APPENDIX B

Measured Shim Rod Withdrawal Positions at Critical for Each Core and Time Node

Shim rod withdrawal positions needed to maintain criticality throughout each bum cycle were recorded periodically. From these position histories shim rod elevations at the boundaries of each time node were determined and used in the input of the REBUS-3 burnup calculations. Table B.1 summarizes the shim rod withdrawal positions used in the calculations. REBUS-3 allows the shim rods to move during the bum cycle. For this purpose the bum cycle is divided into a number of time nodes (TN's) and control rod elevations are specified at the boundaries of these time nodes. Shim rods F4 and F6 were always withdrawn to their upper limit (UL) positions throughout each bum cycle. The other rods (B4, B6, D4 and B6) were ganged together and moved as a unit so as to maintain criticality -throughout the bum cycle.

Table B. I ORR Whole-Core LEU Fuel Demonstration
Shim Rod Position (cm) Histories at Critical

Core	Cycle Length FPD's	F4,F6 Bank UL	B4,B6,D4,D6 Bank BOC	TNI	TN2	EOC
174C	16.84022	69.837	37.541	45.695	50.064	54.717
i 74D	12.85540	69.837	38.735	48.736		53.737
174E	10.62284	69.837	50.927	51.653		56.693
174F	15.42815	69.837	38.735	48.736	53.737	58.737
175A	18.51807	69.837	36.398	46.482	51.105	56.058
175B	20.30494	69.837	43.736	48.736	53.737	58.737
175C	17.38908	69.837	46.634	51.232	56.566	62.636
176A	17.24443	69.837	43.180	54.560	60.289	65.584
176B	21.86448	69.837	35.687	45.898	50.673	55.664
176C	19.43568	69.837	35.027	41.173	45.212	49.581
176D	19.44628	69.837	43.205	53.645	59.588	69.736
177A	14.77308	69.837	42.494	53.619	58.369	64.313
177B	18.51601	69.837	40.767	48.412	52.934	57.887
177C	18.41075	69.837	44.526	49.174	53.797	59.182
177D	15.33411	69.837	49.149	53.721	58.699	64.745
178A	12.10057	69.837	45.085	59.436		69.748
178B	0.64447	69.837	51.816			57.404
178C	11.13766	69.837	61.265	48.755		52.832
178D	16.35558	69.837	42.164	47.168	50.165	54.356
178H	20.27655	69.837	43.612	47.396	52.299	56.794
178J	16.50223	69.837	39.116	48.539	52.502	56.566
179A	20.16869	69.837	38.049	50.216	54.940	60.223

APPENDIX C

Calculated Transverse Gradient Correction Factors

Section 6.4.3 discusses the methods used to calculate correction factors for power density gradients transverse to the fuel element axis. Values obtained for these correction factors are summarized in Table C. 1. Cycle-averaged fuel element powers obtained from the gamma-scanning data are multiplied by these transverse gradient correction factors. Values given in Table 37 and shown in Figures 35-54 include these corrections.

Table C. 1 Calculated Transverse Gradient Correction Factors

LOC	1740	174E	174F	175A	175B	175C	176A	176B	176C	176D
A2	1.006	0.974	0.973	0.978	0.980	0.982	0.980	0.982	0.983	Be
A3	1.034	0.978	0.979	0.981	0.983	0.980	0.986	1.012	1.013	1.005
A4	1.016	0.970	0.967	0.979	0.975	0.975	0.968	0.990	0.988	0.948
A5	0.991	0.985	0.983	0.974	0.974	0.979	0.977	1.000	1.003	0.967
A6	1.016	0.970	0.967	0.979	0.975	0.972	0.968	0.990	0.989	0.949
A7	1.040	0.981	0.981	0.986	0.986	0.987	0.983	1.011	1.015	1.008
A8	1.010	0.973	0.975	0.982	0.983	0.983	0.984	0.990	0.937	Be
B3	0.970	0.986	0.989	0.986	0.992	0.992	0.999	0.974	0.977	0.997
B4	0.964	0.985	0.984	0.995	0.99Z	0.994	0.983	1.005	0.999	0.984
B5	0.975	1.002	0.997	0.993	1.001	1.005	1.012	0.996	0.996	0.995
B6	0.962	0.985	0.984	0.994	0.992	0.998	0.990	1.004	0.999	0.984
B7	0.987	1.007	1.010	1.011	1.014	1.015	1.013	1.007	1.011	1.024
C2	1.011	1.017	1.018	1.010	1.008	1.015	1.010	1.001	1.004	1.014
C4	1.004	1.000	0.999	1.010	1.005	1.004	1.002	1.008	1.009	1.012
C5	0.974	0.990	0.990	0.993	1.000	0.993	0.994	0.981	0.982	0.973
C6	0.992	0.982	0.982	0.992	0.987	0.981	0.979	0.984	0.983	0.990
C8	0.998	0.998	0.999	0.991	0.991	1.002	0.992	0.981	0.986	0.997
D2	0.980	0.993	0.993	1.000	1.001	1.005	1.005	1.010	1.010	0.994
D3	1.013	1.033	1.033	1.020	1.023	1.031	1.029	1.007	1.006	1.028
D4	0.983	1.004	1.002	1.017	1.011	1.012	1.004	1.000	0.997	0.999
D5	0.972	0.994	0.996	0.992	1.004	1.003	1.004	0.991	0.993	1.005
D6	0.981	1.002	0.999	1.014	1.009	1.009	1.005	0.996	0.994	0.995
D7	0.988	1.008	1.010	0.994	0.996	1.019	1.017	1.005	1.003	1.020
D8	0.982	0.993	0.993	0.998	1.002	0.986	0.997	1.000	1.003	0.989
E2	0.986	1.000	1.001	0.991	0.990	0.994	0.998	0.998	0.999	1.001
E4	0.993	1.006	1.008	1.015	1.014	1.001	1.005	1.002	0.993	0.988
E5	Ir	Ir	Ir	Ir	Ir	Ir	Ir	Ir	0.995	Al
E6	1.007	1.020	1.021	1.027	1.027	0.995	0.995	0.987	0.976	0.976
E8	1.018	1.029	1.029	1.020	1.018	0.997	0.998	0.993	0.993	1.005
F3	1.013	1.031	1.026	1.023	1.027	1.032	1.031	1.029	1.034	1.Oq4
F4	0.973	0.990	0.990	1.003	1.002	1.000	0.999	1.008	1.004	0.984
F5	1.029	1.046	1.044	1.043	1.044	1.045	1.048	1.047	1.043	1.030
F6	0.992	1.008	0.991	1.005	1.005	0.999	0.998	1.007	1.002	0.983
F7	1.019	1.035	1.037	1.032	1.033	1.027	1.025	1.022	1.026	1.039

Table C. 1 Calculated Transverse Gradient Correction Factors
(Continued)

LOC	177A	177B	177C	177D	178A	178C	1780	178H	178J	179A
A2	Be	Be	Be	Be	Be	Be	Be	Be	Be	Be
A3	1.007	1.007	1.011	Be	Be	0.991	1.000	1.001	1.001	1.000
A4	0.947	0.967	0.963	0.968	0.960	0.969	0.966	0.962	0.960	0.964
A5	0.967	0.962	0.961	0.975	0.971	0.981	0.979	0.979	0.979	0.965
A6	0.949	0.959	0.955	0.971	0.963	0.968	0.965	0.963	0.961	0.964
A7	1.007	1.002	1.006	Be	Be	0.993	1.003	0.990	0.991	1.003
A8	Be	Be	Be	Be	Be	Be	Be	Be	Be	Be
B3	0.998	0.984	0.986	0.992	0.988	0.978	0.979	0.983	0.983	0.983
B4	0.983	0.986	0.980	0.972	0.964	0.979	0.975	0.974	0.971	0.977
B5	0.993	0.998	0.992	0.993	0.992	0.980	0.983	0.987	0.990	0.987
B6	0.982	0.979	0.979	0.971	0.963	0.978	0.974	0.974	0.971	0.976
B7	1.024	1.008	1.014	1.017	1.011	1.008	1.008	1.011	1.011	1.012
C2	1.013	1.022	1.021	1.025	1.033	1.037	1.035	1.035	1.034	1.037
C4	1.011	1.012	1.013	0.992	0.985	0.998	0.996	0.993	0.991	0.994
C5	0.973	0.985	0.982	0.983	0.980	0.983	0.980	0.980	0.982	0.983
C6	0.989	0.989	0.990	0.970	0.962	0.972	0.971	0.969	0.967	0.970
C8	0.995	1.004	1.003	1.006	1.002	1.004	1.003	1.003	1.002	1.005
D2	0.991	0.998	0.999	1.006	1.012	1.020	1.019	1.018	1.017	1.017
D3	1.029	1.014	1.014	1.002	1.000	0.992	0.993	0.998	0.999	1.011
D4	0.998	1.010	1.003	0.993	0.984	1.005	1.001	0.998	0.994	0.999
D5	1.006	1.010	1.015	0.999	1.001	0.987	0.983	0.990	0.993	0.997
D6	0.995	1.006	0.999	0.989	0.981	1.000	0.996	0.995	0.991	0.996
D7	1.022	1.007	1.008	0.997	0.976	0.971	0.973	0.975	0.976	0.978
D8	0.986	0.997	0.997	1.004	1.006	1.014	1.012	1.013	1.012	1.015
E2	1.003	1.000	0.999	1.000	1.013	1.021	1.017	1.017	1.016	1.005
E4	0.987	0.984	0.983	0.976	0.974	0.989	0.989	0.988	0.986	0.976
E5	Al	Al	Al	1.005	1.002	1.003	1.009	1.001	1.002	1.003
E6	0.975	0.972	0.970	0.965	0.987	0.994	0.993	0.996	0.994	1.002
E8	1.005	1.002	1.000	1.002	1.019	1.022	1.019	1.020	1.019	1.022
F3	1.045	1.044	1.040	1.051	1.052	1.042	1.042	1.044	1.044	1.031
F4	0.982	1.000	0.999	0.962	0.955	0.982	0.979	0.976	0.973	0.933
F5	1.038	1.040	1.043	1.060	1.059	1.040	1.03a	1.041	1.043	1.034
F6	0.981	0.999	0.997	0.960	0.956	0.984	0.980	0.976	0.974	0.985
F7	1.040	1.033	1.034	1.042	1.052	1.044	1.043	1.045	1.045	1.042

APPENDIX D

Models Used for the DIF31) Calculations of the Fresh-Fueled Criticals 179AX5 and 179AX6

The purpose of this appendix is to provide enough detailed information so that independent calculations can be performed for two of the ORR criticals containing fresh LEU fuel. Core 179AX5 was water-rcf1ected and is described in Fig. 19. Some additional information is given in Fig. D. 1. Similarly, core 179AX6 was beryllium -reflected and is described in Figs. 20 and D.2.

Both cores were fueled with 19-plate standard elements (340 g 235U) and 15-plate fuel. followers (200 g 235U) fabricated by B&W. For these B&W elements the equivalent ppin of natural boron is 25.22 for the structural aluminum (Table 27) and 18.22 ppm for the aluminum powder used in the fuel meat. In Section 7.1 it was pointed out that the beryllium reflector elements have an equivalent of 7.82 ppin natural boron.

