

50-352/353

DATE 05/20/92 13:01 NRMS RECEIPT ACKNOWLEDGEMENT SEQUENCE # 3926038000

LGS PROCEDURES - APPROVED ORIGINALS
DISTRCDDE ON-U1

TO: NRC L. SITE

PROCDNO NOT APPLICABLE ON-123
REVISION 000
DATE 05/18/92

☑ I HAVE RECEIVED THE SUBJECT MATERIAL

SIGNATURE: _____ DATE: _____

PLEASE RETURN THIS FORM PROMPTLY TO LGS ADMIN. SERVICES (LGS-340)
WITHIN 15 DAYS OF THE ABOVE PRINT-DATE.

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PDR ADOCK 05000352
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LGS PROCEDURES - APPROVED ORIGINALS

DISTRIB CODE ON-U1

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*LGS SIMULATOR          LGS-LTC          01 C**NRC OFFSITE          OUTGOING          01 C*
*LGS TRAIN CTR          LGS-LTC          03 C**NUNEZ, R.          LGS-LTC          01 I*
*MAINT/I&C LIBRARY      DCC/WALK         01 I**OPERATIONS SUP. CTR. DCC/WALK          01 I*
*TRAINING COORDIN.     DCC/WALK         01 I**PLANT OP. SUP. FAC. DCC/WALK          01 I*
*CONST BLDG LIB        DCC/WALK         01 I**SHIFT MGR OFFICE     DCC/WALK          01 I*
*CONTROL RM CART LGS   DCC/WALK         02 I**SUPPT BLDG LIB #1    DCC/WALK          01 I*
*EMERG. OP. FAC. LGS   DCC/WALK         01 C**SUPPT BLDG LIB #2    DCC/WALK          01 I*
*INPO                   OUTGOING         01 I**TECH. SUPP. CTR. LGS DCC/WALK          01 I*
*LGS LIBRARY           LGS/A2-1         01 I**                      -----*
*LGS OFFICE            DCC/WALK         01 I**                      -----*
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REQUESTS FOR CHANGES TO THIS DISTRIBUTION LIST MUST BE ADDRESSED TO THE ORGANIZATION RESPONSIBLE FOR ORIGINATING THE ATTACHED DOCUMENT (SEE NUCLEAR RELATED DOCUMENT REGISTER (NRDR) FOR RESP. ORG.). THE RESP. ORG. WILL AUTHORIZE THE LOCAL DCC SUPERVISOR TO MAKE THE NECESSARY CHANGES.

ATTACHED IS A COPY OF:
 PROCEDNO ~~NOT APPLICABLE~~ *ON-123*
 REVISION 000
 DATE 05/18/92

UNCONTROLLED: LIBRARY, INPO, NUNEZ

3924038000

ON-123, Rev. 0
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CMM:ljm

J. D. ... 5/11/...

PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION

ON-123

MISPOSITIONED CONTROL ROD

1.0 SYMPTOMS

1.1 A control rod not at its desired position.

2.0 OPERATOR ACTIONS

2.1 Stop all control rod motion
AND power changes.

2.2 Notify Shift Supervision.

2.3 IF control rod is drifting,
THEN enter ON-104.

2.4 IF control rod is mispositioned by 1 notch position,
THEN reposition control rod to correct position
AND exit this procedure,
OTHERWISE, continue in this procedure
AND contact Reactor Engineering.

2.5 IF reactor power is \leq RWM LPSP,
THEN go to step 2.9.

2.6 IF any of the following conditions exist,
THEN immediately fully insert the mispositioned control rod:

- a. MFLPD from last P-1 is ≥ 0.9 with no qualified Reactor Engineer present,
- b. Reactor power is
OR was $> 100\%$ RTP due to control rod motion, as
evaluated by a new OD3-2,
- c. Mispositioned control rod is positioned at the same notch position as another control rod within a 5 x 5 array centered on the mispositioned control rod,
- d. "LPRM UPSCALE" annunciator alarms,

OTHERWISE, go to step 2.8.

