

# FOR INFORMATION ONLY

PALO VERDE NUCLEAR GENERATING STATION

PROCEDURE CHANGE NOTICE

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INTENT CHANGE: NO   
YES

1. PROCEDURE TITLE POST TRIP REVIEW REPORT
2. PROCEDURE NUMBER 79IS-9ZZ03 REV. 1 PCN 1
- 2a. Manager concurrence N/A DATE N/A  
to exceed 5 PCNs
3. REASON FOR PCN: Added ERFDADS to sources of trip data
4. EXPIRATION: Next revision
5. AFFECTED STEPS: 5.1.2  
CHANGE REQUIRED: Delete page 7 & replace with 7A
6. PREPARED BY: Mary L. Richards DATE \_\_\_\_\_  
ENTERED IN PROCEDURE BY: \_\_\_\_\_  
SIGNATURE DATE SIGNATURE DATE
7. TEMPORARY APPROVAL: N/A DATE \_\_\_\_\_  
SIGNATURE DATE SS/Assist. SS DATE
8. DEPT. MANAGER: [Signature] 4/1/85 DATE \_\_\_\_\_  
SIGNATURE DATE 9. PBB/PRG/TRPG: [Signature] 4-11-85 DATE \_\_\_\_\_  
SIGNATURE DATE
10. APPROVED BY: [Signature] DATE 4/11/85  
DEPARTMENT MANAGER'S SIGNATURE DATE
11. DATE EFFECTIVE: [Signature] 0A-11-85

8504230464 850419  
PDR ADOCK 05000528  
PDR

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DEPT. HEAD

*[Signature]*

DATE

*12/11/84*

PRB/PRG REVIEW

*M. L. Clyde*

DATE

*1-2-85*

APPROVED BY

*[Signature]*

DATE

*1/2/85*

EFFECTIVE DATE

*01, 09, 85*



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## 1.0 PURPOSE

The purpose of this procedure is to provide specific instructions for completing the PVNGS Post Trip Review Report form. The purpose of the PVNGS Post Trip Review Report form is to provide a means of systematic safety assessment in order to determine (1) the proper operation of safety-related equipment and (2) the acceptability of restart following an unscheduled Reactor Trip.

## 2.0 REFERENCES

### 2.1 Implementing References

2.1.1 79AC-97Z08, Post Trip Review Reporting

### 2.2 Developmental References

2.2.1 79AC-97Z08, Post Trip Review Reporting, Rev. 1.

2.2.2 70AC-07Z01, Procedure Format, Content and Numbering, Rev. 5.

2.2.3 NRC Generic Letter 83-28, Required Actions Based on Generic Implications of SALEM ATWS Events, July 8, 1983.

2.2.4 NRC NUREG 1000, Vol. 1, Generic Implications of ATWS Events at the Salem Nuclear Power Plant, April 1983.

2.2.5 Salem Generating Station response to NRC Generic Letter 83-28, Administrative Directive 16, Post-Trip/Safety Injection Review, July 22, 1983.

2.2.6 INPO, DP-211, Good Practice for Post Trip Reviews Sept. 1984.

2.2.7 40AC-97Z02, Conduct of Shift Operations, Rev. 2.

## 3.0 DEFINITIONS AND ABBREVIATIONS

3.1 ATWS - Anticipated Transient Without Scram

3.2 ESF - Engineered Safety Features

3.3 NSG - Nuclear Safety Group

3.4 PRB - Plant Review Board

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3.5 PTRR - Post Trip Review Report

3.6 LER - Licensee Event Report

3.7 PRD - Potential Reportable Occurrence

#### 4.0 RESPONSIBILITIES

4.1 The Shift Technical Advisor shall:

4.1.1 Assign the Post Trip Review the next sequential number obtained from the Post Trip Review Log Sheet. This number should consist of a unit designator (i.e. 1, 2, or 3) followed by a two digit number representing the year followed by a three digit number indicating the Review ID (example 1-84-064). This number should correspond to the LER and PRD ID Numbers. The number should be recorded in the Post Trip Review Log (App. C) and on the Post Trip Review Report. In addition the date of the review and a brief description of the event should be included, as well as root cause, and any additional remarks.

4.1.2 Ensure that Parts I, II, III and IV of the PVNGS Post Trip Review Report (PTRR), Appendix A, are completed prior to routing the PTRR for review (Part V).

