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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SECRETARY

March 25, 1997

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'97 MAR 25 P2:45

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MEMORANDUM TO: B. Paul Cotter, Jr.
Chief Administrative Judge
Atomic Safety and Licensing Board Panel

FROM: John C. Hoyle, Secretary

SUBJECT: REQUEST FOR HEARING SUBMITTED BY FRANK J. CALABRESE, JR.

Attached is a request for hearing dated March 14, 1997, submitted by Frank J. Calabrese, Jr. (Docket No. 55-61425). The hearing request is in response to a letter from the NRC staff dated March 3, 1997, sustaining a denial of Mr. Calabrese's senior reactor operator's license application.

Mr. Calabrese's request for hearing and additional documentation (including his letter to the NRC staff dated December 19, 1996) are being referred to you for appropriate action in accordance with 10 C.F.R. Sec. 2.1261.

Attachments: As stated

cc: Commission Legal Assistants
OGC
CAA
OPA
EDO
NRR
Frank J. Calabrese, Jr.



D502

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Frank J. Calabrese Jr.
698 South Kennedy Drive
McAdoo, Pa. 18237-1731
(717) 929-1577

Secretary of The Commission
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Secretary,

This letter is to request a hearing in accordance with 10 CFR 2.103 (b)(2) per your letter of March 3, 1997 as I do not accept the proposed denial.

I am satisfied with the outcome of the Written Exam, but am not satisfied with the grading of the Operating (Simulator) Exam.

I believe my Simulator Exam has been graded incorrectly or too severely as I have stated in my previous request of an informal NRC Staff review dated December 19, 1996.

Thank you for your kind consideration in this matter which is of utmost importance. Please provide me the information on when and where the hearing will be held at your earliest convenience. If you have any other comments , questions, or concerns, contact me at the above address or by phone at (717) 929-1577

Sincerely,

F.J. Calabrese Jr.

3/14/97

cc: Assistant General Counsel For Hearings and Enforcement
Office of General Counsel
US Nuclear Regulatory Commission
Washington, D. C. 20555

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 3, 1997

Mr. Frank J. Calabrese Jr.
698 S. Kennedy Drive
McAdoo, PA 18237-1731

Dear Mr. Calabrese:

In response to your letter of December 19, 1996, we have reviewed the grading of the SRO written and operating examination administered to you on October 21 - 23, 1996, and have reconsidered the proposed denial issued to you on December 2, 1996.

In light of the additional information you provided, we have determined that you passed the written examination, however we find that you did not pass the operating test.

Consequently, the proposed denial of your license application is sustained. If you accept the proposed denial and decline to request a hearing within 20 days as discussed below, the proposed denial will become a final denial. You may then reapply for a license in accordance with 10 CFR 55.35, subject to the following conditions:

a. Because you passed the written examination on October 21, 1996, you may request a wavier of that portion. This wavier will be granted by the NRC and will be valid up to one year from your examination date.

b. Because you did not pass the operating test administered to you on October 22 - 23, 1996, you will be required to retake an operating test.

c. You may reapply for a license 2 months from the date of this letter.

If you do not accept the proposed denial, you may, within 20 days of the date of this letter, request a hearing in accordance with 10 CFR 2.103(b)(2). Submit your request, in writing, to the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Assistant General Counsel for Hearings and Enforcement, Office of the General Counsel, at the same address.

Failure on your part to request a hearing within 20 days constitutes a wavier of your right to demand a hearing and, for the purpose of reapplication under 10 CFR 55.35, renders this letter a notice of final denial of your application, effective as of the date of this letter.

For your information, I am enclosing a copy of the staff's resolution of each of your comments. If you have any questions, please contact Stuart A. Richards, Chief, Operator Licensing Branch, at (301) 415-1031.

Sincerely,

Bruce A. Boger, Director
Division of Reactor Controls
and Human Factors
Office of Nuclear Reactor Regulation

Docket No.: 55-61425

Enclosure: As stated

cc w/encl: G. J. Kuczynski, Plant Manager
W. H. Lowthert, Manager - Nuclear Training

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NRC REVIEW FOR FRANK J. CALABRESE JR. - SRO CANDIDATE

In response to a letter from Mr. Frank J. Calabrese dated December 19, 1996, the NRC has reconsidered the proposed denial issued to Mr. Calabrese on December 2, 1996, and has reviewed the grading of the written examination and operating test administered on October 21 - 23, 1996.

## CANDIDATE'S CONTENTIONS - WRITTEN EXAMINATION

Mr. Calabrese contends that questions 13, 22, 64, and 66 were graded incorrectly or too severely. His letter of December 19, 1996, provided detailed information that he concludes supports his contentions. The grading of question 16 was also reconsidered based on the appeal of another candidate.

## NRC ANALYSIS

Question No. 13

A valve is tagged with a pink tag during an outage. Repositioning/operation of the valve can be approved by which one of the following individuals or combinations of individuals?

a. Only the work group
b. Only Shift Supervision
c. Shift Supervision and the Operations Outage Supervisor
d. The work group and Shift Supervision

Answer Key Choice: d

The candidate contends that the combination of individuals who can approve repositioning of pink tagged valves is dependent upon the purpose of the pink tag and the personnel involved. The candidate argues that under certain circumstances Operations is the work group associated with the tag and therefore only Shift Supervision (answer 'b') must give permission to reposition/operate the valve.

The controlling procedure, Procedure NDAP-QA-0302, Rev. 6, "System Status and Equipment Control," in section 4.6 under the duties of the Work Group/Worker states:

> "When authorized by Operations Shift or Outage Group Supervision and the individual or work group requiring the Status Control Tag, a worker may manipulate components... This can include the operation of status control tagged (pink tag) components when required for venting and draining systems."

