

Commonwealth Edison Company
Braidwood Generating Station
Route #1, Box 84
Braceville, IL 60407-9619
Tel 815-458-2801

50-457



June 27, 1996

Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Document Control Desk

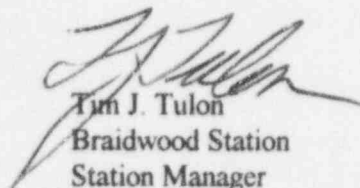
Subject: Braidwood Station Unit 2 Cycle 6 Loading Pattern and Projected Burnups

Reference: Letter from John Hosmer to Nuclear Regulatory Commission dated April 19, 1996.

This letter transmits the Unit 2 Cycle 6 loading pattern and projected End of Cycle (EOC) fuel assembly burnups in accordance with commitments described in the Reference. This information is included in the Attachments.

If you have any questions, then please contact Mr. Stephen Hurst at (815) 458-2801 ext. 3171.

Sincerely,



Tim J. Tulon
Braidwood Station
Station Manager

TJT/fb

Attachments

cc: H. J. Miller, Regional Administrator - Region III
C. Phillips, Senior Resident Inspector - Braidwood
R. A. Assa, Project Manager - NRR
Harvey Cybul
Lonnie K. Kepley
Denise M. Saccomando
Harold D. Pontious
Jeffrey W. Gurley
Douglas S. Huston

000008
9607080393 960627
PDR ADOCK 05000457
P PDR

NRC96001

A Unicom Company

Attachment A

Figure 1
Braidwood Unit 2 Cycle 6
Core Loading Plan

	R	P	N	M	L	K	J	H	G	F	E	D	C	B	A
1						V31X TP	W28W TP	W05W TP	V53X TP	W19W TP	W34W TP	V33X TP			
2			W08W TP	W21W -SA-	X02W TP	X15W -B-	X22W TP	X24W -C-	X33W TP	X34W -B-	X04W TP	W33W TP	W03W TP		
3			V07W TP	X05W TP	X14W TP	W63X SD	X43W BW	W84X SS	W17W -SB-	W79X BW	X48W -SC-	X39W TP	X10W TP	V09W TP	
4			W24W -SA-	X17W TP	W60W -D-	X50W BW	W74X TP	X62W TP	W37W -SE-	X64W TP	W68X BW	X56W BW	W48W -D-	X28W TP	W36W -SA-
5	V37X TP	X11W TP	W76X TP	X57W BW	W44W TP	X70X BW	W55W TP	X72X BW	W41W TP	X73X BW	W51W TP	X42W BW	W64X -SD-	X01W TP	V25X TP
6	W35W TP	X29W -B-	X60W BW	W69X TP	X78X BW	W45W -C-	W07W TP	X81X -A-	W09W TP	W53W -C-	X79X BW	W70X TP	X44W BW	X25W -B-	W22W TP
7	W14W TP	X26W TP	W82X -SB-	X65W TP	W45W TP	W16W TP	X53W BW	W83X TP	X54W BW	W03W TP	W46W TP	X66W TP	W85X -SE-	X21W TP	W13W TP
8	V56X TP	X23W -C-	W01W TP	W38W -SE-	X69X BW	X82X -A-	W88X TP	V54X -D-	W77X TP	X83X -A-	X80X BW	W39W -SE-	W02W TP	X13W -C-	V52X TP
9	W12W TP	X32W TP	W81X -SB-	X67W TP	W56W TP	W18W TP	X51W BW	W78X TP	X52W BW	W06W TP	W50W TP	X61W TP	W80X -SB-	X20W TP	W11W TP
10	W29W TP	X19W TP	X47W BW	W75X TP	X71X BW	W52W -C-	W20W TP	X84X -A-	W04W TP	W58W -C-	X76X BW	W62X TP	X49W BW	X37W -B-	W30W TP
11	V30X TP	X12W TP	W71X -SD-	X41W BW	W54W TP	X77X BW	W42W TP	X74X BW	W57W TP	X75X BW	W47W TP	X55W BW	W72X -SC-	X03W TP	V27X TP
12		W32W -SA-	X36W TP	W59W -D-	X46W BW	W67X TP	X68W TP	W40W -SE-	X63W TP	W65X TP	X45W BW	W49W -D-	X31W TP	W31W -SA-	
13		V20W TP	X08W TP	X40W TP	W61X -SC-	X59W BW	W87X -SB-	W15W SS	W86X -SB-	X58W BW	W73X -SD-	X30W TP	X09W TP	V04W TP	
14			V18W TP	W23W -SA-	X06W TP	X27W -B-	X35W TP	X18W -C-	X38W TP	X16W -B-	X07W TP	W26W -SA-	V19W TP		
15						V26X TP	W25W TP	W08W TP	V49X TP	W10W TP	W27W TP	V32X TP			

