestone 0502A)
- continue revising the 1948-1951 vegetation monitoring data bias and correction factor report (Milestone 0502B) □



Task 06 Demography, Food Consumption, and Agriculture

Objective

The objective of the task is to develop the population and agricultural data needed to estimate the population doses that may have resulted from historical releases of radioactive materials from operations at the Hanford Site.

Progress

Milestone 0602C - Food Consumption Report, General Population, due March 1993

- drafted an outline of the report
- continued development of the food-consumption backcasting ratios for 1945:1977, 1951:1977, and 1957:1977. The ratios are being estimated from per capita consumption data available in the annual U.S. Department of Agriculture publication, *Agricultural Statistics*. Ratios developed from this data will be compared with ratios developed using data compiled in the Economic Research Service Statistical Bulletins No. 364 and No. 656 as a check for consistency.

Milestone 0603C - Letter Report: Assessment of Fruit and Vegetable Pathways, 1944 - 1957, due June 1992, rescheduled to September 1992 and Completed (PNWD-2022 HEDR)

- revised and published the letter report, *Commercial Production and Distribution of Fresh Fruits and Vegetables: A Scoping Study on the Importance of Produce Pathways to Dose*. Additional information was included in the appendixes to explain in further detail distribution patterns, human ingestion rates, pathway rankings, and screening dose estimates.

Milestone 0603D - Milk Production/Distribution Report, 1944 - 1991, due FY 1993

- received call records from National Association of State Departments of Agriculture. Prepared sample list of 1945 and 1951 farmers for WSU's

Social and Economic Sciences Research Center (SESRC). To date, there are a total of 256 farmers eligible for interviews.

- prepared face-to-face interview questionnaire justification

Native American Data (Subtask 0605)

- attended a meeting of the Native American Working Group (NAWG) in Seattle
- contributed review comments to two versions of the proposed data collection and analysis protocol under development jointly with CDC, HTDS, and HEDR
- provided technical evaluations of statements of work proposed by the Nez Perce, Coeur D'Alene, Spokane, Colville, and Yakima Tribes
- provided technical assistance to the Colville Tribe regarding their response to the CDC request for proposal; reviewed the other tribes' proposal preparation progress
- established data quality objectives for planned activities in FY 1993 and reviewed specific plans for meeting these objectives with independent quality specialist
- completed a draft literature review of Native American infant feeding practices and circulated this paper for internal review

Major Problem Areas or Changes and Action Taken

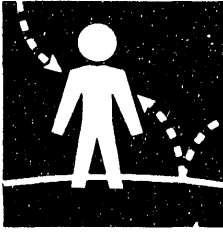
None.

Variance

The cumulative cost underrun was caused by a delay in placing a subcontract with WSU.

Planned Work for the Next Three Months

- complete revisions of infant feeding practices literature review and annotated bibliography, based on internal review comments
- contribute to standard data collection protocol, including data quality procedures and questionnaire design
- review and evaluate preliminary data submitted to Battelle by the tribes
- attend NAWG meetings in Kennewick and Pasco in October
- plan and facilitate training sessions for the NAWG regarding procedures for key informant interviewing (interview guide development, informant selection, data record management, content analysis)
- provide technical assistance to tribal representatives who plan to come to Seattle to review unpublished materials stored at the Sand Point Federal Archives facility □



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 0703B + 0205D - Letter Report: Iodine-131 Parameters and Dose Factors, Revised Model + Letter Report: Model Parameter Distributions Strategy, due February 1992, rescheduled to September 1992 and completed (PNWD-2023 HEDR)

- provided *Parameters Used in the Environmental Pathways (DESCARTES) and Radiological Dose (CIDER) Modules of the Hanford Environmental Dose Reconstruction Integrated Codes (HEDRIC) for the Air Pathway* to the TSP and CDC for review and comment

Other Activities

- continued to support Task 06, Milestone 0603C (Assessment of Fruit and Vegetable Pathways, 1944-1957) with dose calculations conducted under Task 0705. The calculations were done in order to determine the relative importance of 30 different commercial fresh fruits and vegetables and to determine the impacts of the produce distribution system on the doses to representative individuals.

Major Problem Areas or Changes and Action Taken

The corrective action plan to revise the environmental accumulation and dose computer code was

completed and will be presented to the TSP in October. This plan outlines the needs, coding modifications, code testing, reporting requirements and revised schedules that are required to complete the PARSEL, DESCARTES, and CIDER codes. It will be used to direct FY 1993 computer coding activities.

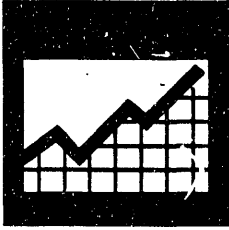
Because of the work on the corrective action plan, only limited progress has been made on Milestone 0702B, Documentation Report of Population Dose Model, Major Pathways.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- continue work on the report documenting the population dose model (Milestone 0702B)
- begin work on the parameters and dose factors report for key air and river radionuclides (Milestone 0703C)
- initiate work on the revised air pathway dose calculations (Milestone 0705A)
- implement the corrective action plan for Task 0702, Pathways and Dose Code Development and Documentation □



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

General Statistics Support (Subtask 0802)

- reviewed a draft of Section 3.0 of the Milestone 0703B Letter Report: Iodine-131 Parameters and Dose Factors, Revised Model
- reviewed a draft of Milestone 1102A Letter Report: Declassified, Prioritized Document List
- reviewed a draft of the Task 11 (Information Resources) letter report: Selected Hanford Reactor and Separations Operating Data for 1960-1964
- reviewed a draft of the Task 11 (Information Resources) letter report: Documents Containing Operating Data for Hanford Separations Processes, 1944-1972

Analysis of Model Reliability (Subtask 0803)

- met with A. Murphy and K. Kopecky, both of the TSP, to discuss sensitivity and uncertainty analyses for the computer code RATCHET
- conducted independent technical reviews of the source term release model (STRM)

Other Activities/Subtask Activities

- continued work on the corrective action plan for Subtask 0702 (Path and Dose Code Development and Documentation)

- finished QA procedures on the reactor model for Task 03, Source Terms

Major Problem Areas or Changes and Action Taken

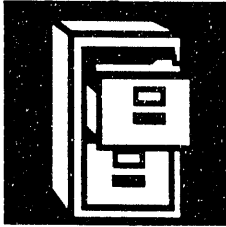
None.

Variance

The cumulative cost underrun was caused by the delay of the sensitivity/uncertainty plan review and workshop.

Planned Work for the Next Three Months

- revise the Milestone 0802A report, Iodine-131 Conversion Factor (PNWD-1978 HEDR) in response to TSP and CDC comments
- complete the Milestone 0803A letter report, Project Sensitivity/Uncertainty Analysis Plan
- continue planning for the sensitivity/uncertainty analysis workshop
- review draft reports
- conduct sensitivity/uncertainty analysis of test cases □



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 - 296 records totalling 2,252 pages
- verified, processed, and stored project records - 45 records totalling 1,182 pages
- transferred three packages of processed project records to the RL Public Reading Room - 25 records totalling 1,079 pages
- provided assistance to the Project Office by reviewing, processing, transferring, and filing records while the project records custodian is on leave. Also trained other staff who are assisting with the records system during the custodian's absence.

Variance

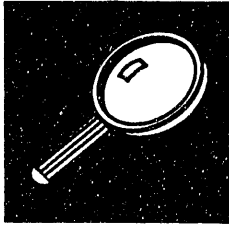
No significant cumulative variance.

Planned Work for the Next Three Months

- continue processing incoming project records
- continue transferring processed project records to the RL Public Reading Room
- provide assistance to the Project Office in processing records to the Records Center while the project records custodian is on leave □

Major Problems or Changes and Action Taken

None.



Task 10 Quality Assurance

Objective

The objective of this task is to ensure continuous 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

- reviewed and provided comments on seven reports to assure that data quality objectives were included and addressed adequately
- provided QA assistance to the project staff in implementing the software QA procedures related to the source terms (Milestone 0302A)
- audit was completed. One finding and four observations were identified.
- completed corrective action from previous audit finding and performed verification
- developed surveillance plan for the remainder of the calendar year
- revised two of the decision procedures for implementing the decision plan

Other Activities/Subtask Activities

- reviewed the Native American Statement of Work and the CDC Request for Proposal for the Native American Work to determine if provisions regarding data quality were included

Major Problem Areas or Changes and Action Taken

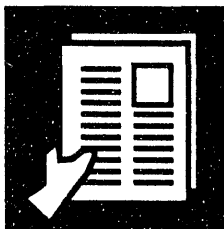
None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- complete HEDR Project decision plan and issue the implementing procedures
- develop action-tracking procedures to be used to document results of technical staff meetings
- continue to check for compliance to project technical, QA, and data quality objectives requirements
- address audit findings and observations and implement corrective actions □



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

Milestone 1102A, Letter Report: Declassified, Prioritized Document List, due September 1992 and completed (PNWD-2024 HEDR)

- published the letter report, *Declassifications, Requested by the Technical Steering Panel, of Hanford Documents Produced 1944-1960*
- declassified 343 Hanford-Site-originated documents, 103 of which are of potential interest/use

to the HEDR Project. Table 11.1 shows the status of declassification to date.

Milestone 1103A, Letter Report: Status of Document Search and Data Quality Objectives Efforts, due September 1992 and rescheduled to FY 1993

- completed draft of this letter report

Table 11.1. Declassification of Hanford-Site-Originated Documents

Documents Declassified	Hanford Historical	HEDR-Related ^(a)
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 September 1992 (FY 1992)	<u>2862</u>	<u>554</u>
TOTAL (March 1987 - September 1992)	4913	1630

(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.

RL Public Reading Room Activity

In September, the RL Public Reading Room had 9 HEDR patrons and distributed 9 HEDR reports.

Other Activities

- published the letter report, *Selected Hanford Reactor and Separations Operating Data for 1960-1964* (PNWD-2017 HEDR)
- published the letter report, *Documents Containing Operating Data for Hanford Separations Processes, 1944-1972* (PNWD-2028 HEDR)
- collected additional separations processes data and related information. The year 1957 was completed during the month.
- assisted numerous members of the TSP during their stays in Richland to review documents at the RL Public Reading Room, Hanford Technical Library and Records Holding Area
- added new citations to the tracking system that now contains more than 6000 citations.
- verified references in several HEDR reports
- provided the RL Public Reading Room with 140 documents (~10,000 pages) of potential interest/use to the HEDR Project. A title listing of these reports is given in Appendix B.

Major Problem Areas or Changes and Action Taken

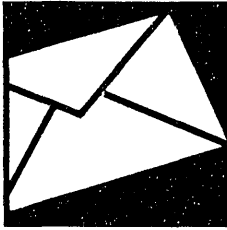
S. Gydesen retired at the end of this month. She will continue to be available to the HEDR Project for limited hours and for key activities. There are no more Shirley Gydesens. However, BNW staff will continue to support this work and the document review activities of the TSP.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- publish Milestone 1103A letter report
- await direction and funding from the CDC (through DOE-RL) to prepare the title listing of Hanford-Site-originated reports which are currently classified and which address operations for the years 1961-1972 □



Task 12 TSP Communications Support

Objective

The objective of this task is to assist the TSP in developing competent 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

- initiated preparations for NAS - National Research Council visit and tour of the Hanford Site, October 22-23. The TSP and HEDR Project staff are scheduled to provide technical briefings during their visit.
- assisted TSP Communications Subcommittee staff in preparing for the press conference prior to the public meeting in October
- submitted security justifications to update clearances for several TSP members allowing facility access and document review. Badges for four TSP members are scheduled to be renewed by the time of the October public meeting.
- provided TSP Communications Subcommittee staff with general materials and contacts regarding Hispanics within eastern Washington. Information will be used to consider possible communications with various ethnic groups.

Major Problem Areas or Changes and Action Taken

None.

Variance

The cumulative cost underrun is a result of work done by WSU in FY 1991 that has not yet been invoiced.

