

DOE/PC/95231-34  
DIST. CATEGORY UC-112  
UTSI-01-1

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

For The Period  
January 1, 2002 – March 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**

January, February and March Monthly Reports were submitted.

The Quarterly Key Staffing Report for the period October – December 2001, was submitted on January 22, 2002.

Quarterly Technical Progress Report for the period October 1, 2001 – December 31, 2001, was submitted on January 22, 2002, and a corrected report was submitted February 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 (DMR's) for January, February and March, 2002, were prepared and submitted to the Tennessee Department of Environment and Conservation (TDEC). An agreement has been reached with the TDEC allowing UTSI to report "NO DISCHARGE" as long as there is no active testing at the CFFF. This agreement allows UTSI to discontinue monthly water sampling and testing.
- During March, UTSI received the wastewater discharge permit renewal paperwork for the CFFF. Although all operations at the CFFF have been discontinued, the coal pile is still present and rain run-off to the holding ponds still occur. The discharge permit will have to be renewed as long as the coal pile and holding ponds are in place.

## **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 Monthly Technical Progress Report  
February 2000 Monthly Technical Progress Report  
March 2000 Monthly Technical Progress Report  
April 2000 Monthly Technical Progress Report  
May 2000 Monthly Technical Progress Report  
June 2000 Monthly Technical Progress Report  
July 2000 Monthly Technical Progress Report  
August 2000 Monthly Technical Progress Report  
September 2000 Monthly Technical Progress Report  
October 2000 Monthly Technical Progress Report  
November 2000 Monthly Technical Progress Report  
December 2000 Monthly Technical Progress Report  
January 2001 Monthly Technical Progress Report  
February 2001 Monthly Technical Progress Report  
March 2001 Monthly Technical Progress Report  
April 2001 Monthly Technical Progress Report  
May 2001 Monthly Technical Progress Report  
June 2001 Monthly Technical Progress Report  
July 2001 Monthly Technical Progress Report  
August 2001 Monthly Technical Progress Report  
September 2001 Monthly Technical Progress Report  
October 2001 Monthly Technical Progress Report  
November 2001 Monthly Technical Progress Report

December 2001 Monthly Technical Progress Report  
January 2002 Monthly Technical Progress Report  
February 2002 Monthly Technical Progress Report  
March 2002 Monthly Technical Progress Report  
October –December 1999 Quarterly Technical Progress Report  
January – March 2000 Quarterly Technical Progress Report  
April – June 2000 Quarterly Technical Progress Report  
July – September 2000 Quarterly Technical Progress Report  
October – December 2000 Quarterly Technical Progress Report  
January – March 2001 Quarterly Technical Progress Report  
April – June 2001 Quarterly Technical Progress Report  
July – September 2001 Quarterly Technical Progress Report  
October – December 2001 Quarterly Technical Progress Report  
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.

**JANUARY 1, 2002, THROUGH MARCH 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	7.2	27.8	-20.6
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
TOTALS	7.2	27.8	-20.6
COST ELEMENT			
DIRECT LABOR	0.9	0.0	0.9
FRINGE BENEFITS	0.3	0.0	0.3
EQUIPMENT	0.0	0.0	0
EXPENDABLE MATERIAL	0.0	0.0	0
OUTSIDE CONTRACTS	3.7	18.8	-15.1
TRAVEL	0.0	0.0	0
TOTAL DIRECT COSTS	4.9	18.8	-13.9
INDIRECT COSTS	2.3	9.0	-6.7
TOTAL	7.2	27.8	-20.6

Planned vs. Authorized Funding

Cumulative

Task	PLANNED	AUTHORIZED FUNDING
1	1495.2	1495.2
2	574.0	574
3	540.1	540.1
4	0.0	
5	0.0	
SUBTOTAL	2609.3	2609.3
6	3820.9	3820.9
TOTAL	6430.2	6430.2