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TENNESSEE
HEALTH STUDIES AGREEMENT

Annual Report for
Jan. 1, 1993 to Sept. 30, 1993

An Agreement Between the State of Tennessee and
the U.S. Department of Energy

Submitted November 1993

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INTRODUCTION

This report presents an overview of the second grant year of the Tennessee Health Studies Agreement. Because the Department of Energy mandated an amendment to the Agreement which changed the due date for the annual report, the period covered in this report is the nine months from January 1993 to September 1993.

SECOND YEAR OBJECTIVES AND ACCOMPLISHMENTS

Objective I. During the second year of the Health Studies Agreement, the dose reconstruction feasibility study will be completed.

ChemRisk completed the dose reconstruction feasibility study and provided a final report in September 1993. As a result of this report and the recommendations of the contractor, a decision was made by the ORHASP to move into Phase II, dose reconstruction. A "Request for Proposal" for a contractor to begin the actual dose reconstruction for the four priority chemicals and radionuclides identified in Phase I is being drafted. More details about the feasibility study can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, sections 4.0-4.2 which is included as part of this report.

Objective II. The State and the ORHASP will plan a strategy for identifying opportunities to perform analytical epidemiological studies in the Oak Ridge area to determine if adverse health outcomes have occurred as a result of ORR operations.

The State is continuing the descriptive epidemiological studies using existing data resources and is developing a grant for Vanderbilt University's Department of Preventive Medicine for the purpose of establishing an epidemiological feasibility review. The plan includes five major activities:

1. Develop guidelines for determining the need for an analytical epidemiologic study;
2. Review the contaminants of concern selected by the Panel in the dose reconstruction feasibility study;
3. Select the possible health outcomes and review relevant epidemiologic literature for these contaminants;
4. Review the data needs, sources of data and availability of data necessary to carry out epidemiologic studies on these contaminants; and
5. Prepare a report on the feasibility of performing epidemiologic studies related to the contaminants of concern.

The staff of the Division of Pharmaco-epidemiology in the Preventive Medicine program have a strong epidemiological background and intimate knowledge of state databases. Further description of the epidemiological feasibility study can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, section 5.5.4.

Objective III. The Oak Ridge Health Agreement Steering Panel will continue to (1) direct and oversee the dose reconstruction, (2) determine the need for other health related studies, and (3) communicate project plans and results to the community.

The Panel decision for doing dose reconstruction was made in September 1993. The panel members from Phase I have all been reappointed and are assisting the State in preparing RFPs for dose reconstruction and other studies determined appropriate. Panel members continue to assist the State with community meetings and other outreach activities. More description of the steering panel activities can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, section 5.0.

Objective IV. Communications activities will be carried out to ensure that the public is informed and has a chance to feedback information.

The State is continuing the quarterly newsletter, public meetings, 800 number and other activities to assure public awareness and input. More description about the communications activities can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, section 5.6.

To further enhance the communications activities, a request for proposal was issued in October 1993 with the following tasks:

1. Coordinate the information exchange among the agencies responsible for the feasibility study, the dose reconstruction project and the epidemiological studies;
2. Create publications and presentations to educate and provide the community with information on the Oak Ridge Health Study;
3. Identify opinion leaders, conduct focus group meetings and implement periodic opinion surveys;
4. Design and implement a risk education program for physicians;
5. Design and implement an education program for the local school systems;
6. Design and implement an effective news media program; and
7. Coordinate public meetings and steering panel meetings.

Proposals are due November 23, 1993 and it is anticipated that a contract will be awarded by January 1, 1994.

Objective V. A Birth Defects Registry and a quality assurance program for the State's Cancer Registry will be established.

The first year of data from the Birth Defects Registry was collected. A program to verify cases from the Birth Defects Registry and the Cancer Registry is now underway by staff of the Oak Ridge Associated Universities. More description about the Cancer and Birth Defects Registries can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, section 7.0.

Objective VI. The Department of Energy occupational medical program will be reviewed and described.

A report provided by the Department of Energy that characterizes the medical program and describes specific information that will be useful in assessing worker exposures to chemicals and radioisotopes to off-site populations has been reviewed. More description about the Occupational Medical Program review can be found in *Volume I - Oak Ridge Health Studies Phase I Overview*, section 6.0.

Objective VII. Staff and other resources will be added to the project in proportion to the work required.

Two additional staff will be added to the project. An expansion request for two staff positions was submitted to the State for approval. The positions are expected to be approved by the end of the grant year (i.e. December 1993).

Audio/visual equipment, computers, and peripherals were bought with existing budgeted funds. During this year one micro-computer workstation and one overhead projector were purchased. One existing micro-computer was upgraded.