Legend:

XXXX - Assembly ID
YYYY - Insert Type

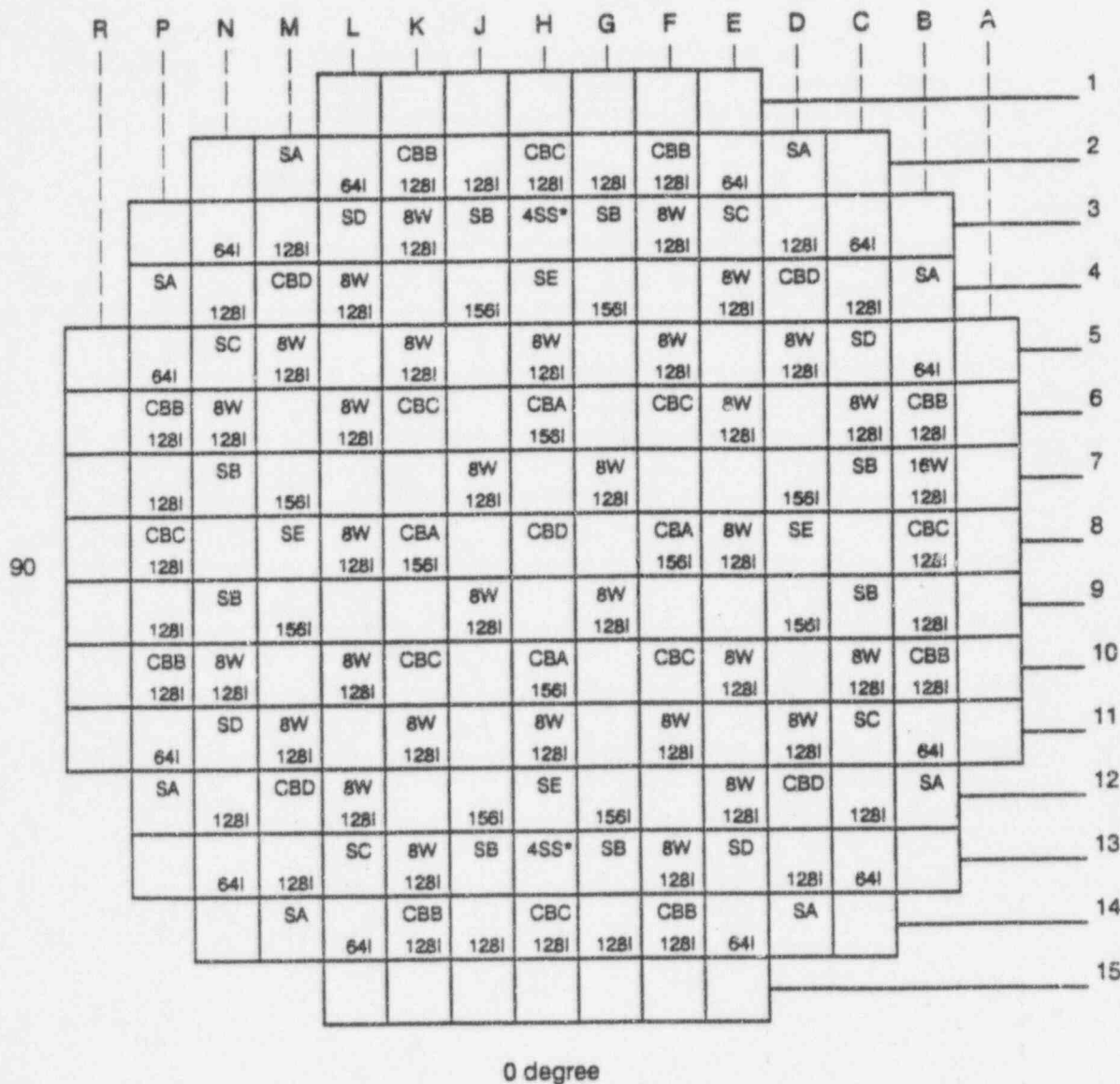
-SA- = RCCA Shutdown Bank A
-SB- = RCCA Shutdown Bank B
-SC- = RCCA Shutdown Bank C
-SD- = RCCA Shutdown Bank D
-SE- = RCCA Shutdown Bank E
-A- = RCCA Control Bank A
-B- = RCCA Control Bank B
-C- = RCCA Control Bank C
-D- = RCCA Control Bank D
-TP- = Thimble Plug

BW = 8 Rodlet WABA
4SS = Secondary Source

Figure 2-2

Braidwood Unit 2 Cycle 6

BA and Secondary Source Location



SS
XI
XW
CB/S

Secondary Source: * Previously Irradiated
 Fresh Assembly Containing X IFBA Rodlets
 Fresh BA Cluster Containing X WABA Rodlets
 Control Bank or Shutdown Bank

