



PDR-016

RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

NRC FOIA REQUEST NUMBER(S) <b>FOIA-88-18</b>	
RESPONSE TYPE	
<input checked="" type="checkbox"/> FINAL	<input type="checkbox"/> PARTIAL
DATE <b>MAR 25 1988</b>	
DOCKET NUMBER(S) (if applicable)	

REQUESTER **Ms. Linda Bauman, GAP**

PART I. - RECORDS RELEASED OR NOT LOCATED (See checked boxes)

- No agency records subject to the request have been located.
- No additional agency records subject to the request have been located.
- Agency records subject to the request that are identified in Appendix **A** are already available for public inspection and copying in the NRC Public Document Room, 1717 H Street, N.W., Washington, DC.
- Agency records subject to the request that are identified in Appendix **B** are being made available for public inspection and copying in the NRC Public Document Room, 1717 H Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.
- The nonproprietary version of the proposal(s) that you agreed to accept in a telephone conversation with a member of my staff is now being made available for public inspection and copying at the NRC Public Document Room, 1717 H Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.
- Enclosed is information on how you may obtain access to and the charges for copying records placed in the NRC Public Document Room, 1717 H Street, N.W., Washington, DC.
- Agency records subject to the request are enclosed. Any applicable charge for copies of the records provided and payment procedures are noted in the \_\_\_\_\_ section.
- Records subject to the request have been referred to another Federal agency(ies) for review and direct response to you.
- In view of NRC's response to this request, no further action is being taken on appeal letter dated \_\_\_\_\_.

PART II A - INFORMATION WITHHELD FROM PUBLIC DISCLOSURE

Certain information in the requested records is being withheld from public disclosure pursuant to the FOIA exemptions described in and for the reasons stated in Part II, sections B, C, and D. Any released portions of the documents for which only part of the record is being withheld are being made available for public inspection and copying in the NRC Public Document Room, 1717 H Street, N.W., Washington, DC, in a folder under this FOIA number and requester name.

Comments

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PDR FOIA  
BAUMAN88-18 PDR

SIGNATURE, DIRECTOR, DIVISION OF RULES AND RECORDS

*Linda Robinson for Dixie Brinsley*

APPENDIX A

FOIA-88-18

RECORDS MAINTAINED AMONG PDR FILES

<u>NUMBER</u>	<u>DATE</u>	<u>DESCRIPTION AND ACN</u>	<u>NO. OF PGS</u>
1.	11/12/87	NRC Ltr, Grimes to Council (TU Electric) transmitting Inspection Report 50-445/87-27; 50-446/87-20. ACN 8711200160	18
2.	12/31/87	NRC ltr, Grimes to Council (TU Electric) transmitting NOV for Inspection Report 50-445/87-27; 50-446/87-20. ACN 8801140055	31
3.	2/1/88	TU Electric ltr, Council to Grimes (NRC), responding to item 2 (TXX-88192) ACN 8802040357	7
4.	8/7/87	TU Electric ltr (TXX-6629) 10 CFR 50.55(e) interim report SDAR: CP-87-33 on auxiliary feedwater pump motor fans (ANO 8708120026)	1
5.	10/7/87	TU Electric ltr (TXX-6813) 10 CFR 50.55(e) interim report SDAR: CP-87-33 (8710140270)	1
6 .	11/30/87	TU Electric ltr (TXX-7020) 10 CFR 50.55(e) interim report SDAR: CP-87-33 (8712040262)	1
7 .	12/14/87	TU Electric ltr (TXX-7063) 10 CFR 50.55(e) final report SDAR: CP-87-33 (8712280033)	4

APPENDIX BRECORDS MAINTAINED IN THE PDR UNDER THE ABOVE REQUEST NUMBER

<u>NUMBER</u>	<u>DATE</u>	<u>DESCRIPTION AND ACN</u>	<u>NO. OF PGS</u>
1.	undated	TU Electric presentation slides from enforcement conference of 12/8/87, with annotations by C. Grimes	16
2 .	12/11/87	Comanche Peak Project Division site priority workload list for 12/14-18/87	3
3 .	1/1/88	Memo for Grimes from Warnick, Major accomplishments for December 1987	3

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

DEC 31 1987

FOIA  
Redacted

Dockets: 50-445; 50-446  
Permits: CPPR-126; CPPR-127

RECEIVED JAN 04 1987

Texas Utilities Electric Company  
ATTN: Mr. W. G. Council  
Executive Vice President  
400 North Olive Street, Lock Box 81  
Dallas, Texas 75201

