U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-237/OL-93-01

Docket Nos. 50-237; 50-249 Licenses No. DPR-29; No. DPR-27

Licensee: Commonwealth Edison Company
Opus West III
1400 Opus Place
Downers Grove, IL 60515

Facility Name: Dresden Nuclear Power Station - Units 2 and 3

Examination Administered At: Dresden Nuclear Power Station

Examination Conducted: Weeks of July 26 and August 2, 1993

Examiners: C. Zelig, USNRC
G. Buckley, Pacific Northwest Laboratories
M. Mitchell, Pacific Northwest Laboratories

Chief Examiner: _____ 9/15/93
D. McNeil Date

Approved By: _____ 9/16/93
M. J. Jordan, Chief Date
Operator Licensing Section 1

Examination Summary

Examinations administered during the weeks of July 26 and August 2, 1993 (Report No. 50-237/OL-93-01(DRS))
Written and operating requalification examinations were administered to six Senior Reactor Operators (SROs), one SRO Limited to Fuel Handling (LSRO) and three Reactor Operators (ROs). One SRO was administered a requalification retake examination (dynamic simulator portion only). Three crews, made up of staff and operating personnel, were evaluated on the simulator portion of the NRC examination. Two SROs and three ROs who had been evaluated during previous examinations participated during the dynamic simulator scenarios to complete the composition of the three crews.

Written and operating examinations were given to nine (9) individuals applying for RO licenses and to six (6) individuals applying for SRO licenses. None of the individuals applying for SRO licenses has been previously licensed at Dresden Station.

Requal Retake Examination Results:

The individual who took the dynamic simulator requalification re-take examination was assessed as satisfactory.

Requal Examination Results:

There was one individual failure in the Job Performance Measures (JPMs) portion of the examination. There were no individual failures on the written examination and no individual failures on the dynamic simulator portion of the NRC requalification examination. Based on the results of the examination and in accordance with the criteria of NUREG-1021, Revision 7, Operator Licensing Examiner Standards, ES-601, D.2.a, the Dresden Requalification Training Program is determined to be satisfactory.

Initial Licensed Operator Examination Results:

All individuals taking the Initial Licensed Operator Examinations (RO and SRO) passed all portions of their respective examinations and have been issued operator licenses.

The following is a summary of the strengths and weaknesses noted during the performance of these examinations.

STRENGTHS/WEAKNESSES:

Strengths:

- Pre-examination review of the initial license written examination. (See Section 3.a.1)
- Material submitted for the requalification examination. (See Section 3, 3.c.1)
- Control room communications during the dynamic simulator scenarios. (See Section 3.c.1)
- Use of and compliance with operating procedures during both the initial and requalification examinations. (See Section 3.b.1, 3.c.1)

Weaknesses:

- Response to radioactive release conditions as indicated:
  1. Identification of entry conditions for Emergency Operating Procedures. (See Section 3.a.2)
  2. Calculation of off-site radioactive release rate. (See Section 3.b.2)
  3. Identification of a major radiological release and the need for emergency depressurization during dynamic simulator scenario conditions. (See Section 3.c.2)

- Location of Traversing In-Core Probe (TIP) system guillotine shear valve key. (See Section 3.b.2)
- Plant annunciator response and diagnosis. (See Section 3.c.2)
- Electric panel (902(3)-8) operations. (See Section 3.c.2)
- Radiation protection department performance. (See Section 4.b)
- Improper response to a mispositioned control rod. (See Section 3.b.2)

REPORT DETAILS

1. Examiners

*D. McNeil, Chief Examiner, NRC, Region III
C. Zelig, Examiner, NRC, Region III
G. Buckley, Pacific Northwest Laboratories (PNL)
*M. Mitchell, PNL

2. Persons Contacted

Facility

*J. Kotowski, Production Superintendent
*M. Korchynsky, Senior Operating Engineer
*R. Weidner, Training Supervisor
*D. Shavey, Operations Training Supervisor
*J. Shields, Regulatory Assurance Supervisor
*K. Rach, BWR Operations Training Supervisor
*R. Sitts, LO Requal Administrator
D. Zehrung, Simulator Instructor
J. Heck, Instructor

U. S. Nuclear Regulatory Commission (NRC)

*M. Leach, Senior Resident Inspector, Dresden

*Denotes those present at the exit meeting on August 5, 1993.

3. Training Program Observations

The trainers appeared to be knowledgeable and courteous throughout the examination process. They put in extra time when necessary and maintained a professional attitude throughout the examination.

Material provided to support the requalification examination, including proposed examinations, was much improved when compared to the material provided by the Dresden Training Department for previous requalification examinations. The written examinations, JPMs and dynamic simulator scenarios required only minor changes to make them acceptable for an NRC administered examination.

