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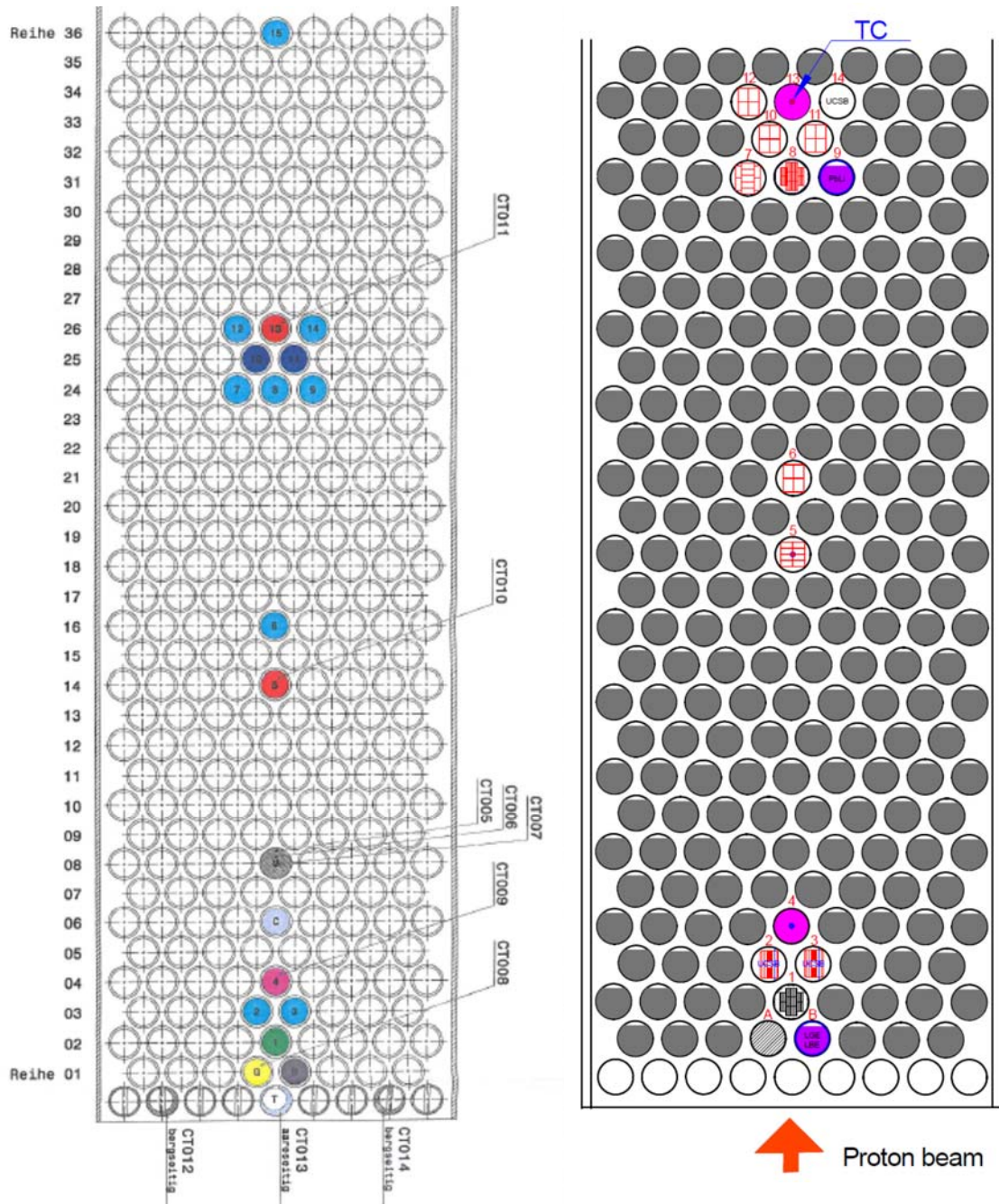




A. MATERIAL SPECIFICATION

A1. STIP VI – TARGET 9. OVERVIEW

FIGURE A1. POSITION OF SPECIMEN RODS IN TARGET 9





A2. STIP VI – TARGET 9. ROD MATERIAL COMPOSITION

TABLE A2.1 MATERIAL COMPOSITION OF ROD A, ROD B, ROD 1, ROD 2, ROD 3 AND ROD 4

	Density (g/cm ³)	7.101	7.545	8.755	7.141	7.141	5.863
Atomic Mass	MATERIAL	Rod A (%)	Rod B (%)	Rod 1 (%)	Rod 2 (%)	Rod 3 (%)	Rod 4 (%)
55.847	Fe-26	19.4731	33.6724	42.1773	64.8169	64.8169	9.2755
51.996	Cr-24	5.1951	5.7786	8.7158	6.5325	6.5325	1.5901
58.700	Ni-28	3.6290	2.6962	5.3006	0.0340	0.0340	0.7670
95.940	Mo-42	0.7398	0.5399	0.9366			0.1509
54.938	Mn-25	0.5356	0.5778	0.7216	0.3422	0.3422	0.1652
47.900	Ti-22		0.0083	0.1156	0.0066	0.0066	33.9362
63.546	Cu-29	41.7454	0.0090	0.0564	0.0153	0.0153	0.0027
12.011	C-6	0.0071	0.0259	0.0267	0.0874	0.0874	0.0073
28.086	Si-14	0.1156	0.1471	0.1568	0.0439	0.0439	0.0420
32.060	S-16		0.0012	0.0006	0.0029	0.0029	0.0004
180.948	Ta-73		0.0021	0.1005	0.1019	0.1019	
92.906	Nb-41		0.0114	0.0541			0.0035
50.942	V-23		12.2778	11.1327	0.1456	0.1456	27.9597
118.690	Sn-50	0.3889	0.3650	0.3452	0.3697	0.3697	0.3564
183.850	W-74		0.0435	0.9337	0.7792	0.7792	
26.982	Al-13	0.0314	0.0834	4.1841	0.0058	0.0058	
207.200	Pb-82	0.0021	11.2323				
208.980	Bi-83		4.8325				
15.999	O-8	0.0667	0.0337	0.0480	0.0333	0.0333	0.0314
91.220	Zr-40	28.0703	26.3063	24.9124	26.6827	26.6827	25.7116
88.906	Y-39		0.0061	0.0286			
196.970	Au-79		1.3496	0.0525			



TABLE A2.2 MATERIAL COMPOSITION OF ROD 5, ROD 6, ROD 7, ROD 8 AND ROD 9

	Density (g/cm ³)	6.330	6.951	6.718	6.547	8.038
Atomic Mass	MATERIAL	Rod 5 (%)	Rod 6 (%)	Rod 7 (%)	Rod 8 (%)	Rod 9 (%)
55.847	Fe-26	17.5993	79.3866	50.1192	33.9402	31.5107
51.996	Cr-24	2.0401	10.7145	5.4510	5.6379	3.2012
58.700	Ni-28	0.0242	3.5105	0.0312	2.1489	0.0181
95.940	Mo-42		0.6870		0.4170	
54.938	Mn-25	0.0754	1.1490	0.2313	0.4173	0.1561
47.900	Ti-22	11.7911	0.0021	0.0661	8.2940	
63.546	Cu-29	0.0027	0.0315	0.0073	0.0402	
12.011	C-6	0.0182	0.0752	0.0602	0.0272	0.0461
28.086	Si-14	0.0113	0.3198	0.0252	0.1005	0.0002
32.060	S-16	0.0006	0.0041	0.0020	0.0009	0.0014
180.948	Ta-73	0.0178		0.0655	0.0265	0.0532
92.906	Nb-41	0.0011	0.0412	0.0013	0.0382	
50.942	V-23	40.1919	0.1440	1.6056	9.9531	2.8478
118.690	Sn-50	0.3687	0.0021	0.4009	0.4304	0.3721
183.850	W-74	1.1747	3.9324	6.0485	6.9816	0.5143
26.982	Al-13	0.0007		6.8545	0.3720	
207.200	Pb-82					28.7137
15.999	O-8	0.0498		0.0624	0.0460	0.0328
91.220	Zr-40	26.6095		28.9320	31.0572	26.8584
88.906	Y-39	0.0229		0.0357	0.0269	
196.970	Au-79				0.0439	
6.941	Li-3					5.6740



TABLE A2.3 MATERIAL COMPOSITION OF ROD 10, ROD 11, ROD 12, ROD 13 AND ROD 14

	Density (g/cm ³)	7.517	8.003	7.953	7.031	7.141
Atomic Mass	MATERIAL	Rod 10 (%)	Rod 11 (%)	Rod 12 (%)	Rod 13 (%)	Rod 14 (%)
55.847	Fe-26	72.9287	69.7983	67.9110	19.0505	64.8169
51.996	Cr-24	9.6774	9.3084	8.9002	2.1189	6.5325
58.700	Ni-28	2.6350	2.5981	2.7158	0.0212	0.0340
95.940	Mo-42	0.5389	0.5296	0.5280		
54.938	Mn-25	0.6934	0.6788	0.9563	0.0837	0.3422
47.900	Ti-22	0.0001	0.0057	0.0018	0.0294	0.0066
63.546	Cu-29	0.0011	0.0132	0.0278	0.0013	0.0153
12.011	C-6	0.0906	0.0805	0.0655	0.0228	0.0874
28.086	Si-14	0.0912	0.1203	0.2697	0.0058	0.0439
32.060	S-16	0.0027	0.0025	0.0036	0.0007	0.0029
180.948	Ta-73	0.0959	0.0880		0.0244	0.1019
92.906	Nb-41	0.0014		0.0363	0.0006	
50.942	V-23	0.1263	0.1257	3.2246	38.7507	0.1456
118.690	Sn-50	0.0001		0.0018	0.3701	0.3697
183.850	W-74	13.1173	16.6454	15.3576	0.3058	0.7792
26.982	Al-13		0.0050		0.0003	0.0058
207.200	Pb-82				10.3856	
15.999	O-8		0.0006		0.0449	0.0333
91.220	Zr-40				26.7146	26.6827
88.906	Y-39				0.0163	
6.941	Li-3				2.0522	





B. RADIATION DAMAGE CALCULATIONS

IRRADIATION PARAMETERS IN SPECIMEN RODS

TABLE B1. IRRADIATION PARAMETERS TUBE T (ROW 0)

	X (cm)										
dpa	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	2.88	3.66	4.52	5.41	5.99	6.18	6.08	5.67	4.89	4.04	3.22
Zry-2 (P)	10.19	17.40	28.17	43.65	55.51	60.83	59.29	49.12	34.21	22.44	13.37
Zry-2 (TOTAL)	13.07	21.06	32.69	49.06	61.50	67.00	65.37	54.79	39.10	26.47	16.59

	X (cm)										
appm He	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	9.53	13.67	18.87	25.71	30.18	32.07	31.08	27.94	21.64	16.14	11.50
Zry-2 (P)	354.5	609.8	994.2	1549.4	1974.8	2165.6	2110.6	1745.3	1209.8	787.9	466.5
Zry-2 (TOTAL)	364.0	623.5	1013.1	1575.1	2005.0	2197.7	2141.7	1773.2	1231.4	804.1	478.0

	X (cm)										
appm H	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	73.71	104.51	142.34	190.85	222.73	235.84	228.84	206.42	162.14	122.29	88.27
Zry-2 (P)	1920	3284	5329	8272	10524	11535	11246	9312	6477	4234	2518
Zry-2 (TOTAL)	1993	3389	5472	8463	10747	11771	11475	9518	6639	4356	2607



