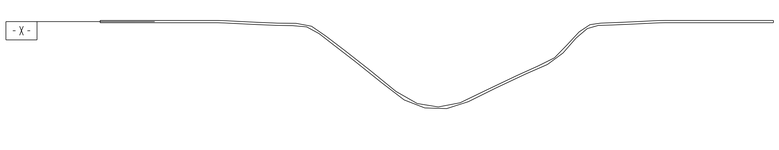
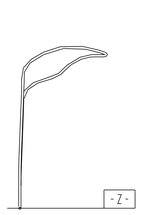
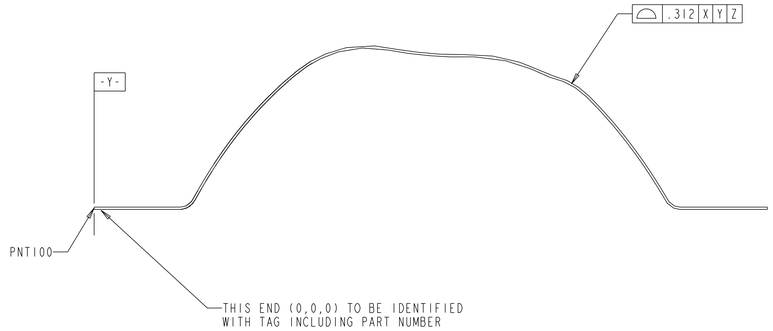
Point Name	X	Y	Z
PNT100	0.000	0.000	0.000
PNT101	11.809	0.000	-0.000
PNT102	12.444	0.101	0.000
PNT103	13.101	0.464	0.000
PNT104	13.575	1.044	0.000
PNT105	14.028	1.870	0.000
PNT106	14.439	2.599	0.000
PNT107	14.820	3.255	0.000
PNT108	15.222	3.929	0.000
PNT109	15.618	4.575	0.000
PNT110	15.980	5.151	0.000
PNT111	16.706	6.272	0.014
PNT112	17.132	6.909	0.037
PNT113	17.605	7.598	0.063
PNT114	18.088	8.279	0.088
PNT115	18.664	9.066	0.118
PNT116	19.168	9.733	0.144
PNT117	19.724	10.447	0.172
PNT118	20.336	11.205	0.202
PNT119	20.827	11.794	0.225
PNT120	21.646	12.742	0.262
PNT121	22.630	13.824	0.301
PNT122	23.693	14.928	0.338
PNT123	24.737	15.952	0.376
PNT124	25.708	16.850	0.421
PNT125	26.757	17.766	0.461
PNT126	27.832	18.651	0.469
PNT127	28.486	19.148	0.620
PNT128	29.177	19.625	0.956
PNT129	29.947	20.093	1.484
PNT130	30.863	20.568	2.196
PNT131	31.965	21.050	3.029
PNT132	32.979	21.407	3.800
PNT133	34.002	21.684	4.593
PNT134	35.087	21.893	5.441
PNT135	36.289	22.028	6.382
PNT136	37.431	22.060	7.295
PNT137	38.614	21.992	8.267
PNT138	39.685	21.852	9.147
PNT139	40.832	21.652	10.033
PNT140	41.990	21.444	10.778
PNT141	43.056	21.291	11.267
PNT142	44.185	21.162	11.599
PNT143	45.348	21.044	11.782
PNT144	46.596	20.935	11.805
PNT145	47.769	20.857	11.666
PNT146	48.910	20.824	11.357
PNT147	50.067	20.836	10.874
PNT148	51.071	20.848	10.390
PNT149	52.068	20.837	9.891
PNT150	53.313	20.766	9.271
PNT151	54.312	20.655	8.788
PNT152	55.495	20.460	8.229
PNT153	56.669	20.204	7.674
PNT154	57.772	19.899	7.161
PNT155	58.924	19.504	6.642
PNT156	60.061	19.046	6.143
PNT157	61.175	18.549	5.630
PNT158	62.140	18.112	5.102
PNT159	63.111	17.760	4.285
PNT160	63.844	17.575	3.373
PNT161	64.763	17.221	2.294
PNT162	65.692	16.690	1.404
PNT163	66.614	16.011	0.747
PNT164	67.314	15.400	0.457
PNT165	67.963	14.764	0.388
PNT166	68.544	14.168	0.367
PNT167	69.169	13.506	0.342
PNT168	69.867	12.740	0.314
PNT169	70.501	12.022	0.288
PNT170	71.133	11.282	0.261
PNT171	71.813	10.459	0.231
PNT172	72.547	9.539	0.198
PNT173	73.322	8.531	0.162
PNT174	74.005	7.610	0.128
PNT175	74.879	6.383	0.084
PNT176	75.658	5.242	0.043
PNT177	76.491	3.970	0.000
PNT178	76.981	3.189	0.000
PNT179	77.393	2.516	0.000
PNT180	77.866	1.725	-0.000
PNT181	78.216	1.020	0.000
PNT182	78.679	0.523	0.000
PNT183	79.315	0.135	0.000
PNT184	80.048	-0.000	-0.000
PNT185	92.000	0.000	0.000

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.







RELEASED FOR FABRICATION / INSTALLATION
PPPL Drafting: Jerry Siegel 2005.06.24 13:15:48 -05'00'

APPROX TUBE LENGTH = 117.2 IN

-1 COOLANT TUBE 1-2
SCALE .125

3	AR	X		-1	COOLANT TUBE 1-2	316L SS 5/16"-.032 WALL	SEE NOTE 4	1
SE123-065	-		CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
			NEXT ASSEMBLY	PARTS LIST				

SE123-067 B

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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

DRAWING APPROVALS		DATE
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	:	:
	:	:
	:	:

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 1-2 DETAIL

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

RELEASE LEVEL: Fabrication — SE123-067 — REV 1