



**LOUISIANA
POWER & LIGHT**

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February 6, 1984

W3P84-0297
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L.02

Director of Nuclear Reactor Regulation
Attention: Mr. G. W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Waterford SES Unit 3
Docket No. 50-382
Response to Generic Letter 83-28, Item 1.1
Post-Trip Review (Program Description and Procedure)

REFERENCE: (1) W3P84-0288 dated February 6, 1984

Dear Sir:

The subject Generic Letter, in Item 1.1, requested a report describing LP&L's program for ensuring that unscheduled reactor shutdowns are analyzed and that the plant can be restarted safely.

Waterford 3 employs a Post Trip Review (PTR) following unscheduled reactor trips to identify and correct the cause of the trip. The PTR, described in the enclosure to this letter, when used in conjunction with the Sequence of Events and other data capability detailed in Reference (1) affords an effective means for diagnosing unscheduled reactor trips.

Should you have any questions or comments in this matter, please contact Mike Meisner at (504) 363-8938.

Yours very truly,

K. W. Cook
Nuclear Support & Licensing Manager

KWC/MJM/ch
Enclosure

cc: W.M. Stevenson, E.L. Blake, J. Wilson, G.L. Constable

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Generic Letter 83-28

1.1 Post-Trip Review (Program Description and Procedure)

Operating Procedure OP-10-01, General Plant Operations, requires, prior to reclosing the reactor trip breakers and subsequent reactor restart, that a Post Trip Review (PTR) be conducted to identify and correct the cause of an unscheduled reactor trip. The PTR is included as Attachment 1.

To summarize our compliance with the requirements of Generic Letter 83-28, Item 1.1:

- 1.1.1 Before reclosing the reactor trip breakers the Shift Supervisor must sign the completed PTR indicating that the cause of the unscheduled reactor trip has been corrected.
- 1.1.2 The STA performs the PTR and the shift supervisor reviews for completeness/accuracy and approves.
- 1.1.3 The Shift Supervisor is SRO licensed and Waterford III trained. The STA is a Waterford III trained engineer. The SS/STA qualification and training requirements are detailed in Chapter 13.1 of the Waterford FSAR.
- 1.1.4 The plant computer Sequence of Events and other sources of information as described in LP&L's response to Generic Letter 83-28, Item 1.2 (W3P84-0288, dated February 6, 1984) will indicate the reason of the unscheduled reactor trip and other pertinent information. The computer, the PTR data and/or parameter plots will provide the necessary reconstruction information.
- 1.1.5 The PTR requires a qualified person (STA) to compare the various actual plant parameter plots and findings with that of expected plant behaviour including ECCS.
- 1.1.6 If the reason for the unscheduled reactor trip is not identified in less than 8 hours, the STA Co-ordinator and at least two of his staff must be notified.
- 1.1.7 A copy of the Waterford PTR is attached.

POST TRIP REVIEW

PURPOSE

The purpose of the POST TRIP REVIEW (PTR) is to identify any malfunction or abnormality and subsequently provide a more detailed investigation and documentation of an unscheduled reactor trip. Also, the PTR provides the necessary information in making the determination that the plant can be restarted safely. A PTR is a prerequisite for a reactor restart following an unscheduled reactor trip.

REFERENCES

NUREG - 1000, VOL. 1 Section 2.2

INPO - OP-211, POST TRIP REVIEWS

DEFINITIONS

CAUSE

The root initiator of an event (usually on equipment error, procedural, or personnel error). When the cause is corrected, the possibility of the event recurring is minimized.

REACTOR TRIP

A manual or automatic insertion of control rods into the reactor core to interrupt the reactor's ability to sustain a chain reaction.

SEQUENCE OF EVENTS

A hard copy display of the chronological sequence of major plant alarms, trips, and actuations.

RESPONSIBILITIES

DUTY PLANT MANAGER

The Duty Plant Manager, is responsible for making the decision for a Reactor Restart following a TYPE II Event.

SHIFT SUPERVISOR

The Shift Supervisor is responsible for safety assessment, review and approval of the PTR.

SHIFT TECHNICAL ADVISOR (STA)

The STA is responsible for collecting information and documenting the information on the PTR. The STA may consult plant personnel for their observation and/or participation in the unscheduled reactor trip event.

CONTROL ROOM SUPERVISOR

The Control Room Supervisor is responsible for assisting the STA in the reconstruction of the unscheduled reactor trip, if needed.

STA COORDINATOR AND TWO MEMBERS OF HIS STAFF

The STA CO-ORDINATOR and two members of his staff are responsible for the review of the PTR if the cause of the reactor trip is not positively identified in eight hours.

INSTRUCTIONS

The PTR is a four step process. The PTR, SHALL NOT, distract the Shift Supervisor, Operating Personnel, or STA from their primary responsibility of maintaining the plant in a safe condition.

STEP

RESPONSIBILITY

- | | |
|--|--------------------------------|
| (1) Data collection and documentation | STA |
| (2) Trip investigation, event reconstruction and safety assessment | SS/CRS/STA |
| (3) Restart decision | Plant Manager or his Designate |
| (4) Forward a copy of the completed PTR to Central Records for record retention. | |

WATERFORD III SES
POST REACTOR TRIP REVIEW

Date _____ Time _____

Prepared By (STA): _____

Part I IDENTIFICATION OF REACTOR TRIP

Cause of Trip _____

Date of Trip _____

Time of Trip _____

Initiating Failure _____

Part II INITIAL CONDITIONS

Reactor Power _____ %

No. of RCPS _____

(CIRCLE)

