Hanford Environmental Dose Reconstruction Project

Monthly Report

January 1989

Prepared for the Technical Steering Panel

**Work supported by
the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830**

**Pacific Northwest Laboratory
Operated for the U.S. Department of Energy
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**Pacific Northwest Laboratory
Richland, Washington 99352**

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 (structure shown in Figure 1) being conducted at Pacific Northwest Laboratory (PNL) 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 interests of the public. The U.S. Department of Energy (DOE) funds the project.

Figure 1. Hanford Environmental Dose Reconstruction Project Organization Structure

EXECUTIVE SUMMARY*

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

The Technical Steering Panel 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 among the members are appointed technical members representing the States of Oregon and Washington, cultural and technical experts nominated by the Indian tribes in the region, and an individual representing the public.

* This Executive Summary was approved by the Technical Steering Panel in September 1988.

The project is divided into the following technical tasks. These tasks address each of the primary steps in the path from radioactive releases to dose estimates:

- source terms
- environmental transport
- environmental monitoring data
- demographics, agriculture, and food habits
- environmental pathways and dose estimates.

The source terms task will develop estimates of radioactive emissions from Hanford facilities since 1944. These estimates will be based on historical measurements and production information.

The environmental transport task will reconstruct the movement of radioactive materials from the areas of release to populations. Movement via the atmosphere, surface water (Columbia River), and ground water will be studied.

The environmental monitoring task will assemble, evaluate, and report historical environmental monitoring data. A major effort of this task is to separate Hanford as a source of radionuclide concentrations in the environment from concentrations due to natural sources and nuclear testing fallout.

The demographics, agriculture, and food habits task will develop the data needed to determine the populations that could have been affected by the releases. Population and demographic information will be developed for the general population within the study area. This information will also be developed for several special population groups including the Native American Tribes in the study area, Army personnel stationed at Hanford, Hanford construction workers, and migrant farm workers.

In addition to population and demographic data, the food and water consumption patterns and sources of food and water for these populations must be estimated since these provide a primary pathway for the intake of radionuclides.

Historical dairy farming practices and milk distribution systems will be studied because milk is a significant pathway for iodine-131 to enter the human body. Cows could have eaten vegetation contaminated with this radionuclide.

The environmental pathways and dose estimates task will use the information produced by the other tasks to estimate the radiation doses populations could have received from Hanford.

Project reports, which have been approved by the Technical Steering Panel, and references used in the reports will be made available to the public in a public reading room. Project progress will be documented in monthly reports, which are available to the public.

MANAGEMENT SUMMARY

PROGRESS

This summary covers progress for the month of January 1989:

- held the HEDR Sensitivity/Uncertainty Analysis Workshop January 16 through 18, 1989 at the Red Lion Motor Inn in Pasco, Wa. Approximately 40 people attended, including 6 invited speakers from outside PNL, HEDR personnel (who gave presentations), and 5 members of the TSP. The workshop was an effective forum for discussing the current status of the HEDR Project's environmental transport and dose models and the advantages/disadvantages of the sensitivity/uncertainty analysis methods that could be used with those models.
- participated in the TSP meeting held January 19 through 21, 1989, at the Hanford House in Richland, Washington. Activities included subcommittee meetings, tour of Hanford Technical Library and DOE-RL Public Reading Room, project status update, and an overview of DOE classification/declassification rules.
- presented a proposed phased-project approach to the TSP
- met with staff of the Offsite Radiation Exposure Review Project (ORERP) in Las Vegas, Nevada, January 10 through 12, 1989, to discuss the differences and similarities between the HEDR Project and the ORERP
- completed a preliminary draft report identifying Hanford Site facilities, process operations, and emission control and waste management technologies in use as a function of time
- reviewed a draft report summarizing the results of a review of literature pertaining to factors influencing the concentration and distribution of radioactivity in the Columbia River. This report will be revised to support the Phase I approach.
- continued to inventory river water and sediment data for the years 1944 through 1972, and air data for the years 1945 through 1957
- continued to assess biases in measurements of iodine-131 in the vegetation data for the years 1945 through 1950
- revised demography and milk model proposals to incorporate TSP comments
- developed county population estimates for Washington state based on the ratio-correlation method for the years 1940 through 1970

- began processing Indefinite Quantity Contracts with eight Indian tribes that will enable the tribes to conduct technical work for the HEDR Project
- continued to identify dominant radionuclides
- conducted additional sensitivity/uncertainty analyses for the estimated dose from iodine-131 to the thyroid of infants in Pasco, Washington, in 1946
- provided DOE-RL Public Reading Room with approximately 30 Hanford Site-originated documents of potential interest/use in the HEDR Project
- continued declassification of early-day Hanford-originated documents of potential use in the HEDR Project
- prepared a draft written response to the TSP concerning the specification of data quality objectives in PNL proposals
- began developing a plan for the propagation of errors in dose models and for conducting sensitivity/uncertainty analyses.

