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MFN 03-061
August 1, 2003

U.S Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Attention: Alan B. Wang, Project Manager
Project Directorate III

Subject: **Information Requested from MELLLA+ Technical Review the Week of May 12, 2003 at the Global Nuclear Fuel Facility in Wilmington, NC**

During the subject Technical Review, the NRC Staff requested that certain documents be made available for their review subsequent to the visit. The documents that were requested are proprietary to GE and of the type that GE does not normally submit to the NRC, such as internal technical design procedures and internal design review reports. GE has placed the following documents in the GE Washington office for the NRC Staff to review.

1	Technical Design Procedure TDP-0024
2	Technical Design Procedure TDP-0085.01
3	Technical Design Procedure TDP-0085.04
4	MELLLA+ Transient Methods Design Review Report
5	Methods Technology Issues for MELLLA+ Applications
6	Impact of Time Varying Axial Power Shape
7	Fuel Rod Thermal-Mechanical Limits Design Basis Document
8	Engineering Evaluation of ARTS Improvement Program
9	Nuclear Safety Analysis Presentation May 12
10	Nuclear Safety Analysis Presentation May 14

Please contact Paige Negus at (202) 637-4142 to co-ordinate access to the facility and the above documents.

Three non-proprietary documents that were requested at the subject meeting are enclosed with this letter.

A001

If you have any questions about the information provided, please contact James Harrison at (408) 925-2253, or myself.

Sincerely,

George Stramback,
Manager, Regulatory Services
GE Nuclear Energy
(408) 925-1913

Enclosures:

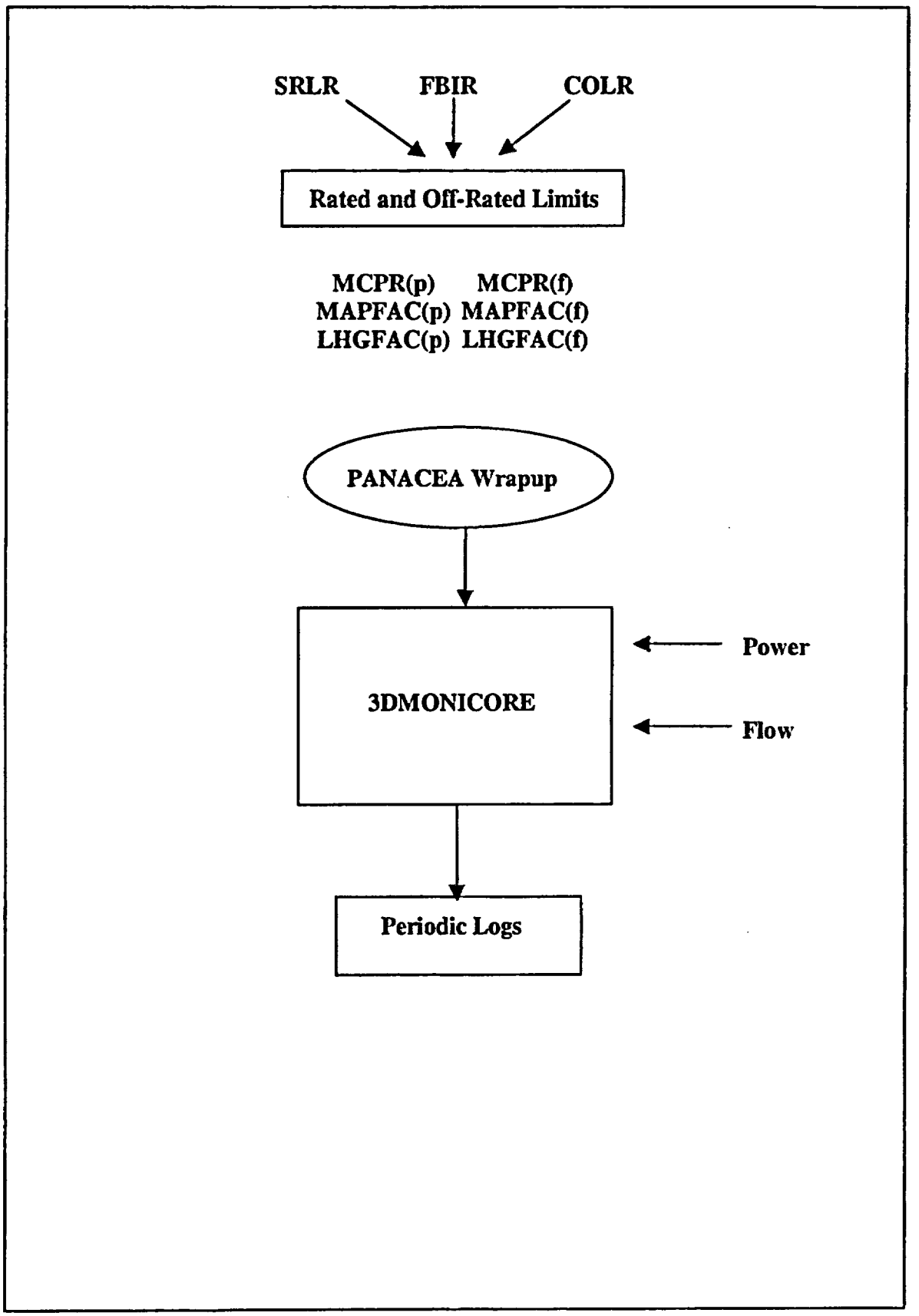
(1) 3D Monicore Example
(2) Core Design Example
(3) AOO Example

cc: P Negus, GE
J Harrison, GE
J Klapproth, GE
F Bolger, GE
R Jacobs, GE
M Harding, GNF

Enclosure 1

MFN 03-061

3D Monicore Example


SRLR
FBIR
COLR
Rated and Off-Rated Limits
MCPR(p) MCPR(f)
MAPFAC(p) MAPFAC(f)
LHGFAC(p) LHGFAC(f)
PANACEA Wrapup
3DMONICORE
Power
Flow
Periodic Logs

[redacted] CYCLE 10
3DM/P11
PERIODIC LOG
USER REQUEST
CALC RESULTS

SEQUENCE NO 13
10-MAY-2003 13:55 CALCULATED
10-MAY-2003 13:56 PRINTED
CASE ID FMLS1030510135545
RESTART FRFS1030510135500
LPRM SHAPE - FULL CORE

CORE PARAMETERS				
POWER	MWT	3758.		
POWER	MWE	1285.		
FLOW	MLB/HR	93.400		
FPAPDR		0.919		
SUBC	BTU/LB	23.98	Keff	1.0057
PR	PSIa	1040.00	XE WORTH %	-2.21
CORE	MWD/sT	15347.9	XE/RATED	1.00
CYCLE	MWD/sT	4.0	AVE VF	0.493
MCPR		1.434	FLLLP	0.934

LOAD LINE SUMMARY	
CORE POWER	100.0%
CORE FLOW	89.8%
LOAD LINE	107.3%

CORRECTION FACTOR: MFLCPR= 1.000 MFLPD= 1.000 MAPRAT= 1.000 ZBB= 2.19 ft
OPTION: ARTS 2 LOOPS ON MANUAL FLOW MCPRLIM= 1.360 FCBB= N/A