4.1.3 Review the sequence of events printout, as a minimum, prior to making a Restart Recommendation (Part IV.F).

4.1.4 Ensure that a copy of all applicable documentation, as outlined in Part IV.E of the PTRR is attached to the PTRR prior to routing it for review.

4.1.5 Review the PTRR with the Shift Supervisor (SS) and have him sign the "Reviewed By" line of the "Restart Recommendation" section (Part IV.F) of the PTRR to indicate his review. Any disagreement between the STA and SS on the restart recommendation shall be resolved by the Operations Manager, Plant Review Board (PRB) or Manager of Nuclear Operations, as appropriate, prior to unit restart.

4.1.6 Route the original PTRR to the Operations Manager (or his designated alternate) for his review and/or Startup approval.

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- 4.1.7 Verify the proper plant response by comparing the completed Post Trip Review Report against other similar type events, including previous Post Trip Reviews. This information should be available through a key work search of the previous Post Trip Reviews using the Post Trip Review Log.
- 4.2. The Shift Supervisor (SS) shall review the PTRR. He shall document his review by signing the "Reviewed By" line of the "Restart Recommendation" section (Part IV.F) of the PTRR. The SS shall utilize the "Comments" section if he disagrees with the STAs restart recommendation, an amplifying statement to support the restart recommendation is needed or any other time it is deemed necessary.
- 4.3 The Operations Manager (or his designated alternate) shall:
- 4.3.1 Approve unit restart as outlined in 79AC-9ZZ08, Post Trip Review Reporting. This approval shall be given either in person or over the telephone (per telecon) with a written followup required.
  - 4.3.2 Review the completed PTRR and complete the "Operations Manager Followup" section (Part V.B).
  - 4.3.3 Forward a copy of the PTRR to the Training Department and the Nuclear Safety Group (NSG).
- 4.4 The Plant Review Board (PRB) shall review the PTRR as outlined in 79AC-9ZZ08.
- 4.5 The Manager of Nuclear Operations (or his designated alternate) shall review the PTRR as outlined in 79AC-9ZZ08.
- 4.6 The Training Department shall review the PTRR and disseminate the applicable "Lessons Learned" from the particular incident.
- 4.7 The Nuclear Safety Group (NSG) may review the PTRR, as deemed necessary.

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## 5.0 INSTRUCTIONS

### 5.1 Data collection

5.1.1 The purpose of the data collection phase of the Post Trip Review is to gather sufficient data to enable reconstruction of the event from plant conditions prior to the event until plant parameters have stabilized.

5.1.2 Hard-copy information. The STA is responsible for the collection of all information required to perform this review. The compiled information shall include any or all that listed in Appendix A, part 4, section E or any additional records or logs deemed necessary by the SS or STA. Since such things as logs, computer printouts and recorder charts are kept as permanent records. Copies of all data to be included in the Post Trip Review should be made.

#### CAUTION

Charts should not be removed from recorders until after the plant is stabilized and the SS has given his permission.

5.1.3 Strip chart recordings. Those charts considered necessary to reconstruct or analyze the event shall be removed from their respective recorders.

The STA should insure that all applicable charts reflect real time and shall ensure that any deviations such as time, speed, time scale, or range are properly indicated. After copies have been made, the charts should be packaged and prepared for transmittal to document control as described in 40AC-9ZZ02, Conduct of Shift Operations.

See  
#01



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## 5.0 INSTRUCTIONS

### 5.1 Data collection

5.1.1 The purpose of the data collection phase of the Post Trip Review is to gather sufficient data to enable reconstruction of the event from plant conditions prior to the event until plant parameters have stabilized.

5.1.2 Hard-copy information. The STA is responsible for the collection of all information required to perform this review. The compiled information shall include any or all that listed in Appendix A, part IV, section E or any additional records (e.g. ERFDADS Transient Data File) or logs deemed necessary by the SS or STA. Since such things as logs, computer printouts and recorder charts are kept as permanent records. Copies of all data to be included in the Post Trip Review should be made.

PCN  
01

### CAUTION

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## 5.2 Operator Statements

5.2.1 After the plant has been placed in a safe and stable condition, the SS shall ensure that each individual involved in the cause and/or mitigation of the trip (e.g. operator, maintenance, technician) provides a written statement for inclusion into the Post Trip Review, describing his/her involvement in the event. This statement can be a written statement by the individual or from notes taken by the SS/STA during personnel interviews (App. B should be used to record this information).

