

Level RO Tier 3 Group 1 K/A# GEN 2.1.18 Imp. RO 2.9 Imp. SRO 3.0

66. Which event is required to be recorded in the Unit 1 Reactor Log?

- a. Receipt of a fuel oil shipment.
- b. Placing the #11 Boric Acid Tank on recirc.
- c. Addition of oil to the main turbine lube oil reservoir.
- d. Operation of the Water Treatment/Reverse Osmosis system.

ANSWER: B

Explanation: All distracters are plausible because each represents a mandatory log entry.

a This is logged in the Turbine Building Log.

b Correct.

c This is logged in the Turbine Building Log.

d This is logged in the Turbine Building Log.

Technical References: SWI-O-25, Periodic Data Acquisition and Log Keeping

Objective:

KA Statement:

Conduct of Operations: Ability to make accurate, clear and concise logs, records, status boards, and reports.

Cog. Level: LOW

10CFR55.41:

10CFR55.43:

New Question: NO

Bank: INPO

Ques. ID: #1153 Callaway

Modified: YES

Last NRC Exam: 1997

Recommend answer key be modified to accept either B or C for RO Question 66.

In accordance with section 7.3.3 of SWI-O-25, "PERIODIC DATA ACQUISITIONS & LOG KEEPING," the distracters for this question are events that should be logged in the Turbine Building Log. This would make the question correct as written.

However, Section 7.3.2, "Unit 1 [Unit 2] Reactor Logs," item b.1 states a requirement to log (in the Reactor Log): "All operations affecting the operation of the reactor or major unit equipment. Realignment done by or for a Work Order should include the W.O. number in the entry."

The addition of oil to the main turbine oil reservoir is an operation which is performed under a Work Order. Since the oil addition is work on major equipment done under Work Order, the oil addition could be interpreted as needing to be logged in the Reactor Log. A search of the Reactor Log found the log entry for a previous oil addition to the main turbine oil reservoir. Furthermore, the Control Room Log (Unit 1: PINGP 97) records Turbine Oil Reservoir level hourly.

Therefore, either choice B or C is correct.

Ref: SWI O-25, "PERIODIC DATA ACQUISITIONS & LOG KEEPING", Pages 9-12
Attached page 1 from AUTOLOG, dated February 13, 2001, printed 9/22/2003
PINGP 97, "Unit 1 Control Room Log", Page 1

SWI	PERIODIC DATA ACQUISITIONS & LOG KEEPING	NUMBER:
		SWI O-25
		REV: 34
		Page 9 of 18

7.3.2 Unit 1 [Unit 2] Reactor Logs

These logs **SHALL** be kept by the Control Room Operators. The general use of this log will be as follows:

- a. At the beginning of a shift, the "shift data" rubber-stamp entry **SHALL** be filled in by the Lead Plant Equipment and Reactor Operator. This entry will provide blank spaces for information, including:
 1. Names of Control Room Operators
 2. General status of the Unit and Power Level
 3. BA totalizing integrator
 4. Emergency Borate totalizing integrator
 5. Reactor Makeup Water totalizing integrator
- b. All operating actions or occurrences will be entered in the Reactor Log, including, but not limited to:
 1. All operations affecting the operation of the reactor or major unit equipment. Realignment done by or for a Work Order should include the W.O. number in the entry.
 2. Occurrence of annunciator alarms per SWI O-0.
 3. Removing or restoring a radiation monitor from service (placed in "RESET" or "OFF" for example).

SWI	PERIODIC DATA ACQUISITIONS & LOG KEEPING	NUMBER:
		SWI O-25
		REV: 34
		Page 10 of 18

4. Performance of unit surveillance procedures:
 - a) Surveillance procedures which initiate equipment realignment, cause alarm actuation, trigger a sequence of events on ERCS, or cause relay actuation should have both a start and completion time logged. In logging a start and completion time, the operator will not be required to log any LCOs, or equipment starts or stops, directed by the SP, unless directed by the Shift Supervisor.
 - b) Surveillance procedures with unsatisfactory results should include the reason for failure.
 - c) Leak rate surveillances should include the results in gpm and the reason for abnormal leak rates.
 - d) If applicable the surveillance procedure Work Order number should be included in the log entry.
5. Equipment removed from service (noting reason and WO number) or returned to service, for reasons other than the performance of SPs. This logging should include updating the Equipment Out Of Service Log.
6. Major RCS dilution or boration.
7. Deborator and cation ion exchanger usage.
8. Excessive make-up to the VCT.
9. Starts and stops of Tech Spec and other large Balance of Plant components (charging pumps, cooling tower fans, heater drain pumps, fire pump, etc.) for reasons other than performance of SPs.
10. Boric Acid Tank on recirc.
11. Delta I out of band.
12. Purge PRT or VCT.
13. Abnormal change in EH Control mode and reason.

SWI	PERIODIC DATA ACQUISITIONS & LOG KEEPING	NUMBER:
		SWI O-25
		REV: 34
		Page 11 of 18

14. Abnormal change in Rod Control mode and reason.
 15. Departure from License conditions or Tech Specs made during an emergency situation to protect the public health and safety.
 16. Tech Spec instrumentation failures, documenting use of the Instrument Failure Guide, C51.
 17. Any off normal operating conditions discovered during the shift including any/all investigations for the cause of the condition.
 18. Any "hold points" placed on unit operation and an explanation of the "hold point".
 19. Placement of an automatic controller in "MANUAL" or the return of a controller from "MANUAL" to automatic control.
 20. Out-Of-Specification chemistry limits.
- c. All electrical operations affecting system capability will be entered including but not limited to:
1. Main generator load, changes in load, and if applicable, on-line or off-line times.
 2. All relay actions and trips.
 3. All switching affecting system capability, by whose order, for what reason, and outage request number.
 4. Any planned and unplanned electrical maintenance required on systems 4KV and higher including all 4KV buses.
 5. All testing or inspection (including routine inspections) of plant electrical equipment 4KV and above, and the person or crew involved.
 6. Changes or additions to any plant electrical equipment.
 7. Changes in electrical operation information.