MOST LIMITING LOCATIONS (NON-SYMMETRIC)

MFLCPR	LOC	MFLPD	LOC	MAPRAT	LOC	PCRAT	LOC
0.948	27-44	0.919	23-40-10	0.773	31-46- 4	*****	31-46- 4
0.944	21-20	0.916	39-24-10	0.764	45-32- 4	*****	45-30- 4
0.944	19-22	0.897	33-48- 4	0.694	21-40-10	*****	27-40-10
0.944	35-20	0.894	47-34- 4	0.692	31-48- 4	*****	21-34-10
0.933	27-14	0.893	49-32- 4	0.692	47-32- 4	*****	29-56-10
0.933	19-36	0.880	31-50- 4	0.685	23-38- 8	*****	55-30-10
0.933	43-28	0.870	33-44- 4	0.685	23-40-10	*****	11-50- 9
0.928	29-12	0.869	51-34- 4	0.682	21-24-10	*****	21-56-10
0.920	13-28	0.860	31-46- 4	0.677	27-40-10	*****	5-40-11
0.912	11-30	0.858	33-52- 4	0.672	31-44- 4	*****	35-58-10

SEQ. A-2 C=MFLCPR D=MFLPD M=MAPRAT P=PCRAT *=MULTIPLE

```
59
  L
55
51
  L
47                16      *   16
43                     C
  L
39          16    36D   12    36    16
35
  L
31                12    00    12
27
  L
23          16    36    12    36    16
19
  L
15                16          16
11
  L
07
03
        L     L     L     L     L     L     L
   02 06 10 14 18 22 26 30 34 38 42 46 50 54 58
```

NOTCH	REL PW	LOC
	0.123	25
00	0.197	24
02	0.456	23
04	0.590	22
06	0.715	21
08	0.811	20
10	0.883	19
12	0.933	18
14	0.976	17
16	0.997	16
18	1.053	15
20	1.211	14
22	1.291	13
24	1.358	12
26	1.403	11
28	1.421	10
30	1.390	09
32	1.382	08
34	1.376	07
36	1.358	06
38	1.344	05<-
40	1.305	04
42	1.192	03
44	0.937	02
46	0.301	01

CORE AVERAGE AXIAL

CORE AVERAGE RADIAL POWER DISTRIBUTION

RING #	1	2	3	4	5	6	7	8
REL PW	0.684	1.127	1.126	1.277	1.199	1.165	1.012	0.599

[redacted] CYCLE 10 INSTRUMENT READINGS/STATUS
CALIBRATED LPRM READINGS

SEQUENCE NO 13
10-MAY-2003 13:55 CALCULATED
10-MAY-2003 13:56 PRINTED
CASE ID FMLS1030510135545
LPRM SHAPE - FULL CORE

57D			19.0	19.8	15.6		
C			33.9	35.7	26.8		
B			41.9	43.9	33.6		
A			33.5	37.4	23.6		
49D	16.1	23.6	29.0C	28.3	27.5	20.6	
C	28.0	42.2	43.6	47.4	41.7	38.1	
B	33.1	52.8	52.4	58.8	50.2	47.4	
A	23.4	47.6	47.5*	59.3	43.7	43.6	
41D	21.7	30.8	32.1	33.9	31.1	27.5	15.5
C	37.7	45.3	49.6	43.3	50.1	41.4	26.6
B	47.4	53.8D	62.5	53.1	62.8	49.5	33.2
A	39.1	45.7	47.5	48.5	46.9	44.3	25.4
33D	24.1	32.2	33.0	27.5	34.3	28.3	19.5
C	43.0	47.5	41.3	37.7	43.1	47.0	35.1
B	53.5	56.6	51.1	46.9	52.4	57.2	42.7
A	51.6	55.3	42.7	39.2	46.6	59.9	39.0
25D	23.5	32.4	32.4	32.8	32.3	29.0	18.7
C	41.4	46.1	48.1	41.3	49.2	43.0	33.2
B	51.4	54.2	60.9	51.3	61.8	51.0	40.7
A	46.7	47.3	43.5	44.0	46.6	48.0	36.3
17D	19.3	27.5	32.2	31.9	30.6	23.5	
C	34.4	46.4	46.0	47.7	45.4	41.8	
B	42.8	56.9	54.8	57.7	54.2	52.3	
A	31.4	50.8	48.4	57.0	46.9	47.6	
09D		19.3	23.1	23.8	21.5	16.0	
C		33.9	41.3	43.3	38.0	27.8	
B		43.0	52.5	55.0	48.4	33.4	
A		33.8	48.2	52.1	39.6	24.5	
	08	16	24	32	40	48	56

FAILED SENSORS:
LPRM (0 SIGNALS FAILED)
LPRM (0 PANACEA REJECTED)
OTHER SENSORS (0 TOTAL)
SUB RODS
NONE

T = TIP RUN RECOMMENDED
C = MFLCPR LOCATION
M = MAPRAT LOCATION
D = MFLPD LOCATION
P = PCRAT LOCATION
* = MULTIPLE LIMIT

CORE SUMMARY

CORE POWER	100.0%	CALC SUB FLOW	89.8%	DP MEAS PSI	21.000
CORE FLOW	89.8%	OPER SUB FLOW	89.8%	DP CALC PSI	22.440
LOAD LINE	107.3%	FLOW BASIS	MEAS	FEEDWTR FLOW MLB/HR	0.00

APRM CALIBRATION

	A	B	C	D	E	F	G	H
READING	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AGAF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
APRM - %CTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TIP RUNS RECOMMENDED
STRINGS: NONE

) 70% POWER / 50% FLOW CASE

CORE PARAMETERS			3DM/P11		14-MAY-2003 09:32 CALCULATED	
			PREDICTOR LOG		14-MAY-2003 09:33 PRINTED	
POWER	MWT	2631.			CASE ID FSNK1030514093233	
FLOW	MLB/HR	62.400	CALC RESULTS		RESTART FMLS1030511090858	
FPAPDR		1.096			NONADAPTIVE - FULL CORE	
SUBC	BTU/LB	29.75	Keff	1.0139		
PR	PSIa	992.75	XE WORTH %	-1.96	LOAD LINE SUMMARY	
CORE	MWD/sT	15368.9	XE/RATED	0.88	CORE POWER	70.0%
CYCLE	MWD/sT	25.1	AVE VF	0.470	CORE FLOW	60.0%
MCPR		1.749	FLLLP	0.849	LOAD LINE	97.6%
D EXP	MWD/sT	0.0				

CORRECTION FACTOR: MFLCPR= 1.150 MFLPD= 0.844 MAPRAT= 0.844 ZBB= 2.43 ft
OPTION: ARTS 2 LOOPS ON MANUAL FLOW MCPRLIM= 1.360 FCBB= 1.90

MOST LIMITING LOCATIONS (NON-SYMMETRIC)

