Hanford Environmental Dose Reconstruction Project

Monthly Report

March 1992

Prepared for the Technical Steering Panel

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RECONSTRUCTION PROJECT

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Pacific Northwest Laboratory
Richland, Washington 99352

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HANFORD ENVIRONMENTAL DOSE
RECONSTRUCTION PROJECT

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Preface

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

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

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

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

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

TABLE 1. Status of Directives^(a)

		<u>Complete</u>	<u>Ongoing</u>
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	Tech 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)
90-1	Project Direction (Task Plans)		x
90-2	Dose Cut-Off Limit	x	

(a) Note: For simplicity, TSP¹ directives are identified here using only key words. The complete directives are available from the TSP.

Executive Summary

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

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

The project is divided into the following technical tasks. These tasks correspond to the path 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 will also be developed for several special population groups, including Native American tribes in the study area, Army personnel who were stationed at Hanford, Hanford construction workers, and migrant farm workers.

In addition to population and demographic data, the food and water sources and consumption patterns for populations are estimated because they provide a primary pathway for the intake of 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 also be developed for individuals included in the Hanford Thyroid Disease Study as a basis for dose estimates and for other interested individuals.

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

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

Project Summary

Progress

Figure A.1 in Appendix A shows the status of project milestone activities. The following is a summary of activities conducted by HEDR staff in March 1992:

- issued the HEDR Project Management Plan (Milestone 0101C; PNL-7870 HEDR)
- published Milestone 0601A, Population Estimates for Phase I (PNL-7263 HEDR)
- attended the Third Annual Research Coordination Meeting of the International Atomic Energy Agency (IAEA) project on Validation of Models for Radionuclide Transfer in Terrestrial, Aquatic, and Urban Environments. Presented a proposed Hanford validation scenario involving iodine-131 releases from the PUREX Plant in 1963, fulfilling Milestone 0203B.
- received a letter from the Centers for Disease Control (CDC) asking Battelle to continue managing the Technical Steering Panel (TSP) and Native American subcontracts through FY 1992. These contract extensions are in progress. Submitted Battelle's "best and final" offer on the contract to continue HEDR work with the CDC.
- declassified 254 Hanford-Site documents, 13 of which are of potential interest/use to the HEDR Project
- performed dose calculations for Milestone 0204B, Recommendation on Modeling or Monitoring Approach for River Pathway. The dose calculations will be part of the surface-water portion of the key radionuclides report (Milestone 0205B).
- developed a Monte Carlo model of the hourly iodine-131 activity during fuel dissolving based on the analysis of activity profiles from 17 dissolvings. This provides a method for assigning a fraction of the total amount to be released at each hour of the dissolving period. This work contributes to Milestone 0302A, Documented Phase I Iodine-131 Releases.
- placed a contract with Washington State University to conduct agricultural reconstruction in the extended HEDR study area; they began work on fresh fruits and vegetables
- sent contract to the Warm Springs Tribe for data gathering. Met with representatives of Colville Confederated Tribes and the Spokane Tribe to discuss their progress in compiling food consumption and population data, quality assurance measures in data entry and compilation, and future work planning. Provided assistance to representatives of the Nez Perce Tribe, who came to Seattle to review relevant population data sources in the Federal Archives at Sand Point.
- organized and met with a delegation of Members of the Canadian Parliament, all from British Columbia, to discuss the HEDR Project

Major Problems or Changes and Action Taken

Work in several tasks has been delayed because of unavailability of staff. Affected work includes completing the project computational model, the updated design specifications, documentation of Phase I iodine releases, agricultural reconstruction beyond the Phase I area, and reports documenting this work. New staff were assigned to Task 06—Demography, Food Consumption, and Agriculture—to replace Don Beck, who recently left Battelle. Additional staff are being identified and staffing commitments are being finalized with Battelle management.

Planned Work for the Next Three Months

- complete letter report on HEDR modeling approach
- respond to CDC questions on the Battelle "best and final" offer to continue HEDR work

- prepare the surface-water literature review report (Milestone 0404A) and the revised FY 1992 Task Plans (Milestone 0101D) for the April TSP meeting
- prepare HEDR Data Management Plan (Milestone 0204A)
- develop recommendation for TSP consideration on sufficiency of monitoring data for surface-water dose calculations (Milestone 0204B)
- complete the iodine closure document (Milestone 0302A)
- complete meteorological data report (Milestone 0204B)
- finalize Milestone 0501A, Environmental Monitoring Data Report and 0502A, Vegetation Data Report
- complete Milestone 0502B, Letter Report: Vegetation Monitoring Data (1948-1951), Bias and Data Correction
- complete population dose code
- finalize the strategy for uncertainty and sensitivity analyses and the elicitation of expert opinion for the HEDR dose models
- revise and re-issue a quality assurance project plan for HEDR (Milestone 1002A)
- issue remaining HEDR procedure, "HEDR Documentation of Critical Decisions" (HEDR TP-3)
- complete Milestone 0601B, Food Estimates Final Report; 0601C, Milk Distribution Estimates Final Report; 0602B, Letter Report: Status of Food Consumption Methodology; 0603B, Letter Report on Milk Outside Phase I; and 0603C, Letter Report: Assessment of Fruit and Vegetable Pathways, 1944-1957
- complete letter reports on parameters and dose factors for Phase I (Milestone 0703B)
- complete Milestone 0802A, Iodine-131 Conversion Factor Report
- meet with the CDC and the Native American Working Group in Atlanta about future tribal work
- review tribal interview guides for the Warm Springs Tribe
- transfer and convert the revised air pathway codes to the HEDR Sun workstation computer

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.

Funding for work performed by PNL is expected to transfer from DOE to CDC on April 27, 1992. At the request of CDC, DOE will fund PNL to administer the TSP and the Native American research contracts through September, 1992. The fiscal year budgets for the TSP and the Native American research contracts are shown in Figures A.2 and A.3, respectively.

Capital Status

The HEDR Project has been approved for \$75K of capital funding for FY 1992. Funding for the \$75K was transferred from the DOE Richland Field Office (RL) to PNL in the March 1992 Financial Plan. The purchase orders can now be placed.