Gentlemen:

SUBJECT: NOTICE OF VIOLATION (NRC INSPECTION REPORT 50-445/87-27.  
50-446/87-20)

This refers to the inspection conducted during the period from October 7 through November 3, 1987, at the Comanche Peak Steam Electric Station (CPSES) of activities authorized by NRC Construction Permits CPPR-126 and 127. During that inspection, four potential violations were identified, as described in the referenced inspection report which was issued to you by letter dated November 12, 1987. An enforcement conference was held at the site office of the Comanche Peak Project Division on December 8, 1987, to discuss the inspection findings.

The NRC has considered the information presented during the enforcement conference and is issuing this Notice of Violation for three violations as described in Enclosure 1. As a result of information presented, we have withdrawn one of the potential violations identified in the referenced inspection report. Enclosure 2 provides a summary of the potential violations documented in the referenced inspection report and the NRC staff position on each potential violation. A copy of the slides used by TU Electric during the discussion is included as Enclosure 3.

The three violations identified in the enclosed Notice of Violation (NOV) concern your failure to identify and correct the rotation of the fans on the auxiliary feedwater pump motor. Over a period of years, several opportunities to correct this problem were missed. The first violation resulted from failure to adequately evaluate this deficiency when it was identified in Unit 2 in 1986. The second violation resulted from failure of personnel to follow the test procedures which specified that when the direction of motor rotation was changed that the fans must also be reversed. The third violation resulted from failure to clearly specify the direction of rotation of the motor and the pump with respect to each other when the pumps and motors were purchased.

880114455 2pp

DEC 31 1987

The violations are considered to be significant because the multiple failures resulted in the Unit 1 auxiliary feedwater pumps and motors being accepted for service with the motor fans installed backwards. The Westinghouse evaluation concluded, based on Unit 1 preoperational test results of the AFW pumps with the reversed motor blower fans, that the motor qualification specifications would not be exceeded for the qualified life. TU Electric also concluded that no action statement for a limiting condition for operation would have been entered had the plant been in operation. Because of the lack of safety significance, the violations were not considered for escalated enforcement action.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1987), two of the violations described in the enclosed Notice have been classified as Severity Level IV and one violation has been classified as Severity Level V.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Sincerely,

*RFWarnick for*

Christopher I. Grimes, Director  
Comanche Peak Project Division  
Office of Special Projects

Enclosures:

1. Notice of Violation
2. Analysis of Apparent Violations
3. December 8, 1987, Meeting Presentation

cc w/enclosures:  
See next page.

#1

AFW FAN MOTORS AGENDA

- I. MOTOR FAN DESCRIPTION OF OPERATIONS
- II. EXECUTIVE SUMMARY
- III. EVALUATION OF PROPOSED VIOLATIONS
- IV. CONCLUSIONS

FOIA-88-18

B/1



## EXECUTIVE SUMMARY

TU ELECTRIC HAS REVIEWED THE PROPOSED VIOLATIONS. OUR REVIEW HAS IDENTIFIED FOUR ISSUES WHICH REPRESENT POTENTIAL VIOLATIONS.

1. THE SPECIFICATION FOR PROCUREMENT AND INSTALLATION OF THE AFW MOTOR AND FAN ASSEMBLIES WAS INCOMPLETE.
2. THE DISPOSITION AND ASSESSMENT OF THE TEST DEFICIENCY REPORT DOCUMENTING THE UNIT 2 FAN INSTALLATIONS WAS NOT COMPREHENSIVE.
3. PROJECT PERSONNEL FAILED TO ISSUE PROPER DOCUMENTATION FOR THE DEFICIENCY IDENTIFIED IN THE PUMP SUPPLIER'S (I-R) LETTER.
4. A VENDOR TECHNICAL MANUAL REQUIREMENT REGARDING FAN DIRECTION WAS OVERLOOKED.



OUR EVALUATION HAS INDICATED IN THE EVENT THESE DEFICIENCIES  
HAD REMAINED UNCORRECTED, NO CONDITION ADVERSE TO THE SAFETY  
OF PLANT OPERATIONS WOULD EXIST. A DETAILED EVALUATION OF THE  
TEST DATA SUPPORTS THIS CONCLUSION. IN ADDITION, NO ACTION  
STATEMENT FOR A LIMITING CONDITION FOR OPERATIONS WOULD HAVE  
BEEN ENTERED HAD THE PLANT BEEN IN OPERATION.