MAJOR ISSUES AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- continue to survey documents and add to data bases
- complete the calculations to refine estimates of the fission product inventory of iodine-131 and its emissions from the separations plants for 1945
- complete report identifying Hanford Site facilities, process operations, and emission and waste management technologies
- prepare a preliminary report on the fraction of various radionuclides released from fuel processing plants
- continue to evaluate atmospheric transport models
- continue to evaluate early vegetation data
- produce a preliminary milk production/distribution summary for the Phase I area

- hold a meeting/workshop with members of the eight Indian tribes potentially in the study area
- continue efforts on the surface-water sensitivity study, dominant radionuclides study, key food pathway definitions, and model selection and rationale
- provide the TSP with a written description of the proposed phased approach to the project
- prepare written responses to TSP directives
- complete final white paper on the potential usefulness of iodine-129 measurements as a surrogate for iodine-131
- write a summary report on the Sensitivity/Uncertainty Analysis Workshop
- continue work on a recommended approach for conducting sensitivity/uncertainty analyses
- write a final report to the TSP concerning the specification of data quality objectives in HEDR research proposals
- continue work on report describing the preliminary uncertainty analysis conducted for the estimated iodine-131 dose to the thyroid of infants in Pasco, Wa, in 1946
- continue to provide documents from Lists I and II to the DOE-RLPublic Reading Room in Richland, Washington.

BUDGET STATUS

Projected expenditures through January 1989 \$ 930K

Actual expenditures through January 1989 \$ 834K*

VARIANCE EXPLANATION

None.

CAPITAL STATUS

No FY 1989 capital budget.

* The January cumulative value of \$834K reflects updated budget information.

PROJECT SUMMARY REPORT

1. IDENTIFICATION NUMBER: DE-AC076RLO 1830		2. PROGRAM/PROJECT TITLE: HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION						3. REPORTING PERIOD: JANUARY 1989							
4a. PARTICIPANT NAME AND ADDRESS: PACIFIC NORTHWEST LABORATORY P. O. BOX 999 RICHLAND, WA 99352		4b. CLIENT NAME AND ADDRESS: DOE/RL RICHLAND WA 99352						5. START DATE: OCTOBER 1988							
								6. COMPLETION DATE: SEPTEMBER 1989							
7. FY 89	8. MONTHS	O	N	D	J	F	M	A	M	J	J	A	S	FY90	
9. COST STATUS:															
a. \$ EXPRESSED IN THOUSANDS															
b. BUDGET & REPORTING NO./SUB. ACCT NO. 12578 GEO2210110															
c. FIN. NO.															
d. ACTUAL COSTS PRIOR YEARS 3016															
e. FY BUDGET 3280															
f. TOTAL BUDGET															
g. FY FUNDS AUTH 2740 To Date															
h. TOTAL FUNDS AUTH 5822															
COSTS		i. PLANNED	203	162	312	253	212	187	405	289	289	405	299	304	
		j. ACTUAL	193	178	275	531									
		k. VARIANCE	10	-16	37	278									
		l. CUM PLANNED	203	365	677	930	1142	1329	1734	2003	2272	2677	2976	3280	
		m. CUM ACTUAL	193	371	646	834									
		n. CUM VARIANCE	10	-6	31	96									
10. LEGEND: PLANNED ACTUAL PROJECTED FUNDS AUTH. 90% FUNDS SPENT															
11. MILESTONES 07/11 Conduct preliminary sensitivity/uncertainty analysis of milk pathway to thyroid 1) internal draft 2) overview to TSP 3) draft to TSP 03 Prepare preliminary estimate of I-131 releases in 1945 06 Submit draft proposals for milk model, population enumeration, Native Americans to TSP 11 Hold sensitivity/uncertainty analysis workshop 05 Key Hanford Employees workshop meeting minutes 07 Draft I-129 as surrogate for I-131 white paper 07 Final I-129 as surrogate for I-131 white paper		O	N	D	J	F	M	A	M	J	J	A	S	FY90	
LEGEND: SCHEDULED TIME LINE PROPOSED DEVIATION TIME NOW: COMPLETED DEVIATION PROGRESS APPROVED DEVIATION															
12. NAME/SIGNATURE OF PARTICIPANTS PROG/PROJ MANAGER & DATE H A Haerer															