Although the candidate is correct that under certain circumstances answer 'b' could be considered correct, the question as stated provides no information indicating that such circumstances exist. Absent such information, answer 'd' is the only correct answer for the question. The NRC concludes that the grading of this question should not be changed.

Question No. 16

The bundle from location 23-03 is being transferred from the core during off-load. A leak has occurred requiring an operator to enter containment to investigate.

What is the maximum elevation that the operator can go to in the containment?

a. 738'
b. 752'
c. 767'
d. 779'

Answer Key Choice: b

A different candidate appealed this question and contended that answer 'c' should be considered the correct answer based on the applicable procedural requirements. The NRC concluded that the question should be deleted because the procedural guidance on access above the 767' elevation is confusing, the fuel bundle location in the question does not exist, and there is no need for an SRO candidate to be able to apply the knowledge being tested by this question from memory.

Question No. 22

Given the following conditions:

* A reactor cooldown is in progress.
* Recirculation pump 1A was secured at 0815 due to concerns with seal leakage.
* At 0930, Recirculation pump 1B was inadvertently tripped.
* At 0945 the 1B pump is restarted.
* The 1B pump is tripped again at 0950.

What is the earliest time the 1B pump is allowed to be started?

a. 1000
b. 1005
c. 1030
d. 1035

Answer Key Choice: d

The candidate contends that the question should be deleted because it is inappropriate to expect the candidate to know the subject material from memory. The NRC disagrees because the question was based on a facility learning objective which requires the candidate to state the reactor recirculation pump restart limitations. The NRC concludes that there should be no change to the grading of this question.

Question No. 64

Station Power Restoration, EO-000-031, provides a specific sequence for reenergizing busses from an off-site source to AVOID:

a. diesel generators tripping on overspeed when loads are transferred to off-site power.
b. underfrequency condition on off-site sources due to manually reenergizing non-emergency busses.
c. undervoltage condition caused when a ECCS initiation signal is present.
d. starting equipment automatically without operator action.

Answer Key Choice: c

The candidate argues that choice 'd' should also be accepted as a correct answer due to supporting statements in the applicable procedure. The NRC agrees that choice 'd' should be accepted as an additional correct answer.

Question No. 66

Given the following:

* A station blackout has occurred.
* MAIN STEAM SRV LEAKING is alarming.
* MAIN STEAM DIV 1 SRV OPEN is clear.
* MAIN STEAM DIV 2 SRV OPEN is clear.

Based on this information, what is the status of SRVs and equipment to monitor SRVs?

a. An SRV is leaking. The acoustic monitors fail during a station blackout.
b. All SRVs are closed. Tailpipe temperature indications fail high during a station blackout.
c. Status of the SRVs is unknown because the annunciators are indications of loss of power to instrumentation.
d. An SRV has opened, then reclosed, causing the acoustic monitors to clear.

Answer Key Choice: a

The candidate contends that none of the answers are correct, in part because insufficient information is provided to determine the status of the SRVs.

The question asks for the status of the SRVs and SRV instrumentation based on the information provided. The NRC review concludes that during a station blackout, tailpipe temperature indication would be available and the acoustic monitors would be unavailable due to loss of power. Based on the information provided, the status of the SRVs (leaking, closed or open) cannot be confirmed. However, answer 'b' is incorrect with respect to the status of instrumentation because the tailpipe temperature indications do not fail high during a station blackout. Answer 'c' is incorrect with respect to the status of SRV instrumentation because the SRV leaking annunciator is not due to loss of power. Answer 'd' is incorrect with respect to the status of SRV instrumentation because the acoustic monitors are deenergized, not cleared. Answer 'a' is not incorrect with respect to the status of SRVs and is correct with respect to the status of the SRVs instrumentation. Even though SRV status cannot be confirmed and none of the answers are incorrect with respect to SRV status, the question is still valid with respect to the status of SRV instrumentation. The applicants should be able to determine that answers 'b', 'c', and 'd' are incorrect based on the status of SRV instrumentation. Answer 'a' is therefore the only correct answer.

NRC CONCLUSION - WRITTEN EXAMINATION

The NRC concluded that question 16 should be deleted and a second correct answer accepted for question 64. The candidate therefore has 73 correct answers on a 91 question test for an overall score of 80.2%.

CANDIDATE'S CONTENTIONS - OPERATING TEST

The candidate contends that rating factors C.4.A, C.4.B, and C.7.B were graded incorrectly or too severely. At issue is the candidate's actions during the major transient portion of the second scenario. The scenario involved a steam line break in the secondary containment, coupled with the failure of seven control rods to insert into the reactor core. As the Senior Reactor Operator during the scenario, the candidate was required to perform a rapid depressurization in accordance with EO-100-112, "Rapid Depressurization." The NRC examination comments state that the candidate did not refer to the procedure prior to directing the rapid depressurization and then directed that the ADS valves be opened prior to RPV injection being stopped, contrary to the procedure. Consequently, the candidate was graded a '1' in rating factors C.4.A, Procedures-Reference, and C.4.B, Procedures-Correct Use. Overall the candidate was graded a 1.5 in the Procedures competency and thereby failed the operating portion of the examination.

The candidate contends that he correctly ordered the actions required by the procedure in the proper sequence. The candidate states that the board operator (PCOX) incorrectly carried out his direction and that he then reordered the proper action. He further contends that no injection of the RPV occurred.