5.2.2 The following information should be included:

- a) Known plant conditions
- b) First indication a problem existed
- c) Personnel actions (immediate)
- d) Subsequent actions
- e) Noted equipment/procedure malfunctions or inadequacies.
- f) Recommendations to prevent or reduce the chances of this type of event reoccurring.

## 5.3 Initial Conditions: (Part I)

5.3.1 Obtain the next sequential number from the Post Trip Review Log record it on the form.

5.3.2 Enter the date and time of the initiating event.

5.3.3 Enter the names of the shift personnel who were on-duty at the time of the incident. Under the "other" heading, enter the name(s) of any other personnel on duty who contributed to the mitigation or the increased severity of the event and their title/department (e.g.: I&C Technician, Radiation Protection Technician, etc.).

5.3.4 Enter the applicable Unit number, mode of operation and the reactor power at the time of the event. Under the "other" heading enter any other applicable unit conditions, such as abnormal system line-ups or operations.

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- 5.3.5 List all evolutions in progress, as applicable to the event of concern.
- 5.3.6 List all out-of-service equipment or systems that contributed to the event mitigation or severity, utilizing the Unit Log and Tech. Spec. Component Condition Log.
- 5.3.7 Circle the applicable operating mode, for all of the control systems listed, that existed at the time of the event initiation.
- 5.3.8 List all Reactor Protection System/Engineered Safety Features (ESF) Actuation System Channels that were in bypass or tripped prior to event initiation.
- 5.4 Notification/Description of Event: (Part II)
- 5.4.1 Enter the event classification as determined by the SS per the Emergency Plan Implementing Procedure (EPIP)-02. Also, enter the time the event was declared and terminated, whether or not all required (Emergency Plan) notifications were made, and subsequent event reclassifications and times declared and terminated.
- 5.4.2 Enter a synopsis of the event.
- 5.4.3 Obtain SS Diagnostic Flow Chart and indicate the Reactor First out and the Turbine First out or use the respective annunciator panels on Main Control Board 4 (B04). Circle any ESF actuation System signals that are indicated on the ESF annunciator panel on Main Control Board 5 (B05), or as indicated on diagnostic, and indicate those individual ESP channels which indicate trip or pretrip on the space next to the function. Also, check all the remaining annunciator panels to determine if any unusual or unexpected alarms exist or any expected alarms have not been received.

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## 5.5 Event Analysis: (Part III)

- 5.5.1 Utilizing the Post Trip Review Log printouts and (Technical Specifications), Table 2.2-1, Reactor Protective Instrumentation Trip Setpoint Limits, determine if the trip setpoint was within the allowable values limit. (Indicate in Part III, section A).
- 5.5.2 Utilizing the Sequence of Events Alarm Printer and Technical Specifications, Table 2.2-1, verify that all Reactor Trip Setpoints reached did cause a reactor trip signal to the Reactor Protection System. Other indications which can be used are the first out annunciators and the initiation indicators on the Plant Protection System.
- 5.5.3 Utilizing the Sequence of Events Alarm Printer and Technical Specifications, Table 3.3-4, verify that all Engineered Safety Features Actuation System Instrumentation Trip Values reached caused the required actuation to occur. Additional indications are the Pan-Alarm annunciators on B05.
- 5.5.4 Utilizing the Post Trip Review Log printout and/or the Core Protection Calculator Post Trip Log, determine if any Safety Limit was violated. The CPC Log is only required if a trip was generated by the CPCs. (Indicate in Part III, section D).
- 5.5.5 Determine if any Reactor Coolant System Pressure/Temperature Limits, as listed in Technical Specification 3.4.8.1, have been violated. (Indicate in Part III, section E).
- 5.5.6 Utilizing the applicable Safety Parameter Display System, for the ESF Actuation Signals identified in step 5.2.3 of this procedure, determine if the ESF Systems functioned properly (Indicate in Part III, section F).
- 5.5.7 Describe the sequence of events for the event. Attach additional sheets as necessary. (Indicate in Part III, section G).

