

Date Entered: Jan 03, 2000

TO: USNRC/WASHINGTON
JMCKNIGHT
Copy Number: 145

TRANSMITTAL NUMBER: 138575

PROCEDURE NUMBER: EI-7.0

TITLE: EMERGENCY POST ACCIDENT SAMPLING DECISION
PROCESS

TRANSMITTAL: LISTED BELOW ARE NEW/REVISED PROCEDURES WHICH MUST BE
IMMEDIATELY INSERTED INTO OR DISCARDED FROM YOUR PROCEDURE
MANUAL.

Action Required	Section or Description
REMOVE AND DESTROY	EI-7.0, REV 4, ENTIRE PROCEDURE
REPLACE WITH	EI-7.0, REV 5, ENTIRE PROCEDURE

**SIGN, DATE, AND RETURN THE ACKNOWLEDGEMENT FORM WITHIN 10 DAYS TO THE PALISADES
PLANT DOCUMENT CONTROL.**

SIGNATURE OR INITIALS

DATE


PDR ADOCK 05000255

1045

Procedure No EI-7.0
Revision 5
Issued Date 1/3/00

PALISADES NUCLEAR PLANT
EMERGENCY IMPLEMENTING PROCEDURE

TITLE: EMERGENCY POST ACCIDENT SAMPLING DECISION PROCESS


_____, 12/31/99
Procedure Sponsor Date

TPNeal
_____, 11/30/99
Technical Reviewer Date

User Reviewer Date

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ATTACHMENTS

Attachment 1, "PASM Sampling Decision, PASM Preparation, and PASM Sampling and Results"

Attachment 2, "Sample Locations Appropriate for Core Damage Assessment"

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USER ALERT

REFERENCE USE PROCEDURE

Refer to the procedure periodically to confirm that all procedure segments of an activity will be or are being performed. Where required, sign appropriate sign-off blanks to certify that all segments are complete.

1.0 PERSONNEL RESPONSIBILITY

The Operations Support Group Leader shall implement this procedure. The Technical Support Center (TSC) Chemistry Support Team and the Operations Support Center (OSC) Chemistry Supervisor shall provide support. In the absence of the Operations Support Group Leader, the Site Emergency Director shall delegate this responsibility.

2.0 PURPOSE

To provide the decision making process required to determine if the Post Accident Sample Monitoring (PASM) System should be activated. PASM is a parallel sampling system (to the NSSS Panel) which can sample Primary Coolant System Hot leg, Low Pressure Safety Injection (LPSI) discharge, and Containment Air in order to provide an accurate assessment of core damage and post accident conditions.

3.0 REFERENCES

3.1 SOURCE DOCUMENTS

- 3.1.1 Technical Specifications Chapter 6, Section 6.5.3
{ITS - Improved Technical Specification Chapter 5, Section 5.5.3}
- 3.1.2 FSAR 9.9.2
- 3.1.3 NUREG 0737, Section II.B.3
- 3.1.4 Reg Guide 1.97
- 3.1.5 Development of the Comprehensive Procedure Guideline for Core Damage Assessment, Task 467, Combustion Engineering

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3.1.6 Palisades Site Emergency Plan, Section 7, "Emergency Facilities and Equipment"

3.2 REFERENCE DOCUMENTS

3.2.1 Emergency Implementing Procedure EI-1, "Emergency Classification and Actions"

3.2.2 Emergency Implementing Procedure EI-7.1, "Post Accident Sampling - PCS Liquid/Gas and Containment Air"

3.2.3 Emergency Implementing Procedure EI-7.2, "Emergency Post Accident Analysis"

3.2.4 Emergency Implementing Procedure EI-7.10, "Post Accident Sampling, Radioactive Gaseous Effluent Monitoring"

3.2.5 Palisades Administrative Procedure 9.31, "Temporary Modification Control"

3.2.6 Emergency Implementing Procedure EI-11, "Determination of Extent of Core Damage"

3.2.7 Emergency Implementing Procedure EI-11.2, "Core Damage Assessment from Post Accident Sampling"

4.0 INITIAL CONDITIONS AND/OR REQUIREMENTS

This procedure shall be implemented as a result of Emergency Implementing Procedure EI-1, "Emergency Classification and Actions."

The Site Emergency Director (SED) reviews the two above procedures to categorize the emergency into one of the Site Emergency Plan Classifications and to determine the required actions. It is at this time that the SED determines if PASM sampling is a suggested or a required action. At that point, the TSC and OSC chemistry personnel determine the feasibility of obtaining a sample.

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4.1 STACK RELEASE

A radioactive release through the stack may warrant the activation of the Palisades Emergency Plan. If so, the Operation Support Group Leader (OSGL) shall notify the Health Physics Group Leader to proceed to Emergency Implementing Procedure EI-7.10, "Post Accident Sampling, Radioactive Gaseous Effluent Monitoring," and perform the appropriate actions.

USER ALERT
REFERENCE USE PROCEDURE

Refer to the procedure periodically to confirm that all procedure segments of an activity will be or are being performed. Where required, sign appropriate sign-off blanks to certify that all segments are complete.