TABLE B2. IRRADIATION PARAMETERS ROD A (ROW 1)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.76	5.02	6.49	8.11	9.00	9.26	9.06	8.20	6.86	5.45	4.13
Zry-2 (N)	4.14	5.56	7.25	9.10	10.13	10.43	10.19	9.19	7.66	6.05	4.57
Al (N)	5.98	7.63	9.48	11.39	12.48	12.78	12.53	11.54	9.93	8.15	6.46
SiC (N)	3.98	5.13	6.43	7.79	8.55	8.77	8.59	7.88	6.75	5.50	4.31
Ta (N)	1.15	1.62	2.20	2.87	3.24	3.37	3.27	2.89	2.34	1.80	1.31
W (N)	0.72	1.08	1.54	2.09	2.39	2.50	2.41	2.10	1.65	1.22	0.84
9Cr-1Mo (P)	3.51	6.05	10.23	15.97	19.42	20.48	19.41	15.50	11.07	7.43	4.42
Zry-2 (P)	10.04	17.33	29.36	45.92	55.87	58.92	55.84	44.56	31.77	21.29	12.67
Al (P)	1.20	2.05	3.42	5.30	6.42	6.77	6.42	5.16	3.71	2.51	1.51
SiC (P)	0.60	1.04	1.76	2.77	3.38	3.56	3.37	2.69	1.91	1.27	0.76
Ta (P)	9.66	16.73	28.44	44.59	54.31	57.28	54.26	43.24	30.77	20.57	12.20
W (P)	9.44	16.35	27.80	43.59	53.10	56.01	53.06	42.28	30.08	20.11	11.92
9Cr-1Mo (TOTAL)	7.27	11.06	16.72	24.08	28.42	29.75	28.47	23.70	17.93	12.87	8.56
Zry-2 (TOTAL)	14.18	22.89	36.61	55.02	66.00	69.36	66.02	53.76	39.43	27.35	17.23
Al (TOTAL)	7.19	9.68	12.90	16.70	18.90	19.54	18.95	16.69	13.64	10.66	7.97
SiC (TOTAL)	4.58	6.16	8.20	10.56	11.93	12.33	11.96	10.57	8.66	6.77	5.06
Ta (TOTAL)	10.81	18.35	30.64	47.46	57.55	60.65	57.53	46.13	33.11	22.37	13.51
W (TOTAL)	10.16	17.43	29.34	45.68	55.49	58.51	55.47	44.38	31.72	21.33	12.77



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	21.5	31.5	43.9	59.1	67.2	70.0	67.9	59.5	47.1	35.4	24.7
Zry-2 (N)	14.2	21.9	31.8	44.4	51.1	53.6	51.6	44.4	34.2	25.1	16.9
Al (N)	36.1	51.7	71.1	94.5	107.2	111.2	108.4	95.5	76.5	57.8	40.8
SiC (N)	157.7	222.0	299.4	394.3	444.4	460.7	450.3	399.9	323.0	247.1	176.6
Ta (N)	12.7	20.8	31.4	45.1	52.4	55.5	53.1	44.9	33.8	24.2	15.7
W (N)	12.0	19.5	29.6	42.6	49.4	52.3	50.1	42.3	31.9	22.8	14.8
9Cr-1Mo (P)	494	859	1467	2308	2815	2969	2812	2237	1587	1058	624
Zry-2 (P)	340	590	1006	1579	1925	2031	1924	1532	1088	726	429
Al (P)	375	650	1107	1739	2119	2235	2117	1686	1198	800	473
SiC (P)	339	586	995	1557	1896	2000	1894	1511	1076	721	428
Ta (P)	591	1030	1763	2776	3387	3573	3383	2689	1906	1269	748
W (P)	537	935	1598	2515	3069	3237	3065	2437	1728	1151	679
9Cr-1Mo (TOTAL)	515	891	1511	2367	2882	3039	2880	2296	1634	1093	649
Zry-2 (TOTAL)	354	612	1038	1624	1976	2085	1976	1576	1122	751	446
Al (TOTAL)	411	702	1179	1833	2226	2347	2226	1781	1275	858	514
SiC (TOTAL)	497	808	1294	1952	2340	2460	2345	1911	1399	968	605
Ta (TOTAL)	604	1051	1794	2821	3440	3629	3437	2734	1940	1293	764
W (TOTAL)	549	954	1628	2557	3118	3289	3115	2479	1760	1174	694

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	217.7	317.3	441.5	590.4	670.5	697.4	676.0	593.6	471.6	356.2	251.2
Zry-2 (N)	111.1	169.6	244.4	336.9	386.7	404.6	390.3	337.6	262.1	193.3	131.7
Al (N)	128.8	185.5	255.6	339.0	383.5	398.5	386.8	341.6	273.3	207.4	147.4
Ta (N)	104.8	164.7	242.4	340.3	392.6	412.8	397.0	340.0	260.4	189.7	126.5
9Cr-1Mo (P)	2009	3477	5900	9240	11249	11865	11245	8966	6384	4272	2536
Zry-2 (P)	1864	3225	5470	8565	10426	10997	10423	8312	5920	3962	2353
Al (P)	788	1361	2303	3600	4378	4618	4378	3495	2492	1671	994
Ta (P)	2828	4920	8403	13215	16120	17006	16103	12809	9089	6056	3576
9Cr-1Mo (TOTAL)	2227	3794	6342	9830	11919	12563	11921	9560	6856	4629	2787
Zry-2 (TOTAL)	1976	3394	5715	8902	10813	11402	10814	8649	6182	4156	2484
Al (TOTAL)	917	1546	2558	3939	4762	5017	4765	3836	2765	1878	1141
Ta (TOTAL)	2932	5085	8645	13556	16513	17418	16500	13149	9349	6246	3702



TABLE B3. IRRADIATION PARAMETERS ROD B (ROW 1)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.66	4.81	6.16	7.57	8.60	9.01	9.01	8.38	7.02	5.54	4.25
Zry-2 (N)	4.02	5.30	6.84	8.44	9.63	10.10	10.09	9.36	7.82	6.15	4.69
Al (N)	5.85	7.39	9.11	10.82	12.06	12.53	12.55	11.79	10.13	8.30	6.61
SiC (N)	3.89	4.96	6.18	7.39	8.26	8.60	8.61	8.08	6.90	5.61	4.42
Ta (N)	1.10	1.51	2.02	2.57	3.00	3.17	3.17	2.90	2.37	1.80	1.33
W (N)	0.68	0.98	1.38	1.82	2.17	2.31	2.30	2.08	1.66	1.21	0.86
9Cr-1Mo (P)	3.39	5.63	8.87	13.41	17.47	19.01	19.27	16.84	11.97	7.56	4.59
Zry-2 (P)	9.70	16.13	25.46	38.55	50.27	54.73	55.47	48.45	34.41	21.69	13.16
Al (P)	1.16	1.90	2.97	4.44	5.76	6.25	6.33	5.54	3.97	2.53	1.55
SiC (P)	0.58	0.97	1.53	2.33	3.04	3.31	3.36	2.93	2.08	1.30	0.79
Ta (P)	9.35	15.59	24.68	37.46	48.92	53.29	54.01	47.15	33.41	20.99	12.71
W (P)	9.14	15.25	24.14	36.64	47.85	52.13	52.83	46.12	32.68	20.53	12.43
9Cr-1Mo (TOTAL)	7.05	10.43	15.03	20.97	26.07	28.02	28.28	25.21	18.99	13.10	8.85
Zry-2 (TOTAL)	13.72	21.44	32.30	46.99	59.90	64.83	65.56	57.81	42.22	27.83	17.86
Al (TOTAL)	7.01	9.28	12.08	15.26	17.81	18.78	18.88	17.33	14.10	10.83	8.17
SiC (TOTAL)	4.46	5.93	7.71	9.72	11.30	11.92	11.97	11.01	8.98	6.91	5.21
Ta (TOTAL)	10.46	17.10	26.70	40.04	51.92	56.46	57.17	50.05	35.77	22.79	14.04
W (TOTAL)	9.83	16.23	25.51	38.47	50.02	54.44	55.13	48.20	34.33	21.74	13.29



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	20.4	28.9	40.0	52.3	61.8	65.5	65.4	59.5	47.6	35.3	25.2
Zry-2 (N)	13.2	19.6	28.2	38.0	45.9	49.1	48.9	43.8	34.5	24.8	17.1
Al (N)	34.3	48.0	65.5	84.9	99.7	105.0	104.9	96.0	77.2	57.7	41.7
SiC (N)	151.7	208.6	278.8	357.7	415.3	437.8	436.3	402.2	326.3	246.3	180.9
Ta (N)	11.7	18.1	27.2	37.7	46.5	49.9	49.9	44.1	34.2	24.0	16.0
W (N)	11.0	17.0	25.6	35.5	43.8	47.1	47.1	41.6	32.2	22.6	15.0
9Cr-1Mo (P)	479	803	1275	1942	2540	2769	2807	2448	1729	1082	653
Zry-2 (P)	330	551	874	1329	1737	1893	1918	1674	1184	742	448
Al (P)	363	607	962	1462	1911	2082	2111	1842	1303	817	494
SiC (P)	328	547	864	1309	1708	1860	1885	1646	1168	735	446
Ta (P)	574	963	1532	2337	3059	3335	3380	2948	2080	1300	783
W (P)	521	873	1388	2117	2770	3020	3061	2670	1884	1178	710
9Cr-1Mo (TOTAL)	500	831	1315	1994	2602	2835	2872	2508	1777	1117	678
Zry-2 (TOTAL)	343	570	902	1367	1783	1942	1967	1718	1219	767	466
Al (TOTAL)	398	655	1027	1547	2011	2187	2216	1938	1381	875	536
SiC (TOTAL)	480	755	1142	1667	2123	2297	2321	2048	1494	981	626
Ta (TOTAL)	586	981	1559	2374	3105	3385	3430	2992	2114	1324	799
W (TOTAL)	532	890	1414	2152	2814	3067	3108	2711	1917	1201	725

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	207.6	292.1	400.4	521.7	614.6	653.4	650.2	592.1	476.5	354.1	255.9
Zry-2 (N)	104.5	152.5	216.9	290.1	348.2	372.1	370.5	333.4	263.7	190.9	133.6
Al (N)	123.7	172.4	233.9	302.8	354.2	375.9	374.4	342.3	276.6	206.8	150.8
Ta (N)	97.5	145.8	212.3	288.5	350.2	375.5	374.1	334.1	261.8	186.7	128.0
9Cr-1Mo (P)	1946	3240	5123	7769	10138	11042	11189	9770	6930	4358	2641
Zry-2 (P)	1805	3005	4750	7202	9397	10234	10370	9055	6425	4041	2450
Al (P)	762	1267	1999	3026	3944	4294	4351	3800	2701	1702	1034
Ta (P)	2745	4596	7300	11121	14548	15859	16073	14021	9904	6198	3738
9Cr-1Mo (TOTAL)	2153	3532	5523	8291	10753	11696	11839	10362	7407	4712	2897
Zry-2 (TOTAL)	1909	3157	4967	7492	9745	10606	10741	9388	6689	4232	2583
Al (TOTAL)	886	1440	2233	3328	4298	4670	4725	4143	2978	1909	1184
Ta (TOTAL)	2843	4741	7512	11410	14899	16234	16447	14356	10165	6384	3866



TABLE B4. IRRADIATION PARAMETERS ROD 1 (ROW 2)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	4.52	6.06	7.85	9.71	10.95	11.39	11.31	10.31	8.59	6.79	5.14
Zry-2 (N)	5.00	6.75	8.79	10.95	12.39	12.90	12.81	11.64	9.65	7.59	5.70
Al (N)	7.05	9.03	11.26	13.46	14.88	15.40	15.30	14.15	12.13	9.93	7.82
SiC (N)	4.71	6.11	7.67	9.23	10.24	10.60	10.53	9.72	8.28	6.74	5.26
Ta (N)	1.43	2.02	2.73	3.52	4.07	4.27	4.24	3.79	3.06	2.32	1.67
W (N)	0.93	1.37	1.95	2.60	3.05	3.23	3.20	2.82	2.22	1.62	1.11
9Cr-1Mo (P)	3.49	5.96	9.65	14.90	18.90	20.67	20.16	16.77	11.69	7.69	4.58
Zry-2 (P)	9.93	17.00	27.55	42.62	54.09	59.17	57.70	47.97	33.40	21.95	13.04
Al (P)	1.22	2.06	3.30	5.04	6.35	6.92	6.76	5.66	3.98	2.64	1.58
SiC (P)	0.59	1.01	1.64	2.56	3.25	3.57	3.47	2.88	2.00	1.31	0.77
Ta (P)	9.45	16.24	26.38	40.94	52.04	56.97	55.54	46.11	32.02	20.99	12.43
W (P)	9.23	15.86	25.78	40.00	50.84	55.68	54.27	45.06	31.29	20.51	12.14
9Cr-1Mo (TOTAL)	8.01	12.02	17.50	24.61	29.85	32.06	31.47	27.08	20.28	14.48	9.72
Zry-2 (TOTAL)	14.93	23.75	36.34	53.57	66.48	72.07	70.51	59.61	43.05	29.54	18.74
Al (TOTAL)	8.27	11.09	14.56	18.50	21.23	22.32	22.06	19.81	16.11	12.57	9.40
SiC (TOTAL)	5.30	7.12	9.31	11.79	13.49	14.17	14.00	12.60	10.28	8.05	6.03
Ta (TOTAL)	10.88	18.26	29.11	44.46	56.11	61.24	59.78	49.90	35.08	23.31	14.10
W (TOTAL)	10.16	17.23	27.73	42.60	53.89	58.91	57.47	47.88	33.51	22.13	13.25



