

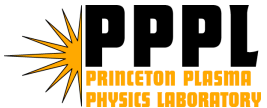
NCSX PROJECT OVERVIEW AND MANAGEMENT

James L. Anderson
NCSX Project Manager
October 31, 2007

Review Charge Question



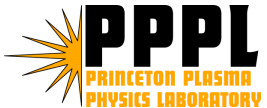
- Is there a high level of confidence, based on the current state of design, that NCSX can be built and maintained within its required tolerances?
- Review will focus on the stellarator core components and assembly, and will not include standard auxiliary and support systems.
- Future design activities will require additional reviews.



PROJECT INPUT TO COMMITTEE'S REVIEW



- The NCSX is a PPPL/ORNL Project
- Scheduled presentations on:
 - Physics requirements (H. Neilson)
 - Systems requirements, design, and analysis (Phil Heitzenroeder)
 - Assembly plans and risk management (M. Viola, E. Perry)
 - Field error compensation (trim) coils (A. Brooks)
- Tour of NCSX manufacturing facilities and test cell
 - Coil manufacture, assembly, development trials and mockups
- Background documentation posted on web site
 - Requirements, design, analysis, assembly sequence plan, etc.
- Other presentations or information, at the committee's request.



NCSX HAS EXPERIENCED SIGNIFICANT COST AND SCHEDULE GROWTH



- A new, proposed Scope, Cost and Schedule Baseline was generated for the August Lehman Review
 - Cost
 - EAC increased from \$92M to \$132M
 - 28% contingency
 - Project currently 62% complete
 - Design 87%
 - Fabrication 75%
 - Procurement 68%
 - Assembly 10%
 - Schedule
 - Schedule to CD4 increased by 29 months
 - First Plasma December 2011
 - 11 months schedule float
 - Critical path through MC joint design, field period assembly, final machine assembly and startup testing
 - Management (background information only)
 - New organization NCSX given highest institutional priority
 - Improved Reporting
 - Improved Coordination and Execution
 - Increased communications within the Project



PPPL and ORNL Have Initiated Several Actions



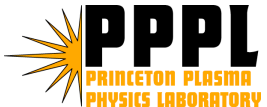
- New interim Project Manager on board and PPPL is well along in the process to bring permanent PM on
- NCSX Project has generated and proposed a new Cost Estimate and Resource Loaded Schedule for Project Rebaseline
- Instituted a structured, consistent process for estimating contingency needs.
- Risk has been identified and quantified, documented in the Risk Register, is tracked and updated monthly
- Enhanced communications within Project Team
- PPPL and ORNL have evaluated out-year staffing requirements and are committed to meeting these
- New systems in place for tracking and reporting status of NCSX Project
- Project Manager, Responsible Line Managers and Job Managers are being held accountable for managing within approved cost, schedule and technical baseline