MFLCPR	LOC	MFLPD	LOC	MAPRAT	LOC	PCRAT	LOC
0.895	27-44	0.767	23-40- 8	0.641	31-46- 4	N/A	N/A
0.887	35-20	0.764	39-38- 8	0.633	45-32- 4	N/A	N/A
0.885	21-20	0.744	33-48- 4	0.584	21-40- 8	N/A	N/A
0.885	19-22	0.739	47-34- 4	0.576	23-38- 8	N/A	N/A
0.879	27-14	0.738	49-32- 4	0.576	31-48- 4	N/A	N/A
0.879	43-28	0.728	31-50- 4	0.574	47-32- 4	N/A	N/A
0.877	19-36	0.719	33-44- 4	0.571	23-40-10	N/A	N/A
0.873	29-12	0.718	51-34- 4	0.569	21-24-10	N/A	N/A
0.866	13-28	0.715	31-46- 4	0.564	27-40-10	N/A	N/A
0.857	11-30	0.710	31-42- 4	0.559	21-34-10	N/A	N/A

C=MFLCPR D=MFLPD M=MAPRAT P=PCRAT *=MULTIPLE

```
59                                                  16      M   16
  L                                                     C
55
51
  L
47                  16      M   16
43                      C
  L
39          16      36D     12      36      16
35
  L
31                  12      00      12
27
  L
23          16      36      12      36      16
19
  L
15                  16          16
11
  L
07
03
        L     L     L     L     L     L     L
   02 06 10 14 18 22 26 30 34 38 42 46 50 54 58
```

CORE AVE AXIAL		
NOTCH	REL PW	LOC
	0.118	25
00	0.193	24
02	0.453	23
04	0.590	22
06	0.717	21
08	0.815	20
10	0.887	19
12	0.935	18
14	0.977	17
16	0.993	16
18	1.049	15
20	1.211	14
22	1.294	13
24	1.366	12
26	1.416	11
28	1.437	10
30	1.407	09
32	1.399	08
34	1.392	07
36	1.370	06
38	1.346	05 <-
40	1.292	04
42	1.160	03
44	0.899	02
46	0.284	01

CORE AVERAGE RADIAL POWER DISTRIBUTION

RING #	1	2	3	4	5	6	7	8
REL PW	0.681	1.123	1.126	1.277	1.199	1.165	1.012	0.599

[redacted] CYCLE 10

BUNDLE DATA

11-MAY-2003 09:08 CALCULATED
14-MAY-2003 13:50 PRINTED
CASE ID: FMLS1030511090858

CORE MFLCPR: 0.947

HANDLE ID: JLF564

DATA FOR BUNDLE AT LOCATION: 27-44

TYPE	ROD	POWER (MWT)	CHNL FLOW (LB/HR)	EXPOSURE (MWD/ST)	SUBC (BTU/LB)	MCPR LIM	MFLCPR
5	OUT	6.606	97421.7	33.07	23.98	1.360	0.9467

CORRECTION FACTOR: MFLCPR= 1.000 MFLPD= 1.000 MAPRAT= 1.000
OPTION: ARTS 2 LOOPS ON MANUAL FLOW

K	POW	RELPOW	EXP	VF	MAPRAT	LIMLHGR	FLPD	PKLHGR	LPF	PCRAT
25	.0314	0.156	5.	0.854	0.076	12.82	0.080	1.07	1.092	0.102
24	.0401	0.200	5.	0.853	0.078	12.82	0.082	1.10	1.106	0.105
23	.1213	0.603	17.	0.850	0.233	12.82	0.310	4.15	1.389	0.396
22	.1521	0.757	21.	0.846	0.293	12.82	0.388	5.20	1.387	0.495
21	.1822	0.907	25.	0.840	0.351	12.82	0.464	6.22	1.384	0.592
20	.2042	1.016	28.	0.832	0.393	12.82	0.519	6.96	1.381	0.663
19	.2202	1.095	30.	0.824	0.424	12.82	0.560	7.51	1.381	0.715
18	.2325	1.157	32.	0.814	0.448	12.82	0.593	7.94	1.383	0.757
17	.2441	1.215	33.	0.802	0.471	12.82	0.622	8.34	1.382	0.794
16	.2512	1.250	34.	0.789	0.484	12.82	0.639	8.56	1.378	0.815
15	.2678	1.332	37.	0.775	0.517	12.82	0.680	9.11	1.376	0.868
14	.3120	1.553	36.	0.759	0.511	12.82	0.668	8.95	1.368	0.853
13	.3333	1.658	39.	0.740	0.545	12.82	0.715	9.58	1.370	0.913
12	.3509	1.746	41.	0.717	0.575	12.82	0.755	10.11	1.373	0.963
11	.3631	1.807	42.	0.689	0.595	12.82	0.783	10.49	1.375	0.999
10	.3683	1.833	43.	0.654	0.604	12.82	0.796	10.66	1.378	1.015
9	.3548	1.765	41.	0.613	0.582	12.82	0.782	10.47	1.404	0.997
8	.3553	1.768	41.	0.563	0.583	12.82	0.785	10.52	1.407	1.002
7	.3594	1.788	42.	0.502	0.591	12.82	0.797	10.68	1.410	1.017
6	.3663	1.823	43.	0.423	0.603	12.82	0.816	10.93	1.414	1.041
5	.3757	1.870	44.	0.321	0.619	12.82	0.840	11.26	1.418	1.072
4	.3818	1.900	45.	0.192	#0.630	12.82	#0.858	#11.49	1.423 #	1.094
3	.3631	1.807	42.	0.063	0.599	12.82	0.822	11.02	1.434	1.049
2	.2877	1.432	34.	0.002	0.475	12.82	0.655	8.78	1.442	0.836
1	.0860	0.428	10.	0.000	0.141	12.82	0.159	2.13	1.178	0.203

NOTE: '#' - INDICATES THE MAXIMUM VALUE.

Enclosure 2

MFN 03-061

Core Design Example

BUNDLE ID, EXPOSURE (MWD/MT) AND IAT MAP:

PANAC SITE	1 1	2 3	3 5	4 7	5 9	6 11	7 13	8 15	9 17	10 19	11 21	12 23	13 25
1 52									YJU765 39902. 4	JLB121 22869. 6	YJU632 36193. 3	YJU633 32330. 3	YJU603 38384. 3
2 50								YJU692 39587. 4	JLB218 17694. 7	C15225 11	C15217 11	C15209 11	JLB229 17283. 7
3 48					YJU611 41462. 3	YJU609 38946. 3	YJU707 36615. 4	JLB231 18064. 7	C15177 9	JLB225 18463. 7	C15161 9	JLB233 19966. 7	C15145 9
4 46				YJU808 43067. 4	JLB228 17832. 7	C15241 11	C15233 11	C15185 9	JLB165 20252. 6	C15169 9	JLB020 24299. 5	C15153 9	JLB128 20638. 6
5 44			YJU601 41175. 3	JLB232 17747. 7	C15205 10	JLB055 21248. 5	C15193 9	JLB110 23295. 5	C15065 8	JLB001 23622. 5	C15105 8	JLB098 23857. 5	C15073 8
6 42			YJU610 38743. 3	C15245 11	JLB179 17822. 6	C15201 9	JLB024 23432. 5	C15133 8	JLB017 23564. 5	C15113 8	JLB195 20847. 6	C15081 8	JLB081 23684. 5
7 40			JLB071 24693. 5	C15237 11	C15197 9	JLB075 23351. 5	C15141 8	JLB188 22739. 6	C15121 8	JLB038 23425. 5	C15089 8	JLB173 22251. 6	C15033 8
8 38		YJU602 40897. 3	JLB221 17885. 7	C15189 9	JLB112 23196. 5	C15137 8	JLB193 22467. 6	C15129 8	JLB138 21619. 6	C15097 8	JLB100 23744. 5	C15041 8	JLB157 22439. 6
9 36	YJU774 39681. 4	JLB236 17645. 7	C15181 9	JLB168 20054. 6	C15069 8	JLB022 23530. 5	C15125 8	JLB194 21697. 6	C15061 8	JLB104 24065. 5	C15049 8	JLB136 22095. 6	C15017 8
10 34	JLB125 22814. 6	C15229 11	JLB226 18370. 7	C15173 9	JLB002 23591. 5	C15117 8	JLB074 23468. 5	C15101 8	JLB057 24044. 5	C15057 8	JLB097 24190. 5	C15021 8	JLB005 23980. 5
11 32	YJU615 32551. 3	C15221 11	C15165 9	JLB090 24242. 5	C15109 8	JLB115 21005. 6	C15093 8	JLB063 23686. 5	C15053 8	JLB009 24183. 5	C15029 8	JLB011 24655. 5	C15001 8
12 30	YJU589 32182. 3	C15213 11	JLB211 19805. 7	C15157 9	JLB068 23769. 5	C15085 8	JLB166 22193. 6	C15045 8	JLB167 22006. 6	C15025 8	JLB062 24378. 5	C15009 8	JLB183 21458. 6
13 28	YJU605 36420. 3	JLB206 17106. 7	C15149 9	JLB171 20802. 6	C15077 8	JLB033 23646. 5	C15037 8	JLB181 22327. 6	C15013 8	JLB013 23934. 5	C15005 8	JLB186 21220. 6	YJU614 32144. 3

BUNDLE ID, EXPOSURE (MWD/MT) AND IAT MAP:

PANAC SITE	14 27	15 29	16 31	17 33	18 35	19 37	20 39	21 41	22 43	23 45	24 47	25 49	26 51
1 52	YJU626 38268. 3	YJU591 32249. 3	YJU624 36152. 3	JLB124 22849. 6	YJU705 39841. 4								
2 50	JLB243 17116. 7	C15211 11	C15219 11	C15227 11	JLB213 17670. 7	YJU750 36775. 4							
3 48	C15147 9	JLB210 19868. 7	C15163 9	JLB204 18389. 7	C15179 9	JLB207 17955. 7	YJU757 36396. 4	YJU592 38781. 3	YJU612 41311. 3				
4 46	JLB174 20578. 6	C15155 9	JLB004 24274. 5	C15171 9	JLB145 20103. 6	C15187 9	C15235 11	C15243 11	JLB222 17812. 7	YJU650 40577. 4			
5 44	C15075 8	JLB015 23814. 5	C15107 8	JLB082 23601. 5	C15067 8	JLB032 23280. 5	C15195 9	JLB041 22496. 5	C15207 10	JLB217 17735. 7	YJU630 41055. 3		
6 42	JLB076 23668. 5	C15083 8	JLB154 20955. 6	C15115 8	JLB058 23551. 5	C15135 8	JLB084 23402. 5	C15203 9	JLB134 17761. 6	JLB050 4329. 5	YJU595 38673. 3		
7 40	C15035 8	JLB190 22232. 6	C15091 8	JLB094 23442. 5	C15123 8	JLB150 22724. 6	C15143 8	JLB027 23320. 5	C15199 9	C15239 11	JLB163 22933. 6		
8 38	JLB131 22343. 6	C15043 8	JLB052 23724. 5	C15099 8	JLB137 21678. 6	C15131 8	JLB122 22451. 6	C15139 8	JLB065 23045. 5	C15191 9	JLB202 17836. 7	YJU629 39157. 3	
9 36	C15019 8	JLB178 22061. 6	C15051 8	JLB079 24092. 5	C15063 8	JLB180 21744. 6	C15127 8	JLB060 23522. 5	C15071 8	JLB148 20026. 6	C15183 9	JLB242 17438. 7	YJU805 39669. 4
10 34	JLB012 23950. 5	C15023 8	JLB021 24209. 5	C15059 8	JLB045 24009. 5	C15103 8	JLB008 23487. 5	C15119 8	JLB105 23578. 5	C15175 9	JLB245 18289. 7	C15231 11	JLB153 22746. 6
11 32	C15003 8	JLB099 24592. 5	C15031 8	JLB023 24120. 5	C15055 8	JLB047 23681. 5	C15095 8	JLB151 21047. 6	C15111 8	JLB007 24231. 5	C15167 9	C15223 11	YJU607 32392. 3
12 30	JLB118 21318. 6	C15011 8	JLB070 24323. 5	C15027 8	JLB182 21972. 6	C15047 8	JLB135 22155. 6	C15087 8	JLB109 23753. 5	C15159 9	JLB216 19739. 7	C15215 11	YJU608 32161. 3
13 28	YJU640 32131. 3	JLB170 21190. 6	C15007 8	JLB085 23878. 5	C15015 8	JLB158 22290. 6	C15039 8	JLB091 23627. 5	C15079 8	JLB117 20725. 6	C15151 9	JLB220 17037. 7	YJU631 36340. 3

BUNDLE ID, EXPOSURE (MWD/MT) AND IAT MAP:

