UITF Wien filter “Traveler” checklist last updated May 11 2020

Carlos Hernandez-Garcia

|  |  |  |
| --- | --- | --- |
| **Task** | **Start Date** | **Complete on Date / by (name)** |
| 1. Check Matsusada power supplies and ensure they are locked off. |  |  |
| 2. Remove DecaRads from around Wien. |  |  |
| 3. Disconnect HV leads from Wien |  |  |
| 4. Give Wien to MMF for a week (Joe Meyers) |  |  |
| 5. Take UITF Wien (it's on a cart) back to TL1137 |  |  |
| 6. Remove Iron yoke and coils |  |  |
| 7. Move Wien to clean room |  |  |
| 8. Un-bolt and remove crosses at both ends. The crosses have the ion pumps |  |  |
| 9. Un-bolt and remove 8" flanges at both ends |  |  |
| 10. Remove end plates |  |  |
| 11. Un-bolt and remove 2-3/4" HV feedthrough flanges. Be careful not to drop springs |  |  |
| 12. Slide the two pieces of silk-covered flatbars to support the electrode |  |  |
| 13. Un-screw electrode spring holder and remove from one side, being very careful to let the electrode rest on the silk-covered flatbars |  |  |
| 14. Repeat 11 but now from the opposite side |  |  |
| 15. Carefully, slide out of the chamber one electrode at a time, and place on cloth lint free laying on table. Take pictures to document condition of ceramic standoffs |  |  |
| 16. Repeat 13 for the other electrode |  |  |
| 17. If ceramic standoffs are ‘stained’ (likely by high voltage), remove them and clean them off using scotchbrite or sand paper. Follow by ultrsonic bath in iso-propanol |  |  |
| 18. Install ceramic stand back but using ceramic screws instead of the existing metallic screws |  |  |
| 19. Using the silk-covered flatbars resting inside the vacuum chamber, slide one of the electrode plates. Repeat for the opposite electrode plate |  |  |
| 20. Screw in the electrode mounting spring on one end. The electrode plates might have to be lifted to ensure the ceramic standoff inserts into the electrode mounting spring hole. Screw in the ceramic screw to secure each electrode plate to the electrode mounting spring |  |  |
| 21. Screw electrode mounting spring to the vacuum chamber ensuring to place the spacer between the vacuum chamber tapped hole and the electrode mounting spring |  |  |
| 22. Repeat 19 from the opposite chamber side |  |  |
| 23. Remove the silk-covered flatbars after the electrode mounting spring is secured to the vacuum chamber |  |  |
| 24. Replace existing HV feedthrough springs with non-magnetic springs (The non-magnetic springs are in the clean room drawer cabinet) |  |  |
| 25. Put new silver plated 2-3/4” gaskets on the HV feedthroughs and carefully insert them with the non-magnetic springs, ensuring the springs go into the high voltage electrode plate recess |  |  |
| 26. Bolt down 2-3/4” feedthrough conflat flanges |  |  |
| 27. Put new silver plated 8” gaskets at both ends and bolt down flanges back |  |  |
| 28. Put new silver-plated 2-3/4” gaskets on both 8” flanges |  |  |
| 29. Bolt down crosses with ion pumps at both ends of the vacuum chamber |  |  |
| 30. Move out of clean room |  |  |
| 31. Setup for bake 200 C for ~30 hours |  |  |
| 32. Upon cool down back to room temperature, move assembly to UITF enclosure |  |  |
| 33. Connect ion pumps to VIPK201 and VIPK202 ion pump controllers through the ion pumps junction box. |  |  |
| 34. Ensure VIPK201 and VIPK202 ion pumps are connected to local controllers during the Wien HV test. |  |  |
| 35. Install coils and connect them to terminal board mounted to the beam line 80/20 frame |  |  |
| 36. Install iron yokes |  |  |
| 37. Mount DecaRad probes at both viewport windows on each end of the vacuum chamber |  |  |
| 38. Connect HV cables to HV feedthroughs |  |  |
| 39. Remove locks from Matsusada Power supplies and turn back on. Press HV Enable button. |  |  |
| UITF Wien is ready for high voltage testing.  |  |  |