NRC ANALYSIS

The NRC examiner's notes and recollection support the original grading of the candidate. Whether there was injection or not, the candidate was observed by the examiner to incorrectly order steps to implement the rapid depressurization, without reference to the applicable procedure. The errors observed were safety significant and support the grading of '1' in the two rating factors. Absent additional information, the NRC concludes that revision of the grading of this competency is not warranted.

The candidate's contentions regarding the grading of rating factor C.7.B were not considered because the candidate received an overall passing grade for the associated competency.

NRC CONCLUSION - OPERATING TEST

No revision of the original grading is warranted.

Rec'd 12/24
9:30 AM

December 19, 1996

Frank J. Calabrese Jr.
698 S. Kennedy Drive
McAdoo, PA 18237-1731

Director
Division of Reactor Controls
and Human Factors
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Director:

This letter is to request an informal NRC staff review of the grading of my written SRO examination which was administered on October 21-24, 1996, as I do not accept the proposed denial.

I believe the written examination and the simulator examination have been graded incorrectly or too severely. Please see the attached justification for the written examination and the simulator examination topics, for which I request reconsideration.

Enclosed is my simulator examination basis and the basis for Questions 13, 22, 64, and 68. For your review purposes, I have also enclosed the simulator examination comments from my proposed denial letter of December 2, 1996.

Thank you for your kind consideration in this matter which is of utmost importance. If you have any further questions, comments, or concerns, please contact me at the above address or via phone at (717) 929-1577.

Sincerely,

Frank J. Calabrese Jr.

/fjc

# SIMULATOR EXAMINATION BASIS

**Comment C.4.A** - During this time in the scenario, I had directed the PCOX to open (6) ADS valves and override Lo Press ECCS at ≈900#. The PCOX then began to open (6) ADS valves and override Lo Press ECCS as directed. I then reordered override of all Lo Press ECCS again at 350# when I noticed the "A" RHR Pp running. (Note: 350# is well above the pressure at which RHR would inject to the vessel.) I saw no injection, no level increase, and no power increase as a result of these actions.

**Comment C.4.B** - (Same Rebuttal as Comment C.4.A)

**Comment C.7.B** - During the scenario in question, I never assumed primary responsibility for monitoring secondary containment rad levels. When initial rad levels were observed, I directed the PCOU to place rad format i/S and maintain primary responsibility for monitoring. I advised I would try to "back him up" with the CRT at my console. I was advised by the PCOU when we had exceeded max safe rad in (2) areas. I then confirmed his indications and proceeded to order rapid depressurization of the plant as directed in EO-100-104.

**Conclusion** - Therefore, I believe the grading of my simulator performance is not only too severe, but somewhat incorrect. The scenario involved several major failures of plant equipment which were dealt with in accordance with plant procedures, and no incidents of public safety concern were raised. I respectfully request that the simulator test be reconsidered.

FORM ES-302-2
Cross Reference Comments

C.4.A The candidate failed to refer correctly to important procedures in important instances. The candidate was acting in the position of the Senior Reactor Operator (SRO) during the major transient of the second scenario. The scenario involved fuel failure, a steam line break in secondary containment with seven control rods failing to insert. The candidate was in EO-100-104, "Secondary Containment Control", step SC/R-6 that directs when area radiation levels exceed maximum safe levels in two or more areas to rapidly depressurize the reactor. The candidate gave the order to open six ADS valves to depressurize the reactor without first referring to procedure EO-100-112, "Rapid Depressurization". Procedure EO-100-112, step RD-5 required action to stop and prevent all RPV injection prior to opening the ADS valves.

The balance of plant operator (BOP) opened the ADS valves as directed then indicated that he would need to secure the low pressure emergency core cooling systems (ECCS). The candidate then gave the order to override all low pressure ECCS (approximately two minutes after the ADS valves were opened). By the time the order was given reactor pressure had already decreased to approximately 350 psig. The BOP completed the actions to override all low pressure ECCS systems, but one of the low pressure coolant injection systems injected cold water into the reactor vessel before the pumps were secured. The candidate did not refer to EO-100-112 until after the low pressure coolant injection systems had been overridden.

The candidate's failure to refer to EO-100-112 prior to directing action to rapidly depressurize the RPV resulted in failure to stop and prevent RPV injection prior to depressurization. As a result an injection of cold water occurred when it was not assured that the reactor would remain shutdown under all conditions without boron. The reactivity addition from the cold water injection could have caused a reactor power excursion and substantial core damage. The candidate failed to refer to the procedure in an important instance.

K/A 295015 G.12 (3.7/4.4)
EO-100-104 & EO-100-112
10 CFR 55.45(a)(13)

FORM ES-302-2
Cross Reference Comments

C.4.B As described in C.4.A. the candidate while acting in the position of SRO during the major transient of the second scenario failed to use procedures correctly resulting in significant errors that degraded the plant unnecessarily. When rapid depressurization is required and it has not been determined that the reactor will remain shutdown under all conditions without boron, step RD-5 of EO-100-112 directs the operator to wait until all RPV injection is stopped and prevented in accordance with step LQ/L-19 of EO-100-113, "Level/Power Control," before opening the ADS valves. Step LQ/L-19 of EO-100-113 directs the operator to stop and prevent injection except from SLC, CRD, RCIC, and HPCI. The candidate's direction to open the ADS valves before the low pressure emergency coolant systems and condensate had been overridden was not in accordance with the direction in EO-100-112.

The candidate's failure to correctly implement EO-100-112 resulted in an injection of cold water into the RPV when it was not assured that the reactor would remain shutdown under all conditions without boron. The reactivity addition from the cold water injection could have caused a reactor power excursion and substantial core damage. The candidate made a significant error in the use of procedures that degraded the plant unnecessarily.