For core 179AX5, criticality was achieved with the four shim rods ganged together and withdrawn 15.48 inches from the fully inserted position and with a measured moderator temperature of 98.OOF. Corresponding values for core 179AX6 were 18.22 inches and 92.80F. For shim rods fully inserted into the core the 30.5 in. height of the cadmium poison section is symmetrically located about the core midplane. The height of the ftiel column was taken to be 23.625 inches.

The EPRI-CELL cross sections used in these analyses were generated at 296K. To adjust the calculated eigenvalues to correspond to the experimental temperature conditions, the following temperature coefficients were determined:

$$\alpha_T \sim (179AX5) = -1.574E\text{-}4/K$$

$$\alpha_T \sim (179AX6) = -1.638E\text{-}4/K$$

Before applying temperature corrections, the DIF31) eigenvalues obtained for these cores were:

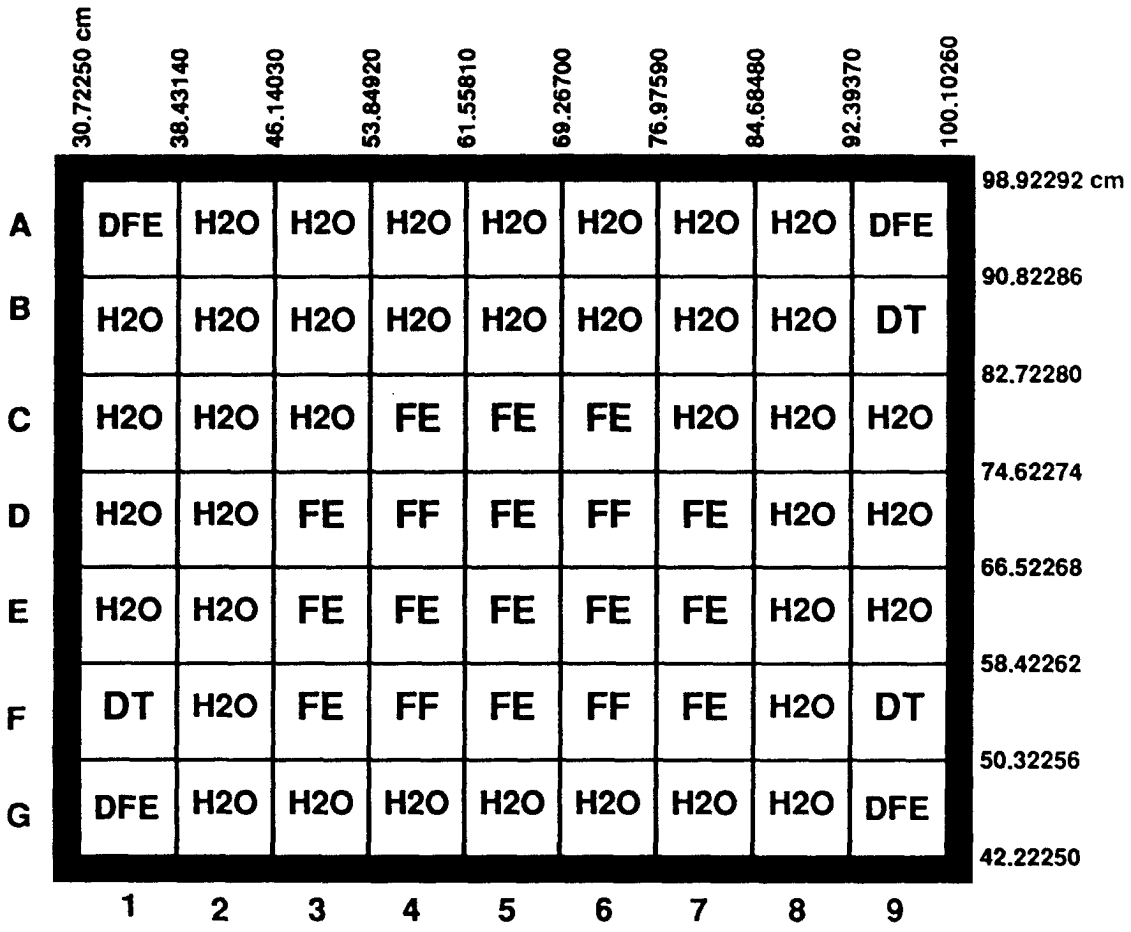
$$k_{eff}\,(179AX5) = 1.00236$$

$$k_{eff}\,(179AX6) = 1.00166$$

Tables 28 and 29 give the temperature-corrected values.

The treatment of the hollow cadmium boxes in the shim rod assemblies was discussed in Section 6.2. A black internal boundary condition $j/\phi = 0.4692$) was used at the cadmium surfaces for group 5 neutrons. Normal diffusion theory was used for the other groups. Nearly the same results are obtained if effective diffusion parameters (Table 16) are used for the cadmium slab, whose thickness (0.1016 cm) corresponds to two mesh intervals.

Table D.1 provides detailed input information used in the three-dimensional DIF3D calculation for the water-reflected 179AX5 core. The first section in this table defines the boundaries for each region in the problem. Each line of input in this section gives the data type (Type 06), the region label, the lower and upper region boundaries in the X-direction (cm), the lower and upper Z-mesh line numbers of the region, and the lower and upper region boundaries in the Y-direction, respectively. Note that the regions are often defined using the overlay procedure wherein the latest region assignment overlays the previous assignment. The lowest Z-mesh line



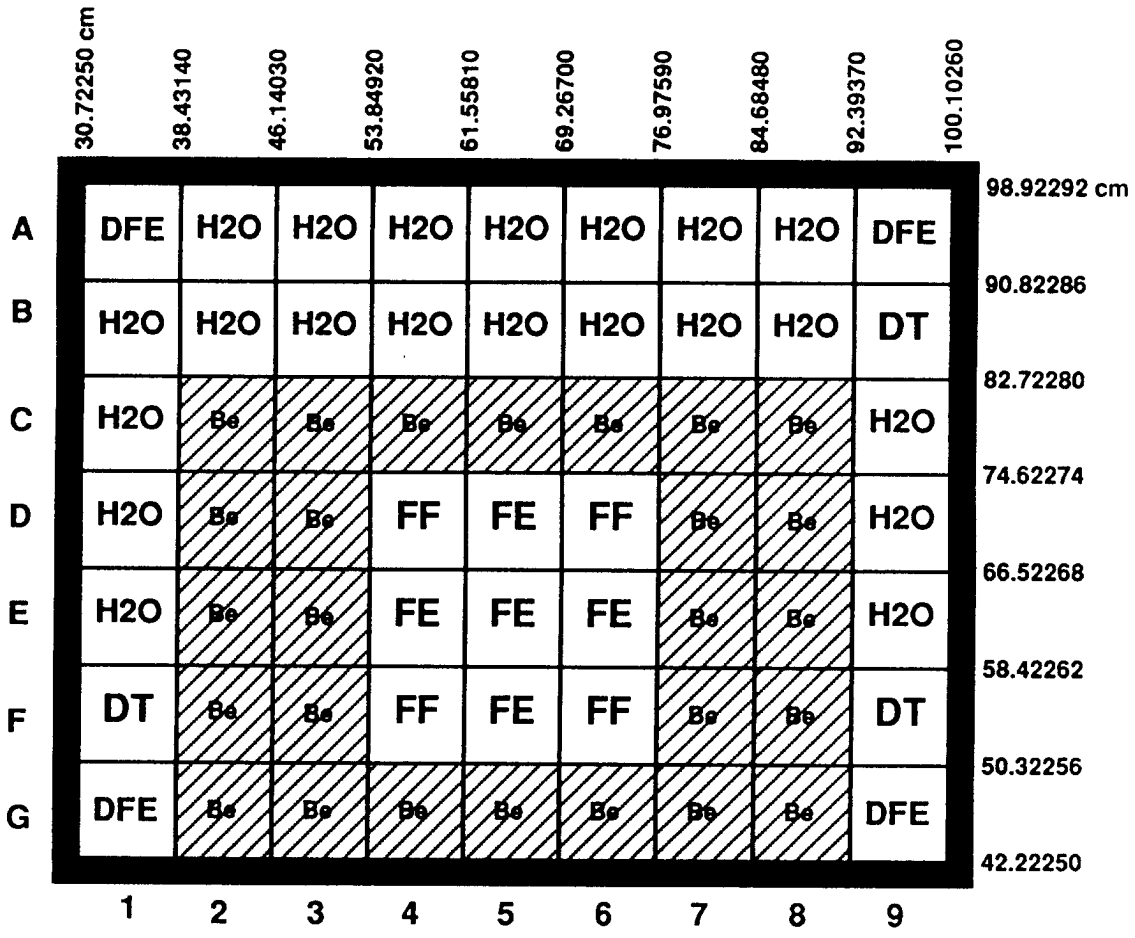
FE = 19 - plate fuel element

FF = 15 - plate fuel follower

DFE = Dummy fuel element

DT = Dry tube for housing fission or ion chamber

Fig. D.1 Water-Reflected LEU Critical 179AX5



FE = 19 - plate fuel element

FF = 15 - plate fuel follower

DFE = Dummy fuel element

DT = Dry tube for housing fission or ion chamber

Fig. D.2 Beryllium-Reflected LEU Critical 179AX6

number is 0 and corresponds to the bottom boundary of the model while the largest Z mesh line number corresponds to the top boundary of the model. Comparing this Type 06 data with Fig. D. I helps identify the meaning of the region labels. Note that each fuel element (FE) and each fuel follower (FF) is divided into six equal axial segments with segment A at the bottom of the core and segment F at the top. For each fuel element and fuel follower the overlay procedure is used to dcrine homogenized side plate regions and homogenized (meat, cladding, moderator) fuel zones.

The Type 07 data specifies areas and the regions which make up the areas. Each line of data in this section containes the data type (Type 07), the area label, and the region labels comprising the area.

The next section of data (Type 09) in Table D.1 gives the variable mesh structure in the X,Y,Z directions. Each data line gives the data type (Type 09), the coordinate direction, the number of mesh intervals to the next upper coordinate, the upper coordinate, and so on. The elevation of the shim rods specified in the Type 06 input data is for.the rods fully inserted. A unique feature of the ANL code allows one to specify at run time the Z-coordinate at the bottom of each shim rod in the assembly (39.3192 cm for this problem). Additional axial mesh lines are added by the code to completely specify all the shim rod regions at the desired elevation.

Compositions are specified in the Type 14 data section. Each data line gives the data type (Type 14) , the composition label, and up to three pairs of cross section names and corresponding atom (or isotope) concentrations in units of atoms/bam-cm. The first two letters of the cross section name denote the element or isotope. For example, the_prefixes HY, OX, BO, AL, SI, U5, and U8 stand for hydrogen, oxygen, ^{10}B, aluminum, silicon, ^{235}U, and ^{238}U, respectively.

The last section of data (Type 15) assigns the homogenized compositions to each region specified in the Type 06 data. Each data line gives the data type (Type 15), the composition label, followed by the region labels to which the composition is assigned.

