

Level RO Tier 1 Group 2 K/A# E02 EA1.2 Imp. RO 3.6 Imp. SRO 3.8

23. Unit 1 was operating at 100% power when a spurious SI occurred. All systems respond as designed with the exception of the "B" reactor trip breaker, which did NOT open and remains closed. The crew has transitioned to 1ES-0.2, "SI TERMINATION." The following conditions exist:
- RCS pressure is 2200 psig and slowly rising
 - Containment pressure is 0.1 psig
 - MSIVs are open and SG pressures are 990 psig

When step 1 is performed and both SI pushbuttons have been momentarily "pushed in", what will be the status of SI?

- a. Both trains of SI will be reset with automatic SI initiation blocked.
- b. Both trains of SI will be reset but only the "A" train automatic SI initiation will be blocked.
- c. Only the "A" train of SI will be reset with automatic SI initiation blocked.
- d. Only the "A" train of SI will be reset but neither train's automatic SI initiation will be blocked.

ANSWER: B

Explanation: a Plausible because this is the normal response.
 b Correct.
 c Plausible if SI reset circuit behavior is not understood.
 d Plausible if SI reset circuit behavior is not understood.

Technical References: Westinghouse logics for SI actuation (X-HIAW-1-242)

Objective: P8197L-012

KA Statement: Ability to operate and/or monitor the following as they apply to the SI Termination: Operating behavior characteristics of the facility

Cog. Level:	HIGH	10CFR55.41:	YES	10CFR55.43:	New Question:	NO	
Bank:	INPO	Ques. ID:	# 1221 North Anna	Modified:	YES	Last NRC Exam:	1996

**Recommend answer key be modified to accept either B or C for RO
Question 23.**

Determining the status of Train B SI signal status at the completion of the momentary depression of the SI reset pushbuttons requires the candidate to make an assumption regarding the status of the spurious SI signal. A spurious SI is an SI actuation that is caused by any event other than plant conditions exceeding SI setpoints. No information is provided to the candidate to lead to any specific conclusion regarding the spurious SI signal status.

For Train A, the SI signal is reset and auto SI actuation is blocked when the SI reset pushbutton is depressed. When the pushbutton is released, as performed in the step by momentarily depressing the pushbutton, then the SI signal will remain reset and blocked.

For Train B, the response is dependent upon the assumed status of the initiating spurious signal. If the spurious SI signal has cleared, as perhaps from transient electrical perturbation or relay bumping, then the SI signal will reset when the pushbutton is depressed. Since the Train B reactor trip breaker is closed, the auto block function will not occur. In this case however, since there is no current SI initiation signal present, the SI signal will remain reset and un-blocked or capable of re-actuation for initiation signal. Making the assumption that the spurious signal is no longer present leads to (b) as the correct answer.

If the candidate assumes that the spurious signal is still present, as perhaps from a relay or switch failure, then SI will re-actuate when the Train B SI reset pushbutton is released. For this case Train B will be actuated, i.e., not reset, and (c) is the correct answer.

Since no information is presented for the candidate to make one assumption over the other, both choices should be acceptable.