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	27.0	39.3	54.9	72.4	84.4	88.9	88.3	78.1	62.0	45.9	32.0
Zry-2 (N)	18.4	28.0	40.5	55.1	65.3	69.5	68.8	60.1	46.6	33.5	22.3
Al (N)	44.4	63.8	88.2	114.6	132.8	139.4	138.8	123.2	98.6	73.8	52.3
SiC (N)	193.5	273.3	371.9	477.5	551.2	575.5	573.4	512.7	414.4	315.6	226.6
Ta (N)	16.8	26.9	40.3	56.2	67.3	72.2	71.4	61.6	46.9	32.8	20.9
W (N)	15.8	25.2	37.9	53.0	63.5	68.1	67.3	58.0	44.2	30.8	19.6
9Cr-1Mo (P)	474	818	1335	2079	2647	2902	2828	2343	1622	1060	625
Zry-2 (P)	328	566	921	1432	1822	1997	1946	1614	1119	732	432
Al (P)	363	625	1017	1581	2011	2204	2148	1782	1236	809	478
SiC (P)	333	572	927	1436	1824	1996	1946	1617	1125	738	438
Ta (P)	564	974	1593	2485	3167	3473	3383	2802	1937	1264	744
W (P)	514	888	1451	2262	2882	3160	3078	2550	1764	1152	679
9Cr-1Mo (TOTAL)	501	857	1390	2152	2732	2991	2916	2422	1684	1106	657
Zry-2 (TOTAL)	347	593	961	1487	1887	2066	2014	1674	1165	765	455
Al (TOTAL)	407	689	1105	1696	2144	2343	2287	1905	1334	882	530
SiC (TOTAL)	527	845	1299	1914	2375	2572	2519	2130	1539	1054	664
Ta (TOTAL)	580	1001	1633	2541	3234	3545	3454	2863	1984	1297	765
W (TOTAL)	530	913	1488	2315	2945	3228	3146	2608	1808	1183	698

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	276.5	400.2	555.3	730.7	851.5	897.0	889.5	789.2	628.1	467.2	328.1
Zry-2 (N)	144.6	217.3	311.4	420.8	496.7	527.1	521.9	457.6	357.1	258.5	174.9
Al (N)	162.0	232.3	319.4	416.7	484.0	508.0	503.9	448.6	359.8	269.8	191.5
Ta (N)	138.3	212.8	310.9	426.6	507.0	540.6	534.8	465.8	359.6	256.2	169.3
9Cr-1Mo (P)	1967	3375	5477	8487	10776	11801	11504	9557	6645	4360	2585
Zry-2 (P)	1825	3131	5079	7869	9989	10939	10664	8861	6162	4043	2398
Al (P)	777	1330	2153	3328	4221	4620	4505	3747	2610	1715	1019
Ta (P)	2716	4688	7649	11918	15174	16636	16208	13432	9300	6076	3582
9Cr-1Mo (TOTAL)	2243	3776	6033	9218	11628	12697	12393	10347	7273	4827	2913
Zry-2 (TOTAL)	1969	3349	5391	8290	10486	11466	11186	9319	6519	4302	2573
Al (TOTAL)	939	1562	2472	3745	4705	5128	5009	4195	2969	1985	1211
Ta (TOTAL)	2854	4901	7960	12344	15681	17177	16743	13898	9659	6332	3751



TABLE B5. IRRADIATION PARAMETERS ROD 2 (ROW 3)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	5.20	6.95	8.99	10.95	12.16	12.50	12.28	11.20	9.45	7.50	5.71
Zry-2 (N)	5.76	7.75	10.09	12.38	13.79	14.19	13.93	12.66	10.63	8.39	6.34
Al (N)	8.02	10.27	12.79	15.11	16.54	16.92	16.67	15.43	13.35	10.94	8.66
SiC (N)	5.38	6.96	8.74	10.38	11.39	11.66	11.48	10.61	9.13	7.43	5.83
Ta (N)	1.66	2.34	3.17	4.03	4.57	4.72	4.62	4.12	3.36	2.57	1.87
W (N)	1.09	1.61	2.27	2.99	3.43	3.57	3.48	3.05	2.43	1.80	1.25
9Cr-1Mo (P)	3.36	5.78	9.71	15.05	18.35	19.29	18.32	14.70	10.52	7.06	4.22
Zry-2 (P)	9.49	16.38	27.59	42.83	52.24	54.92	52.15	41.79	29.86	20.02	11.95
Al (P)	1.19	2.03	3.35	5.11	6.22	6.52	6.22	5.03	3.63	2.46	1.48
SiC (P)	0.56	0.97	1.65	2.58	3.15	3.32	3.15	2.51	1.79	1.19	0.71
Ta (P)	8.91	15.42	26.08	40.67	49.64	52.22	49.54	39.61	28.24	18.89	11.23
W (P)	8.69	15.03	25.43	39.67	48.41	50.91	48.30	38.62	27.53	18.41	10.95
9Cr-1Mo (TOTAL)	8.56	12.73	18.70	26.00	30.51	31.79	30.60	25.90	19.97	14.56	9.93
Zry-2 (TOTAL)	15.25	24.13	37.68	55.21	66.03	69.11	66.08	54.45	40.49	28.41	18.29
Al (TOTAL)	9.21	12.30	16.14	20.22	22.76	23.44	22.89	20.46	16.98	13.40	10.14
SiC (TOTAL)	5.94	7.93	10.39	12.96	14.54	14.98	14.63	13.12	10.92	8.62	6.54
Ta (TOTAL)	10.57	17.76	29.25	44.70	54.21	56.94	54.16	43.73	31.60	21.46	13.10
W (TOTAL)	9.78	16.64	27.70	42.66	51.84	54.48	51.78	41.67	29.96	20.21	12.20



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	31.4	45.6	63.3	82.2	93.9	97.5	95.2	84.0	67.6	50.6	35.7
Zry-2 (N)	21.6	33.0	47.5	64.1	74.1	77.3	75.1	65.2	51.0	37.1	25.2
Al (N)	51.4	73.2	100.3	128.7	146.4	151.8	148.2	131.8	106.9	80.8	57.9
SiC (N)	224.4	312.9	422.6	533.5	602.2	622.5	610.1	547.6	449.6	344.0	250.4
Ta (N)	19.8	32.1	47.7	66.4	77.6	81.3	78.6	67.3	51.5	36.5	23.8
W (N)	18.6	30.1	44.9	62.6	73.1	76.7	74.1	63.4	48.4	34.3	22.3
9Cr-1Mo (P)	434	754	1284	2012	2458	2587	2452	1955	1389	926	548
Zry-2 (P)	303	526	892	1395	1703	1792	1699	1357	966	645	382
Al (P)	337	584	991	1550	1892	1990	1887	1507	1073	716	425
SiC (P)	315	545	919	1430	1744	1833	1741	1394	995	666	397
Ta (P)	511	890	1518	2385	2915	3069	2907	2316	1643	1094	646
W (P)	470	818	1394	2188	2673	2814	2666	2125	1509	1005	594
9Cr-1Mo (TOTAL)	465	800	1347	2095	2552	2685	2547	2039	1457	977	584
Zry-2 (TOTAL)	325	559	940	1459	1777	1870	1775	1422	1017	682	408
Al (TOTAL)	388	658	1092	1678	2038	2142	2036	1639	1180	797	483
SiC (TOTAL)	540	857	1341	1963	2346	2456	2351	1941	1444	1010	647
Ta (TOTAL)	531	922	1566	2452	2993	3150	2986	2383	1695	1130	670
W (TOTAL)	489	848	1439	2251	2746	2891	2740	2188	1557	1039	616

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	323.5	467.2	645.8	835.5	951.8	987.7	965.2	854.2	688.8	518.6	367.4
Zry-2 (N)	170.0	256.3	365.4	487.0	561.0	584.7	569.3	496.5	391.7	287.7	197.1
Al (N)	188.9	269.5	369.3	473.0	536.6	556.4	544.3	484.3	393.7	298.6	213.4
Ta (N)	163.1	252.8	367.0	498.1	577.3	603.2	585.8	506.7	394.5	285.5	191.7
9Cr-1Mo (P)	1848	3192	5390	8388	10230	10756	10210	8175	5832	3905	2326
Zry-2 (P)	1713	2958	4993	7768	9473	9961	9456	7572	5402	3618	2156
Al (P)	736	1267	2132	3307	4032	4237	4025	3228	2307	1548	924
Ta (P)	2491	4330	7368	11552	14111	14852	14075	11224	7976	5317	3146
9Cr-1Mo (TOTAL)	2172	3660	6036	9223	11182	11744	11175	9029	6521	4424	2694
Zry-2 (TOTAL)	1883	3215	5358	8255	10034	10545	10025	8068	5794	3906	2353
Al (TOTAL)	924	1537	2501	3780	4568	4793	4570	3712	2701	1846	1138
Ta (TOTAL)	2654	4583	7735	12050	14689	15455	14661	11731	8370	5602	3338



TABLE B6. IRRADIATION PARAMETERS ROD 3 (ROW 3)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	4.99	6.65	8.46	10.33	11.62	12.08	12.13	11.34	9.60	7.59	5.81
Zry-2 (N)	5.53	7.41	9.48	11.64	13.13	13.70	13.75	12.82	10.80	8.49	6.46
Al (N)	7.76	9.90	12.15	14.42	15.92	16.46	16.49	15.56	13.50	11.06	8.78
SiC (N)	5.20	6.70	8.29	9.89	10.96	11.33	11.35	10.70	9.24	7.52	5.92
Ta (N)	1.59	2.22	2.94	3.72	4.29	4.53	4.55	4.18	3.43	2.60	1.92
W (N)	1.03	1.52	2.09	2.72	3.19	3.40	3.42	3.11	2.49	1.82	1.29
9Cr-1Mo (P)	3.26	5.42	8.52	12.84	16.63	18.08	18.35	16.05	11.44	7.25	4.41
Zry-2 (P)	9.24	15.37	24.18	36.51	47.37	51.52	52.29	45.71	32.53	20.58	12.51
Al (P)	1.15	1.90	2.95	4.40	5.64	6.12	6.21	5.46	3.92	2.52	1.55
SiC (P)	0.55	0.91	1.44	2.19	2.86	3.11	3.15	2.75	1.95	1.23	0.74
Ta (P)	8.69	14.49	22.88	34.66	45.07	49.06	49.78	43.48	30.86	19.45	11.79
W (P)	8.48	14.13	22.31	33.80	43.96	47.85	48.56	42.41	30.09	18.97	11.50
9Cr-1Mo (TOTAL)	8.25	12.07	16.98	23.17	28.25	30.16	30.48	27.39	21.04	14.84	10.22
Zry-2 (TOTAL)	14.77	22.78	33.66	48.15	60.50	65.22	66.04	58.53	43.33	29.07	18.97
Al (TOTAL)	8.91	11.80	15.10	18.82	21.56	22.58	22.70	21.02	17.42	13.58	10.33
SiC (TOTAL)	5.75	7.61	9.73	12.08	13.82	14.44	14.50	13.45	11.19	8.75	6.66
Ta (TOTAL)	10.28	16.71	25.82	38.38	49.36	53.59	54.33	47.66	34.29	22.05	13.71
W (TOTAL)	9.51	15.65	24.40	36.52	47.15	51.25	51.98	45.52	32.58	20.79	12.79



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	29.7	43.2	58.5	75.4	87.8	93.1	93.7	85.7	69.1	51.1	36.6
Zry-2 (N)	20.3	30.9	43.4	57.5	68.0	73.2	73.6	66.6	52.4	37.6	26.0
Al (N)	48.6	69.8	93.5	119.1	137.6	145.3	146.3	134.5	109.3	81.6	59.1
SiC (N)	212.4	298.6	395.7	496.5	571.6	597.1	603.4	558.0	458.6	347.4	256.3
Ta (N)	18.7	29.6	43.0	58.5	70.0	76.5	76.7	68.8	53.1	37.1	24.8
W (N)	17.5	27.8	40.4	55.1	65.9	72.0	72.3	64.7	49.9	34.9	23.3
9Cr-1Mo (P)	425	712	1129	1717	2240	2440	2476	2160	1527	959	578
Zry-2 (P)	297	496	784	1191	1551	1689	1714	1496	1059	666	403
Al (P)	330	550	871	1322	1721	1874	1901	1660	1176	740	448
SiC (P)	307	512	806	1219	1583	1723	1748	1528	1086	686	416
Ta (P)	502	841	1336	2036	2660	2898	2940	2564	1810	1134	683
W (P)	461	772	1225	1866	2436	2654	2693	2348	1659	1040	627
9Cr-1Mo (TOTAL)	455	755	1187	1793	2328	2533	2569	2245	1596	1010	615
Zry-2 (TOTAL)	317	527	828	1248	1619	1762	1787	1562	1112	704	429
Al (TOTAL)	378	620	964	1441	1859	2019	2048	1794	1285	821	507
SiC (TOTAL)	520	810	1202	1716	2155	2320	2352	2086	1544	1033	673
Ta (TOTAL)	521	871	1379	2095	2730	2974	3017	2632	1864	1171	708
W (TOTAL)	478	800	1265	1921	2502	2726	2765	2413	1709	1075	650