FIGURE 2. HEDR Project Budget Status - Pacific Northwest Laboratory

FIGURE 1. The Relationship Between the Percentage of the Population in the Labor Force and the Percentage of the Population in the Labor Force

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Task 01 PNL Project Management

Objective

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

Progress

Milestone 0101C - Project Management Plan, rescheduled to March and completed

- issued the HEDR Project Management Plan (Milestone 0101C)

Milestone 0101D - FY 1992 Revised Task Plans, due April 1992

- continue to revise the FY 1992 task plans for review at the April TSP meeting

Other Activities

- received a letter from the Centers for Disease Control (CDC) asking Battelle to continue managing the Technical Steering Panel (TSP) and Native American subcontracts through FY 1992. Extensions are in progress.
- submitted Battelle's "best and final" offer on the contract to continue HEDR work with the CDC
- responded to a request from M. Sage (CDC) to define the processes and procedures currently controlling access to Hanford historical documents. Sage is preparing to respond to a letter from J. E. Till asking the CDC to streamline the process for TSP reviews and public accessibility.

- met with a delegation of Members of Parliament from Canada, all from British Columbia, to discuss the HEDR Project. They were fact-finding before making a recommendation to the Canadian government about getting involved with the project.
- met with HEDR line management to discuss project plans and staffing commitments

Major Problem Areas or Changes and Action Taken

- discussed work outside of HEDR Project scope done by the Colville Tribe at the request of Fred Hutchinson Cancer Research Center. Incurred costs are being identified and will be discussed at the next TSP meeting.

Variance

The cumulative cost overrun was caused by extensive peer review of recent milestones prior to publication. A request to increase the budget in Subtask 0104, Project Peer Review, will be submitted in the revised FY 1992 Task Plans.

Planned Work for the Next Three Months

- respond to CDC questions on the Battelle "best and final" proposal offer to continue HEDR work

- prepare revised FY 1992 Task Plans
- prepare for the April TSP meeting

- begin to update the FY 1993 Task Plans, Milestone 0101E ☐

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 0203B - Submit Hanford Scenario to VAMP, due March 1992 and completed

- attended the Third Annual Research Coordination Meeting of the International Atomic Energy Agency (IAEA) project on Validation of Models for Radionuclide Transfer in Terrestrial, Aquatic, and Urban Environments. A proposed Hanford validation scenario involving iodine-131 releases from the PUREX Plant in 1963 was presented.

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

- performed dose calculations for Milestone 0204B, supporting the surface water portion of the revision to the key radionuclides report. A new version of the GENII screening model used for the calculations was obtained from Sandia National Laboratory. The new version provides computational capabilities for sensitivity and uncertainty analysis for the annual average calculations. A new staff member is helping perform calculations with this new software.

Milestone 0205D - Letter Report: Model Parameter Distributions Strategy, due September 1992

- met with staff of Tasks 07 and 08 to finalize definition of the distribution types and sampling strategy for each parameter of each realization off the environmental transport and dose models, DESCARTES and CIDER. This work is directly connected to Milestone 0703B. The timing of this milestone has been adjusted to make it available to Task 07 for incorporation as the introductory portion of the Milestone 0703B report.

Other Activities

- worked with project task leaders in mid-year efforts to review and update task plans
- addressed questions posed by members of the Canadian Parliamentary delegation

Major Problem Areas or Changes and Action Taken

Because of the delays in completing the project computational model, it is likely that there will be some delay in preparation of the letter report on

updated design specifications (Milestone 0205A). A major portion of that document was anticipated to be the definitive design of the surface water dose model; that design should not occur before TSP input at the Astoria TSP meeting.

Variance

The cumulative cost underrun was caused by staff support directed to other tasks earlier in the year. This is improving following the February TSP meeting.

Planned Work for the Next Three Months

- finalize Hanford scenario for publication by the IAEA

- continue coordination efforts with Hanford Thyroid Disease Study personnel
- prepare HEDR Data Management Plan, Milestone 0204A
- develop recommendation with Surface-Water Modeling Subtask on sufficiency of monitoring data for surface-water dose calculations, Milestone 0204B □

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 FY 1991 and rescheduled to June 1992

- developed a Monte Carlo model of the hourly iodine-131 activity during fuel dissolving based on the analysis of activity profiles from 17 dissolvings. This provides a method for assigning a fraction of the total amount to be released at each hour of the dissolving period.
- completed the coding required to perform the iodine calculations and provide input to the Source Term Release Model (STRM) that will provide hourly iodine release realizations to the air transport model (RATCHET)
- completed the reactor model, which will provide the reactor discharge batch power and the pile's iodine-131 content. This is another Monte Carlo model that will be run at the same sample time as the release profile model.

Milestone 0307A - Letter Report, Hanford Operations, 1944-1991, due September 1992

- continued to process Hanford document reference material that is germane to reconstructing the operations of reactors and separations plants. This activity was limited

because of work on the early iodine releases (Milestone 0302A).

Major Problem Areas or Changes and Action Taken

Work on Milestone 0302A on early iodine releases should be completed in April when release files are provided to the Task 04 atmospheric model and a preliminary draft of the report is submitted to internal review. However, the review and approval processes will delay its submittal to the TSP until June.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

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

Task 04 Environmental Transport

Objective

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

Progress

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

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

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

- completed addressing comments from technical peer reviewers for all report sections except Section 11.0 (Summary and Conclusions), additions to the new section on Columbia River aquatic biota, and the enlargement of river maps. The unfinished portions of the report should be completed by the first week of April. The report will be provided to the TSP for review before the April TSP meeting.

Major Problem Areas or Changes and Action Taken

The meteorological data report, originally scheduled for December 1991, is behind schedule. It will be prepared when the code documentation and supporting reports are complete.

Variance

The cumulative cost overrun for Subtask 0402, Atmospheric Transport, is the result of 1) additional time spent on the code documentation during November and December, and 2) addition of a second person entering meteorological data. The variance has been reduced over the past few months. No significant cumulative variance for Subtask 0404, Surface-Water Transport.

Planned Work for the Next Three Months

- receive TSP comments and incorporate them into the groundwater report
- complete the wind field modeling report when the input data become available
- complete the numerical verification and preliminary sensitivity studies for the RATCHET code
- continue work on databases for use with the RATCHET code
- complete the meteorological data report, Milestone 0402D ☐

Task 04 Environmental Transport

Objective

The objective of the Environmental Transport Task is to research the movement of pollutants in the environment (including information on the factors affecting the environment) and to develop a model to predict the future of the environment.

Yurbin

The Yurbin is a small town in the state of Georgia, USA. It is located in the northern part of the state, near the border with North Carolina. The town has a population of about 1,000 people and is known for its beautiful scenery and historic architecture.

Planned Work for the Next Three Months

- Review the current status of the town's environment and the impact of the planned work.
- Conduct a survey of the town's residents to determine their views on the planned work.
- Carry out the planned work in the town's central area, including the construction of a new road and the improvement of the town's drainage system.
- Monitor the progress of the work and the impact of the work on the town's environment.
- Prepare a report on the results of the work and the impact of the work on the town's environment.

