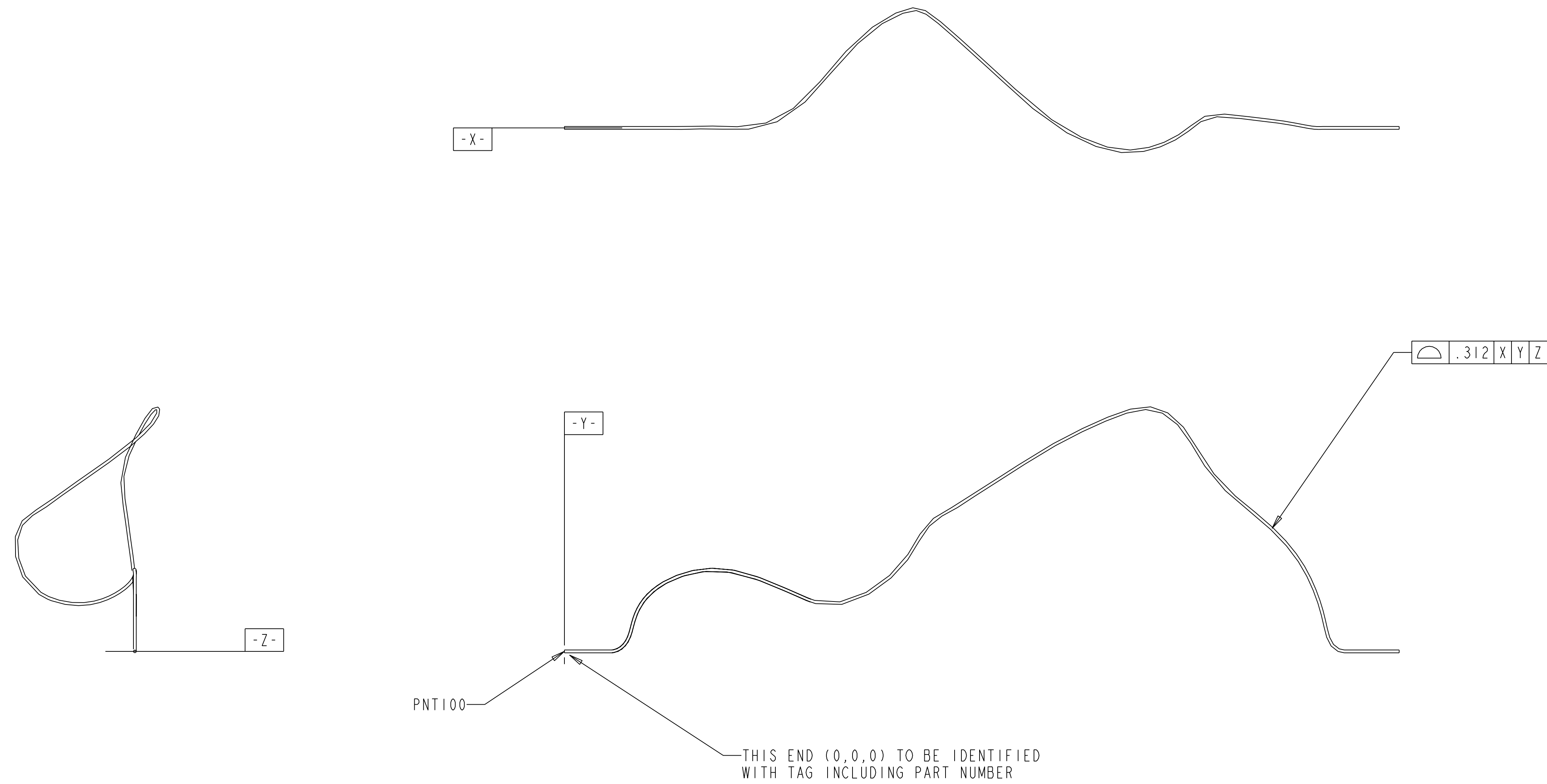


Point Name	X	Y	Z
PNT100	0.000	0.000	0.000
PNT101	5.223	0.000	-0.000
PNT102	5.879	0.146	-0.000
PNT103	6.515	0.605	-0.000
PNT104	6.977	1.242	-0.000
PNT105	7.394	2.480	-0.000
PNT106	7.689	3.615	-0.000
PNT107	8.073	4.573	-0.000
PNT108	8.567	5.425	-0.000
PNT109	9.030	6.016	-0.000
PNT110	9.526	6.515	-0.000
PNT111	10.071	6.960	-0.000
PNT112	10.613	7.331	-0.000
PNT113	11.222	7.685	-0.000
PNT114	11.810	7.979	-0.000
PNT115	12.546	8.287	-0.000
PNT116	13.396	8.568	-0.006
PNT117	14.203	8.776	-0.024
PNT118	15.074	8.929	-0.047
PNT119	15.903	9.008	-0.053
PNT120	16.580	9.022	-0.044
PNT121	17.204	8.998	-0.025
PNT122	17.928	8.924	0.001
PNT123	18.699	8.796	0.022
PNT124	19.359	8.650	0.024
PNT125	20.063	8.461	-0.002
PNT126	20.805	8.229	-0.073
PNT127	21.581	7.958	-0.210
PNT128	22.382	7.652	-0.427
PNT129	23.110	7.354	-0.700
PNT130	23.853	7.031	-1.058
PNT131	24.439	6.766	-1.401
PNT132	25.121	6.453	-1.869
PNT133	25.661	6.207	-2.294
PNT134	26.181	5.978	-2.750
PNT135	26.721	5.756	-3.269
PNT136	27.315	5.543	-3.889
PNT137	27.929	5.368	-4.575
PNT138	28.433	5.268	-5.163
PNT139	28.933	5.214	-5.761
PNT140	29.432	5.206	-6.362
PNT141	29.899	5.238	-6.921
PNT142	30.438	5.318	-7.550
PNT143	31.022	5.450	-8.202
PNT144	31.656	5.639	-8.866
PNT145	32.340	5.895	-9.533
PNT146	33.037	6.213	-10.159
PNT147	33.850	6.665	-10.827
PNT148	34.584	7.158	-11.376
PNT149	35.274	7.695	-11.839
PNT150	36.066	8.389	-12.289
PNT151	36.907	9.231	-12.667
PNT152	37.718	10.211	-12.939
PNT153	38.339	11.163	-13.077
PNT154	38.908	12.156	-13.084
PNT155	39.612	13.286	-12.858
PNT156	40.249	14.081	-12.465
PNT157	40.853	14.624	-12.000
PNT158	41.825	15.227	-11.185
PNT159	42.666	15.668	-10.455
PNT160	43.524	16.164	-9.694
PNT161	44.458	16.784	-8.846
PNT162	45.250	17.320	-8.124
PNT163	46.166	17.913	-7.295
PNT164	47.043	18.463	-6.500
PNT165	47.921	19.016	-5.697
PNT166	48.903	19.643	-4.791