Ref: Drawing X HIAW 1-992, 2 sheets
1ES-0.2, "SI Termination", Page 3

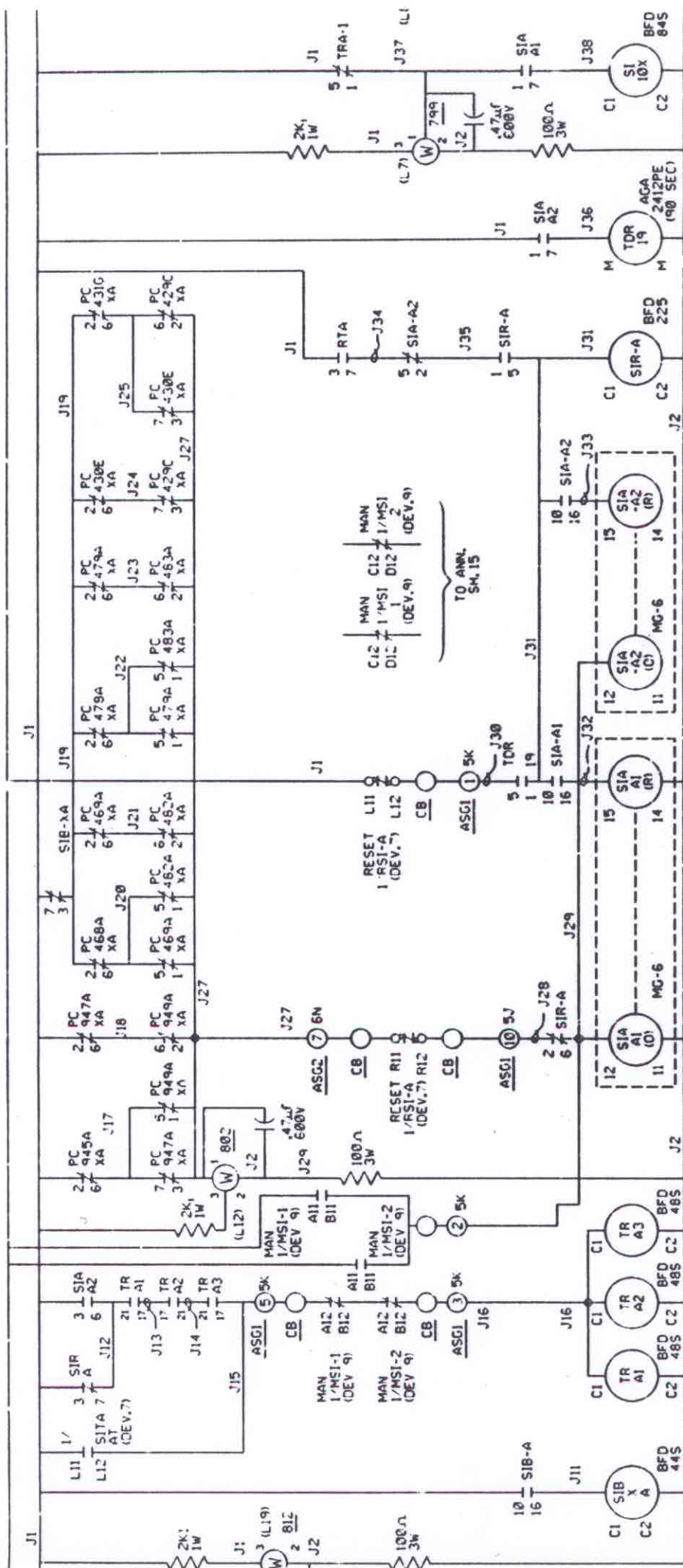
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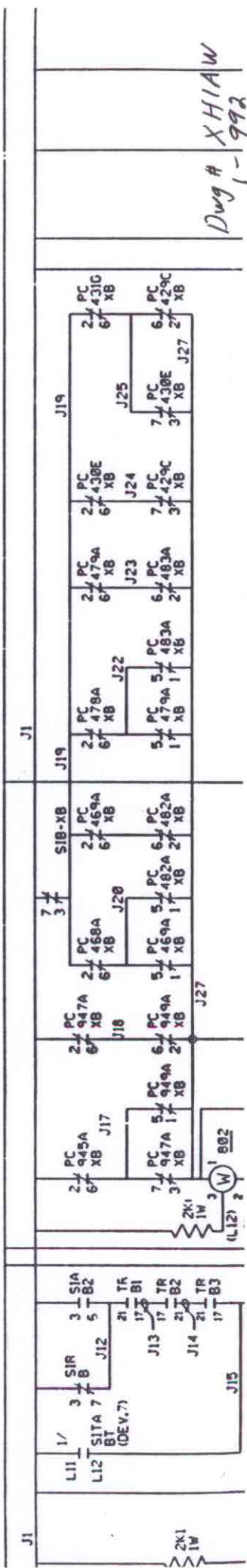
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SAFETY INJECTION



TRAIN "A"



Dwg # XH1AW
1-992

Number: 1ES-0.2	Title: SI TERMINATION	Revision Number: REV. 20
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>Caution <i>IF</i> offsite power is lost after SI reset, THEN manual action may be required to restart safeguard equipment.</p>	
1	Reset SI	
2	Reset Containment Isolation	
3	Establish Instrument Air To Containment	
4	Align AMSAC/DSS System:	
	a. Block AMSAC/DSS (CS-46447, PULL TO LOCK)	
	b. Reset AMSAC/DSS (CS-46448, PUSHBUTTON)	
5	Check If Charging Flow Has Been Established:	
	a. Charging pumps - AT LEAST ONE RUNNING	a. Perform the following:
		1) IF CC flow to RCP(s) thermal barrier is lost, THEN isolate seal injection to affected RCP(s) before starting charging pumps.
		2) Start charging pumps, as necessary.
	b. Establish charging flow per 1C12.1, LETDOWN, CHARGING AND SEAL WATER INJECTION - UNIT 1, as necessary	