September 1, 2009

Mr. Charles G. Pardee
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Rd.
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 – NRC EXAMINATION REPORT NO. 05000289/2009301

Dear Mr. Pardee:

On July 15, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at Three Mile Island Unit 1. The enclosed report documents the examination findings, which were discussed on August 18, 2009, with Mr. Chris Wend.

The examination included the evaluation of four applicants for reactor operator licenses, and six applicants for instant senior operator licenses. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The license examiners determined that seven of the ten applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on August 18, 2009. In addition, one of the six applicants for instant senior operator licenses passed his exam but his license is being held as explained in paragraph D.3.c of Examination Standard (ES) 501 in NUREG-1021 until those applicants who failed the examination have had an opportunity to appeal their license denials. The remaining two applicants, one reactor operator and one instant senior operator applicant failed the written portion of their exams and were denied a license.

No findings of significance were identified during this examination.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Samuel L. Hansell, Jr., Chief
Operations Branch
Division of Reactor Safety

Enclosure: NRC Examination Report No. 05000289/2009301

Mr. Charles G. Pardee
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Rd.
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND STATION, UNIT 1 – NRC EXAMINATION REPORT NO. 05000289/2009301

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Sincerely,

Samuel L. Hansell, Jr., Chief
Operations Branch
Division of Reactor Safety

Enclosure: NRC Examination Report No. 05000289/2009301

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DATE	08/31/09		08/26/09		08/31/09					

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EXAMINATION REPORT
U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket:	50-289
Licenses:	DPR-50
Report :	05000289/2009301
Licensee:	Exelon Generation Company, LLC (Exelon)
Facility:	Three Mile Island Nuclear Station, Unit 1
Location:	P. O. Box 480 Middletown, PA 17057
Dates:	July 6-10, 2009 (Operating Test Administration) July 15, 2009 (Written Examination Administration) August 3, 2009 (Licensee Submitted Post Exam Package) July 13 - August 17, 2009 (NRC Examination Grading) August 18, 2009 (Licenses Issued)
Inspectors:	John Caruso, Chief Examiner, Operations Branch Brian Haagensen, Operations Engineer Peter Presby, Operations Engineer
Approved By:	Samuel L. Hansell, Jr., Chief Operations Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

ER 05000289/2009301; July 6 - July 15, 2009; Three Mile Island Nuclear Station Unit 1; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of four applicants for reactor operator licenses, and six applicants for instant senior operator licenses at Three Mile Island Station Unit 1. The facility licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. NRC examiners administered the operating tests on July 6-10, 2009. The written examination was administered by the facility on July 15, 2009. The license examiners determined that seven of the ten applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on August 18, 2009. In addition, one of the six applicants for instant senior operator licenses passed his exam but his license is being held as explained in paragraph D.3.c of Examination Standard (ES) 501 in NUREG-1021 until those applicants who failed the examination have had an opportunity to appeal their license denials. The remaining two applicants, one reactor operator and one instant senior operator applicant failed the written portion of their exams and were denied a license.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities (Initial Operator License Examination)

.1 License Applications

a. Scope

The examiners reviewed all ten license applications submitted by the licensee to ensure the applications reflected that each applicant satisfied relevant license eligibility requirements. The applications were submitted on NRC Form 398, "Personal Qualification Statement," and NRC Form 396, "Certification of Medical Examination by Facility Licensee." The examiners also audited three of the license applications in detail to confirm that they accurately reflected the applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

b. Findings

No findings of significance were identified.

.2 Operator Knowledge and Performance

a. Examination Scope

On July 15, 2009, the licensee proctored the administration of the written examinations to all ten applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on August 3, 2009.

