

Feb 25, 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 | 2/25: Need Raki input for prototype work |
| Chrzanowski | <ul style="list-style-type: none"> Status of designer assignments | Ongoing | Updated 2/25: New ProE designer started today, HR has 2 reqs for designers. |
| | 2. Design Requirements | | |
| Neumeyer | <ul style="list-style-type: none"> General Requirements Document - DRAFT (Signed off by?) | Feb 28, 2009 | 2/25: Masa and Jon have it for approval. 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: 3/15 | 2/25: Latest version has been posted. |
| 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 3/15 | In progress. 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 22, 2009 | 2/25: NSTX startup has had an impact on this, 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? <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> | TBD | 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 <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. | Ongoing | Updated 2/11-Sri is finishing up a model of the umbrella with mechanical enhancements. |

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| 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 | Ongoing | Updated 2/25: Han has model running, there appear to be some inconsistencies in the model that need troubleshooting |
| 6. Vacuum Vessel Structure | | | |
| 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. | Ongoing | 2/25: Sri presented first cut at 360 deg. midplane model. peak stresses look good at < 30ksi. |
| 7. Cooling Water | | | |
| Dudek | <ul style="list-style-type: none"> Need to assign engineer to perform this work | Feb 28, 2009 | 2/15: New personnel requisition or BOA will be used to fill. |
| 8. New 2/18 | | | |
| Perry | <ul style="list-style-type: none"> Can diamond cross braces as shown on Hans model be installed on the machine? If Not which bays could receive the upgrade? | Mar 3, 2009 | 2/25: Erik to review the machine and report on which bays could be upgraded. |
| COMPLETED ITEMS | | | |
| Heitzenroeder | 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 | Feb 25, 2009 | Updated 2/25: Model of ebeam welded "stub joint" was presented. |
| Titus | Need Ansys analysis of the current streamlining to determine if the Heitzenroeder concept works. ie low forces in joint | Feb 25, 2009 | Complete: 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 | Completed |
| 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 |