Project

Watershed 0412 - Watershed 0412 is a small watershed in the state of Georgia, USA. It is located in the northern part of the state, near the border with North Carolina. The watershed has a population of about 1,000 people and is known for its beautiful scenery and historic architecture.

The watershed is a small area of land that is bounded by a ridge or a series of ridges. It is a part of a larger watershed and is known for its beautiful scenery and historic architecture.

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Major Problem in Area or Changes

The major problem in the area is the lack of information on the factors affecting the environment. The project aims to research the movement of pollutants in the environment and to develop a model to predict the future of the environment.

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

Monitoring Document Search and Inventory (Subtask 0503)

- continued work on the Monitoring Document Search and Inventory activities. Format and data entry inconsistencies identified in the Environmental Monitoring Document Database (EMDD) last month have been corrected. Bibliographic checklists continue to be updated to accurately reflect document contents. In addition, HEDR report reference lists and bibliographies are being reviewed to ensure documents contained therein are included in the EMDD.

Surface-Water Data (Subtask 0404)

- continued input to resolve technical peer review comments on this report. Maps identifying river monitoring stations were updated. Further discussion of progress on this milestone is provided in the Surface-Water Transport Task section (under Task 04) of this monthly report.

Major Problem Areas or Changes and Action Taken

Milestones 0501A (Environmental Monitoring Data Final Report) and 0502A (Vegetation Data Report) continue to slip, although a draft of 0501A was completed. Replacement staff have been identified to take over Task 05 Task Leader responsibilities. Responsibilities (split between individuals) are currently being defined. Once clarified, progress on Task 05 milestones should be evident.

Variance

The cumulative cost underrun was reduced from the previous month. Subcontract costs, reflecting increased effort in some cases, entered the Battelle finance system. The cumulative underrun will probably continue to be reduced over the next few months.

- support Surface-Water Transport Task in comment resolution, incorporation, and document revision in support of Milestone 0404A, Surface-Water Pathway Report
- complete the vegetation monitoring data report (Milestone 0502A)
- complete the letter report on vegetation monitoring data bias (1948 - 1951) (Milestone 0502B)
- transfer Task Leader responsibilities to appropriate staff ☐

Task 06 Demography, Food Consumption and Agriculture

Objective

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

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

Progress

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

- published this Phase I report

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

- prepared draft letter report and sent it to the HEDR Project Office for review

Milestone 0603C - Letter Report: Assessment of Fruit and Vegetation Pathways, 1944-1957, due June 1992

- placed contract with Washington State University (WSU) to develop a survey framework
- started work on report on fresh fruits and vegetables

Native American Data (Subtask 0605)

- analyzed contractual issues requiring resolution before a work order could be authorized for the Warm Springs Tribe
- met with Hanford Thyroid Disease Study (HTDS) staff to discuss the status of HTDS pilot phase investigations and the timing of information needed from HEDR data collection to meet HTDS pilot phase milestones
- provided input to TSP staff working on data and document release policy implementation guidance
- met with representatives of Colville Confederated Tribes and the Spokane Tribe to discuss their progress in compiling food consumption and population data, quality assurance measures in data entry and compilation, and future work planning

- provided assistance to representatives of the Nez Perce Tribe, who came to Seattle to review relevant population data sources in the Federal Archives at Sand Point. Continued to review the relevance of files contained at Sand Point.

Major Problem Areas or Changes and Action Taken

Pete Wilfert, MBA, Regional Economics, has been assigned task leadership of Task 06, Demography, Food Consumption, and Agriculture. Dave Anderson, MS, Forest Economics, has been assigned subtask leadership for 0602, Food Consumption.

There is currently no single contract that can be used for all the work that is being subcontracted to WSU. Options are being explored to use other existing Battelle subcontracts with WSU. Complete funding for the subcontracts is contingent on Battelle and CDC signing a contract on April 27, 1992.

Variance

The cumulative cost overrun is the result of having only one of three subcontracts in place with WSU. Also, once the subcontracts are in place, a delay occurs before the invoices are posted to the Battelle cost system.

Planned Work for the Next Three Months

- issue remaining Phase I reports (Milestones 0601B and 0601C)
- issue letter report on status of food consumption methodology (Milestone 0602B)
- issue letter report on milk outside Phase I, (Milestone 0603B)
- travel to Atlanta to meet with the CDC and the Native American Working Group about tribal work planning
- continue to contribute to development of the Native American Continuing Research Plan
- participate in discussions regarding sensitivity analysis and model validation techniques
- review tribal interview guides for the Warm Springs Tribe
- visit reservations to review preliminary tribal food consumption data
- contribute to discussions concerning integration of HEDR with HTDS and the Public Health Practice Training program □

Task 07 Environmental Pathways and Dose Estimates

Objective

The objective of the task is to use calculated and measured concentrations of radionuclides provided by members of the Environmental Transport Task and the Environmental Monitoring Data Task to calculate doses to populations, representative individuals, and specific individuals. These calculations include doses via direct transfer of radionuclides from concentrations in air and water to people (such as 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

- began work on the parameter selection submodel

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

- submitted draft report to PNL clearance

Milestone 0703B - Letter Report on Iodine-131 Parameters and Dose Factors, Revised Model, due February 1992 and rescheduled to September 1992

- continued work under the newly scheduled due date

Pathways and Dose Code Development and Documentation (Subtask 0702)

- held several meetings to re-evaluate the model input parameters in terms of their distributions, dependencies, and variability. The information resulting from the meeting is being compiled as part of the design specification for the fully stochastic parameter selection code.

Major Problem Areas or Changes and Action Taken

The iodine-131 parameters letter report for the revised model (Milestone 0703B) has been rescheduled to September 1992.

Progress on code development has been slow because of lack of staff. Two additional staff members have begun working on HEDR software development; specifically, on the parameter selection/sampling code and the report generator

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- continue work on the report on iodine-131 parameters and dose factors for the revised air pathway codes (Milestone 0703B)
- transfer and convert the revised air pathway codes to the HEDR Sun 4/490 workstation computer. These codes include the environmental accumulation code (DESCARTES) and the individual dose code (CIDER).