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## 5.6 Restart Determination/Recommendation: (Part IV)

- 5.6.1 Based upon the answers to sections 5.3.1 through 5.3.3 and 5.3.6 of this procedure, determine if all required safety-related systems and components operated as required. (Part IV-A).
- 5.6.2 Determine if any out-of-service equipment would prevent the unit from being returned to power operation. This can be accomplished by utilizing the applicable mode change checklist. (Part IV-B).
- 5.6.3 Determine if there are any Technical Specification action statements that would prevent the unit from being returned to power operation. (Part IV-C).
- 5.6.4 Based upon the responses to sections 5.6.1 through 5.6.3 above, determine if any corrective actions should be performed prior to returning the unit to power operations. (Part IV-D).
- 5.6.5 Review the documents listed in part IV.E.1 through 10 of the PTRR to determine their applicability in helping to analyze the event in question. The STA should initial and date those documents when a copy of the document is attached to the PTRR. Under Part IV.E.8, list any other documents that are applicable to the event in question but were not previously listed (e.g. CPC Post Trip Log, written statements of the personnel involved in the incident, etc.) Part IV.E.

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## 5.6.6 Restart Recommendation (Part IV-F)

- 5.6.6.1 Based upon Sections 5.6.1 through 5.6.5 of this procedure, the STA shall make a restart recommendation by checking the appropriate box and sign the "Prepared By" line of the PTRR.
- 5.6.6.2 The STA shall review the PTRR with the SS and have him sign the "Reviewed By" line of the PTRR. The SS should indicate his concurrence with the STAs recommendation by signing the "Reviewed By" line of the PTRR.
- 5.6.6.3 If the SS does not concur, the reasons should be listed under comments. The SS shall report the agreed upon recommendation or any points of disagreement to the Operations Manager who will make the decision on restarting the Unit.
- 5.6.6.4 The Operations Manager, or his designate, shall sign the appropriate line under the "Operations Manager's Approval for Startup" heading on the PTRR and check-off the "In-Person" line below.
- 5.6.6.5 If Startup approval is needed after normal working hours, then the SS shall contact the Operations Manager (or his designated alternate) for his approval and the SS shall sign the appropriate line, as directed by the Operations Manager. After signing for the Operations Manager, the SS shall check-off the "Per Telecon" line below.
- 5.6.6.6 The Operations Manager shall provide a written followup, stating the date, time and name of the SS to whom this approval was given, on the first working day after issuance of this approval. The original followup letter will be attached to the PTRR.

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## 5.7 Review and Followup: (Part V)

- 5.7.1 The PRB shall review the PTRR when either the Operations Manager denies plant startup or subsequent reviews of the event are required. After their review, the PRB shall list the major findings of the investigation and their determination under the appropriate headings on the PTRR. When plant startup is recommended by the PRB, the PRB chairman will sign the report and the Director of Nuclear Operations shall approve plant startup by signing the PTRR.
- 5.7.2 The Operations Manager, or a designated Operations Superintendent, shall review the PTRR and list any corrective actions required to prevent reoccurrence of a similar event. The Operations Manager shall indicate his review of the report by signing under Part V.B of the PTRR.
- 5.7.3 A copy of the PTRR shall be forwarded to the Training Department and the Nuclear Safety Group for their reviews as outlined in sections 4.6 and 4.7 of this procedure.

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PVNGS POST TRIP REVIEW,  
FORM

Part I: Initial Conditions:

A) Event Date/Time: \_\_\_\_\_

B) Shift Personnel: SS \_\_\_\_\_

Ass't. SS \_\_\_\_\_

Prim. Op. \_\_\_\_\_

Sec. Op. \_\_\_\_\_

STA \_\_\_\_\_

Other \_\_\_\_\_

C) Unit Conditions: Unit No. \_\_\_\_\_ Mode \_\_\_\_\_ Rx Pwr \_\_\_\_\_

Other \_\_\_\_\_

D) Evolutions In Progress:

Surveillance Testing \_\_\_\_\_

Maintenance \_\_\_\_\_

Unit Startup/Shutdown \_\_\_\_\_

Other \_\_\_\_\_



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E) Out of Service Equipment/Systems: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

F) Control System Status:

RRS	Opr	Test			
CEMCS	AS	MS	MG	MI	STBY
FWCS	Auto	Man			
SBCS	Auto	Man			
PLCS	Auto	Man			
PPCS	Auto	Man			
RPCS	Auto	Man			

