Dominion Nuclear Connecticut, Inc.
Millstone Power Station
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Waterford, CT 06385

Dominion

NOV 4 2002

Docket No. 50-336
B18798

Mr. John G. Caruso
Senior Examiner/Inspector
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Millstone Power Station, Unit No. 2
Post Examination Activities for the October 2002
Reactor Operator and Senior Reactor Operator Written Examination

In accordance with NUREG-1021, Examination Standard 501, Paragraph C, Section 1a, Dominion Nuclear Connecticut, Inc. hereby transmits supporting documentation, including post examination analysis, for the Millstone Unit No. 2 Reactor Operator (RO) and Senior Reactor Operator (SRO) Initial Written Examination, administered on October 25, 2002. Also included within this submittal is a request to amend the correct answer to Question 73 of the RO and SRO examination, and to delete Question 54 of the SRO examination. These issues were discussed with you in phone conversations conducted on October 29, 2002, and October 31, 2002, between yourself and Mr. K. Dingle, Mr. R. Spurr, and/or Mr. R. Ashey of the Millstone Unit No. 2 Licensed Operator Initial Training Program.

Attachment 1 transmits the examination analysis. Attachment 2 transmits technical arguments for revising the accepted answer to Question 73 of the RO and SRO written examination, and for deleting Question 54 of the SRO examination. Justifications for these revisions are included. The technical arguments were reviewed by system experts and have management concurrence and approval. Enclosure 1 transmits the remaining required documentation.

There are no regulatory commitments contained within this letter.

Should you have any questions regarding this submittal, please contact Mr. Michael J. Wilson at (860) 437-2916.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

G. D. Hicks, Director
Nuclear Station Safety and Licensing

cc: See next page

Attachments (2)
Enclosure (1)

cc: (w/o enclosure)

H. J. Miller, Region I Administrator
R. J. Conte, Chief, Operational Safety Branch, Region I
R. B. Ennis, NRC Senior Project Manager, Millstone Unit No. 2
Millstone Senior Resident Inspector

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

JUSTIFICATION FOR DELETING QUESTION #54 (SRO ONLY EXAM)

Question #54 (SRO only) posed a situation where the Facility 1 Emergency Power Supply (DG "A") is out of service for maintenance. While this situation exists, the "D" Containment Air Recirculation Cooling Fan ("D" CAR) fails to run in slow speed as required by surveillance.

The question then asks the examinee to select 1 of 4 sets of actions which must be accomplished in response to this set of conditions. The intent of the question is to evaluate the examinees' understanding of Technical Specification 3.0.5 and the relationship between the CAR cooling units versus Containment cooling trains and the Containment Spray trains..

With the Facility 1 Emergency power supply out of service, the Facility 1 Containment Cooling Train (A & C CAR Cooling units) and the Facility 1 Containment Spray Train must be considered Inoperable under the requirements of TS 3.0.5 once the Facility 2 Containment Cooling Train becomes Inoperable due to the "D" CAR fan failing its surveillance. The fact that the Facility 1 Containment Spray pump must also be considered Inoperable makes answer choice "D" incorrect.

Technical Specification 3.0.5 allows 2 hours to restore the Inoperable power supply or the Inoperable equipment. Failing this, the Tech Spec requires that ACTION be initiated to place the unit in a MODE in which the applicable LCO does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours.
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Technical Specification 3.6.2.1 Containment Spray and Cooling Systems is the applicable LCO. This Tech Spec is applicable in MODES 1, 2 and 3*. Consequently, placing the unit in HOT STANDBY and decreasing Pressurizer pressure below 1750 psia would comply with the requirements of TS 3.0.5 since LCO 3.6.2.1 would no longer apply.

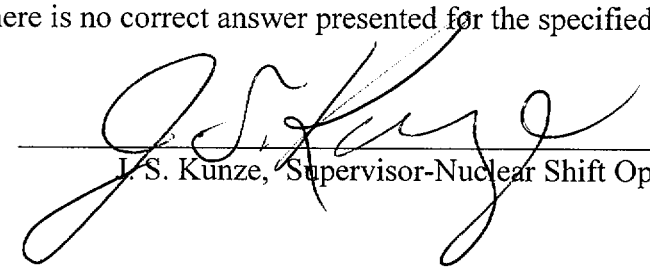
None of the answer choices were correct in specifying what MUST be done. Two of the answers, (B & C), placed the unit in the MODE which would comply with Technical Specifications, however it isn't clearly specified in either answer that the Pressurizer pressure requirement would be met within the specified time. Additionally, each of these answers went on to place the unit in a lower MODE than necessary, (HOT SHUTDOWN).

Based on the above, there is no correct answer for question #54 on the SRO only exam. Therefore we have deleted the question from the exam, making the SRO version of the exam worth 99 points. We have re-graded the SRO exam accordingly.

The following supporting information is enclosed:

1. Answer key copy of SRO question #54.
2. Copy of MP2 Technical Specification 3.0.5.
3. Copy of MP2 Technical Specification 3.6.2.1.

I have reviewed the justification for deletion of question #54 from the SRO exam and concur that there is no correct answer presented for the specified conditions.



11-1-02

J. S. Kunze, Supervisor-Nuclear Shift Operations Date

 # 54 ☐ RO ☑ SRO Question ID: **1000062** **Origin: New** ☐ Memory? (Check=Yes)

The unit is at 100% power.
The 'A' EDG is out for on-line maintenance in accordance with TSAS 3.8.1.1.b.4.
Surveillance is scheduled on the 'D' CAR cooling unit.
During performance of the surveillance, the CAR fan trips when a start in slow speed is attempted.
RBCCW flow through the unit is acceptable and it is verified that the unit will run in high speed.