Table D.2 gives similar input data for the beryllium-reflected core, 179AX6. Note that the beryllium reflector composition contains concentrations of ^{6}Li and ^{3}He which result from ^{9}Be(n,α) reactions as described in Section 5.7

Some of the more important 5-group cross sections generated by the EPRI-CELL code are shown in Table D.3. The energy boundaries for these 5-group cross sections are given in Table 11.

Region- and area-integrated powers, reaction rates, and fluxes are given Table DA for the water-reflected critical 179AX5. These results, taken from the DIF3D output, are normalized to a total reactor power of 30 MW even though the criticals never operated at steady state powers above about I M In Table DA,

Fission Production =_ Fission Source / k_{eff}

(N,2N) Source =_ Scatter In - Scatter Out.

Table D.5 provides similar information for the beryllium-reflected critical 179AX6.

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5

REGION BOUNDARY DEFINITIONS

06	H20OUT	0.0	130.82510	0	34	0.0	131.86792
06	ALBOX	28.22543	102.59967	3	31	40.97444	102.58528
06	WCUT	38.43140	92.39370	3	31	101.63278	102.58528
06	H20IN	30.72250	100.10260	0	34	42.22250	98.92292
06	H201	30.72250	100.10260	9	25	42.22250	98.92292
06	H202	38.43140	92.39370	9	25	42.22250	90.82286
06	ARFLB	46.14030	84.68480	2	32	50.32256	82.72280
06	ARFLA	46.14030	84.68480	4	30	50.32256	82.72280
06	B5RFL	61.55810	69.26700	9	25	82.72280	90.82286
06	E2RFL	38.43140	46.14030	9	25	58.42262	66.52268
06	E8RFL	84.68480	92.39370	9	25	58.42262	66.52268
06	C3H20	46.14030	53.84920	0	34	74.62274	82.72280
06	C3RFL	46.14030	53.84920	9	25	74.62274	82.72280
06	G5RFL	61.55810	69.26700	9	25	42.22250	50.32256
06	DFEA1	30.72250	38.43140	9	25	90.82286	98.92292
06	DFEA9	92.39370	100.10260	9	25	90.82286	98.92292
06	DTB9	92.39370	100.10260	0	34	82.72280	90.82286
06	SPC4	53.84920	61.55810	9	25	74.62274	82.72280
06	FEC4A	54.56548	60.84182	9	11	74.62274	82.72280
06	FEC4B	54.56548	60.84182	11	14	74.62274	82.72280
06	FEC4C	54.56548	60.84182	14	17	74.62274	82.72280
06	FEC41)	54.56548	60.84182	17	20	74.62274	82.72280
06	FEC4E	54.56548	60.84182	20	23	74.62274	82.72280
06	FEC4F	54.56548	60.84182	23	25	74.62274	82.72280
06	SPC5	61.55810	69.26700	9	25	74.62274	82.72280
06	FEC5A	62.27438	68.55072	9	11	74.62274	82.72280
06	FEC5B	62.27438	68.55072	11	14	74.62274	82.72280
06	FEC5C	62.27438	68.55072	14	17	74.62274	82.72280
06	FEC51)	62.27438	68.55072	17	20	74.62274	82.72280
06	FEC5E	62.27438	68.55072	20	23	74.62274	82.72280
06	FEC5F	62.27438	68.55072	23	25	74.62274	82.72280
06	SPC6	69.26700	76.97590	9	25	74.62274	82.72280
06	FEC6A	69.98328	76.25962	9	11	74.62274	82.72280
06	FEC6B	69.98328	76.25962	11	14	74.62274	82.72280
06	FEC6C	69.98328	76.25962	14	17	74.62274	82.72280
06	FEC6D	69.98328	76.25962	17	20	74.62274	82.72280
06	FEC6E	69.98328	76.25962	20	23	74.62274	82.72280
06	FEC6F	69.98328	76.25962	23	25	74.62274	82.72280
06	C7H20	76.97590	84.68480	0	34	74.62274	82.72280
06	C7RFL	76.97590	84.68480	9	25	74.62274	82.72280
06	SPD3	46.14030	53.84920	9	25	66.52268	74.62274
06	FED3A	46.85658	53.13292	9	11	66.52268	74.62274
06	FED3B	46.85658	53.13292	11	14	66.52268	74.62274
06	FED3C	46.85658	53.13292	14	17	66.52268	74.62274
06	FED3D	46.85658	53.13292	17	20	66.52268	74.62274
06	FED3E	46.85658	53.13292	20	23	66.52268	74.62274
06	FED3F	46.85658	53.13292	23	25	66.52268	74.62274
06	SPFFD4	53.84920	61.55810	9	25	66.52268	74 .62274
06	SPD4A	53.84920	61.55810	9	17	66.52268	74.62274

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

REGION BOUNDARY DEFINITIONS

06	FFD4A	54.85758	60.54972	9	11	67.42565	73.71977
06	FFD4B	54.85758	60.54972	11	14	67.42565	73.71977
06	FFD4C	54.85758	60.54972	14	17	67.42565	73.71977
06	FFD4D	54.85758	60.54974	17	20	67.42565	73.71977
06	FFD4E	54.85758	60.54972	20	23	67.42565	73.71977
06	FFD4F	54.85758	60.54972	23	25	67.42565	73.71977
06	D4WGP1	53.84920	61.55810	25	26	66.52268	74.62274
06	D4WGP2	53.84920	61.55810	26	27	66.52268	74.62274
06	D4WGP3	53.84920	61.55810	27	28	66.52268	74.62274
06	D4WGP4	53.84920	61.55810	28	29	66.52268	74.62274
06	D4WGP5	53.84920	61.55810	29	30	66.52268	74.62274
06	OTCDD4	53.84920	61.55810	30	33	66.52268	74.62274
06	CDCRD4	54.75598	60.65132	30	33	67.66568	73.47974
06	INCDD4	54.85758	60.54972	30	33	67.76728	73.37814
06	SPD5	61.55810	69.26700	9	25	66.52268	74.62274
06	FED5A	62.27438	68.55072	9	11	66.52268	74.62274
06	FED5B	62.27438	68.55072	11	14	66.52268	74.62274
06	FED5C	62.27438	68.55072	14	17	66.52268	74.62274
06	FED5D	62.27438	68.55072	17	20	66.52268	74.62274
06	FED5E	62.27438	68.55072	20	23	66.52268	74.62274
06	FED5F	62.27438	68.55072	23	25	66.52268	74.62274
06	SPFFD6	69.26700	76.97590	9	25	66.52268	74.62274
06	SPD6A	69.26700	76.97590	9	17	66.52268	74.62274
06	FFD6A	70.27538	75.96752	9	11	67.42565	73.71977
06	FFD6B	70.27538	75.96752	11	14	67.42565	73.71977
06	FFD6C	70.27538	75.96752	14	17	67.42565	73.71977
06	FFD6D	70.27538	75.96754	17	20	67.42565	73.71977
06	FFD6E	70.27538	75.96752	20	23	67.42565	73.71977
06	FFD6F	70.27538	75.96752	23	25	67.42565	73.71977
06	D6WGP1	69.26700	76.97590	25	26	66.52268	74.62274
06	D6WGP2	69.26700	76.97590	26	27	66.52268	74.62274
06	D6WGP3	69.26700	76.97590	27	28	66.52268	74.62274
06	D6WGP4	69.26700	76.97590	28	29	66.52268	74.62274
06	D6WGP5	69.26700	76.97590	29	30	66.52268	74.62274
06	OTCDD6	69.26700	76.97590	30	33	66.52268	74.62274
06	CDCRD6	70.17378	76.06912	30	33	67.66568	73.47974
06	INCDD6	70.27538	75.96752	30	33	67.76728	73.37814
06	SPD7	76.97590	84.68480	9	25	66.52268	74-62274
06	FED7A	77.69218	83.96852	9	11	66.52268	74.62274
06	FED7B	77.69218	83.96852	11	14	66.52268	74.62274
06	FED7C	77.69218	83.96852	14	17	66.52268	74.62274
06	FED7D	77.69218	83.96852	17	20	66.52268	74.62274
06	FED7E	77.69218	83.96852	20	23	66.52268	74.62274
06	FED7F	77.69218	83.96852	23	25	66.52268	74.62274
06	SPE3	46.14030	53.84920	9	25	58.42262	66.52268
06	FEE3A	46.85658	53.13292	9	11	58.42262	66.52268
06	FEE3B	46.85658	53.13292	11	14	58.42262	66.52268
06	FEE3C	46.85658	53.13292	14	17	58.42262	66.52268
06	FEE3D	46.85658	53.13292	17	20	58.42262	66.52268

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

REGION BOUNDARY DEFINITIONS

06	FEE3E	46.85658	53.13292	20	23	58.42262	66.52268
06	FEE3F	46.85658	53.13292	23	25	58.42262	66.52268
06	SPE4	53.84920	61.55810	9	25	58.42262	66.52268
06	FEE4A	54.56548	60.84182	9	11	58.42262	66.52268
06	FEE4B	54.56548	60.84182	11	14	58.42262	66.52268
06	FEE4C	54.56548	60.84182	14	17	58.42262	66.52268
06	FEE4D	54.56548	60.84182	17	20	58.42262	66.52268
06	FEE4E	54.56548	60.84182	20	23	58.42262	66.52268
06	FEE4F	54.56548	60.84182	23	25	58.42262	66.52268
06	SPE5	61.55810	69.26100	9	25	58.42262	66.52268
06	FEE5A	62.27438	68.55072	9	11	58.42262	66.52268
06	FEE5B	62.27438	68.55072	11	14	58.42262	66.52268
06	FEE5C	62.27438	68.55072	14	17	58.42262	66.52268
06	FEE5D	62.27438	68.55072	17	20	58.42262	66.52268
06	FEE5E	62.27438	68.55072	20	23	58.42262	66.52268
06	FEE5F	62.27438	68.55072	23	25	58.42262	66.52268
06	SPE6	69.26700	76.97590	9	25	58.42262	66.52268
06	FEE6A	69.98328	76.25962	9	11	58.42262	66.52268
06	FEE6B	69.98328	76.25962	11	14	58.42262	66.52268
06	FEE6C	69.98328	76.25962	14	17	58.42262	66.52268
06	FEE6D	69.98328	76.25962	17	20	58.42262	66.52268
06	FEE6E	69.98328	76.25962	20	23	58.42262	66.52268
06	FEE6F	69.98328	76.25962	23	25	58.42262	66.52268
06	SPE7	76.97590	84.68480	9	25	58.42262	66.52268
06	FEE7A	77.69218	83.96852	9	11	58.42262	66.52268
06	FEE7B	77.69218	83.96852	11	14	58.42262	66.52268
06	FEE7C	77.69218	83.96852	14	17	58.42262	66.52268
06	FEE7D	77.69218	83.96852	17	20	58.42262	66.52268
06	FEE7E	77.69218	83.96852	20	23	58.42262	66.52268
06	FEE7F	77.69218	83.96852	23	25	58.42262	66.52268
06	DTF1	30.72250	38.43140	0	34	50.32256	58.42262
06	SPF3	46.14030	53.84920	9	25	50.32256	58.42262
06	FEF3A	46.85658	53.13292	9	11	50.32256	58.42262
06	FEF3B	46.85658	53.13292	11	14	50.32256	58.42262
06	FEF3C	46.85658	53.13292	14	17	50.32256	58.42262
06	FEF3D	46.85658	53.13292	17	20	50.32256	58.42262
06	FEF3E	46.85658	53.13292	20	23	50.32256	58.42262
06	FEF3F	46.85658	53.13292	23	25	50.32256	58.42262
06	SPFFF4	53.84920	61.55810	9	25	50.32256	58.42262
06	SPF4A	53.84920	61.55810	9	17	50.32256	58.42262
06	FFF4A	54.85758	60.54972	9	11	51.22553	57.51965
06	FFF4B	54.85758	60.54972	11	14	51.22553	57.51965
06	FFF4C	54.85758	60.54972	14	17	51.22553	57.51965
06	FFF4D	54.85758	60.54972	17	20	51.22553	57.51965
06	FFF4E	54.85758	60.54972	20	23	51.22553	S7.51965
06	FFF4F	54.85758	60.54972	23	25	51.22553	57.51965
06	F4WGP1	53.84920	61.55810	25	26	50.32256	58.42262
06	F4WGP2	53.84920	61.55810	26	27	50.32256	58.42262
06	F4WG23	53.84920	61.55810	27	28	50.32256	58.42262

