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HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT

Monthly Report

October 1992

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

Battelle
Pacific Northwest Laboratories
Richland, Washington 99352

MASTER

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HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT

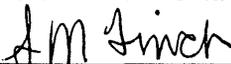
Monthly Report

October 1992

Compiled By:



S. D. Cannon, Communication Specialist
Hanford Environmental Dose Reconstruction Project



S. M. Finch, Project Coordinator
Hanford Environmental Dose Reconstruction Project

Approved By:



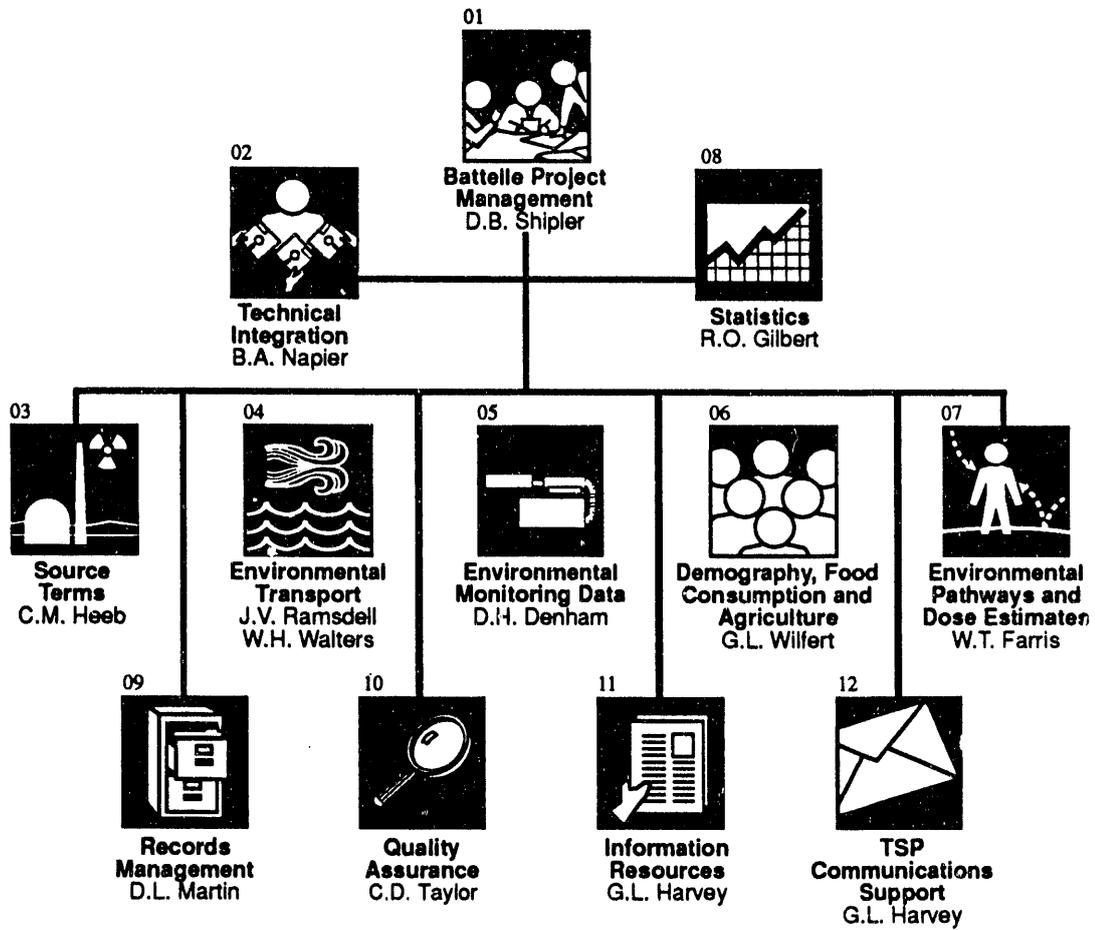
D. B. Shipler, Manager
Hanford Environmental Dose Reconstruction Project

Preface

This monthly report summarizes the technical progress and project status for the Hanford Environmental Dose Reconstruction (HEDR) Project being conducted by Battelle Pacific Northwest Laboratories (BNW) 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 work to comply with directives issued by the TSP.



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Figure 1. Organizational Structure of the HEDR Project

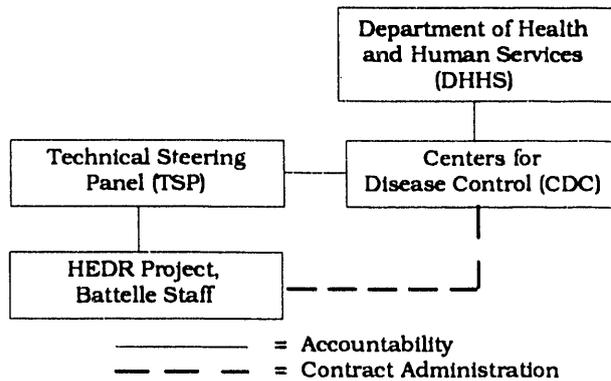
Table 1. Status of Directives^(a)

		<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
92-2	HEDR Dose Code Development		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 (FHCRC) 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.1 in Appendix A shows the status of HEDR Project milestone activities. The following is a summary of activities conducted by HEDR staff in October 1992:

- presented the status and options to complete the dose code to the TSP at their quarterly meeting held in Pasco, Washington. P. Eslinger (BNW) was selected to lead the dose-code development team, and a schedule for the scoping work and design specifications was developed.
- presented a summary of the *Iodine-131 Releases from the Hanford Site, 1944 Through 1947* report (PNWD-2033 HEDR) to the TSP at their quarterly meeting in Pasco, Washington (Milestone 0302A)
- presented the findings of the *Commercial Production and Distribution of Fresh Fruits and Vegetables* report (PNWD-2022 HEDR) to the TSP at their quarterly meeting in Pasco, Washington (Milestone 0603C)
- received the final report, *Quality Assurance Audit Report of the Hanford Environmental Dose Reconstruction Project, OHE-3, Audit A-92-20* (PNWD-2049 HEDR), of the recent audit performed on the HEDR Project (Milestone 1003B)
- published the letter report, *Status of Document Search and Data Quality Objective Efforts* (PNWD-2047 HEDR) (Milestone 1103A)
- participated in the National Academy of Science (NAS) committee review of the HEDR Project for the CDC
- provided technical evaluations of statements of work proposed by the Umatilla Tribe (UT) and again by the Coeur D'Alene Tribe (CAT)
- provided technical assistance to the Warm Springs (WST), Nez Perce (NPT), and Kalispel (KT) tribes regarding their response to the CDC request for proposals; reviewed the other tribes' proposal-preparation progress
- completed a bibliography concerning Native American traditional food preparation and consumption and circulated this as a letter report for internal review

- declassified 359 Hanford-Site-originated documents, 20 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 150 documents (14,400 pages) of potential interest/use to the HEDR Project

Major Problems or Changes and Action Taken

At BNW expense, Battelle staff will be evaluating requirements and conducting scoping studies to provide the TSP with the information necessary to make a decision on the dose code by their quarterly meeting in January 1993.

A delay in the transfer of funds from U.S. Department of Energy Headquarters (DOE-HQ) to CDC could result in a stop-work order in November.

All of the source term milestones have been impacted. However, required outputs will be available to the other HEDR tasks on a timely basis. Therefore, the completion of the other tasks which depend on source-term availability will not be impacted. The major reason for the delays is the increase in scope of the earlier iodine source-term data complexity and modeling which was not envisioned in the FY 1992 task plan.

The work on Milestone 0402A, Wind Field Modeling White Paper, cannot be continued until the source terms developed under Task 03 are received. Minor adjustments are being made to the format in which the source-term numbers will be transmitted to Task 04. Delay in receiving the source terms and other higher priority Task 04 work will delay the computing needed to complete this task.

Because of the delay in placing the subcontract with Washington State University (WSU), the work on Milestone 0404B, Columbia River Conceptual Model, will be delayed.