For this set of conditions you must:

A Restore the 'D' CAR cooling unit to Operable within 7 days or be in Hot Shutdown within the next 12 hours. ☐

B Initiate action within 1 hour to place the unit in Hot Standby within the next 6 hours and in Hot Shutdown with pressurizer pressure < 1750 psia within the following 6 hours. ☐

C Restore the 'A' EDG or the 'D' CAR cooling unit to Operable within 2 hours or place the unit in Hot Standby within the next 6 hours and in Hot Shutdown within the following 6 hours. ☐

D Restore the 'D' CAR cooling unit or the 'A' EDG to Operable status within 48 hours or be in Hot Shutdown within the next 12 hours. ☑

Justification	D: correct, the facility 1 CAR cooling train must be considered inop IAW provisions of TS 3.0.5 since emergency power for the 'A' & 'C' is OOS , but TS 3.6.2.1.d specifically addresses 2 inop CAR trains, allowing a greater time than 3.0.5; A: chosen if examinees think only 'D' CAR fan must be considered inop; B: chosen if examinees think TS 3.0.3 applies; C: chosen if examinees think TS 3.0.5 applies
Reference	MP2*LOIT/LOUT, SRO, 2313A, TS, (CFR-55.43.b.2), MB-01862 *Requires the use of Tech Specs**

NRC K/A System/E/A

NRC K/A Generic

System 022 Containment Cooling System (CCS)

Number K2.01

Knowledge of power supplies to the following:
Containment cooling fans

Importance RO/SRO 3.0 3.1

10CFR Link (CFR:41.7)

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY AND COOLING SYSTEMS

June 29, 1999

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two containment spray trains and two containment cooling trains, with each cooling train consisting of two containment air recirculation and cooling units, shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

Inoperable Equipment	Required Action
a. One containment spray train	a.1 Restore the inoperable containment spray train to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.
b. One containment cooling train	b.1 Restore the inoperable containment cooling train to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 12 hours.
c. One containment spray train AND One containment cooling train	c.1 Restore the inoperable containment spray train or the inoperable containment cooling train to OPERABLE status within 48 hours or be in HOT SHUTDOWN within the next 12 hours.
d. Two containment cooling trains	d.1 Restore at least one inoperable containment cooling train to OPERABLE status within 48 hours or be in HOT SHUTDOWN within the next 12 hours.
e. All other combinations	e.1 Enter LCO 3.0.3 immediately.

SURVEILLANCE REQUIREMENTS

4.6.2.1.1 Each containment spray train shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Starting each spray pump from the control room,

2. Verifying, that on recirculation flow, each spray pump develops a differential pressure of $\geq$ 232 psid,

*The Containment Spray System is not required to be OPERABLE in MODE 3 if pressurizer pressure is < 1750 psia.

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each spray pump operates for at least 15 minutes,

4. Cycling each testable, automatically operated valve in each spray train flow path through at least one complete cycle,

5. Verifying that upon a sump recirculation actuation signal the containment sump isolation valves open and that a recirculation mode flow path via an OPERABLE shutdown cooling heat exchanger is established, and

6. Verifying that all accessible manual valves not locked, sealed or otherwise secured in position and all remote or automatically operated valves in each spray train flow path are positioned to take suction from the RWST on a Containment Pressure--High-High signal.

b. At least once per 18 months, during shutdown, by cycling each power operated valve in the spray train flow path not testable during plant operation through at least one complete cycle of full travel.

c. At least once per 18 months by verifying a total leak rate less than or equal to 12 gallons per hour in conjunction with the high pressure safety injection system (reference Specification 4.5.2.c.5) at:

1) Discharge pressure of greater than or equal to 254 psig on recirculation flow for those parts of the system between the pump discharge and the header isolation valve, including the pump seals.

2) Greater than or equal to 22 psig at the pump suction for the piping from the containment sump check valve to the pump suction.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

4.6.2.1.2 Each containment air recirculation and cooling unit shall be demonstrated OPERABLE at least once per 31 days on a STAGGERED TEST BASIS by:

a. Starting, in low speed, each unit from the control room,

b. Verifying that each unit operates for at least 15 minutes, and

c. Verifying a cooling water flow rate of $\geq$ 500 gpm to each cooling unit.

3/4.0 APPLICABILITY

September 14, 2000

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals, except as provided in LCO 3.0.6. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within one hour ACTION shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time it is identified that a Limiting Condition for Operation is not met. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODES 5 or 6.

3.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, ACTION shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours.
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This specification is not applicable in MODES 5 or 6.

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance time interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2 and 3 components and inservice testing ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a.

Docket No. 50-336
B18798

Attachment 2

Millstone Power Station, Unit No. 2

October 2002 Reactor Operator and Senior Reactor Operator
Written Examination
Justification for Amending Questions 54 and 73

JUSTIFICATION FOR CHANGING THE ANSWER TO EXAM QUESTION #73 (RO & SRO)

Question #73 asked the examinees to select a voltage and amperage combination that would not exceed the 3 MVA limit procedurally specified for the cross-tie evolution. It also asked them to select the reason for the limit.

There were two possible answers that provided a voltage and amperage combination that would not exceed 3 MVA. These were choices A and C.

Selection A is paired with [to prevent] "exceeding the maximum Unit 2 load assumed in the worst case event". This selection was based on an incorrect interpretation of information that came from the FSAR. The FSAR states, "A 4160V crosstie from Unit 3 is provided to the 24E (A5) bus from the Unit 3 reserve station service transformer or Unit 3 normal station service transformer (backfeeding). This feeder is sized to provide sufficient power to place the unit in a safe shutdown condition or to provide required minimum postaccident power requirements."

Interpreted correctly, the FSAR states that the crosstie can provide adequate power. The cables have been analyzed up to 3 MVA based on the pre-existing procedural limit and no over-heating concerns were identified.

Selection C is paired with [to prevent] "overheating of the cable between bus 24E and bus 24C".

We included selection C in order to test if the examinees were aware that a previous cable over-heating concern had been corrected. This concern was based on the cables between 24C or 24D and bus 24E, which had been wrapped in thermo-lag and that their cable trays were covered for fire separation. The thermo-lag and cable tray covers inhibited the cables' ability to dissipate heat. To prevent cable degradation the cables were de-rated to 300 amps and it was required to run the swing pumps on 24E to ensure the 24E to 24C or 24D cables were not exposed to greater than 300 amps.

