#	Origin	Summary	Action
1	Anderson	Analyze bolted joint at end of e-beam welded flag	e-beam dropped
2	Anderson	Measure contact surfaces of existing assembly to determine achievable precision	Chrzanowski
3	Reiersen	Can voltage taps pick up locally high contact resistance at far corner?	Brooks
4	Reiersen	a. Add upper tier to FEM	Zatz
		b. How are allowables for collar wet lay-up derived from test data?	Kalish
5	Reiersen	Use actual distribution of contact pressure in analysis of joint heating	Zatz/Brooks
6	Dudek	Analyze bundle stress considering back-back cooling tubes	Zatz
7	Titus	Add insert strip behind coolant tube to improve hoop pressure distribution	Chrzanowski
8	Reiersen	Perform analysis over the range of conditions to establish design margins and operating envelope	Zatz
9	Reiersen	How will operating envelope be chosen to ensure Tpeak<120C, given variability of contact resistance? Consider temperature monitoring.	Neumeyer
10	Reiersen	Reconsider design assumption for nominal contact resistance.	Neumeyer
11	Reiersen	Document design criteria, considering creep and fatigue at elevated temperatures	Zatz
12	Reiersen	Comprehensive assessment of design margins lacking.	See 8
13	Reiersen	Perform cyclic testing at elevated temperature	Kalish
14	Reiersen	Perform friction tests on prototype joint	Disagree
15	Reiersen	Copper fatigue criteria should be based on 120C	See 11
16	Titus	Express margin as contact pressure/req'd contact pressure	Zatz
17	Titus	Use Fuji paper to confirm adequate pressure	Kalish
18	Titus	Quantify spline load with thermal expansion of inner leg, confirm that it always helps	Zatz
19	Titus	If spline shows no scuffing, are the lateral loads being taken by the flex joints (which would load the flags?)	Zatz
20	Titus	a. Perform fatigue test on e-beam weld	e-beam dropped
		b. Test max/min friction coefficient	Kalish
		c. Add fillet radius to e-beam joint	e-beam dropped
21	Titus	a. Analyze high friction-no thermal case	Zatz
		b. Are box bolts to ring modeled discretely or is the model merged?	Zatz
		c. Exercize model with fit-up variations	Zatz
		d. Include proper friction between box and flag	Zatz
22	Titus	Include loads due to eddy currents in hubs	Neumeyer
23	Titus	Concern about high friction case	See 21a
24	Titus	Perform local analysis of interface to see if fabrication tolerances are such that joint contact is maintained everywhere	See 17
25	Voss	Consider shear dog	Kalish
26	Titus	Investigate sleeve bladder to eliminate seals at ends of boxes during potting	Chrzanowski
27	Titus	a. Consider Inconel 718 studs preloaded to 0.9 yield	Kalish
		b. Add more bellevilles	Kalish
28	Hawryluk	a. Consider out of plane loads	Neumeyer/Zatz
		b. Consider high friction, low termperature case	Zatz
29	Dudek	Analyze pitting on existing flags to understand cause	Dudek
30	Bell	What is min contact pressure without shear key and box?	See 8
31	Dudek	Need to perform fatigue tests on collar wet lay-up	Kalish
32	Voss	Run transient analysis for e-beam welded joint	e-beam dropped
33	Hawryluk	Consider removal of centerstack to facilitate TF reassembly. Perform schedule impact.	Chrzanowski
34	Hawryluk	FMEA for e-beam welded joint	e-beam dropped
35	Hawryluk	Is there enough room for a stud tensioner? Are the studs long enough?	Kalish
36	Titus	Add fillet radius to e-beam joint.	e-beam dropped
37	Voss	Add fillet radius to e-beam joint.	e-beam dropped
38	Irby	Electro-form instead of e-beam weld.	e-beam dropped
39	Dudek	Run taplok tests at actual bolt-to-taplok engagements	Kalish
40	Irby	Consider continuous monitoring of joint resistance	Marsala
41	Irby	Use contact film (Fuji paper)	See 17
42	Voss	Install linear position sensors to measure thermal displacement of TF inner leg assembly	Schneider
43	Anderson	Recommend monitoring of thermal growth of centerpost	See 42
44	Voss	Consider strain gauges to measure stresses in hub to determine load distribution	Zatz/Marsala
45	Voss	Cyclic loading may cause friction joint to "walk" causing more load to be passed to shear pin	Zatz
46	Petersen	Establish upper limit on allowable joint resistance during maintenance measurement	Neumeyer
47	Bell	Maintain 2kV CHI capability	Out of scope
48	Bonanos	a. Is bolt hotter than flag at any time during pulse sequence?	Kalish
		b. Does bolt carry current and lengthen?	Neumeyer
		c. Add more belleville washers in series	Kalish
49	Reiersen	Establish allowables and performance for pin connection	See 11
50	Reiersen	Conduct pre-ops tests with deflection measurements to confirm predicted behavior	Neumeyer
51	Irby	More analysis needed of pitting damange	See 29
52	Mueller	Consider use of short bolts and making the flags more flexible	Disagree
53	Lewicki	Consider use of threaded shear keys	Kalish