The participating tribes have not yet submitted proposals to the CDC for the work to follow that being performed under current BNW work orders. The probability is decreasing that sole source contracts with participating tribes will be in place

by the time the current periods of performance expire. If the tribes are not under contract with the CDC by January 1, BNW's ability to make timely dose estimates for tribal members based on food consumption, demographic, and lifestyle data provided by the tribes is in doubt. Recognizing the potential impact to BNW's deliverables late in FY 1993, Battelle staff have been providing technical assistance to tribes to expedite their proposal development.

Planned Work for the Next Three Months

- document the requirements, benchmarking and scoping studies, design specifications, and data needs required for dose code reconstruction
- review all milestones to determine which are contract deliverables and which should either be reported informally or incorporated into other reports
- reorganize Project Office management
- complete Iodine-131 Source Term data calculations, 1948-1991 (Milestone 0303B)
- complete work on the Columbia River conceptual model, including initial testing of simplified calculations of radionuclide transport (Milestone 0404B)
- transmit the results of the meteorological database to the TSP (Milestone 0405A)

- publish environmental monitoring data final report (Milestone 0501A)
- publish vegetation data report--reconstructed conversion factors for vegetation pellet data (Milestone 0502A)
- publish vegetation monitoring report—reconstructed conversion factors and vegetation monitoring data for chemical extraction of iodine-131 (Milestone 0502B)
- complete project sensitivity/uncertainty plan letter report (Milestone 0803A)
- complete revisions of infant feeding practices literature review and annotated bibliography, based on internal review comments
- attend December Native American Working Group (NAWG) meeting in Pasco, Washington

Budget Status

Figure 2 shows the budget status of the HEDR Project. Table A.1 in Appendix A shows FY 1993 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

A request has been submitted for \$75K of FY 1993 funding. This request is the balance of a \$150K FY 1992 request that was funded at \$75K.

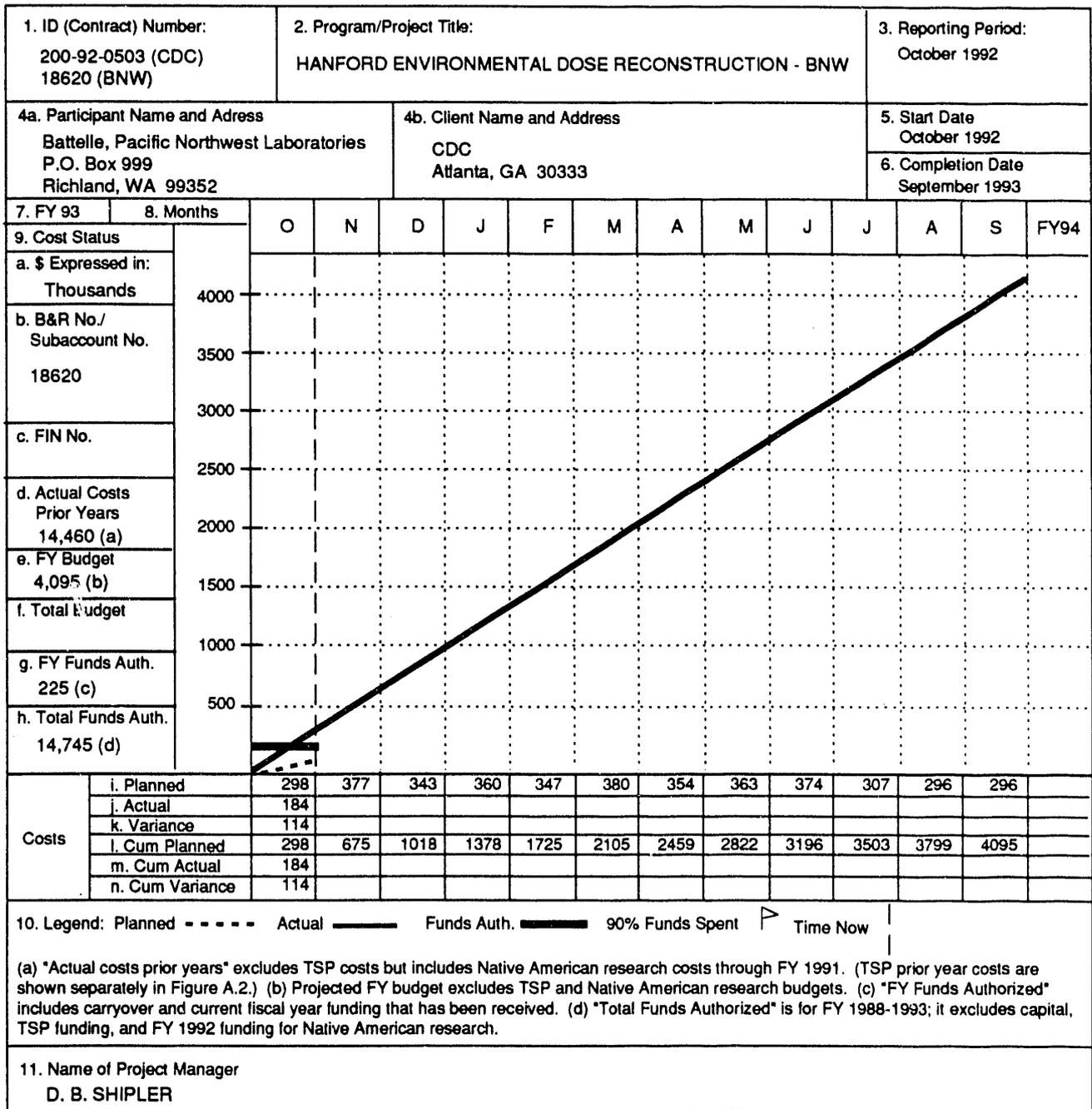


Figure 2. HEDR Project Budget Status - Battelle Pacific Northwest Laboratories

Acronyms and Abbreviations

AP	Associated Press	NFCS	National Food Consumption Survey
BNW	Battelle Pacific Northwest Laboratories	NPT	Nez Perce Tribe
CAT	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	RM	reactor model (computer code)
GENII-S	generation II-SUNS (computer code)	SESRC	Social and Economic Sciences Research Center (Washington State University)
HEDR	Hanford Environmental Dose Reconstruction	SOW	statement of work
HEDRIC	Hanford Environmental Dose Reconstruction Integrated Codes	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
NAS	National Academy of Sciences	WSU	Washington State University
NAWG	TSP Native American Working Group	YIN	Yakima Indian Nation

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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

- presented the status and options to complete the dose code to the TSP at their quarterly meeting held in Pasco, Washington. The TSP responded with an interim directive covering the dose code work for the next 3 months. They will make a decision on how we should proceed with the dose code at their quarterly meeting in January. A report was submitted to the TSP and CDC on the cause of the dose-code failure, the actions taken to identify solutions, and the alternatives to completing the dose code. P. Eslinger (BNW) was selected to lead the dose-code development team, and a schedule for the scoping work and design specifications was developed.
- participated in the National Academy of Science (NAS) committee review of the HEDR Project for the CDC
- paid Colville Tribe (CT) for work performed prior to authorization. This will expend all of the funds currently authorized for their tribe.
- gave a presentation to the Westinghouse Hanford Company on the HEDR Project

Major Problem Areas or Changes and Action Taken

At BNW expense, Battelle staff will be evaluating requirements and conducting scoping studies to provide the TSP with the information necessary to make a decision on the dose code by their quarterly meeting in January 1993.

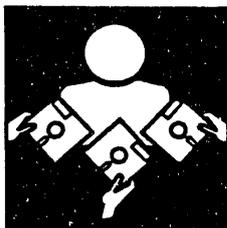
A delay in the transfer of funds from U.S. Department of Energy (DOE) to CDC could result in a stop-work order in November.

Variance

The cumulative cost underrun was caused by a work package for report production being closed in error. Approximately \$36K was not billed to the CDC contract in October.