PANAC SITE	1 1	2 3	3 5	4 7	5 9	6 11	7 13	8 15	9 17	10 19	11 21	12 23	13 25
14 26	YJU623 36338. 3	JLB230 17062. 7	C15150 9	JLB199 20757. 6	C15078 8	JLB030 23625. 5	C15038 8	JLB140 22301. 6	C15014 8	JLB010 23885. 5	C15006 8	JLB127 21218. 6	YJU596 32126. 3
15 24	YJU622 32164. 3	C15214 11	JLB234 19777. 7	C15158 9	JLB048 23752. 5	C15086 8	JLB191 22150. 6	C15046 8	JLB187 22002. 6	C15026 8	JLB046 24356. 5	C15010 8	JLB169 21382. 6
16 22	YJU621 32416. 3	C15222 11	C15166 9	JLB042 24229. 5	C15110 8	JLB114 21017. 6	C15094 8	JLB103 23694. 5	C15054 8	JLB037 24170. 5	C15030 8	JLB014 24597. 5	C15002 8
17 20	JLB161 22772. 6	C15230 11	JLB224 18361. 7	C15174 9	JLB089 23576. 5	C15118 8	JLB080 23482. 5	C15102 8	JLB061 24037. 5	C15058 8	JLB073 24181. 5	C15022 8	JLB043 23983. 5
18 18	YJU755 39669. 4	JLB214 17624. 7	C15182 9	JLB197 20052. 6	C15070 8	JLB111 23533. 5	C15126 8	JLB130 21740. 6	C15062 8	JLB053 24039. 5	C15050 8	JLB146 22093. 6	C15018 8
19 16		YJU600 40737. 3	JLB208 17886. 7	C15190 9	JLB077 23113. 5	C15138 8	JLB155 22462. 6	C15130 8	JLB176 21637. 6	C15098 8	JLB088 23730. 5	C15042 8	JLB172 22022. 6
20 14			JLB035 24685. 5	C15238 11	C15198 9	JLB031 23322. 5	C15142 8	JLB189 22728. 6	C15122 8	JLB096 23436. 5	C15090 8	JLB177 22242. 6	C15034 8
21 12			YJU620 38708. 3	C15246 11	JLB129 17760. 6	C15202 9	JLB044 23426. 5	C15134 8	JLB003 23564. 5	C15114 8	JLB198 20894. 6	C15082 8	JLB069 23678. 5
22 10			YJU618 41124. 3	JLB237 17734. 7	C15206 10	JLB059 21374. 5	C15194 9	JLB087 23294. 5	C15066 8	JLB036 23606. 5	C15106 8	JLB107 23860. 5	C15074 8
23 8				YJU649 40665. 4	JLB244 17807. 7	C15242 11	C15234 11	C15186 9	JLB113 20151. 6	C15170 9	JLB102 24275. 5	C15154 9	JLB139 20611. 6
24 6					YJU617 41447. 3	YJU634 38924. 3	YJU752 36435. 4	JLB227 18000. 7	C15178 9	JLB223 18436. 7	C15162 9	JLB238 19889. 7	C15146 9
25 4								YJU810 39568. 4	JLB247 17676. 7	C15226 11	C15218 11	C15210 11	JLB201 17155. 7
26 2									YJU683 39878. 4	JLB149 22872. 6	YJU606 36177. 3	YJU613 32289. 3	YJU599 38358. 3

BUNDLE ID, EXPOSURE (MWD/MT) AND IAT MAP:

PANAC SITE	14 27	15 29	16 31	17 33	18 35	19 37	20 39	21 41	22 43	23 45	24 47	25 49	26 51
14 26	YJU590 32094. 3	JLB144 21131. 6	C15008 8	JLB025 23876. 5	C15016 8	JLB132 22279. 6	C15040 8	JLB101 23633. 5	C15080 8	JLB185 20666. 6	C15152 9	JLB248 16918. 7	YJU597 36296. 3
15 24	JLB143 21227. 6	C15012 8	JLB034 24314. 5	C15028 8	JLB147 21961. 6	C15048 8	JLB119 22128. 6	C15088 8	JLB067 23735. 5	C15160 9	JLB239 19437. 7	C15216 11	YJU616 32163. 3
16 22	C15004 8	JLB078 24405. 5	C15032 8	JLB016 24116. 5	C15056 8	JLB029 23682. 5	C15096 8	JLB159 21078. 6	C15112 8	JLB106 24222. 5	C15168 9	C15224 11	YJU639 32350. 3
17 20	JLB006 23948. 5	C15024 8	JLB092 24198. 5	C15060 8	JLB093 23985. 5	C15104 8	JLB056 23491. 5	C15120 8	JLB054 23571. 5	C15176 9	JLB246 18264. 7	C15232 11	JLB164 22753. 6
18 18	C15020 8	JLB126 22038. 6	C15052 8	JLB095 24080. 5	C15064 8	JLB175 21796. 6	C15128 8	JLB086 23491. 5	C15072 8	JLB200 19777. 6	C15184 9	JLB240 17439. 7	YJU652 39632. 4
19 16	JLB156 22332. 6	C15044 8	JLB028 23701. 5	C15100 8	JLB133 21691. 6	C15132 8	JLB123 22448. 6	C15140 8	JLB049 22841. 5	C15192 9	JLB205 17836. 7	YJU619 39001. 3	
20 14	C15016 8	JLB141 22197. 6	C15092 8	JLB051 23461. 5	C15124 8	JLB192 22484. 6	C15144 8	JLB040 23297. 5	C15200 9	C15240 11	JLB152 22895. 6		
21 12	JLB019 23670. 5	C15084 8	JLB162 20958. 6	C15116 8	JLB026 23542. 5	C15136 8	JLB083 23382. 5	C15204 9	JLB184 17659. 6	JLB108 5615. 5	YJU625 38560. 3		
22 10	C15076 8	JLB064 23796. 5	C15108 8	JLB072 23597. 5	C15068 8	JLB039 23254. 5	C15196 9	JLB066 22531. 5	C15208 10	JLB209 17698. 7	YJU628 40996. 3		
23 8	JLB142 20524. 6	C15156 9	JLB018 24262. 5	C15172 9	JLB116 20075. 6	C15188 9	C15236 11	C15244 11	JLB235 17801. 7	YJU702 39931. 4			
24 6	C15148 9	JLB215 19808. 7	C15164 9	JLB203 18373. 7	C15180 9	JLB241 17905. 7	JLB160 22945. 6	YJU637 38781. 3	YJU627 41235. 3				
25 4	JLB219 17113. 7	C15212 11	C15220 11	C15228 11	JLB212 17660. 7	YJU700 36773. 4							
26 2	YJU604 38163. 3	YJU638 32205. 3	YJU598 36116. 3	JLB120 22854. 6	YJU647 39724. 4								

PANACEA CASE IDENTIFIERS: EIS-KB2 CYCLE=15 SNUMB=2B229

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43					32		20
7 39							
9 35			32		14		24
11 31							
13 27			20		24		12

CYC EXP 0
(MWD/MT)
POWER-% 100.0
FLOW-% 93.2
K-EFF 1.0080

MFLCPR 0.922 (7,11)
MFLPD 0.882 (6,10,10)
MAPRAT 0.886 (6,10,10)
AXIAL PEAK 1.394 (10)
1.234 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43					32		24
7 39							
9 35			32		14		24
11 31							
13 27			24		24		12

CYC EXP 200
(MWD/MT)
POWER-% 100.0
FLOW-% 97.2
K-EFF 1.0080

MFLCPR 0.922 (4,15)
MFLPD 0.891 (6,17,10)
MAPRAT 0.895 (6,10,10)
AXIAL PEAK 1.416 (10)
1.155 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43					32		24
7 39							
9 35			32		14		24
11 31							
13 27			24		24		12

CYC EXP 1000
(MWD/MT)
POWER-% 100.0
FLOW-% 95.6
K-EFF 1.0080

MFLCPR 0.920 (4,12)
MFLPD 0.882 (6,17,10)
MAPRAT 0.885 (6,17,10)
AXIAL PEAK 1.414 (11)
1.089 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43					32		20
7 39							
9 35			32		14		24
11 31							
13 27			20		24		12

CYC EXP 2000
(MWD/MT)
POWER-% 100.0
FLOW-% 93.5
K-EFF 1.0070

MFLCPR 0.914 (8,12)
MFLPD 0.846 (6,17,10)
MAPRAT 0.853 (13,18,15)
AXIAL PEAK 1.373 (10)
1.068 (4)

