

3/4.2 POWER DISTRIBUTION LIMITS

3/4.2.1 AVERAGE PLANAR LINEAR HEAT GENERATION RATE

LIMITING CONDITION FOR OPERATION

3.2.1 ALL AVERAGE PLANAR LINEAR HEAT GENERATION RATES (APLHGR's) for each type of fuel as a function of AVERAGE PLANAR EXPOSURE shall not exceed the limits shown in Figures 3.2.1-1, 3.2.1-2, 3.2.1-3, 3.2.1-4, 3.2.1-5 or 3.2.1-6.*

APPLICABILITY: CONDITION 1, when THERMAL POWER \geq 25% of RATED THERMAL POWER.

ACTION:

With an APLHGR exceeding the limits of Figure 3.2.1-1, 3.2.1-2, 3.2.1-3, 3.2.1-4, 3.2.1-5 or 3.2.1-6, initiate corrective action within 15 minutes and continue corrective action so that APLHGR is within the limit within 4 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.1 All APLHGR's shall be verified to be equal to or less than the applicable limit determined from Figure 3.2.1-1, 3.2.1-2, 3.2.1-3, 3.2.1-4, 3.2.1-5 or 3.2.1-6:

- a. At least once per 24 hours,
- b. Within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and
- c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for APLHGR.

*In single reactor recirculation loop operation, the APLHGR limit shall be reduced to .65 of the values specified in the above tables. This portion of the Specification expires on March 15, 1981.

3/4.2.2 APRM SETPOINTS

LIMITING CONDITION FOR OPERATION

3.2.2 The flow biased APRM scram trip setpoint (S) and rod block trip set point (S_{RB}) shall be established according to the following relationship:

$$S \leq (0.66W + 54\%) T \quad S \leq (0.66W + 50.7\%) \text{ (Single Loop)*}$$

$$S_{RB} \leq (0.66W + 42\%) T \quad S_{RB} \leq (0.66W + 38.7\%) \text{ (Single Loop)*}$$

where: S and S_{RB} are in percent of RATED THERMAL POWER.
W = Loop recirculation flow in percent of rated flow,
T = Lowest value of the ratio of design TPF divided by the HTPF -
obtained for any class of fuel in the core ($T \leq 1.0$), and

Design TPF for: 8 x 8 fuel = 2.45.
8 x 8R fuel = 2.48.
P8 x 8R fuel = 2.48.

APPLICABILITY: CONDITION 1, when THERMAL POWER \geq 25% of RATED THERMAL POWER.

ACTION:

With S or S_{RB} exceeding the allowable value, initiate corrective action within 15 minutes and continue corrective action so that S and S_{RB} are within the required limits within 4 hours or reduce THERMAL POWER to less than 25% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.2 The MTPF for each class of fuel shall be determined, the value of T calculated, and the flow biased APRM trip setpoint adjusted, as required:

- a. At least once per 24 hours,
- b. within 12 hours after completion of a THERMAL POWER increase of at least 15% of RATED THERMAL POWER, and
- c. Initially and at least once per 12 hours when the reactor is operating with a LIMITING CONTROL ROD PATTERN for MTPF.

*This portion of the specification expires on March 15, 1981.

TRIP FUNCTION AND INSTRUMENT NUMBER	TRIP SETPOINT	ALLOWABLE VALUE
1. <u>APRM (C51-APRM-CH. A,B,C,D,E,F)</u>		
a. Upscale (Flow Biased)	$\leq (0.66W + 42\%) \frac{T^*}{MTPF}^{**}$	$\leq (0.66W + 42\%) \frac{T^*}{MTPF}^{**}$
b. Inoperative	NA	NA
c. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale
d. Upscale (Fixed)	$\leq 12\%$ of RATED THERMAL POWER	$\leq 12\%$ of RATED THERMAL POWER
2. <u>ROD BLOCK MONITOR (C51-RBM-CH.A,B)</u>		
a. Upscale	$\leq (0.66W + 41\%) \frac{T^*}{MTPF}^{***}$	$\leq (0.66W + 41\%) \frac{T^*}{MTPF}^{***}$
b. Inoperative	NA	NA
c. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale
3. <u>SOURCE RANGE MONITORS (C51-SRM-K600A,B,C,D)</u>		
a. Detector not full in	NA	NA
b. Upscale	$< 1 \times 10^5$ cps	$< 1 \times 10^5$ cps
c. Inoperative	NA	NA
d. Downscale	> 3 cps	> 3 cps
4. <u>INTERMEDIATE RANGE MONITORS (C51-IRM-K601A,B,C,D,E,F,G,H)</u>		
a. Detector not full in	NA	NA
b. Upscale	$< 108/125$ of full scale	$< 108/125$ of full scale
c. Inoperative	NA	NA
d. Downscale	$> 3/125$ of full scale	$> 3/125$ of full scale

