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January 17, 1986

Director, Office of Nuclear Reactor Regulation
Attention: G. E. Lear, Director
PWR Project Directorate No. 1
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
SEP Topic IX-5, Ventilation Systems
San Onofre Nuclear Generating Station
Unit 1

Reference: Letter, M. O. Medford, SCE, to J. A. Zwolinski, NRC, Commitments
to Complete Open Issues of Draft NUREG-0829, Integrated Plant
Safety Assessment, October 4, 1985

The referenced letter indicated that SCE would provide the details of our temperature monitoring program for the 4 kV and 480V rooms. These details are necessary to enable the NRC staff to perform a confirmatory review of this program in order to close out their review of the subject SEP Topic. Accordingly, enclosed find the station procedures that implement the program to assure proper cooling for the 4 kV and 480V rooms. The procedures are entitled S01-7-21, "480V and 4 kV Room HVAC System Operation" and S01-2.4-5, "Loss of 480 Volt/4 kV Room HVAC." This program includes the monitoring of HVAC system operation, the monitoring of the temperature in these rooms and appropriate response actions in the event that room cooling is lost.

If you have any questions, please let me know.

Very truly yours,

Enclosures

8601230343 860117
PDR ADOCK 05000206
P PDR

A001
1/1

REFERENCE: SO123-VI-1.0.1

TFM 1-85-MVS-001
Attachment 8 pg 445

ENCODE AC10AC
SO 1
(WHEN FORM FILLED OUT)

FINAL APPROVAL/DISAPPROVAL/CANCELLATION ROUTING
FOR ISSUED TEMPORARY CHANGE NOTICE(S)

TCN NO. 0-2 SITE DOCUMENT NO. SO1-7-21 REV. NO. 0

ISSUANCE DATE: _____ CANCELLATION ORIGINATOR (1)(B) R. MOE 56-615
PRINT NAME PAX

DATE ROUTED: 3/12/85 *DATE DUE: _____

*Technical Specification Violation if not completed within 14 days from date of issuance.

ROUTING SEQUENCE	ADDRESSEE/ORG.	ACTION REQUESTED	DATE / INITIAL	
			APPROVED	DISAPPROVED (1)(A)
1		Review & Approve		
2		Review & Approve		
3		Review & Approve		
4		Review & Approve		
5		Review & Approve		
6	Site Procedures Group (SPG)	Forward to CDM		

RECEIVED CDM
MAY 29 1985
SITE FILE COPY

(1) Reason for (A) Disapproval/Disapproved By: _____ Pax: _____ (B) Cancellation
(Print Name)

To support Removal of TFM #1-85-MVS-001

If TCN is disapproved, return directly to the Site Procedures Group

DESIGNEE: R. MOE
PRINT NAME

EVALUATION OF THE USE OF AN ISSUED TCN INCLUDING THE EFFECT(S) AS A RESULT OF DISAPPROVAL/CANCELLATION (USE REVERSE SIDE, IF REQUIRED).

NO effect - supports removal of TFM - #1-85-MVS-001

EVALUATION SUPPORTS DISAPPROVAL/CANCELLATION OF TCN? YES X NO _____
NCR REQUIRED TO DISPOSITION EQUIPMENT OR RERUN TEST? YES _____ NO X NCR No. _____
REINSTATE SUPERSEDED/INCORPORATED TCNS LISTED ON SO(123) 110 FORM? YES _____ NO X
REINSTATE DOCUMENT REVISION? YES X NO _____
PREPARED BY: [Signature] 3/12/85
CFDM/Designee Date

REVIEW OF EVALUATION and TCN DISPOSITION:

- DISAPPROVED
- CANCELLED

APPROVED BY: H.C. Morgan LR 5/29/85
Functional Division Manager Date

APPROVED BY: J.P. Crump 5/29/85
Quality Assurance Date

ORIGINAL FORWARDED TO CDM: _____ PERFORMED BY: _____ Date

COPY FORWARDED TO THE NUCLEAR SAFETY GROUP:
(SO23 and SO123 series only) PERFORMED BY: OKooley 5/29/85
CDM Date

TEMPORARY CHANGE NOTICE

SO (WHEN FORM FILLED OUT)

Page 1 of 10-1

TCN No. (For CDM use only)