Attachment C

0 MWD/MTU
1188 FPM
10(% POWER
1.462 CORE F-DELTA-E

6B .903 .943 33422 .001	7B 1.081 1.184 24835 1.000	8B 1.320 1.398 0 1.000	8B 1.275 1.383 0 1.000	7A 1.134 1.205 25208 .004	7A 1.200 1.310 18393 .025	6A 1.102 1.329 0 1.000	6B .413 .656 33422 .001
7B 1.081 1.184 24835 1.000	8A 1.293 1.462 0 1.000	7A 1.264 1.405 19792 .018	7A 1.181 1.268 24626 1.000	8A 1.304 1.388 0 1.000	7B 1.084 1.170 24473 1.000	8A 1.097 1.301 0 1.000	7A .491 .744 22978 .007
8B 1.320 1.398 0 1.000	7A 1.265 1.405 19792 .018	7A 1.201 1.292 24812 1.000	8B 1.260 1.381 0 1.000	7B 1.123 1.206 23635 1.000	8A 1.216 1.345 0 1.000	8A 1.088 1.258 0 1.000	7A .471 .697 22666 .008
8B 1.275 1.383 0 1.000	7A 1.182 1.269 24626 1.000	8B 1.260 1.382 0 1.000	7A 1.154 1.238 24130 1.000	8A 1.245 1.364 0 1.000	7B 1.057 1.148 23803 1.000	8A 1.064 1.333 0 1.000	6B .309 .551 32196
7A 1.134 1.205 25208 .004	8A 1.310 1.391 0 1.000	7B 1.125 1.208 23635 1.000	8A 1.245 1.364 0 1.000	7A 1.101 1.184 24812 1.000	8A 1.159 1.318 0 1.000	7A .616 .922 22531 .008	
7A 1.200 1.310 18393 .025	7B 1.093 1.184 24473 1.000	8A 1.221 1.350 0 1.000	7B 1.059 1.150 23803 1.000	8A 1.160 1.318 0 1.000	8A .991 1.292 0 1.000	6A .328 .687 33449	
8A 1.102 1.329 0 1.000	8A 1.104 1.314 0 1.000	8A 1.093 1.263 0 1.000	8A 1.067 1.337 0 1.000	7A .617 .923 22531 .008	6A .328 .687 33449		
6B .413 .656 33422 .001	7A .493 .747 22978 .007	7A .472 .700 22666 .008	6B .310 .553 32196				

1A	REGION
AP	ASSEMBLY POWER
MP	MAXIMUM POWER
AB	ASSEMBLY BURNUP
BA	BA FRACTION

INDICATES ASSEMBLY AND QUADRANT OF PEAK

REGION	NUMBER OF ASSEMBLIES	POWER SHARING	BURNUPS TOTAL	CYCLE
6A	8	.328	33449	0
6B	13	.387	32668	0
7A	60	.923	22836	0
7B	28	1.089	24094	0
8A	68	1.162	0	0
8B	16	1.279	0	0

FIGURE 3.5 BRAIDWOOD UNIT 2 CYCLE 6 POWER AND BURNUP
DISTRIBUTION AT 0 MWD/MTU. HFP, ARO, NO XENON
PAGE 3-7

Attachment D

NDIT No. 980041
Page B34 of B51
Rev. 2

4000 MWD/MTU
1032 PPM
100 % POWER
1.412 CORE F-DELTA-E

6B .756 .785 36746 .001	7B .939 1.040 28872 .524	8B 1.331 1.392 5323 .401	8B 1.316 1.363 5190 .501	7A 1.056 1.120 29601 .001	7A 1.109 1.218 23012 .008	8A 1.209 1.353 4625 .465	6B .438 .695 35147 .001
7B .939 1.040 28872 .524	8A 1.224 1.315 5023 .524	7A 1.087 1.170 24481 .006	7A 1.076 1.149 29143 .412	8A 1.369 1.408 5357 .412	7B 1.053 1.130 28747 .463	8A 1.226 1.382 4646 .463	7A .522 .793 25032 .004
8B 1.331 1.392 5323 .401	7A 1.088 1.171 24482 .006	7A 1.036 1.107 29270 .509	8B 1.282 1.354 5080 .509	7B 1.082 1.152 28038 .519	8A 1.336 1.400 5084 .519	8A 1.221 1.393 4609 .466	7A .495 .744 24624 .005
8B 1.316 1.363 5190 .501	7A 1.077 1.151 29147 .518	8B 1.282 1.355 5083 .508	7A 1.090 1.156 28612 .518	8A 1.316 1.383 5099 .518	7B 1.027 1.117 27957 .492	8A 1.082 1.349 4273 .492	6B .315 .570 33457
7A 1.056 1.120 29601 .001	8A 1.374 1.412 5377 .411	7B 1.084 1.155 28046 .518	8A 1.317 1.384 5102 .518	7A 1.060 1.133 29129 .456	8A 1.208 1.338 4719 .456	7A .595 .888 24963 .004	
7A 1.109 1.218 23012 .008	7B 1.060 1.135 28778 .520	8A 1.340 1.406 5102 .518	7B 1.028 1.119 27963 .456	8A 1.209 1.338 4722 .456	8A .991 1.291 3943 .520	6A .318 .668 34752	
8A 1.209 1.353 4625 .465	8A 1.232 1.390 4670 .461	8A 1.226 1.398 4626 .465	8A 1.084 1.351 4283 .491	7A .596 .889 24966 .004	6A .318 .668 34753		
6B .438 .695 35147 .001	7A .523 .795 25039 .004	7A .497 .746 24630 .005	6B .316 .571 33461				