PROJECT SUMMARY REPORT

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Source Terms

OBJECTIVE

Source terms are the amount and type of radioactive materials released to the environment. The Source Terms Task will develop estimates of radioactive emissions from Hanford facilities since 1944. These estimates will be based on historical measurements and production information. The estimates developed by this task will be used by the Environmental Transport Task to reconstruct the concentrations of radionuclides in the environment.

Uncertainty in calculated and measured data can result from many factors. For the measured emissions, the uncertainty may be because of early measurement techniques. For calculated emissions, the uncertainty may be because of differences in the published variables that are used for calculations. By comparing the uncertainty in the available data, this task will determine the most accurate method for developing source terms. For some time periods, measured values may not exist; therefore, the task must calculate the source terms from the information available. The proposed methods and results of this task will be reviewed, evaluated, and approved by the TSP.

PROGRESS

Activities for this reporting period included the following:

- completed a preliminary draft of a report identifying Hanford Site facilities, process operations, and emission and waste management technologies in use as a function of time
- reviewed the contents of 180 boxes of N Reactor records eligible for destruction; no information or data essential to the HEDR Project were identified
- added two additional staff to the the task to specifically address emissions to the atmosphere for the years 1944 through 1947.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes:

- prepare input/output information for all task activities to provide information necessary for preparation of an overall project schedule
- complete the calculations to define the fission product inventory of iodine-131 and its emissions from the separations plants for 1945
- complete milestone report identifying Hanford Site facilities, process operations, and emission and waste management technologies in use as a function of time
- prepare a preliminary report regarding the fraction of various radionuclides released from fuel processing plants
- complete the structure of the numerical data base and initiate its use
- initiate the work to estimate the airborne releases from production reactors
- continue the review of records at the Hanford Records Holding Area scheduled for disposition for potential relevance to the HEDR Project.

Environmental Transport

OBJECTIVE

The Environmental Transport Task will reconstruct the movement of radioactive materials (the source term information) from the areas of release to the accessible environment. Movement via the atmosphere, Columbia River, and ground water will be studied.

To track the releases to the atmosphere from the Hanford Site, meteorological data are needed including wind speed, wind direction, and other data that affect the dispersion of the releases. Mathematical models will be applied to these meteorological data and the source term data to calculate concentrations of radionuclides in the air and on the ground. The TSP will review, evaluate, and provide direction concerning the models proposed by this task.

Reconstruction of the transport of radionuclides in the Columbia River will be based primarily on historical studies of the Columbia River and its tributaries. For those time periods when data were limited or unavailable, computer models will be used to reconstruct radionuclide concentrations in the river.

The movement of radionuclides in the ground water will be determined initially by reviewing ground-water monitoring data and using these data to estimate the contribution to the surface-water pathway. As in the case of the surface-water pathway, some modeling might be required where data are lacking.

PROGRESS

Activities for this reporting period included the following:

- continued entering early meteorological data into the computer data base
- began identifying and summarizing precipitation records for the early years, 1944 through 1947, to evaluate the correlation of iodine-131 concentrations on vegetation with precipitation
- reviewed the draft report summarizing the results of a literature review for the surface-water transport subtask. This report will be revised to support the proposed Phase I evaluation of dose through the surface-water pathway by considering the Hanford reach of the Columbia River from Priest Rapids Dam to McNary Dam.

- developed a response to TSP Directive 88-4
- developed FY 1989 work plans for the phased approach. The Phase I effort will replace the preliminary estimate of dose for the surface-water pathway that was discussed in previous monthly reports.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

WORK PLANNED FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- continue entry of early Hanford meteorological data into the computer data base
- continue evaluation of atmospheric transport models
- complete a detailed scope of work for the Environmental Transport Task for FY 1989.