Subsequent analysis allowed removal of the thermo-lag. A re-analysis of the ampacity of the cables showed that the limit could be raised to 525.9 amps.

There was discussion at this time as to whether or not the 3 MVA limit in the procedures should be removed or revised upwards. Further calculations showed that 525.9 amps equated to a nominal 3.79 MVA. However, typical allowable load on a cable is limited to 80% of its capacity to account for a 10% deviation in voltage and a 15% Service Factor of motors. Since 80% of 3.79 MVA is approximately 3 MVA, the decision was made to retain the 3 MVA limit to prevent overheating by exceeding the ampacity of the cables between 24E and 24C or 24D.

Based on the above, the only correct answer for question #73 is selection "C". We have revised our answer key and have regraded the exams accordingly.

The following supporting information is enclosed:

1. "Description of CR # M2-99-1019, dated 5/07/99, Procedure OP2343 Allows Up To 3 MVA of Power ..." (This CR initially identified the overheating potential and precipitated the 300 amp restriction.)
2. Memo from instructor Lee Blaede, "Electrical Crosstie mods" , dated 5/29/01, (Item 4 addresses removal of the thermo-lag and the 300 amp restriction.)
3. Pages 8.2-4 and 8.2-5 of the MNPS-2 FSAR, (section 8.2.3.3 Emergency Conditions, paragraph 3 contains the statement that we misinterpreted).
4. "Information Search on CR # M2-00-2204" , (The assignments associated with CR # M2-00-2204 provide detail regarding the removal of the 300 amp limit and the process used to determine the new ampacity thereby retaining the 3 MVA limit to prevent overheating of the 24E to 24C or 24E to 24D cabling.)
5. Answer key copy of question #73. (There is a "cut & paste error" in the justification associated with "C", it should read 4160 volts and 300 amps)

Due to the size of the engineering calculation documents they have not been included, but copies are available upon request.

I have reviewed this justification and agree that the only correct answer to question #73 is selection "C".

R Patel 10-31-02

R. Patel Electrical Engineer

10.31.02

C. Maxson Manager-Nuclear Engineering

TIMV017 (1) RECORDS - NOTES 10/28/02 08:58

Facility: MP Doc Type : RPT Sub-Type: ACR Status: _____
Doc No. : M2-99-1019 Sheet : _____
Security: N Safety Cls: ___
Title : PROCEDURE OP2343 ALLOWS UP TO 3 MVA OF POWER BE TR

* Notes and Comments	Pr	Date	By
_ 1. Revise operation procedure OP2343 to include an	L	05/07/99	MP82TAH
_ ampacity limit of 300 amps on the bus intertie cables	L	05/07/99	MP82TAH
_ (cable between 24E and 24C/24D, breakers A305 and A408).	L	05/07/99	MP82TAH
_ Two motors on bus 24E must be running to allow 3MVA to	L	05/07/99	MP82TAH
_ be transferred from unit 1 bus 14H. The intertie cables	L	05/07/99	MP82TAH
_ cannot accept a full 3MVA without overloading the cable	L	05/07/99	MP82TAH
_ (cable life will be reduced). The derating is due to the	L	05/07/99	MP82TAH
_ solid tray covers installed to comply with facility	L	05/07/99	MP82TAH
_ separation criteria.	L	05/07/99	MP82TAH
_ _____	_	_____	_____
_ _____	_	_____	_____
_ _____	_	_____	_____

More: -

Insert, Repeat, Delete.

(2)

From: LEE R. BLAEDE
To: LORT/STAs; OTB2 Staff; PEOs
Date: 5/29/01 11:10AM
Subject: Electrical Crosstie mods

During the Electrical Crosstie Mods presentation last cycle a number of questions came up that I'll attempt to answer here:

1. We had said that Unit 3's MCC-32-1Z needs to be energized to provide for SBO diesel generator auxiliaries (including the starting computer) so either the feeder from bus 34A or 34B will always be closed. The question then came up: Can the SBO diesel be started when the MCC-32-1Z is de-energized. The answer is "Yes." There is a battery located in the SBO enclosure that provides power to start the SBO diesel should AC power disappear - but - the battery is only good for 1 hour (really). After that the SBO cannot be started no way, no how. Any time a loss of power occurs to Unit 3's non-vital 4160volt buses, procedural guidance exists to have a PEO start the SBO diesel within the hour.

2. When we talked about the power supplies to the fire pump house a question came up that since bus 32Q supplies the normal power for the fire pump house - what happens if we need to cross tie our Unit MCC (2NHS-1B1) in the CPF to supply their bus 32Q? The answer is that we don't have any procedural guidance for this - but - Unit 3 does. OP 3344A contains guidance and ensures the fire pump house is swapped to it's alternate source (and strips much of the other loads, too) before the crosstie is made.

3. There was a question early on about who is responsible for the YMCC11 down in the old Unit 1 HP area and the answer is "Site Services" Lisa O'Donald x6732 and Nelson Williams x5260 will do the tagging and repair work for all of the equipment supplied from the MCC or Switchboard.

4. There is a caution in OP 2343 and in AOPs 2502C / D that says there is a 300 amp limit on the cabling between bus 24E and either vital bus due to cable tray heating limitations. This was a suprise to many of you. The truth is that this caution is NOT valid and the cautions will be removed. A system Engineer review of this system revealed that since those cables had "thermoLag" on them that they couldn't reject as much heat. The thermoLag has been removed and the cables are rated for the full 3 MVA power accross them (ie. a 24E pump won't need to be run). This issue is being tracked by CR M2-00-2204.

5. I'm working with Keith Deslandes concerning the 24E "Slow in the Slow direction" step in OP 2343 when bringing on Unit 3 to relieve our D/G. The question was, under these circumstances will our D/G pic up load or drop load when the breaker is shut. I don't have the answer yet but will provide it as soon as I can.