Planned Work for the Next Three Months

- document the requirements, benchmarking and scoping studies, design specifications and data needs required for dose code reconstruction
- review all milestones to determine which are contract deliverables and which should either be reported informally or incorporated into other reports
- reorganize Project Office management
- present "Environmental Accumulation of Radionuclides Released to the Atmosphere" and "Data Quality Objectives for Retrospective Studies" at the annual meeting of the Society of Environmental Toxicology and Chemistry in Cincinnati, Ohio, November 8-12, 1992 □



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

- participated in the TSP/CDC external review of the regional atmospheric transport code for Hanford emissions tracking (RATCHET)
- presented to the NAS review committee an overview of where the individual components of the modeling structure fit
- interfaced with the various HEDR tasks to coordinate the dose code recovery

Major Problem Areas or Changes and Action Taken

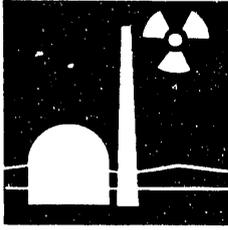
Because of work on the dose code corrective action plan, Milestone 0204A, Data Management Plan, and Milestone 0205B, Key Radionuclides, have been delayed.

Variance

The cumulative cost overrun was caused by the increased effort on the dose code corrective action plan which is from BNW funding.

Planned Work for the Next Three Months

- complete requirement specifications for the data management plan (Milestone 0204A)
- complete work on and publish key radionuclides letter report (Milestone 0205B)
- present "Evaluating Historical Scans of Worker Thyroids for Environmental Dose Reconstruction" at the annual conference on Bioassay, Analytical and Environmental Radiochemistry at the Los Alamos National Laboratory, November 2-6, 1992 □



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 0303B - Iodine-131 Source Term Report, 1948-1991, due December 1992

- completed draft document of Iodine-131 releases for 1944 through 1947, under Milestone 0302A, *Iodine-131 Releases from the Hanford Site, 1944 Through 1947* (PNWD-2033 HEDR Vols. 1 and 2). The releases from 1948 through 1991 will be covered under Milestone 0303B.

Other Activities

- presented a summary of the early Iodine-131 releases report PNWD-2033, HEDR Vols. 1 and 2 to the TSP at their quarterly meeting in Pasco, Washington, and to a review committee from the NAS

Major Problem Areas or Changes and Action Taken

All of the source term milestones have been impacted. However, required outputs will be available to the other HEDR tasks on a timely basis. Therefore, the completion of the other tasks which depend on source-term availability will not be impacted. The major reason for the delays is the increase in scope of the earlier iodine source-term data complexity and modeling which was not envisioned in the FY 1992 task plan. The following milestones are affected.

- Because the work on Milestone 0303B (Iodine-131 Source Term Report, 1948-1991) will not be

completed until January, the report will be delayed. The milestone date will be renegotiated with the TSP and CDC.

- The source-term release numbers for Milestone 0303D (Report on Key Radionuclides Released to Air, 1944-1991) will be available for use in the other HEDR tasks by June 1993, but the final document will be delayed. The milestone date will be renegotiated with the TSP and CDC.
- The estimated date for completing the work for Milestone 0304B (Report on Key Reactor Releases to the Columbia River, 1944-1991) is June 1993. At that time source-term data will be available for use by the river transport task. The report will be delayed. The milestone will be renegotiated with the TSP and CDC.
- Milestone 0307A (Letter Report: Hanford Operations, 1944-1991) work has been progressing but is not ready for publication.

Variance

The cumulative cost underrun was the result of work not yet initiated on Subtask 0305, Source Term Release Model (STRM).

Planned Work for the Next Three Months

- complete Iodine-131 Source Term Report, 1948-1991 (Milestone 0303B)
- determine effective release factors for the other (non-iodine-131) dominant radionuclides released to the air (Milestone 0303D)

- develop a method for calculating releases to the Columbia River based on reactor operating data (Milestone 0304B)
- develop a fuel-failure record and classification system which will permit an estimate of

radionuclides released to the Columbia River from failed-fuel elements (Milestone 0304B)

- continue work on Hanford Operations, 1944-1991 (Milestone 0307A) □



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, re-scheduled to April 1992 and completed (PNL-8083 HEDR)

- finalized report for publication in November

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

- settled the subcontract problems with WSU. The contract will be placed in early November. Work on the conceptual model should be completed by the end of December.

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

- finalized report for internal peer review

Milestone 0405B - Letter Report: Atmospheric Model Database Status, due September 1993

- completed meteorological data entry for 1947. Data for 1948 and 1949 are being entered.

Other Activities

- presented the results of a preliminary evaluation of the relative magnitude of sources of uncertainty in the components of the Hanford

Environmental Dose Reconstruction Integrated Codes (HEDRIC) to the TSP at their quarterly meeting in Pasco, Washington

- participated in a kick-off meeting for a review of the RATCHET code
- briefed the NAS review committee

Major Problem Areas or Changes and Action Taken

The work on Milestone 0402A, Wind Field Modeling White Paper, cannot be continued until the source terms developed under Task 03 are received. Minor adjustments are being made to the format in which the source-term numbers will be transmitted to Task 04. Because of the delay in receiving the source terms and other higher priority Task 04 work, the computing needed to complete this task will be delayed until the first of the year.

Because of the delay in placing the subcontract with WSU, the work on Milestone 0404B, Columbia River Conceptual Model, will not be completed until the end of December 1992.

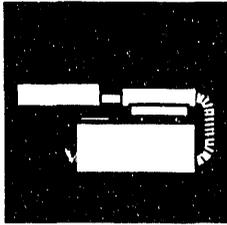
Variance

The cumulative cost overrun for Subtask 0404, Surface Water, was caused by the delay in placing a subcontract with WSU.

Planned Work for the Next Three Months

- continue work on wind field modeling (Milestone 0402A)

- complete work on the Columbia River conceptual model, including initial testing of simplified calculations of radionuclide transport (Milestone 0404B)
- transmit the results of the meteorological database to the TSP (Milestone 0405A)
- continue meteorological data entry, 1948-1949 (Milestone 0405B)
- conduct RATCHET tests
- continue RATCHET code 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 October 1992

- delivered the report to the Project Office for editing

Milestone 0502A - Vegetation Data Report (1945-1951), due FY 1991 and rescheduled to November 1992

- delivered the report to the Project Office for editing

Milestone 0502B - Letter Report: Vegetation Monitoring Data (1949-1951), Bias and Data Correction, due February 1992 and rescheduled to November 1992

- added appendices that summarize meetings held in February and March 1989 with veteran Hanford employees who had been directly involved in environmental monitoring and analysis during the 1945-1951 period

Major Problem Areas or Changes and Action Taken

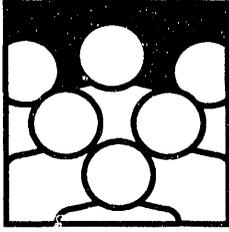
Because of Task 05 staffing problems, all three reports have been delayed. Publication is planned by the end of the calendar year.

Variance

The cumulative cost overrun was caused by accelerated effort on Milestones 0501A and 0502A to deliver the reports to the Project Office.

Planned Work for the Next Three Months

- publish environmental monitoring data final report (Milestone 0501A)
- publish vegetation data report—reconstructed conversion factors for vegetation pellet data (Milestone 0502A)
- publish vegetation monitoring report—reconstructed conversion factors and vegetation monitoring data for chemical extraction of iodine-131 (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

- 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 (USDA) 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 of consistency. Additionally, econometric methods have been employed to determine the stability of the ratios over time and to assess a level of inherent uncertainty.
- ordered the winter 1977-1978 National Food Consumption Survey (NFCS) data tape from the National Technical Information Service (NTIS). This tape will assure the traceability of data currently residing at BNW. Presently we are relying on a Phase I backup tape with no traceability to the source data.