PANACEA CASE IDENTIFIERS: EIS-KB2 CYCLE=15 SNUMB=2B229

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43						28	
7 39							
9 35				28		12	
11 31							
13 27				12		12	

CYC EXP 2000A
(MWD/MT)
POWER-% 100.0
FLOW-% 99.0
K-EFF 1.0070

MFLCPR 0.918 (4,15)
MFLPD 0.886 (23,15, 4)
MAPRAT 0.887 (22,14, 4)
AXIAL PEAK 1.364 (11)
1.302 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43						28	
7 39							
9 35				28		12	
11 31							
13 27				12		12	

CYC EXP 3000
(MWD/MT)
POWER-% 100.0
FLOW-% 92.7
K-EFF 1.0057

MFLCPR 0.915 (4,15)
MFLPD 0.848 (23,15, 4)
MAPRAT 0.847 (22,14, 4)
AXIAL PEAK 1.341 (11)
1.269 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43						28	
7 39							
9 35				28		12	
11 31							
13 27				12		12	

CYC EXP 4000
(MWD/MT)
POWER-% 100.0
FLOW-% 89.1
K-EFF 1.0046

MFLCPR 0.911 (4,15)
MFLPD 0.814 (23,15, 4)
MAPRAT 0.814 (23,15, 4)
AXIAL PEAK 1.313 (11)
1.239 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1 51							
3 47							
5 43							
7 39				36		16	
9 35							
11 31				16		8	
13 27							

CYC EXP 4000A
(MWD/MT)
POWER-% 100.0
FLOW-% 99.2
K-EFF 1.0047

MFLCPR 0.875 (4,15)
MFLPD 0.857 (19,19, 8)
MAPRAT 0.853 (19,19, 8)
AXIAL PEAK 1.385 (7)
1.312 (4)

PANACEA CASE IDENTIFIERS: RIS=KB2 CYCLE=15 SNUMB=28229

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |  36 |   |16 |
 9 35       |   |   |   |   |   |
11 31       |   |   |  16 |   | 8 |
13 27       |   |   |   |   |   |
```

CYC EXP 5000 MFLCPR 0.879 (4,12)
(MWD/MT) MFLPD 0.819 (19,19, 8)
POWER-% 100.0 MAPRAT 0.816 (19,19, 8)
FLOW-% 94.9 AXIAL PEAK 1.352 (7)
K-EFF 1.0036 1.282 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |  36 |   |16 |
 9 35       |   |   |   |   |   |
11 31       |   |   |  16 |   | 8 |
13 27       |   |   |   |   |   |
```

CYC EXP 6000 MFLCPR 0.886 (4,12)
(MWD/MT) MFLPD 0.782 (19,19, 8)
POWER-% 100.0 MAPRAT 0.784 (15,23, 5)
FLOW-% 90.9 AXIAL PEAK 1.316 (7)
K-EFF 1.0024 1.262 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |  20 |   | 8
 9 35       |   |   |   |   |   |
11 31       |   |  20 |   | 8 |   |
13 27       |   |   |   |   |   |
```

CYC EXP 6000A MFLCPR 0.882 (14,16)
(MWD/MT) MFLPD 0.817 (14,11, 4)
POWER-% 100.0 MAPRAT 0.824 (14,11, 4)
FLOW-% 97.0 AXIAL PEAK 1.333 (5)
K-EFF 1.0024 1.310 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |  20 |   | 8
 9 35       |   |   |   |   |   |
11 31       |   |  20 |   | 8 |   |
13 27       |   |   |   |   |   |
```

CYC EXP 7000 MFLCPR 0.892 (14,16)
(MWD/MT) MFLPD 0.783 (14,11, 4)
POWER-% 100.0 MAPRAT 0.789 (14,11, 4)
FLOW-% 93.0 AXIAL PEAK 1.315 (5)
K-EFF 1.0012 1.297 (4)

PANACEA CASE IDENTIFIERS: RIS=KB2 CYCLE=15 SNUMB=28229

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |  20 |   | 8
 9 35       |   |   |   |   |   |
11 31       |   |  20 |   | 8 |   |
13 27       |   |   |   |   |   |
```

CYC EXP 8000 MFLCPR 0.902 (14,16)
(MWD/MT) MFLPD 0.764 (15,23, 4)
POWER-% 100.0 MAPRAT 0.774 (15,23, 4)
FLOW-% 89.3 AXIAL PEAK 1.304 (5)
K-EFF 1.0002 1.295 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |  12
 7 39           |   |   |   |   |
 9 35       |   |   |   |  12 |   | 8
11 31       |   |   |   |   |   |
13 27       |   |  12 |   | 8 |   |
```

CYC EXP 8000A MFLCPR 0.841 (7, 9)
(MWD/MT) MFLPD 0.867 (21,19, 4)
POWER-% 100.0 MAPRAT 0.877 (21,19, 4)
FLOW-% 94.9 AXIAL PEAK 1.424 (4)
K-EFF 1.0002 1.424 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |  12
 7 39           |   |   |   |   |
 9 35       |   |   |   |  12 |   | 8
11 31       |   |   |   |   |   |
13 27       |   |  12 |   | 8 |   |
```

CYC EXP 9000 MFLCPR 0.855 (7, 9)
(MWD/MT) MFLPD 0.869 (21,19, 4)
POWER-% 100.0 MAPRAT 0.884 (21,19, 4)
FLOW-% 90.6 AXIAL PEAK 1.437 (4)
K-EFF 0.9989 1.437 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |  12
 7 39           |   |   |   |   |
 9 35       |   |   |   |  12 |   | 8
11 31       |   |   |   |   |   |
13 27       |   |  12 |   | 8 |   |
```

CYC EXP 10000 MFLCPR 0.865 (7, 9)
(MWD/MT) MFLPD 0.858 (20,20, 4)
POWER-% 100.0 MAPRAT 0.874 (21,19, 4)
FLOW-% 87.4 AXIAL PEAK 1.441 (4)
K-EFF 0.9979 1.441 (4)

PANACEA CASE IDENTIFIERS: EIS=KB2 CYCLE=15 SNUMB=2B229

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43					16	
7	39						
9	35				16		8
11	31						
13	27				12		10

CYC EXP 10000A (MWD/MT) POWER-% 100.0 FLOW-% 93.1 K-EFF 0.9979
MFLCPR 0.868 (4,12) MFLPD 0.859 (15,14,21) MAPRAT 0.845 (13,13,21) AXIAL PEAK 1.272 (4) 1.272 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43					16	
7	39						
9	35				16		8
11	31						
13	27				12		10

CYC EXP 11000 (MWD/MT) POWER-% 100.0 FLOW-% 90.7 K-EFF 0.9973
MFLCPR 0.867 (4,12) MFLPD 0.861 (8,13,20) MAPRAT 0.846 (8,13,20) AXIAL PEAK 1.267 (4) 1.267 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43					16	
7	39						
9	35				16		8
11	31						
13	27				12		10