Planned Work for the Next Three Months

- attend TSP public and Communications Subcommittee meetings in Pasco, Washington, October 8-10
- continue preparing for the NAS - National Research Council visit October 22-23
- review and compile media articles from July 1992 through present in preparation for the media review summary due in January 1993 □

Appendix A
Milestones, Schedule, and Costs

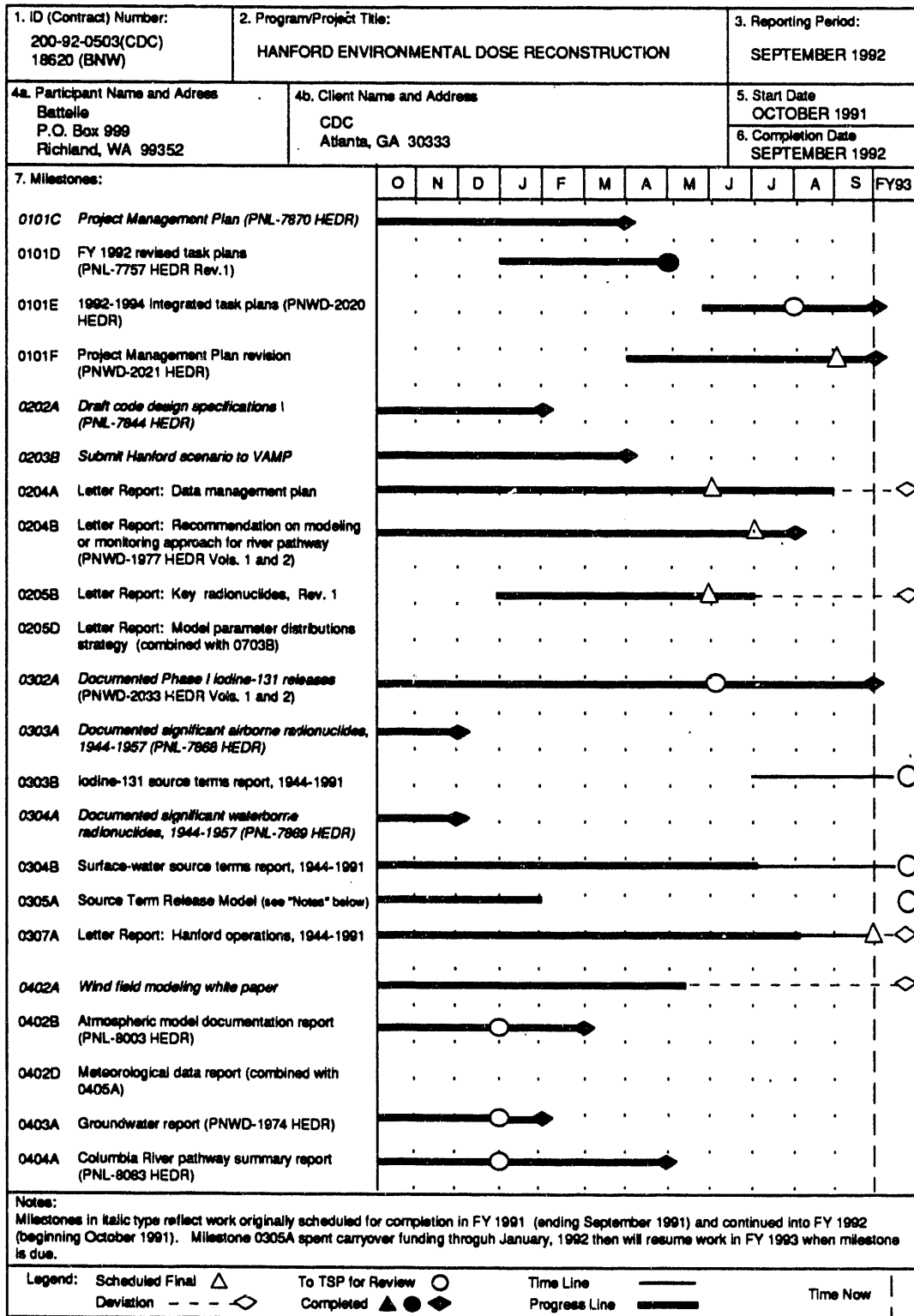


Figure A.1. HEDR Project Milestones

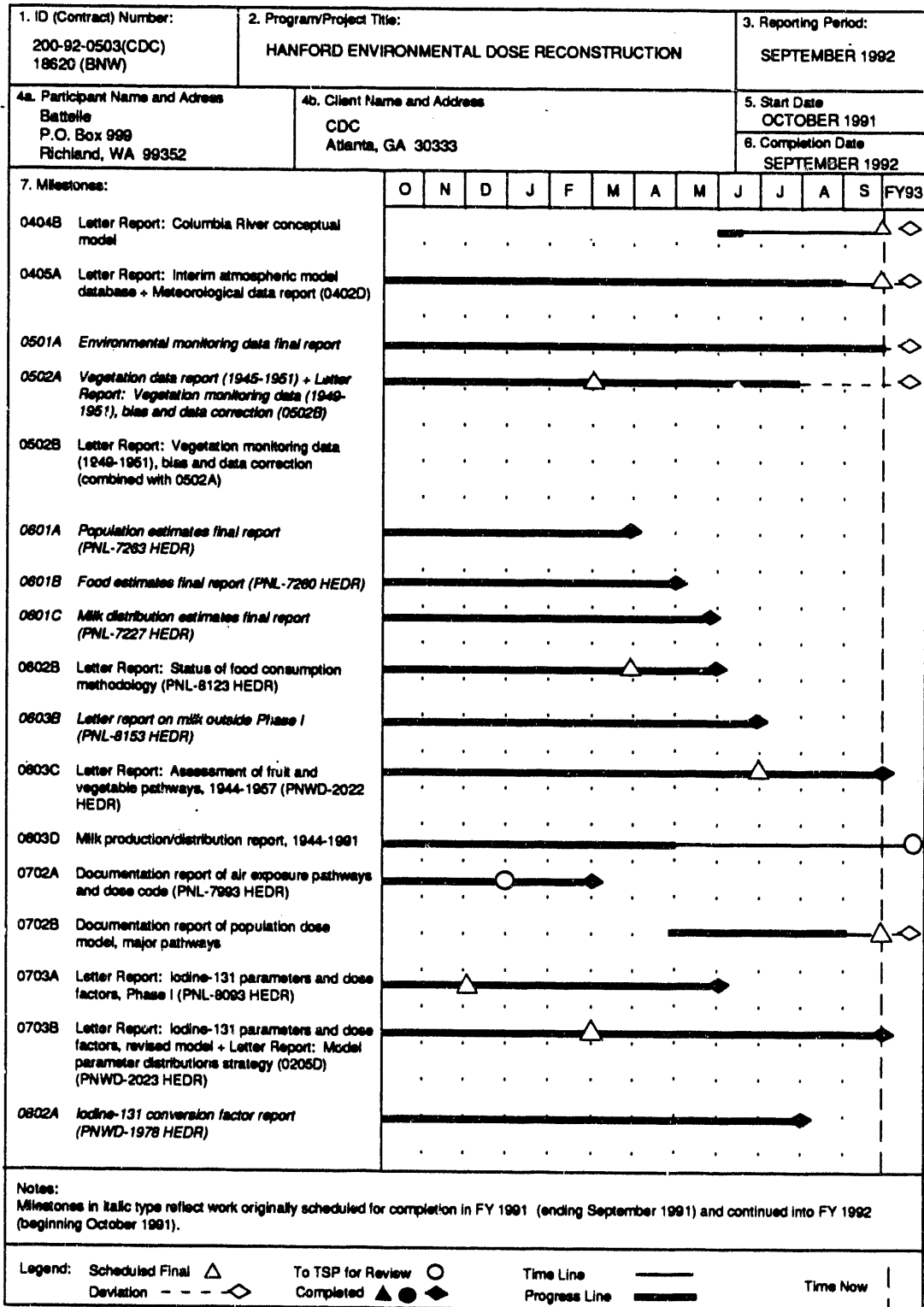


Figure A.1. HEDR Project Milestones (contd)

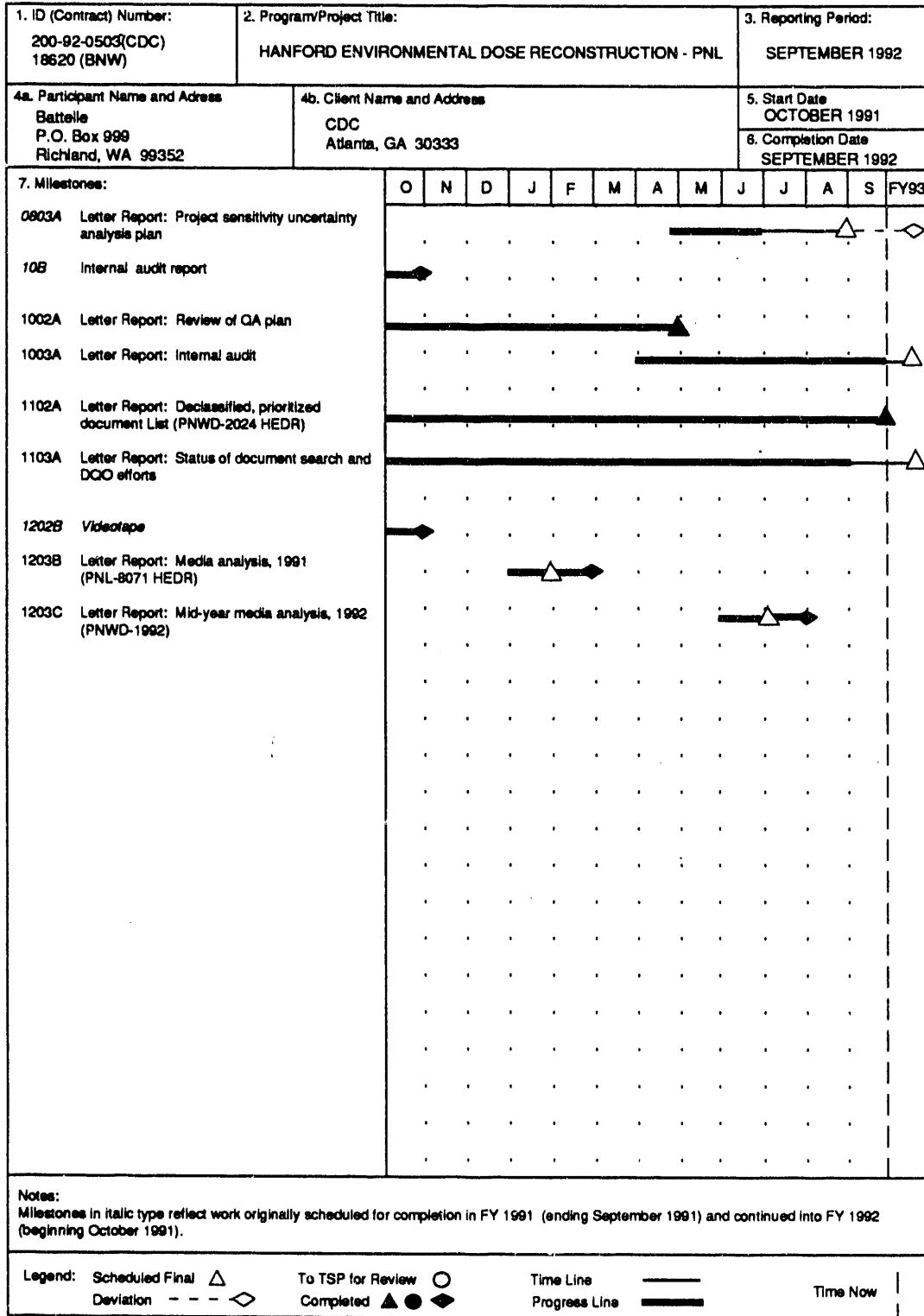


Figure A.1. HEDR Project Milestones (contd)