K/A 295015 G.12 (3.7/4.4)
EO-100-112 & EO-100-113
10 CFR 55.45(a)(13)

FORM ES-302-2
Cross Reference Comments

C.7.B While the candidate was acting in the position of the SRO during the major transient of the second scenario, he failed to provide timely, well thought out directions that demonstrated appropriate concern for the safety of the plant. During the scenario the candidate's two major concerns were inserting the rods that had failed to scram and monitoring increasing radiation levels. The candidate was in EO-100-104, "Secondary Containment Control," and had assumed responsibility for monitoring secondary radiation levels. The candidate failed to monitor conditions closely and as a result, two areas had exceeded maximum safe radiation levels for approximately five minutes before it was recognized by the crew. When it was recognized that two areas had exceeded max safe levels, the candidate failed to provide well thought out direction to rapidly depressurize as discussed in C.4.A.

The candidate's failure to provide timely direction to rapidly depressurize the RPV when radiation levels in two areas of secondary containment were above max safe allowed radiation levels in the secondary containment to continue to increase unnecessarily. Allowing radiation levels to increase in the control rod drive areas could have resulted in higher personnel exposures if operators had to enter the area to attempt to insert the control rods that were still withdrawn.

The candidate's failure to provide well thought out direction for rapid depressurization when it had not been assured that the reactor would remain shutdown under all conditions without boron resulted in an injection of cold water into the RPV. The reactivity addition from the cold water injection could have caused a reactor power excursion and substantial core damage.

K/A 295033 A2.01 (3.8/3.9) K/A 295033 G.12 (3.8/4.4)
EO-100-104 & EO-100-112
10 CFR 55.45(a)(13)

## SRO EXAMINATION QUESTION NO. 13

A valve is tagged with a pink tag during an outage. Repositioning/operation of the valve can be approved by which one of the following individuals or combinations of individuals?

a. Only the work group
b. Only Shift Supervision
c. Shift Supervision and the Operations Outage Supervisor
d. The work group and Shift Supervision

Answer Key Choice d

Candidate's Choice b

Basis

The individual or combination of individuals who can approve the repositioning/operation of a valve that is pink tagged during an outage is dependent upon the purpose of the pink tag and personnel involved.

For example, during outages, pink tags are utilized to identify and control the position of valves which form the piping structural integrity boundary for operable systems. The only group that would require the repositioning/operation of a pink tagged boundary valve is Operations. Also, in accordance with NDAP-QA-0302, Section 4.4.4, only Shift Supervision is responsible for tracking LCOs and TROs and maintaining the Daily LCO and TRO Logs. Since the repositioning/operation of a pink tagged boundary valve may affect equipment or system operability, the valve operation must be approved by Shift Supervision only. In this situation, no work group is involved and outage group supervision is specifically excluded from tracking and maintaining the LCO and TRO Logs. Therefore, in accordance with NDAP-QA-0302, Section 6.3.14, the only group that can permit the repositioning/operation of components is Operations Shift Supervision.

I contend Choice "b" is the correct choice based upon the above example.

Supporting Documentation

NDAP-QA-0302; Rev. 6; Pages 1, 12, 13, 17, and 26

PROCEDURE COVER SHEET

| | NUCLEAR DEPARTMENT PROCEDURE | |
|---|---|---|
| | SYSTEM STATUS AND EQUIPMENT CONTROL | NDAP-QA-0302<br>Revision 6<br>Page 1 of 89 |

EFFECTIVE DATE: 4-1-96

PERIODIC REVIEW FREQUENCY: 4 YEARS

PERIODIC REVIEW DUE DATE: 3/30/00

REVISED PERIODIC REVIEW DUE DATE: _____

PROCEDURE TYPE:
- QA Program (X) YES ( ) NO
- Plant Procedure (X) YES ( ) NO

REVIEW METHOD:
- ( ) Alternate ( ) Expedited
- (✓) PORC ( ) ERC

Prepared by: B. Clements — Date: 3/26/96

Reviewed by: Jeffrey Helsel, Supervisor — Date: 3/26/96

Recommended: Ken V. Chumbl, Functional Unit Manager — Date: 3/27/96

96-031, PORC Committee Meeting No. — Date: 3/28/96

NA, ERC Committee Meeting No. — Date: _____

Approved by: Royce J. Kanyuska — Date: 3-28-96

FORM NDAP-QA-0002-1, Rev.1, Page 1 of 1

4.2 Day Shift Supervisor:

4.2.1 Reviewing the Daily LCO and TRO Log Sheets.

4.2.2 Approving extensions of Status Control Tag removal dates.

4.2.3 Designating an individual to perform monthly audits of the Status Control forms.

4.3 Shift Supervisor/Outage Group Supervisor:

4.3.1 Ensuring that system status and equipment control is maintained in accordance with this procedure.

4.3.2 Maintaining unit separation.

4.4 Shift Supervision/Outage Group Supervision:

4.4.1 Ensuring the status of each system is properly determined, maintained and controlled.

4.4.2 Releasing systems, equipment and components for work after proper classification as to their safety status significance and impact on Operational status.

4.4.3 Authorizing and controlling changes in the position of plant equipment.

4.4.4 Shift Supervision, only: Tracking LCO's and TRO's and maintaining the Daily LCO and TRO logs.

4.4.5 Ensuring systems are properly returned to operable status, only after required Operability/Operability Testing has been completed.

4.4.6 Approving issuance of Status Control Tags and ensuring Status Control Tags are being issued for equipment protection and/or status control.