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

- presented the findings of the fruit and vegetable study to the TSP at their quarterly meeting in Pasco, Washington

Milestone 0603D - Milk Production/Distribution Report, 1945 and 1951, 19 Counties, due March 1993

- in light of the recent dose estimations, initiated a re-evaluation of the need for additional primary data in the areas of animal meats, home gardening, goat milk, and chicken egg production
- evaluated whether the milk producer survey should be expanded to cover producer/distributor and processor/distributor questions

Native American Data (Subtask 0605)

- attended meetings of the Native American Working Group (NAWG) in Kennewick and Pasco, Washington
- contributed review comments to one version 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 Umatilla Tribe and again by the Coeur d'Alene Tribe.
- provided technical assistance to the Warm Springs, Nez Perce, and Kalispel Tribes regarding their responses to the CDC request for proposal; reviewed the other tribes' proposal-preparation progress
- completed a bibliography concerning Native American traditional food preparation and consumption and circulated this as a letter report for internal review

Major Problem Areas or Changes and Action Taken

The CDC has directed Battelle staff to obtain Office of Management and Budget (OMB) clearance of the survey planned under Milestone 0603D, Milk Production/Distribution, 1945 and 1951. We have received guidance from the CDC on how to submit requests for OMB approval and have initiated preparation of the required clearance information. The time and effort to obtain the clearance will require a change in scope, funding, and milestone dates presently planned for Task 0603. A request for change is being submitted to the TSP and CDC.

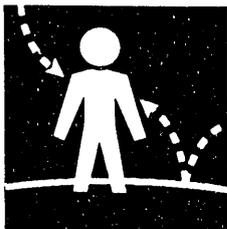
The participating tribes have not yet submitted proposals to the CDC for the work to follow that is currently being performed under Battelle work orders. The probability is decreasing that sole-source contracts with participating tribes will be in place by the time the present periods of performance expire. If the tribes are not under contract with the CDC by January 1, BNW's ability to make timely dose estimates for tribal members based on food consumption, demographic, and lifestyle data provided by the tribes is in doubt. Recognizing the potential impact to BNW's deliverables late in FY 1993, Battelle staff have been providing technical assistance to tribes to expedite their proposal development.

Variance

The cumulative cost underrun was caused by an inter-laboratory authorization with Battelle Seattle Research Center not yet being placed for FY 1993.

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 completion of standard data-collection protocol, including data-quality procedures and questionnaire design
- review and evaluate preliminary data submitted to BNW by the tribes
- attend December Native American Working Group meeting in Pasco, Washington
- plan and facilitate training sessions in December for the Native American Working Group regarding procedures for key-informant interviewing (interview guide development, informant selection, data record management, content analysis) in Seattle, Washington
- provide technical assistance to tribal representatives who come to Seattle, Washington 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 0702B - Documentation Report of Population Dose Model, Major Pathways, due September 1992 and rescheduled to October 1992

- made limited progress on this milestone because of the activities on the corrective action plan for Task 0702

Milestone 0703C - Letter Report: Key Radionuclide Parameters, due July 1993

- initiated work on key radionuclide parameters. At this time, ^{103}Ru and ^{106}Ru are the only additional air pathway radionuclides. The list of surface-water key radionuclides has not been determined.

Pathways and Dose Code Development and Documentation (Subtask 0702)

- planned reconstruction of the dose code under BNW funding

Other Activities

- gave a presentation to the NAS review committee on the work that has been conducted and is planned for the environmental pathways and dose task
- presented the results of the fresh fruit and vegetable report (Milestone 0603C) to the TSP at

their quarterly meeting in Pasco, Washington. The presentation covered the calculations done in order to determine the relative importance of 30 different commercial fresh fruits and vegetables. The impacts of the produce distribution system on the doses to representative individuals was also presented.

Major Problem Areas or Changes and Action Taken

The state of the Subtask 0702 coding work was presented to the TSP at the October meeting. The TSP indicated that no additional project funds would be authorized for coding activities until a computer-code development plan is prepared. BNW is currently documenting the requirements, benchmarking and scoping studies, design specifications, and data needs required for the completion of coding activities. A report summarizing these activities will be issued to the TSP no later than December 31, 1992.

Variance

The cumulative cost underrun was caused by work being performed for Subtask 0702 on BNW funding. Another cause of the underrun is that dose calculations scheduled for Native Americans cannot yet be calculated.

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 limited work on the revised air pathway dose calculations (Milestone 0705A)
- continue planning efforts for the coding activities under Task 0702 □



Task 08 Statistics

Objective

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

Progress

Milestone 0803A - Letter Report: Project Sensitivity/Uncertainty Analysis Plan, due August 1992 and rescheduled to December 1992

- finished coding and initial development testing of the pilot versions of the dynamic estimates of concentrations and accumulated radionuclides in terrestrial environments (DESCARTES) and calculation of individual doses from environmental radionuclides (CIDER) codes. The pilot versions of these codes will provide the case studies needed for completing the sensitivity/uncertainty analysis plan.

General Statistics Support (Subtask 0802)

- prepared for the HEDR Project Office a summary of papers and presentations by the Statistics Task staff from 1988 to date.
- reviewed data quality objectives presentation to be given at meetings of the Society of Environmental Toxicology and Chemistry

Analysis of Model Reliability (Subtask 0803)

- gave a presentation on sensitivity/uncertainty analyses to the NAS review committee

Other Activities

- assisted Task 03 (Source Terms) with quality assurance (QA) activities for the reactor model (RM), and STRM

- attended the Large Installation System Administration Conference in Long Beach, California to learn about tools available for management of diverse configurations

Major Problem Areas or Changes and Action Taken

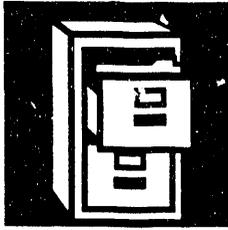
None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- revise Iodine-131 Conversion Factor Report in response to TSP and CDC comments (Milestone 0802A)
- complete project sensitivity/uncertainty analysis plan (Milestone 0803A)
- continue planning for the sensitivity/uncertainty analysis workshop
- conduct sensitivity/uncertainty analysis of test cases
- complete work with corrective action team
- review draft reports



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 - 149 records totalling 6,399 pages
- verified, processed, and stored project records - 115 records totalling 1,436 pages
- transferred three packages of processed project records to the RL Public Reading Room - 10 records totalling 1,155 pages

Major Problems or Changes and Action Taken

None.

Variance

The cumulative cost underrun was caused by staff being temporarily assigned to other activities.

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 HEDR Project Office in processing records to the Records Center while the project records custodian is on leave □



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

- received the Milestone 1003B final report, *Quality Assurance Audit Report of the Hanford Environmental Dose Reconstruction Project, OHE-3, Audit A-92-20* (PNWD-2049 HEDR) of the recent audit performed on the HEDR Project. Have begun working on responses to the findings and observations.
- reviewed several documents to support the issuance of the Iodine-131 Report, including software-control procedures, support codes, draft report, and viewgraphs for presentation to the TSP at their quarterly meeting in Pasco, Washington
- assisted the HEDR Project Staff in the development of software controls for the atmospheric codes and a configuration management method for the computer output
- reviewed the draft of the Columbia River Pathway Summary Report (Milestone 0404A) and provided comments. The Data Quality Objectives (DQOs) for this particular report will be included in another report to be issued later.
- reviewed the draft of the Status of Document Search and DQO Efforts Report (Milestone 1103A)

Other Activities

- attended the TSP quarterly meeting in Pasco, Washington

Major Problem Areas or Changes and Action Taken

None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- assist in responding to the findings and observations described in the final report of the recent audit performed on the HEDR Project
- finalize HEDR Project decision plan and issue the implementing procedures for the different techniques described in the plan
- develop action-tracking procedures to be used to document results of technical staff meetings
- perform follow-up verification on deficiency reports
- continue performing oversight activities to check for compliance to project technical, quality assurance, and DQO requirements □



Task 11 Information Resources

Objective

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

Progress

Milestone 1103A, Letter Report: Status of Document Search and Data Quality Objective Efforts, due September 1992, rescheduled to October 1992 and completed (PNWD-2047 HEDR)

- completed and published the letter report, *Status of Document Search and Data Quality Objective Efforts*

RL Public Reading Room Activity

In October, the RL Public Reading Room had 13 HEDR patrons and distributed 27 HEDR reports.

