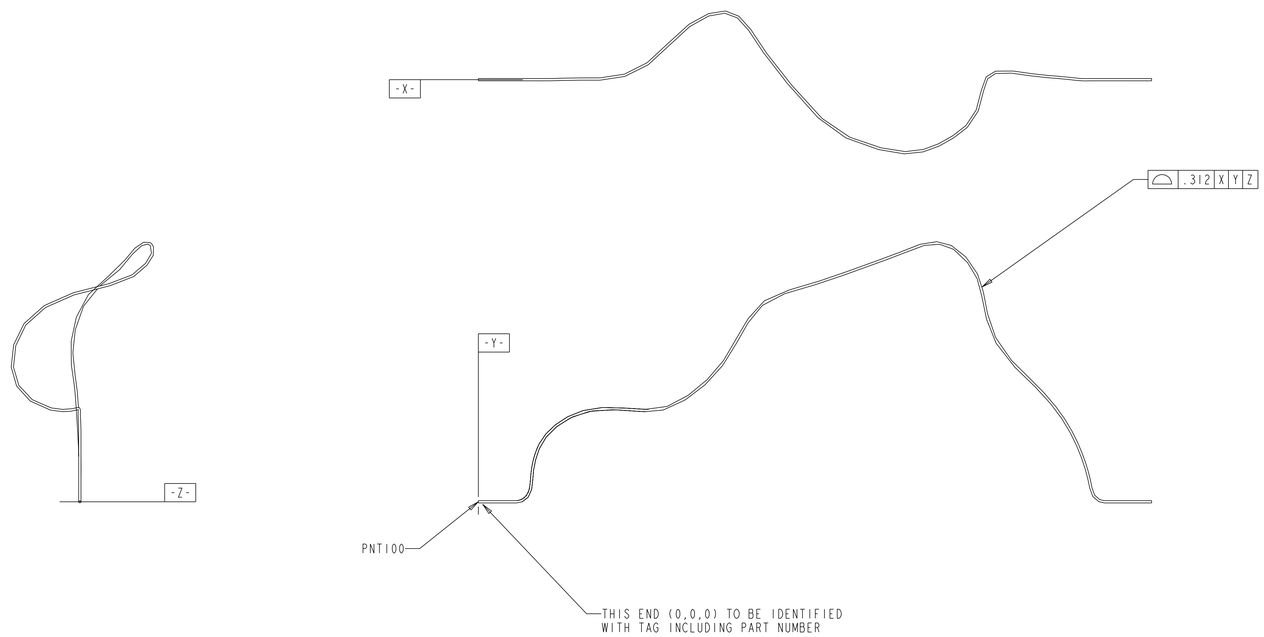
NEXT ASS'Y: FINAL ASS'Y:

NOTES

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
2. DIMENSIONS ARE IN INCHES.
3. FABRICATION AND MATERIALS PER NCSX-CSPEC-123-01
4. PROFILE TOLERANCE OF TUBE SURFACE IS BILATERAL, I.E. 0.156" ANY DIRECTION OFF REFERENCE SURFACE.
5. ALL TUBE BEND RADII ARE 5/8" TO CENTERLINE OF TUBE.
6. DATUM POINTS ON CHART ARE THEORETICAL INTERCEPTS OF THE TUBE CENTERLINE. BEND RADII ARE OMMITTED. PROFILE TOLERENCE INCLUDES ALLOWANCES FOR THE RADII ERRORS.