6. I provided all of your OP 2343 comments to Ron Webber of the procedure group.

7. In regards to the relationship of Station Blackout, Technical Specifications and EOPs. Tech Specs are part of our basis for operating the plant and the electrical offsite power requirements are based on GDC 17 criteria. These tech specs, or rules, ensure that we have enough equipment available at any given time to be able to mitigate an accident should one occur. If a station blackout occurs, then, **all** of our **ttech spec AC power sources are gone** and we are following the rules of EOP 2530. While we try to maintain tech spec equipment, during an accident, EOPs come first. So, Station Blackout, then, is an event that is not related to, nor covered under, technical specifications and while we have a specific 1 hour crosstie requirement for a SBO diesel generator, this is in no way related to the requirments of technical specifications. Tech Spec Basis Change Request 2-1-01 answers the question of how we at millstone station **interpret** the requirements for 2 independent offsite lines. 8 hours is the crosstie requirement for the **second** offsite line (Unit 3). for GDC 17 (and thus tech spec) considerations crediting ONLY Unit 3s RSST or NSST.

If you have any further questions or would like more clarification please call.

Lee Blaede

unlikely event that these permissives have not been met within the allowed 8 cycle time frame, the fast transfer scheme will NOT be permitted. In the unlikely case that a phase displacement in excess of a predetermined value exists between the normal and alternate source voltages, PRIOR to the fast transfer signal being generated, the automatic transfer is also prohibited. The transfer to the reserve station service transformer is further prohibited if there is no voltage on its secondary side, or if the source is faulted. The fast transfer scheme has been demonstrated by test to result in a total dead bus time of less than six cycles.

Undervoltage protection for the emergency buses is provided via the Engineered Safety Features Actuation System (ESAS), which is discussed in FSAR Section 7.3. Undervoltage protection consists of two independent schemes (one for each 4160 Volt emergency bus 24C (A3) and 24D (A4)). Relay contacts from the ESAS undervoltage actuation logic provide outputs to control circuits for automatic bus load shedding, and start of emergency diesel generators.

A Level 1 undervoltage actuation (loss of voltage) provides a trip signal to the RSST supply breaker to the emergency bus and the normal to emergency bus tie breaker, initiates breaker trips for automatic load shedding, and provides a start signal for the emergency diesel generator associated with that bus.

A Level 2 undervoltage actuation (degraded voltage) provides a trip signal to the RSST supply breaker to the bus. When a 4160 Volt emergency bus is fed from the RSST during degraded voltage conditions, this breaker trip results in a loss of power to the bus and a subsequent Level 1 undervoltage actuation.

A Level 2 undervoltage actuation does not initiate a trip of the normal to emergency supply breaker and, as such, does not isolate the power supply from the NSST. When a 4160 Volt emergency bus is fed from the NSST during degraded voltage conditions, operator actions are used to prevent damage to safety-related equipment, in accordance with operating procedures.

Both transformers have their low voltage windings grounded, the 6.9-kV winding has its wye neutral grounded through a resistance and the delta 4160-volt winding through a "T" connected grounding transformer and resistor. Both are effective low impedance grounds which will limit ground fault currents to less than 400 and 200 amperes, respectively. All load feeders and bus feeders are provided with ground fault trip protection.

8.2.3.3 Emergency Conditions

When offsite power is not available, redundant emergency diesel generators are available to supply power to the emergency 4160-volt buses. A full description of this power source is given in Section 8.3.

It could be postulated that onsite emergency power is being used following an accident because of the lack of availability of power from the Unit 2 reserve station service transformer. To relieve the diesel generator of continued postincident operation in such a case, it is possible (by operator control) to bring offsite power to Unit 2 via Unit 3 bus 34A or 34B through the Unit 3 reserve station service transformer, or the Unit 3 normal station service transformer (backfeeding). 00-9 00-9

A 4160V crosstie from Unit 3 is provided to the 24E (A5) bus from the Unit 3 reserve station service transformer or Unit 3 normal station service transformer (backfeeding). 00-9

This feeder is sized to provide sufficient power to place the unit in a safe shutdown condition or to provide required minimum postaccident power requirements. The 24E (A5) bus also serves as a transferable power source for spare units of emergency equipment. It supplies power for the following components: 00-9

a. Service water pump P5B
b. Reactor building closed cooling water pump P11B
c. High pressure safety injection pump P41B

The 24E (A5) bus is connected to either the 24C (A3) or 24D (A4) bus. However, both electrical and mechanically operated key interlocks prevent connecting bus 24E (A5) to both bus 24C (A3) and 24D (A4) simultaneously. The same interlock scheme is arranged to transfer the source of control power so that the control power for bus 24E (A5) is from the same redundant system as the control power for the bus to which it is connected. When a piece of equipment is out of service for maintenance, such as the service water pump P5A, its control switch on the main control board will be in the "LOCK-OUT" position (pull-to-lock), and the 24E (A5) bus will be connected to the 24C (A3) bus to allow the spare pump to be energized. The diesel generator load sequencer is so enabled through interlocks with the bus 24E (A5) tie breakers that pump P5B will start on a safety injection actuation signal (SIAS) in place of pump P5A.

8.2.3.4 Startup, Shutdown and Refueling 00-9

For conditions of normal startup, shutdown, or refueling of the unit, all station auxiliary power is supplied from the 345-kV network through the Unit 2 reserve station service transformer or through the NSST via the Main Generator Step-up Transformer with the generator links removed.

8.2.4 Availability and Reliability

8.2.4.1 Special Features

Safety related components are duplicated and their power supplies and distribution systems are arranged to ensure that neither a failure of a bus, nor the failure of equipment connected to a bus (including the diesel generator), will prevent proper operation of the safety related systems.

