

Table 5-1. Oconee 2, Cycle 4 and 5 Physics Parameters (a)

	Cycle 4 (b)	Cycle 5 (c)
Cycle length, EFPD	292	360
Cycle burnup, MWD/mtU	9138	11,266
Average core burnup, EOC, MWD/mtU	18,341	20,957
Initial core loading, mtU	82.0	82.1
Critical boron, BOC (no Xe), ppm (d)		
HZP, group 8 inserted	1340	1459
HFP, group 8 inserted	1078	1263
Critical boron, EOC (eq Xe), ppm		
HZP } group 8 inserted, eq Xe	324	387
HFP }	55	83
Control rod worth, HFP, BOC, % $\Delta k/k$		
Group 6	0.87	1.02
Group 7	0.74	1.60
Group 8	0.47	0.41
Control rod worth, HFP (EOC), % $\Delta k/k$		
Group 7	1.03	1.59
Group 8	0.48	0.49
Max ejected rod worth, HZP, % $\Delta k/k$ (e)		
BOC	0.38	0.71
EOC	0.41	0.62
Max stuck rod worth, HZP, % $\Delta k/k$		
BOC	2.22	1.93
EOC	2.09	1.73
Power deficit, HZP to HFP, % $\Delta k/k$		
BOC	-1.52	-1.60
EOC	-1.99	-2.27
Doppler coeff, $10^{-5}$ ( $\Delta k/k-^{\circ}F$ )		
BOC, 100% power, no Xe	-1.47	-1.57
EOC, 100% power, eq Xe	-1.59	-1.69
Moderator coeff, HFP, $10^{-4}$ ( $\Delta k/k-^{\circ}F$ )		
BOC (group 8 in, no Xe, 1263 ppm boron)	-0.63	-0.61
EOC (group 8 in, eq Xe, 17 ppm boron)	-2.58	-2.87
Boron worth, HFP, ppm/( $\Delta k/k$ )		
BOC (950 ppm boron)	107	116
EOC (17 ppm boron)	96	106
Xenon worth, HFP, % $\Delta k/k$		
BOC (4 EFPD)	2.65	2.62
EOC (equilibrium)	2.75	2.73
Eff delayed neutron fraction, HFP		
BOC	0.00591	0.00613
EOC	0.00517	0.00526

(a) Cycle 5 data are for the conditions stated in this report. The cycle 4 core conditions are identified in reference 2.  
 (b) Based on a cycle 3 length of 300 EFPD.  
 (c) Cycle 5 data are based on a cycle 4 length of 353 EFPD.  
 (d) HZP denotes hot zero power (532F T<sub>avg</sub>), HFP denotes hot full power (579F T<sub>avg</sub>).  
 (e) Ejected rod worth for groups 5 through 8 inserted.