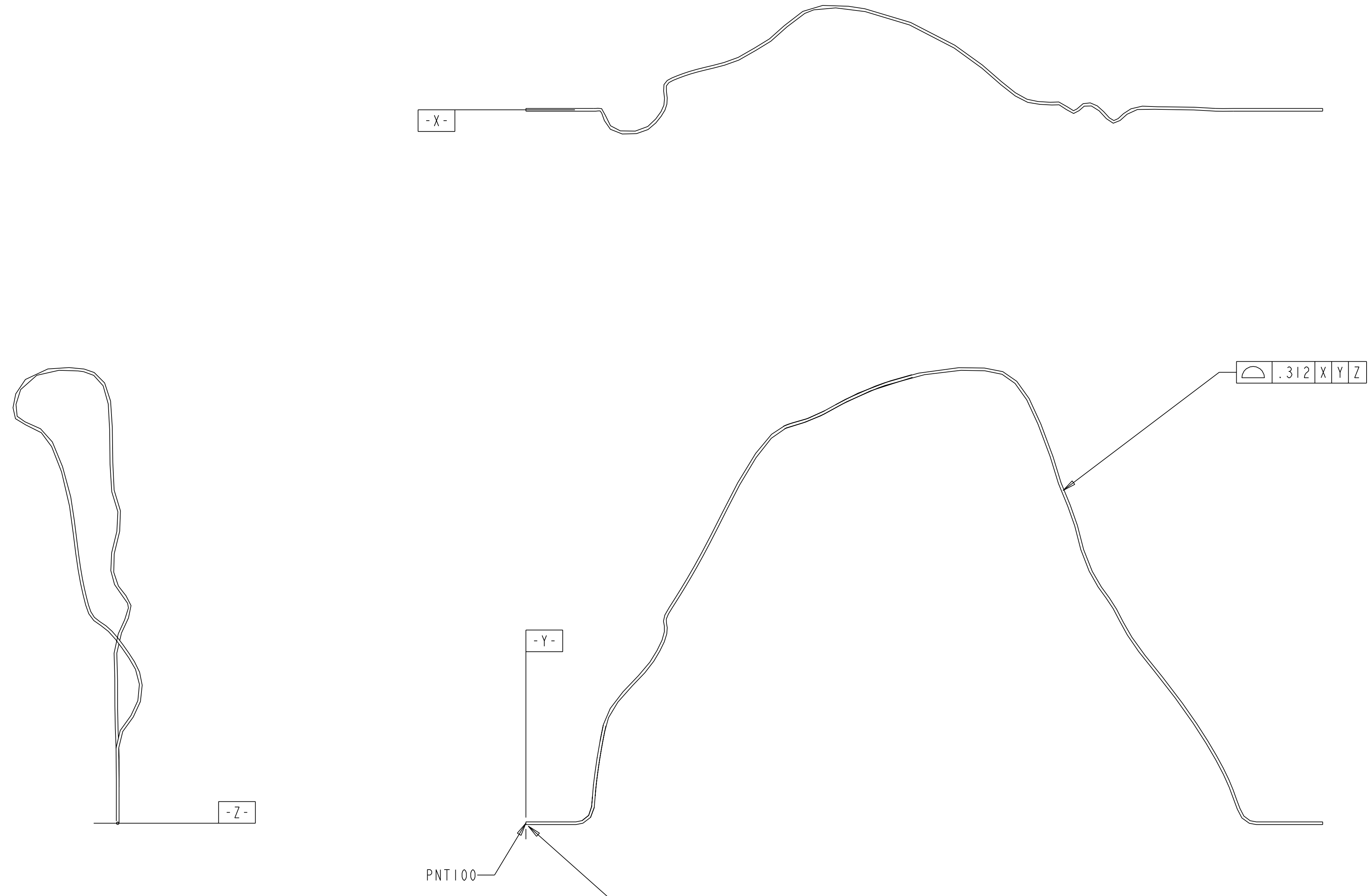


- NOTES
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
 2. DIMENSIONS ARE IN INCHES.
 3. FABRICATION AND MATERIALS PER NCSX-CSPEC-123-01
 4. PROFILE TOLERANCE OF TUBE SURFACE IS BILATERAL, I.E. 0.156" ANY DIRECTION OFF REFERENCE SURFACE.
 5. ALL TUBE BEND RADII ARE 5/8" TO CENTERLINE OF TUBE.
 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	5.770	0.000	0.000
PNT102	6.767	0.266	-0.000
PNT103	7.489	1.001	0.000
PNT104	7.737	1.853	-0.000
PNT105	7.873	3.574	-0.000
PNT106	8.062	5.290	0.000
PNT107	8.212	6.452	-0.000
PNT108	8.425	7.815	-0.037
PNT109	8.630	8.930	-0.061
PNT110	8.837	10.091	0.194
PNT111	8.966	10.765	0.511
PNT112	9.109	11.388	0.915
PNT113	9.284	11.960	1.379
PNT114	9.502	12.481	1.759
PNT115	9.819	13.081	2.092
PNT116	10.247	13.740	2.364
PNT117	10.600	14.210	2.508
PNT118	10.980	14.671	2.606
PNT119	11.379	15.123	2.664
PNT120	11.791	15.566	2.684
PNT121	12.262	16.058	2.663
PNT122	12.786	16.598	2.588
PNT123	13.302	17.136	2.456
PNT124	13.844	17.731	2.243
PNT125	14.372	18.390	1.913
PNT126	14.777	19.005	1.525
PNT127	15.138	19.624	1.102
PNT128	15.479	20.248	0.669
PNT129	15.782	20.876	0.215
PNT130	16.018	21.503	-0.279
PNT131	16.160	22.165	-0.882
PNT132	16.144	22.756	-1.569
PNT133	16.046	23.171	-2.194
PNT134	16.065	23.634	-2.786
PNT135	16.273	24.149	-3.175
PNT136	16.714	24.872	-3.439
PNT137	17.073	25.434	-3.597
PNT138	17.419	25.982	-3.741
PNT139	17.840	26.659	-3.905
PNT140	18.236	27.304	-4.048
PNT141	18.617	27.937	-4.176
PNT142	19.121	28.733	-4.333
PNT143	19.646	29.714	-4.483
PNT144	20.172	30.661	-4.621
PNT145	20.647	31.540	-4.739
PNT146	21.183	32.557	-4.867
PNT147	21.709	33.578	-4.991
PNT148	22.201	34.546	-5.113
PNT149	22.679	35.495	-5.240
PNT150	23.156	36.443	-5.379
PNT151	23.702	37.519	-5.561
PNT152	24.197	38.474	-5.751
PNT153	24.835	39.835	-6.085
PNT154	25.792	41.294	-6.552
PNT155	26.663	42.606	-7.105
PNT156	27.451	43.662	-7.555
PNT157	28.179	44.499	-8.035
PNT158	29.047	45.253	-8.762
PNT159	29.656	45.628	-9.320
PNT160	30.399	45.929	-10.012
PNT161	31.197	46.159	-10.670
PNT162	31.998	46.372	-11.197
PNT163	32.720	46.615	-11.531
PNT164	33.329	46.949	-11.774
PNT165	34.535	47.452	-11.914
PNT166	35.197	47.817	-11.934
PNT167	35.987	48.265	-11.906
PNT168	36.915	48.771	-11.827
PNT169	37.722	49.175	-11.733
PNT170	38.540	49.551	-11.613
PNT171	39.503	49.958	-11.436
PNT172	40.330	50.283	-11.251
PNT173	41.227	50.613	-11.016
PNT174	42.123	50.917	-10.747