The NRC examination team administered the various portions of the operating examination to all ten applicants on July 6-10, 2009. The four applicants for reactor operator licenses participated in three dynamic simulator scenarios, in a control room and facilities walkthrough test consisting of eleven system tasks, and an administrative test consisting of four administrative tasks. The six applicants seeking an instant senior operator license participated in three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of ten system tasks, and an administrative test consisting of five administrative tasks.

b. Findings

All ten of the applicants passed all parts of the operating test. Two applicants, one instant senior operator and one reactor operator failed the written examination. For the written examinations, the reactor operator (RO) applicants' average score was 83.44 percent and ranged from 77.02 to 89.18 percent, the senior operator applicants' average score was 87.87 percent and ranged from 80.80 to 92.92 percent. The overall written examination average was 86.09 percent. The text of the examination questions,

the licensee's examination analysis, and the licensee's post-examination comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

Chapter ES-403 and Form ES-403-1 of NUREG 1021 require the licensee to analyze the validity of any written examination questions that were missed by half or more of the applicants. The licensee graded the examination on July 15, 2009, and subsequently conducted this performance analysis for fifteen questions that met these criteria and submitted the analysis to the chief examiner. This analysis concluded that twelve of the questions were technically valid as administered. The licensee submitted three post-examination question comments on August 3, 2009. The results of the NRC's review of the station's comments are documented in Attachment 2, "Post Examination Comments and Resolutions."

.3 Initial Licensing Examination Development

a. Examination Scope

The facility licensee developed the examinations in accordance with NUREG-1021, Revision 9, Supplement 1. All licensee facility training and operations staff involved in examination preparation and validation were on a security agreement. The facility licensee submitted both the written and operating examination outlines on April 6, 2009. The chief examiner reviewed the outlines against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee. The facility licensee submitted the draft examination package on May 8, 2009. The chief examiner reviewed the draft examination package against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee on the examination between the dates of May 22-29, 2009. The NRC conducted an onsite validation of the operating examinations and provided further comments during the week of June 1, 2009. The license satisfactorily completed comment resolution on July 1, 2009.

b. Findings

The NRC approved the initial examination outline and advised the licensee to proceed with the operating examination development.

The examiners determined that the written and operating examinations initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

No findings of significance were identified.

.4 Simulation Facility Performance

a. Examination Scope

The examiners observed simulator performance with regard to plant fidelity during the examination validation and administration.

b. Findings

No findings of significance were identified.

.5 Examination Security

a. Examination Scope

The examiners reviewed examination security for examination development, the onsite preparation week, and examination administration week for compliance with NUREG-1021 requirements. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

The chief examiner presented the examination results to Mr. Chris Wend, Director of Training on August 18, 2009. The licensee acknowledged the findings presented.

The licensee indicated one job performance measure used during the examination was security related proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Wend, Training Director
M. Wyatt, Operations Training Manager
G. Hoek, Nuclear Training Instructor

NRC Personnel

D. Kern, Senior Resident Inspector
J. Brand, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

NONE

Discussed

NONE

ADAMS DOCUMENTS REFERENCED

Accession No. ML092250429 – FINAL-Written Exam
Accession No. ML092250432 – FINAL-Operating Exam
Accession No. ML092400421 – FINAL-Post Exam Comments

ATTACHMENT 2

Licensee's Post Written Examination Comments Publically Available
ADAMS Accession No. ML092400421

Following the administration of the written examination on July 15, 2009, the licensee submitted post exam comments for three written exam questions (i.e., RO 55, RO-66 and SRO 98) that received by the NRC on August 3, 2009. During the exam there were no questions asked by the applicants regarding these three questions. The NRC's resolution for these post exam comments is based on the independent reviews that were conducted by all three of the NRC examiners assigned to the exam team as well as the Branch Chief.

RO Question #55:

Which ONE of the following conditions would challenge containment integrity and require initiating immediate action IAW Tech specs?

A. One door in each of the Personnel and Equipment Hatches is failed open during power operation.

B. Both Reactor Building Equipment Hatch doors in the open position with the interlock defeated while in cold shutdown.

C. FW-V-12A "A OTSG inlet check valve" valve body disassembled with internals removed and MS-V-1A "Main Steam Isol of 'A' OTSG 'A' line" disassembled with internals removed during core re-load.