WE HAVE CONCLUDED THAT IN THE EVENT FAN INSTALLATION ORIENTATION FOR THE AFW PUMP MOTOR HAD BEEN CRITICAL TO THE PERFORMANCE OF THE AFW PUMP, THE PREOPERATIONAL TEST PERFORMED WOULD HAVE DETECTED AND RESULTED IN CORRECTION OF THE FAN INSTALLATION.

THEREFORE, USING THE CRITERIA SPECIFIED IN 10CFR PART 2  
APPENDIX C, SUPPLEMENT I FOR REACTOR OPERATIONS AND  
SUPPLEMENT II FOR FACILITIES UNDER CONSTRUCTION, THE  
PROPOSED VIOLATIONS INDIVIDUALLY OR COLLECTIVELY DO  
NOT MEET THE CRITERIA FOR ESCALATED ENFORCEMENT ACTION.

FINDING A: CORRECTIVE ACTION (DEFICIENCY NOT FIELD INSPECTED)

PROPOSED VIOLATION (445/8727-V-C A): TUE FAILED TO TAKE ADEQUATE CORRECTIVE ACTIONS. SPECIFICALLY, NO ACTION WAS TAKEN ON THE UNIT 1 AFW MOTOR FAN INSTALLATION AFTER DEFICIENT CONDITIONS WERE IDENTIFIED IN UNIT 2 AND PROVIDED TO THE RESPONSIBLE UNIT 1 ORGANIZATION VIA MEMO.

RESPONSE:

°ACTIONS TO ASSESS DEFICIENCY SAFETY SIGNIFICANCE WERE TAKEN.

--PREOPERATIONAL TEST DATA REVIEWED

--TEST DATA CONFIRMED FAN WOULD PERFORM INTENDED SAFETY FUNCTIONS (TEMPERATURE RISE WAS WITHIN ACCEPTANCE CRITERIA)

°FANS COULD HAVE BEEN FIELD CHECKED TO CONFIRM HARDWARE DEFICIENCY, BUT TEST DATA CONFIRMED THAT SAFETY FUNCTION WAS UNAFFECTED (SEE ITEM C).

FINDING B: CORRECTIVE ACTION (PROBLEM REPORT CONTENT)

PROPOSED VIOLATION (445/8727-V-01B): AFTER IDENTIFICATION BY THE NRC INSPECTOR, THE TUE PROBLEM REPORT INADEQUATELY EVALUATED THE UNIT 2 DEFICIENCIES. AS A RESULT, THE PR FAILED TO ADDRESS CAUSE AND CORRECTIVE ACTIONS TO PRECLUDE RECURRENCE, THE INADEQUATE EVALUATION IN 1986, THE LACK OF DEFICIENCY DOCUMENTS IN 1986, DETECTION OF THE UNIT 1 INSTALLATION, AND ACTION ON VENDOR (M AND I-R) INFORMATION.

RESPONSE:

\*PROBLEM REPORT WAS PROPERLY USED

--DOCUMENTED A VARIATION FROM NORMAL AND EXPECTED OPERATIONS

(PRINCIPAL FUNCTION)

--WORK ORDERS WERE ISSUED TO REWORK U1 FANS

--A DR WAS ISSUED INDEPENDENT OF PR

FINDING C: INADEQUATE CORRECTIVE ACTION

PROPOSED VIOLATION (445/8727-V-01C; 446/8720-V-01A): ENGINEERING EVALUATION OF THE UNIT 2 AFW MOTOR FAN TDR WAS INADEQUATE. SPECIFICALLY, THE EVALUATOR DID NOT CONTACT THE MOTOR SUPPLIER (W) TO CONSIDER POSSIBLE ADVERSE EFFECTS AND FAILED TO ASSURE PHYSICAL INSPECTION OF THE UNIT 1 INSTALLATIONS.

RESPONSE:

°DESIGN ENGINEERING REVIEW WAS NOT COMPREHENSIVE

--A FIELD CHECK WAS NOT PERFORMED, THEREFORE THE DEFICIENCY WAS NOT DOCUMENTED.