PNT167	49.883	20.277	-3.888
PNT168	50.798	20.865	-3.061
PNT169	51.655	21.406	-2.317
PNT170	52.571	21.967	-1.564
PNT171	53.436	22.480	-0.905
PNT172	54.498	23.080	-0.175
PNT173	55.562	23.646	0.469
PNT174	56.620	24.177	1.032
PNT175	57.714	24.697	1.538
PNT176	59.081	25.313	2.051
PNT177	60.402	25.868	2.403
PNT178	61.877	26.409	2.595
PNT179	63.358	26.775	2.520
PNT180	64.846	26.780	2.198
PNT181	66.023	26.383	1.791
PNT182	67.235	25.553	1.205
PNT183	68.336	24.319	0.493
PNT184	69.221	22.968	-0.179
PNT185	70.034	21.604	-0.770
PNT186	70.877	20.273	-1.222
PNT187	71.892	18.938	-1.435
PNT188	73.065	17.721	-1.342
PNT189	74.545	16.438	-1.155
PNT190	76.105	15.161	-0.990
PNT191	77.470	13.992	-0.836
PNT192	78.883	12.635	-0.654
PNT193	80.102	11.246	-0.466
PNT194	81.259	9.605	-0.237
PNT195	82.187	7.922	-0.000
PNT196	82.764	6.550	-0.000
PNT197	83.166	5.409	-0.000
PNT198	83.564	4.071	-0.000
PNT199	83.815	3.079	-0.000
PNT200	84.052	1.988	-0.000
PNT201	84.356	1.114	-0.000
PNT202	85.019	0.315	-0.000
PNT203	85.948	-0.000	-0.000
PNT204	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 OMITTED. PROFILE TOLERANCE INCLUDES ALLOWANCES FOR THE RADII ERRORS.



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

-1 COOLANT TUBE 13-1
SCALE .125

APPROX TUBE LENGTH = 128.3 IN

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

SEI23-125	AR	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
-	-	-	-1	COOLANT TUBE 13-1	316L SS 5/16"-.032 WALL	SEE NOTE 4	1

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	DEPT:	PROJECT NAME: NATIONAL COMPACT STELLARATOR EXPERIMENT			
XXX DECIMALS ±.005	PE:	VACUUM VESSEL HEATING/COOLING			
ANGLES ±0°15'	CR:	COOLANT TUBE 13-1			
BREAK SHARP EDGES OR MAX FINISH .125 UNLESS OTHERWISE SPECIFIED	PJ:	DETAIL			
	RD:	PPPL DRFT	VERSION NO. 0	PLANT ORNL	BLDG 5700
	RE:		RELEASE LEVEL Fabrication	FL 3	SHT 1
				OF 1	TYPE S
					CLASS U
					REV 1