

DOE/PC/95231-37
DIST. CATEGORY UC-112
UTSI-02-04

TECHNICAL PROGRESS REPORT
FOR
UTSI/CFFF MHD PROGRAM COMPLETION
AND RELATED ACTIVITY

For The Period
October 1, 2002 – December 31, 2002

Work Performed Under Contract No. DE-AC22-95PC95231

Prepared for:
The United States Department of Energy

Prepared by
The University of Tennessee
Space Institute
Energy Conversion Research and Development Programs

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EXECUTIVE SUMMARY

Maintenance work on the DOE CFFF facility and other related government property is no longer authorized under this contract in accordance with the DOE-UT Settlement Agreement. Environmental remediation preservation of the facility continued. Government property has been transferred to UTSI as owner which frees up many items for proper disposal. Actions are underway to dispose of other wastes, and control pests and water at the DOE CFFF.

Groundwater remediation activities as mandated by the Tennessee Department of Environment and Conservation (TDEC) continued throughout the quarter. A contract was awarded to an environmental consulting company to drill and sample three additional groundwater wells adjacent to the CFFF property. A report on this activity, with results of the sample analysis, has been sent to the TDEC.

TASK 1 – FACILITY MAINTENANCE AND PROPERTY MANAGEMENT

In September 1998, a stop-work order was issued for work activity in the DOE Facility maintenance area. Work to administer government-owned property continued.

On September 22, 1999, Department of Energy and the University of Tennessee signed a SETTLEMENT AGREEMENT resolving all claims and property accountable under Tasks 1-5.

TASK 2 - REPORTING AND ARCHIVING

October, November and December, 2002 Monthly Reports were submitted.

The Quarterly Key Staffing Report for the period July-September, was submitted on October 10, 2002.

Quarterly Technical Progress Report for the period July 1, 2002 through September 30, 2002, was submitted on October 14, 2002.

TASK 3 - SITE ENVIRONMENTAL COMPLIANCE AND REMEDIATION

UTSI shall continue implementation and compliance with the State of Tennessee approved plan for groundwater remediation. UTSI shall remove from the site, and properly dispose of, all industrial type non-hazardous wastes. In addition, UTSI shall properly remove all asbestos-containing cooling water tower materials and dispose of these materials properly. In addition, UTSI shall continue the monitoring and treatment of holding pond effluent per the site Water Discharge Permit with the State of Tennessee.

The Discharge Monitoring Reports (DMRs) for October, November and December 2002, were prepared and submitted to the Tennessee Department of Environment and Conservation (TDEC).

TVG Environmental, Inc. (Nashville, TN) conducted the first of two contracted sampling events for five (5) groundwater wells adjacent to the Coal Fired Flow Facility. The five wells selected for sampling were designated by TDEC based on their review of previous sampling results. TVG issued their report in December (Groundwater Monitoring Report dated December 16, 2002) with copies to TDEC and UTSI. Information copies will be provided to DOE in January, 2003. The second sampling event is scheduled for May, 2003. No action is expected from TDEC until after the results of the May sampling event have been reported and evaluated.

TASK 4 - SITE REACTIVATION

No work was scheduled or performed

TASK 5 - DISASSEMBLY AND DISMANTLEMENT (D&D) OF THE CFFF

No work was scheduled or performed

TASK 6 – ADVANCED TECHNOLOGY, RESEARCH, DEVELOPMENT AND ENGINEERING FOR OTHER FEDERAL OR DOE PROGRAMS

Subtask 6.02 Evaluation of Methods for Application of Epitaxial Buffer and Superconductor Layers

No Activity.

Subtask 6.03 Coated Conductor Development and Program Management

Discontinued effective September 30, 1999.

Subtask 6.04 Optimum Coated Conductor

No Activity.

Subtask 6.05 Cost Performance Analysis of Potential Manufacturing Processes

Discontinued effective August 31, 1999.

Subtask 6.06 Development of Real Time process Control using In-Situ Diagnostics

Discontinued effective September 30, 1999.

OPEN ITEMS

January 2000 – December 2000 Monthly Technical Progress Reports
January 2001 - December 2001 Monthly Technical Progress Reports
January 2002 - December 2002 Monthly Technical Progress Reports
October –December 1999 Quarterly Technical Progress Report
January – December 2000 Quarterly Technical Progress Reports
January - December 2001 Quarterly Technical Progress Reports
January – September 2002 Quarterly Technical Progress Reports
Kevin Trembath's Thesis Topical Report, "Statistically Designed Experimental Study of Sol-Gel Based Film Coating Scheme for High Temperature Superconductors and Buffer Materials and Related Manufacturing Process Cost Evaluation" submitted August 31, 2000.

SUMMARY STATUS ASSESSMENT AND FORECAST

Environmental restoration activities at the CFFF will continue and funding to cover these activities will be continued in accordance with the SETTLEMENT AGREEMENT.

Contract reporting requirements are being met on time. Future contract reporting requirements need to be reviewed and modified in accordance with the SETTLEMENT AGREEMENT.

OCTOBER 1, 2002, THROUGH DECEMBER 31, 2002, QUARTERLY VARIANCE REPORT

Planned vs. Actual Expenditures

(thousands of dollars)

TASK	PLANNED	ACTUALS	VARIANCE
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	17.1	3.0	14.1
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
TOTALS	17.1	3.0	14.1
COST ELEMENT			
DIRECT LABOR	0.0	0.0	0
FRINGE BENEFITS	0.0	0.0	0
EQUIPMENT	0.0	0.0	0
EXPENDABLE MATERIAL	0.0	0.0	0
OUTSIDE CONTRACTS	11.6	2.0	9.6
TRAVEL	0.0	0.0	0
TOTAL DIRECT COSTS	11.6	2	9.6
INDIRECT COSTS	5.5	1.0	4.5
TOTAL	17.1	3	14.1

Planned vs. Authorized Funding

Cumulative

Task	PLANNED	AUTHORIZED FUNDING
1	1495.2	1495.2
2	574.0	574
3	557.2	557.2
4	0.0	
5	0.0	
SUBTOTAL	2626.4	2626.4
6	3820.9	3820.9
TOTAL	6447.3	6447.3