Other Activities

- declassified 359 Hanford-Site-originated documents, 20 of which are of potential interest/use to the HEDR Project. Table 11.1 shows the status of declassification to date.
- added new citations to the tracking system that now contains more than 6200 citations
- verified references in several HEDR reports
- assisted G. Caldwell, TSP, during his review of classified documents at the Records Holding Area

Table 11.1. Declassification of Hanford-Site-Originated Documents

<u>Documents Declassified</u>	<u>Hanford Historical</u>	<u>HEDR-Related^(a)</u>
March 1987-September 1987 (FY 1987)	35	27
October 1987 through September 1988 (FY 1988)	52	37
October 1988 through September 1989 (FY 1989)	186	177
October 1989 through September 1990 (FY 1990)	455	236
October 1990 through September 1991 (FY 1991)	1323	599
October 1991 through September 1992 (FY 1992)	2862	554
October 1992 (FY 1993)	359	20
TOTAL (March 1987 - October 1992)	5272	1650

(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.

- provided the RL Public Reading Room with 150 documents (14,400 pages) of potential interest/use to the HEDR Project. A title listing of these reports is given in Appendix B.
- met with C. Banick and C. Zeigler (Westinghouse Savannah River Company) to discuss information needs for environmental dose reconstruction work at the Savannah River site

Major Problem Areas or Changes and Action Taken

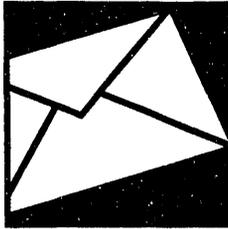
None.

Variance

The cumulative cost underrun was caused by Task 11 work packages being closed in error. Approximately \$6K was not billed to the CDC contract in October.

Planned Work for the Next Three Months

- support visiting TSP members' document search efforts
- identify, search and retrieve documents to support Iodine-131 Source Term Report (Milestone 0303B) and Letter Report: Hanford Operations, 1944-1991 (Milestone 0307A).
- await direction and funding from the CDC (through RL) to prepare the title listing of Hanford-Site-originated documents which are currently classified and which address operations for 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

- assisted TSP Communications Subcommittee staff in arranging and conducting a press conference on the 1944-1947 iodine-131 releases
- provided copies of the *Iodine-131 Releases from the Hanford Site, 1944 Through 1947* (PNWD-2033 HEDR Vols. 1 and 2) viewgraphs to TSP members, G. Roessler and M. Robkin, to use in presentations following the press conference
- attended TSP public and Communications Subcommittee meetings in Pasco, Washington
- assisted TSP members in briefing the NAS review committee and conducted a Hanford-Site tour for the committee. Also, assisted with badging and media-relations support prior to and during the committee's visit.
- provided general information about the HEDR Project and HTDS to E. Blumberg, Eatonville, Washington, J. Flippo, Kennewick, Washington, and furnished them with toll-free phone numbers

Major Problem Areas or Changes and Action Taken

None.

Variance

The cumulative cost underrun was caused by less support of the TSP Communications Subcommittee than anticipated.

Planned Work for the Next Three Months

- review and compile media articles from July 1992 through present in preparation for the media review summary due in February 1993 (Milestone 1203D)
- attend TSP Communications Subcommittee meeting in Portland, Oregon
- attend TSP public and Communications Subcommittee meetings in Pasco, Washington □