G) RPS/ESFAS Channels in Bypass/Trip Prior to the Event: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Part II: Notification/Description of Event:

A) Event Classification (EPIP-02): \_\_\_\_\_

1) Time Declared: \_\_\_\_\_ Time Terminated: \_\_\_\_\_

2) Were all required notifications made?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Reasons: \_\_\_\_\_

3) Subsequent Reclassifications

Time Declared: \_\_\_\_\_ Time Terminated: \_\_\_\_\_

B) Event Description: \_\_\_\_\_

C) Plant Response:

1) Rx First Out: \_\_\_\_\_

2) Turbine First Out: \_\_\_\_\_

3) ESFAS Status: _____	SIAS	_____	AFAS-2
_____	CIAS	_____	CPIAS
_____	MSIS	_____	FBEVAS
_____	CSAS	_____	CRVIAS
_____	RAS	_____	CREFAS
_____	AFAS-1	_____	LOP

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4) Annunciator Status Check: (List any (1) Unusual or unexpected alarms for the event and (2) any expected alarms that were not received)

B01: \_\_\_\_\_

B02: \_\_\_\_\_

B03: \_\_\_\_\_

B04: \_\_\_\_\_

B05: \_\_\_\_\_

B06: \_\_\_\_\_

B07: \_\_\_\_\_

RMS/FP: \_\_\_\_\_

SESS: \_\_\_\_\_

Comments: \_\_\_\_\_

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**Part III: Event Analysis:**

A) Was the Rx trip setpoint within the allowable value for trip generation as listed in Table 2.2-1 of the Technical Specifications?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B) Were reactor trip signals generated for all trip values exceeded as shown in Table 2.2-1 of the Technical Specifications?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C) Were all ESFAS signals generated as required for trip values exceeded per Table 3.3-4 of the Technical Specifications?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D) Was any Safety Limit Violated?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, list Safety Limit(s) \_\_\_\_\_

Max/Min Parameter Value \_\_\_\_\_

Has the applicable action statement been met?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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E) Have any of the RCS Pressure/Temperature Limits as listed in Section 3.4.8.1 of the Technical Specifications been violated?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, has the Action Statement been met?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, Explain: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

F) Verify the proper operation of all safety-related equipment actuated as a result of the ESFAS signals identified in Part II.C.3 of this procedure. This verification shall be performed utilizing the applicable appendix of 41EP-1ZZ01, Emergency Operations. Explain, in detail, any discrepancies below and attach the appendix to this report.

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

G) Explain in detail, the sequence of events which led to the initiation of the event and the actions performed to place the plant in a stable condition. Include the observations and actions of specific individuals and comment on the adequacy of the procedures used. Attach additional pages as required.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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**Part IV: Restart Determination/Recommendation:**

A) Did all required safety-related systems/components operate as designed?

Yes \_\_\_\_\_ No \_\_\_\_\_

If No, explain in Detail: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B) Is there any equipment out-of-service which would prevent the unit from being returned to service?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, explain in Detail: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C) Are there any Technical Specification Action Statements in effect which would prevent the unit from returning to service?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, list below.

Tech Specs \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

D) Are there any corrective actions which should be performed before returning the unit to service, such as repairs which should be performed?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, explain. Provide specific recommendations as appropriate.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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E) Post-Trip Review: Review the following documents for any inconsistencies or ambiguities. Identify these problems and explain them, in detail, in the remarks section below and include a statement concerning their resolution. These documents need not be reviewed prior to restart except as indicated. Attach a copy of these documents to this report.

Initial/Date

- 1) Sequence of Events Printout \_\_\_\_\_
- 2) Post-Trip Review Printout \_\_\_\_\_
- 3) CPC Post Trip Printout \_\_\_\_\_
- 4) Unit Log \_\_\_\_\_
- 5) Control Room Log \_\_\_\_\_
- 6) Shift Technical Advisor Log \_\_\_\_\_
- 7) Alarm Typer Printout \_\_\_\_\_  
(Applicable time only)
- 8) SS Diagnostic (copy) \_\_\_\_\_
- 9) Trend Recorder Charts \_\_\_\_\_
- 10) Strip Chart Recorders \_\_\_\_\_
- 11) Other (List) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 12) Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# FOR INFORMATION ONLY

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**F) Restart Recommendation:**

- All required safety-related systems operated as designed. The plant did not exhibit any anomalous behavior during the course of this event. Based upon this evaluation, it has been determined that the plant can be restarted safely. Restart Recommended.
- All problems and/or anomalous plant behavior identified in section A through E of this part have been resolved and all required resolutions and/or retests have been performed and documented. Restart recommended upon receipt of verbal concurrence from the Operations Manager. "Operations Manager's concurrence received."

