

Feb 18, 2009

Respon.	Item	Date	Notes
	1. Project		
Egebo	<ul style="list-style-type: none"> Progress on the Primivera entry of the plan 	Feb 28, 2009	Updated 2/18-In Progress
	2. Design Requirements		
Neumeyer	<ul style="list-style-type: none"> General Requirements Document - DRAFT (Signed off by?) 	Feb 28, 2009	Updated 2/11-Waiting for comments from menard and Ono. Need PFC heat loads which will come from scheduled meeting Raj. Still on track.
Neumeyer	<ul style="list-style-type: none"> A more limited OH and PF operating envelope needs to be developed for the design basis assumption 	GRD updt: 2/28 Menard equilibria: TBD	Updated 2/11-Developing a graded approach to design first for worst case and then relax requirements if that doesn't work. Will be added to the GRD. Menard to provide more information on the "expected envelop".
Neumeyer	<ul style="list-style-type: none"> A coil protection system needs to be incorporated into the project plans to ensure that the envelope is suitably constrained. 	Plan by 2/28	Not included in the current plans, but will be estimated into the CDR plan. RIS replacement? Initiated Neumeyer to come up with a plan Action:Neumeyer
	3. TF Bundle		
Hatcher	<ul style="list-style-type: none"> Disruption loads have not yet been factored in. The application of a dynamic load factor less than 1.0 seems appropriate due to the impulse nature of the disruption loading. 	Mar 15, 2009	Ron using opera to develop model
Woolley	<ul style="list-style-type: none"> Preliminary results suggest that the turn-turn insulation shear in the TF bundle is within the allowable stress limit even without the implementation of a torque collar below the TF joint, above the OH coil. <ul style="list-style-type: none"> Further analysis is needed to confirm this finding <ul style="list-style-type: none"> <i>Additional analysis should be performed to determine if the same is true without any torsional restraint at the ends of the TF bundle, i.e. if the spline/umbrella load path is eliminated</i> 	Feb 18, 2009	Memo documenting results in a couple weeks.
	4. TF Bundle Joint Connection		
Woolley	<ul style="list-style-type: none"> Are bolts below the flex accessible? 	TBD	
	<ul style="list-style-type: none"> What design and fabrication method is appropriate for the flex connector, providing the necessary IP and OOP flexibility, while being able to withstand the forces without fatigue failure? <ul style="list-style-type: none"> <i>braid connection</i> <i>cable connection</i> <i>water-jet connection</i> 		Requires concept to determine
Woolley	<ul style="list-style-type: none"> What joint/flag flexibility is appropriate, in-plane (IP)? 	Feb 11, 2009	
Woolley	<ul style="list-style-type: none"> What joint/flag flexibility is appropriate, out-of-plane (OOP)? 	Feb 11, 2009	
Woolley	<ul style="list-style-type: none"> How does the OOP of flexibility relate to the gap between the flex connector and the OOP support structure? 	Feb 11, 2009	
woolley	<ul style="list-style-type: none"> Options for the female side of the bolting need to be assessed, including use of inserts versus the use of bolting plates embedded in the copper 		
woolley	<ul style="list-style-type: none"> <i>It would be desirable for the bolts to provide both contact pressure and a reaction against shear loading due to the vertical force on the flex</i> 		
Woolley	<ul style="list-style-type: none"> Document OOP and IP loading 	Feb 18, 2009	
	5. Umbrella Structure & Outer TF Leg		
Heitzenroeder	<ul style="list-style-type: none"> Need to develop a plan to deal with the items below 	Feb 11, 2009	
Heitzenroeder	<ul style="list-style-type: none"> Enhance the umbrella structure to reduce stresses due to twist and bulge by adding welded or bolted material in configuration TBD. 		Updated 2/11-Sri is finishing up a model of the umbrella with mechanical enhancements.