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

HEDR Project Tasks	September 1992										FY 1992 to Date (October 1991 - September 1992)			CDC/TSP/		Budgeted FY Labor Hours
	Non-		Non-		Cum	Approved	Budget (c)	Adjustments (d)	Current	Funds	Remaining	Negotiated	Budget			
	Labor \$ (a)	Total \$	Labor \$ (a)	Total \$										Planned (b)	Variance	
Task 01 - Project Management (f)																
0101 Project Planning & Control	8	2	555	681	691	10	727	-36	691	10	7,644					
0102 Final Phase I Reports	0	0	11	16	16	0	12	4	16	0	314					
0103 Project Administration	68	84	322	374	381	7	413	-32	381	7	5,704					
0104 Project Peer Review	3	3	39	41	41	0	42	-1	41	0	375					
Subtotal Task 01	79	89	927	1,112	1,129	17	1,194	-65	1,129	17	14,037					
Task 02 - Technical Integration																
0201 Tech Planning/Control/Rep	0	0	55	60	57	-3	71	-14	57	-3	560					
0204 Proj Tech Cord /Analysis	3	3	114	118	107	-11	77	30	107	-11	943					
0205 Path & Dose Model Require	14	14	119	125	130	5	129	1	130	5	1,340					
Subtotal Task 02	17	17	288	303	294	-9	277	17	294	-9	2,843					
Task 03 - Source Terms																
0301 Tech Planning/Control/Rep	0	1	33	41	47	6	46	1	47	6	410					
0302 Closure of Ph I Iodine Rel	0	0	20	20	4	-16	5	-1	4	-16	43					
0304 Rad Releases to Water	17	17	57	58	99	41	98	1	99	41	866					
0305 Source Term Release Model	0	0	6	16	16	0	5	11	16	0	173					
0307 Rad Release Data Avail/Rev	3	10	163	188	166	-22	180	-14	166	-22	2,037					
Subtotal Task 03	20	28	279	323	332	9	334	-2	332	9	3,529					

Table A.1. Cost Summary (Dollars in Thousands) (cont'd)

September 1992		FY 1992 to Date (October 1991 - September 1992)					CDC/TSP/			Budgeted		
Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum Planned (b)	Cum Variance	TSP Approved FY Budget (c)	Battelle Negotiated Budget Adjustments (d)	Current Negotiated FY Budget (e)	Funds Remaining	Labor Hours
Task 04 - Environmental Transport												
0401	0	0	1	0	1	1	0	0	1	1	0	10
0402	6	2	199	10	209	213	4	214	-1	213	4	2,227
0403	0	0	52	10	62	61	-1	61	0	61	-1	579
0404	2	4	88	18	106	130	24	132	-2	130	24	1,407
0405	5	0	110	3	113	87	-26	71	16	87	-26	1,146
0406	0	0	0	0	0	14	14	31	-17	14	14	184
Subtotal Task 04	13	6	450	41	491	506	15	502	-3	506	15	5,653
Task 05 - Environmental Monitoring Data												
0501	2	0	42	2	44	38	-6	38	0	38	-6	357
0502	5	0	72	1	73	64	-9	67	-3	64	-9	593
0503	1	6	22	24	46	49	3	46	3	49	3	582
0504	0	0	16	-1	15	15	0	15	0	15	0	186
Subtotal Task 05	8	6	152	26	178	166	-12	166	0	166	-12	1,718
Task 06 - Demography, Food Consumption & Agriculture												
0601	0	0	34	1	35	36	1	41	-5	36	1	406
0602	3	2	48	9	57	60	3	60	0	60	3	512
0603	10	104	144	111	255	318	63	337	-19	318	63	1,481
0605	6	20	25	85	110	140	30	137	3	140	30	398
Subtotal Task 06	19	126	251	206	457	554	97	575	-21	554	97	2,797

Table A.1. Cost Summary (Dollars in Thousands) (contd)

September 1992		FY 1992 to Date (October 1991 - September 1992)												
Labor \$	Labor \$ (a)	Total \$	Labor \$	Labor \$ (a)	Non-Labor \$ (a)	Total \$	Cum Planned (b)	Cum Variance	TSP Approved FY Budget (c)	CDC/TSP/Battelle		Current Negotiated FY Budget (e)	Funds Remaining	Budgeted FY Labor Hours
										Negotiated Budget Adjustments (d)	Remaining			
Task 07 - Environmental Pathways & Dose Estimates														
8	1	9	51	2	53	61	8	62	-1	61	8	615		
0	0	0	239	21	260	241	-19	240	1	241	-19	2,756		
0	0	0	86	3	89	73	-16	75	-2	73	-16	804		
8	0	8	15	0	15	40	25	39	1	40	25	461		
16	1	17	391	26	417	415	-2	416	-1	415	-2	4,636		
Task 08 - Statistics														
1	0	1	30	2	32	38	6	49	-11	38	6	297		
31	1	32	136	6	142	138	-4	140	-2	138	-4	1,234		
15	0	15	168	2	170	204	34	205	-1	204	34	1,953		
47	1	48	334	10	344	380	36	394	-14	380	36	3,484		
Task 09 - Records Management														
2	0	2	19	0	19	15	-4	15	0	15	-4	249		
3	2	5	27	4	31	40	9	71	-31	40	9	850		
5	2	7	46	4	50	55	5	86	-31	55	5	1,092		
Task 10 - Quality Assurance														
1	0	1	15	3	18	15	-3	13	2	15	-3	194		
6	0	6	23	1	24	16	-8	17	-1	16	-8	203		
3	0	3	15	1	16	29	13	28	1	29	13	391		
10	0	10	53	5	58	60	2	58	2	60	2	788		

Table A.1. Cost Summary (Dollars in Thousands) (contd)

	September 1992		FY 1992 to Date (October 1991 - September 1992)		CDC/TSP/		Current Negotiated FY Budget (e)	Funds Remaining	Budgeted FY Labor Hours
	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$			
Task 11 - Information Resources									
1101 Tech Planning/Control/Rep	2	0	2	38	0	38	43	5	1,032
1102 Hanford Document Declass	4	0	4	47	0	47	52	5	1,183
1103 Hanford Info Resources Iden	5	0	5	66	5	71	69	-2	1,140
Subtotal Task 11	11	0	11	151	5	156	164	8	3,355
Task 12 - TSP Communications Support									
1201 Tech Planning/Control/Rep	0	1	1	21	8	29	24	-5	446
1202 TSP Public Outreach Support	0	0	0	1	3	4	4	0	69
1203 Comm Assessment Research	0	36	36	5	-7	-2	12	14	135
1204 TSP Meeting/Material Sup	2	1	3	13	13	26	28	2	253
Subtotal - Task 12	2	38	40	40	17	57	68	11	903
Subtotal, HEDR Project Tasks	247	198	445	3,362	584	3,946	4,123	177	44,842

Table A.1. Cost Summary (Dollars in Thousands) (cont'd)

	September 1992		FY 1992 to Date (October 1991 - September 1992)									
	Non-Labor \$(a)	Total \$	Labor \$	Non-Labor \$(a)	Total \$	Cum Planned (b)	Cum Variance	TSP Approved FY Budget (c)	Batelle Negotiated Budget Adjustments (d)	Current Negotiated Budget (e)	Funds Remaining	Budgeted FY Labor Hours
Technical Steering Panel (e)	0	240	0	801	801	864	63	1,003	-139 (h)	864 (i)	63	0
Native American Research	0	42	0	65	65	241	176	356	-115 (h)	241 (i)	176	0
TOTAL	247	480	3,362	1,450	4,812	5,228	416	5,605	-377	5,228	416	44,842

- (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 FY 1992 budget approved following the April 1992 TSP meeting.
- (d) Adjustments made to the TSP-approved budget, as negotiated by CDC for the contract with Battelle. The adjustments also include the redistribution of TSP and Native American budget to Battelle HEDR subasks for TSP-approved work that was previously not funded due to a funding shortfall. Additionally, funds have been reallocated within the Battelle subasks to fund critical items.
- (e) "Current Negotiated FY Budget" is the scope and budget negotiated with CDC, TSP, and Battelle, reflecting the adjustments in footnote (d).
- (f) Project management includes activities such as project control and administration, project communications, subcontract administration, records control, and peer review.
- (g) TSP costs are administered through subcontracts which are reflected as non-labor costs. Actual TSP expenses include both labor and non-labor.
- (h) Funding reductions to the TSP and Native American budget were approved in a letter from J. E. Till dated August 10, 1992 and also in a letter from B. Shleien dated August 17, 1992.
- (i) FY budget provides funding through September 30, 1992. See Figures A.2 and A.3 for additional information.