\_\_\_\_\_ Date/Time

\_\_\_\_\_ Shift Supervisor

- All problems identified in sections A through E of this part have not been resolved and/or the anomalous behavior exhibited by the plant in the course of this event cannot be explained. An independent review of this event should be performed prior to unit restart. Restart not recommended.

Prepared By: \_\_\_\_\_ Date/Time \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Date/Time \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Operations Manager's Approval for Startup:**

Granted \_\_\_\_\_ / \_\_\_\_\_ Date/Time

Denied \_\_\_\_\_ / \_\_\_\_\_ Date/Time

Obtained: \_\_\_\_\_ In-Person  
 \_\_\_\_\_ Per Telecon (written followup required)



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Part V: Review and Followup:

A) PRB and Manager of Nuclear Operations Review

This section will be used only when (1) the initial approval for startup is denied by the Operations Manager and/or (2) subsequent reviews of the event are required.

MAJOR FINDINGS OF SUBSEQUENT INVESTIGATIONS

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Attach other sheets as necessary.

DETERMINATIONS BY PRB

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.. Attach other sheets as necessary.

STARTUP APPROVAL

PRB Chairman \_\_\_\_\_ /  
Date

Manager of Nuclear Operations \_\_\_\_\_ /  
Date

# FOR INFORMATION ONLY

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B) OPERATIONS MANAGER FOLLOWUP:

Corrective actions required to prevent reoccurrence of this event.

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Note any changes to this document which may improve its effectiveness.

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Report Reviewed By Operations Manager

\_\_\_\_\_ / \_\_\_\_\_  
Date/Time

NOTE: Operations Manager review is not required prior to authorizing startup.

A copy of the report sent to the Training Department. \_\_\_\_\_  
Date

Nuclear Safety Group Review

\_\_\_\_\_ / \_\_\_\_\_  
NSG. Supervisor Date



# FOR INFORMATION ONLY

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PVNGS  
Post Trip Review Report  
Log Sheet

No.: \_\_\_\_\_ Date: \_\_\_\_\_ Unit \_\_\_\_\_

Brief Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Cause: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Add Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LER Initiated:  \_\_\_\_\_ Date \_\_\_\_\_

PRO Initiated:  \_\_\_\_\_ Date \_\_\_\_\_

Prepared By: \_\_\_\_\_

ATTACHMENT 2

Description of Preventative Maintenance, Surveillance  
and Trending of Parameters Program for the  
Reactor Trip Breakers (RTBs)

ITEM 4.2.1

Preventative Maintenance of RTBs

- a. Maintenance on each RTB is performed every six (6) months.
- b. A complete physical inspection of the Arc chutes, springs, cams, bearings, wiring, main contacts, arcing contacts, handles, buttons, coils and switches is conducted during maintenance.
- c. Westinghouse DS-206 circuit breakers
  - Non-current carrying sliding metallic surfaces are lubricated with Molykote 321R.
- d. General Electric AKR-30 circuit breakers
  - Non-current carrying sliding metallic surfaces are lubricated with Molykote 321R.
  - D50H47 lubricant is applied to sliding silverplated contact surfaces and disconnect fingers.
  - Trip Shaft bearing lubrication is also examined.