*T=2.43 for 8x8 fuel
 T=2.48 for 8x8R fuel
 T=2.48 for P8x8R fuel

**When in single loop, trip setpoint and allowable value shall be reduced to $\leq (.66W + 38.7\%) \frac{T^*}{MTPF}$ within 24 hours in single recirculation loop operation. This Specification expires on March 15, 1981.

***When in single loop, trip setpoint and allowable value shall be reduced to $\leq (.66W + 35.7\%) \frac{T^*}{MTPF}$ within 24 hours in single recirculation loop operation. This Specification expires on March 15, 1981.

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

RECIRCULATION LOOPS

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant recirculation loops shall be in operation with the cross-tie valve closed, the pump discharge valves OPERABLE and the pump discharge bypass valves OPERABLE or closed.

APPLICABILITY: CONDITIONS 1* and 2*.

ACTION:

With one or both recirculation loops not in operation, operation may continue; restore both loops to operation within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours.**

SURVEILLANCE REQUIREMENTS

4.4.1.1 Each pump discharge valve and bypass valve shall be demonstrated OPERABLE by cycling each valve through at least one complete cycle of full travel during each COLD SHUTDOWN which exceeds 48 hours, if not performed in the previous 31 days.

4.4.1.2 Each pump discharge bypass valve, if not OPERABLE, shall be verified to be closed at least once per 31 days.

*See Special Test Exception 3.10.4.

**Until March 15, 1981, with one recirculation pump not in operation, reduce power to less than 50% and reduce the setpoints as specified in Table 2.2.1-1, Table 3.3.4-2, Section 3.2.1, and Section 3.2.2, within 24 hours. With both recirculation loops not in operation, operation may continue; restore at least one loop to operation within 12 hours or be in at least Hot Shutdown within the next 12 hours.

EMERGENCY TS CHANGE
SAFETY EVALUATION

TRANSACTION

On March 5, 1981, at about 4 pm,
Lester R. Light Company, the licensee,
notified the NRC of a need for
emergency TS changes to allow
temporary single loop operation on BSEP
Unit 1. This request was necessitated
by an unplanned outage of BSEP Unit 2
for turbine rubber test/repair
and a subsequent failure of the
reactor recirculation motor generator set
on BSEP Unit 1. The licensee's
telephone request was followed by
a telecopied letter dated March 5,
1981 which presented the technical
justification ~~for~~ ^{revised} and ~~proposed~~ TS
~~changes~~ ^{to} for the change.

Alternative Disposal

An electrical fault in the #1 AG set switcher caused the loss of flow in the A Recirculation loop in BSEP Unit 1 at about 2 pm on March 5, 1981. Power was reduced to approximately 50% and stabilized on single recirculation loop flow. The licensee proposes to continue single loop operation ~~at~~ at power levels less than 50% for up to 10 days while the failed AG set is repaired or BSEP Unit 2 is returned to service, whichever occurs first.

EVALUATION

The memo's request dated March
5, 1981 ~~was a letter from~~

~~SE~~ requested a submission
from Duane Arnold dated 11/2

1980. The memo would point to

Appendix IV ~~and is similar to~~

OSE Unit 1, and ~~was cited as~~

a precedent ~~on the basis of~~
~~for single loop operation.~~

~~has been operated in single loop operation.~~
previous operation
CPL

~~SE~~ submits that the ~~the~~ technical

justification ~~for~~ supporting single loop

operation at Duane Arnold is applicable

to Unit 1 ~~and is~~

11/2/80

...
... have reviewed the ~~proposed~~
technical basis supporting the
temporary provision for single loop
operation at BSEP Unit 1, and
conclude that it is applicable in
periods of the full II cycle
specific to BSEP Unit 1 Cycle 3.

... have ^{will} reviewed the ~~proposed~~ II
and conclude that the proposed
changes are adequate and sufficient
to permit safe operation in the
single loop configuration ^{at BSEP Unit 1} ~~for up to 12~~
~~days~~ until the failed recirculation
loop can be restored to service or the
BSEP Unit can be returned to power.
JH ~~Johnson~~ 3/5/81