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	307.0	441.4	597.8	766.7	892.7	943.1	950.1	870.0	704.3	524.3	378.3
Zry-2 (N)	160.6	240.2	334.8	440.0	518.8	555.1	558.3	506.5	401.7	291.3	203.7
Al (N)	179.4	255.5	342.7	436.5	506.0	532.1	536.6	493.0	402.0	301.7	219.5
Ta (N)	153.8	235.4	334.0	445.5	529.0	570.3	573.3	517.3	405.5	289.5	198.7
9Cr-1Mo (P)	1803	3004	4734	7161	9298	10117	10270	8972	6374	4026	2444
Zry-2 (P)	1671	2785	4387	6636	8612	9370	9513	8311	5905	3731	2265
Al (P)	716	1192	1873	2827	3662	3983	4044	3535	2516	1594	970
Ta (P)	2441	4086	6477	9854	12858	14003	14208	12395	8766	5501	3320
9Cr-1Mo (TOTAL)	2110	3446	5332	7928	10191	11060	11220	9842	7078	4551	2822
Zry-2 (TOTAL)	1832	3025	4722	7076	9131	9925	10071	8818	6307	4022	2469
Al (TOTAL)	896	1447	2216	3263	4168	4515	4581	4028	2918	1896	1189
Ta (TOTAL)	2595	4322	6811	10300	13387	14574	14781	12912	9171	5791	3518



TABLE B7. IRRADIATION PARAMETERS ROD 4 (ROW 4)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	5.62	7.45	9.45	11.51	12.85	13.29	13.16	12.20	10.31	8.25	6.31
Zry-2 (N)	6.24	8.34	10.65	13.03	14.60	15.12	14.96	13.82	11.64	9.26	7.04
Al (N)	8.65	11.00	13.53	16.00	17.58	18.09	17.94	16.81	14.52	11.99	9.51
SiC (N)	5.81	7.46	9.24	10.99	12.11	12.48	12.36	11.57	9.95	8.16	6.42
Ta (N)	1.82	2.54	3.36	4.24	4.83	5.04	4.99	4.53	3.74	2.88	2.11
W (N)	1.20	1.75	2.41	3.12	3.61	3.79	3.74	3.36	2.72	2.03	1.42
9Cr-1Mo (P)	3.33	5.68	9.14	14.03	17.75	19.39	18.86	15.77	11.05	7.29	4.36
Zry-2 (P)	9.39	16.04	25.85	39.78	50.39	55.06	53.58	44.74	31.29	20.61	12.30
Al (P)	1.18	2.00	3.18	4.79	6.02	6.56	6.37	5.37	3.81	2.54	1.54
SiC (P)	0.56	0.95	1.55	2.40	3.05	3.34	3.25	2.70	1.88	1.23	0.73
Ta (P)	8.75	14.99	24.27	37.51	47.62	52.06	50.67	42.23	29.43	19.32	11.48
W (P)	8.53	14.62	23.66	36.57	46.43	50.75	49.41	41.17	28.70	18.84	11.19
9Cr-1Mo (TOTAL)	8.95	13.13	18.59	25.54	30.60	32.68	32.02	27.97	21.36	15.54	10.67
Zry-2 (TOTAL)	15.63	24.38	36.50	52.81	64.99	70.18	68.54	58.56	42.93	29.87	19.34
Al (TOTAL)	9.83	13.00	16.71	20.79	23.60	24.65	24.31	22.18	18.33	14.53	11.05
SiC (TOTAL)	6.37	8.41	10.79	13.39	15.16	15.82	15.61	14.27	11.83	9.39	7.15
Ta (TOTAL)	10.57	17.53	27.63	41.75	52.45	57.10	55.66	46.76	33.17	22.20	13.59
W (TOTAL)	9.73	16.37	26.07	39.69	50.04	54.54	53.15	44.53	31.42	20.87	12.61



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	34.2	49.2	66.7	85.6	98.4	103.1	101.8	92.1	74.7	56.2	40.2
Zry-2 (N)	23.9	36.1	50.9	67.2	78.4	82.7	81.6	72.6	57.9	42.4	29.0
Al (N)	55.5	78.3	105.2	133.6	152.9	159.8	157.9	143.6	117.0	88.8	64.4
SiC (N)	240.5	333.1	438.4	549.1	623.6	650.5	642.6	589.4	486.0	375.4	276.7
Ta (N)	22.4	35.5	51.9	70.2	82.8	88.0	86.6	76.3	59.7	42.6	28.0
W (N)	21.0	33.3	48.8	66.0	77.9	82.8	81.5	71.8	56.1	40.1	26.2
9Cr-1Mo (P)	421	724	1178	1831	2331	2550	2483	2064	1433	936	553
Zry-2 (P)	295	506	822	1274	1620	1772	1725	1436	998	654	387
Al (P)	329	564	915	1419	1804	1973	1920	1599	1112	728	432
SiC (P)	311	531	858	1322	1677	1832	1783	1488	1039	683	407
Ta (P)	493	850	1385	2159	2752	3012	2933	2435	1687	1100	648
W (P)	455	784	1277	1989	2533	2772	2699	2242	1554	1014	598
9Cr-1Mo (TOTAL)	455	773	1245	1917	2429	2653	2585	2156	1507	992	593
Zry-2 (TOTAL)	319	543	873	1342	1698	1855	1807	1508	1056	696	416
Al (TOTAL)	384	643	1021	1553	1957	2132	2078	1742	1229	817	496
SiC (TOTAL)	551	864	1296	1871	2300	2482	2425	2077	1525	1059	684
Ta (TOTAL)	515	885	1437	2229	2835	3100	3019	2511	1747	1143	676
W (TOTAL)	476	817	1326	2055	2611	2855	2781	2314	1611	1054	624

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	354.0	506.3	680.4	871.0	999.3	1044.6	1033.9	934.7	763.6	578.9	414.9
Zry-2 (N)	188.2	280.2	389.0	509.3	591.8	622.4	615.2	549.5	441.4	326.1	226.0
Al (N)	205.7	290.6	386.0	490.7	560.6	585.1	579.2	526.5	432.1	330.6	239.4
Ta (N)	182.1	278.1	393.8	522.5	611.2	645.4	637.3	565.4	449.7	327.5	222.0
9Cr-1Mo (P)	1814	3103	5012	7730	9801	10709	10424	8699	6074	3992	2378
Zry-2 (P)	1680	2872	4638	7152	9067	9907	9643	8048	5621	3694	2202
Al (P)	725	1236	1991	3060	3873	4230	4116	3441	2409	1587	949
Ta (P)	2416	4158	6766	10519	13391	14649	14264	11856	8229	5376	3175
9Cr-1Mo (TOTAL)	2168	3609	5692	8601	10800	11754	11458	9633	6838	4571	2793
Zry-2 (TOTAL)	1868	3153	5027	7662	9659	10530	10258	8598	6062	4020	2428
Al (TOTAL)	930	1527	2377	3551	4434	4815	4696	3968	2841	1918	1189
Ta (TOTAL)	2598	4436	7159	11042	14002	15295	14902	12421	8679	5704	3397



TABLE B8. IRRADIATION PARAMETERS ROD C (ROW 6)

	X (cm)										
dpa	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	7.51	10.05	13.05	16.21	18.25	18.97	18.80	17.18	14.31	11.32	8.52
Zry-2 (P)	8.77	14.87	23.91	36.63	46.29	50.29	49.17	41.10	28.89	19.04	11.44
Zry-2 (TOTAL)	16.28	24.92	36.96	52.84	64.54	69.26	67.97	58.28	43.20	30.36	19.96

	X (cm)										
appm He	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	28.40	41.44	58.11	75.55	87.65	92.06	91.24	81.29	65.08	48.39	34.02
Zry-2 (P)	262.2	448.1	726.3	1121.8	1423.2	1549.6	1514.3	1261.3	881.3	577.0	343.1
Zry-2 (TOTAL)	290.6	489.5	784.4	1197.4	1510.8	1641.7	1605.5	1342.6	946.4	625.4	377.2

	X (cm)										
appm H	-4.50	-3.50	-2.50	-1.50	-0.625	0.00	0.625	1.50	2.50	3.50	4.50
Zry-2 (N)	224.26	323.00	447.97	579.81	669.86	702.48	696.86	621.90	500.89	374.62	266.36
Zry-2 (P)	1523	2586	4167	6395	8089	8792	8597	7180	5039	3316	1986
Zry-2 (TOTAL)	1747	2909	4615	6975	8759	9495	9294	7802	5540	3691	2253



TABLE B9. IRRADIATION PARAMETERS ROD 5 (ROW 14)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	5.71	7.18	8.74	10.27	11.20	11.52	11.45	10.71	9.38	7.79	6.23
Zry-2 (N)	6.42	8.09	9.89	11.62	12.72	13.06	13.00	12.15	10.61	8.80	7.02
Al (N)	8.86	10.79	12.83	14.74	15.89	16.29	16.20	15.28	13.60	11.58	9.52
SiC (N)	5.89	7.24	8.67	10.03	10.84	11.12	11.05	10.41	9.22	7.80	6.36
Ta (N)	1.99	2.56	3.17	3.76	4.16	4.27	4.26	3.97	3.43	2.80	2.20
W (N)	1.35	1.79	2.25	2.71	3.03	3.12	3.12	2.88	2.46	1.97	1.51
9Cr-1Mo (P)	2.51	4.19	6.61	9.79	12.20	13.09	12.82	10.86	7.92	5.29	3.24
Zry-2 (P)	6.84	11.43	18.08	26.83	33.46	35.90	35.17	29.79	21.69	14.44	8.82
Al (P)	0.96	1.57	2.42	3.53	4.35	4.66	4.57	3.90	2.88	1.95	1.22
SiC (P)	0.42	0.71	1.14	1.71	2.14	2.30	2.25	1.90	1.37	0.91	0.55
Ta (P)	5.77	9.71	15.45	23.03	28.80	30.91	30.27	25.60	18.58	12.30	7.47
W (P)	5.58	9.39	14.94	22.26	27.83	29.88	29.26	24.75	17.96	11.90	7.23
9Cr-1Mo (TOTAL)	8.22	11.37	15.35	20.06	23.40	24.61	24.27	21.57	17.30	13.08	9.47
Zry-2 (TOTAL)	13.26	19.52	27.97	38.45	46.18	48.96	48.17	41.94	32.30	23.24	15.84
Al (TOTAL)	9.82	12.36	15.25	18.27	20.24	20.95	20.77	19.18	16.48	13.53	10.74
SiC (TOTAL)	6.31	7.95	9.81	11.74	12.98	13.42	13.30	12.31	10.59	8.71	6.91
Ta (TOTAL)	7.76	12.27	18.62	26.79	32.96	35.18	34.53	29.57	22.01	15.10	9.67
W (TOTAL)	6.93	11.18	17.19	24.97	30.86	33.00	32.38	27.63	20.42	13.87	8.74



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	36.6	48.2	60.6	72.9	81.3	83.7	83.5	77.1	66.0	53.1	41.0
Zry-2 (N)	27.8	37.3	47.5	57.2	64.5	66.0	66.2	61.2	51.9	41.4	31.5
Al (N)	57.2	74.7	93.8	112.7	125.2	129.1	128.4	118.6	101.9	82.2	63.8
SiC (N)	245.4	317.3	394.4	474.4	521.7	538.9	536.6	495.3	428.7	345.8	270.9
Ta (N)	27.6	37.9	48.8	58.7	66.9	68.2	68.6	63.5	53.4	42.2	31.8
W (N)	25.8	35.3	45.5	54.7	62.4	63.5	63.9	59.1	49.8	39.4	29.7
9Cr-1Mo (P)	227	386	619	928	1163	1250	1224	1033	746	491	296
Zry-2 (P)	165	278	445	664	831	893	874	739	535	353	214
Al (P)	194	327	523	782	979	1052	1029	870	630	416	251
SiC (P)	210	352	558	829	1035	1110	1088	921	670	445	271
Ta (P)	240	409	660	993	1248	1342	1313	1107	797	522	313
W (P)	238	405	652	981	1232	1324	1296	1092	787	516	310
9Cr-1Mo (TOTAL)	264	434	679	1000	1245	1334	1307	1110	812	544	337
Zry-2 (TOTAL)	193	316	492	721	896	959	940	800	587	395	245
Al (TOTAL)	251	402	617	895	1104	1181	1158	988	732	498	315
SiC (TOTAL)	456	669	952	1304	1557	1649	1624	1416	1099	791	542
Ta (TOTAL)	267	447	709	1052	1315	1410	1382	1170	850	564	345
W (TOTAL)	263	440	698	1035	1294	1387	1360	1151	837	556	339