CYC EXP 12000 (MWD/MT) POWER-% 100.0 FLOW-% 91.4 K-EFF 0.9968
MFLCPR 0.861 (5,13) MFLPD 0.870 (8,13,20) MAPRAT 0.858 (8,13,20) AXIAL PEAK 1.241 (4) 1.241 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43						
7	39					10	
9	35						
11	31				10		10
13	27						

CYC EXP 12000A (MWD/MT) POWER-% 100.0 FLOW-% 88.0 K-EFF 0.9967
MFLCPR 0.894 (8, 8) MFLPD 0.817 (20,19, 4) MAPRAT 0.838 (20,22, 4) AXIAL PEAK 1.419 (4) 1.419 (4)

PANACEA CASE IDENTIFIERS: EIS=KB2 CYCLE=15 SNUMB=2B229

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43						
7	39					10	
9	35						
11	31				10		10
13	27						

CYC EXP 13000 (MWD/MT) POWER-% 100.0 FLOW-% 90.1 K-EFF 0.9961
MFLCPR 0.881 (8, 8) MFLPD 0.791 (13,11,21) MAPRAT 0.804 (15,23, 4) AXIAL PEAK 1.342 (4) 1.342 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43						
7	39					10	
9	35						
11	31				10		10
13	27						

CYC EXP 14000 (MWD/MT) POWER-% 100.0 FLOW-% 95.4 K-EFF 0.9955
MFLCPR 0.857 (8,19) MFLPD 0.802 (15,16,21) MAPRAT 0.798 (15,16,21) AXIAL PEAK 1.238 (4) 1.238 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43						
7	39				16		8
9	35						
11	31		16		8		
13	27						

CYC EXP 14000A (MWD/MT) POWER-% 100.0 FLOW-% 93.7 K-EFF 0.9954
MFLCPR 0.890 (15,17) MFLPD 0.854 (21,11,19) MAPRAT 0.841 (21,11,19) AXIAL PEAK 1.187 (18) 1.143 (4)

PANAC SITE	1 2	3 6	5 10	7 14	9 18	11 22	13 26
1	51						
3	47						
5	43						
7	39				24		8
9	35						
11	31		24		8		
13	27						

CYC EXP 15000 (MWD/MT) POWER-% 100.0 FLOW-% 90.8 K-EFF 0.9948
MFLCPR 0.897 (20,14) MFLPD 0.827 (21,11,17) MAPRAT 0.824 (21,11,17) AXIAL PEAK 1.229 (14) 1.029 (4)

PANACEA CASE IDENTIFIERS: EIS=KB2 CYCLE=15 SNUMB=2B229

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |14
 9 35       |   |   |   |   |   |
11 31       |   |   |   |14 |   |
13 27       |   |   |   |   |   |
```

CYC EXP 16000 (MWD/MT)
POWER-% 100.0
FLOW-% 86.6
K-EFF 0.9941

MFLCPR 0.900 (20,14)
MFLPD 0.812 (14,19,19)
MAPRAT 0.761 (18,15,19)
AXIAL PEAK 1.170 (6)
1.162 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |18
 7 39           |   |   |   |   |
 9 35       |   |   |   |12 |   |
11 31       |   |   |   |   |   |
13 27       |   |18 |   |   |12 |
```

CYC EXP 16000A (MWD/MT)
POWER-% 100.0
FLOW-% 92.2
K-EFF 0.9941

MFLCPR 0.909 (18,14)
MFLPD 0.791 (13,21,18)
MAPRAT 0.794 (13,21,18)
AXIAL PEAK 1.143 (18)
1.088 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |24 |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |12 |
```

CYC EXP 17000 (MWD/MT)
POWER-% 100.0
FLOW-% 89.8
K-EFF 0.9934

MFLCPR 0.909 (18,14)
MFLPD 0.804 (17,18,15)
MAPRAT 0.791 (17,18,15)
AXIAL PEAK 1.228 (13)
1.077 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |   |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |   |
```

CYC EXP 17949 (MWD/MT)
POWER-% 100.0
FLOW-% 100.0
K-EFF 0.9930

MFLCPR 0.855 (18,14)
MFLPD 0.801 (17,18,11)
MAPRAT 0.735 (18,15,10)
AXIAL PEAK 1.269 (10)
1.072 (4)

PANACEA CASE IDENTIFIERS: EIS=KB2 CYCLE=15 SNUMB=2B229

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |   |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |   |
```

CYC EXP 18065 (MWD/MT)
POWER-% 100.0
FLOW-% 102.5
K-EFF 0.9930

MFLCPR 0.845 (18,14)
MFLPD 0.801 (17,18,11)
MAPRAT 0.738 (18,15,10)
AXIAL PEAK 1.271 (10)
1.054 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |   |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |   |
```

CYC EXP 18970 (MWD/MT)
POWER-% 100.0
FLOW-% 102.5
K-EFF 0.9930

MFLCPR 0.788 (18,14)
MFLPD 0.805 (17, 9,10)
MAPRAT 0.760 (18,15, 9)
AXIAL PEAK 1.327 (10)
0.987 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |   |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |   |
```

CYC EXP 19790 (MWD/MT)
POWER-% 89.3
FLOW-% 102.5
K-EFF 0.9929

MFLCPR 0.700 (18,14)
MFLPD 0.723 (17, 9,10)
MAPRAT 0.696 (18,15,10)
AXIAL PEAK 1.349 (11)
0.836 (4)