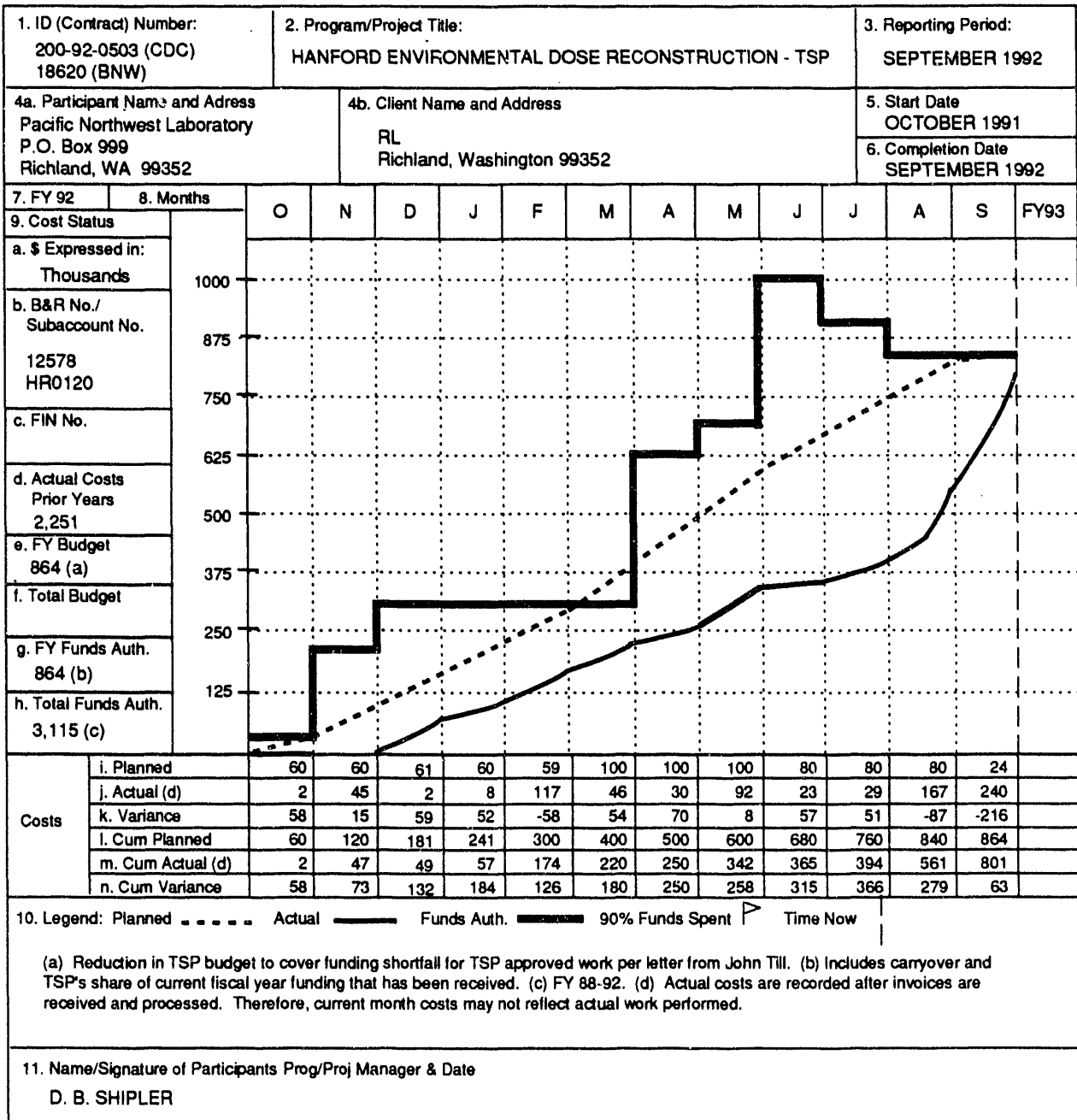


Figure A.2. Technical Steering Panel Budget Status

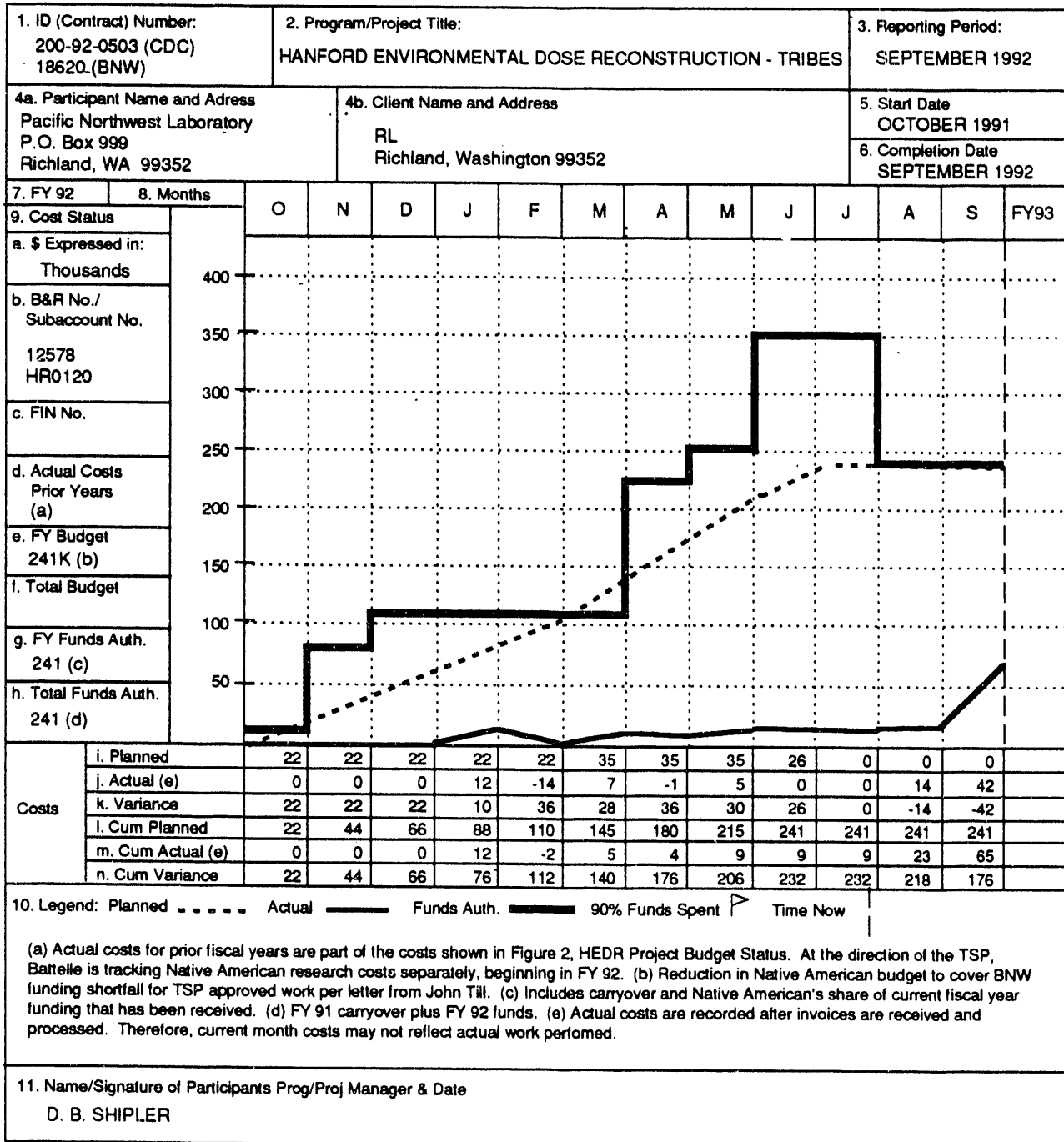


Figure A.3. Native American Research Budget Status

Appendix B

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

Appendix B

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

ARH-0059-DEL	200 Areas Monthly Report for September 1967. 46p.	10/25/67
ARH-0060-DEL	200 Areas Monthly Report for October 1967. 52p.	11/22/67
ARH-0061-DEL	200 Areas Monthly Report November 1967. 45p.	12/22/67
ARH-0062-DEL	200 Areas Monthly Report December 1967. 49p.	01/22/68
ARH-0300-DEL	200 Areas Monthly Report January 1968. 47p.	02/22/68
ARH-0301-DEL	200 Areas Monthly Report February 1968. 49p.	03/22/68
ARH-0302-DEL	200 Areas Monthly Report March 1968. 51p.	04/22/68
ARH-0303-DEL	200 Areas Monthly Report April 1968. 47p.	05/22/68
ARH-0304-DEL	200 Areas Monthly Report May 1968. 53p.	06/21/68
ARH-0305-DEL	200 Areas Monthly Report June 1968. 45p.	07/22/68
ARH-0306-DEL	200 Areas Monthly Report July 1968. 42p.	08/22/68
ARH-0307-DEL	200 Areas Monthly Report August 1968. 44p.	09/22/68
ARH-0308-DEL	200 Areas Monthly Report September 1968. 49p.	10/22/68
ARH-0309-DEL	200 Areas Monthly Report October 1968. 47p.	11/22/68
ARH-0310-DEL	200 Areas Monthly Report November 1968. 44p.	12/20/68

ARH-0311-DEL	200 Areas Monthly Report December 1968. 43p.	01/22/69
ARH-1100-DEL	200 Areas Monthly Report January 1969. 54p.	02/21/69
ARH-1101-DEL	200 Areas Monthly Report February 1969. 44p.	03/21/69
ARH-1102-DEL	200 Areas Monthly Report March 1969. 46p.	04/21/69
ARH-1103-DEL	200 Areas Monthly Report April 1969. 53p.	05/22/69
ARH-1104-DEL	200 Areas Monthly Report May 1969. 47p.	06/23/69
ARH-1105-DEL	200 Areas Monthly Report June 1969. 46p.	07/23/69
ARH-1106-DEL	200 Areas Monthly Report July 1969. 49p.	08/22/69
ARH-1107-DEL	200 Areas Monthly Report August 1969. 45p.	09/23/69
ARH-1108-DEL	200 Areas Monthly Report September 1969. 43p.	10/22/69
ARH-1109-DEL	200 Areas Monthly Report October 1969. 51p.	11/21/69
ARH-1110-DEL	200 Areas Monthly Report November 1969. 53p.	12/19/69
ARH-1111-DEL	200 Areas Monthly Report December 1969. 53p.	01/21/70
ARH-1501-DEL	200 Areas Monthly Report January 1970. 48p.	02/24/70
ARH-1502-DEL	200 Areas Monthly Report February 1970. 46p.	03/24/70
ARH-1503-DEL	200 Areas Monthly Report March 1970. 54p.	04/23/70
ARH-1504-DEL	200 Areas Monthly Report April 1970. 50p.	05/21/70
ARH-1505-DEL	200 Areas Monthly Report May 1970. 52p.	06/22/70
ARH-1506-DEL	200 Areas Monthly Report June 1970. 53p.	07/22/70

ARH-1507-DEL	200 Areas Monthly Report July 1970. 51p.	08/20/70
ARH-1508-DEL	200 Areas Monthly Report August 1970. 47p.	09/21/70
ARH-1509-DEL	200 Areas Monthly Report September 1970. 58p.	10/20/70
ARH-1510-DEL	200 Areas Monthly Report October 1970. 61p.	11/23/70
ARH-1511-DEL	200 Areas Monthly Report November 1970. 60p.	12/21/70
ARH-1512-DEL	200 Areas Monthly Report December 1970. 57p.	01/21/71
ARH-1901-DEL	200 Areas Monthly Report January 1971. 55p.	02/19/71
ARH-1902-DEL	200 Areas Monthly Report February 1971. 56p.	03/19/71
ARH-1903-DEL	200 Areas Monthly Report March 1971. 56p.	04/22/71
ARH-1904-DEL	200 Areas Monthly Report April 1971. 56p.	05/21/71
ARH-1905-DEL	200 Areas Monthly Report May 1971. 54.	06/18/71
ARH-1906-DEL	200 Areas Monthly Report June 1971. 57p.	07/20/71
ARH-1907-DEL	Atlantic Richfield Hanford Company Monthly Report July 1971. 42p.	08/20/71
ARH-1908-DEL	Atlantic Richfield Hanford Company Monthly Report August 1971. 43p.	09/20/71
ARH-1909-A-DEL	Atlantic Richfield Hanford Company Monthly Report September 1971. 45p.	10/20/71
ARH-1910-A-DEL	Atlantic Richfield Hanford Company Monthly Report October 1971. 40p.	11/19/71
ARH-1911-A-DEL	Atlantic Richfield Hanford Company Monthly Report November 1971. 48p.	12/20/71
ARH-1912-A-DEL	Atlantic Richfield Hanford Company Monthly Report December 1971. 48p.	01/20/72
ARH-2301-A-DEL	Atlantic Richfield Hanford Company Monthly Report January 1972. 44p.	02/18/72

ARH-2302-A-DEL	Atlantic Richfield Hanford Company Monthly Report February 1972. 48p.	03/21/72
ARH-2303-A-DEL	Atlantic Richfield Hanford Company Monthly Report March 1972. 51p.	04/21/72
ARH-2304-A-DEL	Atlantic Richfield Hanford Company Monthly Report April 1972. 50p.	05/22/72
ARH-2305-A-DEL	Atlantic Richfield Hanford Company Monthly Report May 1972. 44p.	06/21/72
ARH-2306-A-DEL	Atlantic Richfield Hanford Company Monthly Report June 1972. 44p.	07/21/72
ARH-2307-A-DEL	Atlantic Richfield Hanford Company Monthly Report July 1972. 41p.	08/21/72
ARH-2308-A-DEL	Atlantic Richfield Hanford Company Monthly Report August 1972. 40p.	09/20/72
ARH-2309-A-DEL	Atlantic Richfield Hanford Company Monthly Report September 1972. 38p.	10/20/72
ARH-2310-A-DEL	Atlantic Richfield Hanford Company Monthly Report October 1972. 40p.	11/20/72
ARH-2311-A-DEL	Atlantic Richfield Hanford Company Monthly Report November 1972. 43p.	12/20/72
ARH-2312-A-DEL	Atlantic Richfield Hanford Company Monthly Report December 1972. 41p.	01/22/73
BNWI-918-PT2	Fuel Element Rupture Test Facility Incident: Conclusions and Recommendations. 18p.	09/29/65
BNWL-1747	Gamma and Lognormal Distributions as Models in Studying Food Chain Kinetics. 98p.	05/31/73
BNWL-CC-0250	Use of Total Beta Counts to Estimate GI Tract Dose Rates. 16p.	10/25/65
BNWL-SA-4662	⁵⁹ Fe Concentration and Specific Activities in North Pacific Marine Organisms. 14p.	11/20/73
DUN-1008	Contamination Control - Columbia River Monthly Report April 1966. 15p.	04/28/66
DUN-1139	Contamination Control-Columbia River Monthly Report May 1966. 17p.	06/03/66
DUN-5563	Contamination Control-Columbia River Quarterly Report October-December 1968. 9p.	03/10/69