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	388.5	509.4	636.8	763.7	848.7	873.4	871.4	807.5	693.0	559.1	433.1
Zry-2 (N)	217.0	289.7	366.3	440.8	494.8	508.0	508.4	470.2	400.1	320.1	244.6
Al (N)	219.6	286.8	357.6	429.1	474.7	490.0	488.1	452.0	389.0	314.4	244.4
Ta (N)	217.2	292.6	372.2	448.0	505.8	517.9	519.5	480.4	407.1	324.4	246.3
9Cr-1Mo (P)	1164	1947	3084	4577	5713	6132	6004	5084	3701	2461	1501
Zry-2 (P)	1054	1762	2788	4135	5159	5538	5422	4593	3344	2225	1358
Al (P)	485	807	1271	1879	2340	2511	2459	2085	1522	1016	623
Ta (P)	1319	2238	3592	5384	6754	7257	7104	5995	4329	2849	1716
9Cr-1Mo (TOTAL)	1553	2457	3721	5341	6561	7006	6876	5892	4394	3020	1934
Zry-2 (TOTAL)	1271	2052	3154	4576	5654	6046	5931	5063	3744	2545	1603
Al (TOTAL)	704	1093	1628	2308	2815	3001	2947	2537	1911	1331	867
Ta (TOTAL)	1536	2531	3964	5832	7260	7775	7623	6475	4736	3174	1962



TABLE B10. IRRADIATION PARAMETERS ROD 6 (ROW 16)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	5.27	6.59	7.98	9.26	10.04	10.32	10.27	9.68	8.50	7.12	5.79
Zry-2 (N)	5.95	7.45	9.03	10.49	11.40	11.73	11.66	10.98	9.63	8.05	6.53
Al (N)	8.23	9.99	11.78	13.40	14.37	14.72	14.66	13.89	12.42	10.65	8.91
SiC (N)	5.45	6.68	7.93	9.07	9.76	10.01	9.97	9.42	8.39	7.14	5.92
Ta (N)	1.87	2.36	2.90	3.41	3.74	3.85	3.82	3.59	3.13	2.58	2.06
W (N)	1.27	1.65	2.06	2.45	2.72	2.80	2.78	2.60	2.24	1.82	1.41
9Cr-1Mo (P)	2.39	3.96	6.22	9.07	11.18	11.95	11.69	10.04	7.40	4.95	3.07
Zry-2 (P)	6.44	10.74	16.90	24.67	30.45	32.55	31.82	27.33	20.12	13.42	8.31
Al (P)	0.94	1.53	2.35	3.38	4.12	4.40	4.31	3.73	2.78	1.89	1.20
SiC (P)	0.40	0.67	1.07	1.58	1.96	2.10	2.05	1.75	1.28	0.85	0.52
Ta (P)	5.31	8.90	14.09	20.66	25.57	27.35	26.72	22.91	16.81	11.17	6.86
W (P)	5.13	8.61	13.62	19.96	24.70	26.41	25.80	22.13	16.24	10.79	6.63
9Cr-1Mo (TOTAL)	7.66	10.55	14.20	18.33	21.22	22.27	21.96	19.72	15.90	12.07	8.86
Zry-2 (TOTAL)	12.39	18.19	25.93	35.16	41.85	44.28	43.48	38.31	29.75	21.47	14.84
Al (TOTAL)	9.17	11.52	14.13	16.78	18.49	19.12	18.97	17.62	15.20	12.54	10.11
SiC (TOTAL)	5.85	7.35	9.00	10.65	11.72	12.11	12.02	11.17	9.67	7.99	6.44
Ta (TOTAL)	7.18	11.26	16.99	24.07	29.31	31.20	30.54	26.50	19.94	13.75	8.92
W (TOTAL)	6.40	10.26	15.68	22.41	27.42	29.21	28.58	24.73	18.48	12.61	8.04



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	34.2	44.2	55.1	65.4	72.4	74.7	74.0	69.4	59.7	48.6	38.1
Zry-2 (N)	26.5	34.4	43.2	51.7	57.5	59.3	58.6	54.9	47.3	38.3	29.5
Al (N)	52.9	68.4	84.8	100.5	111.0	114.6	113.5	106.5	91.7	74.6	58.9
SiC (N)	225.9	289.6	358.0	422.4	465.9	479.2	476.6	447.1	384.9	315.1	250.3
Ta (N)	26.7	35.0	44.1	53.1	59.3	61.1	60.3	56.5	48.8	39.2	29.7
W (N)	24.9	32.6	41.0	49.3	55.1	56.8	56.1	52.5	45.4	36.5	27.7
9Cr-1Mo (P)	200	339	541	797	989	1059	1034	884	646	427	260
Zry-2 (P)	146	246	390	573	710	759	742	636	465	308	189
Al (P)	173	292	464	682	846	905	884	757	554	367	225
SiC (P)	195	325	513	749	926	990	967	830	611	407	251
Ta (P)	205	350	561	830	1033	1107	1080	922	671	441	267
W (P)	206	351	562	830	1033	1106	1080	922	672	442	268
9Cr-1Mo (TOTAL)	234	383	596	862	1062	1134	1108	954	706	475	298
Zry-2 (TOTAL)	173	280	433	625	767	819	800	691	513	347	218
Al (TOTAL)	226	361	549	783	957	1019	997	863	646	442	283
SiC (TOTAL)	421	615	871	1172	1392	1469	1444	1278	996	722	502
Ta (TOTAL)	232	385	605	883	1093	1168	1140	979	720	481	296
W (TOTAL)	231	383	603	880	1088	1163	1136	975	717	479	295

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	365.2	468.4	583.2	690.9	761.8	785.4	779.8	730.7	630.1	515.4	404.9
Zry-2 (N)	206.4	267.0	334.8	399.7	443.5	457.6	453.1	424.3	364.9	296.2	229.4
Al (N)	204.9	262.8	327.2	386.9	425.8	438.5	436.4	408.7	352.0	288.2	227.3
Ta (N)	208.1	270.2	339.4	406.6	452.5	466.5	461.6	432.1	372.0	301.0	231.4
9Cr-1Mo (P)	1072	1785	2809	4103	5066	5414	5293	4547	3345	2230	1380
Zry-2 (P)	969	1611	2531	3696	4561	4874	4767	4096	3015	2011	1247
Al (P)	451	747	1169	1702	2097	2240	2191	1885	1391	931	580
Ta (P)	1165	1973	3148	4641	5764	6170	6022	5152	3763	2484	1511
9Cr-1Mo (TOTAL)	1437	2254	3392	4794	5827	6200	6073	5278	3975	2746	1785
Zry-2 (TOTAL)	1175	1878	2866	4096	5005	5332	5220	4520	3379	2307	1476
Al (TOTAL)	656	1010	1496	2089	2523	2678	2628	2294	1743	1219	807
Ta (TOTAL)	1373	2243	3488	5047	6217	6636	6484	5584	4135	2785	1743



TABLE B11. IRRADIATION PARAMETERS ROD 7 (ROW 24)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.45	4.17	4.88	5.47	5.81	5.89	5.85	5.55	5.01	4.33	3.62
Zry-2 (N)	3.90	4.72	5.50	6.18	6.56	6.66	6.60	6.26	5.67	4.90	4.09
Al (N)	5.46	6.44	7.38	8.16	8.59	8.70	8.64	8.26	7.54	6.65	5.68
SiC (N)	3.57	4.25	4.90	5.45	5.76	5.83	5.79	5.52	5.02	4.40	3.72
Ta (N)	1.25	1.51	1.76	1.98	2.10	2.14	2.12	2.00	1.83	1.57	1.31
W (N)	0.86	1.05	1.23	1.40	1.49	1.53	1.51	1.41	1.29	1.09	0.91
9Cr-1Mo (P)	1.61	2.64	3.91	5.13	5.90	6.06	5.89	5.22	4.08	2.86	1.82
Zry-2 (P)	4.23	6.93	10.30	13.53	15.57	15.99	15.55	13.75	10.74	7.53	4.77
Al (P)	0.76	1.22	1.77	2.30	2.63	2.71	2.62	2.34	1.84	1.31	0.85
SiC (P)	0.27	0.46	0.69	0.92	1.06	1.09	1.07	0.94	0.73	0.50	0.31
Ta (P)	3.08	5.08	7.59	9.99	11.51	11.83	11.51	10.16	7.91	5.53	3.48
W (P)	3.04	5.00	7.47	9.83	11.32	11.63	11.32	9.99	7.79	5.44	3.43
9Cr-1Mo (TOTAL)	5.06	6.81	8.79	10.60	11.71	11.95	11.74	10.77	9.09	7.19	5.44
Zry-2 (TOTAL)	8.13	11.65	15.80	19.71	22.13	22.65	22.15	20.01	16.41	12.43	8.86
Al (TOTAL)	6.22	7.66	9.15	10.46	11.22	11.41	11.26	10.60	9.38	7.96	6.53
SiC (TOTAL)	3.84	4.71	5.59	6.37	6.82	6.92	6.86	6.46	5.75	4.90	4.03
Ta (TOTAL)	4.33	6.59	9.35	11.97	13.61	13.97	13.63	12.16	9.74	7.10	4.79
W (TOTAL)	3.90	6.05	8.70	11.23	12.81	13.16	12.83	11.40	9.08	6.53	4.34



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	22.7	27.8	32.8	37.3	39.7	40.5	40.2	37.6	34.2	29.0	24.0
Zry-2 (N)	17.7	21.6	25.0	28.4	30.2	30.9	30.5	28.6	26.4	22.3	18.6
Al (N)	34.9	42.6	50.6	57.4	61.2	62.4	62.0	57.9	52.4	44.5	36.7
SiC (N)	151.3	184.9	220.1	249.8	266.6	272.1	270.9	252.3	226.1	192.6	158.7
Ta (N)	17.6	21.3	24.3	27.4	29.3	29.9	29.4	27.6	26.0	21.9	18.4
W (N)	16.3	19.8	22.5	25.4	27.2	27.7	27.2	25.6	24.1	20.3	17.1
9Cr-1Mo (P)	98	162	244	322	372	382	372	328	254	177	110
Zry-2 (P)	72	118	176	232	267	275	267	236	184	129	81
Al (P)	85	140	209	276	319	327	318	281	219	153	96
SiC (P)	121	197	293	385	443	456	443	392	306	214	136
Ta (P)	85	143	217	288	333	342	333	293	226	156	97
W (P)	88	147	223	296	342	351	343	301	233	161	100
9Cr-1Mo (TOTAL)	120	190	277	359	412	422	412	365	288	206	134
Zry-2 (TOTAL)	90	140	201	260	298	305	298	265	210	151	100
Al (TOTAL)	120	183	260	334	380	390	380	339	271	197	133
SiC (TOTAL)	272	382	513	635	710	728	714	644	532	407	295
Ta (TOTAL)	103	164	241	315	362	371	363	320	252	178	115
W (TOTAL)	104	167	246	321	369	379	370	326	257	181	117

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	246.1	301.5	354.1	402.2	428.0	438.0	432.3	407.1	368.1	313.1	259.7
Zry-2 (N)	139.3	170.5	198.7	226.0	240.7	246.4	242.8	228.2	208.6	176.7	147.0
Al (N)	137.7	169.1	199.6	227.1	241.8	247.1	244.5	229.7	206.6	175.7	145.4
Ta (N)	140.2	171.1	197.8	224.6	239.3	244.8	241.0	226.5	208.9	176.7	147.7
9Cr-1Mo (P)	659	1074	1590	2085	2398	2464	2395	2121	1659	1166	741
Zry-2 (P)	585	950	1403	1839	2114	2172	2110	1870	1464	1031	657
Al (P)	295	477	703	919	1056	1085	1054	935	733	517	331
Ta (P)	583	970	1460	1929	2228	2287	2230	1962	1523	1058	660
9Cr-1Mo (TOTAL)	905	1376	1944	2487	2826	2902	2827	2528	2027	1479	1001
Zry-2 (TOTAL)	724	1121	1601	2065	2355	2419	2353	2099	1673	1207	804
Al (TOTAL)	432	646	902	1146	1297	1332	1298	1165	940	693	476
Ta (TOTAL)	723	1141	1658	2154	2468	2532	2471	2189	1732	1235	807