4.4.7 Reviewing instructions for Status Control Tags to ensure direction given does not deviate from established station procedures, policies, or Technical Specifications.

4.4.8 Authorizing Status Control Tag removal, and ensuring the Status Control forms and Status Control Tag Index are properly completed.

4.4.9 When Unit Coordinator is not available, Shift Supervision may "N/A" their review space on form NDAP-QA-0502-7.

4.5 Operations

(15) 4.5.1 Ensuring that a removal/corrective mechanism for the Status Control Tag is in place, and that appropriate documentation occurs in accordance with this procedure.

4.5.2 Ensuring a completed copy of the Status Control form, NDAP-QA-0302-4 is sent to the appropriate System Engineer, when related to system performance.

4.5.3 Operators are responsible for monitoring and maintaining the status of plant systems and control of equipment/components.

(19) 4.5.4 Plant operators are responsible for ensuring all LLRT tags, Red Tags, Striped Tags, Status Control Tags are removed, properly disposed of upon clearance, and associated control forms are updated.

(19) 4.5.5 Plant Control Operator shall account for associated control forms for 4.5.4 above and ensure form completion.

4.6 Work Group / Worker

4.6.1 Applying and removing Status Control Tags and LLRT Tags, when approved by Operations; and completing associated forms.

4.6.2 Returning Status Control Tags and LLRT Tags to Operations when removed, except those which are contaminated.

4.6.3 When authorized by Operations Shift or Outage Group Supervision and the individual or work group requiring the Status Control Tag (when applicable), a worker may manipulate components. Workers shall monitor the effected system for any changes as a result of the component manipulation. This can include the operation of Status Control Tagged (Pink Tag) components when required for venting and draining systems.

4.7 Maintenance

(15) 4.7.1 Assuming ownership of Status Control Tags in cases where corrective/preventative maintenance is required.

5.12 Status Control Tags (PT)

Standard printed Status Control Tags (Attachment E) which are attached to operating devices to denote the device is temporarily in a controlled status and may only be operated, or have its position changed with the permission of individual or work group who required the tag and either Shift Supervision, or Operations Outage Group Supervision. These tags are Neon Pink in color = PT for Pink Tag.

5.12.1 Status Control Tags may also be under the controls of a permit When Status Control Tags are applied by a permit, NDAP-QA-0322, Permit and Tag, will direct their application, operation, and removal.

5.13 Status WA

WA's entered in the System Status File to provide status control documentation. These WA's are used for tracking equipment status and are not to be used to release work on plant systems. These WA's will use a 'z' prefix. Since no work plan will be associated with them, the Operations WA Review shall be entered as N/A on the System Status File.

6.3.11 Status Control Tag Index (form NDAP-QA-0302-1 Attachment B) is filed in the Work Control Center for refuel inspection outages otherwise Unit #1 and Unit #2 control rooms maintain separate index books for non refuel outage conditions.

6.3.12 The Status Control form is filed with Operations in System Status File.

6.3.13 Status Control Tags shall not be applied to an operating device for longer than six months and shall be removed following their expiration date. Upon submission of written justification an extension in the Status Control Tag expiration date of up to the next Refueling and Inspection Outage may be approved by Manager-Nuclear Operations or Day Shift Supervisor. If an extension is granted the documentation shall be attached to the Status Control form.

NOTE: If a Status Control Tag(s) has expired and the Shift Supervisor or Outage Group Supervisor determines that removal of Status Control Tag(s) may adversely effect plant operation the Status Control Tag(s) may remain applied pending approval by the Manager-Nuclear Operation or Day Shift Supervisor.

6.3.14 Repositioning/operating components controlled by Status Control Tags may be performed with the permission of the individual or work group who required the tag and either Operations Shift Supervision or Operations Outage Group Supervision.

6.3.15 A Status Control Tagged component may be removed from the system when removal of the component is required to perform maintenance on the tagged component as follows:

NOTE: This step shall not apply to components status tagged under the Permit and Tag Process. Only those tags applied by this procedure may be removed from the system.

a. A note shall be added to the Status Control Form.

b. The work group shall document the activity and Status Control Form Number in their work package.

## SRO EXAMINATION QUESTION NO. 22

Given the following conditions:

- A reactor cooldown is in progress.
- Recirculation pump 1A was secured at 0815 due to concerns with seal leakage.
- At 0930 Recirculation pump 1B was inadvertently tripped.
- At 0945 the 1B pump is restarted.
- The 1B pump is tripped again at 0950.

What is the earliest time the 1B pump is allowed to be started?

a. 1000
b. 1005
c. 1030
d. 1035

Answer Key Choice d

Candidate's Choice c

Basis

The K&A objective being tested by this question is;

KA: 202001G010 Ability to explain and apply all system limits and precautions.

Asking for the recirculation pump motor restart times in a closed book examination does not meet the stated K&A objective. it is expected that the operator be cognizant of large motor restart precautions, but not memorize the exact time for each motor. The restart of a recirculation pump is a significant operation which would always be performed in accordance with OP-164-001, Reactor Recirculation System. OP-164-001, Section 3.3.25, includes a "NOTE" with the restart time for the recirculation pumps.

I contend this question is inappropriate for the subject SRO examination. The question should be deleted from the examination.

Supporting Documentation

OP-164-001; Rev. 26; Page 12; Section 3.3.25
K/A Catalog; Rev. 0; Page 3.1-24
K/A Catalog; Rev. 1; Page 2-4

NOTE: Time interval between pump start and opening of discharge valve should be minimized to preclude possible pump overheating. On pump start vessel level will decrease. Vessel level control should be monitored until pump has completed starting sequence.