DUN-7211	Reactor Effluent Water Analytical Data January-June 1970. 12p.	08/17/70
HO-1	Columbia River Symposium. 27p.	06/19/50
HW-30415	Separations Section Radiation Monitoring Monthly Report December 1953. 9p.	01/01/54
HW-30751	Reactor Section Radiation Monitoring Sub-Section Monthly Report January 1954. 3p.	02/03/54
HW-32958-RD	Reactor Section Radiation Monitoring Sub-Section Monthly Report August 1954. 4p.	09/03/54
HW-33998-RD	Reactor Section Radiation Monitoring Sub-Section Monthly Report November 1954. 4p.	12/03/54
HW-33999	Reactor Section Radiation Monitoring Report for Month of November 1954. 7p.	12/03/54
HW-34253	Production Test 221-T-19 Reduction of Time Cycle in Dissolver Section. 7p.	11/19/54
HW-34228-RD	Reactor Section Radiation Monitoring Sub-Section Monthly Report December 1954. 4p.	01/05/55
HW-34329	Reactor Section Radiation Monitoring Report for Month of December 1954. 7p.	01/05/55
HW-34810	Monthly Report January 1955-Radiation Monitoring Unit Radiological Sciences Department. 16p.	01/31/55
HW-35055	Addendum to Production Test 221-T-19 "Reduction of Time Cycle in Dissolver Section." 2p.	02/09/55
HW-36063	Reactor Section Radiation Monitoring Report for Month of March 1955. 8p.	04/05/55
HW-36546	Reactor Section Radiation Monitoring Report for Month of April 1955. 9p.	05/04/55
HW-49419-DEL	Hanford Laboratories Operation Monthly Activities Report March 1957. 131p.	04/15/57
HW-49752-DEL	Hanford Laboratories Operation Monthly Activities Report April 1957. 138p.	05/15/57

HW-51234-DEL	Hanford Laboratories Operation Monthly Activities Report June 1957. 153p.	07/15/57
HW-51741-DEL	Hanford Laboratories Operation Monthly Activities Report July 1957. 133p.	08/15/57
HW-52303-DEL	Hanford Laboratories Operation Monthly Report for August 1957. 147p.	09/15/57
HW-54689-DEL	IPD Monthly Record Report January 1958. 145p.	02/21/58
HW-55462	IPD Monthly Record Report March 1958. 145p.	04/21/58
HW-55590	Hanford Laboratories Operation Monthly Activities Report March 1958. 137p.	04/15/58
HW-55870-DEL	IPD Monthly Record Report April 1958. 151p.	05/21/58
HW-55914-DEL	Chemical Processing Department Monthly Report April 1958. 89p.	05/21/58
HW-59840-DEL	IPD Monthly Record Report for March 1959. 142p.	04/21/59
HW-59849-DEL	Chemical Processing Department Monthly Report for March 1959. 72p.	04/20/59
HW-60236-DEL	Chemical Processing Department Monthly Report for April 1959. 68p.	05/21/59
HW-60246	IPD Monthly Record Report For April 1959. 137p.	06/21/59
HW-60559-DEL	Chemical Processing Department Monthly Report for May 1959. 64p.	06/21/59
HW-60915-DEL	Chemical Processing Department Monthly Report for June 1959. 66p.	07/22/59
HW-61736-DEL	Chemical Processing Department Monthly Report for August 1959. 65p.	09/21/59
HW-62012	Hanford Laboratories Operation Monthly Report September 1959. 175p.	10/15/59
HW-62184	IPD Monthly Record Report for September 1959. 123p.	10/22/59
HW-62587	Hanford Laboratories Operation Monthly Activities Report October 1959. 190p.	11/15/59

HW-62593-DEL	Chemical Processing Department Monthly Report October 1959. 68p.	11/20/59
HW-62599	IPD Monthly Record Report for October 1959. 124p.	11/20/59
HW-63303	Hanford Laboratories Operation Monthly Activities Report December 1959. 162p.	01/15/60
HW-63313-DEL	Chemical Processing Department Monthly Report December 1959. 61p.	01/21/60
HW-63317-DEL	IPD Monthly Record Report for December 1959. 117p.	01/22/60
HW-63706-DEL	Chemical Processing Department Monthly Report for January 1960. 53p.	02/22/60
HW-64089-DEL	Chemical Processing Department Monthly Report for February 1960. 47p.	03/21/60
HW-64108	Hanford Laboratories Operation Monthly Activities Report for February 1960. 163p.	03/15/60
HW-64576-DEL	Chemical Processing Department Monthly Report for March 1960. 48p.	04/21/60
HW-64898	Hanford Laboratories Operation Monthly Activities Report for April 1960. 164p.	05/15/60
HW-65013	IPD Monthly Record Report for April 1960. 109p.	05/19/60
HW-65165-DEL	Chemical Processing Department Monthly Report for May 1960. 50p.	06/20/60
HW-65459	Hanford Laboratories Operation Monthly Activities Report for May 1960. 173p.	06/15/60
HW-65527	IPD Monthly Record Report for May 1960. 105p.	06/20/60
HW-65854-DEL	Hanford Laboratories Operation Monthly Activities Report for June 1960. 165p.	07/15/60
HW-66237	Hanford Laboratories Operation Monthly Activities Report for June 1960. 160p.	08/15/60
HW-66271-DEL	Chemical Processing Department Monthly Report for July 1960. 54p.	08/22/60
HW-66296	IPD Monthly Record Report for July 1960. 85p.	08/12/60
HW-66958-DEL	Chemical Processing Department Monthly Report July 1960. 53p.	09/21/60

HW-66960-DEL	Hanford Laboratories Operation Monthly Activities Report for September 1960. 169p.	10/15/60
HW-66970	IPD Monthly Record Report September 1960. 85p.	10/12/60
HW-67532	Hanford Laboratories Operation Monthly Activities Report November 1960. 170p.	12/16/60
HW-67954	Hanford Laboratories Operation Monthly Activities Report December 1960. 170p.	01/15/61
HW-68039	IPD Monthly Record Report December 1960. 86p.	01/16/61
HW-69062	Hanford Laboratories Operation Monthly Activities Report March 1961. 184p.	05/15/61
HW-69408	Hanford Laboratories Operation Monthly Activities Report April 1961. 173p.	05/15/61
HW-69443	Chemical Processing Department Monthly Report April 1961. 55p.	05/22/61
HW-69803	Chemical Processing Department Monthly Report May 1961. 54p.	06/22/61
HW-69835	IPD Monthly Record Report May 1961. 81p.	06/15/61
HW-71584	IPD Monthly Record Report October 1961. 73p.	11/17/61
HW-73514	Hanford Laboratories Operation Monthly Activities Report April 1962. 219p.	05/15/62
HW-75451	IPD Monthly Record Report October 1962. 49p.	11/14/62
HW-89067	Unusual Incident-Radioiodine Release to Atmosphere From Purex Plant on September 2, 1963. 5p.	09/19/63
PNL-7346	Hanford Site Environmental Report for Calendar Year 1989. 323p.	05/31/90
PNL-7721	Artificial Intelligence Technology Assessment for the U.S. Army Depot System Command. 84p.	07/31/91
PNL-8071-HEDR	Letter Report: Media Information Review, 1991. 12p.	04/30/92
PNL-8093-HEDR	Parameters Used in the Environmental Pathways and Radiological Dose Modules of the Phase I Air Pathway code. 58p.	05/31/92

PNL-8150	Methods for Estimating Doses to Organisms from Radioactive Materials Released into the Aquatic Environment. 49p.	06/30/92 06/30/92
PNL-SA-11831	Brood Ecology of Canada Geese on the Hanford Reach. 8p.	12/03/83
PNWD-1974-HEDR	Ground-Water Contribution to Dose from Past Hanford Operations. 239p.	08/31/92
PNWD-1977-HEDR-V2	Recommendations to the TSP Regarding Approach for Estimating Individual Radiation Doses. 50p.	08/12/92
PNWD-1977-HEDR-V1	Recommendations to the TSP Regarding Approach for Estimating Individual Radiation Doses. 55p.	07/31/92
PNWD-1978-HEDR	Uncertainty and Sensitivity Analysis of Historical Measurements of Iodine-131 for Vegetation in 1945-1947. 61p.	07/31/92
PNWD-1983-HEDR	HEDR Modeling Approach. 35p.	07/31/92
PNWD-1986-HEDR	Radioactive Contamination of Fish, Shellfish, and Waterfowl Exposed to Hanford Effluents. 173p.	07/31/92
PNWD-1992-HEDR	Media Information Review, January - June 1992. 10p.	07/31/92
RL-4-10	Richland Five-Year 02 R&D Program Columbia River. 45p.	06/30/68

Appendix C

**HEDR Documents to the TSP -
Complete Compilation**

Appendix C

HEDR Documents to the TSP - Complete Compilation

Title	Author	Date Issued	Publication No.	Additional Information	Status
Hanford Environmental Dose Reconstruction Project Monthly Report	HEDR Project Office	Ongoing	PNL-6450-XX HEDR	Effective Jun. 1992: new number is PNWD-1980-XX; XX denotes the issue number	Periodic report
Work Plan for the Hanford Environmental Dose Reconstruction Project	HA Haerer	12/89	PNL-6696 HEDR Rev. 1	Not a milestone	Published final
Proposed Approach for Developing Information on Population Food Consumption and Lifestyles of Native Americans in the HEDR Study Area	RE Rhoads CL Bruneau	01/89	PNL-6803 HEDR	Not a milestone	Superseded by PNL-6834 HEDR
Demographic, Agricultural, Food Consumption, and Lifestyle Research for the Hanford Environmental Dose Reconstruction Project	DM Beck et al.	02/89	PNL-6834 HEDR	Not a milestone	To TSP for review
Response to TSP Directive 88-4, Ground-Water Contamination Data	MD Freshley	03/89	PNL-6847 HEDR	Not a milestone	Superseded by PNWD-1974 HEDR
Feasibility of Using ¹³⁷ I Concentrations in Human Tissue to Estimate Radiation Dose from ¹³⁷ I	WD McCormack	04/89	PNL-6889 HEDR	Not a milestone	Published final
A History of Major Hanford Facilities and Processes Involving Radioactive Material	MY Ballinger RA Hall	04/91	PNL-6964 HEDR	Milestone 0301A	Published final
Summary of Workshop on Milk Production and Distribution, November 30, 1988	DM Beck RF Darwin RM Eckert	07/89	PNL-6975 HEDR	Not a milestone	To TSP for review
Radionuclide Sources and Radioactive Decay Figures Pertinent to the HEDR Project	CM Heeb	04/91	PNL-7177 HEDR	Milestone 0301B	Published final

Title	Author	Date Issued	Publication No.	Additional Information	Status
Atmospheric Transport and Dispersion Modeling for the Hanford Environmental Dose Reconstruction Project	JV Ramsdell	07/91	PNL-7198 HEDR	Milestone 0401C	Published final
Atmospheric Transport Modeling and Input Data for Phase I of the Hanford Environmental Dose Reconstruction Project	JV Ramsdell KW Burk	07/91	PNL-7199 HEDR	Milestone 0401D	Published final
Fission-Product Iodine During Early Hanford-Site Operations: Its Production and Behavior During Fuel Processing, Off-Gas Treatment, and Release to the Atmosphere	LL Burger	05/91	PNL-7210 HEDR	Milestone 0301E	Published final
Uncertainties in Source Term Calculations Generated by the ORIGEN2 Computer Code for Hanford Production Reactors	CM Heeb	03/91	PNL-7223	HEDR Milestone 0301D	Published final
Summary of Literature Review of Risk Communication	SJ Byram	05/91	PNL-7226	HEDR Milestone 1201B	Published final
Milk Cow Feed Intake and Milk Production and Distribution Estimates for Phase I	DM Beck et al.	04/92	PNL-7227	HEDR Milestone 0601C	Published final
Selection of Dominant Radionuclides for Phase I of the HEDR Project	BA Napier	07/91	PNL-7231 HEDR	Milestone 0201A	Published final
Estimates of Columbia River Radionuclide Concentrations: Data for Phase-Dose Calculations	MC Richmond WH Walters	05/91	PNL-7248 HEDR	Not a milestone	Published final
Evaluation of Thyroid Radioactivity Measurement Data from Hanford Workers, 1944-1946	TA Ikenberry	04/91	PNL-7254 HEDR	Milestone 0701A	Published final
I-131 in Irradiated Fuel at Time of Processing from December 1944 Through December 1947	CM Heeb LG Morgan	03/91	PNL-7253 HEDR	Milestone 0301C	Published final
Estimation of Food Consumption	JM Callaway, Jr.	04/92	PNL-7260 HEDR	Milestone 0601B	Published final
Population Estimates for Phase I	DM Beck et al.	03/92	PNL-7263 HEDR	Milestone 0601A	Published final
Computational Model Design Specification for Phase I of the Hanford Environmental Dose Reconstruction Project	BA Napier	07/91	PNL-7274 HEDR	Milestone 0201B	Published final; superseded by PNL-7844 HEDR