TABLE B12. IRRADIATION PARAMETERS ROD 8 (ROW 24)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.53	4.22	4.95	5.60	5.99	6.12	6.05	5.78	5.24	4.53	3.78
Zry-2 (N)	3.99	4.77	5.60	6.34	6.78	6.92	6.84	6.54	5.94	5.12	4.27
Al (N)	5.55	6.50	7.47	8.31	8.81	8.96	8.89	8.52	7.82	6.88	5.89
SiC (N)	3.64	4.29	4.97	5.55	5.90	6.02	5.96	5.71	5.21	4.56	3.87
Ta (N)	1.27	1.53	1.81	2.05	2.20	2.23	2.20	2.12	1.92	1.65	1.38
W (N)	0.87	1.07	1.27	1.46	1.57	1.60	1.57	1.51	1.37	1.16	0.95
9Cr-1Mo (P)	1.78	2.88	4.30	5.78	6.87	7.15	7.07	6.30	4.95	3.44	2.22
Zry-2 (P)	4.66	7.59	11.35	15.28	18.16	18.90	18.70	16.64	13.07	9.08	5.82
Al (P)	0.83	1.31	1.93	2.55	3.03	3.14	3.11	2.78	2.20	1.56	1.02
SiC (P)	0.30	0.51	0.77	1.05	1.25	1.30	1.29	1.14	0.89	0.61	0.38
Ta (P)	3.42	5.59	8.40	11.36	13.51	14.07	13.92	12.36	9.69	6.70	4.28
W (P)	3.36	5.50	8.26	11.16	13.27	13.82	13.67	12.15	9.52	6.59	4.21
9Cr-1Mo (TOTAL)	5.31	7.10	9.25	11.38	12.86	13.27	13.12	12.08	10.19	7.97	6.00
Zry-2 (TOTAL)	8.65	12.36	16.95	21.62	24.94	25.82	25.54	23.18	19.01	14.20	10.09
Al (TOTAL)	6.38	7.81	9.40	10.86	11.84	12.10	12.00	11.30	10.02	8.44	6.91
SiC (TOTAL)	3.94	4.80	5.74	6.60	7.15	7.32	7.25	6.85	6.10	5.17	4.25
Ta (TOTAL)	4.69	7.12	10.21	13.41	15.71	16.30	16.12	14.48	11.61	8.35	5.66
W (TOTAL)	4.23	6.57	9.53	12.62	14.84	15.42	15.24	13.66	10.89	7.75	5.16



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	23.2	28.3	33.8	38.7	41.6	42.5	42.0	40.2	36.3	30.9	25.3
Zry-2 (N)	17.9	21.9	25.9	29.6	31.8	32.2	31.8	30.8	28.0	23.8	19.7
Al (N)	35.6	43.2	51.8	59.6	63.9	65.4	64.9	61.8	55.6	47.6	38.9
SiC (N)	155.4	187.4	225.2	259.3	278.3	284.1	281.0	268.2	239.6	205.6	168.1
Ta (N)	17.5	21.5	25.2	28.8	30.8	31.0	30.6	29.9	27.3	23.3	19.4
W (N)	16.3	20.0	23.4	26.7	28.5	28.7	28.3	27.7	25.3	21.7	18.1
9Cr-1Mo (P)	109	180	271	369	439	458	453	402	314	216	137
Zry-2 (P)	80	131	196	265	315	328	324	288	226	156	100
Al (P)	95	155	233	316	376	392	388	344	269	186	119
SiC (P)	133	216	324	436	518	539	533	474	373	259	166
Ta (P)	96	160	243	332	396	414	409	362	282	193	121
W (P)	99	165	250	342	407	425	420	372	290	198	125
9Cr-1Mo (TOTAL)	132	208	305	408	481	501	495	442	350	247	162
Zry-2 (TOTAL)	98	152	222	294	347	361	356	319	254	180	120
Al (TOTAL)	130	198	285	376	440	458	453	406	325	234	157
SiC (TOTAL)	288	404	549	695	796	823	814	743	612	464	334
Ta (TOTAL)	114	182	268	361	427	445	440	392	309	216	141
W (TOTAL)	115	185	273	368	436	454	449	400	315	220	143

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	251.9	306.4	364.8	417.3	449.9	457.5	450.6	433.3	390.6	332.4	273.5
Zry-2 (N)	141.7	173.5	205.9	235.6	254.0	257.4	253.5	244.9	221.8	188.2	155.1
Al (N)	141.3	171.7	205.6	235.3	253.7	258.7	254.7	244.0	218.9	186.5	153.0
Ta (N)	141.9	173.9	205.2	234.7	252.6	255.3	251.3	244.0	221.7	188.5	155.8
9Cr-1Mo (P)	725	1175	1752	2356	2797	2913	2880	2564	2017	1404	904
Zry-2 (P)	643	1039	1547	2078	2466	2568	2538	2261	1780	1240	800
Al (P)	323	520	772	1034	1227	1276	1262	1125	887	620	401
Ta (P)	651	1076	1624	2209	2631	2744	2714	2405	1878	1293	818
9Cr-1Mo (TOTAL)	977	1481	2117	2774	3247	3370	3330	2997	2408	1736	1177
Zry-2 (TOTAL)	784	1212	1753	2314	2720	2826	2792	2506	2002	1428	955
Al (TOTAL)	464	691	978	1269	1480	1535	1517	1369	1106	806	554
Ta (TOTAL)	793	1250	1829	2444	2884	2999	2965	2649	2100	1481	974



TABLE B13. IRRADIATION PARAMETERS ROD 9 (ROW 24)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.34	4.06	4.75	5.36	5.76	5.90	5.89	5.64	5.13	4.44	3.71
Zry-2 (N)	3.77	4.59	5.37	6.05	6.50	6.66	6.65	6.37	5.79	5.02	4.19
Al (N)	5.30	6.30	7.23	8.04	8.55	8.73	8.71	8.36	7.70	6.80	5.79
SiC (N)	3.46	4.15	4.80	5.37	5.73	5.85	5.84	5.60	5.13	4.51	3.80
Ta (N)	1.20	1.46	1.72	1.93	2.08	2.13	2.13	2.05	1.85	1.60	1.34
W (N)	0.82	1.01	1.20	1.35	1.47	1.50	1.51	1.45	1.30	1.11	0.93
9Cr-1Mo (P)	1.38	2.28	3.37	4.53	5.35	5.69	5.71	5.22	4.21	3.02	1.95
Zry-2 (P)	3.61	5.99	8.87	11.94	14.11	15.01	15.06	13.77	11.08	7.93	5.12
Al (P)	0.65	1.06	1.54	2.04	2.40	2.53	2.55	2.34	1.90	1.38	0.91
SiC (P)	0.23	0.39	0.59	0.81	0.96	1.03	1.03	0.94	0.75	0.53	0.33
Ta (P)	2.63	4.39	6.52	8.80	10.42	11.10	11.13	10.16	8.16	5.82	3.74
W (P)	2.59	4.32	6.42	8.67	10.26	10.92	10.96	10.01	8.04	5.74	3.69
9Cr-1Mo (TOTAL)	4.72	6.34	8.12	9.89	11.11	11.59	11.60	10.86	9.34	7.46	5.66
Zry-2 (TOTAL)	7.38	10.58	14.24	17.99	20.61	21.67	21.71	20.14	16.87	12.95	9.31
Al (TOTAL)	5.95	7.36	8.77	10.08	10.95	11.26	11.26	10.70	9.60	8.18	6.70
SiC (TOTAL)	3.69	4.54	5.39	6.18	6.69	6.88	6.87	6.54	5.88	5.04	4.13
Ta (TOTAL)	3.83	5.85	8.24	10.73	12.50	13.23	13.26	12.21	10.01	7.42	5.08
W (TOTAL)	3.41	5.33	7.62	10.02	11.73	12.42	12.47	11.46	9.34	6.85	4.62



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	21.8	26.9	31.8	36.1	39.1	40.1	40.1	38.7	34.6	29.7	24.5
Zry-2 (N)	16.8	20.7	24.4	27.4	29.7	30.5	30.4	29.5	26.4	22.8	19.0
Al (N)	33.4	41.4	48.9	55.7	60.4	61.9	61.8	59.5	53.3	45.7	37.5
SiC (N)	145.2	179.2	212.0	242.2	262.9	269.4	269.6	258.3	231.3	197.8	162.8
Ta (N)	16.6	20.3	23.9	26.6	28.7	29.5	29.3	28.7	25.6	22.3	18.7
W (N)	15.4	18.8	22.2	24.7	26.5	27.3	27.1	26.6	23.7	20.7	17.4
9Cr-1Mo (P)	83	140	209	283	336	359	359	328	262	186	119
Zry-2 (P)	61	102	152	204	242	258	258	236	189	135	87
Al (P)	72	121	180	243	288	307	308	281	225	160	103
SiC (P)	103	171	253	340	402	428	429	392	316	226	146
Ta (P)	72	123	185	252	300	321	321	292	233	165	104
W (P)	75	127	190	260	308	330	330	301	240	169	107
9Cr-1Mo (TOTAL)	105	167	241	319	375	399	400	366	297	216	143
Zry-2 (TOTAL)	78	123	176	232	272	288	289	266	216	158	106
Al (TOTAL)	106	162	229	299	348	369	370	340	279	206	141
SiC (TOTAL)	248	350	465	582	665	697	699	651	547	424	309
Ta (TOTAL)	89	143	209	279	328	350	351	321	259	187	123
W (TOTAL)	90	145	213	284	335	357	357	327	264	190	125

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	236.8	290.9	343.6	389.0	421.6	432.4	433.0	417.1	373.4	319.9	266.2
Zry-2 (N)	133.3	163.7	193.7	218.1	236.4	242.5	242.7	235.0	209.7	180.3	150.3
Al (N)	132.7	163.3	193.1	219.3	237.9	244.2	244.5	235.1	210.5	179.6	149.2
Ta (N)	133.6	163.7	193.6	216.8	234.6	240.8	240.7	234.0	208.5	180.3	150.7
9Cr-1Mo (P)	563	930	1373	1843	2176	2313	2322	2124	1710	1228	796
Zry-2 (P)	499	822	1213	1625	1918	2037	2046	1872	1508	1084	704
Al (P)	252	414	609	814	960	1018	1023	937	756	545	355
Ta (P)	496	836	1250	1698	2012	2149	2155	1964	1572	1114	710
9Cr-1Mo (TOTAL)	800	1220	1717	2232	2598	2745	2755	2541	2084	1548	1062
Zry-2 (TOTAL)	633	986	1407	1843	2155	2280	2289	2107	1718	1264	855
Al (TOTAL)	385	577	802	1033	1197	1262	1267	1172	966	724	504
Ta (TOTAL)	629	1000	1444	1915	2247	2390	2395	2198	1780	1294	861



TABLE B14. IRRADIATION PARAMETERS ROD 10 (ROW 25)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.23	3.87	4.49	5.04	5.33	5.41	5.41	5.16	4.68	4.06	3.42
Zry-2 (N)	3.65	4.39	5.09	5.71	6.05	6.13	6.13	5.85	5.31	4.61	3.88
Al (N)	5.09	5.98	6.79	7.51	7.89	7.99	7.98	7.66	7.03	6.22	5.35
SiC (N)	3.32	3.93	4.51	5.01	5.27	5.34	5.33	5.11	4.67	4.11	3.51
Ta (N)	1.18	1.42	1.65	1.86	1.97	2.00	2.00	1.91	1.73	1.50	1.26
W (N)	0.82	1.00	1.17	1.33	1.41	1.43	1.44	1.37	1.23	1.05	0.88
9Cr-1Mo (P)	1.66	2.73	4.00	5.32	6.13	6.36	6.23	5.53	4.41	3.11	2.00
Zry-2 (P)	4.34	7.14	10.50	13.98	16.12	16.72	16.38	14.52	11.57	8.15	5.22
Al (P)	0.81	1.30	1.88	2.47	2.83	2.94	2.88	2.56	2.06	1.47	0.96
SiC (P)	0.28	0.47	0.71	0.96	1.11	1.15	1.13	0.99	0.79	0.55	0.34
Ta (P)	3.12	5.14	7.60	10.14	11.72	12.16	11.91	10.54	8.38	5.88	3.75
W (P)	3.08	5.09	7.51	10.02	11.57	12.01	11.76	10.42	8.28	5.82	3.72
9Cr-1Mo (TOTAL)	4.89	6.60	8.49	10.36	11.46	11.77	11.64	10.69	9.09	7.17	5.42
Zry-2 (TOTAL)	7.99	11.53	15.59	19.69	22.17	22.85	22.51	20.37	16.88	12.76	9.10
Al (TOTAL)	5.90	7.28	8.67	9.98	10.72	10.93	10.86	10.22	9.09	7.69	6.31
SiC (TOTAL)	3.60	4.40	5.22	5.97	6.38	6.49	6.46	6.10	5.46	4.66	3.85
Ta (TOTAL)	4.30	6.56	9.25	12.00	13.69	14.16	13.91	12.45	10.11	7.38	5.01
W (TOTAL)	3.90	6.09	8.68	11.35	12.98	13.44	13.20	11.79	9.51	6.87	4.60