FINANCIAL SUMMARY

Expenditures for the second year of the Health Studies Agreement are reflected in Table 1. Total expenditures are for the period January 1, 1993 to September 30, 1993. A grand total of \$910,505.18 was spent during this period leaving a balance of \$623,999.82 to meet expenses for the last quarter of the calendar year 1993. It is anticipated that the State will have sufficient funds to meet its outstanding debt with a balance of \$ 0.00 at the end of the grant year, i.e. December 31, 1993.

The greatest portion (\$668,156.04) of the funds expended in this grant year have been spent for the Phase I contract. The contractor completed the Dose Reconstruction Feasibility Study in September 1993, and the final report was officially released on October 13, 1993. During this grant year the contract with the Phase I contractor was extended to October 18, 1993 and an additional \$136,377 was added to the funding. A balance of \$246,064.96 remains to be paid to the contractor.

Table 1 also provides the historical expenditures and proposed funding for each of the five grant years. Presented are the expended, budgeted, or estimated funds for the time frames indicated in the first box of each column. The last two rows of each column present the grand totals and actual budgeted amounts. Each column reflects different incremental time periods and this difference should be considered prior to making any temporal analyses. The last two time periods provide gross estimates of the funds expected to be expended.

Table 1. Grant Year Expenditures and Budget Proposals

	Aug 91- Dec 92	Jan 93 - Sept 93	Oct 93 - Dec 93	Jan 94 - Dec 94	Jan 95 - Dec 95	Jan 96 - Aug 96
Object Code	Expended	Expended	Budgeted	Budgeted	Estimated	Estimated
01 Salary	\$114,188.05	\$108,653.00	\$21,647.00	\$196,448.00	\$196,448.00	\$196,448.00
02 Benefits	\$21,124.89	\$22,559.49	\$10,640.51	\$41,968.00	\$41,968.00	\$41,968.00
Total Salary/Benefits	\$135,312.94	\$131,212.49	\$32,287.51	\$238,416.00	\$238,416.00	\$238,416.00
03 Travel	\$29,285.44	\$10,366.93	\$94,633.07	\$101,100.00	\$101,100.00	\$101,100.00
04 Print/Duplication	\$2,366.61	\$2,171.05	\$22,528.95	\$24,700.00	\$24,700.00	\$24,700.00
06 Communications	\$2,528.53	\$6,519.82	\$3,980.18	\$10,500.00	\$10,500.00	\$10,500.00
07 Maint/Repair	\$357.86	\$420.00	\$0.00	\$0.00	\$0.00	\$0.00
08 Professional Services	\$12,536.55	\$35,980.65	\$129,019.35	\$116,650.00	\$116,650.00	\$116,650.00
09 Supplies	\$6,319.23	\$3,535.82	\$20,164.18	\$28,700.00	\$28,700.00	\$28,700.00
10 Rent/Insurance	\$391.75	\$2,682.25	\$0.00	\$0.00	\$0.00	\$0.00
13 Grants	\$184,115.76	\$716,715.17	\$286,064.96	\$3,724,834.00	\$4,121,334.00	\$2,410,000.00
ChemRisk/Phase I	\$166,156.96	\$668,156.04	\$246,064.96			
ORHASP	\$16,563.80	\$34,678.38	\$40,000.00	\$160,000.00	\$160,000.00	\$160,000.00
Communications				\$250,000.00	\$250,000.00	\$250,000.00
UT/KAB				\$65,600.00		
VU/EPI				\$174,945.00		
Phase II Contractor				\$2,000,000.00	\$2,000,000.00	\$2,000,000.00
Other	\$1,395.00	\$13,880.75	\$0.00	\$1,074,289.00	\$1,711,334.00	
16 Equipment	\$36,320.44	\$901.00	\$35,321.62	\$50,000.00	\$50,000.00	\$50,000.00
Total Other	\$274,222.17	\$779,292.69	\$591,712.31	\$4,056,484.00	\$4,452,984.00	\$2,741,650.00
Grand Total	\$409,535.11	\$910,505.18	\$623,999.82	\$4,294,900.00	\$4,691,400.00	\$2,980,066.00
Actual Budgeted Amount	\$972,730.00	\$1,141,800.00	\$380,600.00	\$3,559,600.00	\$4,691,400.00	\$1,698,600.00
Carry Forward	\$0.00	\$563,194.89	\$794,489.71	\$551,089.89	(\$184,210.11)	(\$184,210.11)
Funds Available	\$972,730.00	\$1,704,994.89	\$1,175,089.71	\$4,110,689.89	\$4,507,189.89	\$1,514,389.89

SIGNIFICANT PROBLEMS:

In August 1992, the U.S. Department of Energy informed the State that a Foreign Ownership, Control, or Influence (FOCI) disclosure would be required for its contractor, ChemRisk, in order for review of classified material to continue. Security badges for all ChemRisk employees were held. ChemRisk agreed to begin procedures necessary to establish a subsidiary under a DOE approved Proxy Agreement and their badges were returned in October 1992. During the second grant year (calendar year 1993), the contractor ChemRisk explored establishing a proxy company to allow them to continue review of classified documents. In March 1993 ChemRisk concluded it would not be possible to establish this proxy and the "Q" clearances for all ChemRisk personnel were revoked. As a result of this, some documents that were designated as classified could not be reviewed by the contractor, but their existence was noted in the final report and in the documents database. ChemRisk's services will be required for the second phase to coordinate with the Phase II contractor. It is anticipated that some problems may arise because ChemRisk will be constrained from speaking about classified issues.

