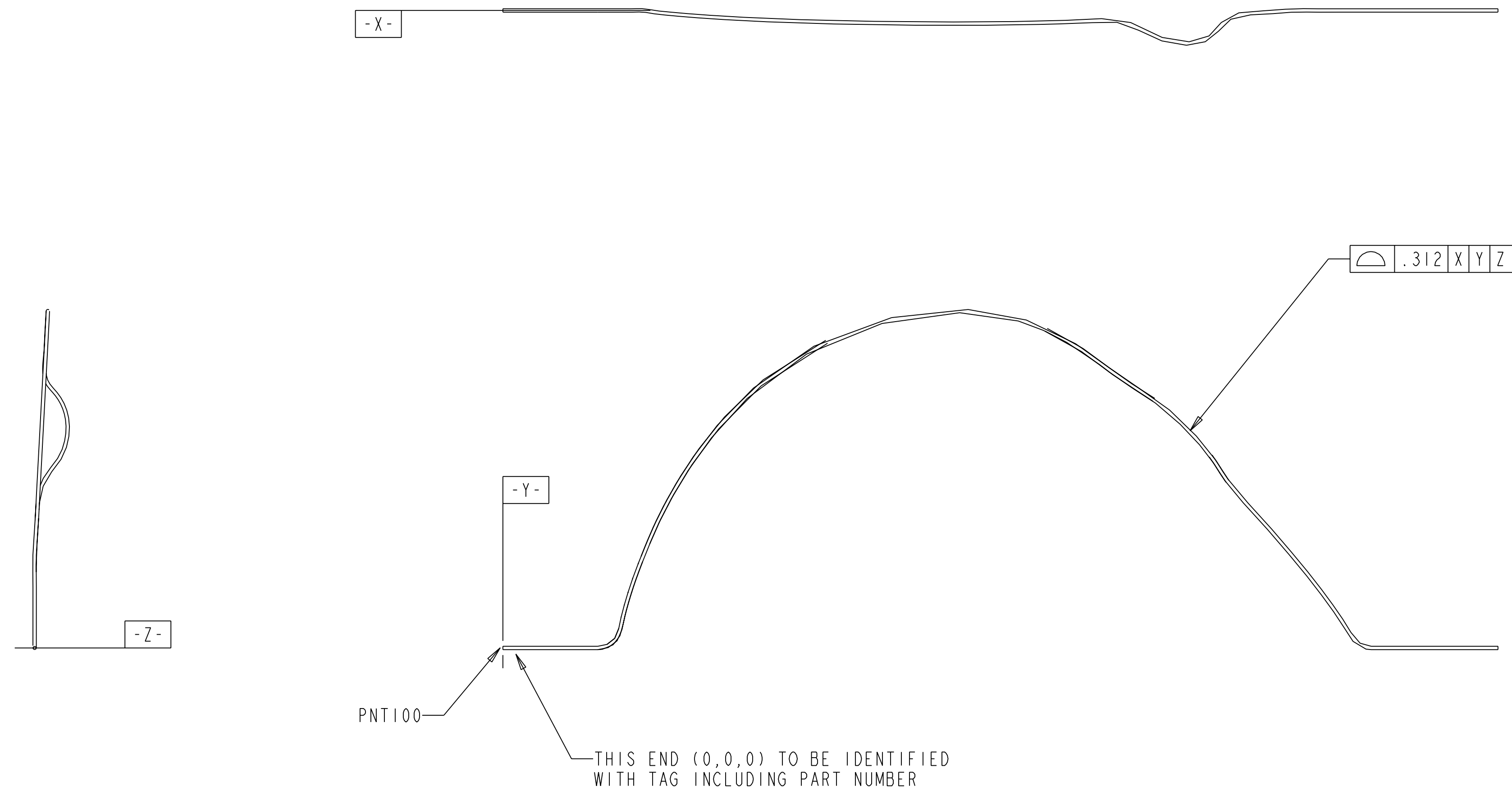


- NOTES
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
 2. DIMENSIONS ARE IN INCHES.
 3. FABRICATION AND MATERIALS PER NCSX-CSPEC-123-01
 4. PROFILE TOLERANCE OF TUBE SURFACE IS BILATERAL, I.E. 0.156" ANY DIRECTION OFF REFERENCE SURFACE.
 5. ALL TUBE BEND RADII ARE 5/8" TO CENTERLINE OF TUBE.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

