NCSX Conceptual Design
Kick-off meeting

October 5, 2001

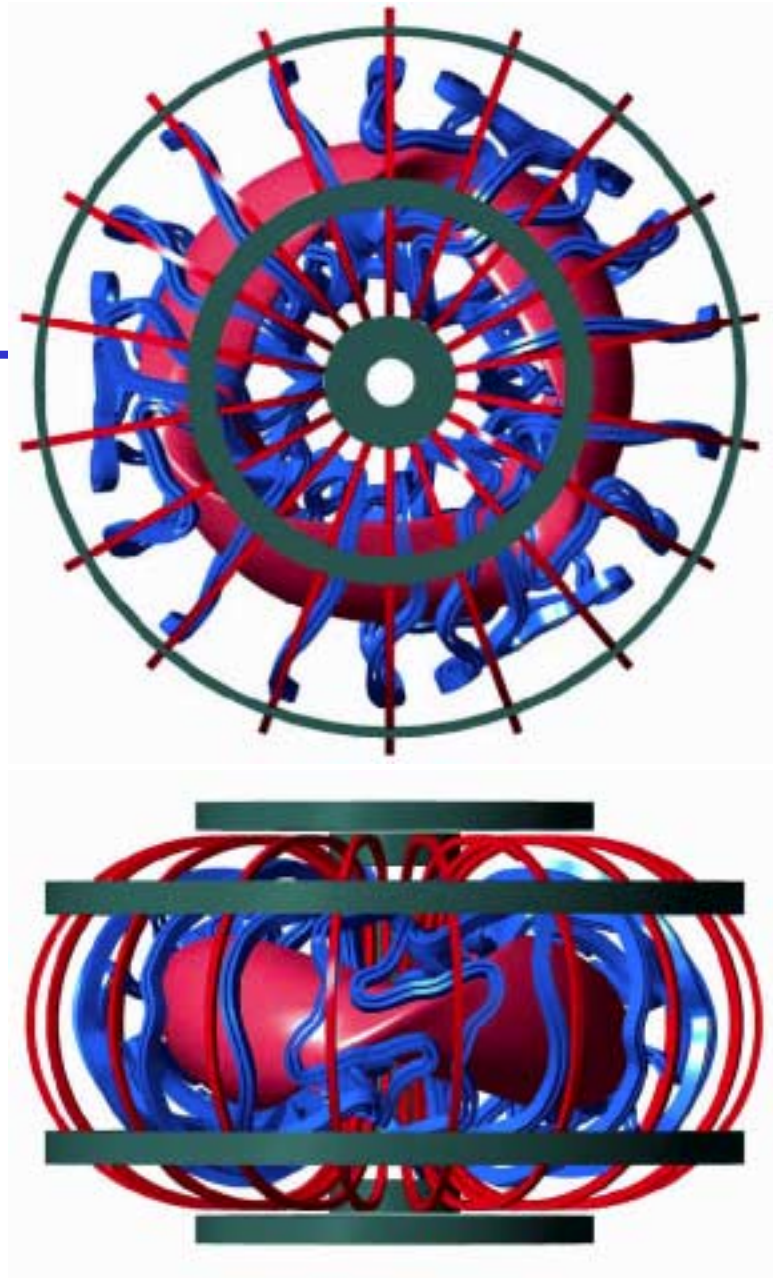
Meeting Objective

- Bring all WBS managers up to speed on CDR preparations

- Lay out plans for finalizing…
  - Scope of work in WBS
  - FY02 budgets and work plans
  - Performance and interface requirements
  - Conceptual design
  - Cost and schedule
  - CDR documentation

Changes since PVR

- Adopted 18-coil modular coil design with no coils on the symmetry planes
- Adopted 18-coil TF design with the TF coil centered on the modular coils rather than between them
- Adopted a 5-coil (rather than 4-coil) PF design
- Still working on developing a buildable modular coil design – target date for completion is October 31



NCSX Conceptual Design Milestones

Milestones	Finish
Reference coil set established for conceptual design	31-Oct-01
Scopes of work and engineering budgets finalized for FY02. Work plans in place through CDR.	8-Nov-01
Start manufacturing studies of modular coils and vacuum vessel	15-Nov-01
Performance requirements finalized for conceptual design	21-Nov-01
Power supply and cooling requirements established for reference scenario	5-Dec-01
Port geometries and port allocations defined	12-Dec-01
Divertor heat loads defined	12-Dec-01
Power supply and cooling requirements established for trim coils	21-Dec-01
NEPA planning form submitted to NEPA Compliance Mgr (Levine)	21-Dec-01
Technical data required to develop conceptual design in place	21-Dec-01
Complete manufacturing studies of modular coils and vacuum vessel	31-Jan-02
NEPA CX package submitted to DOE	31-Jan-02
All project plans completed	15-Feb-02
Complete all technical work for CDR. Start CDR preparations.	15-Feb-02
Cost and schedule estimates finalized	1-Mar-02
Draft CDR documentation completed	15-Mar-02
CDR documentation issued	22-Mar-02
Draft presentations complete	29-Mar-02
Initial dry runs complete	5-Apr-02
Ready for NCSX CDR	12-Apr-02
DOE CX determination complete	12-Apr-02