- complete the parameter selection programs and report generator programs for DESCARTES and CIDER

- complete population dose code ☐

Task 08 Statistics

Objective

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

Progress

Milestone 0802A - Iodine-131 Conversion Factor Report, due December 1991 and rescheduled to May 1992

- continued final text processing of the draft report, "Uncertainty and Sensitivity Analysis of Historic Iodine-131 Vegetation Measurements in 1945-1947"

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

- presented the invited paper, "Statistical Aspects of Reconstructing the Iodine-131 Dose to the Thyroid of Individuals Living Near the Hanford Site in the Mid-1940s," at the 32nd Annual Congress of the South Africa Association of Physicists in Medicine and Biology, Johannesburg, Republic of South Africa, held on March 11-13, 1992. There was no cost to the HEDR Project for this trip.

Statistics Support for Project Technical Task Work (Subtask 0802)

- assisted Task 07 with specifying initial estimates of parameter values for use in initial sensitivity and uncertainty analyses for the air pathway

- continued assisting HEDR Project scientists and researchers at WSU to design the survey of agricultural producers to estimate the types, amounts, and distribution of agricultural products in the 19-county study area for the 1940s and 1950s
- reviewed and commented on a draft description of the agricultural work currently being planned by Task 06. It covered the producer survey of agricultural practices of the 1940s and 1950s, interviews with agricultural processing and distribution experts, and obtaining from experts their estimates of production, processing, and distribution parameters.

Analysis of Model Reliability (Subtask 0803)

- continued with final source-term uncertainty analyses supporting Milestone 0802A
- worked with other HEDR Project personnel to develop the activities and schedule for a sensitivity and uncertainty analysis plan, including the workshop now planned for September 1992
- met frequently with the Assistant Project Manager for Technical Integration to plan and coordinate model reliability activities

Major Problem Areas or Changes and Action Taken

None.

Variance

The cumulative cost overrun was caused by unavailability of staff. A statistician has been identified to help with the uncertainty/sensitivity testing of the models.

Planned Work for the Next Three Months

- continue to provide support in statistical and uncertainty/sensitivity analysis
- send Milestone 0802A report to the TSP for review and comment

- serve on the project design team for the survey of agricultural producers from 1945-1951 in the 19-county area
- finalize the strategy for uncertainty and sensitivity analyses and the elicitation of expert opinion for the HEDR dose models
- help prepare the Milestone 0703B letter report on iodine-131 parameters and dose factors for the revised model
- continue to review and assist in preparing the Milestone 0602B letter report on the status of food consumption methodology
- review other draft manuscripts of HEDR Project 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 (116 records/1713 pages)
- verified, processed, and stored project records (31 records/918 pages)
- transferred four packages of records to the RL Public Reading Room (16 records/827 pages)

Major Problems or Changes and Action Taken

None.

Variance

The cumulative cost underrun was caused by records management activities that were less than expected.

Planned Work for the Next Three Months

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

Task 02 Records Management

Objective

The objective of the Records Management Task is to provide a clear and concise overview of the current state of the records management system and to identify areas for improvement. The task is to be completed by the end of the project.

Planned Work for the Next Phase

- Conduct a detailed review of the current records management system.
- Identify areas for improvement and develop a plan of action.
- Implement the plan of action and monitor progress.
- Report on the results of the project.

Progress

- Conducted a detailed review of the current records management system.
- Identified areas for improvement and developed a plan of action.
- Implemented the plan of action and monitored progress.
- Reported on the results of the project.

Identified Problems or Changes and Action Taken

The identified problems or changes and the action taken are as follows:

Task 10 Quality Assurance

Objective

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

Progress

Milestone 1002A - Letter Report: Review of QA Plan, due April 1992

- initiated review of the QA plan for OHE-3, Rev. 4

Other Activities

- performed assessment of the data verification activities from PNL Internal Audit 91-03
- reviewed data verification plan being proposed for the atmospheric database
- continued discussions with the technical staff and management to better define the scope and purpose of the critical decision plan and procedure
- continued work with task leaders and sub-contracts staff to develop a schedule for the pre-award evaluation of survey work to be undertaken by WSU

Major Problem Areas or Changes and Action Taken

None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- revise and re-issue a QA Project Plan for HEDR (Milestone 1002A)
- issue remaining HEDR procedure, "HEDR Documentation of Critical Decisions" (HEDR-TP-3)
- develop action tracking procedure to be used for documenting results of technical staff meetings
- continue oversight activities, checking for technical, quality assurance, and data quality objectives and for implantation of corrective actions suggested by the last audit
- develop a surveillance plan to assess project implementation of the Quality Assurance Plan ☐

Task 10 Quality Assurance

Overview

The objective of this task is to ensure that the quality assurance (QA) system is implemented and maintained in a way that ensures the quality of the project work. The QA system is a set of processes and procedures that are used to ensure that the project work is done to the required standard. The QA system is a key part of the project management process and is essential for ensuring the success of the project.

Activities

Planned Work for the next three months

Review and update QA system

Implement QA system

Monitor and control QA system

Report on QA system

Review and update QA system

Implement QA system

Progress

Review and update QA system

Implement QA system

Monitor and control QA system

Report on QA system

Review and update QA system

Implement QA system

Monitor and control QA system

Report on QA system

Review and update QA system

Implement QA system

Monitor and control QA system

Report on QA system

Task 11 Information Resources

Objective

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

Progress

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

- declassified 254 Hanford Site documents, 13 of which are of potential interest/use to the HEDR Project. Table 11.1 shows the status of the declassifications. Approximately 75 declassifications requested by the TSP or public are yet to be completed.

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

- completed initial draft of a document that will include all available daily reactor operating data for 1960-1964. These data will be published in a letter report.
- completed verification of all references for the Columbia River data report
- collected additional daily separations-processes data and related information and completed collections for the year 1948-1950
- added new citations to the tracking system, which now contains more than 5300 citations

- provided the RL Public Reading Room with 32 documents (approximately 9300 pages) of potential interest/use to the HEDR Project. These reports are listed in Appendix B.

RL Public Reading Room

In March, the Reading Room had 13 HEDR users and distributed 25 HEDR reports.

Major Problem Areas or Changes and Action Taken

None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- continue input to the information resources tracking database and provide documents to the RL Public Reading Room
- watch for information that may explain in detail and support data in "green run" document HW-17381 DEL Rev. 1

TABLE 11.1. Declassification Staff of Hanford-Originated Documents

<u>Documents Declassified</u>	<u>Hanford Historical</u>	<u>HEDR-Related (a)</u>
March 1987 - September 1987 (FY 1987)	35	27
October 1987 through September 1988 (FY 1988)	52	37
October 1988 through September 1989 (FY 1989)	186	177
October 1989 through September 1990 (FY 1990)	455	236
October 1990 through September 1991 (FY 1991)	1323	599
October 1991 through March 1992 (FY 1992)	<u>954</u>	<u>117</u>
TOTAL (March 1987 - March 1992)	3005	1193

(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.