Point Name	X	Y	Z
PNT100	0.000	0.000	0.000
PNT101	5.244	-0.000	-0.000
PNT102	6.288	0.345	-0.000
PNT103	6.976	1.210	-0.000
PNT104	7.195	2.138	-0.000
PNT105	7.370	4.149	-0.000
PNT106	7.618	5.541	-0.000
PNT107	8.020	6.895	-0.000
PNT108	8.453	7.862	-0.000
PNT109	9.015	8.760	-0.000
PNT110	9.631	9.495	-0.000
PNT111	10.463	10.263	0.002
PNT112	11.153	10.789	-0.029
PNT113	11.933	11.288	-0.059
PNT114	12.648	11.670	-0.078
PNT115	13.337	11.972	-0.087
PNT116	13.936	12.187	-0.086
PNT117	14.716	12.406	-0.078
PNT118	15.397	12.547	-0.072
PNT119	16.142	12.654	-0.074
PNT120	17.064	12.727	-0.105
PNT121	17.987	12.744	-0.185
PNT122	18.731	12.725	-0.295
PNT123	19.578	12.679	-0.481
PNT124	20.352	12.622	-0.716
PNT125	21.052	12.567	-0.987
PNT126	21.679	12.522	-1.281
PNT127	22.237	12.489	-1.587
PNT128	22.873	12.466	-1.988
PNT129	23.482	12.466	-2.431
PNT130	23.975	12.490	-2.834
PNT131	24.406	12.533	-3.217
PNT132	24.823	12.599	-3.614
PNT133	25.227	12.689	-4.019
PNT134	25.621	12.804	-4.427
PNT135	26.008	12.942	-4.835
PNT136	26.354	13.085	-5.197
PNT137	26.739	13.261	-5.592
PNT138	27.089	13.435	-5.938
PNT139	27.522	13.666	-6.343
PNT140	27.923	13.893	-6.694
PNT141	28.370	14.163	-7.058
PNT142	28.863	14.484	-7.428
PNT143	29.357	14.834	-7.768
PNT144	29.974	15.312	-8.149
PNT145	30.545	15.798	-8.457
PNT146	31.068	16.281	-8.701
PNT147	31.584	16.791	-8.901
PNT148	32.012	17.243	-9.036
PNT149	32.544	17.841	-9.160
PNT150	33.059	18.464	-9.229
PNT151	33.619	19.201	-9.238
PNT152	34.075	19.869	-9.187
PNT153	34.579	20.704	-9.056
PNT154	35.013	21.500	-8.865
PNT155	35.426	22.286	-8.603
PNT156	35.810	22.999	-8.288
PNT157	36.223	23.719	-7.878
PNT158	36.610	24.351	-7.425
PNT159	37.048	25.012	-6.842
PNT160	37.513	25.648	-6.161
PNT161	37.988	26.224	-5.434
PNT162	38.510	26.767	-4.632
PNT163	39.033	27.221	-3.853
PNT164	39.813	27.750	-2.755
PNT165	40.585	28.134	-1.740
PNT166	41.430	28.452	-0.685
PNT167	42.407	28.755	0.497
PNT168	43.435	29.053	1.715
PNT169	44.328	29.312	2.748
PNT170	45.087	29.535	3.597
PNT171	46.017	29.819	4.583
PNT172	46.811	30.067	5.359
PNT173	47.710	30.358	6.152
PNT174	48.613	30.664	6.835
PNT175	49.258	30.889	7.254
PNT176	50.186	31.218	7.768
PNT177	51.199	31.581	8.234
PNT178	52.181	31.939	8.609
PNT179	53.400	32.387	9.005
PNT180	54.294	32.711	9.271
PNT181	55.366	33.091	9.555
PNT182	56.394	33.453	9.772
PNT183	57.481	33.859	9.932
PNT184	58.506	34.284	9.985
PNT185	59.581	34.745	9.919
PNT186	60.555	35.095	9.751
PNT187	61.774	35.350	9.403
PNT188	62.857	35.364	8.959
PNT189	63.724	35.208	8.515
PNT190	64.719	34.799	7.915
PNT191	65.605	34.198	7.303
PNT192	66.527	33.306	6.566
PNT193	67.152	32.526	5.954
PNT194	67.728	31.669	5.173
PNT195	68.211	30.775	4.098
PNT196	68.639	29.533	2.543
PNT197	68.870	28.497	1.512
PNT198	69.161	26.995	0.477
PNT199	69.569	25.157	-0.294
PNT200	70.138	23.278	-0.827
PNT201	70.984	21.522	-1.113
PNT202	72.096	19.969	-1.102
PNT203	73.210	18.740	-0.950
PNT204	74.389	17.516	-0.770
PNT205	75.755	16.244	-0.643
PNT206	77.168	14.781	-0.543
PNT207	78.464	13.297	-0.415
PNT208	79.798	11.528	-0.260
PNT209	80.878	9.808	-0.113
PNT210	81.829	7.923	-0.000
PNT211	82.484	6.260	-0.000
PNT212	82.946	4.863	-0.000
PNT213	83.304	3.599	-0.000
PNT214	83.592	2.424	-0.000
PNT215	83.768	1.602	-0.000
PNT216	84.120	0.765	-0.000
PNT217	84.805	0.174	-0.000
PNT218	85.563	-0.000	-0.000
PNT219	92.000	0.000	0.000



RELEASED FOR FABRICATION / INSTALLATION
PPPL Drafting: Jerry Siegel 2005.06.24 13:44:54 -05'00'

APPROX TUBE LENGTH = 142.0 IN

3	AR		-1	COOLANT TUBE 12-2	316L SS 5/16"-.032 WALL	SEE NOTE 4	1
SE123-120	-1	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
		NEXT ASSEMBLY	PARTS LIST				

SE123-122 B

-1 COOLANT TUBE 12-2
SCALE .125

P THIS DRAWING PRODUCED ON PRO-ENGINEER

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
1	⚠ PER ECN NO. 5003	MJC	6/24/05	PLG								

REVISION OR ISSUE PURPOSE — REVISION APPROVAL

SCALE NOTED
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS :
XX DECIMALS ±.01
XXX DECIMALS ±.005
ANGLES ±0°15'
BREAK SHARP EDGES .06 MAX
FINISH .125 UNLESS OTHERWISE SPECIFIED

DES	P GORANSON	4-22-05
DRW	G MCGINNIS	4-22-05
CHK	G.H. JONES	05-04-05
SECT	:	:
DEPT	:	:
PE	:	:
CR	:	:
PJ	:	:
REQ	:	:
PPPL DRFT	:	:
	:	:
	:	:
DRAWING APPROVALS		DATE

UT-BATTELLE
Oak Ridge National Laboratory
managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725
UT-BATTELLE, LLC. Oak Ridge, Tennessee

PROJECT NAME
NATIONAL COMPACT STELLARATOR EXPERIMENT

VACUUM VESSEL HEATING/COOLING
COOLANT TUBE 12-2
DETAIL

VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
0	ORNL	5700	3	1	1	S	U

RELEASE LEVEL: Fabrication
SE123-122 REV 1