D. MU-V-155 "Letdown Line Vent Inside RB" (located between the RB wall and MU-V-2A/B) and MU-V-239 "Penetration 309 Test Isolation Valve" (located between the RB wall and MU-V-3) information tagged open during core off-load.

Submitted Answer Explanation:

A. Plausible since one door failed open in each hatch could be a challenge to containment integrity; however it is allowed by Tech Specs without any immediate action necessary. Within one hour the other door must be verified closed.
B. Plausible since this is a loss of containment integrity; however containment integrity is not required in cold shutdown because we are <200°F and <300 psig in cold shutdown.
C. Correct answer. With the valves disassembled, neither is capable of being closed, and low pressure containment integrity is required during handling of irradiated fuel.
D. Plausible since this is a bypass of containment; however each valve is capable of being closed, and is thus allowed by technical specifications.

LICENSEE'S JUSTIFICATION FOR CHANGE

The licensee determined that the originally keyed answer is technically wrong. The intent was to violate low-pressure containment by failing a barrier inside and outside the reactor building on the same OTSG. However, neither failure listed in choice "C" is within the reactor building. Since there is no breach of the secondary side of an OTSG (such as removal of a secondary man way cover) there exists no path from within containment to the outside through the disassembled valve, and as such, does not represent a failure of containment.

1101-3, Enclosure 3, section E, "**Isolation Devices Outside Containment**" lists the location of FW-V-12A in the TB on the 322' level. (1101-3 pg 38) Similarly, 1101-3, Enclosure 3, section E, "**Isolation Devices Outside Containment**" lists the location of MS-V-1A in the Intermediate building on the 355' level. (1101-3 pg 44.)

Response "C" is incorrect.

The students challenged that answer "A" is potentially correct. The reasoning is that without any indication in the stem that the other door in each hatch is properly secured, they must still take the action listed in tech spec 3.6.12.b:

> *One door of the personnel or emergency air lock may be open for maintenance, repair or modification* ***provided the other door of the air lock is verified closed within 1 hour****, locked within 24 hours, and verified to be locked closed monthly. Air lock doors in high radiation areas may be verified locked closed by administrative means.*

This action must be complete within an hour. The students contend that to complete the action within the allowed time of one hour, they must implement actions immediately, thereby making choice "A" correct.

The originally approved exam describes answer choice "A" as follows:

> *Plausible since one door failed open in each hatch could be a challenge to containment integrity; however it is allowed by Tech Specs without any immediate action necessary.* ***Within one hour the other door must be verified closed.***

Technical Specifications provide some examples of immediate action requirements that are shorter than a one-hour time period. For example, the intended Tech Spec entry for the keyed answer of "C" was 3.8.8, which states:

> *If any of the above specified limiting conditions for fuel loading and refueling are not met, movement of fuel into the reactor core shall cease; action shall be initiated to correct the conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.*

In practice, this direction to the Fuel Handling SRO would be given as soon as the condition was recognized, and no delay would be warranted.

Attachment

Within this Tech Spec section, 3.8.11 also states:

> *During the handling of irradiated fuel in the Reactor Building at least 23 feet of water shall be maintained above the level of the reactor pressure vessel flange, as determined by a shiftly check and a daily verification. If the water level is less than 23 feet above the reactor pressure vessel flange, place the fuel assembly(s) being handled into a safe position, then cease fuel handling until the water level has been restored to 23 feet or greater above the reactor pressure vessel flange*

Again, in practice, this direction would be given to the Fuel Handling SRO as soon as the condition was recognized, and no delay would be warranted.