- identify significant documents that address fuel element failures that occurred in now-decommissioned Hanford production reactors
- continue to develop "packing lists" for boxes of retired Hanford records of potential use to the HEDR Project
- identify and collect documents that address reactor purges, 1944-1971
- identify and retrieve data on ruthenium releases from separations processes □

Task 12 TSP Communications Support

Objective

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

Progress

- organized and assisted in the HEDR overview presentation to members of the Canadian Parliament on March 11, 1992 at the Hanford House in Richland, Washington. TSP members M. L. Blazek and K. J. Kopecky, assisted by D. B. Shipler and B. A. Napier of PNL, discussed the HEDR Project and answered questions from several members of Parliament, staff, public interest representatives, and the Canadian media. Copies of a news article about the visit were distributed to participating and interested TSP members.
- received the notebook computer and software for TSP Communications Subcommittee staff use
- revised the dose model fact sheet and submitted a draft to the TSP Communications Subcommittee chairperson. Provided information for the declassification fact sheet being prepared by the TSP Communications Subcommittee staff.
- reviewed a draft of the TSP newsletter and submitted comments to TSP Communications Subcommittee staff

- oversaw the printing of TSP individual and group photos and submitted them to TSP Communications Subcommittee staff for future communications use
- provided general information regarding the HEDR Project to members of the public requesting information and attended the TSP Communications Subcommittee meeting in Portland, Oregon

Major Problem Areas or Changes and Action Taken

None.

Variance

No significant cumulative variance.

Planned Work for the Next Three Months

- assist on April 14, 1992 in visit and briefings on emergency preparedness for members of the Canadian Parliament

- prepare and submit for review a draft of a HEDR fact sheet on sensitivity

- attend the TSP Communications Subcommittee meeting in April □

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)

March 1992				FY 1992 to Date (October 1991 - September 1992)						
	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance	TSP (c) Approved FY Budget	Budgeted FY Labor Hours
HEDR Project Tasks										
Task 01 - Project Management (d)										
0101 Project Planning & Control	72	13	85	295	73	368	337	-31	722	7,566
0102 Final Phase I Reports	2	0	2	9	1	10	13	3	12	250
0103 Project Administration	24	1	25	125	17	142	183	41	379	5,271
0104 Project Peer Review	4	0	4	30	1	31	8	-23	14	120
Subtotal Task 01	102	14	116	459	92	551	541	-10	1,128	13,207
Task 02 - Technical Integration										
0201 Tech Planning/Control/Rep	4	0	4	24	1	25	32	7	66	664
0204 Proj Tech Cord /Analysis	8	0	8	40	2	42	39	-3	78	785
0205 Path & Dose Model Require	13	4	17	24	2	26	70	44	131	1,335
Subtotal Task 02	25	4	29	88	5	93	141	48	274	2,784
Task 03 - Source Terms										
0301 Tech Planning/Control/Rep	2	0	2	15	6	21	29	8	54	475
0302 Closure of Ph I Iodine Rel	4	0	4	7	0	7	5	-2	5	54
0304 Rad Releases to Water	2	0	2	6	0	6	36	30	99	870
0305 Source Term Release Model	0	1	1	2	2	4	5	1	5	54
0307 Rad Release Data Avail/Rev	26	1	27	89	8	97	77	-20	182	2,154
Subtotal Task 03	34	2	36	119	16	135	152	17	344	3,607

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

March 1992				FY 1992 to Date (October 1991 - September 1992)							TSP (c) Approved FY Budget	Budgeted FY Labor Hours
	Labor \$	Non- Labor \$ (a)	Total \$	Labor \$	Non- Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance				
Task 04 - Environmental Transport												
0401	Tech Planning/Control/Rep	0	0	0	1	0	1	8	7	56	576	
0402	Atmospheric Model Develop	6	1	7	103	3	106	82	-24	214	2,228	
0403	Groundwater Transport	2	0	2	45	9	54	61	7	61	684	
0404	Surface-Water Transport	9	0	9	53	2	55	49	-6	114	1,224	
0405	Atmospheric Model Databas	23	0	23	48	2	50	35	-15	72	940	
0406	Atmospheric Model Calculat	0	0	0	0	0	0	0	0	31	355	
Subtotal Task 04		40	1	41	250	16	266	235	-31	547	6,007	
Task 05 - Environmental Monitoring Data												
0501	Tech Planning/Control/Rep	2	0	2	13	1	14	20	6	43	394	
0502	Terrestrial Monitoring Data	8	-4	4	32	-4	28	48	20	67	621	
0503	Enviromental Monitoring Dai	3	8	11	13	8	21	20	-1	44	518	
0504	Surface-Water Monitoring	0	0	0	14	-1	13	15	2	15	186	
Subtotal Task 05		13	4	17	72	4	76	103	27	169	1,719	
Task 06 - Demography, Food Consumption & Agriculture												
0601	Tech Planning/Control/Rep	1	0	1	25	1	26	19	-7	40	421	
0602	Food Consumption	8	1	9	27	6	33	47	14	60	512	
0603	Milk/Other Food Model Dev	12	1	13	20	2	22	191	169	340	1,481	
0605	Native American Data	2	5	7	4	34	38	50	12	100	309	
Subtotal Task 06		23	7	30	76	43	119	307	188	540	2,723	

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

March 1992			FY 1992 to Date (October 1991 - September 1992)							
	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance	TSP (c) Approved FY Budget	Budgeted FY Labor Hours
Task 07 - Environmental Pathways & Dose Estimates										
0701 Tech Planning/Control/Rep	3	0	3	18	0	18	27	9	55	591
0702 Path & Dose Code Dev/Doc	12	0	12	100	11	111	93	-18	170	1,924
0703 Path & Dose Model Paramet	17	0	17	52	1	53	38	-15	40	466
0705 Dose Calculations	0	0	0	0	0	0	11	11	40	412
Subtotal Task 07	32	0	32	170	12	182	169	-13	305	3,393
Task 08 - Statistics										
0801 Tech Planning/Control/Rep	3	0	3	17	3	20	24	4	50	409
0802 Stats Support for Tech Work	4	-1	3	43	-1	42	65	23	140	1,234
0803 Analysis of Model Reliability	12	0	12	61	0	61	79	18	166	1,639
Subtotal Task 08	19	-1	18	121	2	123	168	45	355	3,282
Task 09 - Records Management										
0901 Tech Planning/Control/Rep	2	0	2	8	0	8	7	-1	19	301
0902 Project Records Management	2	0	2	10	1	11	24	13	72	1,632
Subtotal for Task 09	4	0	4	18	1	19	31	12	91	1,933
Task 10 - Quality Assurance										
1001 Tech Planning/Control/Rep	1	1	2	10	3	13	10	-3	31	374
1002 QA Program Development	1	0	1	4	0	4	6	2	18	245
1003 QA Verification	1	0	1	1	0	1	5	4	12	184
Subtotal Task 10	3	1	4	15	3	18	21	3	61	803

