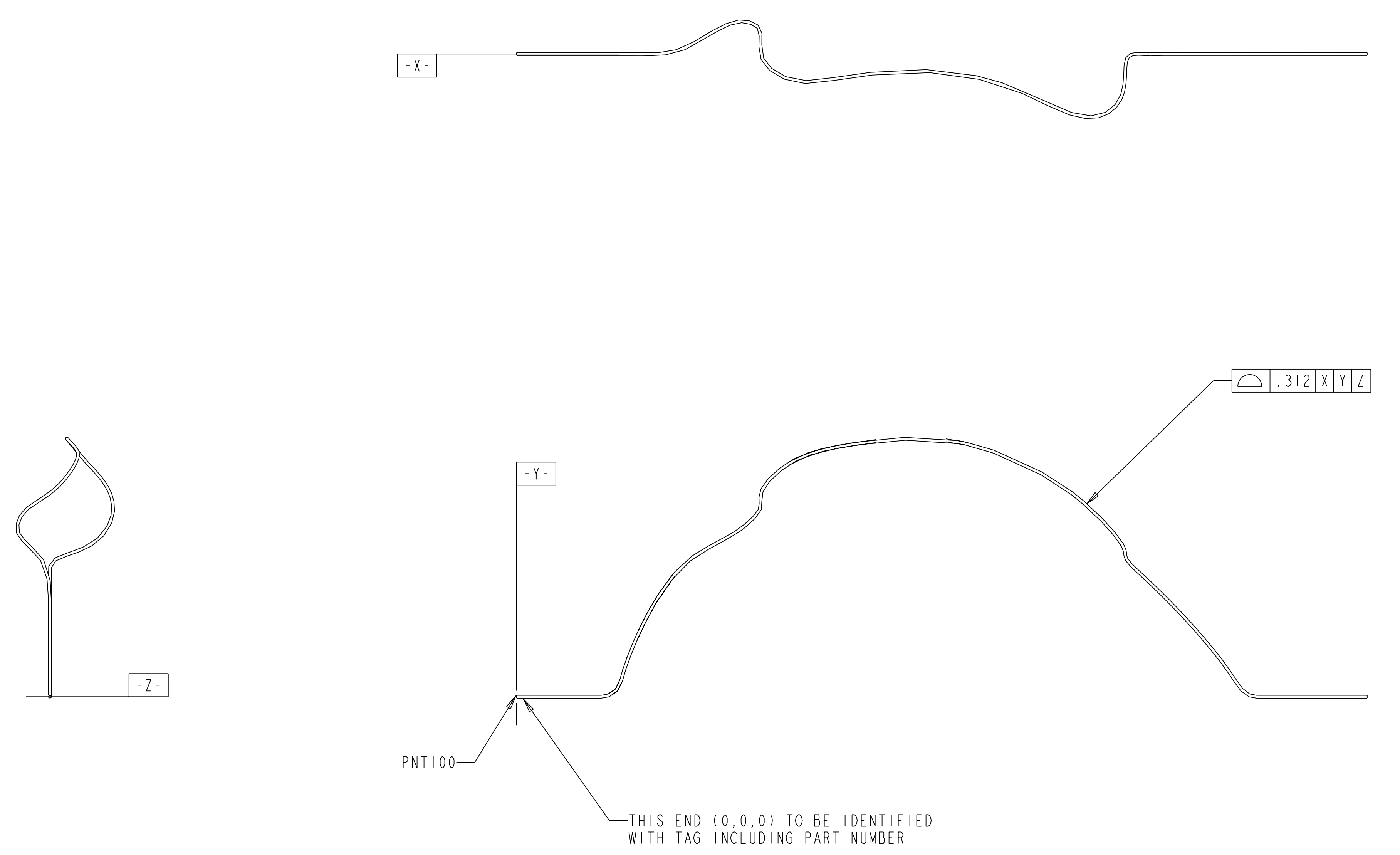


Point Name	X	Y	Z
PNT100	0.000	0.000	0.000
PNT101	9.161	0.000	-0.000
PNT102	9.953	0.138	-0.000
PNT103	10.740	0.642	0.000
PNT104	11.203	1.452	-0.000
PNT105	11.582	2.731	0.000
PNT106	11.983	3.911	0.000
PNT107	12.360	4.909	0.000
PNT108	12.803	5.977	0.000
PNT109	13.356	7.192	0.000
PNT110	13.909	8.308	-0.000
PNT111	14.542	9.483	-0.000
PNT112	15.400	10.939	0.000
PNT113	16.126	12.001	-0.082
PNT114	16.679	12.745	-0.159
PNT115	17.282	13.465	-0.301
PNT116	17.962	14.169	-0.535
PNT117	18.575	14.712	-0.810
PNT118	19.067	15.089	-1.075
PNT119	19.547	15.410	-1.364
PNT120	19.975	15.673	-1.634
PNT121	20.431	15.938	-1.917
PNT122	20.820	16.160	-2.146
PNT123	21.289	16.425	-2.408
PNT124	21.970	16.800	-2.763
PNT125	22.532	17.099	-3.039
PNT126	23.122	17.409	-3.306
PNT127	23.732	17.780	-3.482
PNT128	24.396	18.250	-3.546
PNT129	24.964	18.712	-3.485
PNT130	25.434	19.143	-3.343
PNT131	25.869	19.583	-3.134
PNT132	26.237	20.083	-2.750
PNT133	26.375	20.588	-2.127
PNT134	26.383	21.041	-1.447
PNT135	26.373	21.394	-0.897
PNT136	26.391	21.755	-0.352
PNT137	26.506	22.236	0.297
PNT138	26.729	22.695	0.825
PNT139	27.109	23.217	1.325
PNT140	27.583	23.730	1.748
PNT141	28.228	24.323	2.189
PNT142	28.139	25.013	2.628
PNT143	30.090	25.586	2.902
PNT144	31.345	26.160	3.035
PNT145	32.507	26.545	2.979
PNT146	34.239	26.942	2.712
PNT147	35.987	27.250	2.425
PNT148	37.751	27.514	2.200
PNT149	39.851	27.753	1.988
PNT150	41.805	27.882	1.868
PNT151	43.929	27.904	1.839
PNT152	46.127	27.766	1.845
PNT153	47.883	27.507	2.159
PNT154	50.233	26.949	2.627
PNT155	52.384	26.209	3.253
PNT156	54.804	25.155	4.145
PNT157	57.223	23.873	5.223
PNT158	59.077	22.721	6.144
PNT159	60.464	21.696	6.841
PNT160	61.882	20.483	6.841
PNT161	63.000	19.415	6.718
PNT162	64.076	18.279	6.258
PNT163	64.892	17.308	5.521
PNT164	65.377	16.634	4.737
PNT165	65.790	15.835	3.284
PNT166	65.830	15.408	1.966
PNT167	65.786	15.111	0.865