Furthermore, Tech Spec 3.6.12d, which could be entered if one airlock was inoperable due to excessive seal leakage on both doors, has an immediate requirement **AND** a one hour time requirement within the same specification, as follows:

> *With one or more air locks inoperable for reasons other than "b" or "c" above,* ***initiate action immediately*** *to evaluate the overall containment leakage rate with respect to the requirements of Specification 6.8.5,* ***verify a door is closed in the affected air lock within 1 hour****, and restore the affected air lock(s) to operable status within 24 hours or the reactor shall be brought to HOT SHUTDOWN within 6 hours and COLD SHUTDOWN within the following 30 hours.*

Technical Specifications contains both one-hour and immediate requirements. Although an operator may choose to take action immediately to meet a one-hour requirement, and it is often prudent to do so, it is not the same as a requirement listed as immediate in Tech Specs.

Therefore, the licensee continues to agree with the original plausibility statement as written.

Response "A" remains incorrect.

Responses "B" and "D" remain incorrect as explained in the original submittal.

Recommendation to resolve: Delete the question – No correct answer.

References:

Tech Spec section 3.6 "Reactor Building U1"

Tech Spec section 3.8 "Fuel Loading and Refueling U1"

1101-3 "Containment Integrity and Access Limits"

NRC Resolution for RO Question #55:

The NRC conducted detailed reviews of all references provided and concluded that the NRC accepts the licensee's recommendation to delete this question.

The NRC agrees that the designated correct answer “C” is technically wrong. The original intent of this answer choice was to violate containment by failing a barrier inside and outside the reactor building on the same OTSG. As written there exists No path from within the containment to outside the containment through one of the disassembled valves since both of the disassembled valves are both located outside of containment and no breach of the secondary side of the same OTSG is identified in answer choice “C”.

After further evaluating answer choice “A”, the NRC also agrees that immediate Technical Specification action statements are not equivalent to one-hour action statement requirements. The question asks, “Which ONE of the following conditions would challenge containment integrity and **require initiating immediate action IAW Tech specs**?” Based on the conditions presented in answer choice “A” the action listed in technical specification 3.6.12.b applies, “One door of the personnel or emergency air lock may be open for maintenance, repair or modification **provided the other door of the air lock is verified closed within 1 hour…”** Although an operator may choose to take action immediately to meet a one-hour requirement, it is not the same as a requirement listed as an immediate action in Technical Specifications. Therefore, the NRC continues to agree with the original plausibility statement as written and Response “A” remains incorrect. The other two answer choices have been validated as being incorrect

In summary, the NRC has concluded that RO question 55 has NO correct answer and the question is deleted.

Original RO Question #66:

Which ONE of the following computer functions is used by the crew to evaluate plant status during transient conditions?

A. Power Loss Cutout

B. Emergency Response Data System

C. Fixed Incore Detector Monitoring System

D. Reactor Coolant Inventory Tracking System

Submitted Answer Explanation:

A. Plausible since this is a computer function that is associated with a transient; however it cuts out alarms associated with the bus that is lost.
B. Plausible since this is a computer function that is used to asses plant status; however it is used by the NRC, not the crew.
C. Plausible since this is a computer function that monitors plant status; however the data is delayed and not used for transient conditions.
D. Correct answer. The Reactor Coolant Inventory Tracking system is used to assess plant inventory status in transient conditions.

LICENSEE'S JUSTIFICATION FOR CHANGE

Revised answer explanation:

The original correct answer for this question is "D" and was justified with procedure 1105-10, page 17, Enclosure 2 "System Information" Step 1.8, which states:

> *"SPDS & RCITS" provide organized graphs and displays used by Shift Operations to assess plant conditions during transient conditions. This includes access to the P-T Plot.*

The original answer justification is unchanged, and "D" is still a correct answer.

Choice "C" was originally justified as wrong with this statement: "Plausible since this is a computer function that monitors plant status; however the data is delayed and not used for transient conditions."