- 2.7 Fully insert the control rods necessary to achieve symmetry,
AND demand a P-1:
- a. IF all thermal limits are ≤ 0.95 ,
THEN contact Reactor Engineering for reactor power recovery,
AND exit this procedure.
 - b. IF any thermal limit ≥ 0.95 ,
THEN reduce reactor power in accordance with the Reactor Maneuvering Shutdown Instructions until a P-1 indicates that all Thermal Limits < 0.95 .
 - c. Contact Reactor Engineering for recovery,
AND exit this procedure.
- 2.8 Evaluate whether mispositioned control rod may be returned to its desired position:
- 2.8.1 Demand an OD7-2.
- a. IF control rod was mispositioned by being withdrawn past its desired position,
THEN go to step 2.8.3.
- 2.8.2 IF the control rod was mispositioned by being inserted past its desired position,
AND:
- a. The mispositioned control rod must pass through the notch position of any control rod in a 5 x 5 array centered on the mispositioned control rod in order to be returned to its desired position,
THEN fully insert the mispositioned control rod unless directed otherwise by a qualified on-shift Reactor Engineer,
AND go to step 2.7.

NOTE: Reactor axial relative power is indicated in the top center of the P-1 edit. Location 1 is at core bottom, and location 12 is at core top. One location increment is equivalent to 2 even Control Rod notch positions.

Example:

Rod Position	46	42	38	34	30	26	22	18	14	10	06	02
LOCATION	1	2	3	4	5	6	7	8	9	10	11	12
AXIAL REL PWR	0.48	0.79	0.89	0.99	1.03	1.15	1.17	1.20	1.20	1.21	1.11	0.74
REGION REL PWR	0.87	1.05	0.87	1.07	1.33	1.07	0.87	1.08	0.86			
RING REL PWR	1.25	1.37	1.32	1.30	1.25	1.21	0.92	0.48				
APRM GAF	1.00	1.00	0.99	1.00	0.99	1.01						

b. The mispositioned control rod must pass from a location of lower axial relative power to a location of higher axial relative power as indicated by the last P-1, THEN fully insert the mispositioned control rod unless directed otherwise by a qualified on-shift Reactor Engineer, AND go to step 2.7.

CAUTION

x x

To preclude violation of Thermal Limits AND rated power all control rod withdrawals greater than a total of four notch positions shall be performed with a qualified on-shift Reactor Engineer present except for execution of the Reactor Maneuvering Shutdown Instructions, including the Shutdown RWM.

x x

c. IF the control rod was mispositioned by more than a total of 4 notch positions, THEN fully insert the mispositioned control rod unless directed otherwise by a qualified on-shift Reactor Engineer, AND go to step 2.7.

- d. OTHERWISE return the mispositioned control rod to its desired position using single notch withdraw commands:
- IF the RBM does not permit withdrawal of the mispositioned control rod to its desired position.
THEN fully insert the mispositioned control rod unless directed otherwise by a qualified on-shift Reactor Engineer,
AND go to step 2.7.
 - 2. Demand a P-1 once the mispositioned control rod has been returned to its desired position.
 - 3. IF any Thermal Limit > 0.98 ,
OR any new Base Crit Codes appear
THEN fully insert the mispositioned control rod unless directed otherwise by a qualified on-shift Reactor Engineer,
AND go to step 2.7.
OTHERWISE exit this procedure.

- 2.8.3 IF the control rod was mispositioned by being withdrawn past its desired position,
THEN:
- a. Reduce power 100 MWe using core flow,
BUT not to less than 45 mlb/hr core flow.
 - b. IF the mispositioned control rod will not pass through the notch position of any control rod in a 5 x 5 array centered on the mispositioned control rod in order to be returned to its proper position,
THEN return the mispositioned control rod to its proper position
AND:
 - 1. Demand a P-1.
 - 2. Go to step 2.7.a.
 - c. OTHERWISE, reduce power to $\leq 80\%$ RTP using core flow.
 - d. Return the mispositioned control rod to its proper position
AND:
 - 1. Demand a P-1.
 - 2. Go to step 2.7.a.

- 2.9 IF reactor power \leq RWM LPSP,
AND $>$ 10% RTP,
THEN contact Reactor Engineering for recovery.
- 2.10 IF reactor power \leq 10% RTP,
AND the control rod pattern is not latched into the RWM,
THEN:
- a. SCRAM
 - b. Enter T-100