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

REGION BOUNDARY DEFINITIONS

06	F4WGP4	53.84920	61.55810	28	29	50.32256	58.42262
06	F4WGP5	53.84920	61.55810	29	30	50.32256	58.42262
06	OTCDF4	53.84920	61.55810	30	33	50.32256	58.42262
06	CDCRF4	54.75598	60.65132	30	33	51.46556	57.27962
06	INCDF4	54.85758	60.54972	30	33	51.56716	57.17802
06	SPF5	61.55810	69.26700	9	25	50.32256	58.42262
06	FEF5A	62.27438	68.55072	9	11	50.32256	58.42262
06	FEF5B	62.27438	68.55072	11	L4	50.32256	58.42262
06	FEF5C	62.27438	68.55072	14	17	50.32256	58.42262
06	FEF5D	62.27438	68.55072	17	20	50.32256	58.42262
06	FEF5E	62.27438	68.55072	20	23	50.32256	58.42262
06	FEF5F	62.27438	68.55072	23	25	50.32256	58.42262
06	SPFFF6	69.26700	76.97590	9	25	50.32256	58.42262
06	SPF6A	69.26700	76.97590	9	17	50.32256	58.42262
06	FFF6A	70.27538	75.96752	9	11	51.22553	57.51965
06	FFF6B	70.27538	75.96752	11	14	51.22553	57.51965
06	FFF6C	70.27538	75.96752	14	17	51.22553	57.51965
06	FFF6D	70.27538	75.96752	17	20	51.22553	57.51965
06	FFF6E	70.27538	75.96752	20	23	51.22553	57.51965
06	FFF6F	70.27538	75.96752	23	25	51.22553	57.51965
06	F6WGP1	69.26700	76.97590	25	26	50.32256	58.42262
06	F6WGP2	69.26700	76.97590	26	27	50.32256	58.42262
06	F6WGP3	69.26700	76.97590	27	28	50.32256	58.42262
06	F6WGP4	69.26700	76.97590	28	29	50.32256	58.42262
06	F6WGP5	69.26700	76.97590	29	30	50.32256	58.42262
06	OTCDF6	69.26700	76.97590	30	33	50.32256	58.42262
06	CDCRF6	70.17378	76.06912	30	33	51.46556	57.27962
06	INCDF6	70.27538	75.96752	30	33	51.56716	57.17802
06	SPF7	76.97590	84.68480	9	25	50.32256	58.42262
06	FEF7A	77.69218	83.96852	9	11	50.32256	58.42262
06	FEF7B	77.69218	83.96852	11	14	50.32256	58.42262
06	FEF7C	77.69218	83.96852	14	17	50.32256	58.42262
06	FEF7D	77.69218	83.96852	17	20	50.32256	58.42262
06	FEF7E	77.69218	83.96852	20	23	50.32256	58.42262
06	FEF7F	77.69218	83.96852	23	25	50.32256	58.42262
06	DTF9	92.39370	100.10260	0	34	50.32256	58.42262
06	DFEG1	30.72250	38.43140	9	25	42.22250	50.32256
06	DFEG9	92.39370	100.10260	9	25	42.22250	50.32256
06	BT1	30.72250	46.14030	11	16	0.0	40.97444
06	BT2	30.72250	46.14030	18	23	0.0	40.97444
06	BT3	57.70365	73.12145	11	16	0.0	40.97444
06	BT4	57.70365	73.12145	18	23	0.0	40.97444
06	BT5	84.68480	100.10260	11	16	0.0	40.97444
06	BT6	84.68480	100.10260	18	23	0.0	40.97444

Table D. I DIF3D Input Data for Calculation of the Water-Reflecte
Fre3h Fuel Critical 179AX5 (Continued)

AREA SPECIFICATIONS

```
07      H20RFIH202 B5RFL E2RFL E8RFL C3RFL C7RFL G5RFL
07      H20RFOH201
07      FEC4   FEC4A  FEC4B  FEC4C  FEC4D  FEC4E  FEC4F  SPC4
07      FEC5   FEC5A  FEC5B  FEC5C  FEC5D  FEC5E  FEC5F  SPC5
07      FEC6   FEC6A  FEC6B  FEC6C  FEC6D  FEC6E  FEC6F  SPC6
07      FED3   FED3A  FED3B  FED3C  FED3D  FED3E  FED3F  SPD3
07      FED5   FED5A  FED5B  FED5C  FED5D  FED5E  FED5F  SPD5
07      FED7   FED7A  FED7B  FED7C  FED7D  FED7E  FED7F  SPD7
07      FEE3   FEE3A  FEE3B  FEE3C  FEE3D  FEE3E  FEE3F  SPE3
07      FEE4   FEE4A  FEE4B  FEE4C  FEE4D  FEE4E  FEE4F  SPE4
07      FEE5   FEE5A  FEE5B  FEE5C  FEE5D  FEE5E  FEE5F  SPE5
07      FEE6   FEE6A  FEE6B  FEE6C  FEE6D  FEE6E  FEE6F  SPE6
07      FEE7   FEE7A  FEE7B  FEE7C  FEE71) FEE7E  FEE7F  SPE7
07      FEF3   FEF3A  FEF3B  FEF3C  FEF3D  FEF3E  FEF3F  SPF3
07      FEF5   FEF5A  FEF5B  FEF5C  FEF5D  FEF5E  FEF5F  SPF5
07      FEF7   FEF7A  FEF7B  FEF7C  FEF7D  FEF7E  FEF7F  SPF7
07      FFD4   FFD4A  FFD4B  FFD4C  FFD4D  FFD4E  FFD4F  SPFFD4SPD4A
07      FFD6   FFD6A  FFD6B  FFD6C  FFD6D  FFD6E  FFD6F  SPFFD6SPD6A
07      FFF4   FFF4A  FFF4B  FFF4C  FFF4D  FFF4E  FFF4F  SPFFF4SPF4A
07      FFF6   FFF6A  FFF6B  FFF6C  FFF6D  FFF6E  FFF6F  SPFFF6SPF6A
07      CORE   FEC4A  FEC4B  FEC4C  FEC4D  FEC4E  FEC4F  SPC4
07      CORE   FEC5A  FEC5B  FEC5C  FEC5D  FEC5E  FEC5F  SPC5
07      CORE   FEC6A  FEC6B  FEC6C  FEC6D  FEC6E, FEC6F  SPC6
07      CORE   FED3A  FED3B  FED3C  FED3D  FED3E  FED3F  SPD3
07      CORE   FED5A  FED5B  FED5C  FED5D  FED5E  FED5F  SPD5
07      CORE   FED7A  FED7B  FED7C  FED7D  FED7E  FED7F  SPD7
07      CORE   FEE3A  FEE3B  FEE3C  FEE3D  FEE3E  FEE3F  SPE3
07      CORE   FEE4A  FEE4B  FEE4C  FEE4D  FEE4E  FEE4F  SPE4
07      CORE   FEE5A  FEE5B  FEE5C  FEE5D  FEE5E  FEE5F  SPE5
07      CORE   FEE6A  FEE6B  FEE6C  FEE6D  FEE6E  FEE6F  SPE6
07      CORE   FEE7A  FEE7B  FEE7C  FEE7D  FEE7E  FEE7F  SPE7
07      CORE   FEF3A  FEF3B  FEF3C  FEF3D  FEF3E  FEF3F  SPF3
07      CORE   FEF5A  FEF5B  FEF5C  FEF5D  FEF5E  FEF5F  SPF5
07      CORE   FEF7A  FEF7B  FEF7C  FEF7D  FEF7E  FEF7F  SPF7
07      CORE   FFD4A  FFD4B  FFD4C  FFD4D  FFD4E  FFD4F  SPFFD4SPD4A
07      CORE   FFD6A  FFD6B  FFD6C  FFD6D  FFD6E  FFD6F  SPFFD6SPD6A
07      CORE   FFF4A  FFF4B  FFF4C  FFF4D  FFF4E  FFF4F  SPFFF4SPF4A
07      CORE   FFF6A  FFF6B  FFF6C  FFF6D  FFF6E  FFF6F  SPFFF6SPF6A
07      SFCOREFEC4A FEC4B  FEC4C  FEC4D  FEC4E  FEC4F  SPC4
07      SFCOREFEC5A FEC5B  FEC5C  FEC5D  FEC5E  FEC5F  SPC5
07      SFCOREFEC6A FEC6B  FEC6C  FEC6D  FEC6E  FEC6F  SPC6
07      SFCOREFED3A FED3B  FED3C  FED3D  FED3E  FED3F  SPD3
07      SFCOREFED5A FED5B  FED5C  FED51) FED5E  FED5F  SPD5
07      SFCOREFED7A FED7B  FED7C  FED7D  FED7E  FED7F  SPD7
07      SFCOREFEE3A FEE3B  FEE3C  FEE3D  FEE3E  FEE3F  SPE3
07      SFCOREFEE4A FEE4B  FEE4C  FEE4D  FEE4E  FEE4F  SPE4
07      SFCOREFEE5A FEE5B  FEE5C  FEE5D  FEE5E  FEE5F  SPE5
07      SFCOREFEE6A FEE6B  FEE6C  FEE6D  FEE6E  FEE6F  SPE6
07      SFCOREFEE7A FEE7B  FEE7C  FEE7D  FEE7E  FEE7F  SPE7
07      SFCOREFEF3A FEF3B  FEF3C  FEF3D  FEF3E  FEF3F  SPF3
07              SFCOREFEF5A FEF5B  FEF5C  FEF5D  FEF5E  FEF5FSPF5
```