```
PANAC   1   3   5   7   9  11  13
  SITE  2   6  10  14  18  22  26
 1 51                   |   |   |
 3 47               |   |   |   |
 5 43           |   |   |   |   |
 7 39           |   |   |   |   |
 9 35       |   |   |   |   |   |
11 31       |   |   |   |   |   |
13 27       |   |   |   |   |   |
```

CYC EXP 20672 (MWD/MT)
POWER-% 78.4
FLOW-% 102.5
K-EFF 0.9929

MFLCPR 0.617 (14,20)
MFLPD 0.648 (18,15,11)
MAPRAT 0.624 (18,15,11)
AXIAL PEAK 1.373 (11)
0.684 (4)

Enclosure 3

MFN 03-061

AOO Example

Plant : [redacted]
Cycle : 16
Resp Engr: R. E. POLOMIK

TACLE QAT0 & Delta CPR Edit

Prepr: R. E. POLOMIK

DRF Num: J11-03936-06

Process ID: 1067F
Date : 05/15/03
Time : 9.4462

TRANSIENT NAME	ODYN PID	ANALYSIS ID	EXPOSURE Mwd/st	PEAK FLUX (N) % ref	PEAK FLUX (Q/A) % init	MAX INTGR QFUEL PU	MAX NET REACT $	DCPR G1446	DCPR G1336
LRNBP	12686	EORF	E00000	329.03	114.21	0.45	0.71	0.2595	0.1967
TTNBP	12187	EORF	E00000	339.85	113.69	0.45	0.72	0.2575	0.1956
FWCF	12488	EORF	E00000	292.74	113.58	0.00	0.66	0.2231	0.1730
LRNBP	12692	EOHF	E00000	465.17	120.31	0.56	0.79	0.3067	0.2398
TTNBP	12293	EOHF	E00000	452.93	119.78	0.55	0.78	0.2996	0.2339
FWCF	12494	EOHF	E00000	394.12	119.83	0.00	0.74	0.2713	0.2163

Plant : [redacted]
Cycle : 16
Resp Engr: R. E. POLOMIK Prepr: R. E. POLOMIK DRF Num: J11-03936-06

TACLE Process Edit

Process ID: 1067F
Date : 05/15/03
Time : 9.4462

ANALYSIS ID	ANALYSIS NAME	TRANSIENT OUTPUT FILE NAMES (.*)	ODYN PID	SUB EVENTS	POWER (%)	FLOW (%)	STEAM FLOW (%)
EORF	STANDARD	1067F_E00000_T01_ODYNM10_CPS	12785		100.0	85.0	99.9
EORF	STANDARD	1067F_E00000_T02_ODYNM10_LRNBP	12686	2SRVOS	100.0	85.0	99.9
EORF	STANDARD	1067F_E00000_T03_ODYNM10_TTNBP	12187	2SRVOS	100.0	85.0	99.9
EORF	STANDARD	1067F_E00000_T04_ODYNM10_FWCF	12488	2SRVOS	100.0	85.0	99.9
EORF	STANDARD	1067F_E00000_T05_ODYNM10_MSIVF	12A89	2SRVOSOPP	102.0	85.0	102.5
EOHF	STANDARD	1067F_E00000_T01_ODYNM10_CPS	12391		100.0	104.5	100.0
EOHF	STANDARD	1067F_E00000_T02_ODYNM10_LRNBP	12692	2SRVOS	100.0	104.5	100.0
EOHF	STANDARD	1067F_E00000_T03_ODYNM10_TTNBP	12293	2SRVOS	100.0	104.5	100.0
EOHF	STANDARD	1067F_E00000_T04_ODYNM10_FWCF	12494	2SRVOS	100.0	104.5	100.0
EOHF	STANDARD	1067F_E00000_T05_ODYNM10_MSIVF	12D95	2SRVOSOPP	102.0	104.5	102.5

PANACEA CASE: EIS-[redacted] CYCLE=15 SNUMB=2B229
DESIGN CRITERIA: FLOW= 85.0% - 102.5% MFLCPR=0.930 MFLPD=0.909 MAPRAT=0.909
INDICATOR KEY: *=EXCEEDS CRITERIA, ^=PEAK VALUE, ^^=PEAK VALUE EXCEEDS CRITERIA

CYCEXP MWD/MT	KEFF	FLOW-%	MFLCPR (7%)	MFLPD (10%)	MAPRAT (10%)	AXIAL POWER NODE 4	/ PEAK
0	1.0080	93.2	0.922(7,11)^	0.882(6,10,10)	0.886(6,10,10)	1.234	1.394(10)
200	1.0080	97.2	0.922(4,15)	0.891(6,17,10)^	0.895(6,10,10)^	1.155	1.416(10)
1000	1.0080	95.6	0.920(4,12)	0.882(6,17,10)	0.885(6,17,10)	1.089	1.414(11)
2000	1.0070	93.5	0.914(8,12)	0.846(6,17,10)	0.853(13,18,15)	1.068	1.373(10)
2000A	1.0070	99.0	0.918(4,15)	0.886(23,15, 4)	0.887(22,14, 4)	1.302	1.364(11)
3000	1.0057	92.7	0.915(4,15)	0.846(23,15, 4)	0.847(22,14, 4)	1.269	1.341(11)
4000	1.0046	89.1	0.911(4,15)	0.814(23,15, 4)	0.814(23,15, 4)	1.239	1.313(11)
4000A	1.0047	99.2	0.875(4,15)	0.857(19,19, 8)	0.853(19,19, 8)	1.312	1.385(7)
5000	1.0036	94.9	0.879(4,12)	0.819(19,19, 8)	0.816(19,19, 8)	1.282	1.352(7)
6000	1.0024	90.9	0.886(4,12)	0.782(19,19, 8)	0.784(15,23, 5)	1.262	1.316(7)
6000A	1.0024	97.0	0.882(14,16)	0.817(14,11, 4)	0.824(14,11, 4)	1.310	1.333(5)
7000	1.0012	93.0	0.892(14,16)	0.783(14,11, 4)	0.789(14,11, 4)	1.297	1.315(5)
8000	1.0002	89.3	0.902(14,16)	0.764(15,23, 4)	0.774(15,23, 4)	1.295	1.304(5)
8000A	1.0002	94.9	0.841(7, 9)	0.867(21,19, 4)	0.877(21,19, 4)	1.424	1.424(4)
9000	0.9989	90.6	0.855(7, 9)	0.869(21,19, 4)	0.884(21,19, 4)	1.437	1.437(4)
10000	0.9979	87.4	0.865(7, 9)	0.858(20,20, 4)	0.874(21,19, 4)	1.441	1.441(4)
10000A	0.9979	93.1	0.868(4,12)	0.859(15,14,21)	0.845(13,13,21)	1.272	1.272(4)
11000	0.9973	90.7	0.867(4,12)	0.861(8,13,20)	0.846(8,13,20)	1.267	1.267(4)
12000	0.9968	91.4	0.861(5,13)	0.870(8,13,20)	0.858(8,13,20)	1.241	1.241(4)
12000A	0.9967	88.0	0.894(8, 8)	0.817(20,19, 4)	0.838(20,22, 4)	1.419	1.419(4)
13000	0.9961	90.1	0.881(8, 8)	0.791(12,11,21)	0.804(15,23, 4)	1.342	1.342(4)
14000	0.9955	95.4	0.857(8,19)	0.802(15,16,21)	0.798(15,16,21)	1.238	1.238(4)
14000A	0.9954	93.7	0.890(15,17)	0.854(21,11,19)	0.841(21,11,19)	1.143	1.187(18)
15000	0.9948	90.8	0.897(20,14)	0.827(21,11,17)	0.824(21,11,17)	1.029	1.229(14)
16000	0.9941	86.6	0.900(20,14)	0.812(14,19,19)	0.761(18,15,19)	1.162	1.170(6)
16000A	0.9941	92.2	0.909(18,14)	0.791(13,21,18)	0.794(13,21,18)	1.088	1.143(18)
17000	0.9934	89.8	0.909(18,14)	0.804(17,18,15)	0.791(17,18,15)	1.077	1.228(13)
17949	0.9930	100.0	0.855(18,14)	0.801(17,18,11)	0.735(18,15,10)	1.072	1.269(10)

MFLCPR: OLD / NEW

18065	0.9930	102.5*	0.845(18,14)	0.801(17,18,11)	0.738(18,15,10)	1.054	1.271(10)
18970	0.9930	102.5*	0.788(18,14)	0.805(17, 9,10)	0.760(18,15, 9)	0.987	1.327(10)
19790	0.9929	102.5*	0.700(18,14)	0.723(17, 9,10)	0.696(18,15,10)	0.836	1.349(11)
20672	0.9929	102.5*	0.617(14,20)	0.648(18,15,11)	0.624(18,15,11)	0.684	1.373(11)