TECHNICAL SPECIFICATION VIOLATION IF NOT COMPLETED WITHIN 14 DAYS

Site Document No. 501-7-21 Revision No. 0 SINGLE USE TCN YES NO

Site Document Title 480 VOLT AND 4KV Room HVAC SYSTEM OPERATION

- 1. PREPARED BY: LW REYNOLDS PAX: 56658 ORGANIZATION: OPG-1
2. DATE/TIME ORIGINATED: 3-27-85/ 10:30 3. ISSUANCE DATE: MAR 27 1985 CDM
4. SINGLE USE TCN cancels on: (CDM USE ONLY)
5. If required, TCN Deviation Approval: CFDM (or designee): NA

6. Check appropriate box: [X] Entire Document Attached [] Affected Page(s) Attached
Superseded/Incorporated TCN(s): NONE No. (if none, so state)

7. This change cannot wait until the next revision of the Site Document and is required:
A. To implement facility design change (PFC, NCR, TFM, etc.)

Facility design change identifier: 1
Implementation of the facility design change has been determined. YES NO
B. Other (e.g., CAR, Licensing Commitments) Specific Reason: PROVIDE A DETAILED DESCRIPTION OF PLACING IN SERVICE OR REMOVING FROM SERVICE THE BACKUP FANS FOR E-THE 480V OR 4KV Rooms and to change RECORDING TEMPERATURES TO THE DAILY LOG SHEET.

8. Is the document being TCN'd QA Affecting? YES NO (If YES, complete the boxes below.) (If NO, see * below.)

Table with 5 rows (A-E) and 2 columns (YES/NO) for QA affecting questions.

9. Does this change affect licensing commitment requirements? YES NO
10. Copy forwarded to the Nuclear Safety Group. PERFORMED BY: n/a Date: 4-15-85

11. The entire document was reviewed in conjunction with this TCN. REVIEWED AND APPROVED BY: N/A

SIGNATURES REQUIRED: INITIAL APPROVAL and FINAL APPROVAL sections with signatures and dates.

* If a document is Not QA Affecting, obtain initial approval from the Cognizant Supervisor(s) on the affected Unit(s) [signs on Plant Management Staff line(s)] and final approval from the CFDM prior to submittal to CDM. No other signatures are required.
** If QA Affecting, approval shall be by two members of the Plant Management Staff knowledgeable in the areas affected, at least one of whom holds an SRO License on the unit or units affected.
*** If YES, the Shift Superintendent shall provide the required SRO approval.

NUCLEAR GENERATION SITE
UNIT 1
EFFECTIVE DATE OCT 17 1984

OPERATING INSTRUCTION SD1-7-21
SECONDARY PLANT
REVISION 0

PAGE 1 OF 7

TCN 0-1

480 VOLT AND 4 KV ROOM HVAC SYSTEM OPERATION

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QA PROGRAM AFFECTING

0825g

480 VOLT AND 4 kV ROOM HVAC SYSTEM OPERATION

TCN 0-1

1.0 OBJECTIVE

- 1.1 To provide guidance in the operation of the air conditioning units for the 480 Volt and 4 kV Rooms.
- 1.2 To provide guidance in the operation of the installed back-up ventilation fans for the 480 Volt and 4 kV Rooms.
- 1.3 To provide guidance in monitoring for proper operation of the 480 V and 4 kV Room air conditioning and ventilation equipment.

2.0 REFERENCES

2.1 Operating Instruction

- 2.1.1 S01-2.4-5, Loss of 480 Volt/4 kV Room HVAC

3.0 PREREQUISITES

- 3.1 Prior to use of an uncontrolled (pink) copy of this Station Document to perform work, verify that it is current by checking a controlled copy and any TCNs or by use of the method described in S0123-VI-0.9.

4.0 PRECAUTIONS

- 4.1 Manual override switches, HS-322 and HS-323, should be maintained in the NORMAL position. This is to prevent inadvertently overriding the trip signal to the units upon detection of a fire in the 480 Volt or 4 kV Rooms.
- 4.2 If 480 Volt or 4 kV room temperatures cannot be maintained within the limits specified in this instruction, go to S01-2.4-5, Loss of 480 Volt/4 kV Room HVAC.
- 4.3 In the event of a fire, portable exhaust fans should be used to ventilate smoke from the 480 Volt or 4 kV Rooms not the air conditioning units. (Ref. 2.1.1)

5.0 CHECKLIST

- 5.1 Checklist 1, 480 V/4 kV Air Conditioning Electrical Alignment

6.0 INSTRUCTIONS

6.1 Placing the 480 V/4 kV Room Air Conditioning in Service

- 6.1.1 Perform Checklist 1, 480 V/4 kV Air Conditioning Electrical Alignment, for either or both rooms as required.