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

AREA SPECIFICATIONS

```
07    SFCOREFEF7A FEF7B FEF7C FEF7D FEF7E FEF7F SPF7
07    FFL     FFD4A FFD4B FFD4C SPD4A
07    FFL     FFD6A FFD6B FFD6C SPD6A
07    FFL     FFF4A FFF4B FFF4C SPF4A
07    FFL     FFF6A FFF6B FFF6C SPF6A
07    FFU     FFD4D FFD4E FFD4F SPFFD4
07    FFU     FFD6D FFD6E FFD6F SPFFD6
07    FFU     FFF4D FFF4E FFF4F SPFFF4
07    FFU     FFF6D FFF6E FFF6F SPFFF6
07    FEA     FEC4A FEC5A FEC6A FED3A FED5A FED7A FEE3A FEE4A FEE5A FEE6A
07    FEA     FEE7A FEF3A FEF5A FEF7A
07    FEB     FEC4B FEC5B FEC6B FED3B FED5B FED7B FEE3B FEE4B FEE5B FEE6B
07    FEB     FEE7B FEF3B FEF5B FEF7B
07    FEC     FEC4C FEC5C FEC6C FED3C FED5C FED7C FEE3C FEE4C FEE5C FEE6C
07    FEC     FEE7C FEF3C FEF5C FEF7C
07    FED     FEC4D FEC5D FEC6D FED3D FED51) FED7D FEE3D FEE4D FEE5D FEE6D
07    FED     FEE7D FEF3D FEF5D FEF7D
07    FEE     FEC4E FEC5E FEC6E FED3E FED5E FED7E FEE3E FEE4E FEE5E FEE6E
07    FEE     FEE7E FEF3E FEF5E FEF7E
07    FEF     FEC4F FEC5F FEC6F FED3F FED5F FED7F FEE3F FEE4F FEE5F FEE6F
07    FEF     FEE7F FEF3F FEF5F FEF7F
07    FFA     FFD4A FFD6A FFF4A FFF6A
07    FFB     FFD4B FFD6B FFF4B FFF6B
07    FFC     FFD4C FFD6C FFF4C FFF6C
07    FFD     FFD4D FFD6D FFF4D FFF6D
07    FFE     FFD4E FFD6E FFF4E FFF6E
07    FFF     FFD4F FFD6F FFF4F FFF6F
07    WGAP    D4WGPlD4WGP2D4WGP3D4WGP4D4WGP5
07    WGAP    D6WGPlD6WGP2D6WGP3D6WGP4D6WGP5
07    WGAP    F4WGPlF4WGP2F4WGP3F4WGP4F4WGP5
07    WGAP    F6WGPlF6WGP2F6WGP3F6WGP4F6WGP5
07    CDIN    INCDD4INCDD6INCDF4INCDF6
07    CD      CDCRD4CDCRD6CDCRF4CDCRF6
07    CDOUT OTCDD40TCDD60TCDF40TCDF6
```

VARIABLE-MESH STRUCTURE

```
09          x   3   28.22543   1   30.72250   3   38.43140
09          x   5   46.14030   1   46.85658
09          x   1   47.56359   2   52.42591
09          x   1   53.13292   1   53.84920   1   54.56548
09          x   1   54.75598   1   54.85758   2   60.54972
09          x   1   60.65132   1   60.84182   1   61.55810
09          x   1   62.27438   1   63.16327   2   67.66183
09          x   1   68.55072   1   69.26700
09          x   1   69.98328   1   70.17378   1   70.27538
09          x   2   75.96752   1   76.06912   1   76.25962
09          x   1   76.97590   1   77.69218   1   78.58107
09          x   2   83.07963   1   83.96852
09          x   1   84.68480   5   92.39370
09          x   3   100.10260  1   102.59967  3   130.82510
```

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

VARIABLE-MESH STRUCTURE

```
09  y  8  40.97444
09  y  1  42.22250  5  50.32256  1  51.22553
09  y  1  51.46556  1  51.56716  3  57.17802
09  y  1  57.27962  1  57.51965  1  58.42262
09  y  1  60.07108  3  64.87422
09  y  1  66.52268  1  67.42565  1  67.66568
09  y  1  67.76728  3  73.37814  1  73.47974
09  y  1  73.71977  1  74.62274  5  82.72280
09  y  5  90.82286  2  98.92292  1  101.63278
09  y  1  102.58528  3  131.86792
09  z  2  53.73686  1  63.89046  1  68.73872
09  z  4  72.73934
09  z  1  73.73934  2  83.74058  1  84.74058
09  z  2  93.74182  1  97.74244  1  98.74244
09  z  1  103.74306  1  108.74368  1  109.74368
09  z  1  113.74430  1  118.74492  1  122.74554
09  z  1  123.74554  2  133.74678  5  138.74740
09  z  1  143.59566  1  153.74926  1  216.21740
09  z  1  217.21740
```

COMPOSITION SPECIFICATIONS

```
14  H20RFLHYRS1  6.66899E-020XRS1  3.33450E-02
14  BTUBE HYRS1  2.00070E-030XRS1  1.00035E-03
14  DFEM HYDMl  4.13927E-02OXDM1  2.06964E-02ALDM1  2.28758E-02
14  DFEM BORS1  2.85918E-07
14  DTMAT HYRS1  1.79842E-020XRS1  8.99212E-03ALRF1  1.03113E-02
14  DTMAT BORS1  1.29023E-07
14  ALBOX MGCB1  5.96919E-04ALCB1  5.26565E-02SICB1  3.10021E-04
14  ALBOX CRCB1  6.97760E-05CUCB1  5.70989E-05HYRS1  7.44843E-03
14  ALBOX OXRS1  3.72422E-03
14  ARFLB BORS1  1.95903E-07
14  ARFLB HYRS1  4.93753E-020XRS1  2.46877E-02ALRF1  1.56573E-02
14  ARFLA BORS1  2.85902E-07
14  ARFLA HYRS1  4.14206E-020XRS1  2.07103E-02ALRF1  2.28506E-02
14  SPLTM BOXSl  5.5482BE-07
14  SPLTM HYXS1  1.76010E-02OXXS1  8.80051E-03ALXS1  4.43902E-02
14  SPSRF BOXF1  4.14033E-07
14  SPSRF HYXF1  3.00579E-02OXXF1  1.50290E-02ALXF1  3.31256E-02
14  SPSRW BORF1  4.14033E-07
14  SPSRW HYSZ1  3.00579E-020XSZ1  1.50290E-02ALSZ1  3.31256E-02
14  WGAP  BOGP1  2.10330E-07
14  WGAP  HYGP1  4.80802E-02OXGP1  2.40401E-02ALGP1  1.68284E-02
14  OTCD  BOOT1  4.48907E-07
14  OTCD  HYOT1  2.69746E-02OXOT1  1.34873E-02ALOT1  3.59156E-02
14  CDCR  CDCRl  4.62970E-02
14  INCD  BOIN1  2.68581E-08
14  INCD  HYIN1  6.43187E-02OXIN1  3.21594E-02ALIN1  2.14883E-03
```

Table D.1 DIF3D Input Data for Calculation of the Water-Reflected Fresh Fuel Critical 179AX5 (Continued)

COMPOSITION SPECIFICATIONS

```
14          SFLEU  BOSLl   1.69408E-07
14          SFLEU  HYSL1   4.68230E-02OXSLl      2.34116E-02ALSL1      1.46194E-02
14          SFLEU  SISLl   9.54101E-04U5SL1      2.85550E-04U8SL1      1.14560E-03
14          FFLEU  BOFL1   1.72430E-07
14          FFLEU  HYFLl   4.64246E-02OXFL1      2.32123E-02ALFL1      1.52522E-02
14          FFLEU  SIFL1   7.96396E-04U5FL1      2.38351E-04U8FL1      9.56244E-04
14          FF20W  BOFZ1   1.72430E-07
14          FF20W  HYFZ1   4.64246E-02OXFZ1      2.32123E-02ALFZ1      1.52522E-02
14          FF20W  SIFZ1   7.96396E-04U5FZ1      2.38351E-04UBFZ1      9.56243E-04
```