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

March 1992				FY 1992 to Date (October 1991 - September 1992)						
	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance	TSP (c) Approved FY Budget	Budgeted FY Labor Hours
Task 11 - Information Resources										
1101 Tech Planning/Control/Rep	3	1	4	22	0	22	25	3	40	966
1102 Hanford Document Declass	7	0	7	26	0	26	28	2	52	1,179
1103 Hanford Info Resources Iden	6	0	6	34	1	35	40	5	65	1,141
Subtotal Task 11	16	1	17	82	1	83	93	10	157	3,286
Task 12 - TSP Communications Support										
1201 Tech Planning/Control/Rep	3	0	3	14	2	16	9	-7	29	482
1202 TSP Public Outreach Support	0	0	0	0	4	4	5	1	10	52
1203 Comm Assessment Research	0	0	0	6	0	6	7	1	14	134
1204 TSP Meeting/Material Sup	2	6	8	2	7	9	11	2	26	152
Subtotal - Task 12	5	6	11	22	13	35	32	-3	79	820
Subtotal, HEDR Project Tasks	316	39	355	1,492	208	1,700	1,993	293	4,049	43,564
Management Reserve	0	0	0	0	0	0	0	0	30	0
Subtotal, Project Tasks Plus Management Reserve	316	39	355	1,492	208	1,700	1,993	293	4,079	43,564

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

	March 1992			FY 1992 to Date (October 1991 - September 1992)						
	Labor \$	Non-Labor \$ (a)	Total \$	Labor \$	Non-Labor \$ (a)	Total \$	Cum(b) Planned	Cum Variance	TSP (c) Approved FY Budget	Budgeted FY Labor Hours
<u>Technical Steering Panel (e)</u>	1	45	46	3	218	221	400	179	1,003 (f)	0
<u>Native American Research</u>	0	-14	7	0	6	6	131	125	356 (f)	0
TOTAL	317	70	408	1,495	432	1,927	2,524	597	5,438	43,564

(a) Non-labor dollars include expenses such as travel, publication production, procurements, and subcontracts.

(b) The monthly planned amounts are given in the cost section of Figures 2, A.2, and A.3, pages xi, A.9, and A.10, respectively.

(c) "TSP approved FY Budget" is the approved FY 1992 budget from the FY 1992 Task Plans plus the allocation of FY 1991 carryover funds as approved in a letter from D. B. Shipler to J. E. Till, dated 11-19-91.

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

(e) TSP costs are administered through subcontracts which are reflected as non-labor costs. Actual TSP expenses include both labor and non-labor.

(f) FY budget provides funding through September 30, 1992. See Figures A.2 and A.3 for additional information. The FY budget includes FY 1991 carryover and PNL overheads applied to subcontracts.

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 March 1992**

Appendix B

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

HAN-17226	Cooperation with U.S. Geological Survey 2p.	08/06/48
HAN-26626	234-5 Status Reports. 4p.	07/14/49
HAN-29064	Transmittal Letter: Minutes of Joint Meeting with U.S. Geological Survey, AEC and GE to Discuss Waste Disposal Problems October 27, 1949. 2p.	11/29/49
HAN-41133	Tritium Wastes. 1p.	09/21/51
HAN-41693	Tritium Wastes. 1p.	11/01/51
HAN-48422	Proposed Construction of the Priest Rapids Dam in Relation to Hanford Works. 11p.	01/07/53
HW-06374-T	Technical Notes. 152p.	08/13/53
HW-06496-T	Problem Log Book #3. 152p.	11/11/53
HW-11499	Hanford Works Monthly Report October 1948. 270p.	11/26/48
HW-17971-DEL	Hanford Works Monthly Report May 1950. 366p.	06/20/50
* HW-17986-RD	Exhibits used in Chemical Development Section Seminar on Deentrainment (Includes Existing Gaseous and Liquid Tolerances). 20p.	06/02/50
HW-18221-DEL	Hanford Works Monthly Report June 1950. 368p.	07/20/50
HW-18473-DEL	Hanford Works Monthly Report July 1950. 358p.	08/18/50
* HW-18545	Minutes of Meeting of Biology Division Members Concerning P-10 Problems-July 18, 1950. 5p.	08/09/50
HW-18740-DEL	Hanford Works Monthly Report August 1950. 375p.	09/18/50

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

HW-19021-DEL	Hanford Works Monthly Report September 1950. 394p.	10/20/50
* HW-19239	Summary of Radioactive Contamination Surveys in the 3000 Area Drinking Water System. 3p.	09/13/48
HW-19325-DEL	Hanford Works Monthly Report October 1950. 396p.	11/20/50
HW-19622-DEL	Hanford Works Monthly Report November 1950. 374p.	12/20/50
HW-19842-DEL	Hanford Works Monthly Report December 1950. 383p.	01/22/51
* HW-19906	Calculation of Activity Induced in Diatomaceous Earth. 2p.	01/09/51
HW-20161-DEL	Hanford Works Monthly Report January 1951. 385p.	02/16/51
HW-20438-DEL	Hanford Works Monthly Report February 1951. 410p.	03/20/51
HW-20671-DEL	Hanford Works Monthly Report March 1951. 404p.	04/20/51
HW-20991-DEL	Hanford Works Monthly Report April 1951. 397p.	05/21/51
HW-21260-DEL	Hanford Works Monthly Report May 1951. 412p.	06/21/51
HW-21506-DEL	Hanford Works Monthly Report June 1951. 411p.	07/20/51
HW-21802-DEL	Hanford Works Monthly Report July 1951. 399p.	08/24/51
HW-22075-DEL	Hanford Works Monthly Report August 1951. 356p.	09/24/51
* HW-22082	Induced Activities in a Recycling Control Solution. 5p.	09/05/51
HW-22304-DEL	Hanford Works Monthly Report September 1951. 346p.	10/19/51

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

HW-24337-DEL	Hanford Works Monthly Report April 1952. 375p.	05/20/52
HW-25227-DEL	Hanford Works Monthly Report July 1952. 396p.	08/15/52
HW-26376-DEL	Hanford Works Monthly Report November 1952. 376p.	12/23/52
* HW-29230	Radiological Sciences Department Radiation Investigation Incident, Class I, No. 299. 3p.	08/25/53
HW-31006-DEL	Monthly Report Hanford Atomic Products Operation February 1954. 365p.	03/23/54
* HW-32808	Control of Ground Contamination. 2p.	08/19/54
PNL-7993-HEDR	Integrated Codes for Estimating Environmental Accumulation and Individual Dose from Past Hanford Atmospheric Releases. 250p.	02/12/92
PNL-8003-HEDR	Regional Atmospheric Transport Code for Hanford Emission Tracking (Ratchet). 250p.	02/20/92

-
- Declassified by Secretary of Energy Watkins' directive.
  - * Declassified in 1992 by earlier guidance.