The normal and reserve station service transformers are physically separated. The Unit 3 reserve transformer and Unit 3 normal station service transformer are also physically isolated from the other two and are fed from different positions in the switchyard than the Unit 2 reserve transformer. When the Unit 3 RSST is out of service, the Unit 3 NSST connection must be credited as the Unit 2 alternate offsite source. A single failure of breaker 13T in the 345kV switchyard would cause simultaneous loss of both Unit 2 offsite sources, and therefore breaker 13T and associated disconnect switches must be maintained "open" when this situation exists. The capacity and capability of the Unit 2 immediate offsite source is unaffected by this action. 00-9

An interconnecting 4160-volt crosstie between Unit 3 and Unit 2 bus 24E (A5) provides an alternate power source from Unit 3 reserve station service transformer or the Unit 3 normal station service transformer (backfeeding). 00-9

The 24A (A1) and 24B (A2) 4160-volt buses supply loads required for normal operations while 24C (A3) and 24D (A4) provide power to vital equipment including vital 480-volt a-c

(4)

Information Search on CR # M2-00-2204

Monday, October 28, 2002

CR No: M2-00-2204 OPERATING PROCEDURE OP-2343 CONTAINS AN UNNECESSARY AMPACITY RESTRICTION ON THE 24E TO 24C OR 24D TIE CABLES.

Event Date:	Ops Screen Date:	Signif Level:	Unit:	CR Status Code:	CR Process Code:	Reportability Code:
08/03/2000	08/03/2000	N	02	O	F	N

Document Notes:

CONDITION DESCRIPTION; WHAT HAPPENED?; THE SYSTEM ENGINEERS REVIEW OF THE MP2/3 4160 CROSS-TIE; PROJECT TEST PLAN IDENTIFIED A LIMITATION PRESENTLY; CONTAINED IN THE OPERATING PROCEDURE. THE RESTRICTION; LIMITS THE BUS 24E TO BUS 24C OR 24D CIRCUITS TO A VALUE; LESS THAN THE FULL LOAD OF A DIESEL, APPROXIMATELY; 3MVA. THE RESTRICTION REQUIRES THE BUS 24E SWING; PUMP(S) BE USED WHEN THE MP1 RSST FEED IS USED. THE; ORIGINAL DESIGN INTENT WOULD PERMIT EITHER THE 24E SWING; PUMPS OR THE BUS 24C.D PUMPS. A SUBSEQUENT REVIEW OF; THE AMPACITY CALCULATIONS DEMONSTRATES THAT THE CROSS; TIE CABLES CAN NOW BE LOADED TO THE FULL 3MVA CAPACITY; WITHOUT RESTRICTIONS.; -; RELEVANT PHYSICAL CONDITIONS:; NONE; -; REGULATIONS OR REQUIREMENTS IMPACTED:; NONE, THE REMOVAL OF THE OPERATTION RESTRICTION WILL; RESTORE THE ORIGINAL FLEXIBILITY INTENDED IN THE SWING; BUS DESIGN.; -; DEPARTMENT THAT CREATED THE CONDITION:; UNKNOWN; -; PROCESS IN USE WHEN CONDITION OCCURRED:; UNKONWN; -; DEPARTMENT DISCOVERING CONDITION:; MP3 ENGINEERING (SYSTEM & DESIGN); -; ACTIVITY RESULTING IN DISCOVERY:; SYSTEM ENGINEERS REVIEW OF DCR M3-99039.; -; IMMEDIATE CORRECTIVE ACTIONS TAKEN:; DISCUSSED WITH SUPERVISOR AND SYSTEM ENGINEER.; -; ACTIONS PLANNED BUT NOT TAKEN BEFORE CR INITIATED:; REVISE THE OPERATING PROCEDURE AND ELECTRICAL; CALCULATIONS.; -; RECOMMENDED CORRECTIVE ACTIONS:; REMOVE THE RESTRICTIONS FROM THE OPERATING PROCEDURE AND; UPDATE THE ELECTRICAL CALCULATIONS.; -; DEPARTMENT RECOMMENDED TO PERFORM INVESTIGATION:; MP2 DESIGN ENGINEERING; DE HAS RESPONSIBILITY FOR THE; CALCULATIONS.; -; INITIATED BY:; DANIEL P. HUNDLEY, PHONE 0234; INITIATOR REQUESTS FOLLOWUP; -; CRT REVIEW:;

AR Number:	Assign Nbr:	Assign Subject:	Assign Due Date:	Sched Reference	Mode Code:
00008395	01	M2-00-2204 LEAD :OPERATING PROCEDURE OP-2343 CONTAINS AN	11/01/2000	NA	NA

Assign Status: COMPLETE 11/01/2000 **Assign Type:** CATI

Responsible Group: 2MGRDESENG

Assignment Text:

M2-00-2204, SIGNIFICANCE LEVEL: N
INITIATED BY: DANIEL HUNDLEY, PHONE: 0234
INITIATOR FEEDBACK REQUESTED: YES
REVIEW AND DEVELOP CORRECTIVE ACTIONS AS REQUIRED.

Assignment Completion Notes:

During the review of the MP2/MP3 4160V cross tie project it was found that OP-2343 limited the value of Bus 24E to 24C or 24D buss circuit to a value less than the full load of a diesel, approximately 3MVA. The restriction was due originally to "thermo-lag" being installed on the cable, which limited its capacity. With the removal of the thermo-lag, the ampacity calculations were revised, but failed to update the Operating Procedure (OP-2343)Corrective actions will include Design Engineering marking up OP-2343 as required and then providing a marked copy to procedures group. Electrical calculations have been updated via DCR M3-99053NOTE: A "lessons learned" memorandum will be prepared documenting the failure to completely research affected documents when the thermo lag was removed. REFERENCE: CR M2-00-2776

AR Number:	Assign Nbr:	Assign Subject:	Assign Due Date:	Sched Reference	Mode Code:
00008395	02	CR M2-00-2204 CA #1 Review and revise OP-2343...	07/26/2002	NA	NA

Assign Status: COMPLETE 07/24/2002 **Assign Type:** CACA

Responsible Group: MGRNUCENG

Assignment Text:

AR # 00008395-02
Review and revise OP-2343 to determine the correct ampacity value for the 24E to 24C or 24D tie cables. Currently the restricting value for the cables does not take into account the removal of the thermal-lag.
Reference Calc 96-ENG-01528E2. M Champagne approved.
Change Log:
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12/28/00 - Due date has been extended to 09/01/01 and assignment transferred to POCONFIG due to higher work priorities and reorg. D. Aube for C. Maxson. R. Barcomb x3478

Information Search on CR # M2-00-2204

Monday, October 28, 2002

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7/26/01 - Request due date change to 07/26/02 to higher priority of other assignments. Due date change approved per D. Aube. Eric Smith X-5567.