It was not recognized that the FIDMS program provides data that is specifically referenced in some other transient response procedures. Although some data is delayed, other data is continuously available, and used in response to a transient. For example, in the event of a stuck rod, the operator will use OP-TM-AOP-062, "Inoperable Rod" and will reach step 3.8, which states

> ***VERIFY*** *the inoperable rod is fully inserted.*

In the case of a stuck rod, the operators would not be able to perform the verification, and would therefore perform the "response not obtained" column of step 3.8, which states:

> *If any regulating or safety rods are inoperable, then perform the following within one hour: (TS 3.5.2.2.b,c)*
> *___ A. INITIATE 1103-15A section 3.2, "Calculation of shutdown margin with Tave ≥ 530°F." (TS 3.5.2.2.c)*
> *___ B. If shutdown margin less negative than - 1% ΔK/K then INITIATE boration to achieve required shutdown margin*.

The requirement to calculate shutdown margin per 1103-15A, "Shutdown Margin and Reactivity Balance" uses data from FIDMS. Cycle burnup and core Xenon reactivity are both required in the calculation of shutdown margin (1103-15A enclosure 1) and both of these values are tracked by FIDMS and useable without any delay.

Furthermore, if the transient had been a dropped rod, and a plant runback had properly occurred, the operator would perform AOP-062 step 3.12, which states:

> *VERIFY quadrant power tilt is less than COLR Table 1 limit and imbalance less than the COLR Figure limits.*

This verification would be done using FIDMS. Furthermore, FIDMS inputs into overhead alarm MAP G-2-6, "PWR DISTRIB LIMITS EXCEEDED" which states:

Tilt - Transient (L3044)	*VERIFY alarm using alternate indications such as out-of-core detectors, etc.* *COMPLY with the Tech. Spec. 3.5.2.4 action statements and OBTAIN a printout of CMS Displays 4 (all pages), 6, 17, 18, 19 and 20 to help evaluate the cause.* *RECORD additional monitoring on Data Sheet 1 of 1301-1, Shift and Daily Checks, if required.*

The printouts of displays 4, 6, 17, 18, 19 and 20 are all produced from FIDMS. ("CMS" is the generic term for the FIDMS computer program. See Procedure change document PC 18957 page 2 of 5, {reason for change} "NAS replaced with FIDMS. CMS used to provide a more generic name (i.e. Core Monitoring System)".) The operator viewed screens themselves are labeled FIDMS, while the procedures that refer to them are labeled CMS to allow future changes to software without the need to change the procedures where no change in intent has occurred.

In addition to control rod induced transients, reactor power transients also may occur that activate the FW Flow Correction Factor alarm, as determined by the FIDMS program on FIDMS screen 9.

One function of FIDMS is the tracking of secondary parameters to ensure the heat balance is accurate. Various parameters which themselves vary predictably with reactor power are given alarm limits within FIDMS which may indicate an overpower condition, even if the heat balance power does not. This protects against inadvertent overpower conditions caused by a slow drift of a heat balance input in the non-conservative direction.

Any power transient that causes one of these parameters to reach an alarm limit would cause entry into OP-TM-MAP-G0206 “PWR DISTRIB LIMITS EXCEEDED.” Once within the procedure, the following steps apply:

FW Flow Correction Anomaly (L3056)	***If*** *FW flow Correction Factors are at 1.000,* ***then*** ***USE*** *CMS Display 9 indications to determine whether reactor power is above licensed power (2568 MWt).*
	1. ***If*** *more than one indication is in alarm or showing a rising trend,* ***then*** *a)* ***PRINT*** *a CMS Display 9 and 51 b)* ***REDUCE*** *power until all CMS Display 9 FW Flow Correction alarms clear and c)* ***CONTACT*** *Reactor Engineering after the plant is stable.*
	2. ***If*** *only one indication is in alarm or showing a rising trend,* ***then*** *a)* ***EVALUATE*** *validity of the indicator by reviewing plant conditions, work in progress, and potential instrument failures (review alternate instruments) b)* ***CONTACT*** *Reactor Engineering or EDM if additional support is desired.*

If only one input is above the alarm limits, the operators are directed to EVALUATE the conditions of the plant. By using FIDMS screen 9 to determine *which* input has caused the alarm, the operators can narrow their search for a faulty instrument to those that may have caused the alarm.