6.0 INSTRUCTIONS (Continued)

NOTE: Both room air conditioners cycle on and off via thermostats. TSH-102 controls the 480V Room unit and TSH-104 controls the 4 kV Room unit.

6.1.2 Verify that the air conditioning units start and supply cooling to their respective rooms.

6.2 Removing the 480 V/4 kV Room Air Conditioning from Service

6.2.1 The 480 V and/or 4 kV Room air conditioning equipment may be removed from service by opening individual breakers in panel B-25 located on the mezzanine level of the 480V Room.

6.3 Manual Override of the 480V/4 kV Room Air Conditioning

NOTE: The air conditioning units receive a trip signal from smoke detectors in their associated switchgear Room.

CAUTION
The air conditioning units are not to be operated for the purpose of clearing the smoke, due to fires, from the switchgear rooms.

6.3.1 To clear smoke from the switchgear rooms, refer to SO1-2.4-5, Loss of 480 Volt/4 kV Rooms HVAC.

6.3.2 The air conditioning units may be restarted, in the event of a false fire alarm, with the approval of the SRO Operations Supervisor by:

.1 Placing the override switch of the desired unit in the OVERRIDE position.

NOTE: The 480 V air conditioning unit override switch is mounted on the wall beside the 480 V Room Halon Control Panel.

NOTE: The 4 kV air conditioning unit override switch is mounted on the wall beside the 4 kV Room Halon Control Panel.

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PAGE 4A Follows

6.0 INSTRUCTIONS (Continued)

6.4 Backup Fan Operation

NOTE: Backup fans are provided to deliver outside air to the 480 V and 4 kV Rooms in the event of an air conditioning failure. Fans are controlled with local pushbuttons.

6.4.1 Placing the 480 V Room Backup Fans in Operation

- .1 OPEN D/S-A-100, 480 V Room Air Conditioning Unit Safety Switch, to stop the 480 V Room Air Conditioning Unit.
- .2 CLOSE MVS-340, A-100 Discharge Damper.
- .3 CLOSE MVS-349, A-100 Return Damper.
- .4 OPEN MVS-347, A-902 Discharge Damper.
- .5 OPEN MVS-350, A-900 Suction Damper.
- .6 START A-902 and A-900, 480 V Room Supply and Exhaust Backup Fans.

6.4.2 Securing the 480 V Room Backup Fan Operation

- .1 STOP A-900 and A-902, 480 V Room Exhaust and Supply Backup Fans.
- .2 CLOSE MVS-350, A-900 Suction Damper.
- .3 CLOSE MVS-347, A-902 Discharge Damper.
- .4 OPEN MVS-349, A-100 Return Damper.
- .5 OPEN MVS-340, A-100 Discharge Damper.
- .6 If the 480 V Room Air Conditioning Unit is to be placed in service, then CLOSE D/S-A-100, 480 V Room Air Conditioning Unit Safety Switch.

TCN

6.4.3 Placing the 4 kV Room Backup Fans in Operation

- .1 OPEN D/S-A-101, 4 kV Room Air Conditioning Unit Safety Switch, to stop the 4 kV Room Air Conditioning Unit.
- .2 CLOSE MVS-332, A-101 Discharge Damper.
- .3 CLOSE MVS-330, A-101 Return Damper.
- .4 OPEN MVS-333, A-903 Discharge Damper.
- .5 OPEN MVS-331, A-901 Suction Damper.
- .6 START A-903 and A-901, 4 kV Room Supply and Exhaust Backup Fans.