ASSIGNMENT OF REGIONS TO COMPOSITION

```
15      H20RFLH20OUTH20IN B5RFL E2RFL E8RFL H201          H202     C3H2O C3RFL C7H20
15      H20RFLC7RFL G5RFL WCUT
15      DFEM DFEAl DFEA9 DFEG1 DFEG9
15      DTMAT DTB9 DTF1 DTF9
15      ALBOX ALBOX
15      ARFLB ARFLB
15      ARFLA ARFLA
15      SPLTM SPF3 SPF5 SPF7 SPE3 SPE4 SPE5 SPE6 SPE7 SPD3 SPD5
15      SPLTM SPD7 SPC4 SPC5 SPC6
15      SPSRF SPFFF4SPFFF6SPFFD4SPFFD6
15      SPSRW SPD4A SPD6A SPF4A SPF6A
15      WGAP  F4WGPlF4WGP2F4WGP3F4WGP4F4WGP5F6WGPlF6WGP2F6WGP3F6WGP4F6WGP5
15      WGAP  D4WGPlD4WGP2D4WGP3D4WGP4D4WGP5D6WGPID6WGP2D6WGP3D6WGP4D6WGP5
15      OTCD  OTCDF4OTCDF60TCDD4OTCDD6
15      CDCR CDCRF4CDCRF6CDCRD4CDCRD6
15      INCD INCDF4INCDF6INCDD4INCDD6
15      BTUBE BT1     BT2     BT3     BT4     BT5     BT6
15      SFLEU FEC4A   FEC4B   FEC4C   FEC4D   FEC4E   FEC4F
15      SFLEU FEC5A   FEC5B   FEC5C   FEC5D   FEC5E   FEC5F
15      SFLEU FEC6A   FEC6B   FEC6C   FEC6D   FEC6E   FEC6F
15      SFLEU FED3A   FED3B   FED3C   FED3D   FED3E   FED3F
15      SFLEU FED5A   FED5B   FED5C   FED5D   FED5E   FED5F
15      SFLEU FED7A   FED7B   FED7C   FED71)  FED7E   FED7F
15      SFLEU FEE3A   FEE3B   FEE3C   FEEM    FEE3E   FEE3F
15      SFLEU FEE4A   FEE4B   FEE4C   FEE4D   FEE4E   FEE4F
15      SFLEU FEE5A   FEE5B   FEE5C   FEE5D   FEE5E   FEE5F
15      SFLEU FEE6A   FEE6B   FEE6C   FEE6D   FEE6E   FEE6F
15      SFLEU FEE7A   FEE7B   FEE7C   FEE7D   FEE7E   FEE7F
15      SFLEU FEF3A   FEF3B   FEF3C   FEF3D   FEF3E   FEF3F
15      SFLEU FEF5A   FEF5B   FEF5C   FEF5D   FEF5E   FEF5F
15      SFLEU FEF7A   FEF7B   FEF7C   FEF7D   FEF7E   FEF7F
15      FFLEU FFD4D   FFD4E   FFD4F
15      FFLEU FFD6D   FFD6E   FFD6F
15      FFLEU FFF4D   FFF4E   FFF4F
15      FFLEU FFF6D   FFF6E   FFF6F
15      FF20W FFD4A   FFD4B   FFD4C
15      FF20W FFD6A   FFD6B   FFD6C
15      FF20W FFF4A   FFF4B   FFF4C
15      FF20W FFF6A   FFF6B   FFF6C
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Table D.2 DIF313 Input Data for Calculation of the Beryl I ium- Reflected
Fresh Fuel Critical 179AX6

REGION BOUNDARY DEFINITIONS

06	H20OUT	0.0	130.82510	0	34	0.0	131.86792
06	ALBOX	28.22543	102.59967	3	31	40.97444	102.58528
06	WCUT	38.43140	92.39370	3	31	101.63278	102.58528
06	H20ARF	30.72250	100.10260	2	32	42.22250	98.92292
06	H20INA	30.72250	100.10260	3	31	42.22250	98.92292
06	H20INB	30.72250	100.10260	3	31	42.22250	90.82286
06	DFEA1	30.72250	38.43140	9	25	90.82286	98.92292
06	H20A5W	61.55810	69.26700	2	32	90.82286	98.92292
06	H20A5L	61.55810	69.26700	3	9	90.82286	98.92292
06	H20A5A	61.55810	69.26700	9	11	90.82286	98.92292
06	H20A5B	61.55810	69.26700	11	14	90.82286	98.92292
06	H20A5C	61.55810	69.26700	14	17	90.82286	98.92292
06	H20A5D	61.55810	69.26700	17	20	90.82286	98.92292
06	H20A5E	61.55810	69.26700	20	23	90.82286	98.92292
06	H20A5F	61.55810	69.26700	23	25	90.82286	98.92292
06	H20A5U	61.55810	69.26700	25	31	90.82286	98.92292
06	DFEA9	92.39370	100.10260	9	25	90.82286	98.92292
06	H20B5W	61.55810	69.26700	2	32	82.72280	90.82286
06	H20B5L	61.55810	69.26700	3	9	82.72280	90.82286
06	H20B5A	61.55810	69.26700	9	11	82.72280	90.82286
06	H20B5B,	61.55810	69.26700	11	14	82.72280	90.82286
06	H20B5C	61.55810	69.26700	14	17	82.72280	90.82286
06	H20B5D	61.55810	69.26700	17	20	82.72280	90.82286
06	H20B5E	61.55810	69.26700	20	23	82.72280	90.82286
06	H20B5F	61.55810	69.26700	23	25	82.72280	90.82286
06	H20B5U	61.55810	69.26700	25	31	82.72280	90.82286
06	DTB9	92.39370	100.10260	0	34	82.72280	90.82286
06	H20E1W	30.72250	38.43140	2	32	58.42262	66.52268
06	H20E1L	30.72250	38.43140	3	9	58.42262	66.52268
06	H20E1A	30.72250	38.43140	9	11	58.42262	66.52268
06	H20E1B	30.72250	38.43140	11	14	58.42262	66.52268
06	H20E1C	30.72250	38.43140	14	17	58.42262	66.52268
06	H20E1D	30.72250	38.43140	17	20	58.42262	66.52268
06	H20E1E	30.72250	38.43140	20	23	58.42262	66.52268
06	H20E1F	30.72250	38.43140	23	25	58.42262	66.52268
06	H20E1U	30.72250	38.43140	25	31	58.42262	66.52268
06	H20E9W	92.39370	100.10260	2	32	58.42262	66.52268
06	H20E9L	92.39370	100.10260	3	9	58.42262	66.52268
06	H20E9A	92.39370	100.10260	9	11	58.42262	66.52268
06	H20E9B	92.39370	100.10260	11	14	58.42262	66.52268
06	H20E9C	92.39370	100.10260	14	17	58.42262	66.52268
06	H20E9D	92.39370	100.10260	17	20	58.42262	66.52268
06	H20E9E	92.39370	100.10260	20	23	58.42262	66.52268
06	H20E9F	92.39370	100.10260	23	25	58.42262	66.52268
06	H20E9U	92.39370	100.10260	25	31	58.42262	66.52268
06	BEC20	38.43140	46.14030	3	31	74.62274	82.72280
06	BEC21	38.43140	46.14030	9	25	74.62274	82.72280
06	BEC30	46.14030	53.84920	3	31	74.62274	82.72280
06	BEC31	46.14030	53.84920	9	25	74.62274	82.72280

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

REGION BOUNDARY DEFINITIONS

06	BEC4O	53.84920	61.55810	3	31	74.62274	82.72280
06	BEC4I	53.84920	61.55810	9	25	74.62274	82.72280
06	BEC5W	61.55810	69.26700	2	32	74.62274	82.72280
06	BEC5L	61.55810	69.26700	3	9	74.62274	82.72280
06	BEC5A	61.55810	69.26700	9	11	74.62274	82.72280
06	BEC5B	61.55810	69.26700	11	14	74.62274	82.72280
06	BEC5C	61.55810	69.26700	14	17	74.62274	82.72280
06	BEC5D	61.55810	69.26700	17	20	74.62274	82.72280
06	BEC5E	61.55810	69.26700	20	23	74.62274	82.72280
06	BEC5F	61.55810	69.26700	23	25	74.62274	82.72280
06	BEC5U	61.55810	69.26700	25	31	74.62274	82.72280
06	BEC6O	69.26700	76.97590	3	31	74.62274	82.72280
06	BEC6I	69.26700	76.97590	9	25	74.62274	82.72280
06	BEC7O	76.97590	84.68480	3	31	74.62274	82.72280
06	BEC7I	76.97590	84.68480	9	25	74.62274	82.72280
06	BEC8O	84.68480	92.39370	3	31	74.62274	82.72280
06	BEC8I	84.68480	92.39370	9	25	74.62274	82.72280
06	BED2O	38.43140	46.14030	3	31	66.52268	74.62274
06	BED2I	38.43140	46.14030	9	25	66.52268	74.62274
06	BED3O	46.14030	53.84920	3	31	66.52268	74.62274
06	BED3I	46.14030	53.84920	9	25	66.52268	74.62274
06	BED7O	76.97590	84.68480	3	31	66.52268	74.62274
06	BED7I	76.97590	84.68480	9	25	66.52268	74.62274
06	BED8O	84.68480	92.39370	3	31	66.52268	74.62274
06	BED8I	84.68480	92.39370	9	25	66.52268	74.62274
06	BEE2O	38.43140	46.14030	3	31	58.42262	66.52268
06	BEE2I	38.43140	46.14030	9	25	58.42262	66.52268
06	BEE3W	46.14030	53.84920	2	32	58.42262	66.52268
06	BEE3L	46.14030	53.84920	3	9	58.42262	66.52268
06	BEE3A	46.14030	53.84920	9	11	58.42262	66.52268
06	BEE3B	46.14030	53.84920	11	14	58.42262	66.52268
06	BEE3C	46.14030	53.84920	14	17	58.42262	66.52268
06	BEE3D	46.14030	53.84920	17	20	58.42262	66.52268
06	BEE3E	46.14030	53.84920	20	23	58.42262	66.52268
06	BEE3F	46.14030	53.84920	23	25	58.42262	66.52268
06	BEE3U	46.14030	53.84920	25	31	58.42262	66.52268
06	BEE7O	76.97590	84.68480	3	31	58.42262	66.52268
06	BEE7I	76.97590	84.68480	9	25	58.42262	66.52268
06	BEE8W	84.68480	92.39370	2	32	58.42262	66.52268
06	BEE8L	84.68480	92.39370	3	9	58.42262	66.52268
06	BEE8A	84.68480	92.39370	9	11	58.42262	66.52268
06	BEE8B	84.68480	92.39370	11	14	58.42262	66.52268
06	BEE8C	84.68480	92.39370	14	17	58.42262	66.52268
06	BEE8D	84.68480	92.39370	17	20	58.42262	66.52268
06	BEE8E	84.68480	92.39370	20	23	58.42262	66.52268
06	BEE8F	84.68480	92.39370	23	25	58.42262	66.52268
06	BEE8U	84.68480	92.39370	25	31	58.42262	66.52268
06	DTF1	30.72250	38.43140	0	34	50.32256	58.42262
06	BEF2O	38.43140	46.14030	3	31	50.32256	58.42262

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

REGION BOUNDARY DEFINITIONS

06	BEF2I	38.43140	46.14030	9	25	50.32256	58.42262
06	BEF3O	46.14030	53.84920	3	31	50.32256	58.42262
06	BEF3I	46.14030	53.84920	9	25	50.32256	58.42262
06	BEF7O	76.97590	84.68480	3	31	50.32256	58.42262
06	BEF7I	76.97590	84.68480	9	25	50.32256	58.42262
06	BEF8O	84.68480	92.39370	3	31	50.32256	58.42262
06	BEF8I	84.68480	92.39370	9	25	50.32256	58.42262
06	DTF9	92.39370	100.10260	0	34	50.32256	58.42262
06	DFEG1	30.72250	38.43140	9	25	42.22250	50.32256
06	BEG2O	38.43140	46.14030	3	31	42.22250	50.32256
06	BEG2I	38.43140	46.14030	9	25	42.22250	50.32256
06	BEG3O	46.14030	53.84920	3	31	42.22250	50.32256
06	BEG3I	46.14030	53.84920	9	25	42.22250	50.32256
06	BEG4O	53.84920	61.55810	3	31	42.22250	50.32256
06	BEG4I	53.84920	61.55810	9	25	42.22250	50.32256
06	BEG5W	61.55810	69.26700	2	32	42.22250	50.32256
06	BEG5L	61.55810	69.26700	3	9	42.22250	50.32256
06	BEG5A	61.55810	69.26700	9	11	42.22250	50.32256
06	BEG5B	61.55810	69.26700	11	14	42.22250	50.32256
06	BEG5C	61.55810	69.26700	14	17	42.22250	50.32256
06	BEG5D	61.55810	69.26700	17	20	42.22250	50.32256
06	BEG5E	61.55810	69.26700	20	23	42.22250	50.32256
06	BEG5F	61.55810	69.26700	23	25	42.22250	50.32256
06	BEG5U	61.55810	69.26700	25	31	42.22250	50.32256
06	BEG6O	69.26700	76.97590	3	31	42.22250	50.32256
06	BEG6I	69.26700	76.97590	9	25	42.22250	50.32256
06	BEG7O	76.97590	84.68480	3	31	42.22250	50.32256
06	BEG7I	76.97590	84.68480	9	25	42.22250	50.32256
06	BEG8O	84.68480	92.39370	3	31	42.22250	50.32256
06	BEG81	84.68480	92.39370	9	25	42.22250	50.32256
06	DFEG9	92.39370	100.10260	9	25	42.22250	50.32256
06	ARFLB	53.84920	76.97590	2	32	50.32256	74.62274
06	ARFLA	53.84920	76.97590	4	30	50.32256	74.62274
06	SPFFD4	53.84920	61.55810	9	25	66.52268	74.62274
06	SPD4A	53.84920	61.55810	9	17	66.52268	74.62274
06	FFD4A	54.85758	60.54972	9	11	67.42565	73.71977
06	FFD4B	54.85758	60.54972	11	14	67.42565	73.71977
06	FFD4C	54.85758	60.54972	14	17	67.42565	73.71977
06	FFD4D	54.85758	60.54974	17	20	67.42565	73.71977
06	FFD4E	54.85758	60.54972	20	23	67.42565	73.71977
06	FFD4F	54.85758	60.54972	23	25	67.42565	73.71977
06	D4WGP1	53.84920	61.55810	25	26	66.52268	74.62274
06	D4WGP2	53.84920	61.55810	26	27	66.52268	74.62274
06	D4WGP3	53.84920	61.55810	27	28	66.52268	74.62274
06	D4WGP4	53.84920	61.55810	28	29	66.52268	74.62274
06	D4WGP5	53.84920	61.55810	29	30	66.52268	74.62274
06	OTCDD4	53.84920	61.55810	30	33	66.52268	74.62274
06	CDCRD4	54.75598	60.65132	30	33	67.66568	73.47974

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

REGION BOUNDARY DEFINITIONS

06	INCDD4	54.85758	60.54972	30	33	67.76728	73.37814
06	SPD5	61.55810	69.26700	9	25	66.52268	74.62274
06	FED5A	62.27438	68.55072	9	11	66.52268	74.62274
06	FED5B	62.27438	68.55072	11	14	66.52268	74.62274
06	FED5C	62.27438	68.55072	14	17	66.52268	74.62274
06	FED5D	62.27438	68.55072	17	20	66.52268	74.62274
06	FED5E	62.27438	68.55072	20	23	66.52268	74.62274
06	FED5F	62.27438	68.55072	23	25	66.52268	74.62274
06	SPFFD6	69.26700	76.97590	9	25	66.52268	74.62274
06	SPD6A	69.26700	76.97590	9	17	66.52268	74.62274
06	FFD6A	70.27538	75.96752	9	11	67.42565	73.71977
06	FFD6B	70.27538	75.96752	11	14	67.42565	73.71977
06	FFD6C	70.27538	75.96752	14	17	67.42565	73.71977
06	FFD6D	70.27538	75.96754	17	20	67.42565	73.71977
06	FFD6E	70.27538	75.96752	20	23	67.42565	73.71977
06	FFD6F	70.27538	75.96752	23	25	67.42565	73.71977
06	D6WGP1	69.26700	76.97590	25	26	66.52268	74.62274
06	D6WGP2	69.26700	76.97590	26	27	66.52268	74.62274
06	D6WGP3	69.26700	76.97590	27	28	66.52268	74.62274
06	D6WGP4	69.26700	76.97590	28	29	66.52268	74.62274
06	D6WGP5	69.26700	76.97590	29	30	66.52268	74.62274
06	OTCDD6	69.26700	76.97590	30	33	66.52268	74.62274
06	CDCRD6	70.17378	76.06912	30	33	67.66568	73.47974
06	INCDD6	70.27538	75.96752	30	33	67.76728	73.37814
06	SPE4	53.84920	61.55810	9	25	58.42262	66.52268
06	FEE4A	54.56548	60.84182	9	11	58.42262	66.52268
06	FEE4B	54.56548	60.84182	11	14	58.42262	66.52268
06	FEE4C	54.56548	60.84182	14	17	58.42262	66.52268
06	FEE4D	54.56548	60.84182	17	20	58.42262	66.52268
06	FEE4E	54.56548	60.84182	20	23	58.42262	66.52268
06	FEE4F	54.56548	60.84182	23	25	58.42262	66.52268
06	SPE5	61.55810	69.26700	9	25	58.42262	66.52268
06	FEE5A	62.27438	68.55072	9	11	58.42262	66.52268
06	FEE5B	62.27438	68.55072	11	14	58.42262	66.52268
06	FEE5C	62.27438	68.55072	14	17	58.42262	66.52268
06	FEE5D	62.27438	68.55072	17	20	58.42262	66.52268
06	FEE5E	62.27438	68.55072	20	23	58.42262	66.52268
06	FEE5F	62.27438	68.55072	23	25	58.42262	66.52268
06	SPE6	69.26700	76.97590	9	25	58.42262	66.52268
06	FEE6A	69.98328	76.25962	9	11	58.42262	66.52268
06	FEE6B	69.98328	76.25962	11	14	58.42262	66.52268
06	FEE6C	69.98328	76.25962	14	17	58.42262	66.52268
06	FEE6D	69.98328	76.25962	17	20	58.42262	66.52268
06	FEE6E	69.98328	76.25962	20	23	58.42262	66.52268
06	FEE6F	69.98328	76.25962	23	25	58.42262	66.52268
06	SPFFF4	53.84920	61.55810	9	25	50.32256	58.42262
06	SPF4A	53.84920	61.55810	9	17	50.32256	58.42262
06	FFF4A	54.85758	60.54972	9	11	51.22553	57.51965
06	FFF4B	54.85758	60.54972	11	14	51.22553	57.51965

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fre3h Fuel Critical 179AX6 (Continued)

REGION BOUNDARY DEFINITIONS

06	FFF4C	54.85758	60.54972	14	17	51.22553	57.51965
06	FFF4D	54.85758	60.54972	17	20	51.22553	57.51965
06	FFF4E	54.85758	60.54972	20	23	51.22553	57.51965
06	FFF4F	54.85758	60.54972	23	25	51.22553	57.51965
06	F4WGP1	53.84920	61.55810	25	26	50.32256	58.42262
06	F4WGP2	53.84920	61.55810	26	27	50.32256	58.42262
06	F4WGP3	53.84920	61.55810	27	28	50.32256	58.42262
06	F4WGP4	53.84920	61.55810	28	29	50.32256	58.42262
06	F4WGP5	53.84920	61.55810	29	30	50.32256	58.42262
06	OTCDF4	53.84920	61.55810	30	33	50.32256	58.42262
06	CDCRF4	54.75598	60.65132	30	33	51.46556	57.27962
06	INCDF4	54.85758	60.54972	30	33	51.56716	57.17802
06	SPF5	61.55810	69.26700	9	25	50.32256	58.42262
06	FEF5A	62.27438	68.55072	9	11	50.32256	58.42262
06	FEF5B	62.27438	68.55072	11	14	50.32256	58.42262
06	FEF5C	62.27438	68.55072	14	17	50.32256	58.42262
06	FEF5D	62.27438	68.55072	17	20	50.32256	58.42262
06	FEF5E	62.27438	68.55072	20	23	50.32256	58.42262
06	FEF5F	62.27438	68.55072	23	25	50.32256	58.42262
06	SPFFF6	69.26700	76.97590	9	25	50.32256	58.42262
06	SPF6A	69.26700	76.97590	9	17	50.32256	58.42262
06	FFF6A	70.27538	75.96752	9	11	51.22553	57.51965
06	FFF6B	70.27538	75.96752	11	14	51.22553	57.51965
06	FFF6C	70.27538	75.96752	14	17	51.22553	57.51965
06	FFF6D	70.27538	75.96752	17	20	51.22553	57.51965
06	FFF6E	70.27538	75.96752	20	23	51.22553	57.51965
06	FFF6F	70.27538	75.96752	23	25	51.22553	57.51965
06	F6WGP1	69.26700	76.97590	25	26	50.32256	58.42262
06	F6WGP2	69.26700	76.97590	26	27	50.32256	58.42262
06	F6WGP3	69.26700	76.97590	27	28	50.32256	58.42262
06	F6WGP4	69.26700	76.97590	28	29	50.32256	58.42262
06	F6WGP5	69.26700	76.97590	29	30	50.32256	58.42262
06	OTCDF6	69.26700	76.97590	30	33	50.32256	58.42262
06	CDCRF6	70.17378	76.06912	30	33	51.46556	57.27962
06	INCDF6	70.27538	75.96752	30	33	51.56716	57.17802
06	BT1	30.72250	46.14030	11	16	0.0	40.97444
06	BT2	30.72250	46.14030	18	23	0.0	40.97444
06	BT3	57.70365	73.12145	11	16	0.0	40.97444
06	BT4	57.70365	73.12145	18	23	0.0	40.97444
06	BT5	84.68480	100.10260	11	16	0.0	40.97444
06	BT6	84.68480	100.10260	18	23	0.0	40.97444

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

AREA SPECIFICATIONS