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02/12/02 ASSIGNMENT TRANSFERRED FROM POCONFIG TO MGRNUCENG DUE TO SITE REORGANIZATION V. WESSLING X4400

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Assignment Completion Notes:

AR 00008395-02 24E bus is connected to bus 24C by cable Z5A501A/A and to bus 24D by cable Z5A505A/B. Ampacity of the cables is evaluated in calculation 98-ENG-02678E2 rev. 0. Both cables have derated cable ampacity of 525.9 amps. This equates to approximately 3.79 MVA !(525.9 x 4160 V x 1.73)/1000.000[feeder cable capacity. Typical allowable load on the cable is 80% of the cable capacity due to the 10% deviation in voltage and 15% Service Factor of the motor. Therefore typical allowable load for this situation would be approximately 3.0 MVA (3.79 x 0.80). The 3.0 MVA limiting value as mentioned in OP 2343 rev. 19 02 is appropriate. No change is required to the procedure. R. Patel x3998.

(5)

 # 73 | ✔ RO ✔ SRO | Question ID: **1000114** | Origin: **New** | Memory? (Check=Yes)

The plant has sustained a station blackout. The crew has energized bus 24E from the Unit 3 RSST and are about to energize bus 24C from bus 24E.

A voltage of _____ volts and a current of _____ amps will prevent exceeding the 3 MVA electrical limit.

The limit is imposed to prevent _____.

A 4180 ; 412; exceeding the maximum Unit 2 load assumed in the worst case event.

B 4140; 422; exceeding the overcurrent rating on 24E/34B TIE BKR, 34B-24E-2 (A505).

C 4160; 300; overheating of the cable between bus 24E and bus 24C.

D 4060; 431; overheating of the cable between bus 24E and bus 34B.

X RNS 10/30/02 ✓

Justification	Per Attachment 23U of EOP 2541, a combination of 4180 volts and 412 amps falls into the acceptable region. Analysis shows that Unit 2 will require no more than 3 MVA in the worst case scenario. "B" is incorrect because a combination of 4140 volts and 422 amps exceeds the 3 MVA limit. Also, the over current rating on the 24E/24B cross tie breaker is 1200 amps. "C" is incorrect. While a combination of 4140 volts and 422 amps is within the 3 MVA limit, there is no cable overheating concern. There was a concern at one time, but the problem was resolved. "D" is incorrect because a combination of 4060 volts and 431 amps exceeds the 3 MVA limit. Also, there is no cable over heating concern.
Reference	LOIT, E30-00-C, 2530, 23E, MVA, 2541, MB-03540 **Requires the use of EOP 2541, Attachment 23U**

NRC K/A System/E/A

System 062 A.C. Electrical Distribution

Number GS

SEE GENERIC K/A

Importance RO/SRO

10CFR Link

NRC K/A Generic

2.1 Conduct of Operations

2.1.32

Ability to explain and apply all system limits and precautions

3.4 3.8

(CFR: 41.10 / 43.2 / 45.12)

Docket No. 50-336
B18798

Attachment 1

Millstone Power Station, Unit No. 2

October 2002 Reactor Operator and Senior Reactor Operator
Examination Analysis

Millstone Unit 2
LOIT 2002 RO and SRO Exam Analysis

Note: The numbers to the left of each letter (answer/distractor) indicate the number of candidates that selected that answer. The correct answer is circled.

RO and SRO. 4 ROs missed, 3 ROs correct; 4 SROs missed, 1 SROs correct

30. The approved discharge permit for "A" CWMT authorizes a discharge flow rate of 100 gpm.
The Aux. Building PEO initiates the discharge of the "A" CWMT with an initial tank level of 87%.
At the end of exactly 16 minutes the PEO records the "A" CWMT level at 82%.
Flow recorder FR-9050 indicates that 1150 gallons have been discharged.
The PEO checks the flow rate using the following formula from the procedure:
Flow Rate = [Previous level (%) - Current level (%)] x 320 gallons per % level divided by "Time interval between recording levels (minutes)"
The PEO requests that you perform an independent check of his calculations.

Based on your calculation you would direct the PEO to:

A. Readjust the discharge flow control valve to raise the discharge rate accordingly.

B. Readjust the discharge flow control valve to lower the discharge rate accordingly.

4 (C.) Secure the discharge, then recommence by controlling the discharge flow rate based on tank level change.

8 D. Continue the discharge and recheck FR-9050 versus "A" CWMT delta-level at the end of one hour.

The students did not infer from the stated conditions that the flow recorder was inoperable. They thought that they needed to continue monitoring the flow recorder versus level change to determine recorder operability. Additionally, the students stated that determining the flow recorder operability during the discharge is NOT procedurally required. While this is true, the question demonstrates the use of a questioning attitude to determine a potential problem.

The question is technically correct; however, the question in the exam bank will be modified to include the flow integrator value. (AI 32002-982) This will ensure the student clearly understands that the flow recorder is inoperable some time after the discharge is started. Additionally, this concept will be covered with the students in the post-exam review.