6.0 INSTRUCTIONS (Continued)

6.4.4 Securing the 4 kV Room Backup Fan Operation

- .1 STOP A-901 and A-903, 4 kV Room Exhaust and Supply Backup Fans.
- .2 CLOSE MVS-331, A-901 Suction Damper.
- .3 CLOSE MVS-333, A-903 Discharge Damper.
- .4 OPEN MVS-330, A-101 Return Damper.
- .5 OPEN MVS-332, A-101 Discharge Damper.
- .6 If the 4 kV Room Air Conditioning Unit is to be placed in service, then CLOSE D/S-A-101, 4 kV Room Air Conditioning Unit Safety Switch.

NOTE: The back-up fans receive a trip signal from smoke detectors in their associated switchgear Room. This trip signal cannot be overridden.

6.5 Monitoring HVAC Operation

NOTE: The HVAC System is designed to supply 65°F air to the 480 V and 4160 V switchgear Rooms in a manner sufficient to maintain an ambient temperature no greater than 95°F. Also, ducting is provided to maintain a temperature of 77°F or lower in the area of the Elgar Inverter.

6.5.1 Record on Part J of S0(1)-24 the air temperature in the following locations in 4 kV and 480V switchgear rooms once per day on day shift (preferably afternoon) in Modes 1-6.

- .1 4 kV room - by the double doors at the southeast corner of the room at grade;
- .2 4 kV room - in the northwest corner at grade;
- .3 480V room - by the double doors at the southeast corner of the room at grade;
- .4 480V room - in the northeast corner at grade;
- .5 480V room - in the center of the west side of the platform at elevation 20'.

6.0 INSTRUCTIONS (Continued)

6.5.2 Ensure the following temperatures are maintained:

CAUTION

If temperatures cannot be maintained within limits go to S01-2.4-5, loss of 480 Volt/4 kV Room HVAC.

- .1 Switchgear Room ambient temperature $\leq 95^{\circ}\text{F}$;
- .2 Elgar Inverter ambient temperature $\leq 77^{\circ}\text{F}$.

6.5.3 Once per shift verify proper operating mode of the HVAC System in each room.

- .1 Air conditioning units operating.
- .2 Backup fans not operating.

7.0 RECORDS

7.1 Checklist 1, when completed, shall be filed in the Nonsafety-Related Systems Alignment file. The preceding Checklist may be removed and discarded.

TCN 0-1

480V/4kV AIR CONDITIONING

ELECTRICAL ALIGNMENT

1.0 PREREQUISITES

INITIALS

1.1 Obtain the SRO Operations Supervisor's approval to perform this Checklist.

SRO Ops.
Supv.

1.2 All personnel performing this Checklist have been advised to note all missing, incorrect or deteriorated component ID tags in the "Comments" section of this Checklist.

1.3 Equipment is not required to be aligned in numerical sequence.

1.4 Deviations from indicated component positions are allowed by approval of the SRO Operations Supervisor. Deviated positions will be indicated by circling the indicated position, writing the deviated position above, and initialing of each deviated entry by the SRO Operations Supervisor.

2.0 INSTRUCTIONS

2.1 480 V Room

	<u>BKR NUMBER</u>	<u>DESCRIPTION</u>	<u>BKR POSITION</u>	<u>ALIGN INITIALS</u>
2.1.1	52-1306	Power Supply to HVAC Panel B-25	CLOSED	_____

2.2 480V Room Mezzanine Level

2.2.1	8-2501	480 V Room Air Conditioning Unit Power Supply	CLOSED	_____
2.2.2	8-2502	4 kV Room Air Conditioning Unit Power Supply	CLOSED	_____
2.2.3	8-2507	4 kV Room Ventilation Supply Fan Power Supply	CLOSED	_____
2.2.4	8-2508	480 V Room Ventilation Supply Fan Power Supply	CLOSED	_____
2.2.5	8-2513	4 kV Room Ventilation Exhaust Fan Power Supply	CLOSED	_____
2.2.6	8-2514	480 V Room Ventilation Exhaust Fan Power Supply	CLOSED	_____