Point Name	X	Y	Z
PNT100	0.000	0.000	0.000
PNT101	8.782	-0.000	0.000
PNT102	9.592	0.147	-0.000
PNT103	10.381	0.689	0.000
PNT104	10.804	1.545	-0.000
PNT105	11.068	2.743	0.000
PNT106	11.375	3.931	0.000
PNT107	11.695	5.017	0.000
PNT108	12.047	6.093	0.000
PNT109	12.461	7.248	0.000
PNT110	13.016	8.652	0.000
PNT111	13.571	10.043	0.108
PNT112	14.114	11.266	0.172
PNT113	14.601	12.281	0.225
PNT114	15.148	13.346	0.280
PNT115	15.654	14.273	0.329
PNT116	16.183	15.187	0.377
PNT117	16.772	16.148	0.428
PNT118	17.386	17.092	0.478
PNT119	18.067	18.076	0.530
PNT120	18.608	18.815	0.569
PNT121	19.209	19.596	0.610
PNT122	19.785	20.308	0.648
PNT123	20.472	21.110	0.691
PNT124	21.087	21.789	0.727
PNT125	21.720	22.451	0.763
PNT126	22.371	23.094	0.797
PNT127	23.041	23.718	0.831
PNT128	23.676	24.275	0.861
PNT129	24.327	24.815	0.890
PNT130	24.993	25.336	0.918
PNT131	25.847	25.958	0.952
PNT132	26.665	26.508	0.982
PNT133	27.563	27.066	1.012
PNT134	28.606	27.655	1.044
PNT135	29.609	28.168	1.072
PNT136	30.633	28.641	1.097
PNT137	31.608	29.048	1.119
PNT138	32.598	29.419	1.138
PNT139	33.533	29.734	1.154
PNT140	34.613	30.057	1.170
PNT141	35.705	30.341	1.185
PNT142	36.867	30.557	1.196
PNT143	37.706	30.755	1.206
PNT144	38.680	30.908	1.213
PNT145	39.800	31.044	1.219
PNT146	40.783	31.124	1.222
PNT147	41.981	31.166	1.223
PNT148	42.967	31.153	1.222
PNT149	44.023	31.091	1.217
PNT150	45.213	30.952	1.208
PNT151	46.321	30.749	1.197
PNT152	47.483	30.456	1.181
PNT153	48.557	30.113	1.160
PNT154	49.673	29.679	1.135
PNT155	50.888	29.116	1.103
PNT156	52.006	28.518	1.074
PNT157	52.975	27.942	1.050
PNT158	53.916	27.322	1.011
PNT159	54.828	26.662	0.947
PNT160	55.724	25.979	0.901
PNT161	56.679	25.256	0.938
PNT162	57.642	24.573	1.132
PNT163	58.483	24.039	1.482
PNT164	59.301	23.553	1.942
PNT165	60.168	22.969	2.364
PNT166	61.078	22.270	2.704
PNT167	62.076	21.414	2.958
PNT168	62.942	20.594	3.059
PNT169	63.803	19.708	3.027
PNT170	64.481	18.952	2.886
PNT171	65.139	18.153	2.615
PNT172	65.621	17.510	2.293
PNT173	66.042	16.882	1.872
PNT174	66.381	16.309	1.393
PNT175	66.767	15.717	0.978
PNT176	67.303	15.003	0.637
PNT177	68.031	14.132	0.389
PNT178	69.079	12.969	0.255
PNT179	69.957	12.013	0.213
PNT180	71.022	10.825	0.154
PNT181	72.053	9.640	0.087
PNT182	73.082	8.409	0.000
PNT183	73.929	7.380	-0.029
PNT184	74.815	6.290	-0.000
PNT185	75.621	5.243	0.000
PNT186	76.404	4.179	0.000
PNT187	77.161	3.097	0.000
PNT188	77.839	2.074	0.000
PNT189	78.538	0.953	0.000
PNT190	78.938	0.481	0.000
PNT191	79.662	0.089	0.000
PNT192	80.275	-0.000	-0.000
PNT193	92.000	0.000	0.000



RELEASED FOR FABRICATION / INSTALLATION
PPPL Drafting:

APPROX TUBE LENGTH = 121.9 IN

-1 COOLANT TUBE 5-2
SCALE .125

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REG	DATE	ORNL	DOE	DATE
1	PER ECN NO. 5003	MJC	8/24/09	PLG								

SEI123-085	AR	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
			-1	COOLANT TUBE 5-2	316L SS 5/16"-.032 WALL	SEE NOTE 4	I

← NEXT ASSEMBLY PARTS LIST

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P THIS DRAWING PRODUCED ON PRO-ENGINEER

SCALE NOTED		DES: P GORANSON	4-22-05	Oak Ridge National Laboratory	
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRW: G MCGINNIS	4-22-05	managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725	
FRACTIONS		CHK: G. H. JONES	05-04-05	UT-BATTELLE, LLC. Oak Ridge, Tennessee	
XX DECIMALS ±.01		SECT:		PROJECT NAME	
XXX DECIMALS ±.005		DEPT:		NATIONAL COMPACT STELLARATOR EXPERIMENT	
ANGLES ±0°15'		PE:		VACUUM VESSEL HEATING/COOLING	
BREAK SHARP EDGES OR MAX FINISH .125 UNLESS OTHERWISE SPECIFIED		CR:		COOLANT TUBE 5-2	
		PJ:		DETAIL	
		REQ:		VERSION NO.	PLANT
		PPPL DRFT:		0	ORNL
				BLDG	5700
				FL	3
				SHT	1
				OF	1
				TYPE	S
				CLASS	U
				RELEASE LEVEL	
				Fabrication	
				SEI23-087	
				REV	1