CAUTION

STARTING RECIRCULATION PUMP WHILE AT POWER WILL RESULT IN INSERTION OF POSITIVE REACTIVITY.

3.3.23 PLOT all power changes on Power/Flow Map, Form NDAP-QA-0338-10.

3.3.24 If GETARS available, INSTRUCT STA to start GETARS to collect data for pump start or if STA is not available, DEPRESS GETARS INIT pushbutton on PCO desk.

3.3.25 START Reactor Recirc Pump 1P401A(B) by depressing MG SET A(B) DRV MTR BKR HS-14001A(B) START push button ~ one (1) second (to allow start sequence relay to seal in).

NOTE: With motor windings at ambient temperature (≤ 104°F), motor may be started and brought to speed two times in succession. With motor windings at rated temperature (> 104°F), motor may be started and brought to speed once. After all permissible starts have been made, windings must return to rated or ambient temperature before further starting attempts may be made. Motor windings can be assumed to have returned to rated temperature after 45 minutes shutdown or after 15 minutes running at rated speed.

3.3.26 OBSERVE:

a. MG SET A(B) DRIVE MTR BKR CLOSES.

b. GEN 1A(1B) SPEED indication INCREASES.

c. After 11 seconds, GENERATOR A(B) FIELD BREAKER closed indicator light ILLUMINATES.

SYSTEM: 202001 Recirculation System

Tasks as noted previously

| SYSTEM GENERIC K/As | IMPORTANCE RO | IMPORTANCE SRO |
|---|---|---|
| 1. Knowledge of operator responsibilities during all modes of plant operation. | 3.9 | 3.9 |
| 2. †Knowledge of system status criteria which require the notification of plant personnel. | 3.0 | 3.8 |
| 3. †Knowledge of which events related to system operation/status should be reported to outside agencies. | 2.9* | 4.3* |
| 4. Knowledge of system purpose and/or function. | 3.8 | 3.8 |
| 5. †Knowledge of limiting conditions for operations and safety limits. | 3.4 | 4.2* |
| 6. †Knowledge of bases in technical specifications for limiting conditions for operations and safety limits. | 3.0* | 4.1* |
| 7. Knowledge of purpose and function of major system components and controls. | 3.8 | 3.8 |
| 8. Knowledge of the annunciator alarms and indications, and use of the response instructions. | 3.6 | 3.4 |
| 9. Ability to locate and operate components, including local controls. | 3.8 | 3.5 |
| 10. Ability to explain and apply all system limits and precautions. | 3.5 | 3.7 |
| 11. †Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. | 3.4 | 4.2* |
| 12. Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. | 3.6 | 3.3 |
| 13. Ability to perform specific system and integrated plant procedures during all modes of operation. | 3.6 | 3.4 |
| 14. Ability to perform without reference to procedures those actions that require immediate operation of system components or controls. | 3.9* | 3.7* |

2.1.27 **Knowledge of system purpose and or function.**
(CFR 41.7)
IMPORTANCE RO 2.8 SRO 2.9

2.1.28 **Knowledge of the purpose and function of major system components and controls.**
(CFR 41.7)
IMPORTANCE RO 3.2 SRO 3.3

2.1.29 **Knowledge of how to conduct and verify valve lineups.**
(CFR 41.10, 45.1, 45.12)
IMPORTANCE RO 3.4 SRO 3.3

2.1.30 **Ability to locate and operate components, including local controls.**
(CFR 41.7, 45.7)
IMPORTANCE RO 3.9 SRO 3.4

2.1.31 **Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup.**
(CFR 45.12)
IMPORTANCE RO 4.2 SRO 3.9

2.1.32 **Ability to explain and apply system limits and precautions.**
(CFR 41.10, 43.2, 45.12)
IMPORTANCE RO 3.4 SRO 3.8

2.1.33 **Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.**
(CFR 43.2, 43.3, 45.3)
IMPORTANCE RO 3.4 SRO 4.0

2.1.34 **Ability to maintain primary and secondary plant chemistry within allowable limits.**
(CFR 41.10, 43.5, 45.12)
IMPORTANCE RO 2.3 SRO 2.9

## SRO EXAMINATION QUESTION NO. 64

Station Power Restoration, EO-000-031, provides a specific sequence for reenergizing busses from an off-site source to AVOID:

a. diesel generators tripping on overspeed when loads are transferred to off-site power.
b. underfrequency condition on off-site sources due to manually reenergizing non-emergency busses.
c. undervoltage condition caused when a ECCS initiation signal is present.
d. starting equipment automatically without operator action.

Answer Key Choice c

Candidate's Choice d

Basis

Procedure EO-000-031 is performed to recover from a station blackout. The CAUTION in EO-000-031 after Step 2.1.1 ensures breakers have been aligned during the blackout in accordance with EO-100-030 and EO-200-030. These three procedures work together to address the concern as stated in the DISCUSSION Section (4.0) of EO-000-031.

"The concern is if a low pressure ECCS initiation signal is present, simultaneous start of large ECCS motors will cause an undervoltage condition."

Therefore, EO-000-031 provides a specific sequence for re-energizing busses from an offsite source to avoid the simultaneous, automatic start of large ECCS motors which will result in an undervoltage condition.

I contend that Choice "d' is the correct choice because the stated procedures ensure the simultaneous start of large ECCS motors is avoided, which prevents an undervoltage condition.