°HOWEVER, THE DESIGN ENGINEER DID:

--APPROVE REWORK OF THE U2 FANS

--VERIFY SAFETY FUNCTION OF AFW FAN WAS NOT IMPAIRED *at max cond*

°CORRECTIVE ACTION

--REVISED SPECIFICATIONS 2323-ES-1D and 2323-MS-7

°ACTION TO PRECLUDE RECURRENCE

--SAFETY RELATED INSTALLATION SPECIFICATIONS HAVE BEEN REVIEWED

--PROCUREMENT SPECIFICATIONS ARE BEING REVIEWED

--TRAINING WILL BE CONDUCTED TO STRESS THOROUGHNESS OF CORRECTIVE ACTIONS BY ENGINEERING

--ENGINEERING DEPARTMENT HAS UNDERGONE REORGANIZATION

5/26

FINDING D: CORRECTIVE ACTION (FOLLOWUP ON I-R LETTER)

PROPOSED VIOLATION (445/8727-V-01D; 446/8720-V-01B): ACTIONS WERE NOT TAKEN AS A RESULT OF VENDOR IDENTIFIED DEFICIENCIES. SPECIFICALLY, ALTHOUGH A SPEED LETTER WAS ISSUED BY B&R IN (1978) TO PLACE AFFECTED COMPONENTS ON HOLD UPON RECEIPT, G&H, TUE & B&R FAILED TO CORRECT APW MOTORS FOR PUMP ROTATIONAL INCONSISTENCIES IDENTIFIED IN A (1978) LETTER BY I-R.

RESPONSE:

- ° ACTIONS TO PLACE APW UNITS IN "HOLD" OR "NONCONFORMING" STATUS NOT PERFORMED
- ° SPECIFICATION NOT CHANGED BY ENGINEERING
- ° CORRECTIVE ACTION TAKEN
  - DCAs WRITTEN TO CHANGE SPECIFICATION
  - MOTOR PHASE WAS VERIFIED DURING PREREQUISITE TESTING
  - FANS HAVE BEEN ORIENTED PROPERLY
- ° ACTION TO PRECLUDE RECURRENCE
  - TNE-DC-5-1 (ECE 5.19-03) "VENDOR DOCUMENT REVIEW VDC AND VDI" ISSUED. BACKFIT OF VENDOR CORRESPONDENCE IN PROGRESS.
  - TNE-AD-4-9 (ECE 1.05) "CORRESPONDENCE CONTROL" FOR CONTROL OF VENDOR CORRESPONDENCE
  - NEO-3.05 (NCR) AND 3.06 (DR) DEVELOPED FOR ENHANCED CONTROL OF DEFICIENCIES

12/86  
=



FINDING 3: STARTUP TEST ACTIONS

PROPOSED VIOLATION (445/8727-V-02): TUE FAILED TO VERIFY CORRECT TERMINATION AND MOTOR ROTATION PER PROVISIONS OF THE PREREQUISITE TEST PROCEDURE XCP-BE-09. TUE FAILED TO REVERSE THE BLOWER FAN WHEN THE LEADS WERE REVERSED PER THE W INSTRUCTION MANUAL FOR THE AFW PUMP MOTORS.

RESPONSE:

°PROCEDURE XCP-BE-09 WAS NOT FOLLOWED (FANS WERE NOT REVERSED)

--VENDOR MANUAL REQUIREMENTS WERE OVERLOOKED

°CORRECTIVE ACTION

--STARTUP PERSONNEL WERE COUNSELED

°ACTION TO PRECLUDE RECURRENCE

--THE STARTUP PROCEDURES WILL BE CHANGED TO REQUIRE A TDR IF MOTOR ROTATION IS DIFFERENT FROM THE ARROW INDICATION PRESCRIBED PER NEMA

--STARTUP PERSONNEL WILL BE TRAINED

FINDING F: WORK INSTRUCTION ADEQUACY

PROPOSED VIOLATION (445/8727-V-03; 446/8720-V-02): TUE FAILED TO PROVIDE ADEQUATE INSTRUCTIONS FOR THE INSTALLATION OF THE AFW PUMPS AND MOTORS. THE NRC INSPECTOR COULD FIND NO PROCEDURE, DETAILED INSTRUCTION OR DRAWING THAT CONTAINED SUFFICIENT INFORMATION TO ASSURE THAT THE MOTOR, PUMP AND FAN WERE INSTALLED FOR CORRECT ROTATION.