The ORHASP and the State have concluded that dose reconstruction is both feasible and warranted as a result of the work done in the first two years of the Health Studies Grant. It is also noted that the cost and time commitment for conducting dose reconstruction and epidemiological studies will exceed the funds and time remaining. It is for this reason that the State will be petitioning the Department of Energy to extend the grant period and to provide funding for additional resources. The time frame will be determined when the contractor is selected for the dose reconstruction studies.

PROPOSED THIRD YEAR OBJECTIVES

Objective I - Dose Reconstruction: Dose Reconstruction will begin for the releases of radioactive iodine and cesium, mercury, and PCBs.

The Dose Reconstruction Feasibility Study indicates that a significant amount of information is available to reconstruct the past releases and potential off-site doses. Based on this, the Oak Ridge Health Agreement Steering Panel recommended that dose reconstruction activities begin for the releases of radioactive iodine and cesium, mercury, and PCBs. The Panel also recommended that a broad-based investigation of operations and contaminants be conducted to support or modify the recommended direction of future health studies. (*Volume I - Oak Ridge Health Studies Phase I Overview*, section 8.1 provides more detail.) During the third grant year a request for proposal for a contractor to perform dose reconstruction for substances identified as high priority will be issued. It is anticipated that the Phase II contractor can be in place during the second quarter of 1994.

Objective II - Epidemiological Feasibility: Opportunities to conduct analytical epidemiological studies to identify adverse health effects in exposed populations will be explored.

As a result of several meetings with the community, the Oak Ridge Health Agreement Steering

Panel concludes that there is an interest in health studies that not only calculate health risks, but also look for the occurrence of adverse health effects. The Panel proposes that researchers look for opportunities to conduct analytical epidemiological studies to identify adverse health effects in exposed populations. (*Volume I - Oak Ridge Health Studies Phase I Overview*, section 8.2 provides more detail.) Vanderbilt University will begin work on the Epidemiological Feasibility Study and provide a report by the end of the grant year. This work will assist the ORHASP and the State in decisions for future epidemiological studies.

Objective III. - Steering Panel: The Oak Ridge Health Agreement Steering Panel will continue to (1) direct and oversee the dose reconstruction, (2) determine the need for other health related studies, and (3) communicate project plans and results to the community.

Members of the Oak Ridge Health Agreement Steering Panel will continue their efforts to direct and assist in the Health Studies Project. One position on the panel will require filling during this grant year. Staff will be soliciting individuals for appointment by the Commissioner of Health.

Objective IV. - Communications: Communications activities will be activities to ensure that the public is informed and has a chance to feedback information.

A Knowledge, Attitudes, and Beliefs survey will be completed during the first quarter of 1994 by the University of Tennessee. The data collected by this survey will help to guide the communications activities of the project. A contractor to assist in risk communication and public education will be identified during this grant year. All previous activities in communications will continue with enhancement where needed.

Objective V. - Cancer and Birth Defects Registries: The Birth Defects Registry and the quality assurance program for the State's Cancer Registry will be maintained.

The quality of the cancer data for 1991 will be completely evaluated and the assessment of the quality of 1992 cancer data will be initiated by the contractor during grant year three. The verification of birth defects registry data for 1991 births will be completed. Birth defects cases for 1992 will be identified and verification of 1992 cases will begin during this same period.

Objective VI. - DOE Occupational Medicine Program: A formal plan to review the Department of Energy's Oak Ridge Reservation workers' health program will be developed and carried out.

The Health Effects Subcommittee of the ORHASP will continue work to describe the occupational medical program at the Department of Energy facility in Oak Ridge. A report of findings should be completed by the end of 1994.

Objective VII. - Program Administration: Staff and other resources will be added to the project in proportion to the work required.

Two staff positions will be filled during this grant year contingent on the approval of the

Tennessee Departments of Personnel and Finance and Administration and the U.S. Department of Energy. These staff will assist in tracking and administration of the many contracts entered into for completion of the Health Studies Project.

During this period a review will be made of the usefulness of Geographical Information Systems for the evaluation and presentation of health studies data. It is anticipated that possible additional computer hardware and software will be required to support this activity.

A computer image projection panel will be purchased during the first quarter to assist with presentations to the ORHASP and the public.

Declassification of information related to contaminants that had the potential to adversely affect health in off-site populations will be pursued.

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