MOST SIGNIFICANT CHALLENGES MET, SOME REMAIN



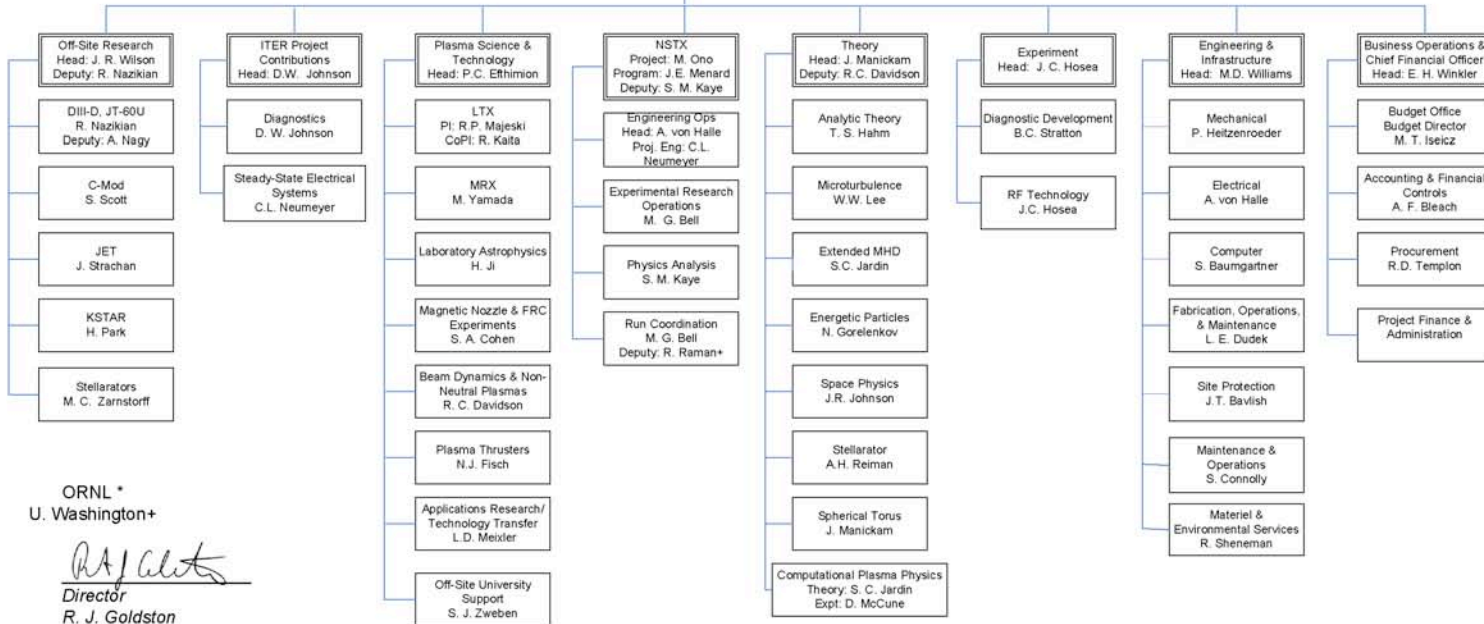
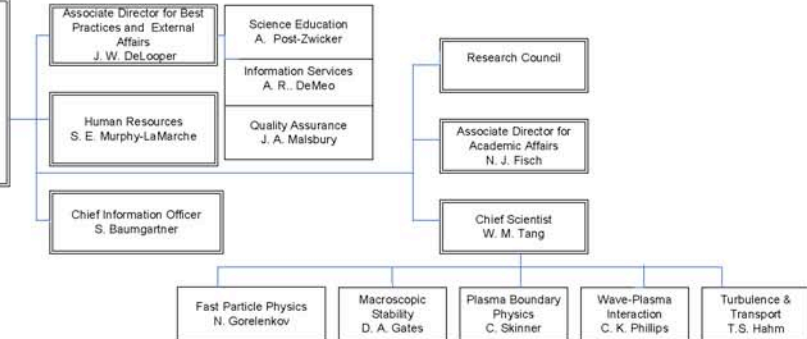
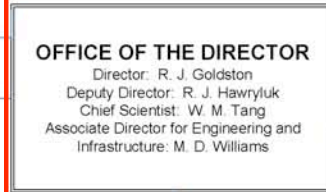
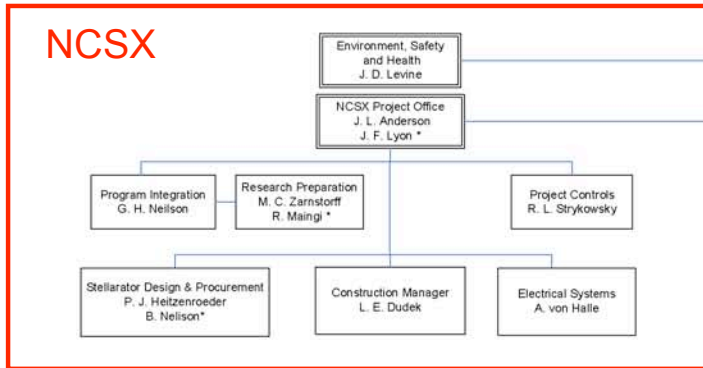
- VACUUM VESSEL DESIGNED AND FABRICATED WITHIN TOLERANCES
- MODULAR COIL WINDING FORMS DESIGNED AND FABRICATED WITHIN TOLERANCES
 - FOURTEEN OF EIGHTEEN COILS FABRICATED, THREE IN PROCESS, LAST WILL BE STARTED SOON
- INITIAL PRE-ASSEMBLY TRIALS DEMONSTRATE THAT MODULAR COILS CAN BE ASSEMBLED WITHIN TOLERANCES
- DETAILED TESTS, MOCK-UPS AND PROTOTYPING ARE INCLUDED IN OUR GO-FORWARD PLANS
- DETAILED PLANS AND PROCEDURES FOR FIELD PERIOD AND MACHINE ASSEMBLY HAVE BEEN GENERATED