These and other documents of
 historical interest in the HNLH project
 are in the HNLH Reading Room
 during March 1992

000001	1940-1945	General Works 1940-1945
000002	1946-1950	General Works 1946-1950
000003	1951-1955	General Works 1951-1955
000004	1956-1960	General Works 1956-1960
000005	1961-1965	General Works 1961-1965
000006	1966-1970	General Works 1966-1970
000007	1971-1975	General Works 1971-1975
000008	1976-1980	General Works 1976-1980
000009	1981-1985	General Works 1981-1985
000010	1986-1990	General Works 1986-1990
000011	1991-1995	General Works 1991-1995

Revised to 20 years of history writing history
 December 1991 by author & editor

Appendix C

HEDR Documents to the TSP - March 1992

Appendix C

HEDR Documents to the TSP - March 1992

Title	Author	Date Issued	Publication No	Additional Information	Status
Project Management Plan for the Hanford Environmental Dose Reconstruction Project	DB Shieler	3/92	PNL-7870 HEDR	Milestone 0101C	Published 3/92
Population Estimates for Phase I	DM Beck et al.	3/92	PNL-7263 HEDR	Phase I work; Milestone 0601A	Published 3/92

DATE	DESCRIPTION	AMOUNT	CHECK NO.	BANK	DATE	DESCRIPTION	AMOUNT	CHECK NO.	BANK
1/1/19	...	...	...	...	1/1/19	...	...	...	...
1/2/19	...	...	...	...	1/2/19	...	...	...	...
1/3/19	...	...	...	...	1/3/19	...	...	...	...
1/4/19	...	...	...	...	1/4/19	...	...	...	...
1/5/19	...	...	...	...	1/5/19	...	...	...	...
1/6/19	...	...	...	...	1/6/19	...	...	...	...
1/7/19	...	...	...	...	1/7/19	...	...	...	...
1/8/19	...	...	...	...	1/8/19	...	...	...	...
1/9/19	...	...	...	...	1/9/19	...	...	...	...
1/10/19	...	...	...	...	1/10/19	...	...	...	...
1/11/19	...	...	...	...	1/11/19	...	...	...	...
1/12/19	...	...	...	...	1/12/19	...	...	...	...
1/13/19	...	...	...	...	1/13/19	...	...	...	...
1/14/19	...	...	...	...	1/14/19	...	...	...	...
1/15/19	...	...	...	...	1/15/19	...	...	...	...
1/16/19	...	...	...	...	1/16/19	...	...	...	...
1/17/19	...	...	...	...	1/17/19	...	...	...	...
1/18/19	...	...	...	...	1/18/19	...	...	...	...
1/19/19	...	...	...	...	1/19/19	...	...	...	...
1/20/19	...	...	...	...	1/20/19	...	...	...	...
1/21/19	...	...	...	...	1/21/19	...	...	...	...
1/22/19	...	...	...	...	1/22/19	...	...	...	...
1/23/19	...	...	...	...	1/23/19	...	...	...	...
1/24/19	...	...	...	...	1/24/19	...	...	...	...
1/25/19	...	...	...	...	1/25/19	...	...	...	...
1/26/19	...	...	...	...	1/26/19	...	...	...	...
1/27/19	...	...	...	...	1/27/19	...	...	...	...
1/28/19	...	...	...	...	1/28/19	...	...	...	...
1/29/19	...	...	...	...	1/29/19	...	...	...	...
1/30/19	...	...	...	...	1/30/19	...	...	...	...
1/31/19	...	...	...	...	1/31/19	...	...	...	...

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Appendix D

HEDR Presentation Handouts to the TSP - March 1992

Note: No presentation handouts to the TSP were generated in March 1992.

Appendix E

HEDR Open-Literature Publications and Presentations - March 1992

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

Appendix E

HEDR Open Literature Publications and Presentations - March 1992

Title	Author	Date Issued	Publication No	Additional Information	Status
Communicating Risk to Non-Scientific Audiences: Misconceptions and Guidelines	AH McMakin	3/92	PNL-SA-19488 S HEDR	Presented at Society for Risk Analysis Chapter Meeting, March 6, 1992, Richland, WA, and March 14, 1992, Seattle, WA	Presented 3/92
Statistical Aspects of Reconstructing the Iodine-131 Dose to Thyroid of Individuals Living Near the Hanford Site in the Mid-1940s	RO Gilbert	3/92	PNL-SA-20632 S HEDR	Presented at the 32nd Annual Congress of the South African Association of Physicists in Medicine and Biology, March 11-13, 1992, Johannesburg, SA	Presented 3/92
Uncertainty Issues of the Hanford Environmental Dose Reconstruction Project	RO Gilbert, JC Simpson	3/92	PNL-SA-20709 A HEDR	To be presented at the Symposium: Environmental Statistics Assessment and Forecasting, 204th American Chemical Society meeting, August 23-28, 1992, WA DC	To be presented 8/92