PNT168	66.084	14.684	0.366
PNT169	66.776	13.953	0.045
PNT170	67.765	13.023	0.000
PNT171	68.670	12.167	0.000
PNT172	69.628	11.238	0.000
PNT173	70.385	10.486	0.000
PNT174	71.257	9.597	0.000
PNT175	72.115	8.694	-0.000
PNT176	73.018	7.711	-0.000
PNT177	74.134	6.442	-0.000
PNT178	75.048	5.350	-0.000
PNT179	75.990	4.167	-0.000
PNT180	76.794	3.102	-0.000
PNT181	77.571	2.017	0.000
PNT182	78.316	0.910	0.000
PNT183	78.719	0.461	-0.000
PNT184	79.332	0.117	0.000
PNT185	80.026	-0.000	-0.000
PNT186	82.000	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 OMITTED. PROFILE TOLERANCE INCLUDES ALLOWANCES FOR THE RADII ERRORS.



**RELEASED FOR
FABRICATION / INSTALLATION**
PPPL Drafting:

APPROX TUBE LENGTH = 124.9 IN

-1 COOLANT TUBE 4-1
SCALE .125

SE123-080	AR	-1	COOLANT TUBE 4-1	316L SS	SEE NOTE 4	I
	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
	NEXT ASSEMBLY			PARTS LIST		

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF, ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR PURPOSES, AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

P THIS DRAWING PRODUCED ON PRO-ENGINEER

SCALE NOTED		DES P GORANSON	4-22-05	Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee			
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRW G MCGINNIS	4-22-05	UT-BATTELLE			
FRACTIONS		CHK G. H. JONES	05-04-05	NATIONAL COMPACT STELLARATOR EXPERIMENT			
XX DECIMALS ±.01		SECT :		VACUUM VESSEL HEATING/COOLING			
XXX DECIMALS ±.005		DEPT :		COOLANT TUBE 4-1			
ANGLES ±0°15'		PE :		DETAIL			
BREAK SHARP EDGES OR MAX FINISH .125 UNLESS OTHERWISE SPECIFIED		CR :		VERSION NO.	PLANT	BLDG	FL
		REO :		0	ORNL	5700	3
		PPPL DRFT :		RELEASE LEVEL		SHT	OF
		DATE :		Fabrication		TYPE	CLASS
		DRAWING APPROVALS	DATE			U	I
						REV	I

I	△	PER ECN NO. 5003	MJC	6/24/05	PLG														
REV		DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE						
		REVISION OR ISSUE PURPOSE		REVISION APPROVAL															