1A	REGION
AP	ASSEMBLY POWER
MP	MAXIMUM POWER
AB	ASSEMBLY BURNUP
BA	BA FRACTION

■ INDICATES ASSEMBLY AND QUADRANT OF PEAK

REGION	NUMBER OF ASSEMBLIES	POWER SHARING	BURNUPS TOTAL	CYCLE
6A	8	.318	34753	1304
6B	13	.387	34231	1564
7A	60	.861	26409	3572
7B	28	1.039	28343	4249
8A	68	1.233	4780	4780
8B	16	1.303	5169	5169

FIGURE 3.10 BRAIDWOOD UNIT 2 CYCLE 6 POWER AND BURNUP
DISTRIBUTION AT 4000 MWD/MTU, RPP, ARO, EQUILIBRIUM XENON
PAGE 3-12

Attachment E

NDIT No. 880041
Page B47 of B51
Rev. 2

21500 MWD/MTU
10 FPM
48 % POWER
1.444 CORE F-DELTA-H

6B .778 .799 49932 .001	7B .906 .974 44814 .001	8B 1.269 1.327 28362 .003	8B 1.272 1.338 28273 .002	7A .946 .991 46917 .001	7A 1.006 1.100 41183 .001	8A 1.261 1.361 26352 .007	6B .529 .772 43492 .001
7B .906 .974 44814	8A 1.247 1.309 26833 .004	7A .979 1.034 42329 .001	7A .964 1.012 46867	8A 1.290 1.344 28858 .004	7B .979 1.055 46347	8A 1.284 1.404 26819 .006	7A .610 .872 34831 .001
8B 1.269 1.327 28362 .003	7A .979 1.034 42331 .001	7A .936 .997 46319	8B 1.265 1.334 27842 .003	7B .998 1.051 46208	8A 1.366 1.444 29250 .002	8A 1.289 1.437 26820 .006	7A .586 .831 33964 .001
8B 1.272 1.338 28273 .002	7A .964 1.012 46875	8B 1.264 1.333 27842 .003	7A 1.008 1.058 47028	8A 1.338 1.391 28826 .002	7B .994 1.054 45465	8A 1.133 1.333 23432 .013	6B .386 .643 39435
7A .946 .991 46917 .001	8A 1.291 1.342 28911 .004	7B .998 1.051 46219	8A 1.337 1.391 28823 .002	7A 1.015 1.058 47159	8A 1.266 1.369 26294 .007	7A .666 .919 35730 .001	
7A 1.006 1.100 41183 .001	7B .981 1.055 46436	8A 1.366 1.443 29282 .002	7B .993 1.053 45470	8A 1.266 1.369 26294 .007	8A 1.086 1.318 21762 .020	6A .395 .737 40782	
8A 1.261 1.361 26352 .007	8A 1.284 1.404 26880 .006	8A 1.289 1.436 26848 .006	8A 1.132 1.332 23441 .013	7A .666 .918 35731 .001	6A .395 .737 40782		
5B .529 .772 43492 .001	7A .610 .871 34842 .001	7A .586 .831 33974 .001	6B .386 .643 39439				

1A	REGION
AP	ASSEMBLY POWER
MP	MAXIMUM POWER
AB	ASSEMBLY BURNUP
BA	BA FRACTION

B INDICATES ASSEMBLY AND QUADRANT OF PEAK

REGION	NUMBER OF ASSEMBLIES	POWER SHARING	BURNUPS TOTAL	CYCLE
6A	8	.395	40782	7333
6B	13	.460	41492	8824
7A	60	.835	41072	18236
7B	28	.978	45851	21757
8A	68	1.266	26807	26807
8B	16	1.267	28080	28080

FIGURE 3.23 BRAIDWOOD UNIT 2 CYCLE 6 POWER AND BURNUP
DISTRIBUTION AT 21500 MWD/MTU, 48% POWER, ARO, EQUILIBRIUM XENON
PAGE 3-25