Heitzenroeder	<ul style="list-style-type: none"> Enhance the umbrella structure to reduce loading on the cast aluminum clamps 		
Heitzenroeder	<ul style="list-style-type: none"> Enhance the existing turnbuckle system to improve its strength and stiffness but without relocation or modification which would exceed the present physical envelope 	Feb 25, 2009	Updated 2/18: Han has model running, should have some results next Wednesday. Han will look at removing turnbuckles and replacing with a cross bracing and 2 "hoop" reinforcement.
Heitzenroeder	<ul style="list-style-type: none"> Preliminary results suggest that the umbrella lids, if made of the appropriate thickness, could provide their torque restraint function without the implementation of a spline gear for thermal expansion. This needs to be confirmed by further analysis including buckling of the center column. If deployed symmetrically on top and bottom, would allow the thermal expansion to be equalized about the midplane, which is advantageous 		Updated 2/11-Heitzenroeder has developed a concept that incorporates the thin umbrella lid. When B. Paul is available (next week) he will layout the concept.
	6. Vacuum Vessel Structure		
Heitzenroeder	<ul style="list-style-type: none"> The most appropriate way forward appears to include the following actions which require further study, development, and analysis: 		Updated 2/18:HM Analysis of the RF region shows that the stress max is around 42 ksi. Need to run model with the RF ports incorporated to see if the that section of the vessel is strong enough without reinforcement
Heitzenroeder	<ul style="list-style-type: none"> Enhance the VV midplane strength by welding a band of material around the inner surface of the midplane, where interferences are relatively minor. 	Progress report next week 2/18	Update 2/18: Han is near results on this model. Updated 2/11- HM is modifying the NB port model by removing the midsection and replacing with the RF port openings. Sri working on a 360 degree model. Han will help asm the 360 model. Han will look at removing turnbuckles and replacing with a cross bracing and 2 "hoop" reinforcement.
	7. Cooling Water		
Dudek	<ul style="list-style-type: none"> Need to assign engineer to perform this work 	Feb 28, 2009	
	8. New 2/18		
Neumeyer	How do we downselect the concepts to just a few.		Update 2/18 Will meet 9:30 Thursday 2/26. To downselect designs Plan on meeting end of the month to decide
Titus	Need Ansys analysis of the current streamlining to determine if the Heitznroeder concept works. ie low forces in joint	Feb 25, 2009	Pete can look at the streamlining if Phil supplies the 2d dimensions
Titus	Feltmetal vs Silver to Silver Contact joints should be looked at. MAST has done research on the feltmetal joints comparing it to Silver plated joints.	Feb 25, 2009	Pete will send plots of data
	COMPLETED ITEMS		
Perry	Look at inside of Vessel and determine where reinforcement can be added.	2/11/09 12:00 A	Midplane in RF region is cluttered Erik to provide link to for photos of internal hardware
Woolley	<ul style="list-style-type: none"> Whether bolting below the flex is feasible or not depends on what the allowable current density is and the area lost to bolting? Analysis should be performed to assess this as soon as possible 	Feb 11, 2009	Memo documenting results issued on 2/11
Chrzanowski	Designer Priorities		Updated 2/11-Begin DC Power design in March. Paul working on bus designs. Will be looking on new design concepts for the centerstack bundle. Will be bringing in a new designer to support the Electrical Work. Rich Upcavage to be free at the end of the month to start on the OH work.
Chrzanowski	Sent out request for interest for the copper TF bundle conductor both in and extruded and in a machined configuration	2/11/09 12:00 A	Jim received a response from a vendor that the conductor can be made with a side groove. Can't be made with and extruded hole. Will request a price to fabricate.
Fan	Consider measurements on NSTX using accelerometers may shed light on what what factor is appropriate.	TBD	HM to come up with locations for accelerometers. Titus analysis also indicating there may be some excitation. Only disruption needs to be considered, factor should be less than one (1). Sensors should only need to be on passive and divertor plates. Rise time and flat top are 1 and 5 second respectively which is much less than 12 hz resonant frequency. Low priority at this time.
Perry	General arrangement drawings for test cell	Ongoing	Erik is the space czar any changes should be run through him.