

**NCSX June 2007 ETC
TABLE V - Basis of Estimate**

WBS Number: 81
WBS Title: Project Management and Control
Job Numbers: 8101, 8102, and 8998
Job Title: Project Management and Control - ORNL (8201)
Job Title: Project Management and Control - PPPL (8101)
Job Title: Project Allocations (8998)
Job Managers: Hutch Neilson (8101), Jim Lyon (8102), & Ron Strykowski (8998)

E-mail dated June 7, 2007

Folks,

Based on the two P.U. Reviews in May and June and new P.U./PPPL reporting and review requirements, I have updated the estimate for Project Management. A basis of estimate description is attached. The estimate changes (relative to a month ago) were provided to Bob and Ron in a handwritten markup, but to summarize the changes:

PM increased from 0.75 to 0.85 fte (maintaining the present level, rather than dropping off as previously planned)
Project Control Mgr. increased from 0.80 to 0.85 fte. (ditto)
Deputy PM (ORNL) held at present level.
Added Construction Mgr. at 1.0 fte
Added Project Control staff at 1.5 fte (1.0 at PPPL, 0.5 at ORNL)
Admin increased from 0.3 to 0.8 fte.

The increases are a response to the review findings that day-to-day project management needs to be strengthened, including more disciplined risk management, daily and weekly meetings, semi-annual ETC updates, and more rigorous cost and schedule control. Also, the management team will need to support the planned increase in frequency and depth of reviews by PPPL upper management, P.U., and DOE.

Historically, we have overrun our estimates in this work package. I believe this new estimate is "realistic" with some potential for coming in at a lower cost: If the new CM proves to be very effective, the PM and Deputy PM may be able to shift some of their time to other activities, e.g. NCSX program. And we might be able to pare back the project control increases once we get over the learning curve of managing these new requirements.

Hutch

WBS 81. Project Management and Control

1. Project management

Laboratory Project Manager (J. L. Anderson, PPPL)

The Project Manager (PM) is responsible for the day-to-day execution of the NCSX project in a cost-effective manner, in accordance with requirements, procedures and standards, as set forth in the PPPL contract with DOE. This includes executing the technical, cost, schedule, project control, risk management, ES&H, and quality assurance aspects of the project within approved cost, schedule, and scope baselines, as defined in the Project Execution Plan and the contract. The PM is responsible for meeting the project's requirements for reporting to, and reviews by, the Laboratory, Princeton University, and the Department of Energy. He is the project's primary point of contact with DOE and with the Program Advisory Committee. He reports to the PPPL Director. Hutch Neilson will support the Project Manager as a deputy in the NCSX project office at PPPL.

Deputy Project Manager (J. F. Lyon, ORNL)

Responsible for execution of project work scope assigned to ORNL. A critical function is providing the necessary engineering resources, either via ORNL staff assignments or subcontracts, to support the critical design activities of the project. Reports to the Project Manager.

2. Construction Management

Construction Manager (T.B.D., PPPL)

The construction manager (CM) is responsible for completing remaining NCSX component fabrication activities, assembly of the NCSX stellarator device, installation, and integration with ancillary systems. The CM is responsible for safety performance, cost and schedule performance, and risk management for the assigned work scope. The CM chairs construction management meetings focused on integration and schedule on a daily and weekly basis. The CM reports to the NCSX project manager and supports the project in meeting requirements for reporting to, and reviews by, the Laboratory, Princeton University, and the Department of Energy.

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3. Project Control

Project Control (R. L. Strykowski, PPPL, Manager)

Responsible for all project control functions necessary to support NCSX Project activities.

- Work planning and administration of the central project control system;
- Risk management support, including tracking of risks and mitigation activities using the risk registry.
- Maintaining up-to-date NCSX cost and schedule estimates, including semi-annual project-wide updates of estimates-to-complete and following up with necessary adjustments.
- Project financial management and reporting, including cost-performance data for the PARS system, variance analysis, management reserves, cash flow, and staffing requirements.
- Performing administrative functions such as facility maintenance coordination, travel approvals and vouchers, and overall staff planning.

4. Administrative Support

Project Administrator (P. Hampton, PPPL)

Supports the PPPL project office (PM, CM, Project Control Staff) by providing administrative support such as conference arrangements, web site maintenance, travel arrangements, and document handling.

Basis of Estimate

The total level of effort for the Project Manager and deputies are increased compared to recent history. The PM continues as a full time position, but with a new incumbent, Jim Anderson. Anderson will be supported by the previous PM, Hutch Neilson, in the management of technical issues specific to stellarators. The ORNL Deputy PM, Jim Lyon, is about 1/3 time, commensurate with the scope of work being managed at ORNL.

A construction manager is being added to strengthen management of day-to-day project execution via daily and weekly meetings focused on schedule and integration, tracking of costs and schedules on a weekly basis, etc.

The Project Control manager continues at historical levels (essentially full time), but project control staff is now being added at both PPPL and ORNL to strengthen cost and schedule management, risk management, resource planning, maintenance of estimates, and to support expanded reporting and review requirements.

Administrative staff is being augmented to support the expanded project office staff.

WBS 89. Direct Allocations

The direct allocation charges (direct allocation of PPPL indirect costs) are to cover the allocated charges for the Computer Division's support and maintenance of the Laboratory computer systems, desktop computer support at PPPL, diagnostic and rf development activities at PPPL, and health physics sampling, data analysis and maintenance of the REML facility. The portion of the direct allocation budget applied to the NCSX project is calculated and controlled by the PPPL budget office as a function of the research, analyst, and health physics personnel budgeted to the project.

Allocation of indirect costs to final cost objectives (a.k.a. the NCSX MIE Project) is in reasonable proportion to the beneficial or causal relationship of the costs to the final cost objective. The Office of Resource Management provides guidance for categorizing activities as direct or indirect and is responsible for developing and documenting the methodologies and rates for distributing indirect costs to final cost objectives.