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	21.5	26.3	30.9	34.9	37.3	37.8	38.0	36.0	32.4	27.8	23.1
Zry-2 (N)	16.8	20.4	23.7	26.8	28.6	29.0	29.1	27.7	25.1	21.5	18.1
Al (N)	32.7	40.1	47.4	53.2	56.9	57.9	58.0	55.1	49.5	42.4	35.0
SiC (N)	142.6	173.7	207.1	232.9	247.2	251.7	252.9	240.1	213.9	183.7	151.1
Ta (N)	16.5	20.1	23.0	26.0	27.5	27.9	28.1	26.8	24.4	21.1	18.0
W (N)	15.4	18.6	21.3	24.1	25.5	25.9	26.1	24.9	22.7	19.6	16.8
9Cr-1Mo (P)	97	161	239	320	371	385	377	333	264	184	117
Zry-2 (P)	71	117	173	231	267	276	271	240	191	134	86
Al (P)	83	138	203	272	314	326	320	283	224	157	101
SiC (P)	123	202	297	396	456	473	464	411	327	231	148
Ta (P)	82	138	207	279	324	336	329	290	229	159	100
W (P)	85	142	213	286	332	345	338	298	235	164	103
9Cr-1Mo (TOTAL)	118	187	270	355	408	423	415	369	296	212	140
Zry-2 (TOTAL)	88	138	197	258	295	305	300	268	216	156	104
Al (TOTAL)	116	178	251	325	371	384	378	338	274	200	136
SiC (TOTAL)	266	376	504	628	703	725	717	651	541	414	299
Ta (TOTAL)	99	158	230	305	351	364	357	317	254	180	118
W (TOTAL)	100	161	234	310	358	371	364	323	258	183	120

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	234.6	285.4	334.7	379.8	404.5	410.6	412.0	390.9	351.8	301.0	251.0
Zry-2 (N)	133.0	162.1	189.0	214.7	229.0	232.1	233.2	221.4	199.8	171.1	143.3
Al (N)	131.0	159.6	188.1	213.5	227.5	230.9	232.0	219.9	197.1	168.6	140.0
Ta (N)	133.7	162.7	188.5	214.0	227.8	230.9	232.2	220.8	199.9	171.5	144.6
9Cr-1Mo (P)	674	1103	1615	2146	2473	2565	2513	2229	1778	1257	810
Zry-2 (P)	594	970	1417	1881	2166	2247	2202	1954	1559	1103	713
Al (P)	304	495	722	956	1100	1141	1118	993	793	563	365
Ta (P)	580	965	1436	1925	2230	2314	2267	2003	1587	1108	702
9Cr-1Mo (TOTAL)	908	1388	1950	2526	2877	2976	2926	2620	2130	1558	1061
Zry-2 (TOTAL)	727	1132	1606	2095	2395	2479	2435	2175	1759	1275	857
Al (TOTAL)	435	655	910	1170	1327	1371	1350	1212	991	732	505
Ta (TOTAL)	713	1128	1625	2139	2457	2545	2499	2224	1787	1279	846



TABLE B15. IRRADIATION PARAMETERS ROD 11 (ROW 25)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.17	3.82	4.44	4.99	5.30	5.40	5.41	5.18	4.72	4.09	3.46
Zry-2 (N)	3.59	4.32	5.03	5.65	6.00	6.11	6.13	5.87	5.35	4.64	3.92
Al (N)	5.03	5.90	6.73	7.43	7.85	7.96	7.96	7.67	7.07	6.26	5.38
SiC (N)	3.28	3.88	4.46	4.95	5.24	5.32	5.32	5.12	4.70	4.13	3.53
Ta (N)	1.16	1.40	1.64	1.84	1.95	1.99	2.00	1.92	1.75	1.51	1.28
W (N)	0.80	0.98	1.16	1.31	1.39	1.43	1.43	1.38	1.25	1.06	0.89
9Cr-1Mo (P)	1.58	2.54	3.75	5.01	5.89	6.20	6.17	5.56	4.43	3.17	2.04
Zry-2 (P)	4.12	6.66	9.84	13.16	15.47	16.31	16.21	14.60	11.63	8.31	5.35
Al (P)	0.77	1.21	1.77	2.33	2.73	2.87	2.85	2.58	2.07	1.50	0.99
SiC (P)	0.27	0.44	0.66	0.90	1.06	1.12	1.11	1.00	0.79	0.56	0.35
Ta (P)	2.95	4.80	7.11	9.54	11.23	11.84	11.78	10.59	8.42	6.00	3.84
W (P)	2.92	4.74	7.03	9.43	11.10	11.71	11.64	10.47	8.33	5.93	3.80
9Cr-1Mo (TOTAL)	4.75	6.36	8.19	10.00	11.19	11.60	11.58	10.74	9.15	7.26	5.50
Zry-2 (TOTAL)	7.71	10.98	14.87	18.81	21.47	22.42	22.34	20.47	16.98	12.95	9.27
Al (TOTAL)	5.80	7.11	8.50	9.76	10.58	10.83	10.81	10.25	9.14	7.76	6.37
SiC (TOTAL)	3.55	4.32	5.12	5.85	6.30	6.44	6.43	6.12	5.49	4.69	3.88
Ta (TOTAL)	4.11	6.20	8.75	11.38	13.18	13.83	13.78	12.51	10.17	7.51	5.12
W (TOTAL)	3.72	5.72	8.19	10.74	12.49	13.14	13.07	11.85	9.58	6.99	4.69



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	21.0	25.9	30.5	34.6	36.8	37.7	37.8	36.3	32.8	28.0	23.5
Zry-2 (N)	16.4	20.1	23.6	26.6	28.1	28.9	28.8	28.1	25.4	21.7	18.4
Al (N)	32.0	39.5	46.4	53.0	56.4	57.8	57.9	55.4	50.1	42.9	35.9
SiC (N)	139.3	171.9	202.5	231.1	246.9	252.5	252.8	240.4	217.9	186.0	154.2
Ta (N)	16.2	19.6	23.0	25.8	26.9	27.9	27.6	27.4	24.7	21.2	18.2
W (N)	15.1	18.3	21.4	23.9	24.9	25.8	25.6	25.4	23.0	19.7	17.0
9Cr-1Mo (P)	91	150	223	301	355	375	372	334	265	188	120
Zry-2 (P)	68	109	162	217	256	269	268	241	192	137	88
Al (P)	79	128	190	256	301	318	316	284	225	160	103
SiC (P)	117	189	279	372	438	462	459	413	329	235	152
Ta (P)	78	129	193	261	309	327	325	291	230	162	102
W (P)	80	132	199	269	318	336	334	299	236	167	106
9Cr-1Mo (TOTAL)	112	176	254	335	392	412	410	371	298	216	143
Zry-2 (TOTAL)	84	129	186	244	284	298	297	269	217	158	106
Al (TOTAL)	111	168	237	309	358	375	374	339	276	203	139
SiC (TOTAL)	256	360	481	604	685	714	712	654	547	421	306
Ta (TOTAL)	94	148	216	287	336	355	353	318	255	183	121
W (TOTAL)	95	151	220	293	343	362	359	324	259	186	122

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	228.9	281.3	331.6	376.3	399.4	408.9	410.8	393.5	356.5	303.4	254.6
Zry-2 (N)	129.9	159.5	188.1	212.8	224.9	231.1	231.6	223.8	202.5	172.1	145.4
Al (N)	127.8	157.4	185.9	211.8	225.1	230.4	231.6	220.6	199.9	169.9	142.0
Ta (N)	130.7	159.9	188.2	212.1	223.2	229.9	229.8	223.8	202.5	172.3	146.5
9Cr-1Mo (P)	639	1028	1514	2021	2376	2503	2487	2240	1789	1281	827
Zry-2 (P)	563	904	1329	1771	2081	2192	2178	1963	1568	1124	727
Al (P)	289	462	677	901	1058	1113	1106	998	799	574	372
Ta (P)	548	899	1342	1809	2135	2254	2240	2010	1594	1129	718
9Cr-1Mo (TOTAL)	868	1309	1846	2397	2775	2912	2898	2634	2145	1584	1082
Zry-2 (TOTAL)	693	1063	1517	1984	2306	2423	2409	2187	1771	1296	873
Al (TOTAL)	417	619	863	1113	1283	1344	1338	1219	998	744	514
Ta (TOTAL)	679	1059	1530	2021	2358	2484	2470	2234	1796	1302	865



TABLE B16. IRRADIATION PARAMETERS ROD 12 (ROW 26)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.03	3.62	4.18	4.67	4.94	4.99	4.99	4.72	4.31	3.76	3.16
Zry-2 (N)	3.43	4.09	4.73	5.28	5.59	5.65	5.64	5.35	4.89	4.25	3.58
Al (N)	4.78	5.59	6.34	7.00	7.35	7.42	7.41	7.07	6.53	5.78	4.97
SiC (N)	3.12	3.68	4.20	4.66	4.91	4.96	4.95	4.72	4.33	3.81	3.25
Ta (N)	1.11	1.32	1.53	1.69	1.80	1.82	1.82	1.72	1.58	1.37	1.16
W (N)	0.76	0.92	1.08	1.19	1.28	1.29	1.29	1.22	1.11	0.96	0.80
9Cr-1Mo (P)	1.53	2.45	3.54	4.57	5.22	5.34	5.27	4.68	3.73	2.64	1.71
Zry-2 (P)	3.97	6.38	9.25	11.96	13.66	13.98	13.79	12.24	9.75	6.89	4.45
Al (P)	0.77	1.22	1.74	2.22	2.53	2.58	2.55	2.28	1.83	1.31	0.87
SiC (P)	0.25	0.41	0.61	0.80	0.92	0.95	0.93	0.82	0.65	0.45	0.28
Ta (P)	2.79	4.50	6.55	8.49	9.70	9.94	9.80	8.69	6.91	4.87	3.13
W (P)	2.78	4.49	6.52	8.45	9.66	9.90	9.76	8.65	6.88	4.85	3.12
9Cr-1Mo (TOTAL)	4.56	6.07	7.72	9.24	10.16	10.33	10.26	9.40	8.04	6.40	4.87
Zry-2 (TOTAL)	7.40	10.47	13.98	17.24	19.25	19.63	19.43	17.59	14.64	11.14	8.03
Al (TOTAL)	5.55	6.81	8.08	9.22	9.88	10.00	9.96	9.35	8.36	7.09	5.84
SiC (TOTAL)	3.37	4.09	4.81	5.46	5.83	5.91	5.88	5.54	4.98	4.26	3.53
Ta (TOTAL)	3.90	5.82	8.08	10.18	11.50	11.76	11.62	10.41	8.49	6.24	4.29
W (TOTAL)	3.54	5.41	7.60	9.64	10.94	11.19	11.05	9.87	7.99	5.81	3.92



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	20.0	24.3	28.3	31.6	33.8	34.1	34.2	32.2	29.4	25.3	21.1
Zry-2 (N)	15.6	18.7	21.7	24.1	25.8	25.8	26.0	24.5	22.6	19.5	16.5
Al (N)	30.5	37.2	43.1	48.5	51.7	52.2	52.3	49.2	44.9	38.5	32.0
SiC (N)	133.2	162.1	188.9	212.1	225.9	228.7	229.2	214.6	194.7	168.2	138.7
Ta (N)	15.3	18.3	20.9	23.0	24.6	24.5	24.8	23.5	21.8	18.9	16.2
W (N)	14.2	17.0	19.5	21.3	22.9	22.8	23.0	21.8	20.3	17.6	15.1
9Cr-1Mo (P)	85	138	201	262	300	308	303	268	212	149	95
Zry-2 (P)	63	101	146	189	216	222	218	194	154	109	70
Al (P)	72	116	169	219	251	257	253	224	178	126	81
SiC (P)	112	180	260	337	384	394	388	345	274	194	126
Ta (P)	70	114	168	220	252	259	255	226	178	124	78
W (P)	72	117	173	226	259	266	262	232	183	128	81
9Cr-1Mo (TOTAL)	105	162	229	293	333	342	337	300	242	174	116
Zry-2 (TOTAL)	79	120	168	213	242	248	244	218	177	128	87
Al (TOTAL)	103	153	212	268	302	309	305	274	223	164	113
SiC (TOTAL)	245	342	449	549	610	622	618	559	469	362	264
Ta (TOTAL)	85	132	189	243	277	284	280	249	200	143	95
W (TOTAL)	86	134	192	247	282	289	285	253	203	145	96