There are multiple instances of FIDMS use by operators during plant transients to evaluate plant conditions.

Choice “C” is correct.

Choices “A” and “B” remain incorrect as explained in the original submittal.

Recommendation to resolve: Choices “C” and “D” are both correct answers.

References:

1105-10, “Plant Computer Operations”

OP-TM-AOP-062, “Inoperable Rod”

1103-15A, “Shutdown Margin and Reactivity Balance”

OP-TM-MAP-G0206, “PWR DISTRIB LIMITS EXCEEDED”

PC 18957, Batch procedure change for procedures affected by FIDMS replacing NAS.

NRC Resolution for RO Question #66:

The NRC conducted detailed reviews of all the references provided and concluded that the NRC accepts the licensee’s recommendation to accept both “C” and “D” as correct answers to this question.

The NRC agrees that the original designated correct answer “D” is still a correct answer.

The NRC also agrees that answer choice “C” is also a correct answer. The numerous examples provided in the licensee’s justification for change were reviewed and the NRC agrees that the Fixed Incore Detector Monitoring System (FIDMS) is used by operators during various plant transients to evaluate plant conditions and although some data is delayed, other data is continuously available. For example, for a stuck rod the operators are required to calculate shutdown margin per 1103-15A, “Shutdown Margin and Reactivity Balance” which uses data from FIDMS, Display 1 to provide both Cycle burnup and core Xenon reactivity that are both required in the calculation of shutdown margin (1103-15A enclosure 1).

In summary, the NRC has concluded that both “C” and “D” are correct answers to this question and Choices “A” and “B” remain incorrect.

Original SRO Question #98:

Plant conditions:

- The plant is shutdown and cooled down in preparation for refueling
- RM-A-9 Iodine Channel is OOS due to an instrument problem
- The Kidney Filter System is OOS due to a motor failure
- The most recent Reactor Building air samples have identified iodines and particulates as positive (i.e. > LLD)
- Chemistry has just presented a Reactor Building Purge gas release permit form 1622-1 to the Shift manager for approval

With the above conditions the purge can _____ .

A. be approved by the Shift Manager if iodine grab samples are collected every four hours while the purge is in service

B. be approved with concurrence of Rad Pro Supervision if iodine samples are continuously collected with auxiliary equipment

C. NOT be approved due to the Kidney Filter System being out of service with iodines above LLD in the Reactor Building

D. NOT be approved due to RM-A-9 Iodine channel being out of service with iodines above LLD in the Reactor Building

Submitted Answer Explanation:

A. Plausible since the purge can be approved; however iodine must be sampled continuously during the purge per the ODCM Manual and 6610ADM-4250.10, Radiological Controls/Chemistry Actions when RMS Malfunctions.

B. Correct answer. Per 6610-ADM-4250.12 the purge can be approved even with the Kidney Filter System OOS with concurrence of Rad Pro Supervision. It can also be approved with RM-A-9 Iodine channel OOS if iodine is sampled continuously with auxiliary equipment per the ODCM.

C. Plausible since the purge would not be able to be approved with the Kidney Filter System OOS without the concurrence of Rad Pro Supervision.

D. Plausible since the purge would not be able to be approved with RM-A-9 Iodine channel OOS unless iodine is continuously sampled using auxiliary equipment.