Millstone Unit 2
LOIT 2002 RO and SRO Exam Analysis

RO Only. 4 missed; 3 correct

37. Which of the following conditions would prevent closing the Reactor Protection System trip circuit breakers, (TCBs)?

4 A. Turbine trip not reset

B. SG level transmitters failed high on Channel 'A' for SG #1 and Channel 'C' for SG #2

C. SG pressure transmitters failed low on Channel 'A' for SG #1 and Channel 'A' for SG #2

3 (D.) Containment pressure transmitters failed high on Channel 'B' and 'D'

Students did not remember that the reactor trip from the turbine trip is bypassed below 15% power.

This concept will be covered with the students in the post-exam review.

SRO Only. 4 missed; 1 correct

45. Refueling is in progress with neutron count rate being monitored using channel 'A' and 'C' wide range detectors, (Facility 1).

    Channel 'A' wide range is selected for input to the audible count rate in containment and the control room and is being used for 1/m plots.

    'B' and 'D' wide range detectors are out of service while Facility 2 power supplies are being worked.

    A new bundle is lowered halfway into the core when the main breaker on VA10 trips open.

    What action will be directed by the SRO in charge of refueling?

    A. Immediately halt movement, shift audible input to channel 'C', then continue refueling operations.

    B. Fully insert the fuel bundle, shift audible input to channel 'C', re-initialize 1/m using channel 'C', then continue refueling operations.

4 C. Immediately halt movement, restore a second wide range detector and audible counts prior to resuming

1 (D.) Fully insert the fuel bundle and halt movement, restore a second wide range detector and audible counts prior to resuming.

Students did not believe that the bundle should be lowered into the core (safe position) before stopping fuel movement. As defined in Technical Specifications, "Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position."

The question is technically correct; however, the question in the exam bank will be modified to ensure the fuel bundle is <u>obviously</u> NOT in a 'safe position' when the second detector is lost. (AI #2002-983) This will ensure the students understand that it must be placed in a 'safe position' prior to suspending CORE ALTERATIONS. Additionally, this question will be reviewed during the exam review.

SRO Only. N/A

(Included due to a grading change.)

54. The unit is at 100% power.

    The 'A' EDG is out for on-line maintenance in accordance with TSAS 3.8.1.1.b.4.

    Surveillance is scheduled on the 'D' CAR cooling unit.

    During performance of the surveillance, the CAR fan trips when a start in slow speed is attempted.

    RBCCW flow through the unit is acceptable and it is verified that the unit will run in high speed.

    For this set of conditions you must:

    A. Restore the 'D' CAR cooling unit to Operable within 7 days or be in Hot Shutdown within the next 12 hours.

    B. Initiate action within 1 hour to place the unit in Hot Standby within the next 6 hours and in Hot Shutdown with pressurizer pressure < 1750 psia within the following 6 hours.

4 C. Restore the 'A' EDG or the 'D' CAR cooling unit to Operable within 2 hours or place the unit in Hot Standby within the next 6 hours and in Hot Shutdown within the following 6 hours.

1 D. Restore the 'D' CAR cooling unit or the 'A' EDG to Operable status within 48 hours or be in Hot Shutdown within the next 12 hours.

There is NO correct answer to this question. See the attached justification.

This question will be modified in the exam bank. (AI #2002-995)

Millstone Unit 2
LOIT 2002 RO and SRO Exam Analysis

RO Only. 5 missed; 2 correct

56. The plant is at 100% power with a discharge of the Aerated Waste Monitor Tank (AWMT) in progress.

    The Aux Building PEO observed the AWMT level lower to 11%, at which time the discharge is automatically terminated on low level.

    Without any operator intervention, which of the following describes the system configuration as a result of the automatic termination?

    (Assume that ALL controls associated with the aerated waste system function as designed)

2 (A.) The AWMT pump has turned off and the discharge valves are open.

B. The AWMT pump is running and the inboard discharge valve is closed.

5 C. The AWMT pump has turned off and both discharge valves are closed.

D. The AWMT pump is running and the outboard discharge valve is closed.

Students did not remember that the discharge valves are NOT affected by a low level in the AWMT.

This concept will be reviewed during the exam review.

RO Only. 6 missed; 1 correct

62. Initial Conditions: 100% power, 480 V buses 22A and 22B are cross-tied due to the 24A to 22A 4160 V/480 V stepdown transformer tagged out. Prior to cross-tying the buses, caution tags were placed on the pressurizer backup heater control switches as required by the procedure.

The surveillance for forcing pressurizer sprays for boron equalization must be performed at this time.

Based on heater group power supplies and any applicable restrictions due to the bus cross-ties, which of the following describes the pressurizer heater alignment that will exist during the performance of the surveillance?

1 (A.) '3' and '4' backup heater groups on, 'A' and 'B' Proportional groups on at minimum output

3 B. '3' and '4' backup heater groups on, 'A' and 'B' Proportional groups on at maximum output

3 C. '2', '3' and '4' backup heater groups on, 'A' and 'B' Proportional groups on at minimum output

D. '2', '3' and '4' backup heater groups on, 'A' and 'B' Proportional groups on at maximum output

The students who picked answer B did not remember that the proportional heaters would be at minimum output when forcing sprays.
Students who picked answer C did not remember that the procedural requirement for this condition is to tag out the backup heaters on each of the two buses being cross tied.

This concept will be reviewed during the exam review.

RO and SRO. 3 ROs missed, 4 ROs correct; 3 SROs missed, 2 SROs correct

64. Daily RPS surveillance 2601D is in progress on channel 'A' of the RPS. The PPO is at the point in the procedure where the 'Nuclear Pwr Calibrate' potentiometer is adjusted to match the calculated voltage when vital instrument bus VA-30 is lost.

Based on the above, what is the resulting condition of the RPS?

6 (A.) The K3 relay has de-energized, tripping open TCB 3 and 7, but the reactor has NOT tripped.

6 B. RPS channel 'C' is de-energized, but all TCBs remain closed.

C. The reactor has just tripped due to two coincident High Power Trip signals.

D. The RPS is placed in a 1 out of 3 logic when channel 'A' High Power trips due to loss of power to the Bypass circuit.

Students did not remember that the K-3 relay was powered from VA-30 and that the breakers associated with the K-3 relay will open when the relay is deenergized.