PNT175	43.040	51.198	-10.441
PNT176	43.830	51.447	-10.109
PNT177	45.018	51.716	-9.662
PNT178	46.041	51.929	-9.200
PNT179	47.050	52.113	-8.695
PNT180	47.924	52.240	-8.225
PNT181	48.907	52.349	-7.651
PNT182	49.932	52.421	-7.004
PNT183	50.938	52.439	-6.323
PNT184	51.972	52.419	-5.558
PNT185	52.913	52.383	-4.792
PNT186	53.667	52.322	-4.137
PNT187	54.408	52.189	-3.479
PNT188	55.444	51.767	-2.595
PNT189	56.328	51.140	-1.906
PNT190	57.077	50.319	-1.423
PNT191	57.869	49.102	-1.056
PNT192	58.579	47.713	-0.867
PNT193	59.098	46.538	-0.803
PNT194	59.611	45.282	-0.770
PNT195	60.074	44.082	-0.743
PNT196	60.536	42.806	-0.717
PNT197	60.953	41.514	-0.727
PNT198	61.337	40.212	-0.757
PNT199	61.754	38.925	-0.674
PNT200	62.355	37.445	-0.294
PNT201	62.767	36.505	0.017
PNT202	63.295	35.129	0.270
PNT203	63.663	33.834	0.129
PNT204	63.996	32.428	-0.275
PNT205	64.366	31.096	-0.627
PNT206	64.840	29.904	-0.668
PNT207	65.565	28.450	-0.433
PNT208	66.365	27.110	0.068
PNT209	67.086	26.128	0.813
PNT210	67.743	25.180	1.371
PNT211	68.488	23.902	1.386
PNT212	69.132	22.575	0.537
PNT213	69.778	21.407	-0.111
PNT214	70.830	19.973	-0.233
PNT215	71.897	18.630	-0.215
PNT216	72.926	17.348	-0.198
PNT217	74.033	15.947	-0.183
PNT218	74.989	14.699	-0.170
PNT219	76.004	13.317	-0.155
PNT220	77.383	11.317	-0.132
PNT221	78.847	9.063	0.000
PNT222	79.678	7.593	0.000
PNT223	80.561	5.879	-0.000
PNT224	81.534	3.738	-0.000
PNT225	82.109	2.280	0.000
PNT226	82.449	1.313	0.000
PNT227	82.897	0.585	-0.000
PNT228	83.620	0.126	-0.000
PNT229	84.344	0.000	-0.000
PNT230	92.000	0.000	0.000



RELEASED FOR FABRICATION / INSTALLATION
 PPPL Drafting:

APPROX TUBE LENGTH = 162.3 IN

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

SEI123-105	AR	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
			-1	COOLANT TUBE 9-1	316L SS 5/16" - .032 WALL	SEE NOTE 4	1

-1 COOLANT TUBE 9-1
SCALE .125

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P THIS DRAWING PRODUCED ON PRO-ENGINEER

SCALE NOTED	DES P GORANSON 4-22-05 G MCGINNIS 4-22-05 G. H. JONES 05-04-05	UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT VACUUM VESSEL HEATING/COOLING COOLANT TUBE 9-1 DETAIL	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
FRACTIONS : XX DECIMALS ±.01 XXX DECIMALS ±.005 ANGLES ±0°15' BREAK SHARP EDGES OR MAX FINISH .125 UNLESS OTHERWISE SPECIFIED	PPPL DRFT VERSION NO. 0 PLANT ORNL BLDG 5700 FL 3 SHT 1 OF 1 TYPE S CLASS U REV I	REVISION LEVEL Fabrication SEI23-106	