TCN 0-1

2.0 INSTRUCTIONS (Continued)

	<u>BKR NUMBER</u>	<u>DESCRIPTION</u>	<u>BKR POSITION</u>	<u>ALIGN INITIALS</u>
2.3	<u>West Heater Deck</u>			
2.3.1	C/S-A-900	480 V Room Ventilation Exhaust Fan Safety Switch	CLOSED	_____
2.3.2	C/S-A-902	480 V Room Ventilation Supply Fan Safety Switch	CLOSED	_____
2.3.3	D/S-A-100	480 V Room Air Conditioning Unit Safety Switch	CLOSED	_____
2.4	<u>4kV Halon Panel Area</u>			
2.4.1	C/S-A-901	4 kV Room Ventilation Exhaust Fan Safety Switch	CLOSED	_____
2.4.2	C/S-A-903	4 kV Room Ventilation Supply Fan Safety Switch	CLOSED	_____
2.5	<u>Control Building Roof</u>			
2.5.1	D/S-A-101	4 kV Room Air Conditioning Unit Safety Switch	CLOSED	_____

COMMENTS: _____

PERFORMED BY: _____
Operator Signature Initials Date

Operator Signature Initials Date

REVIEWED BY: _____
SRO Operations Supervisor Date

0825g

REFERENCE: SO123-VI-1.0.1

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Attachment 8 pg 3 of 5

ENCODE AC10AC
SO 1
(WHEN FORM FILLED OUT)

FINAL APPROVAL/DISAPPROVAL/CANCELLATION ROUTING
FOR ISSUED TEMPORARY CHANGE NOTICE(S)

TCN NO. 0-2 SITE DOCUMENT NO. 501-2.4-5 REV. NO. 0

ISSUANCE DATE: _____ CANCELLATION ORIGINATOR (1)(B) Russ MDE 56-615
PRINT NAME PAX

DATE ROUTED: 3/12/85 *DATE DUE: _____

*Technical Specification Violation if not completed within 14 days from date of issuance.

ROUTING SEQUENCE	ADDRESSEE/ORG.	ACTION REQUESTED	DATE / INITIAL	
			APPROVED	DISAPPROVED (1)(A)
1		Review & Approve		
2		Review & Approve		
3		Review & Approve		
4		Review & Approve		
5		Review & Approve		
6	Site Procedures Group (SPG)	Forward to CDM		

(1) Reason for (A) Disapproval/Disapproved By: _____ Pax: _____ (B) Cancellation
(Print Name)

To support removal of TFM #1-85-MVS-001

If TCN is disapproved, return directly to the Site Procedures Group

DESIGNEE: R. MDE / 21267U
PRINT NAME

EVALUATION OF THE USE OF AN ISSUED TCN INCLUDING THE EFFECT(S) AS A RESULT OF DISAPPROVAL/CANCELLATION (USE REVERSE SIDE, IF REQUIRED).

No effect - supports removal of TFM #1-85-MVS-001

EVALUATION SUPPORTS DISAPPROVAL/CANCELLATION OF TCN? YES NO _____
NCR REQUIRED TO DISPOSITION EQUIPMENT OR RERUN TEST? YES _____ NO NCR No. _____
REINSTATE SUPERSEDED/INCORPORATED TCNS LISTED ON SO(123) 110 FORM? YES _____ NO
REINSTATE DOCUMENT REVISION? YES NO _____
PREPARED BY: [Signature] Date 3/12/85
CFDM/Designee

REVIEW OF EVALUATION and TCN DISPOSITION:

DISAPPROVED

APPROVED BY: H.E. Morgan, JR 5/29/85
Functional Division Manager Date

CANCELLED

APPROVED BY: J.P. Crawford 5/29/85
Quality Assurance Date

ORIGINAL FORWARDED TO CDM:

PERFORMED BY: _____ Date _____

COPY FORWARDED TO THE NUCLEAR SAFETY GROUP:
(S023 and S0123 series only)

PERFORMED BY: Darlene Kelly 5/29/85
CDM Date

TEMPORARY CHANGE NOTICE

TECHNICAL SPECIFICATION VIOLATION IF NOT COMPLETED WITHIN 14 DAYS

Site Document No. SO1-2.4-5 Revision No. 0 TCN No. D-1
(For CDM use only)

Site Document Title Loss of 480 Volt/4KV Rooms HVAC

1. PREPARED BY: JW REYNOLDS PAX: 56658 ORGANIZATION: OPS-1
Originator

2. DATE/TIME ORIGINATED: 12-7-84/14:20 3. ISSUANCE DATE: DEC 8 1984 (CDM ONLY)

4. If required, TCN Deviation Approval: CFDM (or designee): NR
Signature/If by telecon print name and so state Date/Time

5. Check appropriate box: Entire Document Attached Affected Page(s) Attached
Superseded/Incorporated TCN(s): NONE No. (If none, so state)

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DEC 10 1984
SITE FILE COPY

6. This change cannot wait until the next revision of the Site Document and is required:

A. To implement facility design change (PFC, NCR, TFM, etc.)
Facility design change identifier 1 Identify PFC, NCR, TFM etc. Identifier

Implementation of the facility design change has been determined. YES NO
(If NO, a TCN cannot be approved until the facility design change has been implemented.)