RESPONSE:

*no startup procedure*

° INSTALLATION WORK INSTRUCTIONS WERE ADEQUATE

- TRAVELERS, CHECKLISTS, CONNECTION CARDS AND QC INSPECTION WERE PREPARED & IMPLEMENTED
- IDR NOT REQUIRED FOR INSTALLATION
- PHASE ROTATION NOT REQUIRED FOR INSTALLATION (PERFORMED DURING STARTUP PREREQUISITE TESTING)

*SFCS were not!*

FINDING G: SPECIFICATION REVIEW

PROPOSED VIOLATION (445/8727-V-04A; 446/8720-V-03A): TUE FAILED TO DESCRIBE CONSISTENT ROTATIONAL DIRECTION FOR THE AFW PUMP/MOTOR COMBINATION IN SPECIFICATION 2323-MS-7 (PUMP) AND SPECIFICATION 2323-ES-1D (MOTOR).

RESPONSE:

\*ROOT CAUSE OF DEFICIENCY (INCOMPLETE SPECIFICATIONS)

--SPECIFICATIONS (PUMP/MOTOR) DID NOT CONTAIN CONSISTENT ROTATIONAL REQUIREMENTS

\*CORRECTIVE ACTION

--REVISED SPECIFICATIONS

--OTHER SPECIFICATIONS AND REQUIREMENTS REVIEWED

--CONFIRMED NO OTHER MOTORS AFFECTED (REVIEW AND FIELD WALKDOWN)

\*ACTION TO PRECLUDE RECURRENCE

+ SI as test pending

--PROCEDURES NOW INCLUDE MORE SPECIFICITY (FOR INTERDISCIPLINE REVIEW)

--TRAINING

FINDING H: DESIGN CONTROL (TDCR & DCA)

PROPOSED VIOLATION (445/8727-V-04B; 446/8720-V-03B): TUE FAILED TO SPECIFY MOTOR PHASE AND DIRECTION OF ROTATION ON TUGCO DESIGN CHANGE REQUEST (TDCR) 4187 AND THE RESULTANT DESIGN CHANGE AUTHORIZATION (DCA) 34953. THERE WAS NO INTERDISCIPLINARY REVIEW OR SPECIFICATION REVIEW PRIOR TO DCA ISSUANCE.

RESPONSE:

°DESIGN CONTROLS WERE ADEQUATE

--STARTUP IDENTIFIED AND DOCUMENTED PHASE CHANGE CORRECTLY

--TDCR USED CORRECTLY FOR DRAWING CHANGE REQUEST

--IDR AND SPECIFICATION REVIEW FOR SUBSEQUENTLY ISSUED DCA WAS NOT REQUIRED

## CONCLUSIONS

VALID VIOLATIONS (ITEMS C, D, E AND G) WERE OF NO SAFETY SIGNIFICANCE.

OUR EVALUATION HAS CONCLUDED THAT, HAD THE DEFICIENCY GONE UNCORRECTED, NO CONDITION ADVERSE TO THE SAFETY OF PLANT OPERATIONS WOULD HAVE RESULTED.

FURTHER, IF THE ISSUES AT HAND HAD BEEN TRULY SAFETY SIGNIFICANT, EXISTING PROGRAMS WOULD HAVE DETECTED THE DEFICIENT CONDITIONS AND APPROPRIATE CORRECTIVE ACTION TAKEN.

