

NATIONAL COMPACT STELLARATOR PROJECT

Engineering Change Proposal (ECP)

COVER PAGE

(TO BE COMPLETED BY SYSTEMS ENGINEERING SUPPORT MANAGER)

Originator: Bob Simmons

Date: July 8, 2004

ECP No: 04-009

ECP Title: Reprogramming

Required Reviewers

Required Reviewers for this ECP:

Stellarator Project Engineer, NCSX Project Control Manager, and NCSX Project Engineer

ECP Approval Level

Expedited ECP? Yes No

Change Level: 3 Project

Approving Official: 3 Reg ECP - Project Manager

Actions

- (1) Update technical, cost, and schedule baselines
- (2) Update Performance Measurement Baseline (PMB) to reflect the new detailed costs and schedules
- (3) Report status against these revised baselines, starting with the June WAF statusing

APPROVALS

(TO BE COMPLETED BY APPROVING OFFICIALS)

Change Level	Approving Official	Approval?	Signature
3	NCSX Project Manager	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3a (Expedited ECP)	NCSX Engineering Manager	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	NCSX Federal Project Director	<input type="checkbox"/> Yes <input type="checkbox"/> No	
1	Associate Director OFES	<input type="checkbox"/> Yes <input type="checkbox"/> No	
0	Under Secretary of Energy	<input type="checkbox"/> Yes <input type="checkbox"/> No	

NATIONAL COMPACT STELLARATOR PROJECT

Engineering Change Proposal (ECP)

PART I *(TO BE COMPLETED BY ORIGINATOR)*

Originator: Bob Simmons

Date: July 8, 2004

Overview of Change

Type of ECP: EXPEDITED STANDARD

Type of Change: TECHNICAL COST SCHEDULE EDITORIAL

(Check all that Apply)

Reason for Change:

The Project has made the decision to eliminate several scope items and to reprogram that budget to existing activities where added work is planned. Experience to date has demonstrated that the anticipated scope for these existing activities is more complex and that resources needed are greater than originally planned.

Impacted WBS Elements:

WBS 14 (Modular Coils) and WBS 18 (Field Period Assembly)

Impacts of Change (Briefly Describe):

The net impact is \$0K as budget from eliminated scope activities are reprogrammed to existing scope activities.

Assessment of Other Options: The Project assessed the performance to date in several critical activities and determined that these activities were inadequately budgeted. These activities were the ones that received reprogrammed budget from eliminated activities.

Detailed Description of the Change:

List Attachments, Impacted Documents, etc.

Attachment 1 – Detailed Breakdown of Cost Impacts

Attachment 2 – Updated ECP-04-009 Bar Charts

Description of Change:

The following items provide details of the components making up this ECP:

Reprogramming (\$0K Net Change)

❖ Activities Eliminated

- WBS 142 (Modular Coil Windings and Assembly) - Due to the additional R&D activities planned for the latter third of FY2004 that will include winding characterization and winding of a twisted racetrack coil, the need to wind a full-size prototype winding is no longer necessary. Elimination of the full-size prototype winding activities: **(-\$261.7K)**.
- WBS 18 (Field Period Assembly) – The Project has made the decision to use the first article for field period assembly practice with the assembly fixture vs. doing this with a full-scale assembly mockup. Elimination of the full scale assembly mockups: **(-\$196.4K)**

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Engineering Change Proposal (ECP)

PART I

(TO BE COMPLETED BY ORIGINATOR)

Originator: Bob Simmons

Date: – July 8, 2004

❖ **Reprogrammed Activities** – based on experience to date, it is evident that some ongoing activities will require more effort to complete. The Project has made the decision to reprogram the budget from the eliminated activities described above to the following Modular Coil activities:

- WBS 141 (Modular Coil Winding Forms)
 - Completion of the production Modular Coil Winding Form models and drawings to support the production MCWF procurement (+\$77.2K)
- WBS 142 (Modular Windings and Assembly)
 - Completion of the Modular Coil Analyses activities (+\$300.6K)
 - Twisted Racetrack winding design activities (+ 50.7K)

In addition, in order to provide sufficient FY2004 funding at ORNL to accommodate the above reprogrammed near term activities, the non-critical path tooling design efforts for the field period assembly (WBS 185) have been deferred until FY2005. **This has a cost impact of \$29.6K due to escalation.**

❖ **Summary**

Affected WBS Element	Eliminated Tasks	Re-Estimated Tasks	Net Change
WBS 141 – Mod Coils Winding Forms	--	+\$77.2K	+\$77.2K
WBS 142 – Mod Coils Windings & Assembly	-\$261.7K	+\$351.3K	+\$89.6K
WBS 185 – Field Period Assembly	-\$196.4K	\$29.6K	-166.7K
TOTALS	-\$458.1K	+\$458.1K	\$0K