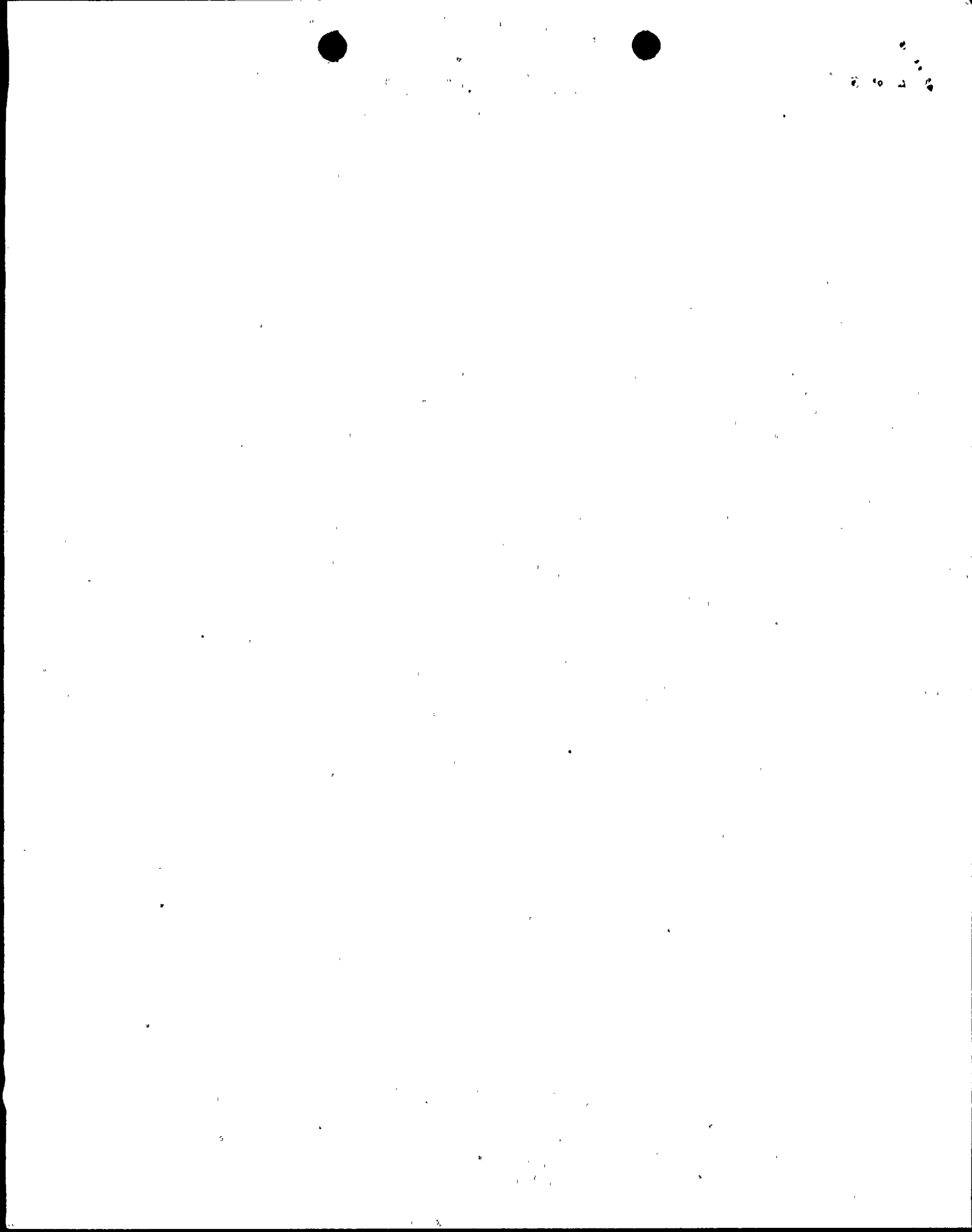
Surveillance Test of RTBs

- a. Surveillance test is performed every eighteen (18) months on each RTB.
- b. Procedure verifies the independent trip functions of the Undervoltage Trip Coil and Shunt Trip Coil.
- c. Surveillance is also performed following any maintenance on the RTBs.

ITEM 4.2.2

The following items are measured during maintenance of the RTBs and is maintained for trending purposes:

- a. General Electric AKR-30 Breakers
  - As found trip torque
  - As left trip torque (if adjustment is required)
  - Undervoltage coil dropout voltage (Cold)
  - Undervoltage coil dropout voltage (Hot)
  - Breaker insulation resistance.



ITEM 4.2.2 - continued

- b. Westinghouse DS-206 Breakers
  - Undervoltage coil dropout voltage (Cold)
  - Undervoltage coil dropout voltage (Hot)
  - Breaker insulation resistance.
- c. Compilation and trending of these parameters is required by the Maintenance Procedure.
- d. Maintenance of trendable data will be both manual and computer assisted and will be maintained as part of the Maintenance Work Package (which is maintained for the life of the plant).