```
07      H20RFAH20INAH2OA5LH2OA5AH2OA5BH2OA5CH2OA5DH2OA5EH2OA5FH2OA5U
07      H20RFBH20INBH2OB5LH2OB5AH2OB5BH2OB5CH2OB5DH2OB5EH2oB5FH2OB5U
07      H20RFBH2OElLH2OElAH2OElBH2OElCH20EIDH2OElEH2OElFH2OElU
07      H20RFBH2OE9LH2OE9AH2OE9BH2OE9CH2OE9DH2OE9EH2OE9FH2OE9U
07      H20A5   H20A5LH2OA5AH2OA5BH2OA5CH2OA5DH2OA5EH2OA5FH2OA5U
07      H20B5   H20B5LH2OB5AH20BSBH2OB5CH2OB5DH2OB5EH20BSFH2OB5U
07      H20El   H20ElLH2OElAH2OElBH2OElCH2OElDH2OElEH2OElFH2OElU
07      H20E9   H20E9LH2OE9AH2OE9BH2OE9CH2OE9DH2OE9EH2OE9FH2OE9U
07      BEC2    BEC20 BEC21
07      BEC3    BEC30 BEC31
07      BEC4    BEC40 BEC41
07      BEC5 BEC5L BEC5A BEC5B BEC5C BEC5D, BEC5E BEC5F BEC5U
07      BEC6 BEC60 BEC6I
07      BEC7    BEC70   BEC71
07      BEC8    BEC80   BEC81
07      BED2    BED20   BED21
07      BED3    BED30   BED31
07      BED7    BED70   BED71
07      BED8    BED80 BED8I
07      BEE2    BEE20   BEE21
07      BEE3    BEE3L   BEE3A BEE3B BEE3C BEE3D BEE3E BEE3F BEE3U
07      BEE7    BEE70   BEE71
07      BEE8    BEE8L   BEE8A BEE8B BEE8C BEE8D BEE8E BEE8F BEE8U
07      BEF2    BEF20   BEF21
07      BEF3    BEF30   BEF31
07      BEF7    BEF70   BEF71
07      BEFS    BEF80    BEF81
07      BEG2    BEG20   BEG21
07      BEG3    BEG30   BEG31
07      BEG4    BEG40   BEG41
07      BEG5    BEG5L   BEG5A BEG5B BEG5C BEG5D BEG5E BEG5F BEG5U
07      BEG6    BEG60   BEG61
07      BEG7    BEG70   BEG71
07      BEG8    BEG80 BEG8I
07      BEOUT BEC20   BEC21
07      BEOUT BEC80   BEC81
07      BEOUT BED20   BED21
07      BEOUT BED80   BED8I
07      BEOUT BEE20   BEE21
07      BEOUT BEE8L   BEE8A BEE8B BEE8C BEESD BEE8E BEE8F BEE8U
07      BEOUT BEF20   BEF21
07      BEOUT BEF80   BEF8I
07      BEOUT BEG20   BEG21
07      BEOUT BEG80   BEG8I
07      BEIN    BEC30   BEC31
07      BEIN    BEC40   BEC41
07      BEIN    BEC5L   BEC5A BEC5B BEC5C BEC5D BEC5E BEC5F BEC5U
07      BEIN    BEC60   BEC61
07      BEIN    BEC70   BEC71
07      BEIN    BED30   BED31
07      BEIN    BED70   BED71
```

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

AREA SPECIFICATIONS