Title	Author	Date Issued	Publication No.	Additional Information	Status
A preliminary Examination of Audience Related-Communications Issues: Hanford Environmental Dose Reconstruction Project	CW Holmes	04/91	PNL-7321 HEDR	Milestone 0201A	Published final
MESOLLT2, A Lagrangian Trajectory Climatological Dispersion Model	JV Ramsdell	03/91	PNL-7340 HEDR	Milestone 0401A	Published final
Summary Report: Phase I of the Hanford Environmental Dose Reconstruction Project	HEDR Staff	08/91	PNL-7410 HEDR Rev. 1	Milestone 0102A	Published final
Columbia River Pathway Report: Phase I of the Hanford Environmental Dose Reconstruction Project	HEDR Staff	07/91	PNL-7411 HEDR Rev. 1	Milestone 0102A	Published final
Air Pathway Report: Phase I of the Hanford Environmental Dose Reconstruction Project	HEDR Staff	07/91	PNL-7412 HEDR Rev. 1	Milestone 0102A	Published final
Initial Communication Survey Results for the HEDR Project	DM Beck	03/91	PNL-7423 HEDR	Milestone 01203A	Published final
QA Audit Report of the HEDR Project - Data Traceability, A-90-15	RC Pratt	07/90	PNL-7428 HEDR	Milestone 10B	Published final
HEDR Project Plan - Pre-Decisional Draft	DB Shippler	10/90	PNL-7515 HEDR	Milestone 0101A	Superseded by PNL-7563 HEDR
FY 1991 Project Plan for the HEDR Project, Phase II	HEDR Staff	11/90	PNL-7563 HEDR	Milestone 0101A	Superseded by PNL-7563 HEDR Rev. 1
FY 1991 Task Plans for the Hanford Environmental Dose Reconstruction Project	HEDR Staff	04/91	PNL-7563 HEDR Rev. 1	Milestone 0101A; supersedes PNL-7563 HEDR	Published final
Assessment of FY 1991 Scope Limitations on Out-Year Activities	DB Shippler	12/90	PNL-7588 HEDR	Not a milestone	Published final
Effects of the Loss of Correlation Structure on Phase I Dose Estimates	JC Simpson	02/91	PNL-7638 HEDR	Milestone 0202C	Approved by the TSP
Project Summary Schedule	DB Shippler	04/91	PNL-7685 HEDR	Not a milestone	Superseded by PNWD-2020 HEDR

Title	Author	Date Issued	Publication No.	Additional Information	Status
Document Search and Declassification for Phase I of the HEDR Project	DB Shipler et al.	05/91	PNL-7713 HEDR	Not a milestone	Published final
Information Resources Task Management Plan	DB Shipler SP Gydesen	06/91	PNL-7719 HEDR	Not a milestone	Published final
Dose Estimate Variability Caused by Air Model Uncertainties	JC Simpson	06/91	PNL-7737 HEDR	Milestone 0402C	Will be superseded by Uncertainty/Sensitivity Analysis Plan
FY 1992 Task Plans for the Hanford Environmental Dose Reconstruction Project	DB Shipler	10/91	PNL-7757 HEDR	Not a milestone	Superseded by PNL-7757 HEDR, Rev. 1
FY 1992 Revised Task Plans for the Hanford Environmental Dose Reconstruction Project	DB Shipler	04/92	PNL-7757 HEDR, Rev. 1	Milestone 0101D	Superseded by PNWD-2020
FY 1994 Task Plans for the Hanford Environmental Dose Reconstruction Project	DB Shipler	07/91	PNL-7759 HEDR	Milestone 0101C	Published final; superseded by PNWD-2020 HEDR
FY 1993 Task Plans for the Hanford Environmental Dose Reconstruction Project	DB Shipler	10/91	PNL-7760 HEDR	Not a milestone	Published final; superseded by PNWD-2020 HEDR
FY 1995 Task Plans for the Hanford Environmental Dose Reconstruction Project	DB Shipler	07/91	PNL-7761 HEDR	Milestone 0202C	Published final
Final Design Specification for the Environmental Pathways and Dose Model	BA Napier et al.	01/92	PNL-7844 HEDR	Milestone 0202A	To TSP for review; awaiting code revision
Letter Report: References for Radioactive Releases to the Atmosphere from Hanford Operations, 1944-1957	RB Hall	11/91	PNL-7868 HEDR	Not a milestone	Published final
Letter Report: References for Radioactive Releases to the Columbia River from Hanford Operations, 1944-1957	RB Hall	11/91	PNL-7869 HEDR	Not a milestone	Published Final
Project Management Plan for the Hanford Environmental Dose Reconstruction Project	DB Shipler	03/92	PNL-7870 HEDR	Milestone 0101C	Published final

Title	Author	Date Issued	Publication No.	Additional Information	Status
Letter Report: Population Estimates by Age, Sex and Race for 10-County Study Area	DB Pittenger	02/92	PNL-7931 HEDR	Not a milestone	Published final
Integrated Codes for Estimating Environmental Accumulation and Individual Dose from Past Hanford Atmospheric Release	TA Ikenberry et al.	02/92	PNL-7993 HEDR	Milestone 0702A	To TSP for review; awaiting code revision
Letter Report: Title Listing of Daily Operating Data on Hanford Single-Pass Reactor, 1944-1971	SP Gydesen	02/92	PNL-7998 HEDR	Not a milestone	Published final
Regional Atmospheric Transport Code for Hanford Emission Tracking (RATCHET)	JV Ramsdell KW Burk	02/92	PNL-8003 HEDR	Milestone 0402B	To TSP for review; awaiting TSP decision
Media Information Review, 1991	GL Harvey	04/92	PNL-8071 HEDR	Milestone 1203B	Published final
Literature and Data Review for the Surface-Water Pathway: Columbia River and Adjacent Coastal Areas	VM Walters RL Dirkes BA Napier	04/92	PNL-8083 HEDR	Milestone 0404A	TSP comments received and being addressed by BNW
Parameters Used in the Environmental Pathways and Radiological Dose Modules of the Phase I Air Pathway Code	SF Shindle et al.	05/92	PNL-8093 HEDR	Milestone 0703A	Published final
Methodology for Reconstruction of Historical Food Consumption Estimates	DM Anderson	05/92	PNL-8123 HEDR	Milestone 0602B	Published final
Milk Production and Distribution in Low-Dose Counties for the Hanford Thyroid Disease Study	JG Schimmel DM Beck	06/92	PNL-8153 HEDR	Milestone 0603B	To TSP and CDC for review
Ground-Water Contribution to Dose from Past Hanford Operations	MD Freshley PD Thorne	08/92	PNWD-1974 HEDR	Milestone 0403A	Published final
Summary of the March 25-26, 1991 Atmospheric Model Working Meeting	JV Ramsdell	07/92	PNWD-1975 HEDR	Not a milestone	Published final

Title	Author	Date Issued	Publication No.	Additional Information	Status
Recommendations to the Technical Steering Panel Regarding Approach for Estimating Individual Radiation Doses Resulting from Releases of Radionuclides to the Columbia River, Vol. 1: Recommendation	BA Napier	07/92	PNWD-1977 HEDR Vol. 1	Milestone 0204B	Published Final
Recommendations to the Technical Steering Panel Regarding Approach for Estimating Individual Radiation Doses Resulting from Releases of Radionuclides to the Columbia River, Vol. 2: VOI Supporting Information	AJ Brothers BA Napier	08/92	PNWD-1977 HEDR Vol. 2	Milestone 0204B	Published final
Uncertainty and Sensitivity Analysis of Historical Measurements of Iodine-131 for Vegetation in 1945-1947	RO Gilbert	07/92	PNWD-1978 HEDR	Milestone 0802A	Published Final
HEDR Modeling Approach	DB Shupler BA Napier	07/92	PNWD-1983 HEDR	Not a milestone	Published final
Radioactive Contamination of Fish, Shellfish, and Waterfowl Exposed to Hanford Effluents: Annual Summaries 1945-1972	RW Hanf RL Dirkes JP Duncan	07/92	PNWD-1986 HEDR	Not a milestone	Published final
Media Information Review, January-June 1992	GL Harvey	07/92	PNWD-1992 HEDR	Milestone 1203C	Published final
QA Plan OHE-3, Revision 5	DL Stewart	08/92	PNWD-2001 HEDR	Milestone 1002A	Published final
Selected Hanford Reactor and Separations Operating Data for 1960-1964	SP Gydesen	09/92	PNWD-2017 HEDR	Not a milestone	Published final
Integrated Task Plans for the Hanford Environmental Dose Reconstruction Project, FY 1992 Through May 1994	DB Shipler	09/92	PNWD-2020 HEDR	Milestone 0101E	To TSP and CDC for review
Project Management Plan for the Hanford Environmental Dose Reconstruction Project	DB Shipler	09/92	PNWD-2021 HEDR	Milestone 0101F	Published final

Title	Author	Date Issued	Publication No.	Additional Information	Status
Commercial Production and Distribution of Fresh Fruits and Vegetables: A Scoping Study on the Importance of Produce Pathways to Dose	TL Marsh et al.	09/92	PNWD-2022 HEDR	Milestone 0603C	Published final
Parameters Used in the Environmental Pathways (DESCARTES) and Radiological Dose (CIDER) Modules of the Hanford Environmental Dose Reconstruction Integrated Codes (HEDRIC) for the Air Pathway	SF Snyder et al.	09/92	PNWD-2023 HEDR	Milestone 0703B	To TSP and CDC for review
Declassifications Requested by the Technical Steering Panel of Hanford Documents Produced 1944-1960	SP Gydesen	09/92	PNWD-2024 HEDR	Milestone 1102A	Published final
Documents Containing Operating Data for Hanford Separations Processes, 1944-1972	SP Gydesen	09/92	PNWD-2028 HEDR	Not a milestone	Published final
Iodine-131 Releases from the Hanford Site 1944 Through 1947, Vol. 2 - Data	CM Heeb	09/92	PNWD-2033 HEDR Vol. 2	Milestone 0302A	To TSP and CDC for review

Appendix D

**HEDR Presentation Handouts to the TSP -
Complete Compilation**

Appendix D

HEDR Presentation Handouts to the TSP - Complete Compilation

Title	Author	Date Issued	Publication No.	Additional Information
Estimated Quantity of ²³⁵ U Contained in Irradiated Fuel at Time of Fuel Processing, CY 1944-1945	PO Jackson LG Morgan	11/88	PNL-SA-16398 HEDR	Presented at TSP meeting, Nov. 11 -Dec. 12, 1988, Olympia, WA
Atmospheric Pathway	JV Ramsdell	01/89	PNL-SA-16565 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Source Terms	LG Morgan	01/89	PNL-SA-16566 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Experience with Gress and Swats	MG Picpho	01/89	PNL-SA-16567 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
HEDR Demography, Agriculture, and Lifestyle Research	DM Beck	01/89	PNL-SA-16568 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Purpose of Workshop	D Gilbert	01/89	PNL-SA-16569 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Example of Sensitivity/uncertainty Analysis	DL Strange	01/89	PNL-SA-16570 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Aspects of Sensitivity/Uncertainty Analysis in the HEDR Project	B Sagar	01/89	PNL-SA-16571 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Surface Water Transport Uncertainty	WH Walters	01/89	PNL-SA-16572 HEDR	Presented at HEDR workshop on Sensitivity & Uncertainty Analysis
Availability of I-131 Vegetation Data	KR Price	01/89	PNL-SA-16573 HEDR	Presented at HEDR workshop on Sensitivity and Uncertainty Analysis
HEDR Native American Population, Food Consumption and Lifestyle Study - Data Requirements	CL Bruneau	03/89	PNL-SA-16784 HEDR	Presented at Native American Workshop, Mar. 14-15, 1989