Environmental Monitoring

OBJECTIVE

The Environmental Monitoring Task will assemble, evaluate, and summarize key historical measurements of the concentrations of radionuclides in the environment around Hanford. Radionuclide concentrations have been measured at various times in such media as air, drinking water, foods, fish, the Columbia River, soil and in other sample materials. These measurements will be evaluated to estimate their accuracy and then used by the Environmental Pathways and Dose Estimates Task to estimate radiation doses and by the Environmental Transport Task to calibrate computer models. A major objective of this task is to separate Hanford as a source of radionuclide concentrations from concentrations resulting from natural sources and fallout from worldwide atmospheric tests. Methods to attain this objective will be proposed to the TSP for review, evaluation, and approval.

PROGRESS

Activities for this reporting period included the following:

- continued preparing an inventory of key data available to the project, focusing on river water and sediment data for the years 1944 through 1972, and air data for the years 1945 through 1957. Twenty-two boxes of records from the Seattle Federal Records Center have been surveyed and inventoried, and an additional 20 boxes of potentially useful records have been ordered.
- completed and installed the document review data multiuser software
- continued to evaluate preliminary estimates of biases in measurements of iodine-131 in vegetation due to the various potential sources of biases for the years 1945 through 1950.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- continue preparation of key data inventory
- start up the local area network for the task document review data base
- continue to evaluate the early vegetation data for errors and uncertainties
- continue the review of historical files
- continue planning for the proposed phased project/task approach.

Demographics, Agriculture, Food Habits

OBJECTIVE

This task will develop the demographic, food consumption, and food production information needed to conduct dose estimates.

Demographic information will be developed for the general population and for several special population groups that are not adequately represented by the U.S. Census. These groups include Native American tribes, Army personnel stationed at Hanford, some Hanford construction workers, and migrant workers.

In addition to demographic data, the sources and quantities of food and water consumed must be estimated, since food and water provide a pathway for the intake of radionuclides.

Milk produced from cows represents a significant food pathway for iodine-131 if the cows were fed vegetation contaminated with radionuclides. Dairy farming practices and milk distribution systems will be studied to locate the populations that may have consumed potentially contaminated milk.

Consumption of contaminated fish and shellfish is also a food pathway for exposure to radioactive materials. Estimates of the amount of potentially contaminated fish and shellfish consumed from the Columbia River and ocean bays will be developed through an extensive review of numerous studies conducted in the past.

Airborne radionuclides from the plant stacks may have been deposited on fruits and vegetables. Consumption of these foods provided a pathway to man. The pathways will be studied.

Treated Columbia River water was used by some of the communities downstream from Hanford. Drinking this water provided a pathway for exposure to radioactive materials. To estimate the doses from this pathway, it is necessary to know the communities using the water, the amount of water withdrawn, the treatment process, the travel time through the system, and the amount of water consumed. Irrigation water usage downstream from Hanford will also be studied because the radioactive materials in the river water could have been deposited on crops consumed

by people or animals. Recreational users of the river could also have been exposed to radiation from the river and shoreline. Differences in the food habits and lifestyles of Native Americans will also be considered. Methods to collect data and to estimate population densities and food consumption have been proposed to the TSP for review, evaluation, and approval.

PROGRESS

Activities for this reporting period included the following:

- delivered a subtask progress report to members of the TSP Demography and Agriculture Subcommittee
- developed county population estimates for Washington state using the ratio-correlation method for the years 1940 through 1970
- revised the demography and milk model proposals to incorporate TSP comments dated December 15, 1988. An important milk model key informant was identified and interviewed.
- gave a presentation on demographic, agricultural, food consumption, and lifestyle research to the Nevada Test Site Reconstruction Project team in Las Vegas, Nevada
- began processing Indefinite Quantity Contracts with each of the eight Indian tribes (Coeur d'Alene, Colville, Kalispel, Nez Perce, Spokane, Umatilla, Warm Springs, and Yakima). These contracts will allow the tribes to do technical work on the HEDR Project to gather information on population, food consumption, migration patterns, and other lifestyle factors that may effect the dose received by tribal members.
- sent an agenda for a meeting with tribal officials and technical staff to the TSP for approval. Once this agenda is approved, the meeting will be scheduled.
- combined the proposal on Native Americans with the proposals on the general population and the dairy model. These combined proposals will be sent to the TSP in early February.
- wrote a one-page narrative describing the location of the Hanford construction camps and the time periods the camps were occupied
- began development of a questionnaire on the feed intake of dairy animals

- presented the results of exploratory work on food consumption to the TSP, and outlined a proposed method for estimating food consumption.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- develop final ratio-correlation estimates
- develop subcounty estimates for Franklin and Benton counties
- produce a preliminary milk production/distribution summary for the Phase I area
- develop survey design for the management survey
- hold a meeting/workshop with an administrative representative and a member of the technical staff of each of the eight Indian tribes potentially in the study area
- develop a map of the Hanford Site that denotes the location of the campsites
- complete a questionnaire on the feed intake of dairy animals.