B. Other (e.g., CAR, Licensing Commitments) Specific Reason: To implement policy change - raise EGAR INVERTER TEMP UNIT To 104°F
(Use reverse side, if required)

7. Is the document being TCN'd QA Affecting? YES NO (If YES, complete the boxes below.) (If NO, see * below.)
(This is indicated on the Table of Contents page of the Site Document. If not indicated, treat as QA Affecting.)

A.	Does this change affect FSAR or Tech. Spec. commitments?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
B.	Does this change affect the nonradiological environment of any offsite area previously undisturbed during site preparation and plant construction?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
C.	Is the intent of the original document altered?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
D.	Is the document to be changed an Emergency Operating Instruction?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
E.	Does this change pose an unreviewed safety question per 10 CFR 50.59, i.e., does it increase the probability of occurrence or the consequences of an accident; create the possibility of a different accident; or reduce the Tech. Spec. margin of safety?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

(IF THE ANSWER TO A, B, C, D or E IS YES, A TCN IS NOT AUTHORIZED.)

8. Does this change affect licensing commitment requirements? YES NO

9. Copy forwarded to the Nuclear Safety Group. PERFORMED BY: _____ Date: _____
(QA Affecting TCNs only) (CDM)

10. The entire document was reviewed in conjunction with this TCN. REVIEWED AND APPROVED BY: N/A Date: _____
CFDM or Designee

11. SIGNATURES REQUIRED:

INITIAL APPROVAL

REVIEWED AND APPROVED BY: (AT LEAST ONE (1) SRO ON THE UNIT AFFECTED)

1) [Signature] 12/7/84 1424 2) _____
Plant Management Staff - Unit 1 Date Time Plant Management Staff - Units 2&3 Date Time

Could this TCN affect or does it represent a change to a plant operation in progress? YES*** NO Could this TCN affect or does it represent a change to a plant operation in progress? YES*** NO

3) [Signature] 12/7/84 1434 4) _____
SRO - Unit 1 Date Time SRO - Units 2&3 Date Time

FINAL APPROVAL

REVIEWED AND APPROVED BY:

5) [Signature] 12/10/84 6) [Signature] 12/12/84
Cognizant Functional Division Manager Date Quality Assurance - Units 1 and 3 Date

* If a document is Not QA Affecting, obtain initial approval from the Cognizant Supervisor(s) on the affected Unit(s) [signs on Plant Management Staff line(s)] and final approval from the CFDM prior to submittal to CDM. No other signatures are required.

If QA Affecting, approval shall be by two members of the Plant Management Staff knowledgeable in the areas affected, at least one of whom holds an SRO License on the unit or units affected. (For TCN approval, members of the Plant Management Staff are defined as the supervisor in charge of the shift, or as designated in writing by the CFDM, exercising responsibility in the specific area and unit(s) addressed by the change.)

If YES, the Unit Superintendent shall provide the required SRO approval.

SPE

NUCLEAR GENERATION SITE
UNIT 1
EFFECTIVE DATE OCT 23 1984

OPERATING
ABNORMAL
REVISION 0

PAGE 1 OF 4

TCN 0-1

LOSS OF 480 VOLT/4KV ROOMS HVAC

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ISSUED TO A
CONTROLLED LOCATION

RECEIVED CDM
OCT 23 1984
SITE FILE COPY

DB27g

QA PROGRAM AFFECTING

LOSS OF 480 VOLT/4kV ROOMS HVAC

TCN 0-1

1.0 SYMPTOMS

- 1.1 480 Volt HVAC Trouble alarm (100°F ambient room temperature).
- 1.2 4kV HVAC Trouble alarm (100°F ambient room temperature).
- 1.3 Increasing temperatures in 480 Volt or 4kV Room.
- 1.4 480 Volt and/or 4kV Room air conditioning equipment or backup fans not operating (local observation).
- 1.5 Fire in 480 Volt and/or 4kV room.