Supporting Documentation

EO-000-031; Rev. 10; Pages 3, 5, and 17

CONFIRM

## 2.0 OPERATOR ACTIONS

### 2.1 GUIDELINES FOR CHOOSING OPERATOR ACTIONS

2.1.1 If one or more ESS bus energized via associated Diesel Generator, PERFORM step 2.3. _____

CAUTION

BREAKER ALIGNMENTS IN EO-100-030 AND EO-200-030 MUST BE COMPLETED BEFORE PROCEEDING.

2.1.2 If power available at Startup Transformer T-10, PERFORM step 2.4. _____

2.1.3 If power available at Startup Transformer T-20, PERFORM step 2.5. _____

CONFIRM

2.4 POWER AVAILABLE AT STARTUP TRANSFORMER T-10

2.4.1 PERFORM following to energize BUS 10:

a. INSERT key and PLACE SU XFMR 10 TO BUS 10 SYNC SEL HS-00014 Keyswitch to ON. _____

b. CLOSE SU XFMR 10 TO BUS 10 BKR 0A10301 by placing switch to CLOSE. _____

c. OBSERVE SU XFMR 10 TO BUS 10 BKR 0A10301 CLOSES. _____

d. RETURN SU XFMR 10 TO BUS 10 SYNC SEL HS-00014 to OFF and REMOVE key. _____

2.4.2 CLOSE SU BUS 10 TO XFMR 101 0A10306 to energize ESS XFMR 101 and bus 0A205. _____

2.4.3 CLOSE SU BUS 10 TO XFMR 111 0A10312 to energize ESS XFMR 111 and bus 0A206. _____

CAUTION

EQUIPMENT MAY AUTO START IF INITIATION SIGNAL PRESENT.
ADS MAY INITIATE WHEN RHR/CS PUMP(S) START.

2.4.4 If de-energized, ENERGIZE busses, waiting approximately 1 minute between each bus, by placing applicable control switches to OPEN position allowing auto closure by matching semaphores:

a. XFMR 101 TO BUS 1A BKR 1A20101 _____

b. XFMR 111 TO BUS 1C BKR 1A20301 _____

c. XFMR 111 TO BUS 1B BKR 1A20201 _____

d. XFMR 101 TO BUS 1D BKR 1A20401 _____

e. XFMR 101 TO BUS 2A BKR 2A20101 _____

f. XFMR 111 TO BUS 2C BKR 2A20301 _____

g. XFMR 111 TO BUS 2B BKR 2A20201 _____

h. XFMR 101 TO BUS 2D BKR 2A20401 _____

## 4.0 DISCUSSION

This procedure provides instructions for restoring AC power following a station blackout of duration which does not exceed 125V DC station battery capacity. Following are calculated 125V DC battery capacities:

| | | | |
|---|---|---|---|
| 1D610 | 6.8 hr | 2D610 | 6.3 hr |
| 1D620 | 6.4 hr | 2D620 | 5.9 hr |
| 1D630 | 13.2 hr | 2D630 | 11.3 hr |
| 1D640 | 12.2 hr | 2D640 | 10.8 hr |

EO-100-030 and EO-200-030 ensure the station portable diesel generator, Blue Max, is connected to 1D610, 1D620, 2D610 and 2D620, thus extending their capacity indefinitely.

Station power restoration is accomplished in two (2) ways: (1) power available from diesel generator(s); (2) power available from offsite source. When restoring with diesel generator(s), restoration consists of loading available diesel generator(s) with those systems and components required to cool primary containment. No other actions are required. However, when restoring from offsite source, restoration must be controlled to prevent an undervoltage condition from occurring. EO-100-030 and EO-200-030 perform switching to prevent 13.8 KV aux bus and 4KV supply breakers from closing when SU XFMR 10(20) to BUS 10(20) BKR 0A10301(0A10401) is closed. The concern is if a low pressure ECCS initiation signal is present, simultaneous start of large ECCS motors will cause an undervoltage condition.

## SRO EXAMINATION QUESTION NO. 66

Given the following:

- A station blackout has occurred.
- MAIN STEAM SRV LEAKING is alarming.
- MAIN STEAM DIV 1 SRV OPEN is clear.
- MAIN STEAM DIV 2 SRV OPEN is clear.

Based on this information, what is the status of SRVs and equipment to monitor SRVs?

a. an SRV is leaking. The acoustic monitors fail during a station blackout.
b. All SRVs are closed. Tailpipe temperature indications fail high during a station blackout.
c. Status of the SRVs is unknown because the annunciators are indications of loss of power to instrumentation.
d. An SRV has opened, then reclosed, causing the acoustic monitors to clear.

Answer Key Choice a

Candidate's Choice b

Basis

Based upon the given information in the question, the status of the SRVs is unknown. The "MAIN STEAM SRV LEAKING" alarm is initiated when the SRV tailpipe temperature exceeds 250° F. Therefore, this alarm could be the result of any one of the following situations:

1. The SRV is open.
2. The SRV has cycled and the tailpipe temperature is 250° F.
3. The temperature recorder from which the alarm originates has not been reset.
4. The SRV is leaking.
5. A LOCA has occurred and the containment temperature has increased to the point where the SRV tailpipe temperature sensor is exposed to a temperature above 250° F.

Since it is not possible to determine the exact status (open, closed or leaking) of the SRVs, Choice "a" is incorrect.

Choices "b" and "c" are incorrect because the temperature recorder is powered from an inverter (1D240) which has a battery as an alternate power source.

Choice "d" is incorrect because the acoustic monitors are deenergized during a station blackout. They are powered from the ECCS 4.16 KV busses via instrument AC panels.

I contend there is no correct choice for this question, and the question should be deleted from the examination.