```
07      BEIN    BEE3L  BEE3A BEE3B BEE3C BEE3D BEE3E BEE3F BEE3U
07      BEIN    BEE70  BEE7I
07      BEIN    BEF30  BEF3I
07      BEIN    BEF70  BEF7I
07      BEIN    BEG30  BEG3I
07      BEIN    BEG40  BEG4I
07      BEIN    BEG51, BEG5A BEG5B BEG5C BEG5D BEG5E BEG5F BEG5U
07      BEIN    BEG60  BEG6I
07      BEIN    BEG70  BEG7I
07      BEALL BEC20  BEC2I
07      BEALL BEC30  BEC3I
07      BEALL BEC40  BEC4I
07      BEALL BEC5L  BEC5A BEC5B BEC5C BEC5D BEC5E BEC5F BEC5U
07      BEALL BEC60  BEC6I
07      BEALL BEC70  BEC7I
07      BEALL BEC80  BEC8I
07      BEALL BED20  BED2I
07      BEALL BED30  BED3I
07      BEALL BED70  BED7I
07      BEALL BED80  BED8I
07      BEALL BEE20  BEE2I
07      BEALL BEE3L BEE3A BEE3B BEE3C BEE3D BEE3E BEE3F BEE3U
07      BEALL BEE70 BEE7I
07      BEALL BEE8L  BEE8A BEE8B BEE8C BEE8D BEE8E BEE8F BEE8U
07      BEALL BEF20  BEF2I
07      BEALL BEF30  BEF3I
07      BEALL BEF70  BEF7I
07      BEALL BEF80  BEF8I
07      BEALL BEG20  BEG2I
07      BEALL BEG30  BEG3I
07      BEALL BEG40  BEG4I
07      BEALL BEG5L  BEG5A BEG5B BEG5C BEG5D BEG5E BEG5F BEG5U
07      BEALL BEG60  BEG6I
07      BEALL BEG70  BEG7I
07      BEALL BEG80  BEG8I
07      BEH20  BEC5W BEE3WBEE8W BEG5W
07      H20W H20B5WH20EIWH2OE9W
07      ARFH20BEC5W BEE3W BEE8W BEG5W H20ARFH20A5W
07      ARFH20H2OB5WH2OElWH2OE9W
07      AXRFL ARFLB ARFLA
07      FED5    FED5A  FED5B  FED5C  FED5D  FED5E  FED5F  SPD5
07      FEE4    FEE4A  FEMB   FEE4C  FEE4D  FEE4E  FEE4F  SPE4
07      FEE5    FEE5A  FEE5B  FEE5C  FEE5D  FEE5E  FEE5F  SPE5
07      FEE6    FEE6A  FEE6B  FEE6C  FEE6D  FEE6E  FEE6F  SPE6
07      FEF5    FEF5A  FEF5B  FEF5C  FEF5D  FEF5E  FEF5F  SPF5
07      FEA     FEDSA FEE4A FEE5A FEE6A FEF5A
07      FEB     FED5B  FEE4B  FEE5B  FEE6B  FEF5B
07      FEC     FED5C  FEE4C  FEE5C  FEE6C  FEF5C
07      FED     FED5D  FEE4D  FEE5D  FEE6D  FEF5D
07      FEE     FED5E  FEE4E  FEE5E  FEE6E  FEF5E
07      FEF      FED5F  FEE4F  FEE5F  FEE6F  FEF5F
```

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

AREA SPECIFICATIONS

```
07    FFD4   FFD4A  FFD4B  FFD4C  FFD4D  FFD4E  FFD4F  SPFFD4  SPD4A
07    FFD6   FFD6A  FFD6B  FFD6C  FFD6D  FFD6E  FFD6F  SPFFD6  SPD6A
07    FFF4   FFF4A. FFF4B  FFF4C  FFF4D  FFF4E  FFF4F  SPFFF4  SPF4A
07    FFF6   FFF6A  FFF6B  FFF6C  FFF6D  FFF6E  FFF6F  SPFFF6  SPF6A
07    FFA    FFD4A. FFD6A  FFF4A  FFF6A
07    FFB    FFD4B  FFD6B  FFF4B  FFF6B
07    FFC    FFD4C  FFD6C  FFF4C  FFF6C
07    FFD    FFD4D  FFD6D  FFF4D  FFF6D
07    FFE    FFD4E  FFD6E  FFF4E  FFF6E
07    FFF    FFD4F  FFD6F  FFF4F  FFF6F
07    SFCOR  FED5A. FED5B  FED5C  FED5D  FED5E  FED5F  SPD5
07    SFCOR  FEE4A  FEE4B  FEE4C  FEE4D  FEE4E  FEE4F  SPE4
07    SFCOR  FEE5A  FEE5B  FEE5C  FEE5D  FEE5E  FEE5F  SPE5
07    SFCOR  FEE6A  FEE6B  FEE6C  FEE6D  FEE6E  FEE6F  SPE6
07    SFCOR  FEF5A  FEF5B  FEF5C  FEF5D  FEF5E  FEF5F  SPF5
07    FFLC   FFD4A  FFD4B  FFD4C  FFD6A  FFD6B  FFD6C  SPD4A  SPD6A
07    FFLC   FFF4A  FFF4B  FFF4C  FFF6A. FFF6B  FFF6C  SPF4A. SPF6A
07    FFUC   FFD4D  FFD4E  FFD4F  FFD6D  FFD6E  FFD6F  SPFFD4  SPFFD6
07    FFUC   FFF4D  FFF4E  FFF4F  FFF6D  FFF6E  FFF6F  SPFFF4  SPFFF6
07    WGAP   D4WGPlD4WGP2D4WGP3D4WGP4D4WGP5
07    WGAP   D6WGPlD6WGP2D6WGP3D6WGP4D6WGP5
07    WGAP   F4WGPlF4WGP2F4WGP3F4WGP4F4WGP5
07    WGAP   F6WGPlF6WGP2F6WGP3F6WGP4F6WGP5
07    CDIN   INCDD41NCDD6INCDF4INCDF6
07    CD     CDCRD4CDCRD6CDCRF4CDCRF6
07    CDOUT OTCDD4OTCDD6OTCDF4OTCDF6
```

VARIABLE-MESH STRUCTURE

```
09        x   3   28.22543   1   30.72250   3   38.43140
09        x   5   46.14030   5   53.84920   1   54.56548
09        x   1   54.75598   1   54.85758   2   60.54972
09        x   1   60.65132   1   60.84182   1   61.55810
09        x   1   62.27438   1   63.16327   3   67.66183
09        x   1   68.55072   1   69.26700
09        x   1   69.98328   1   70.17378   1   70.27538
09        x   2   75.96752   1   76.06912   1   76.25962
09        x   1   76.97590   5   84.68480   5   92.39370
09        x   3  100.10260   1  102.59967   3  130.82510
09        Y   8   40.97444
09        Y   1   42.22250   5   50.32256   1   51.22553
09        Y   1   51.46556   1   51.56716   3   57.17802
09        Y   1   57.27962   1   57.51965   1   58.42262
09        Y   1   60.07108   3   64.87422
09        Y   1   66.52268   1   67.42565   1   67.66568
09        Y   1   67.76728   3   73.37814   1   73.47974
09        Y   1   73.71977   1   74.62274   5   82.72280
09        Y   3   90.82286   2   98.92292   1  101.63278
09        Y   1  102.58528   3  131.86792
09        z   2   53.73686   1   63.89046   1   68.73872
09        z   4   72.73934
```

Table D.2 DIF3D Input Data for Calculation of the Beryllium-Reflected Fresh Fuel Critical 179AX6 (Continued)

VARIABLE-MESH STRUCTURE

```
09    z    1    73.73934    2    83.74058    1    84.74058
09    z    2    93.74182    1    97.74244    1    98.74244
09    z    1   103.74306    1   108.74368    1   109.74368
09    z    1   113.74430    1   118.74492    1   122.74554
09    z    1   123.74554    2   133.74678    5   138.74740
09    z    1   143.59566    1   153.74926    1   216.21740
09    z    1   217.21740
```

COMPOSITION SPECIFICATIONS

```
14    BERFC  BE9S1   1.20090E-01LI6Sl   1.51920E-06HE3Sl   4.25430E-07
14    BERFC  HY1S1   1.228OOE-03OXYS1   6.13999E-04BIOSI   1.56744E-07
14    BERFR  BE9S1   1.20090E-01LI6Sl   1.51920E-06HE3Sl   4.25430E-07
14    BERFR  HY1S1   1.228OOE-03OXYS1   6.13999E-04B10S1   1.56744E-07
14    H20RFLHYRS1    6.66899E-020XRS1   3.33450E-02
14    BTUBE  HYRS1   2.00070E-030XRS1   1.00035E-03
14    DFEM   HYDM1   4.13927E-020XDM1   2.06964E-02ALDM1   2.28758E-02
14    DFEM   BORSI   2.85918E-07
14    DTMAT  HYRS1   1.79842E-020XRS1   8.99212E-03ALRF1   1.03113E-02
14    DTMAT  BORS1   1.29023E-07
14    ALBOX  MGCB1   5.96919E-04ALCBI   5.26565E-02SICB1   3.10021E-04
14    ALBOX  CRCB1   6.97760E-05CUCB1   5.70989E-05HYRS1   7.44843E-03
14    ALBOX  OXRS1   3.72422E-03
14    ARFLB  BORS1   1.95903E-07
14    ARFLB  HYRS1   4.93753E-020XRS1   2.46877E-02ALRF1   1.56573E-02
14    ARFLA  BORS1   2.85902E-07
14    ARFLA  HYRS1   4.14206E-020XRS1   2.07103E-02ALRFI   2.28506E-02
14    SPLTM  BOXS1   5.54828E-07
14    SPLTM  HYXS1   1.76010E-020XXS1   8.80051E-03ALXS1   4.43902E-02
14    SPSRF  BOXF1   4.14033E-07
14    SPSRF  HYXF1   3.00579E-02OXXF1   1.50290E-02ALXF1   3.31256E-02
14    SPSRW  BORFI   4.14033E-07
14    SPSRW  HYSZ1   3.00579E-020XSZ1   1.50290E-02ALSZ1   3.31256E-02
14    WGAP   BOGP1   2.10330E-07
14    WGAP   HYGPl   4.80802E-02OXGP1   2.40401E-02ALGP1   1.68284E-02
14    OTCD   BOOT1   4.48907E-07
14    OTCD   HYOT1   2.69746E-02OXOT1   1.34873E-02ALOT1   3.59156E-02
14    CDCR   CDCR1   4.62970E-02
14    INCD   BOIN1   2.68581E-08
14    INCD   HYIN1   6.43187E-02OXIN1   3.21594E-02ALIN1   2.14883E-03
14    SFLEU  BOLY1   1.69408E-07
14    SFLEU  HYLY1   4.68230E-020XLY1   2.34116E-02ALLY1   1.46194E-02
14    SFLEU  SILY1   9.54101E-04U5LY1   2.85550E-04U8LY1   1.14560E-03
14    FFLEU  BOLZ1   1.72430E-07
14    FFLEU  HYLZl   4.64246E-020XLZ1   2.32123E-02ALLZ1   1.52522E-02
14    FFLEU  SILZ1   7.96396E-04U5LZ1   2.38351E-04U8LZ1   9.56244E-04
14    FF20W  BOFZ1   1.72430E-07
14    FF20W  HYFZl   4.64246E-02OXFZ1   2.32123E-02ALFZ1   1.52522E-02
14    FF20W  SIFZl   7.96396E-04U5FZ1   2.38351E-04U8FZ1   9.56243E-04
```