Turbine _____ Man/Auto

Turbine Bypass valves _____ Man/Auto

Which charging pump(s) on? _____ A A/B B

MFW Pump A _____ On / Off

MFW Master Cont A _____ Man/Auto

MFW Speed Cont A _____ Man/Auto

MFW MN Feed Reg Valve A _____ Man/Auto

MFW Bypass Valve A _____ Man/Auto

MFW Pump B _____ On / Off

MFW Master Cont B _____ Man/Auto

MFW Speed Cont B _____ Man/Auto

MFW MN Feed Reg Valve B _____ Man/Auto

MFW Bypass Valve B _____ Man/Auto

Pressurizer Level Cont	Man/Auto
Pressurizer Press Cont	Man/Auto
Pressurizer Spray Cont	Man/Auto
CEA Mode Select Switch Position	Man/Auto

OFF NORMAL STATUS OF ANY SAFETY TRAIN:

RPS _____

SIS _____

CSS _____

CIS _____

EFW _____

MSIS _____

EMERGENCY POWER _____

ANY SAFETY RELATED TESTING SURVEILLANCES IN PROGRESS _____

Part III PLANT RESPONSE

Reactor Protection System
Type of Trip _____ Time _____
Did all CEAS drop? _____

HP Safety Injection System
Cause of Actuation _____ Time _____
No. of Trains _____

LP Safety Injection System
Cause of Actuation _____ Time _____
No. of Trains _____

Containment Spray System
Cause of Actuation _____ Time _____
No. of Trains _____

Containment Isolation System
Cause of Actuation _____ Time _____

Emergency Feedwater
Actuation Time _____
Which Pumps started? _____
Did S/G Level Respond? _____

Emergency Power
Actuation Time? _____
Did both Diesels start? _____
Did both Diesels load? _____
Loss of site power? _____

Safety Injection Tanks Actuation Time _____

Pressurizer Codes Time _____

Main Steam Codes Time _____

Codes Reseat Yes/No _____

Did Reactor power cut back actuate? _____

Did Turbine trip actuate? _____

Did PZR heaters respond normal? _____

Did PZR level respond normal? _____

Did PZR spray respond normal? _____

Were additional charging pumps started? _____

Time started _____ Time stopped _____

Did pumps start in Auto/Man? _____

Did steam generator level respond normal? _____
Did steam generator press respond normal? _____
Was any Auto/Man stations put in Man? _____
Was an unplanned radiological release? _____

Part IV TRANSIENT DATA

RCS Pressure	Max	_____ psia	Min	_____ psia
RCS Th	Loop 1 Max	_____ °F	Min	_____ °F
	Loop 2 Max	_____ °F	Min	_____ °F
Subcool Margin	Max	_____ °F	Min	_____ °F
SG Pressure				
	Loop 1 Max	_____ psia	Min	_____ psia
	Loop 2 Max	_____ psia	Min	_____ psia
SG Level	Loop 1 Max	_____ %	Min	_____ %
	Loop 1 Max	_____ %	Min	_____ %
PZR Level	Max	_____ %	Min	_____ %

Attach parameter recorder plots of:

Reactor Power (Log)
Pressurizer Level
Pressurizer Pressure
RC Th 1
RC Th 2
RC Tc 1
RC Tc 2
M.S. Pressure 1
M.S. Pressure 2
S/G Level 1
S/G Level 2
M.S. Flow 1
M.S. Flow 2

Attach a post trip primary chemistry analysis.

Attach a copy of the Plant Monitoring Computer (PMC) sequence of events for this trip.

Attach a copy of the PTR program from the PMC.

Attach a copy of Pretrip PRI chemistry

Part V PTR SAFETY ASSESSMENT

(Circle)

- | | | |
|-----|--|----------|
| (a) | RCS Pressure remained above setpoint for automatic SI actuation | Yes / No |
| (b) | RCS Pressure remained below setpoint for PZR Code safety valve actuation | Yes / No |
| (c) | RCS temperature decrease less than 100°F per hour | Yes / No |
| (d) | Was Reactor Coolant contained within the primary RCS and Quench Tank | Yes / No |
| (e) | Indicated PZR level remained on scale | Yes / No |
| (f) | Indicated S/G level remained on scale | Yes / No |

Part VI DESCRIBE ANY UNEXPECTED BEHAVIOR OR INADEQUATE PERFORMANCE

Part VII IDENTIFICATION OF NEED FOR ANY FOLLOW UP ACTION

Part VIII LIST ALL TECHNICAL SPECIFICATIONS THAT WERE EXCEEDED

Part IX WAS NUCLEAR REGULATORY COMMISSION NOTIFIED IN 1 HOUR? _____

Part X WAS THE STA CO-ORDINATOR AND AT LEAST TWO MEMBERS OF HIS STAFF NOTIFIED IF THE CAUSE OF THE TRIP IS NOT IDENTIFIED IN LESS THAN EIGHT HOURS? _____

Part XI EVENT CONDITION

WAS THE CAUSE OF THE REACTOR TRIP, MALFUNCTIONING REQUIRED SAFETY RELATED AND/OR OTHER IMPORTANT PLANT EQUIPMENT, AND TECHNICAL SPECIFICATION CONSTRAINTS BEEN POSITIVELY IDENTIFIED AND CORRECTED?

(Circle)

Yes

No

IF ANSWER IS YES, TYPE I EVENT
IF ANSWER IS NO, TYPE II EVENT

Part XII PERMISSION TO START UP

TYPE I, EVENT

SHIFT SUPERVISOR'S PERMISSION TO CLOSE REACTOR TRIP BREAKERS.

SHIFT SUPERVISOR SIGNATURE

DATE

TIME

TYPE II, EVENT

DUTY PLANT MANAGER'S PERMISSION TO CLOSE REACTOR TRIP BREAKERS.

DUTY PLANT MANAGER SIGNATURE

DATE

TIME