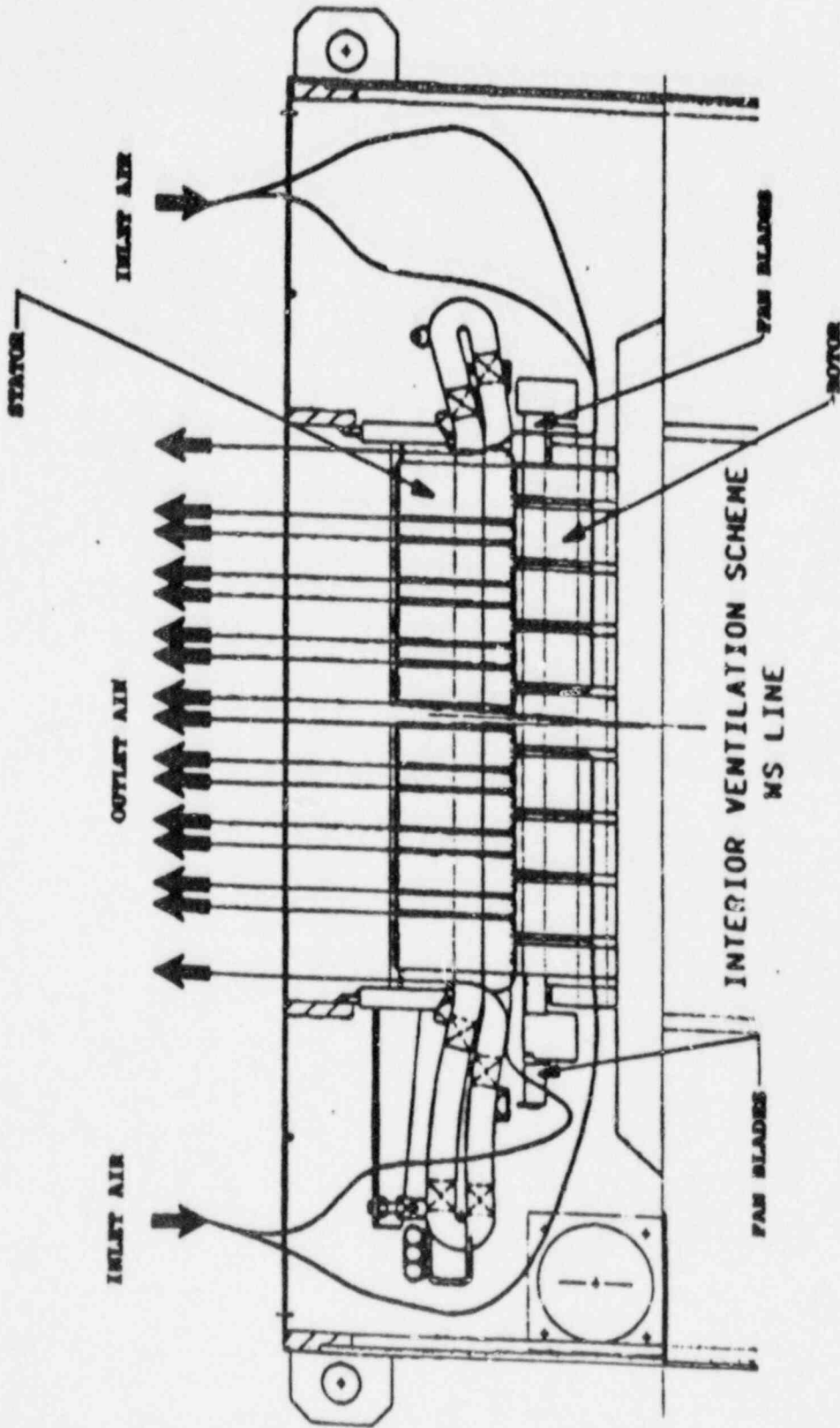
NO ACTION STATEMENT FOR A LIMITING CONDITION FOR OPERATION WOULD HAVE BEEN ENTERED HAD THE PLANT BEEN IN OPERATION.

THEREFORE, USING THE CRITERIA IDENTIFIED IN 10CFR2, APP. C, SUPPLEMENT I FOR REACTOR OPERATIONS OR SUPPLEMENT II FOR FACILITIES UNDER CONSTRUCTION, THE PROPOSED VIOLATIONS INDIVIDUALLY OR COLLECTIVELY, DO NOT MEET THE CRITERIA FOR ESCALATED ENFORCEMENT ACTIONS.

very unusual case  
standard wiring procedure  
(13)

PROPOSED VIOLATIONS

SUBJECT	VIOLATION(s)
FINDING A: CORRECTIVE ACTION (DEFICIENCY NOT FIELD INSPECTED)	445/8727-V-01A
FINDING B: CORRECTIVE ACTION (PROBLEM REPORT CONTENT)	445/8727-V-01B
FINDING C: CORRECTIVE ACTION (INADEQUATE ACTIONS)	445/8727-V-01C 446/8720-V-01A
FINDING D: CORRECTIVE ACTION (FOLLOW-UP ON I-R LETTER)	445/8727-V-01D 446/8720-V-01B
FINDING E: STARTUP TEST ACTION (FAILURE TO IMPLEMENT)	445/8727-V-02
FINDING F: WORK INSTRUCTION ADEQUACY	445/8727-V-03 446/8720-V-02
FINDING G: SPECIFICATION REVIEW	445/8727-V-04A 446/8720-V-03A
FINDING H: DESIGN CONTROL (TDCR & DCA)	445/8727-V-04B 446/8720-V-03B



BACKWARD INCLINED (forward curved) FAN  
 INVENTED BY WESTINGHOUSE