Near term tasks for WBS managers

- Establish work plans and budgets for FY02
  - Propose work plans and resource requirements consistent with NCSX milestones
- Requirements
  - Review WBS listing and dictionary to make sure it is accurate and complete
  - Develop/review performance requirements to be used as the basis for conceptual design
  - Identify interfacing systems, set target dates for establishing quantitative interface requirements

Work plans

- When in doubt, go to the Web – everything is there
- Download the current work plan to your desktop by right-clicking
- There is a separate worksheet for each WBS
- Edit yours as appropriate
  - Break CDR work scope into separate tasks
  - Identify start-finish dates, linkages, and resource requirements (person-weeks by individual)
  - Try to stay within the initial budget allocation…iIterate work plans and resource requirements with Reiersen et al until we're in the box
- Completed work plans will provide the basis for tracking progress toward the CDR

Strawman budget allocations

	WBS managers	PPPL Engineering and Scientific Staff (person-weeks)																			
	WBS	Chrzanowski	Dudek	Johnson	Kugel	Oliaro	Ramakrishnan	Reiersen	Blanchard	Brooks	Brown	Dahlgren	Designers (mechanical)	Designers (electrical)	Fan	Klink/Gettelfinger	Heitzenroeder	Jun	Majeski	Neumeyer	Other	PPPL total
1	Stellarator core systems	2									8	8	4		20		2					44.0
21	Fueling				1																	1.0
22	Vacuum pumping				1				2													3.0
23	Wall conditioning				1																	1.0
24	RF heating				1														3		1	5.0
25	Neutral beams				4								2								2	8.0
3	Diagnostics			9																		9.0
4	Electrical Power						6							4							2	12.0
5	Central I&C					2.5																2.5
61	Facility mods and test cell prep	2											2									4.0
62	Heating and cooling		2										1									3.0
63	LN2 systems		1										1			3						5.0
64	Utility systems		1																			1.0
7	Machine assembly	4											4								1	9.0
82	Project engineering							33		33	4						10	8				88.0
9	Prep for ops	1																				1.0
	Unspecified																					0.0
	FY02 Proposed Engineering Budget	9.0	4.0	9.0	8.0	2.5	6.0	33.0	2.0	33.0	12.0	8.0	14.0	4.0	20.0	3.0	12.0	8.0	3.0	0.0	6.0	196.5
	FY02 Adv Projects Budget	*3.9*	*4.3*	*8.6*	*6.5*	*2.2*	*4.3*	*38.8*		*38.8*	*8.6*	*8.6*	*9.4*	*4.0*	*25.9*		*14.7*	*8.6*	*4.3*	*4.7*		*196.3*
	FY01 Actuals	*2.4*	*0.7*	*7.6*	*7.1*	*1.5*	*4.5*	*45.2*	*0.0*	*42.8*	*23.7*	*12.8*	*1.5*	*1.8*	*20.9*	*4.3*	*16.2*	*11.4*	*6.5*	*6.0*	*8.6*	*225.5*

Coordination meetings

- A series of coordination meetings is planned to review..
  - Scope of work in WBS
  - Performance and interface requirements
  - Schedules, work plans, and resource requirements

Kick-off meeting	05-Oct-01	-	05-Oct-01
TF, PF, VV, PFCs	09-Oct-01	-	09-Oct-01
Auxiliary systems (WBS 2)	11-Oct-01	-	11-Oct-01
NCSX Project Meeting	16-Oct-01		16-Oct-01
Diagnostics (WBS 3)	18-Oct-01	-	18-Oct-01
Electrical Power (WBS 4)	23-Oct-01	-	23-Oct-01
Central I&C (WBS 5)	25-Oct-01	-	25-Oct-01
Site and Facilities (WBS 6)	30-Oct-01	-	30-Oct-01
Machine Assembly (WBS 7), Prep for Ops (WBS 9)	01-Nov-01	-	01-Nov-01
APS Meeting	29-Oct-01		02-Nov-01
Final requirements review	07-Nov-01		07-Nov-01
PAC Meeting	14-Nov-01		15-Nov-01
Finalize scopes of work and engineering budgets for FY02. Work plans defined through CDR.	08-Nov-01	-	08-Nov-01
Finalize requirements for conceptual design	07-Nov-01	2	**21-Nov-01**