

- (I) The engineered safety features valves associated with each of the above systems shall be operable or locked in the ES position.
- 3.3.2 In addition to 3.3.1 above, the following ECCS equipment shall be operable when the reactor coolant system is above 350F and irradiated fuel is in the core:
- (A) Two out of three high pressure injection (makeup) pumps shall be maintained operable, powered from independent essential busses, to provide redundant and independent flow paths.
  - (B) Engineered safety features valves associated with 3.3.2.a above shall be operable or locked in the ES position.
- 3.3.3 In addition to 3.3.1 and 3.3.2 above, the following ECCS equipment shall be operable when the reactor coolant system is above 800 psig:
- (A) The two core flooding tanks shall each contain an indicated minimum of  $13 \pm 0.4$  feet ( $1040 \pm 30$  ft<sup>3</sup>) of borated water at  $600 \pm 25$  psig.
  - (B) Core flooding tank boron concentration shall not be less than 2270 ppm boron.
  - (C) The electrically operated discharge valves from the core flood tanks shall be open and breakers locked open and tagged.
  - (D) One of the two pressure instrument channels and one of the two level instrument channels per core flood tank shall be operable.
- 3.3.4 The reactor shall not be made critical unless the following equipment in addition to 3.3.1, 3.3.2, and 3.3.3 above is operable.
- (A) Two reactor building spray pumps and their associated spray nozzle headers and four reactor building emergency cooling fans and associated cooling units.
  - (B) The sodium hydroxide tank shall contain an indicated 31 ft. of 20 wt% solution sodium hydroxide (20,500 lb.).
  - (C) All manual valves in the main discharge lines of the sodium thiosulfate and sodium hydroxide tanks shall be locked open.
  - (D) Engineered safety feature valves and interlocks associated with 3.3.1, 3.3.2, and 3.3.3 shall be operable or locked in the ES position.
- 3.3.5 Maintenance shall be allowed during power operation on any component(s) in the high pressure injection, low pressure injection, service water, reactor building spray and reactor building cooling

Table 4.1-1 (cont'd)

Channel Description	Check	Test	Calibrate	Remarks
37. Boric Acid Addition Tank				
a. Level Channel	NA	NA	R	
b. Temperature Channel	M	NA	R	
38. (DELETED)				
39. Sodium Hydroxide Tank Level Indicator	NA	NA	R	
40. Incore Neutron Detectors	M(1)	NA	NA	(1) Check Functioning
41. Emergency Plant Radiation Instruments	M(1)	NA	R	(1) Battery Check
42. Deleted				
43. Strong Motion Acceleographs	Q(1)	NA	Q	(1) Battery Check
44. ESAS Manual Trip Functions				
a. Switches & Logic	NA	R	NA	
b. Logic	NA	M	NA	
45. Reactor Manual Trip	NA	P	NA	
46. Reactor Building Sump Level	NA	NA	R	

Note: S - Each Shift      T/W - Twice per Week      R - Each Refueling Period  
D - Daily      B/M - Every 2 Months      NA - Not Applicable  
W - Weekly      Q - Quarterly  
M - Monthly      P - Prior to Each Startup if Not Done Previous Week

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Table 4.1-3

## MINIMUM SAMPLING AND ANALYSIS FREQUENCY

<u>Item</u>	<u>Test</u>	<u>Frequency</u>
1. Reactor Coolant Samples	a. Gamma Isotopic Analysis	a. Bi-weekly (7)
	b. Gross Activity Determination	b. 3 times/week and at least every third day (1), (6), (7)
	c. Gross Radioiodine Determination	c. Weekly (3)(6)(7)
	d. Dissolved Gases	d. Weekly (7) (11)
	e. Chemistry (Cl, F, and O <sub>2</sub> )	e. 3 times/week (5)
	f. Boron Concentration	f. 3 times/week
	g. Radiochemical Analysis for $\bar{E}$ Determination (2)(4)	g. Monthly (7)
2. Borated Water Storage Tank Water Sample	Boron Concentration	Weekly and after each makeup
3. Core Flooding Tank Sample	Boron Concentration	Monthly and after each makeup
4. Spent Fuel Pool Water Sample	Boron Concentration	Monthly and after each makeup (9)
5. Secondary Coolant Samples	a. Gross Radioiodine Concentration	a. Weekly (5)(7)(10)
	b. Isotopic Radioiodine Concentration (4)	b. Monthly (7)(10)
6. Sodium Hydroxide Tank Sample	Sodium Hydroxide Concentration	Quarterly and after each makeup

Notes:

- (1) A gross radioactivity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of  $\mu\text{Ci/gm}$ . The total primary coolant activity shall be the sum of the degassed beta-gamma activity and the total of all identified gaseous activities 15 minutes after the primary system is sampled. Whenever the gross radioactivity concentration exceeds 10% of the limit specified in the Specification 3.1.4.1 or increases by 10  $\mu\text{Ci/gm}$  from the previous measured level, the frequency of sampling and analyzing shall be increased to a minimum of once/day until a steady activity level is established.

819308

50-313

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DESCRIPTION

ENCLOSURE

Amdt. to OL/change to tech specs...  
concerns the deletion of Sodium Thiosulphate  
from the Reactor Building Spray System.....

(1-P)

(3-P)

ACKNOWLEDGED  
DO NOT REMOVE

PLANT NAME: Arkansas Unit No. 1

RJL 7/12/77

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