Title	Author	Date Issued	Publication No.	Additional Information
Task 6 - Population, Food Consumption and Lifestyles	RE Rhoads	03/89	PNL-SA-16785 HEDR	Presented at Native American Workshop, Mar. 14-15, 1989
Hanford Environmental Reconstruction Project - Report to the TSP	HA Haerer	03/89	PNL-SA-16794 A HEDR	Presented at TSP meeting, Mar. 17, 1989, Spokane, WA
Summary Report of HEDR Workshop on Sensitivity and Uncertainty Analysis	B Sagar AM Liebetrau	03/89	PNL-SA-16804 HEDR	Presented at TSP workshop on Jan. 16-18, 1989, Pasco, WA
HEDR Project Report to the TSP for May 1989 Public Meeting	HA Haerer	05/89	PNL-S A- 17032 HEDR	Presented at TSP meeting, May 18-20, 1989, Toppenish, WA
Defining Demographic Categories for Phase I	BA Napier DM Beck	05/89	PNL-SA-17035 HEDR	Presentation handout for TSP meeting, May 18-20, 1989, Toppenish, WA
HEDR Project Report to the TSP	HA Haerer	07/89	PNL-SA-17218 HEDR	Presented at TSP meeting, Jul. 21, 1989, Richland, WA
Radionuclides Transported by the Columbia River	MD Freshley	07/89	PNL-SA-17235 HEDR	Presented at TSP meeting, Jul. 21, 1989, Richland, WA
Estimations of Traditional Native American Diets in the Columbia Plateau	ES Hunn CL Bruneau	08/89	PNL-SA-17296 HEDR	Proposed information for possible presentation to TSP
Methods for Presenting Results to the Public	RE Rhoads	08/89	PNL-SA-17368 A HEDR	Presented at TSP meeting, Sep. 6, 1989, Portland OR
Discussion with TSP Subcommittee on Communication Strategy	RE Rhoads	10/89	PNL-SA-17475 HEDR	Presented at TSP Subcommittee meeting, Oct. 1989, Portland, OR
HEDR Project Report to the TSP	HA Haerer	10/89	PNL-SA-17501 HEDR	Presented to TSP meeting, Oct. 12-14, 1989, Portland, OR
Surface Water Exposure Pathways	BA Napier TM Poston	10/89	PNL-SA-17502 S HEDR	Presented at TSP meeting, Oct. 12-14, 1989, Portland, OR
Preliminary Summaries for Vegetation, River and Drinking Water and Fish Radionuclide Concentration Data (DRAFT)	RK Woodruff	11/89	PNL-SA-17641 HEDR	
Milk Production and Distribution	DM Beck	12/89	PNL-SA-17649 S HEDR	Presented at TSP meeting, Dec. 11 -13, 1989, Richland, WA
Communications Directive	RE Rhoads	12/89	PNL-SA-17653 S HEDR	Presented at TSP meeting, Dec. 11 -13, 1989, Richland, WA

Title	Author	Date Issued	Publication No.	Additional Information
Source Terms - Air Pathway Source Terms - Surface-Water Pathway	LG Morgan	12/89	PNL-SA-17657 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
The Hanford Environmental Dose Reconstruction Project: Background Information	SJ Byram	12/89	PNL-SA-17658 S HEDR	Presented at Focus Group meeting, Dec. 11, 1989, Richland, WA
Surface-Water Pathway	MD Freshley	12/89	PNL-SA-17660 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Hanford Environmental Dose Reconstruction Project - Phase II Planning	HA Haerer	12/89	PNL-SA-17661 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Atmospheric Transport Modeling	MD Freshley	12/89	PNL-SA-17662 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Environmental Measurements - Columbia River	TM Poston RL Dirkes	12/89	PNL-SA-17669 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Preliminary- Evaluation of Thyroid Bioassay Data from Hanford Workers, 1944-1946	TA Ikenberry BA Napier	12/89	PNL-SA-17670 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Environmental Monitoring Data: Vegetation, 1945-1947	RK Woodruff	12/89	PNL-SA-17671 HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Overview of Project Model - Surface-Water Pathway	BA Napier	12/89	PNL-SA-17672 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Overview of Project Model - Air Pathway	BA Napier	12/89	PNL-SA-17673 S HEDR	Presented at TSP meeting, Dec. 11-13, 1989, Richland, WA
Preliminary Calculated and measured Concentrations of Iodine-131 in Vegetation for Phase I	BA Napier	12/89	PNL-SA-17674 HEDR	Presented at TSP meeting, Dec. 11-1, 1989, Richland, WA
Communications Directive	RE Rhoads	02/90	PNL-SA-17903 S HEDR	Presented at TSP meeting, Feb. 15-17, 1990, Richland, WA
HEDR Project Report to the TSP	HA Haerer	02/90	PNL-SA-17904 S HEDR	Presented at the TSP meeting, Feb. 15-17; 1990, Richland, WA
Detailed Example Calculations for HEDR, Phase I	BA Napier	02/90	PNL-SA-17913 S HEDR	Presented at TSP meeting, Feb. 15-17, 1990, Richland, WA
Soil Ingestion by Dairy Cattle	RF Darwin	02/90	PNL-SA-17918 HEDR	Presented at TSP meeting, Feb. 15-16, 1990, Richland, WA

Title	Author	Date Issued	Publication No.	Additional Information
Hanford Environmental Dose Reconstruction Project - Phase I Report	HA Haerer	05/90	PNL-SA-18304 S HEDR	Presented at workshop "Public Health Aspect of Hanford Health Studies," June 6, 1990
Uncertainty Analysis	JC Simpson	01/91	PNL-SA-18948 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Long-Range Project Plan	DB Shippler	01/91	PNL-SA-18949 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Project Model and Analysis and Restructuring	BA Napier	01/91	PNL-SA-18955 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Atmospheric Model Restructuring	JV Ramsdell	01/91	PNL-SA-18956 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Dose Model and Parameter Restructuring	TA Ikenberry	01/91	PNL-SA-18957 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Application of Geographical Information System to the HEDR Project	JG Stephan	01/91	PNL-SA-18958 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Status of TSP Directive 89-9	R Cuello	01/91	PNL-SA-18962 S HEDR	Presented at TSP meeting, Jan. 11, 1991, Pasco, WA
Preliminary Response to the FY 1991 Project Plan	DB Shippler	01/91	PNL-SA-18981 HEDR	Presented at the TSP meeting, Jan. 11, 1991, Pasco, WA
Phase I Dose Estimates for the Kalispel Tribe	TA Ikenberry	02/91	PNL-SA-19098 A HEDR	Presented to Kalispel Tribal Council, Feb. 5, 1991, Usk, WA
Information for the HEDR Planning Workshop	DB Shippler	02/91	PNL-SA-19108 S HEDR	Presented at TSP Workshop, Feb. 14-16, 1991, Seattle, WA
Effects of the Loss of Correlation Structure on Phase I Dose Estimates	JC Simpson	02/91	PNL-SA-19115 S HEDR	Presented at ANS Annual meeting, Jun. 2-6, 1991, Orlando, FL
Process for Estimating Doses to the Coeur d'Alene Tribe	TA Ikenberry	03/91	PNL-SA-19204 S HEDR	Presented to Coeur d'Alene Tribal Council Feb. 28, 1991, Plummer, ID
Status of Technical Work - Hanford Environmental Dose Reconstruction Project	BA Napier et al.	04/91	PNL-SA-19356 S HEDR	Presented at TSP meeting, Apr. 3, 1991, Lewiston, ID
Battelle Status of Technical Work, Hanford Environmental Dose Reconstruction Project	DB Shippler et al.	07/91	PNL-SA-19752 S HEDR	Presented at the TSP meeting, Jul. 10-13, 1991, Pasco, WA
HEDR Project-Invoice Process and Procedures	SM Finch	09/91	PNL-SA-19994 S HEDR	Presented at NAWG meeting, Sep. 23-24, 1991, Pasco, WA
Status of Technical Work - HEDR Project	DB Shippler et al.	10/91	PNL-SA-20068 HEDR	Presented at TSP meeting, Oct. 10-12, 1991, Walla Walla, WA

Title	Author	Date Issued	Publication No.	Additional Information
Status of Technical Work - HEDR Project	DB Shipler	02/92	PNL-SA-20578 S HEDR	Presented at TSP meeting, Feb. 20-22, 1992, Pasco, WA
Status of Technical Work - Hanford Environmental Dose Reconstruction Project	DB Shipler	04/92	PNL-SA-20856 S HEDR	Presented at TSP meeting, Apr. 23-25, 1992 Pasco, WA
Status of Technical Work - Hanford Environment Dose Reconstruction Project - July 17, 1992	BA Napier	07/92	BN-SA-3564 S HEDR	Presented at TSP meeting, Jul. 16-18, 1992 Astoria, OR
Status of Technical Work - Hanford Environment Dose Reconstruction Project - July 17, 1992	WH Walters	07/92	BN-SA-3565 S HEDR	Presented at TSP meeting, Jul. 16-18, 1992 Astoria, OR

Appendix E

HEDR Open-Literature Publications and Presentations - Complete Compilation

This appendix lists publications that present aspects of dose reconstruction in the open scientific literature; TSP approval is not required.

Appendix E

HEDR Open-Literature Publications and Presentations - Complete Compilation

Title	Author	Date Issued	Publication No.	Audience	Status
Estimating Atmospheric Dispersion for Reconstruction of Doses from Hanford Operations	JV Ramsdell	04/88	PNL-SA-16767 HEDR	69th Annual Meeting of the Pacific Division of the American Assoc. for the Advancement of Science	Presented Jun. 1988, Corvallis, OR
Potential Applications of Geographical Information Systems for Analyzing Hanford Environmental Dose Reconstruction Data	JG Stephen et al.	03/89	PNL-SA-16767 HEDR	Regional Symposium on HPS Computer Applications in Health Physics	Presented Mar. 1989, Richland, WA
The Hanford Environmental Dose Reconstruction Project: Overview	HA Haerer et al.	09/89	PNL-SA-16859 HEDR	Hanford Symposium on Health & the Environment	Presented Oct. 1989, Richland, WA
The Hanford Environmental Dose Reconstruction Project: Technical Approach	BA Napier et al.	09/89	PNL-SA-16874 HEDR	Hanford Symposium on Health & the Environment	Presented Oct. 1989, Richland, WA
The Hanford Environmental Dose Reconstruction Project: The Role of Applied Sociology	DM Beck	04/89	PNL-SA-16880 HEDR	Pacific Sociological Assoc. Meeting	Presented Apr. 89, Reno, NV
The Identification of Terrain-Induced Circulations Using Principal Components	ED Skyllingstad M Schwartz	10/89	PNL-SA-17164 HEDR	American Meteorological Soc.	Presented Oct. 1989, Monterey, CA
Temporal Variations in Atmospheric Dispersion at Hanford	JV Ramsdell	09/89	PNL-SA-17375 HEDR	Hanford Symposium on Health & the Environment	Presented Oct. 1989, Richland, WA
Statistical Aspects of Reconstructing the I-131 Dose to the Thyroid Disease Study	RO Gilbert et al.	03/90	PNL-SA-17384 HEDR	Workshop: Statistics of Human Radiation Exposure to Ionizing Radiation	Presented April 1990, Oxford, UK
Mathematical and Statistical Aspects of Reconstructing Doses to Individuals Living Near the Hanford Site Since the 1940s	AM Liebetrau	10/89	PNL-SA-17498 HEDR	SIAM conference on Applied Probability in Science and Engineering	Presented Mar. 1990, New Orleans, LA
Sensitivity and Uncertainty Analysis for Environmental Dose Reconstruction	B Sagar et al.	11/89	PNL-SA-17586 A HEDR	Workshop on Uncertainty Analysis	Presented Nov. 1989, Santa Fe, NM