Appendix A
Milestones, Schedule, and Costs

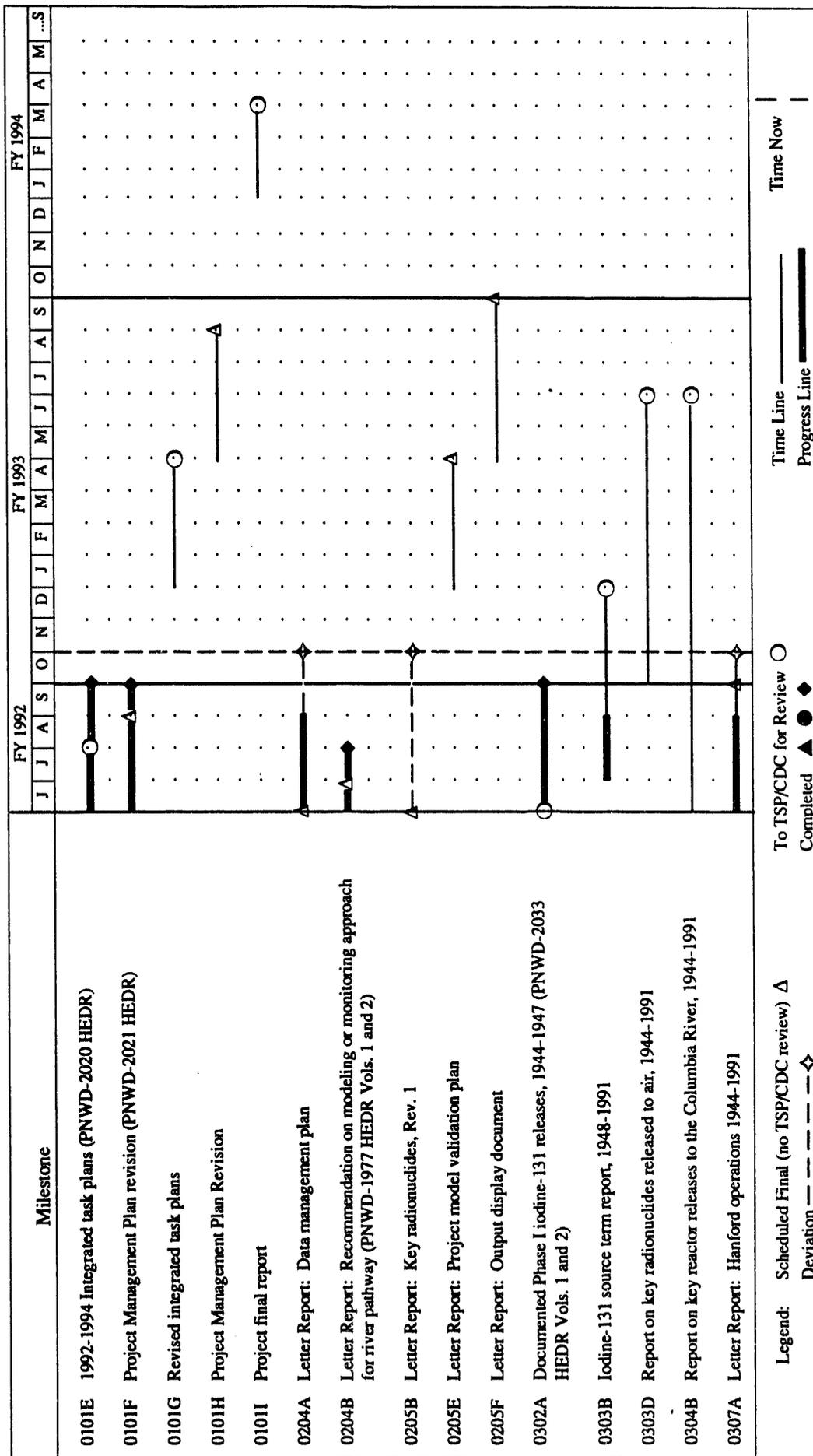


Figure A.1. HEDR Project Milestones

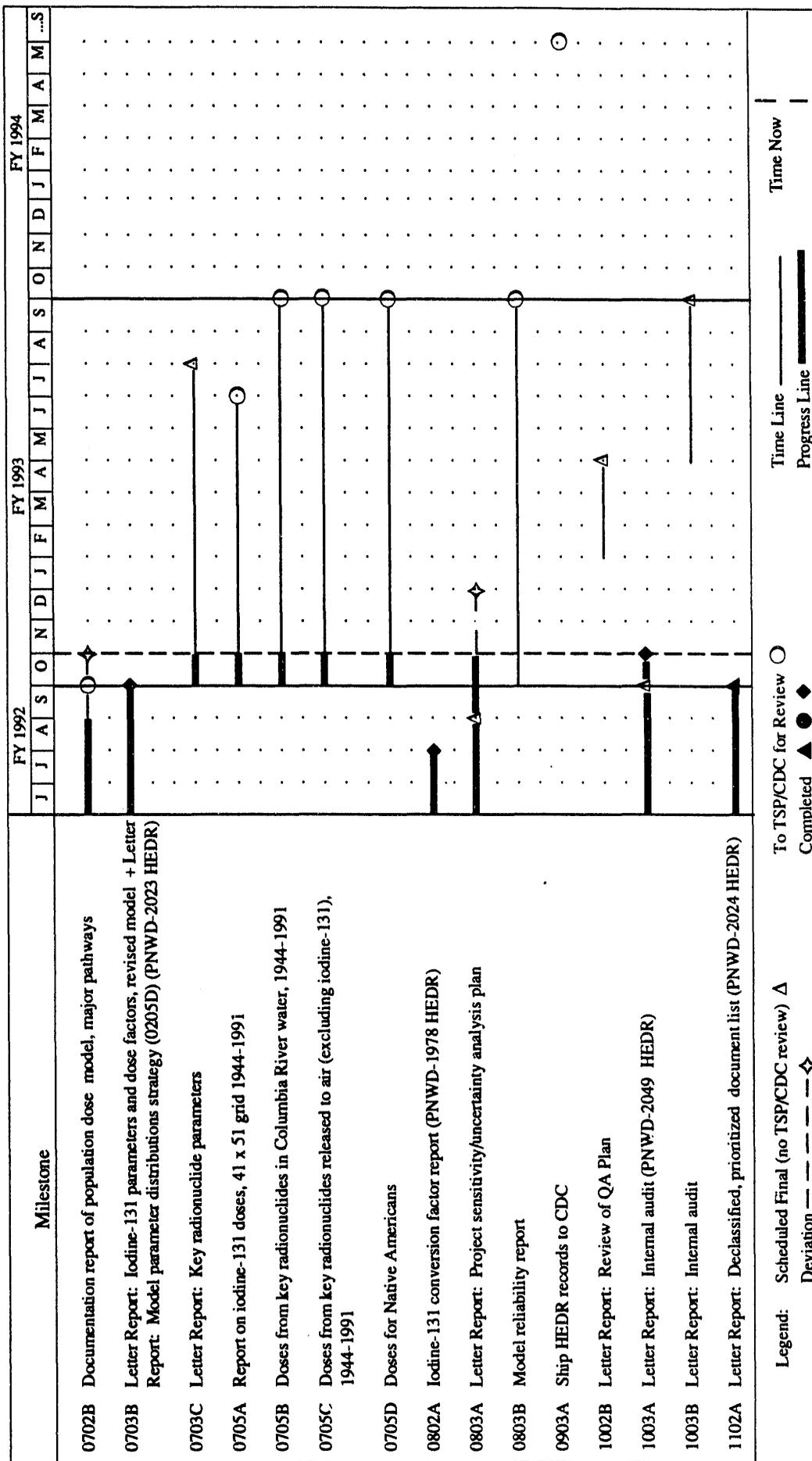


Figure A.1. HEDR Project Milestones (contd)

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

October 1992		FY 1993 to Date (October 1992 - September 1993)										
HEDR Project Tasks	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Planned (b)	Cum Variance	Approved FY Budget (c)	Funds Remaining	Budgeted FY Labor Hours	
												Labor \$
Task 01 - Project Management (d)												
0101 Project Planning & Control	6	0	6	6	0	6	45	39	606	600	6,648	
0103 Project Administration	21	8	29	21	8	29	30	1	397	368	5,482	
0104 Project Peer Review	0	0	0	0	0	0	2	2	40	40	341	
Subtotal Task 01	27	8	35	27	8	35	77	42	1,043	1,008	12,471	
Task 02 - Technical Integration												
0201 Tech Planning/Control/Rep	1	0	1	1	0	1	5	4	68	67	563	
0204 Proj Tech Cord /Analysis	2	0	2	2	0	2	15	13	198	196	1,598	
0205 Path & Dose Model Require	9	1	10	9	1	10	7	-3	134	124	1,216	
Subtotal Task 02	12	1	13	12	1	13	27	14	400	387	3,377	
Task 03 - Source Terms												
0301 Tech Planning/Control/Rep	0	0	0	0	0	0	3	3	37	37	309	
0303 Rad Releases to Air	0	0	0	0	0	0	10	10	171	171	1,850	
0304 Rad Releases to Water	15	0	15	15	0	15	13	-2	208	193	2,337	
0305 Source Term Release Model	0	0	0	0	0	0	4	4	41	41	375	
0307 Rad Release Data Avail/Rev	10	0	10	10	0	10	0	-10	0	-10	0	
Subtotal Task 03	25	0	25	25	0	25	30	5	457	432	4,871	

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

October 1992		FY 1993 to Date (October 1992 - September 1993)									
Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum Planned (b)	Cum Variance	CDC/TSP Approved FY Budget (c)	Funds Remaining	Budgeted FY Labor Hours	
Task 04 - Environmental Transport											
0402	6	1	7	6	1	7	16	9	183	176	1,823
0404	4	0	4	4	0	4	10	6	221	217	1,880
0405	7	0	7	7	0	7	0	-7	0	-7	0
0406	0	0	0	0	0	0	10	10	109	109	1,191
Subtotal Task 04	17	1	18	17	1	18	36	18	513	495	4,894
Task 05 - Environmental Monitoring Data											
0501	3	0	3	3	0	3	3	0	24	21	185
0502	11	0	11	11	0	11	8	-3	98	87	1,161
0504	0	0	0	0	0	0	0	0	62	62	780
0505	0	0	0	0	0	0	0	0	44	44	583
Subtotal Task 05	14	0	14	14	0	14	11	-3	228	214	2,702
Task 06 - Demography, Food Consumption & Agriculture											
0601	0	0	0	0	0	0	2	2	38	38	408
0602	2	1	3	2	1	3	8	5	49	46	403
0603	21	1	22	21	1	22	6	-16	93	71	320
0605	2	0	2	2	0	2	17	15	210	208	411
Subtotal Task 06	25	2	27	25	2	27	33	6	390	363	1,542

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

October 1992 FY 1993 to Date (October 1992 - September 1993)

	October 1992		FY 1993 to Date (October 1992 - September 1993)		Cum Variance	CDC/TSP Approved FY Budget (c)	Funds Remaining	Budgeted FY Labor Hours
	Labor \$	Non-Labor \$ (a)	Total \$	Non-Labor \$ (a)				
Task 07 - Environmental Pathways & Dose Estimates								
0701 Tech Planning/Control/Rep	9	0	9	0	5	54	45	508
0702 Path & Dose Code Dev/Doc	0	0	0	0	7	94	94	1,061
0703 Path & Dose Model Paramet	3	0	3	0	4	58	55	657
0705 Dose Calculations	0	0	0	0	11	138	138	1,424
Subtotal Task 07	<u>12</u>	<u>0</u>	<u>12</u>	<u>0</u>	<u>27</u>	<u>344</u>	<u>332</u>	<u>3,650</u>
Task 08 - Statistics								
0801 Tech Planning/Control/Rep	2	0	2	0	3	51	49	373
0802 Stats Support for Tech Work	4	0	4	0	8	95	91	837
0803 Analysis of Model Reliability	19	0	19	0	16	203	184	1,991
Subtotal Task 08	<u>25</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>27</u>	<u>349</u>	<u>324</u>	<u>3,201</u>
Task 09 - Records Management								
0901 Tech Planning/Control/Rep	1	0	1	0	1	5	4	90
0902 Project Records Management	3	0	3	0	5	69	66	1,480
Subtotal for Task 09	<u>4</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>6</u>	<u>74</u>	<u>70</u>	<u>1,570</u>
Task 10 - Quality Assurance								
1001 Tech Planning/Control/Rep	4	0	4	0	1	13	9	121
1002 QA Program Development	1	0	1	0	1	14	13	169
1003 QA Verification	2	0	2	0	3	42	40	524
Subtotal Task 10	<u>7</u>	<u>0</u>	<u>7</u>	<u>0</u>	<u>5</u>	<u>69</u>	<u>62</u>	<u>814</u>