Environmental Pathways and Dose Estimates

OBJECTIVE

This task will use calculated and measured concentrations of radionuclides provided by the Environmental Transport Task and the Environmental Monitoring Data Task to calculate doses to populations, typical individuals, and specific individuals. These calculations will include direct transfer of radionuclides from concentrations in air and water to people (via breathing, drinking, immersion, etc.). The calculations will also require transfer from concentrations in air and water through environmental pathways, such as soil, plants, animals, and fish, to people. All significant decisions on exposure models and input parameters will be presented to the TSP for review, evaluation, and approval.

PROGRESS

Activities for this reporting period included the following:

- met with CDC representative Dr. J. Rittenbur, on January 18, 1989. It was tentatively agreed that the HEDR staff would actually perform most of the individual radiation dose calculations required for the CDC Thyroid Morbidity Study. These would, in turn, be reviewed for technical content by staff from the Utah study.
- formulated initial plans for a laboratory experiment of iodine interception/retention on various types of natural vegetation and crop plants. This experiment will respond to a major uncertainty in interpretation of historical monitoring data; namely, the relationship between deposition of radionuclides on native vegetation and other variables, such as time of year, precipitation, and others. If initiated soon, a wind-tunnel experiment to examine several variables could be completed this fiscal year. Additional justification and planning will be performed before any laboratory work begins.
- continued preparation of the white paper on the potential usefulness of iodine-129 measurements as a surrogate for iodine-131. A final version will be prepared in the coming weeks.
- appointed a new subtask leader for the effort of evaluating computer requirements.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- continue work on the surface-water sensitivity study, dominant radionuclides study, key food pathway definitions, and model selection and rationale
- begin defining the overall structure of the HEDR data base and the type of data processing equipment needed for smooth project integration
- issue the iodine-129 white paper.

Statistics

OBJECTIVE

This task will provide statistical support to the technical tasks and will be responsible for the development and application of sensitivity and uncertainty analyses. Sensitivity analyses will identify parameters that have the greatest influence on the dose estimates. In this way, project resources can be focused where the benefit in terms of accurate dose estimates is greatest. The uncertainty analyses enable the task leaders to determine how the accuracy and precision of the dose estimates are influenced by certain levels of accuracy and precision in the many input parameters.

PROGRESS

Activities for this reporting period included the following:

- conducted additional preliminary uncertainty analyses of the estimated potential iodine-131 dose to the thyroid of infants in Pasco, Washington, in 1946. These updated analyses were presented at the Sensitivity/Uncertainty Analysis Workshop.
- continued to assist the Demographics, Agriculture, and Food Habits Task with designing a survey of households that, if conducted, would obtain information about lifestyles and diets of persons who lived in the study area during the time of significant Hanford emissions
- obtained additional published papers on multiplicity sampling to provide information for evaluating their use for locating persons potentially exposed to Hanford emissions who currently live outside the study area
- prepared a draft written response to the TSP concerning the specification of data quality objectives in PNL proposals of research for the HEDR Project. The draft is currently being reviewed by HEDR management and staff.
- gave presentations to members of the Offsite Radiation Exposure Review Project in Las Vegas, Nevada, and discussed the preliminary dose estimates obtained for the thyroids of Pasco, Washington, infants in 1946 and the status of planning for the probability sampling frame for the general population survey
- presented information to the TSP Demography and Agriculture Subcommittee about the development of the probability sampling frame for the general survey that may be conducted on diets and lifestyles