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	219.3	264.6	310.0	344.3	368.4	372.0	372.5	350.9	319.8	276.3	229.9
Zry-2 (N)	123.9	149.2	174.3	192.9	207.0	207.9	209.0	196.9	180.5	155.8	130.6
Al (N)	122.4	148.5	174.2	193.8	207.3	209.7	209.8	197.3	179.4	155.0	128.4
Ta (N)	124.4	149.2	173.4	191.2	205.3	205.6	207.1	195.4	180.0	155.6	131.4
9Cr-1Mo (P)	616	984	1421	1834	2092	2144	2112	1877	1498	1061	689
Zry-2 (P)	539	858	1236	1594	1817	1862	1834	1631	1303	924	602
Al (P)	282	448	644	828	944	966	953	848	678	482	315
Ta (P)	509	829	1213	1580	1809	1858	1828	1619	1282	899	572
9Cr-1Mo (TOTAL)	836	1249	1731	2178	2460	2516	2485	2228	1817	1338	919
Zry-2 (TOTAL)	663	1007	1410	1787	2024	2070	2043	1828	1483	1080	733
Al (TOTAL)	404	596	818	1022	1151	1176	1163	1045	857	637	443
Ta (TOTAL)	633	978	1386	1772	2014	2063	2035	1814	1462	1054	704



TABLE B17. IRRADIATION PARAMETERS ROD 13 (ROW 26)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	3.05	3.67	4.23	4.73	5.04	5.14	5.13	4.89	4.49	3.87	3.28
Zry-2 (N)	3.45	4.15	4.79	5.37	5.71	5.83	5.81	5.55	5.09	4.39	3.71
Al (N)	4.81	5.66	6.41	7.06	7.44	7.57	7.57	7.25	6.73	5.92	5.10
SiC (N)	3.15	3.73	4.26	4.71	4.97	5.06	5.07	4.84	4.48	3.92	3.34
Ta (N)	1.12	1.34	1.55	1.75	1.86	1.90	1.89	1.81	1.65	1.42	1.21
W (N)	0.77	0.94	1.09	1.24	1.33	1.36	1.35	1.29	1.17	1.00	0.85
9Cr-1Mo (P)	1.66	2.65	3.87	5.12	5.96	6.19	6.15	5.51	4.40	3.14	2.04
Zry-2 (P)	4.31	6.92	10.12	13.41	15.63	16.22	16.10	14.43	11.50	8.21	5.33
Al (P)	0.83	1.30	1.87	2.45	2.84	2.94	2.92	2.62	2.12	1.53	1.01
SiC (P)	0.28	0.46	0.68	0.91	1.07	1.11	1.10	0.98	0.78	0.55	0.35
Ta (P)	3.05	4.91	7.20	9.58	11.18	11.61	11.53	10.32	8.20	5.84	3.77
W (P)	3.03	4.89	7.17	9.53	11.12	11.55	11.46	10.26	8.16	5.81	3.76
9Cr-1Mo (TOTAL)	4.71	6.32	8.10	9.85	11.00	11.33	11.28	10.40	8.89	7.01	5.32
Zry-2 (TOTAL)	7.76	11.07	14.91	18.78	21.34	22.05	21.91	19.98	16.59	12.60	9.04
Al (TOTAL)	5.64	6.96	8.28	9.51	10.28	10.51	10.49	9.87	8.85	7.45	6.11
SiC (TOTAL)	3.43	4.19	4.94	5.62	6.04	6.17	6.17	5.82	5.26	4.47	3.69
Ta (TOTAL)	4.17	6.25	8.75	11.33	13.04	13.51	13.42	12.13	9.85	7.26	4.98
W (TOTAL)	3.80	5.83	8.26	10.77	12.45	12.91	12.81	11.55	9.33	6.81	4.61



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	20.2	24.7	28.7	32.7	35.1	35.9	35.6	34.0	31.0	26.4	22.3
Zry-2 (N)	15.8	19.0	22.0	25.2	26.8	27.4	27.1	26.1	23.7	20.4	17.4
Al (N)	30.7	37.7	43.8	49.8	53.5	54.7	54.3	51.7	47.4	40.2	33.9
SiC (N)	133.3	164.0	190.6	216.8	234.1	238.6	237.7	225.6	206.6	173.8	146.6
Ta (N)	15.5	18.5	21.3	24.2	25.7	26.2	25.8	25.1	22.8	19.9	17.2
W (N)	14.5	17.2	19.7	22.5	23.8	24.3	23.9	23.3	21.1	18.5	16.0
9Cr-1Mo (P)	93	151	223	298	349	362	360	322	255	180	116
Zry-2 (P)	69	111	162	215	251	260	259	232	184	131	85
Al (P)	79	128	188	250	292	303	301	270	214	152	99
SiC (P)	122	196	286	378	441	458	454	407	325	232	151
Ta (P)	77	127	189	254	297	309	307	274	216	152	97
W (P)	80	130	194	260	305	317	315	281	221	156	100
9Cr-1Mo (TOTAL)	113	176	252	331	384	398	395	356	286	207	138
Zry-2 (TOTAL)	85	130	184	240	278	288	286	258	208	152	103
Al (TOTAL)	110	166	232	300	345	358	356	321	261	192	132
SiC (TOTAL)	255	360	476	595	675	696	692	633	531	406	297
Ta (TOTAL)	93	145	210	278	323	335	332	299	238	172	114
W (TOTAL)	94	148	213	283	329	342	339	304	243	174	116

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	221.8	268.9	313.4	356.1	382.4	391.2	388.2	370.8	336.5	286.7	242.1
Zry-2 (N)	125.7	151.8	176.6	201.5	215.7	220.9	218.3	209.6	189.8	162.5	138.0
Al (N)	123.7	150.6	176.0	199.9	215.3	220.1	218.4	208.5	189.2	160.4	135.1
Ta (N)	126.3	151.7	175.8	200.6	214.1	219.2	216.3	208.5	188.8	162.6	138.9
9Cr-1Mo (P)	669	1068	1557	2060	2396	2486	2470	2216	1768	1266	826
Zry-2 (P)	586	932	1357	1793	2084	2162	2149	1929	1540	1105	722
Al (P)	305	484	702	926	1075	1116	1109	995	796	572	375
Ta (P)	560	910	1345	1799	2104	2186	2169	1940	1535	1086	698
9Cr-1Mo (TOTAL)	891	1337	1870	2416	2778	2877	2858	2587	2104	1553	1068
Zry-2 (TOTAL)	712	1084	1533	1995	2299	2383	2367	2138	1729	1267	860
Al (TOTAL)	429	635	878	1126	1291	1336	1327	1204	986	733	510
Ta (TOTAL)	686	1062	1521	1999	2318	2405	2385	2148	1724	1249	836



TABLE B18. IRRADIATION PARAMETERS ROD 14 (ROW 26)

dpa	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	2.91	3.46	4.03	4.50	4.76	4.87	4.86	4.69	4.32	3.75	3.19
Zry-2 (N)	3.29	3.91	4.57	5.09	5.39	5.50	5.50	5.32	4.89	4.24	3.62
Al (N)	4.63	5.39	6.15	6.78	7.12	7.27	7.24	7.02	6.52	5.77	4.99
SiC (N)	3.02	3.54	4.07	4.51	4.75	4.85	4.83	4.68	4.33	3.80	3.27
Ta (N)	1.06	1.26	1.48	1.64	1.74	1.77	1.78	1.72	1.58	1.37	1.18
W (N)	0.73	0.87	1.04	1.15	1.23	1.25	1.26	1.22	1.12	0.96	0.82
9Cr-1Mo (P)	1.32	2.14	3.12	4.11	4.82	5.07	5.10	4.66	3.80	2.76	1.82
Zry-2 (P)	3.43	5.56	8.14	10.75	12.60	13.26	13.33	12.19	9.94	7.20	4.74
Al (P)	0.67	1.07	1.54	2.00	2.34	2.46	2.47	2.26	1.86	1.36	0.91
SiC (P)	0.22	0.36	0.54	0.72	0.85	0.90	0.90	0.82	0.66	0.47	0.30
Ta (P)	2.41	3.92	5.76	7.63	8.95	9.42	9.47	8.66	7.04	5.08	3.34
W (P)	2.40	3.91	5.74	7.59	8.91	9.37	9.43	8.62	7.01	5.07	3.33
9Cr-1Mo (TOTAL)	4.23	5.60	7.15	8.61	9.58	9.94	9.96	9.35	8.12	6.51	5.01
Zry-2 (TOTAL)	6.72	9.47	12.71	15.84	17.99	18.76	18.83	17.51	14.83	11.44	8.36
Al (TOTAL)	5.30	6.46	7.69	8.78	9.46	9.73	9.71	9.28	8.38	7.13	5.90
SiC (TOTAL)	3.24	3.90	4.61	5.23	5.60	5.75	5.73	5.50	4.99	4.27	3.57
Ta (TOTAL)	3.47	5.18	7.24	9.27	10.69	11.19	11.25	10.38	8.62	6.45	4.52
W (TOTAL)	3.13	4.78	6.78	8.74	10.14	10.62	10.69	9.84	8.13	6.03	4.15



appm He	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	19.1	22.9	27.3	30.4	32.4	33.1	33.3	32.1	29.5	25.2	21.5
Zry-2 (N)	14.9	17.6	21.1	23.3	24.7	25.3	25.4	24.6	22.7	19.4	16.9
Al (N)	29.1	34.9	41.6	46.6	49.6	50.6	51.0	49.0	45.1	38.4	32.7
SiC (N)	126.4	152.7	181.0	203.0	217.1	221.6	222.6	213.2	195.9	167.2	141.8
Ta (N)	14.7	17.2	20.5	22.4	23.6	24.3	24.3	23.7	21.9	18.9	16.7
W (N)	13.7	16.0	19.0	20.8	21.9	22.6	22.5	22.0	20.3	17.5	15.5
9Cr-1Mo (P)	73	120	177	235	276	291	293	267	217	156	102
Zry-2 (P)	54	88	129	170	200	210	211	193	157	114	75
Al (P)	62	101	149	197	231	243	245	224	182	131	86
SiC (P)	97	157	229	303	355	373	375	343	280	203	134
Ta (P)	60	99	148	198	233	245	247	225	182	130	84
W (P)	62	102	152	203	239	251	253	231	187	134	87
9Cr-1Mo (TOTAL)	92	143	204	266	309	324	326	299	246	181	123
Zry-2 (TOTAL)	69	106	150	193	224	235	236	218	180	133	92
Al (TOTAL)	91	136	190	244	281	294	296	272	227	170	119
SiC (TOTAL)	223	310	410	505	572	595	598	556	476	370	276
Ta (TOTAL)	74	116	168	220	256	269	271	249	204	149	101
W (TOTAL)	75	118	171	224	261	274	276	253	207	151	102

appm H	X (cm)										
	-4.5	-3.5	-2.5	-1.5	-0.625	0	0.625	1.5	2.5	3.5	4.5
9Cr-1Mo (N)	209.4	250.5	297.7	331.2	353.7	361.2	363.2	350.0	320.8	274.7	234.8
Zry-2 (N)	118.5	140.9	168.2	186.2	198.4	202.9	204.0	197.2	181.1	154.9	133.7
Al (N)	116.9	140.4	167.1	186.3	199.2	203.5	204.3	196.7	179.9	153.9	131.1
Ta (N)	119.0	140.7	167.9	185.0	196.7	201.5	202.4	196.2	180.5	154.7	134.5
9Cr-1Mo (P)	532	860	1252	1649	1933	2032	2041	1868	1525	1108	734
Zry-2 (P)	465	750	1090	1433	1681	1765	1773	1623	1326	965	641
Al (P)	244	391	568	745	873	917	921	843	690	503	335
Ta (P)	438	722	1065	1419	1668	1755	1766	1613	1308	940	613
9Cr-1Mo (TOTAL)	741	1110	1550	1980	2287	2393	2404	2218	1846	1383	969
Zry-2 (TOTAL)	584	891	1258	1619	1879	1968	1977	1821	1508	1120	775
Al (TOTAL)	360	532	735	931	1072	1120	1125	1040	870	657	466
Ta (TOTAL)	557	862	1233	1604	1865	1957	1968	1809	1489	1095	748