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

October 1992		FY 1993 to Date (October 1992 - September 1993)										
Task	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum Planned (b)	Cum Variance	CDC/TSP Approved FY Budget (c)	Funds Remaining	Budgeted FY Labor Hours	
												Labor \$
Task 11 - Information Resources												
1101	0	0	0	0	0	0	4	4	56	56	1,314	
1102	0	0	0	0	0	0	9	9	103	103	1,683	
1103	2	0	2	2	0	2	2	0	28	26	120	
Subtotal Task 11	2	0	2	2	0	2	15	13	187	185	3,117	
Task 12 - TSP Communications Support												
1201	2	0	2	2	0	2	2	0	13	11	146	
1203	0	0	0	0	0	0	1	1	11	11	192	
1204	1	0	1	1	0	1	1	0	17	16	269	
Subtotal - Task 12	3	0	3	3	0	3	4	1	41	38	607	
Subtotal, HEDR Project Tasks	173	12	185	173	12	185	298	113	4,095	3,910	42,823	

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

October 1992 FY 1993 to Date (October 1992 - September 1993)

	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum Planned (b)	Cum Variance	CDC/TSP Approved FY Budget (c)	Funds Remaining	Budgeted FY Labor Hours
<u>Technical Steering Panel (e)</u>	0	0	0	0	0	0	0	0	63	63	0
<u>Native American Research (f)</u>	0	2	2	0	2	2	44	42	176	174	0
TOTAL	173	14	187	173	14	187	342	155	4,334	4,147	42,823

(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.

(c) "CDC/TSP Approved FY Budget" is the FY 1993 budget approved in the CDC contract plus carryover from FY 1992.

(d) Project management includes activities such as project control and administration, project communications, subcontract administration, records control, and peer review.

(e) The FY 1993 Technical Steering Panel budget is carryover from FY 1992 and will be used to complete the closeout of the TSP subcontracts. The FY 1993 TSP subcontracts are being administered by the State of Washington and that budget is not reflected here.

(f) The FY 1993 Native American Research budget is carryover from FY 1992 and will be used to complete the FY 1992 scopes of work. The FY 1993 contracts for Native American Research will be administered by the CDC and that budget is not reflected here.

1. ID (Contract) Number: DE-AC06-76RLO 1830		2. Program/Project Title: HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION - TSP					3. Reporting Period: October 1992							
4a. Participant Name and Address Pacific Northwest Laboratory P.O. Box 999 Richland, WA 99352			4b. Client Name and Address RL Richland, Washington 99352					5. Start Date October 1992		6. Completion Date September 1993				
7. FY 93	8. Months	O	N	D	J	F	M	A	M	J	J	A	S	FY94
9. Cost Status														
a. \$ Expressed in: Thousands														
b. B&R No./ Subaccount No. 12578 HR0120														
c. FIN No.														
d. Actual Costs Prior Years 3052														
e. FY Budget 63 (a)														
f. Total Budget														
g. FY Funds Auth. 63														
h. Total Funds Auth. 3,115 (b)														
Costs	i. Planned	0	63											
	j. Actual (c)	0												
	k. Variance	0												
	l. Cum Planned	0	63											
	m. Cur. Actual (c)	0												
	n. Cum Variance	0												
10. Legend: Planned - - - - - Actual ——— Funds Auth. ——— 90% Funds Spent ▽ Time Now														
(a) "FY Budget" equals TSP FY 1992 carryover. These funds will be used to close out TSP subcontracts as final invoices are received. The FY 1993 budget is administered through the State of Washington and is not reflected here. (b) FY 1988-1993. (c) Actual costs are recorded after invoices are received and processed. Therefore, current month costs may not reflect actual work performed.														
11. Name of Project Manager D. B. SHIPLER														

Figure A.2. Technical Steering Panel Budget Status

Appendix B

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

Appendix B

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

BN-SA-0536	Checklist and Relative Abundance of Fish Species from the Hanford Reach of the Columbia River. 11p.	01/26/76
BN-SA-1351	Mid-Columbia River Zooplankton. 12 p.	07/31/81
BN-SA-1352	Mid-Columbia River Microflora. 27 p.	07/31/81
BNWI-918-PT1	Final Investigative Report of Fuel Element Rupture Test Facility Incident 9/29/65: Findings and Details. 250p.	01/01/66
DUN-5030	Contamination Control - Columbia River - Quarterly Report, July-September 1968. 11p.	11/15/68
HW-50339-DEL	Hanford Laboratories Operation Monthly Activities Report, May 1957. 144p.	06/15/57
HW-52859-DEL	Hanford Laboratories Operation Monthly Activities Report, September 1957. 157p.	10/15/57
HW-58711-DEL	Chemical Processing Department Monthly Report, December 1958. 78p.	01/21/59
HW-59079-DEL	Chemical Processing Department Monthly Report, January 1959. 76p.	02/20/59
HW-59434-DEL	Chemical Processing Department Monthly Report, February 1959. 73p.	03/20/59
HW-62899	Hanford Laboratories Operation Monthly Activities Report, November 1959. 159p.	12/15/59
HW-64555-DEL	IPD Monthly Record Report, March 1960. 104p.	04/21/60
HW-65935-DEL	Chemical Processing Department Monthly Report, June 1960. 55p.	07/21/60
HW-66644-DEL	Hanford Laboratories Operation Monthly Activities Report, August 1960. 156p.	09/15/60

HW-67254	Hanford Laboratories Operation Monthly Activities Report, October 1960. 166p.	11/15/60
HW-67681	IPD Monthly Report, November 1960. 82p.	12/14/60
HW-67985	Chemical Processing Department Monthly Report, December 1960. 49p.	01/20/61
HW-68343	IPD Monthly Report, January 1961. 89p.	02/15/61
HW-68345	Chemical Processing Department Monthly Report, January 1961. 54p.	02/21/61
HW-68350	Hanford Laboratories Operation Monthly Activities Report, January 1961. 169p.	02/15/61
HW-68712	Hanford Laboratories Operation Monthly Activities Report, February 1961. 175p.	04/15/61
HW-69051	Chemical Processing Department Monthly Report, March 1961. 59p.	04/21/61
HW-69080	IPD Monthly Report, March 1961. 78p.	04/14/61
HW-69491	IPD Monthly Report, April 1961. 84p.	05/15/61
HW-69822	Hanford Laboratories Operation Monthly Activities Report, May 1961. 175p.	06/15/61
HW-70165	Hanford Laboratories Operation Monthly Activities Report, June 1961. 177p.	07/15/61
HW-70182	Chemical Processing Department Monthly Report, July 1961. 56p.	07/21/61
HW-70211	IPD Monthly Report, June 1961. 85p.	07/21/61
HW-70588	Chemical Processing Department Monthly Report, July 1961. 49p.	08/21/61
HW-70625	IPD Monthly Report, July 1961. 76p.	08/14/61
HW-70872	Hanford Laboratories Operation Monthly Activities Report, August 1961. 178p.	09/15/61
HW-70918	Chemical Processing Department Monthly Report, August 1961. 51p.	09/21/61
HW-70952	IPD Monthly Report, August 1961. 74p.	09/15/61
HW-71187-DEL	Chemical Processing Department Monthly Report, September 1961. 46p.	10/20/61

HW-71222	Hanford Laboratories Operation Monthly Activities Report, September 1961. 186p.	10/16/61
HW-71230	IPD Monthly Report, September 1961. 74p.	10/16/61
HW-71535	Hanford Laboratories Operation Monthly Activities Report, October 1961. 183p.	11/15/61
HW-71577	Chemical Processing Department Monthly Report, October 1961. 49p.	11/21/61
HW-71895	Chemical Processing Department Monthly Report, November 1961. 45p.	12/21/61
HW-71910	IPD Monthly Report, November 1961. 69p.	12/15/61
HW-71921	Hanford Laboratories Operation Monthly Activities Report, November 1961. 177p.	12/15/61
HW-72142	Hanford Laboratories Operation Monthly Activities Report, December 1961. 174p.	01/15/61
HW-72179	IPD Monthly Report, December 1961. 72p.	01/15/62
HW-72551	Chemical Processing Department Monthly Report, January 1962. 47p.	02/21/62
HW-72567	IPD Monthly Report, January 1962. 74p.	02/15/62
HW-72590	Hanford Laboratories Operation Monthly Activities Report, January 1962. 171p.	02/15/62
HW-72813	IPD Monthly Report, February 1962. 73p.	03/15/62
HW-72890	Chemical Processing Department Monthly Report, February 1962. 47p.	03/21/62
HW-72902	Hanford Laboratories Operation Monthly Activities Report, February 1962. 178p.	03/15/62
HW-73153	IPD Monthly Report, March 1962. 65p.	04/15/62
HW-73193	Chemical Processing Department Monthly Report, March 1962. 45p.	04/20/62
HW-73202	Hanford Laboratories Operation Monthly Activities Report, March 1962. 212p.	04/16/62
HW-73473	IPD Monthly Report, April 1962. 64p.	05/11/62
HW-73525	Chemical Processing Department Monthly Report, April 1962. 44p.	05/21/62