Supporting Documentation

AR-110-001; Rev. 5; Page 19 of 34; Window EO1
OP-157-003; Attachment A; Rev. 5; Page 18

MAIN STEAM
SRV
LEAKING ( E01 )

SETPOINT: 250°F

ORIGIN: TRS-B21-1R614

1.0 PROBABLE CAUSE:

Pressure Relief (ADS or Safety) Valve leaking by seat or positioned open.

2.0 OPERATOR ACTION:

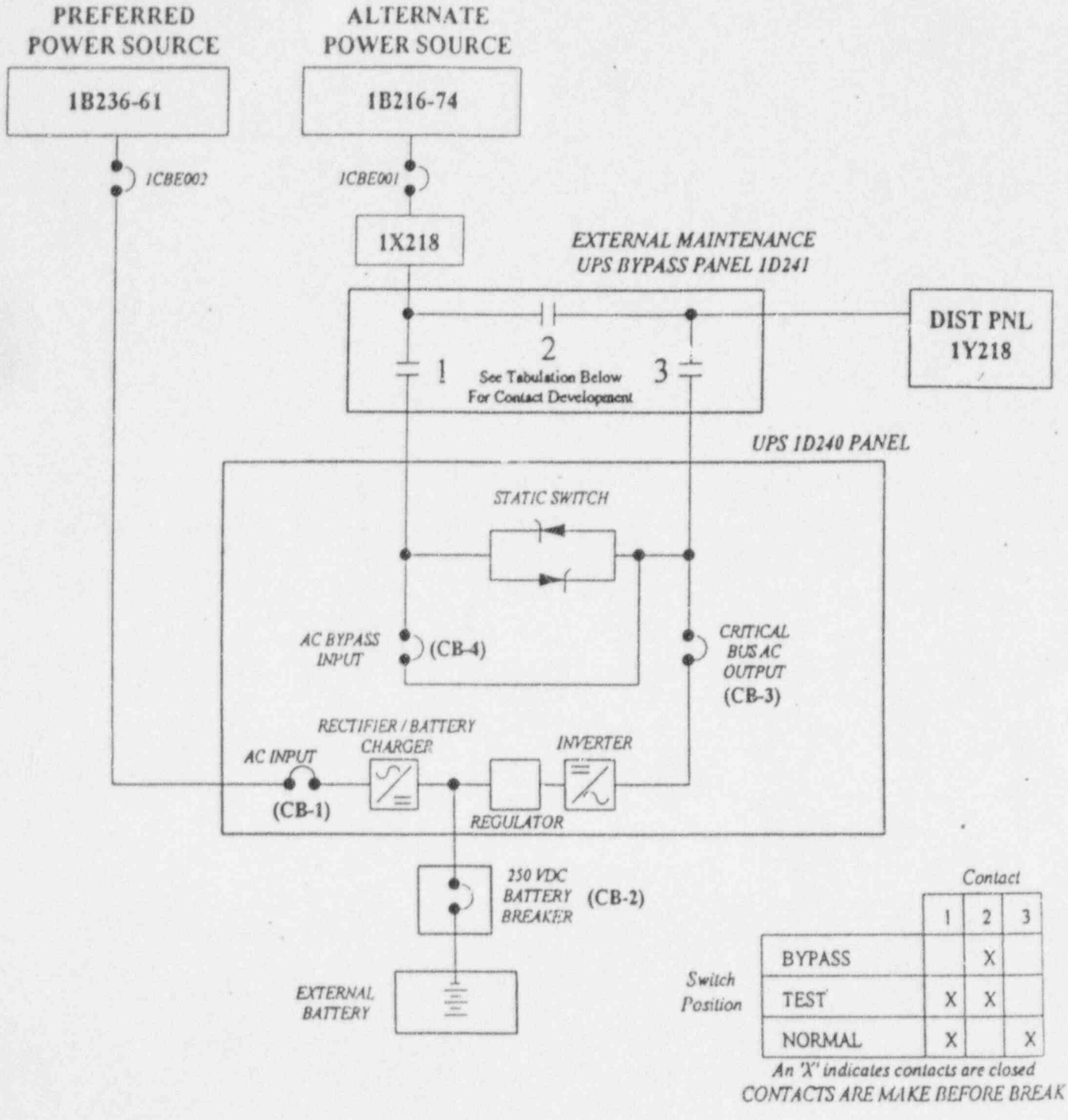
2.1 OBSERVE following on Panel 1C601:
2.1.1 SRV OPEN PSV-F013 VI-14181A.
2.1.2 SRV OPEN PSV-F013 VI-14181B.
2.2 OBSERVE SRV/ADS Temperature TR-B21-1R614 on Panel 1C614 to determine relief valve indicating temperature increase in discharge piping.
2.3 OBSERVE relief valve solenoid energized/deenergized status lights at Panel 1C601.
2.4 If safety relief valve determined to be open, PERFORM ON-183-001 Stuck Open Safety-Relief Valve.
2.5 COMPLY with Technical Specification Section 3.4.2.

3.0 AUTOMATIC ACTION:

None

4.0 REFERENCE:

4.1 E-324 Sh 12
4.2 M1-B21-129(8)
4.3 IOM 305




| Switch Position | Contact 1 | 2 | 3 |
|---|---|---|---|
| BYPASS | | X | |
| TEST | X | X | |
| NORMAL | X | | X |

An 'X' indicates contacts are closed
CONTACTS ARE MAKE BEFORE BREAK

SINGLE LINE DIAGRAM of UPS 1D240 and EXTERNAL MAINTENANCE BYPASS PANEL 1D241 CONFIGURATION