

716
PROCEDURE REVISION REQUEST

PROCEDURE NO. HNP- 4829

Revision No. 2

REQUESTED BY		DEPARTMENT HEAD APPROVAL	
Name:	Date:	Signature:	Date:
BOB LIDDY	3/24/82	W.H. Rogers	3/24/82

REVISION CHANGES MODE OF OPERATION OR INTENT AS DESCRIBED IN FSAR:
☐ Yes ☒ No

CHANGE INVOLVES:

☐ An unreviewed Safety Question ☐ Tech.Specs. ☒ Neither
 (See back for Safety Evaluation if required).

Safety Related ☒ Non-Safety Related ☐

Safety/Non-safety Status Change ☐ Yes ☒ No

Attach marked up copy of procedure to this form.

REASON FOR REQUEST

pg 2 change Section E references to the proper new procedures
 pg 3 section E.7. to include section of procedure HNP-7131 that
 is applicable.

These changes are in reference to D.A. "Procedure Review
 Tracer number" 82-60 (3/17/82)

changes from previous PRB markup (PRB# 82-40, 3/11/82)
 are also incorporated in this revision

PRD RECOMMENDS APPROVAL: ☒ Yes ☐ No

Louis Summer
 PRD Secretary

72-49
 PRD Number

4-1-82
 Date

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E. I. HATCH NUCLEAR PLANT

Georgia Power



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PRIMARY COOLANT ANALYSIS DURING POST-ACCIDENT CONDITION

A. PURPOSE

To provide a procedure for the analysis to be performed on the primary coolant during post-accident condition. (Fuel cladding failure.)

B. SAFETY

Observe Radiation Protection Procedures.

C. PRECAUTIONS

1. Due to the high dose rates and contamination levels which are to be expected with this kind of a sample, extreme care and good sampling technique must be adhered to and followed.
2. Laboratory Supervision shall be consulted on all activities associated with analysis and counting any material obtained for post-accident analysis.
3. All attempts to analyze samples will be followed with the most restrictive Health Physics practices. Constant H.P. monitoring will be provided and adhered to. A minimum of two persons will be required to analyze the sample.
4. Samples greater than 100 R/hr will be shipped to an outside vendor for analysis. See HNP-8016 for Radioactive Shipment procedure. (100 R/hr/liter = approximately 10 mCi/cc).

NOTE

At no time during analysis will personnel be allowed to receive more than 1.25 R unless a Lab Supervisor or his designee signs FORM 2 of HNP-8002 Authorization to Exceed Administrative Exposure Guides.


D. EQUIPMENT

1. High range survey meter (P1C-6A, teletector or equivalent)
2. Count rate instrument (E-120 or equivalent)
3. High range dosimeter (10R) and TLD's
4. Full PC's
5. Remote handling tools with various attachments
6. Finger ring TLD's

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E. ANALYSIS

NOTE

All equipment must be placed behind lead shielding when performing the analysis. At no time will the liquid waste be allowed to enter the radwaste system.

NOTE

Steps E.2, E.3, E.4, E.5, and E.6 all need to be performed in the sample hood whenever possible.

The following analyses are to be performed on the primary coolant sample:

- (1) D.O. HNP-7225
- (2) pH HNP-7202 or 7203
- (3) Conductivity HNP-7204 or 7205
- (4) Chlorides HNP-7004
- (5) Iodine Separation HNP-7110
- (6) Borons HNP-7003
- (7) Gross Alpha
- (8) Isotopic

The analysis will be performed while the technicians are fully dressed out. Working time will be limited to dose received. High range (10R or 20R) dosimeter and finger rings will be worn in addition to normal dosimeters. Prior to analysis, be sure to sign in on a blanket R.W.P.

1. D.O.

The D.O. probe will have to be placed in line after the 75 ml sample bomb has been taken or prior to taking the sample.

- a. Place D.O. probe into sample line using quick disconnects and follow procedure HNP-4825 for valve manipulation.

NOTE

The center connection of the D.O. probe is the inlet and the farsided connection is the outlet. Read D.O. directly on meter face. The D.O. meter will be used with a 50 foot remote cable.

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2. pH

With remote tools, pour enough sample in a 100 ml graduated cylinder and perform pH. Pour sample back into original flask when pH is finished.

3. Conductivity

With remote tools, pour enough sample into a 100 ml beaker and perform conductivity. Pour sample back into original flask when conductivity has been performed. Clean up equipment when finished.

4. Chlorides

Pour 25 mls of sample into a beaker and perform chlorides as per HNP-7004. Clean up all equipment when finished. Allow no waste to enter the rad waste system.

NOTE

Using a remote pipetter, pipet 1 ml of the sample into a one liter poly bottle filled with 999 mls of demin water. Close bottle and shake. Pipet 1 ml of diluted sample into 999 mls of demin water, close, and shake.

Dilution ratio is now after diluting two times
1:1x10 .

5. Iodine Separation

Perform iodine separation in normal manner as per HNP-7131, using a diluted sample from Section E.4

6. Boron

Perform borons in normal manner and as per HNP-7003, using a diluted sample from Section E.4

Prepare 2 more diluted samples as per Section E.4.

7. Gross Alpha

Perform gross alpha analysis as per HNP-7131 Section H.4.


8. Isotopic

Wrap a one liter poly bottle of diluted water and perform isotopic as per HNP-7131 and HNP-7215 and section F of this procedure.

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F. COUNTING

NOTE

The counting room must be habitable for counting samples. If it is not, refer to HNP-7251 for procedure for mobilizing the counting room.

1. Open Ge(Li) shield and place sample on the first shelf of the sample holder and close Ge(Li) shield door.
2. Press the collect button on the MCA and observe the % dead time (%DT) meter. If % DT is greater than 20%, stop collecting spectra by pressing the collect button again and redilute sample until it reads less than 1 mr/hr. If %DT is less than 20% acquire spectra for 1000 seconds or as directed by the Counting Room Foreman.
3. When 1000 seconds or count time is finished, the light behind the collect button will go out. Check calibration to see if it has drifted.
4. Remove sample from Ge(Li) shield and retain for other analysis as may be required later.

G. ANALYZING SPECTRA

NOTE


Refer to HNP-7215 Ge(Li) systems for additional information on counter system.

1. Transfer spectra from MCA to 9845 computer using computer program "CI-8100" or "OR7010."
2. After spectra has been transferred completely, run computer program "RWIDNE" and answer question as required by computer display. Submit printout to Counting Room Foreman for approval and review.
3. Run program "RAP" on the same spectrum if required by Laboratory Foreman. Store spectrum in computer memory for later analysis.
4. Program "RWIDNE" generates data and information on the following:

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- a. E Gamma MEV/DIS
- b. E Beta MEV/DIS
- c. E Total MEV/DIS
- d. ¹³¹D.E.I
- e. I ^{131, 132, 133, 134, 135} uci/ml
- f. ¹³¹Percent of Tech Spec limit for D.E.I.

NOTE

Computer libraries are not listed in this procedure because of the many different isotopes which may need to be identified in the sample.

H. SPECTRA INTERPRETATION

NOTE

Details of information shall not be released by anyone other than persons allowed to as directed by Plant Management. All samples and spectrums will be stored for review later.

I. DISPOSAL OF HOT SAMPLES

NOTE

Keep sample bomb and all samples in the fume hood behind lead bricks until proper disposal methods are arranged.

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