Title	Author	Date Issued	Publication No.	Audience	Status
Uncertainty Analysis of the Conversion Factor for Historic Iodine-131 Gross Beta	DL Strenge et al.	12/89	PNL-SA-17713 HEDR	1990 Health Physics Society Meeting Vegetation Measurements Anaheim, CA	Presented Jun. 1990, Anaheim, CA
Reconstruction of Hanford Vegetation Monitoring Data for Dose Reconstruction for 1945-1947	RK Woodruff E Mart RW Hanf	01/90	PNL-SA-17760 A HEDR	1990 Health Physics Society Meeting	Presented Jun. 1990, Anaheim, CA
Statistical Aspects of the Hanford Environmental Dose Reconstruction Project and the Conference on Radiation and Health	RO Gilbert et al.	07/90	PNL-SA-18396 HEDR	American Statistical Assoc. Hanford Thyroid Disease Study	Presented Jul. 1990, Copper Mountain, CO
GENII - Hanford Environmental Dosimetry Package	BA Napier et al.	07/90	PNL-SA-18478 HEDR	ANS 1990 Winter Meeting	Presented Nov. 1990, Orlando, FL
Atmospheric Modeling for Dose Reconstruction at Hanford	JV Ramsdell KW Burk	07/90	PNL-SA-18487 A HEDR	ANS Winter Meeting	Presented Nov. 1990, Washington, DC
A Multi-Method Approach to Audience Analyses in Developing Comprehensive Public Communications Programs	C Holmes S Byram D Von Winterfelt	10/90	PNL-SA-18676 HEDR	Society for Risk Analyses 1991	Presented Oct. 1990, New Orleans, LA
Overview of Hanford Environmental Dose Reconstruction Project	DB Shipler	01/91	PNL-SA-19078 A HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Providing Information Resources for the Hanford Environmental Dose Reconstruction Project	SP Gydesen	01/91	PNL-SA-19079 A HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Effects of the Loss of Correlation Structure on Dose Estimates	JC Simpson	02/91	PNL-SA-19115 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Developments in Atmospheric Modeling for Dose Reconstruction at Hanford	JV Ramsdell	02/91	PNL-SA-19116 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Sensitivity of the MESOILT2 Dispersion Model to Input Uncertainty	JV Ramsdell	02/91	PNL-SA-19117 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Hanford Environmental Dose Reconstruction: A Public Communications Effort Toward Credibility, Understanding and Independence	GL Harvey	02/91	PNL-SA-19118 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Recovery and Evaluation of Historic Environmental Monitoring Data at Hanford	RL Dirkes	02/91	PNL-SA-19119 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL

Title	Author	Date Issued	Publication No.	Audience	Status
Developing Milk Industry Estimates for Dose Reconstruction Projects	DM Beck	02/91	PNL-SA-19172 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Developing Population Estimates for Dose Reconstruction Projects	DM Beck	02/91	PNL-SA-19173 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Native American Food Consumption Data Collection	CL Bruneau	02/91	PNL-SA-19174 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Initial Findings of the Hanford Environmental Dose Reconstruction Project	TA Ikenberry BA Napier	03/91	PNL-SA-19251 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Integration of Models for the Hanford Environmental Dose Reconstruction Project	BA Napier	03/91	PNL-SA-19252 S HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Reconstruction of Radionuclide Movement in Ground Water at the Hanford Site	MD Freshley PD Thorne	03/91	PNL-SA-19269 S HEDR	ANS Annual Meeting	Presented Jun. 1991, Orlando, FL
The Estimation of Early Hanford Releases of Iodine-131	CM Heeb et al.	03/91	PNL-SA-19321 A HEDR	ANS 1991 Annual Meeting	Presented Jun. 1991, Orlando, FL
Application of a Geographic Information System to the HEDR Project	DB Shipler et al.	05/91	PNL-SA-19487 A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented Nov. 3-7, 1991, Seattle, WA
Communicating Risk to Non-Scientific Audiences	RE Lundgren AH McMakin	10/91	PNL-SA-19488 A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented Nov. 3-7, 1991, Seattle, WA
Communicating Risk to Non-Scientific Audiences: Misconceptions and Guidelines	AH McMakin	03/92	PNL-SA-19488 S HEDR	Society for Risk Analysis Chapter Meeting	Presented Mar. 6 and 14, 1992, Richland, WA and Seattle, WA
Overview of the Hanford Environmental Dose Reconstruction Project	DB Shipler et al.	01/92	PNL-SA-20021 HEDR	ANS International High-Level IRadioactive Waste Management Conference	Presented Apr. 12-16, 1992, Las Vegas, NV
Overview of the HEDR Project	DB Shipler	10/91	PNL-SA-20022 A HEDR	Society of Environmental Toxicology and Chemistry 12th Annual Meeting	Presented Nov. 3-7, 1991, Seattle, WA
Statistical and Uncertainty Issues of the Hanford Environmental Dose Reconstruction Project	BA Napier et al.	12/91	PNL-SA-20295 HEDR	National Institute of Statistical Sciences	Presented Dec. 9-10, 1991, Triangle Park, NC

Title	Author	Date Issued	Publication No.	Audience	Status
Decision Management for the Hanford Environmental Dose Reconstruction Project	WJ Roberts et al.	01/92	PNL-SA-20432 HEDR	ANS International High-Level Radioactive Waste Management Conference	Presented Apr. 12-16, 1992, Las Vegas, NV
Uncertainty and Sensitivity Analysis of Historical Measurements of Iodine-131 for Vegetation in 1945-1947	RO Gilbert	07/92	PNL-SA-20580 A HEDR Listed incorrectly in July Monthly report as BN-SA-3564 S HEDR	1992 Joint Statistical Meetings	Presented Aug. 9-13, 1992, Boston, MA
Statistical Aspects of Reconstructing the Iodine-131 Dose to Thyroid of Individuals Living Near the Hanford Site in the Mid-1940s	RO Gilbert	03/92	PNL-SA-20632 S HEDR	32nd Annual Congress of the South African Association of Physicists in Medicine and Biology	Presented Mar. 11-13, 1992, Johannesburg, SA
Data Quality Objectives for Retrospective Studies	DB Shipler et al.	05/92	PNL-SA-20918 A HEDR	13th Annual Meeting, Society of Environmental Toxicology and Chemistry	To be presented Nov. 8-12, 1992, Cincinnati, OH
Environmental Accumulation of Radionuclides Released to the Atmosphere	DB Shipler et al.	05/92	PNL-SA-20919 A HEDR	13th Annual Meeting, Society of Environmental Toxicology and Chemistry	To be presented Nov. 8-12, 1992, Cincinnati, OH
Uncertainty Issues of the Hanford Environmental Dose Reconstruction (HEDR) Project	RO Gilbert JC Simpson	07/92	BN-SA-3576 HEDR	National Meeting of American Chemical and American Statistical Association	Presented Aug. 23-28, 1992, Washington, DC
Evaluating Historical Scans of Worker Thyroids for Environmental Dose Reconstruction	TA Ikenberry	09/92	BN-SA-3609 HEDR	38th Annual Conference on Bioassay, Analytical and Radiochemistry	To be presented Nov. 1-6, 1992, Los Alamos National Laboratory, NM

Appendix F
Communications Log - September 1992

Appendix F

Communications Log - September 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
B Aripa/Colville Tribe	EB Liebow/BNW	Phone, Fax	Draft of CDC proposal for informal review
D Baldonado/TSP Staff	SM Finch/BNW	Phone	MS Power's badge expiration
WA Bishop/TSP	SM Finch/BNW	Phone	Status of Yakima Work Order; increase workshop agreement
WA Bishop/TSP	TA Ikenberry/BNW	Phone	Status of Native American contracts
WA Bishop/TSP	EB Liebow/BNW	Phone	Standard protocol development and resources available for CDC-sponsored tribal work; meeting to discuss protocol
RF Brich/RL	DB Shipler/BNW	Phone	HEDR capital equipment
K CharLee/TSP Staff	SM Finch/BNW	Phone, Fax	TSP meeting agenda; badging for SN Davis and KJ Kopecky; PD McGavran, NJ Germond and PC Klingeman to review documents; memo from B Shlelen on monthly report comments
SN Davis/TSP	SM Finch/BNW	Phone	Details on badge pickup
DH Denham/BNW	DS Barth/TSP	Phone	Comments on Task Plans
E Douple/NAS	DB Shipler/BNW SM Finch/BNW	Phone	NAS site visit
SM Finch/BNW	D Baldonado/TSP Staff	Phone	TSP operating procedures
SM Finch/BNW	WA Bishop/TSP	Phone	Travel reimbursement for Native Americans at October NAWG meeting
SM Finch/BNW	GG Caldwell/TSP	Phone	Badging for document review visit
SM Finch/BNW	K CharLee/TSP Staff	Phone	Documents available at TSP meeting
SM Finch/BNW	NJ Germond/TSP	Phone	Arrangements for picture badge
SM Finch/BNW	W Hanson/Yakima Indian Nation (YIN)	Fax	Details and copy of workshop agreement

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
SM Finch/BNW	AH Murphy/TSP	Phone	Badging for environmental transport and document review visit
SM Finch/BNW	JS Stohr/TSP Staff	Phone	Deobligation of WA State subcontract
SM Finch/BNW	KJ Kopecky/TSP GS Roessler/TSP GG Caldwell/TSP B Shleien/TSP B Aripa/Colville Tribe (CT) B Baker/Kalispel Tribe (KT) A Peters/YIN B Van Pelt/Nez Perce Tribe (NPT) M Quehapama/Warm Springs Tribe (WST)	Phone	Accrual information for subcontracts
KL Garlid/University of Washington	CM Heeb/BNW	Phone	Review of iodine-131 report
B Gersbacker/BCO	DB Shipler/BNW	Phone	Dose code modeling
W Hanson/YIN	TA Ikenberry/BNW	Phone	Status of YIN work order proposal
TA Ikenberry/BNW	WA Bishop/TSP	Fax	Status of Native American work order proposals
TA Ikenberry/BNW	JR Wilkinson/CTUIR	Phone	CTUIR work order proposal for technical evaluation
TA Ikenberry/BNW	W Hanson/YIN	Phone	Status of YIN work order proposal
TA Ikenberry/BNW	DE Walker/TSP	Fax	Example calculations for calculating dose
G Kobacs/BCO	DB Shipler/BNW	Phone	Code development
EB Liebow/BNW	B Aripa/CT	Fax Tribe	Informal review comments on draft proposal
EB Liebow/BNW	D Seyler/CA D Powaukee/NPT V Pierre/KT JR Wilkinson/CTUIR M Queapahma/WST WA Hanson/YIN D Ernst/Spokane Tribe (ST)	Phone	Progress on CDC proposal preparation
BA Napier/BNW	PC Klingeman/TSP	Phone	Clarification regarding TSP modelling recommendations
MA Robkin/TSP	CM Heeb/BNW	Phone	Draft of iodine-131 report; visit to BNW

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
GS Roessler/TSP	BA Napier/BNW	Fax	References for upcoming plutonium fact sheet
DB Shipler/BNW	WA Bishop/TSP	Phone	Kalispel invoice
DB Shipler/BNW	B Shleien/TSP	Phone	TSP invoice
B Shleien/TSP	SP Gydesen/BNW	Phone	RW Dayton's book on BNW's role in U.S. Atomic Energy Program
B Shleien/TSP	DB Shipler/BNW	Phone	TSP invoice
JC Simpson/BNW	KJ Kopecky/TSP	Fax	Agenda for meeting at BNW
JC Simpson/BNW	J Gates/TSP Staff	Phone	Provide update on plans for sensitivity/uncertainty analysis workshop
JC Simpson/BNW	E Hofer/GRS, Garching, Republic of Germany	Fax	Invitation to present paper on sensitivity/uncertainty analyses
JP Thomas/HEAL	SM Finch/BNW	Phone, Fax	Extra copy of July monthly report; meeting with BNW management; BNW fax number; badging for meeting
JP Thomas/HEAL	SP Gydesen/BNW	Phone	Levels of classification with regard to those with more restrictive access
JP Thomas/HEAL	CM Heeb/BNW	Phone	Iodine-131 releases
JP Thomas/HEAL	DB Shipler/BNW	Phone	Schedule meeting
JE Till/TSP	SM Finch/BNW	Phone	Arrangements for meeting at BNW
JE Till/TSP	DB Shipler/BNW	Phone	Documents to send to NAS
JR Wilkinson/CTUIR	TA Ikenberry/BNW	Phone	CTUIR work order proposal content

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