This concept will be reviewed during the exam review.

RO and SRO. 5 ROs missed, 2 ROs correct; 3 SROs missed, 2 SROs correct

72. Due to existing minor steam generator tube leakage the SJAE radmonitor is reading 50 cpm.

The SPO identifies a slight rise in condenser backpressure and dispatches a PEO to Condenser Air Removal System operation.

The PEO reports that the Steam Jet Air Ejectors are operating properly, but indicated Condenser Air Removal System flow has doubled.

With the Condenser Air Removal System flow doubled and the SG tube leakage constant, how will the SJAE radmonitor reading respond and why?

7 A. The SJAE radmonitor reading will be one half of the initial. Concentration of the off-gas is diluted by the additional air.

1 B. The SJAE radmonitor reading will be the same as the initial. Slipstream flow to the radmonitor is based on sample fan flow, therefore constant.

4 (C.) The SJAE radmonitor reading will be the same as the initial. Half the concentration at twice the flow rate equals the same cpm.

D. The SJAE radmonitor reading will be twice as much as the initial. Twice the number of radioactive molecules will pass the radmonitor each minute.

Students did not understand the response of a process radiation monitor with a change in dilution flow through the monitor.

This concept will be reviewed during the exam review.

RO and SRO. 0 ROs missed, 7 ROs correct; 3 SROs missed, 2 SROs correct
(Included due to a grading change.)

73. The plant has sustained a station blackout. The crew has energized bus 24E from the Unit 3 RSST and are about to energize bus 24C from bus 24E.

A voltage of _____ volts and a current of _____ amps will prevent exceeding the 3 MVA electrical limit.

The limit is imposed to prevent _____.

1 A. 4180 ; 412; exceeding the maximum Unit 2 load assumed in the worst case event.

B. 4140; 422; exceeding the overcurrent rating on 24E/34B TIE BKR, 34B-24E-2 (A505).

9 (C.) 4160; 300; overheating of the cable between bus 24E and bus 24C.

2 D. 4060; 431; overheating of the cable between bus 24E and bus 34B.

Changed correct answer from A to C based on additional information obtained after the exam. (See the attached justification.)
One student that chose D made a transposition error when copying his answer from the exam page to the Answer Sheet. (Originally chose C.)

The question is technically correct and did contain the correct answer; however, the question in the exam bank will be modified to indicate what we have now found to be the correct answer. (AI #2002-984) Additionally, this concept will be reviewed during the exam review.

Millstone Unit 2
LOIT 2002 RO and SRO Exam Analysis

RO and SRO. 6 ROs missed, 1 ROs correct; 4 SROs missed, 1 SROs correct

81. What barrier(s) are in place to prevent transferring the contents of the RCS Quench Tank (QT) to the Primary Drain Tank (PDT) when cooling the QT following the opening of a PORV or Safety?

5 A. A single handswitch opens either the suction & return valves for the QT or for the PDT.

1 B. Suction and return for the QT and PDT is via a pair of two way valves.

4 C. QT and PDT use separate suction and return valves which are interlocked to prevent concurrent opening.

2 (D.) QT and PDT use separate suction and return valves. Procedure prevents concurrent opening.

The students did not remember the hand switch configuration for the suction and return valves for the PDT and Quench Tank.

This concept will be reviewed during the exam review.

SRO Only. 3 missed, 2 correct

86. The 'A' Service Water pump passed its monthly surveillance and quarterly IST.

Three days later the strainer delta-P instrument failed.

The 'B' SW pump was placed in service on the 'A' header.

The 'A' SW pump handswitch was placed in pull-to-lock.

The DP switch was isolated using the instrument stops and the DP switch was replaced.

Besides venting the the DP switch, verifying the setpoints, and re-opening the instrument stops, which of the following surveillances, (if any), must be performed to restore the 'A' Service Water pump to Operable?

2 (A.) None required, the pump may be declared Operable when the DP switch is capable of performing its function.

B. The pump must be auto-started on a Facility 1 SIAS actuation signal.

C. None required; however, a complete Facility 1 Service Water system valve alignment would be performed.

3 D. A partial Facility 1 Service Water system valve alignment and pump auto-start on SIAS must be performed.

Students were not aware that the Service Water Strainer D/P cell does NOT require any operability testing after venting. The Service Water procedure specifically states the requirements for venting the instrument and that NO surveillances are required.

This concept will be reviewed during the exam review.

RO and SRO. 3 ROs missed, 2 ROs correct; 3 SROs missed, 2 SROs correct

100. Unit 2 has just experienced an uncomplicated Reactor Trip and the shift is carrying out the actions of EOP 2525, Standard Post Trip Actions. The Primary Plant Operator (PPO) has just finished confirming the status of Containment Combustible Gas Control with the Unit Supervisor (US), when he/she notices the VCT pressure is at 3 psig with level at 70% and trending down.

In accordance with the EOP Implementation Guide, what report would the PPO provide to the Unit Supervisor concerning VCT conditions?

A. Subsequent Actions on the Primary Side are completed; VCT level and pressure are in the low end of the band.

1 B. Subsequent Actions on the Primary Side are complete and verified; all conditions are normal

6 (C.) Aligning charging pump suction to the RWST due to low VCT level and pressure.

5 D. Immediate Actions on the Primary Side are complete and satisfactory; proceeding with Subsequent Actions.

Students felt that a VCT level of 70% was <u>at</u> the limit, therefore; action was NOT required until the level was below the limit. Additionally they stated that a response is not required unless asked to report on subsequent actions. The standard is to report contingency actions when they are performed.

The question is technically correct; however, the question in the exam bank will be modified to ensure the VCT level is <u>below</u> the 70% limit. (AI #2002-985) Additionally, the requirement to report the performance of contingency actions will be reviewed during the exam review.