SWI	PERIODIC DATA ACQUISITIONS & LOG KEEPING	NUMBER:
		SWI O-25
		REV: 34
		Page 12 of 18

8. Diesel generator start-stop time and breaker close-open times for reasons other than for the performance of SPs.
 9. Security Analysis Program out of service time and return to service time (as notified by Power System Operator per C20.3 AOP1).
- d. The Operators and Shift Supervisors must use their sound judgment when determining the need or extent of entries in the log.

7.3.3 Unit 1 and Unit 2 Turbine Building Logs

A record of operations of secondary plant equipment will be kept by the APEO or PA in the associated Turb Bldg Log. The general use of this log will be as follows:

- a. Each shift **SHALL** make an initial entry listing the operators assigned to that station.
- b. All operating actions involving each Turbine Building and out-plant areas will be recorded including, but not limited to the following:
 1. Water Treatment Reverse Osmosis System Operations.
 2. Addition of H₂ to the generator, including start and finish pressure.
 3. Tag out or restoration of equipment. This logging should include updating the Equipment Out Of Service Log.
 4. Switching RMU degas.
 5. Filling tanks (Reactor Makeup, Condensate Storage, etc.).
 6. Make-up to heating system expansion tanks.
 7. Starting or stopping major equipment which is locally controlled (include reason).
 8. Start and completion of fuel oil transfers.
 9. Receiving shipments (chemicals, fuel oil, etc.).
 10. Problems identified with out-plant equipment and actions taken.
 11. Any abnormal out-plant operating parameters or conditions, including any/all investigations for the cause.
 12. D5/D6 Building operations.

Operations Log Entries

Log: Start Date: End Date: Sort: Entry Contains:

Report Generated: 9/22/2003 8:18:56 PM

Log Date	Entry	Sub Log	User ID
2/13/2001 10:19:52 AM	Placed, 122, CVCS Monitor Tank on recirc for sample and release per C21.1-5, . Paperworksubmitted to chemist.	AUX	zbr01
2/13/2001 10:35:44 AM	Completed transfer of 10,000 gal lube oil from the lube oil storage tank to U1 Turb Oil Reservoir per WO 0012902. Also placed Turb Oil Purifier in service for the same work order.	1CR	whtm03
2/13/2001 10:37:46 AM	Completed release of, 121, CVCS Monitor Tank, batch #, RLB0053 to river per C21.1-5.	AUX	zbr01
2/13/2001 10:40:56 AM	Aligned Unit 2 SGB to reclaim per WO # 0100415.	AUX	brwd03
2/13/2001 10:42:04 AM	RETURNED SGB TO 40 & 80 GPM AFTER COMPLETION OF WO-0100415	2CR	khlk01
2/13/2001 11:20:53 AM	Stopped Draining Of RCS Per 1C4.2	1CR	chrb02
2/13/2001 11:24:00 AM	Started transferring 11 RWST to 21 RWST per C16. 21 RWST level start: 90.5%, 11 RWST level start:83%.	2CR	lpcd01
2/13/2001 11:49:04 AM	Stopped In-Service Purge Per 1C19.2 For Rx Head Set.	1CR	chrb02
2/13/2001 11:56:57 AM	Started draining 11 Backwash Waste Receiving Tank to Turbine Bldg Sump per System Engineer. Drain valve CP-19-9 throttled open to avoid overflowing floor drain.	1TURB	myrr13
2/13/2001 12:15:29 PM	Satisfactorily completed procedure SP 1001 for 0600 UNIT 1 DAILY CONTROL ROOM LOG per WO# 00-11717.	1CR	chrb02
2/13/2001 12:18:55 PM	Swapped WGDTs., 121/125, Inlet open and , 122/123, to vent header.	AUX	CMRR01
2/13/2001 12:20:35 PM	Placed, 122, ADT MNTR Tank on recirc for sample and release per C21.1-, 5.2, Paperwork submitted to chemist.	AUX	zbr01
2/13/2001 12:25:30 PM	Started transfer of ADT Collection tanks to Condensate receiver tanks per C21.1.3.1. DP across 123 ADT filter is .4 psid and 124 ADT filter is .35 psid.	AUX	zbr01
2/13/2001 12:49:16 PM	Started In-Service Purge Per 1C19.2 After Head Set.	1CR	chrb02
2/13/2001	Started procedure SP 1008 REACTOR PROTECTION LOGIC		

UNIT 1
CONTROL ROOM LOG

TIME	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Gen A Φ K Amps																									
Gen B Φ K Amps																									
Gen C Φ K Amps																									
Gen MW																									
Gen MVAR R or D																									
Gen Stator Gas Disc Max ΔT 8°C																									
Turb Oil Res. L. %																									
Total Pitt MVAR																									
S.I. Ready 44102																									
S.I. Active 44103																									
Cntrm Isol 44104																									
CR Inst. Trend Check																									
ERCS Log Complete & Reviewed																									

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00	06	12	18

Operator
 00-06
 06-18
 18-00

Annunciator Test
 SI/CI Status Light Test
 Gen Ground Test
 Fire Alarm System Check
 Cardox in Normal
 A Feed Reg Valve Position
 B Feed Reg Valve Position
 Station Use
 Train B Rad Mntr Check
 (see back)

Time
 CD Makeup Int 48020
 A CDSR P U1811A
 B CDSR P U1812A
 CALC Average P U1810A
 Operate Unit at $\geq 45^\circ$ Condenser Inlet Temp.