LICENSEE'S JUSTIFICATION FOR CHANGE

When presented with the gas release permit form 1622-1, the Shift Manager's next step is as directed by 6610-ADM-4250.12, step 4.13, which states:

> *Shift Management confirms that the projected dose from the release, when added to the total integrated dose to date, will not exceed dose limit specified in Sections 3.2 and 3.3. The Shift Manager then signs Form 1622-3 at {31}. Operations may then commence the release by performing Reference 6.9 or 6.10.*

Since the Shift Manager has not been presented with dose for this release, nor integrated year to date dose, **AND** has detectable but unspecified Iodine levels in the RB, the Shift Manager **DOES NOT** have sufficient information to make a determination**.**

The examinee cannot assume conditions exist that are not specifically listed. NUREG 1021 rev 9 supplement 1 states:

> *When answering a question, **do not make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question.** For example, you should not assume that any alarm has activated unless the question so states or the alarm is expected to activate as a result of the conditions that are stated in the question. Similarly, you should assume that no operator actions have been taken, unless the stem of the question or the answer choices specifically state otherwise. Finally, answer all questions based on actual plant operation, procedures, and references. If you believe that the answer would be different based on simulator operation or training references, you should answer the question based on the actual plant.*

Upon being presented with a completed release permit, the SRO examinee is no more allowed to assume that dose is within limits without being told than a Shift Manager in the plant is allowed to assume dose is within limits without confirmation.

Therefore, none of the presented choices are correct.

Recommendation to resolve: Delete the question based on no correct answer.

Reference:

6610-ADM-4250.12, Releasing Radioactive Gaseous Effluents – Reactor Building Purges

NRC Resolution for SRO #98:

The NRC conducted detailed reviews of all references provided and concluded that the NRC disagrees with the licensee's recommendation to delete the question. We have determined the key answer is correct and all other choices are incorrect.

This question is designed to test the applicant's knowledge of whether a release may be authorized with two pieces of equipment out of service (OOS) the RM-A-9 Iodine Channel and the Kidney Filter System. The understanding and application of two Prerequisites 4.1.B and 4.1.D in procedure 6610-ADM-4250.12, Releasing Radioactive Gaseous Effluents - Reactor Building Purges are being tested in this question. Prerequisite 4.1.B states, "If the most recent Reactor Building air samples have identified iodines or particulates as positive (i.e. greater than LLD), the kidney filter system must be operated a minimum of 4 hours prior to purging the Reactor Building. **The Shift Manager can, with concurrence from Rad Pro Supervision, waive this requirement if the kidney filter is inoperable."** Prerequisite 4.1.D states, "If any RM-A-9 channels are out of service, refer to References 6.2 and 6.11. Procedure 6610-ADM-4250.10, Radiological Controls/Chemistry Actions when RMS Malfunctions states, **"Whenever the RM-A-9 iodine or particulate sampler becomes inoperable effluent release via this pathway may continue provided that … particulate or iodine samples are continuously collected with auxiliary sampling equipment at RM-A-9 Sampling Station."**

The NRC disagrees with the licensee's position that , "Since the Shift Manager has not been presented with dose for this release, nor integrated year to date dose, **AND** has detectable but unspecified Iodine levels in the RB, the Shift Manager **DOES NOT** have sufficient information to make a determination**."** The plant conditions in the question do not provide any information regarding dose for this release, nor integrated year to date dose and none of the possible answer choices provided discuss consideration of exceeding release limits. The focus of the question was obviously not to evaluate whether release limits would be exceeded as a result of this purge but to evaluate whether the purge could proceed with the equipment identified in the question as OOS.

The NRC agrees with the licensee in quoting NUREG 1021 rev 9 supplement 1 that, "*When answering a question, **do not make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question…"*** Although, the most recent Reactor Building air samples have identified iodines and particulates as positive above lowest level of detectability (LLD), the plant conditions and answer choices focus the reader's attention on evaluating whether the purge could proceed with the equipment identified in the question as OOS and not on whether release limits would be exceeded. Using the licensee's argument the reader in this case would have to assume a problem exists regarding offsite release limits being exceeded even though neither the question nor any of the answers provided discuss integrated dose for the year, dose for this release, or any evaluation regarding release limits.

In summary, the NRC disagrees with the licensee's recommendation to delete the question and has determined that the key answer is correct and all other choices are incorrect.