NCSX GIVEN HIGHEST PRIORITY

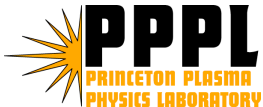


Princeton Plasma Physics Laboratory



ORNL *
U. Washington+

R. J. Goldston
 Director
 R. J. Goldston

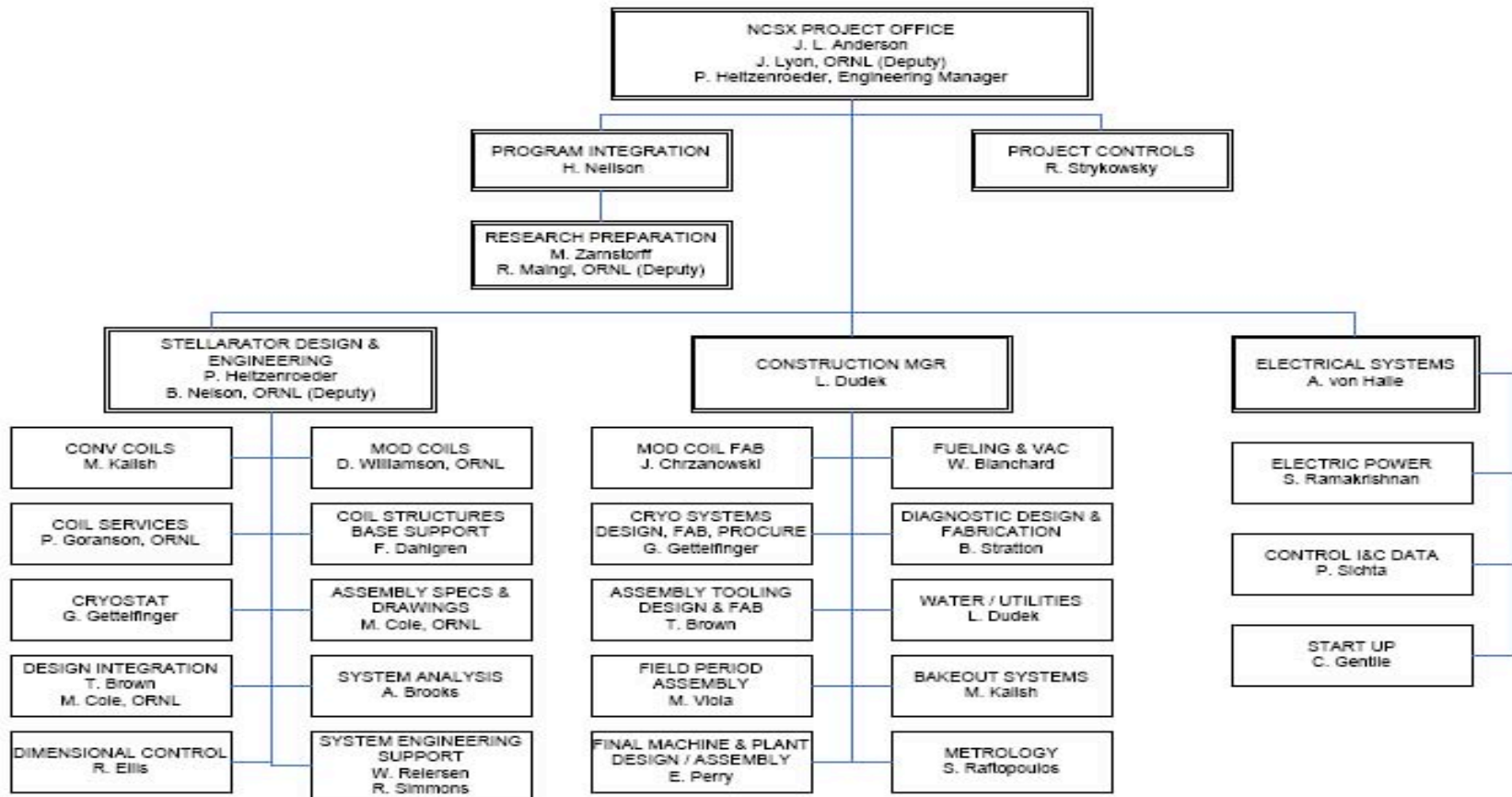


NCSX ORGANIZATION CHART



NCSX Organization

August 16, 2007



NCSX HAS BEEN COMPREHENSIVELY REVIEWED



- Office of Science (Lehman) Review Dec.2006
- Cost Estimate Review (Princeton Univ.) May 2007
- NCSX External Review (Princeton Univ.) June 2007
- Office of Science (Lehman) Review Aug. 2007
- Stellarator Science Review (FESAC) Sept. 2007
- Construction Review (current) Oct. 2007
- ➔ – Office of Science decision on proceeding Dec. 2007
- OECM Review
(*External Independent Review*) tbd



Review Charge Question



1. Is there a high level of confidence, based on the current state of design, that NCSX can be built and maintained within its required tolerances?

Yes! Design 87% completed; procurement and fabrication well advanced. Tests and trials have been successful. We will share with you, over the next two days, our achievements, approach and plans for accomplishing this.