2.0 AUTOMATIC ACTIONS

- 2.1 The 480 Volt Room air conditioning unit and backup fans will trip upon actuation of 480 Volt room smoke detectors or closure of the 480 Volt room smoke dampers.
- 2.2 The 4kV Room air conditioning unit and back-up fans will trip upon actuation of 4kV room smoke detectors or closure of the 4kV room smoke dampers.

3.0 IMMEDIATE OPERATOR ACTION(S)

- 3.1 None

4.0 SUBSEQUENT ACTIONS

- 4.1 If an air conditioning unit has tripped due to actuation of a smoke detector or damper due to a fire, portable exhaust fans should be used to ventilate smoke from the room, not the air conditioning units.

CAUTION The SRO Operations Supervisor's approval shall be obtained prior to using the OVERRIDE switches to restart the 4kV or 480 Volt Room air conditioning units.

- 4.2 If an air conditioning unit has tripped due to actuation of a false smoke detector or damper signal, the unit may be restarted as follows:

NOTE: Monitor the 480 V and 4kV room temperature per step 4.5 while performing the following steps to establish adequate cooling.

TCN 01

4.0 SUBSEQUENT ACTIONS (Continued)

- 4.2.1 Obtain SRO Operations Supervisor's approval to operate the OVERRIDE switch.
- 4.2.2 Place the override switch in the OVERRIDE position.
- 4.2.3 Verify that the air conditioning unit starts.

4.3 If an air conditioning unit fails mechanically or electrically, restore ventilation as follows:

- 4.3.1 Place the installed backup supply and exhaust fans in service, by depressing their respective start pushbutton.

NOTE: The 480 V room backup fan controls are located on the West Heater Deck. The 4kV room backup fan controls are located on the Control Building roof.

4.4 If the backup fans are not available and the air conditioning unit(s) remain inoperable;

NOTE: Security should be notified if the 4kV room security door will be open.

- 4.4.1 OPEN the doors to the affected room.

NOTE: If all lights are turned off the ambient room temperature should remain $\leq 104^{\circ}\text{F}$.

- 4.4.2 Reduce lighting in the affected room as low as possible.

4.5 Monitor and compare the affected switchgear room(s) ambient temperatures to the following limits:

<u>Areas Monitored</u>	<u>Allowable Daily Rated Ambient Temperature</u>	<u>Maximum Allowable Ambient Temperature</u>
Elgar Inverter	$\leq 104^{\circ}\text{F}$	122 ^o F
Power Cables (in trays)	$\leq 104^{\circ}\text{F}$	140 ^o F
Other Equipment	$\leq 104^{\circ}\text{F}$	122 ^o F

TCN

4.0 SUBSEQUENT ACTION (Continued)

TCN 01

4.5.1 If the ambient temperature exceeds the Allowable Daily Rated Value(s), initiate steps to reduce the ambient temperature. (Provide auxiliary cooling, reduce plant load, reduce lighting levels, etc.)

.1 Record Elgar Inverter area temperatures hourly, if Elgar Inverter temperatures exceed 104°F.

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NOTE: One significant ambient temperature excursion (4 hours) above the allowable daily rated values, but below the Maximum Allowable Ambient Values, is permitted in any 24 hour period.

4.5.2 If the ambient temperature exceeds the Allowable Daily Rated Value(s) for greater than 4 hours or if the ambient temperature exceeds the Maximum Allowable Value(s), the Elgar inverter, power cables and other equipment within that room shall be considered inoperable and the Unit shall be shutdown in accordance with applicable Tech. Spec. requirements. In all cases, this would require a shutdown in accordance with Tech. Spec. 3.0.

4.6 Determine if this event is classified as an emergency per SO1-VIII-1, Recognition and Classification of Emergencies. If this event is not so classified, notification shall be made in accordance with SO1-14-13, Notification and Reporting of Significant Events.

5.0 ATTACHMENT(S)

5.1 None

6.0 REFERENCE

6.1 Letter to H. B. Ray from D. K. Nelson, dated June 18, 1982, concerning 480V/4kV Room Ambient Temperature Operating Criteria.

7.0 RECORD(S)

7.1 None