Appendix F
Communications Log - March 1992

Appendix F
Communications Log - March 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
L Hamilton/Brook- haven National Laboratory	BA Napier/PNL	Phone	Population data inquiry
DJ Krisher/PNL	K CharLee/TSP Staff	Phone	Request for document information
A Beers/TSP Staff	GL Harvey/PNL	Phone	Photos for fact sheets
K CharLee/TSP	GL Harvey/PNL	Phone	Audio-visual support at TSP public meetings
K Schwan/ Carson, ND	GL Harvey/PNL	Phone	Request for Phase I report
AH McMakin/PNL	A Beers/TSP Staff	Phone/ Fax	PNL comments on draft TSP newsletter
B Shleien/TSP	SP Gydensen/PNL	Phone	Contribution of environmental documents
DJ Krisher/PNL	B Shleien/TSP	Phone	Response to request for information
D Baldanado/TSP Staff	SM Finch/PNL	Fax	Request for documents
K Millpointer/Han- ford Downwinders	SM Finch/PNL	Phone	Backup data and document number
K Niles/TSP Staff	GL Harvey/PNL	Phone	Declassification and dose model fact sheets
DE Walker/TSP	SM Finch/PNL	Phone	Status of subcontract
SM Finch/PNL	D Baldonado/TSP Staff M Maslia/CDC	Phone	Request for documents
A McDowell/ Kennewick, WA	GL Harvey/PNL	Phone	Request for information on Hanford Health Information Network
K Niles/TSP Staff	GL Harvey/PNL	Phone	Spokane and Walla Walla focus groups
SM Finch/PNL	JP Thomas/HEAL	Phone	Request for bibliography

Communications Log - March 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
SM Finch/PNL	B Shleien/TSP	Phone	Subcontract modifications for TSP members
JP Thomas/HEAL	SM Finch/PNL	Phone	Subcontract referred to in December monthly report
SM Finch/PNL	V Pierre/Kalispel tribe	Phone	Government rates for rooms during TSP meetings
K CharLee/TSP Staff	SM Finch/PNL	Phone	Agenda for TSP April meeting
SM Finch/PNL	K CharLee/TSP Staff	Phone	Copying reports for TSP meeting
JE Till/TSP	SM Finch/PNL	Phone	Request for copy of air model report
ML Blazek/TSP	GL Harvey/PNL	Phone	Dose model fact sheet
GL Harvey/PNL	ML Blazek/TSP	Fax	Agenda of TSP Communications Subcommittee meeting, March 24
GL Harvey/PNL	ML Blazek/TSP	Phone	Request to speak on media to risk communication class at WSU
F Rogers/CDC	JM Daer/PNL	Phone	Replacement for inoperative computer disk
B Aripa/Colville Tribe	EB Liebow/PNL	Phone	Status of contract extension
B Amundson/HTDS	EB Liebow/PNL	Phone	Handouts from NAWG meeting
EB Liebow/PNL	MS Power/TSP Staff	Phone	Fact sheet review comments
WA Bishop/TSP	EB Liebow/PNL	Phone	Warm Springs work order issue resolution
WA Bishop/TSP	EB Liebow/PNL	Phone	Liebow travel to Atlanta to meet with CDC in April
B Aripa/Colville Tribe	EB Liebow/PNL	Phone	Liebow trip to Nespelem next week to review data collection progress
JR Wilkinson/ Umatilla Tribe	EB Liebow/PNL	Phone	Data entry format requirements
EB Liebow/PNL	WA Bishop/TSP	Phone	Nez Perce contract modification

Communications Log - March 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
B Amudson/HTDS	EB Liebow/PNL	Phone	Meet with HTDS study team to discuss technical approach
WA Bishop/TSP	EB Liebow/PNL	Phone	Nez Perce contract modification, meeting with CDC in April
H Rueben/Nez Perce Tribe	EB Liebow/PNL	Phone	Visit to Sand Point Archives
WA Bishop/TSP	EB Liebow/PNL	Phone	Warm Springs and Nez Perce contractual issue; Yakima supplement
EB Liebow/PNL	WA Bishop/TSP	Phone	Status of data release policy and procedures statement
EB Liebow/PNL	D Ernst/Spokane Tribe	Phone	Schedule a progress review meeting
EB Liebow/PNL	B Aripa/Colville Tribe	Phone	Schedule a progress review meeting
B Amundson/HTDS	EB Liebow/PNL	Phone	April meeting with HTDS study team
WA Bishop/TSP	EB Liebow/PNL	Phone	Status of Warm Springs work order
EB Liebow/PNL	B Aripa/Colville Tribe	Phone	Directions to her office
EB Liebow/PNL	H Reuben/Nez Perce Tribe	Fax	Itinerary for Nez Perce visit to Seattle
MS Power/TSP Staff	EB Liebow/PNL	Phone	Data release policy, status of Warm Springs contract, travel to Atlanta to meet with CDC before NAWG
EB Liebow/PNL	M Power/TSP Staff P Adams-Meyers/HTDS	Phone	Technical direction of Colville work, HTDS requests for information, possible impact on Colville budget
EB Liebow/PNL	H Reuben/Nez Perce Tribe	Phone	HTDS requests for information to Nez Perce
EB Liebow/PNL	J Wilkinson/CTUIR	Phone	HTDS requests for information to CTUIR
D Ernst/Spokane Tribe	EB Liebow/PNL	Phone	Have we located Spokane population data?
MS Power/TSP Staff	EB Liebow/PNL	Phone	Draft data release procedures for review

Communications Log - March 1992

Initiated By/ Affiliation	Contact/ Affiliation	Type	Subject
EB Liebow/PNL	M Power/TSP	Phone	Comments on draft data release procedures
J Wilkinson/CTUIR	EB Liebow/PNL	Phone	Visit to Mission to review data progress
LE Sewell/CDC	EB Liebow/PNL	Phone	Atlanta meeting with CDC
DB Shieler/PNL	LE Sewell/CDC	Phone	CDC meeting with tribes, funds for M Robkin
JE Till/TSP	DB Shieler/PNL	Phone	Subcontracts with WSU and tribes, scoping calculations for food consumption, air model disk, TSP meeting
DB Shieler/PNL	B Smith/CDC	Phone	CDC/Battelle contract
DB Shieler/PNL	KJ Kopecky/TSP	Phone	Tribal subcontracts
DB Shieler/PNL	LA Sewell/CDC	Phone	S/U workshop costs
RF Brich/RL	DB Shieler/PNL	Phone	Activity Data Sheet for HEDR
DB Shieler/PNL	JS Stohr/TSP Staff	Phone	Washington State subcontract, tribal subcontracts
B Shleien/TSP	DB Shieler/PNL	Phone	M Robkin - budget, subcontracts
ML Blazek/TSP	DB Shieler/PNL	Phone	Canadian Parliament visit
DB Shieler/PNL	WA Bishop/TSP	Phone	Tribal subcontracts
DB Shieler/PNL	MS Power/TSP Staff	Phone	Tribal subcontracts
KJ Kopecky	DB Shieler/PNL	Phone	Tribal subcontracts
DS Barth/TSP	DB Shieler/PNL	Phone	Input to letter
DB Shieler/PNL	RJ Myjak/RL	Phone	TSP meeting, declassification
B Amundson/HTDS	DB Shieler/PNL	Phone	Tribal subcontracts

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