- began developing an overall plan for propagation of errors in the HEDR dose model and for conducting additional sensitivity/uncertainty analyses.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- begin a series of small group working sessions with HEDR task and subtask leaders to develop the information needed to conduct effective sensitivity/uncertainty analyses for HEDR Phase I studies
- conduct sensitivity/uncertainty and other statistical analyses to evaluate and rank the different approaches for estimating the uncertainty of dose estimates
- write a report for the TSP that summarizes the sensitivity/uncertainty analysis workshop and discusses how PNL proposes to evaluate and rank during Phase I the different approaches for estimating the uncertainty of dose estimates
- write the rationale and scope for Phase I activities for the Statistics Task
- write a final report that describes the preliminary uncertainty analyses conducted for the estimated iodine-131 dose to the thyroid of infants in Pasco, Washington, in 1946
- write a response to the TSP concerning how PNL plans to evaluate and rank transport/dose models to minimize the set of models useful for HEDR purposes
- work with the Source Terms Task to address the issue of how to ensure that all significant Hanford emissions have been identified
- write the final report to the TSP concerning the specification of data quality objectives in PNL proposals of research for the HEDR Project
- continue to work with the Demographics, Agriculture, and Food Habits Task to develop the sampling frame for a general population survey to estimate diets, lifestyles, and agricultural practices
- continue to assist the Environmental Monitoring Data Task in evaluating the uncertainty in environmental measurements.

Information Resources

OBJECTIVE

The Information Resources Task will work with the other tasks to meet information needs. These needs include 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

Activities for this reporting period included the following:

- declassified 14 early-day Hanford-originated documents of potential interest/use in the HEDR Project and provided them to appropriate task leaders
- provided the DOE-RL Public Reading Room with approximately 30 Hanford-originated documents of potential interest/use in the HEDR Project. Approximately 300 remain to be sent.
- conducted a tour of the Hanford Technical Library's report files for 10 members of the TSP, TSP staff, public, and media
- presented an overview of the DOE Classification/Declassification rules, regulations, policies, and procedures to the TSP at its public meeting on January 20, 1989
- filled numerous requests for documents from HEDR Project tasks and TSP members
- added new citations to the tracking system.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Planned work for subsequent months includes the following:

- continue to add input to the information resources tracking data base
- continue to provide documents from Lists I and II to the DOE-RL Public Reading Room in an orderly, timely fashion
- provide List III, Hanford-originated classified documents of potential interest/use to the HEDR Project, from the Information Resources Tracking data base
- develop List IV, Hanford-originated raw data logs/notes of potential interest/use to the HEDR Project.

Records Management

OBJECTIVE

The Records Management Task will 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

Activities for this reporting period included the following:

- continued to receive and process project records
- transferred records to the DOE-RL Public Reading Room.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Work planned for subsequent months includes the following:

- continue processing incoming project records
- continue transferring processed project records to the DOE-RL Public Reading Room.

Quality Assurance

OBJECTIVE

The objectives of this task are to ensure continuous quality assurance (QA) support and coordination with all project tasks. These objectives are 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

Activities for this reporting period included the following:

- continued to assist in the development of technical procedures for HEDR training requirements and for documentation of primary data collection
- provided recommendations for the delegation of some of the Project Manager's QA responsibilities to the technical task leaders.

MAJOR PROBLEM AREAS AND ACTION TAKEN

None.

PLANNED WORK FOR SUBSEQUENT MONTHS

Planned work for subsequent months includes the following:

- continue assisting in implementation of QA program requirements
- complete and issue technical procedures on training requirements and documentation of primary data collection
- begin surveillances of software control requirements.

APPENDIX A

Communications Log

COMMUNICATIONS LOG - JANUARY 1989

<u>INITIATED BY</u>	<u>CONTACT</u>	<u>AFFILIATION</u>	<u>TYPE</u>	<u>SUBJECT</u>
PNL/Haerer	John Till	TSP, Chairman	Telephone	Ongoing discussions re:HEDR Project
TSP/Klingeman	Mark Freshley	PNL	Telephone	January TSP meeting schedule
TSP/Kopecky	Dick Gilbert	PNL	Telephone	HEDR Sensitivity/Uncertainty Workshop
PNL/Gilbert	Carol Thompson	Desert Research Institute	Telephone	ORERP survey of lifestyles, food habits, & agricultural practices
B. Burke	Carol Bruneau	PNL	Telephone	Contracts with PNL & dates for meeting/workshop
TSP/Morrill	Carol Bruneau	PNL	Telephone	Contracts & workshops with Indian tribes
PNL/Bruneau	Adeline Fredin	Colville Tribe	Telephone	TSP meeting
PNL/Bruneau	Lou Stone	Colville Tribe	Telephone	Initiating Indefinite Quantity Contract with Colville tribe
PNL/Bruneau	Ilene Kesselman	JAYCOR	Telephone	Population estimates of military personnel
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