5.0 DECISION TO PERFORM POST-ACCIDENT SAMPLING

A post accident sample should not be obtained until the core is stable, and the Plant is in the recovery stage of the accident. This is due to the fact that the samples taken during the transient will only provide a "snap shot" of the core at the time the sample is taken. Further, by the time the sample is obtained and analyzed (about 3 hours), this information may no longer be pertinent.

Once the transient is over, additional samples will ultimately be required. This will significantly increase the radiation dose received by the technicians. During the transient existing Plant instrumentation, such as the containment air radiation monitors, should be used to determine the extent of core damage.

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5.1 ACTIVITY RELEASE FROM FUEL

If there is an indication of a release of radioactivity taking place from the fuel into the Primary Coolant System which may cause the activation of the Site Emergency Plan, the Operations Support Group Leader shall direct Chemistry to proceed to Emergency Implementing Procedure EI-11, "Determination of Extent of Core Damage," and Plant instrumentation to determine the extent of core damage.

Once the core is stable, then Chemistry should proceed to Emergency Implementing Procedure EI-7.1, "Post Accident Sampling - PCS Liquid/Gas and Containment Air," and EI-7.2, "Emergency Post Accident Analysis," to begin PASM panel and analysis preparations.

5.2 PRELIMINARY INDICATORS

If any of the following Plant conditions are present, it is possible that fuel cladding failure has occurred.

- a. Off Gas Monitor (RIA-0631) high radiation indication or alarm.
- b. Charging Pump Entrance Monitor (RIA-2301) high radiation indication or alarm.
- c. Waste Gas Monitor (RIA-1113) high radiation indication or alarm.
- d. Containment High Range Monitors (RA-2321/-2322) high radiation alarm.
- e. Containment Isolation Monitors (RIA-1805, 1806, 1807, and 1808) high radiation indication.
- f. Containment Radiation Monitor (RA-2315) high radiation indication.
- g. Containment Noble Gas Monitor (RIA-1817) high radiation alarm.
- h. Containment Hydrogen Monitors indicate high concentration.
- i. Core Exit Thermocouples indicate high temperature.

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- j. Primary Coolant System analysis via the NSSS Panel indicates high activity.
- k. Abnormally high radiation levels in vicinity of letdown line, NSSS panel, etc.
- l. Containment Building Sump Level increasing level indication

High radiation indications on radiation monitors should be discussed with Health Physics personnel. Emergency Implementing Procedure EI-11, "Determination of Extent of Core Damage," may be useable in determining core damage using containment radiation monitor readings. If this evaluation determines a high percentage of fuel failure, PASM sampling may yield high dose to the technicians.

5.3 PRELIMINARY DOSE RATE SURVEYS

Per Emergency Implementing Procedure EI-7.1, "Post Accident Sampling - PCS Liquid/Gas and Containment Air," the OSC Chemistry Supervisor requests the Health Physics Supervisor to perform several presampling surveys. The accessibility of the sampling and analysis areas will be determined by Health Physics. If the Health Physics Supervisor considers the dose rates too high, PASM panel sampling should not be performed.

5.4 SUBSEQUENT DOSE RATE SURVEYS

If accident conditions have been stabilized such that sampling dose rates would now be low enough to perform sampling or if a more accurate assessment of core damage is needed than can be obtained from the containment radiation monitor readings, then the use of the PASM panel should again be considered. The same surveys should be performed to determine if dose rates have been reduced enough to perform sampling.

5.5 PERFORMANCE OF PASM SAMPLING

- 5.5.1 Once the decision has been made to sample, the sample must be obtained and analyzed within three hours. This sample (PCS Hotleg, LPSI discharge, containment air) should be the most representative site. A list of appropriate sample locations are provided in Attachment 2 for various accidents and/ or Plant conditions. This is done to assure the most meaningful data to assess the Plant condition in case subsequent samples can not be obtained. For example, if no release to containment has occurred, then a containment sample would not be necessary.

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5.5.2 I&C shall be dispatched to jumper CV-1910 and CV-1911 per the directions found in EI 7.1, "Post Accident Sampling - PCS Liquid/Gas and Containment Air", if a sample is required from the PCS hot leg and containment isolation has occurred.

5.5.3 Subsequent sampling needs to be performed to monitor changing system conditions. One sample per day should be analyzed for the first seven days and one sample per week until the accident condition no longer exists.

5.6 **CORE DAMAGE ASSESSMENT**

PASM analyses provide the information needed to calculate core damage based on radiochemistry data. This method, Emergency Implementing Procedure EI-11.2, "Core Damage Assessment from Post Accident Sampling," provides more accurate fuel failure information than that provided by the method using the containment radiation monitors.