HW-73777	IPD Monthly Report, May 1962. 66p.	06/13/62
HW-73884	Chemical Processing Department Monthly Report, May 1962. 47p.	06/21/62
HW-73905	Hanford Laboratories Operation Monthly Activities Report, May 1962. 211p.	06/15/62
HW-74101	IPD Monthly Report, June 1962. 65p.	07/13/62
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RL-SEP-197	Chemical Processing Department Monthly Report, December 1964. 35p.	01/21/65

Appendix C

HEDR Documents to the TSP - October 1992

A complete listing appears in the September monthly reports.

Appendix C

HEDR Documents to the TSP - October 1992

Title	Author	Date Issued	Publication No	Additional Information	Status
Status of Document Search and Data Quality Objective	SP Gydesen	10/92	PNWD-2047 HEDR	Milestone 1103A	Published final
Quality Assurance Audit Report of the Hanford Environmental Dose Reconstruction Project, OHE-3, Audit A-92-20	MA Gibson SC Marschman	10/92	PNWD-2049 HEDR	Milestone 1003B	Published final

Appendix D

HEDR Presentation Handouts to the TSP - October 1992

A complete listing appears in the September monthly reports.

Appendix D

HEDR Presentation Handouts to the TSP - October 1992

Title	Author	Date Issued	Publication No	Additional Information
Status of Technical Work - Hanford Environment Dose Reconstruction Project	CM Heeb DB Shippler TL Marsh WT Farris	10/92	BN-SA-3615 S HEDR	Presented at the TSP meeting, Oct. 8-10, 1992, Pasco, WA

Appendix E

HEDR Open-Literature Publications and Presentations - October 1992

This appendix lists publications (new this month) that present aspects of dose reconstruction in the open scientific literature; TSP approval is not required. A complete listing appears in the September monthly reports.

(NOTE: No publications in October.)

Appendix F

Communications Log - October 1992

Appendix F

Communications Log - October 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
B Aripa/CT	EB Liebow/BNW	Phone	Financial status precludes travel to NAWG meeting; update on CDC proposal status
DS Barth/TSP	DB Shipler/BNW	Phone	Candidates/dose code review
WA Bishop/TSP	GL Harvey/BNW	Phone	Viewgraph materials for NAS presentation; clearance badge
WA Bishop/TSP	EB Liebow/BNW	Phone	Colville financial situation
GB Blaylock/Oak Ridge National Laboratory	BA Napier/BNW	Phone	Kujala data on salmon in Columbia River
ML Blazek/TSP	GL Harvey/BNW	Phone, Fax	Final NAS/NRC presentation and tour agenda for October 22-23.
ML Blazek/TSP	GL Harvey/BNW	Phone	NAS presentation and tour planned for 10/22; audio-video equipment for the NAS presentation on 10/22
E Blumberg/ Eatonville, WA J. Flippo/ Kennewick, WA	GL Harvey/BNW	Phone	Information about the Columbia River and iodine-131 reports
GG Caldwell/TSP	GL Harvey/BNW	Phone	Progress on arranging review of x-ray information
C Carter/WSU	CM Heeb/BNW	Phone	Copy of PNWD-2033 HEDR
E Double/NAS	DB Shipler/BNW	Phone	Materials
SM Finch/BNW	WA Bishop/TSP	Phone	Badge information
SM Finch/BNW	K CharLee/TSP Staff	Phone	Documents for the TSP meeting
SM Finch/BNW	NJ Germond/TSP	Phone	Badging arrangements
GL Harvey/BNW	GG Caldwell/TSP	Phone	Review of unclassified and privacy documents
CM Heeb/BNW	MA Robkin/TSP	Fax	Comments on Health Physics Society iodine-131 draft
C Horan/Perkins Coie	SM Finch/BNW	Phone	Request for HEDR publications

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
RP Hosker/National Oceanic and Atmospheric Administration	JV Ramsdell/BNW	Phone	Documents for TSP review of RATCHET
T Joseph/DOE, Oak Ridge, TN	SP Gydesen/BNW	Phone	Copies of HEDR Project reports
PC Klingeman/TSP	WH Walters/BNW	Phone	Italics in final Columbia River report
L Leavens/ Davis, Wright, Tremaine	BA Napier/BNW	Phone	Historic krypton-85 releases
EB Liebow/BNW	WA Bishop/TSP DE Walker/TSP B Amundson/HTDS V Chase/CDC	Phone, Fax	Summary of October NAWG meeting
EB Liebow/BNW	WA Bishop/TSP	Phone	Standard protocol development; special population studies for FY 1994; summary for NAWG meeting; progress of tribes on CDC proposal response; demographic subcommit- tee meeting; OMB clearance on tribal questionnaires
EB Liebow/BNW	DE Walker/TSP	Phone	Demographic data for YIN, NPT, and CT, mid-60s
EB Liebow/BNW	V Pierre/KT	Phone	Technical assistance on response to CDC request for proposals
EB Liebow/BNW	WA Bishop/TSP	Phone	Preparation for NAS presentation; scheduling a NAWG meeting for early December
EB Liebow/BNW	V Pierre/KT	Phone	Technical assistance on response to CDC request for proposals
EB Liebow/BNW	JR Wilkinson/ CTUIR	Phone	Technical assistance on response to CDC request for proposals
TL Marsh/BNW	AH Harrington/ WSU	Phone	Beef cattle feeding regimes in 1945 and 1951
TL Marsh/BNW	J McKinnis/WSU	Phone	Poultry and egg production processes 1945-1957
TL Marsh/BNW	DW Price/TSP	Phone	Egg production and distribution processes; beef-cattle production processes 1945-1957
CJ Nappo/National Oceanic and Atmospheric Administration	JV Ramsdell/BNW	Phone	Transfer of RATCHET code for TSP review

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
K Niles/TSP Staff	GL Harvey/BNW	Phone	Arrangements for press conference at October public meeting
A Peters/YIN	SM Finch/BNW	Phone	Accrual information
GS Roessler/TSP	GL Harvey/BNW	Phone	Iodine-131 report overhead materials for a future presentation
GS Roessler/TSP	CM Heeb/BNW	Fax	Review of Health Physics Society newsletter article on PNWD-2033 HEDR
B Shleien/TSP	SM Finch/BNW	Phone	Visit to BNW in December
B Shleien/TSP	SP Gydesen/BNW	Phone	Review card catalog in early December
B Shleien/TSP	BA Napier/BNW	Phone	Status meeting in Richland
B Shleien/TSP	DB Shipler/BNW	Phone	Credibility problems; trip on 12/7/92
DB Shipler/BNW	DS Barth/TSP	Phone	Peer review; initiated work
DB Shipler/BNW	JE Till/TSP	Phone	Peer review; funding status; dose code development; directive/transcripts; report written; comments
JP Thomas/HEAL	DB Shipler/BNW	Phone	RATCHET test
JE Till/TSP K Niles/TSP Staff	SM Finch/BNW	Phone	Meeting arrangements to prepare for TSP press conference
JE Till/TSP	SP Gydesen/BNW	Phone	Differences among various security clearances and need-to-know
JE Till/TSP	DB Shipler/BNW	Phone	Slides
DE Walker/TSP	EB Liebow/BNW	Phone	Comments on meeting summary
JR Wilkinson/CTUIR	EB Liebow/BNW	Phone	Work order technical statement of work and standard protocol development

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