6.0 **ATTACHMENTS AND RECORDS**

6.1 **ATTACHMENTS**

6.1.1 Attachment 1, "PASM Sampling Decision, PASM Preparation, and PASM Sampling and Results"

6.1.2 Attachment 2, "Sample Locations Appropriate for Core Damage Assessment"

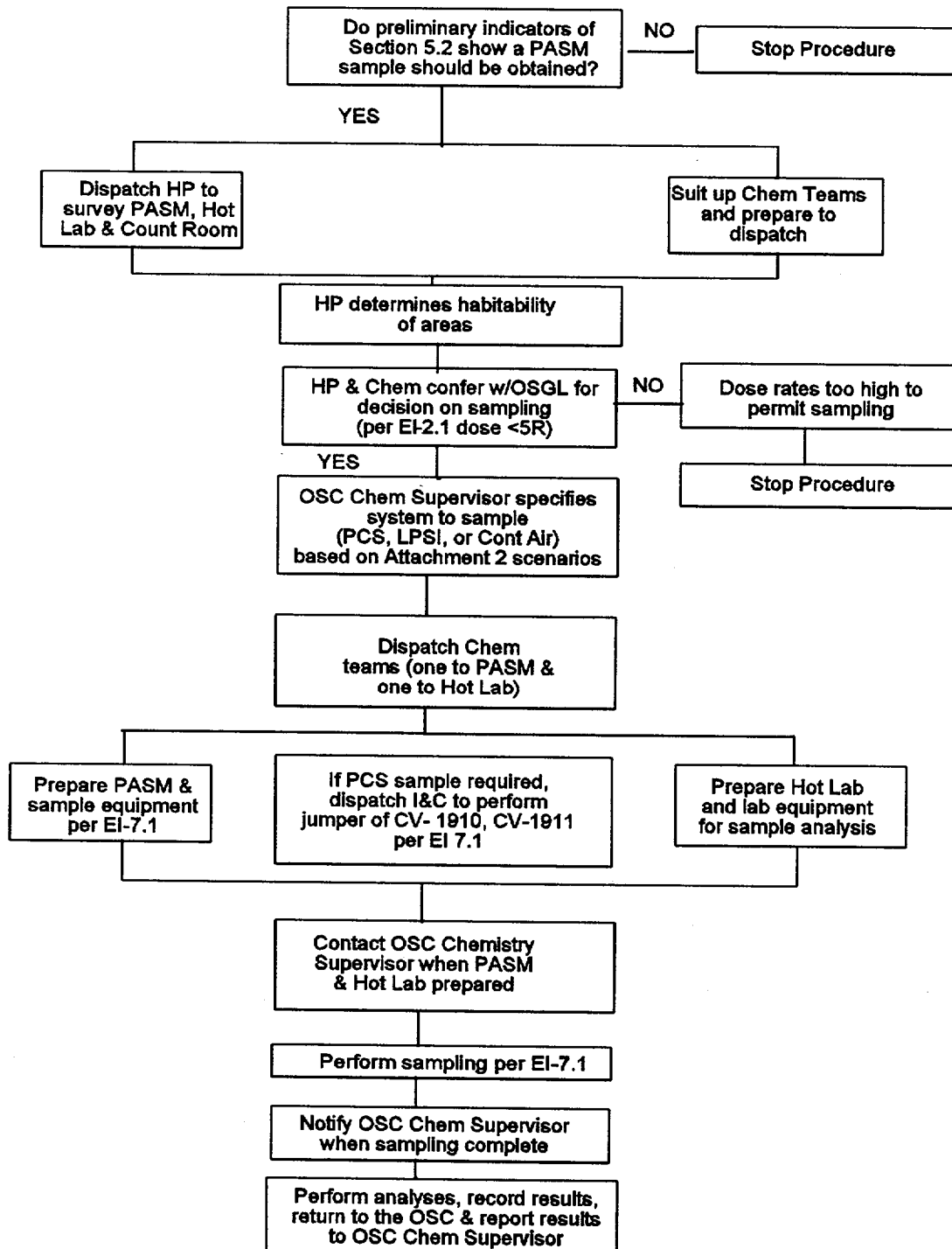
6.2 **RECORDS**

None

7.0 **SPECIAL REVIEWS**

None

PASM SAMPLING DECISION,
PASM PREPARATION, AND
PASM SAMPLING AND RESULTS



SAMPLE LOCATIONS APPROPRIATE FOR CORE DAMAGE ASSESSMENT

ACCIDENT SCENARIO <u>KNOWN</u>	PCS <u>HOT LEG</u>	<u>LPSI</u>	CONTAINMENT <u>ATMOSPHERE</u>
Small Break LOCA, Power > 1%	Yes	Yes	Yes
Small break LOCA, Power < 1%	Yes	Yes	No
Small Steam Line Break	Yes	No	No
Large Break LOCA, Power > 1%	Yes	Yes	Yes
Large Break LOCA, Power < 1%	No	Yes	Yes
Large Steam Line Break	Yes	No	Yes
Steam Generator Tube Rupture	Yes	No	Yes
	Also, sample Secondary Side of Steam Generator		
ACCIDENT SCENARIO <u>UNKNOWN</u>			
SIS Actuated	Yes	Yes	No
Alarm on Containment Building Radiation Monitor	No	No	Yes
Alarm on Containment Building Sump Level	No	No	Yes