The requalification crews appeared to be better prepared than previous crews evaluated during NRC examinations. Communications was improved over previous examinations.

The following information is provided for evaluation by the licensee via their SAT based training program. No response is required.

a. Written Examination

The Category B requalification written examination was given in a standard classroom environment with references available. The SRO examination had 39 questions while the RO examination had 38 questions. All candidates had completed the examination before the allowed 2 hours had elapsed. The Category A examination was given in the simulator. Both the RO and SRO examinations had 15 questions on the examination. All operators completed the examination within the allowed 1 hour.

The initial license examination was a standard 100 question examination as prescribed by NUREG 1021, Revision 7.

1. Strengths

The pre-exam review for the initial license written examination was noted as a strength. The review resulted in numerous pre-exam comments and no post exam comments.

2. Weaknesses

Grading of the initial examination revealed three generic weaknesses. A majority of the operators failed to correctly identify:

(a) the indications of an off-gas system fire;

(b) the response of the Standby Gas Treatment system to low flow conditions following a manual start; and

(c) entry conditions for DEOP 300-2, Radioactive Release.

b. Job Performance Measures (JPM)

All operators received 100% scores on the requalification JPMs except one who received a 60%. The one operator's performance was judged to be unsatisfactory. Each operator performed a total of five JPMs during their requalification examination.

The requalification examination JPMs performed in the plant were:

(1) Adjust recirculation flow using local scoop tube operation.

(2) Remove fuses for a stuck open relief valve.

(3) Perform Source Range Monitor (SRM) "not in operate" functional test.

(4) Lockout reactor recirculation pump using alternate method.

(5) Bypass high torus water level High Pressure Core Injection (HPCI) suction transfer with reactor building inaccessible.

(6) Place Diesel Generator (DG) in standby after surveillance testing.

The Requalification examination JPMs performed in the control room/simulator were:

(1) Parallel Bus 24-1 to Bus 34-1.

(2) Low Pressure Coolant Injection (LPCI) Pump Operability Test (Faulted).

(3) Core Spray Pump Operability Test (Faulted).

(4) Change-over Main Feedwater Regulating Valves.

All operators were judged to be satisfactory in performing the initial license JPMs. Each operator performed a total of ten JPMs during their initial examination.

The initial examination JPMs performed in the simulator/control room were:

(1) Reopen Main Steam Isolation Valves (MSIVs) with an Isolation Signal Present.

(2) Transfer Auxiliary Power from Transformer (TR) 21 to TR 22.

(3) Startup of Shutdown Cooling.

(4) Manual Scram Circuit Test.

(5) Control Reactor Pressure Using HPCI.

(6) Start Torus Cooling w/o an Injection Signal Present.

(7) Respond to a Mispositioned Control Rod.

(8) Startup of a Second Reactor Recirculation Pump.

(9) Lowering Unit 2 Torus Water Level.

(10) Partial Closure Operability Test of Main Steam Isolation Valves (MSIVs)

(11) LPCI Pump Operability Test (Faulted).

(12) TIP System Operation.

(13) Change-Over Main Feedwater Regulating Valves (MFRVs).

(14) Start Standby Gas Treatment (SBGT).

The initial examination JPMs performed in the plant were:

(1) Transfer of Control Rod Drive (CRD) Flow Control Valves.

(2) Lineup Diesel Fire Pump to Inject into Unit 2 Reactor Pressure Vessel (RPV).

(3) Transfer Reactor Protection System (RPS) Bus to the Normal Power Supply.

(4) Local Manual Start of the SBGTs.

(5) Alternate Injection from Standby Liquid Control SBC Test Tank.

(6) Unit 2/3 Instrument Air Cross-Connect Operation.

Strengths:

1. Operators were familiar with procedures and were able to promptly retrieve and execute the correct procedure in nearly all instances.

   Operators were familiar with component locations in the plant. They were able to rapidly proceed to equipment and simulate operation of the equipment as directed by procedures.

2. Weaknesses:

   Initial license candidates sometimes failed to retrieve materials required to execute JPMs before they went to the job site. This required the candidate to go back to the control room to obtain keys, DEOP equipment, etc., to complete the JPM.

   Some initial license candidates were not familiar with the new key control system being instituted, especially when confronted with obtaining keys for Unit 3. New keys for Unit 3 are in place in the key cabinet, but the padlocks on Unit 3 locked valves still use the generic key found on all unit attendant key rings. This caused confusion to some candidates.

   While performing the JPM to respond to a misposition control rod, two reactor operator initial license candidates failed to take the proper corrective action when they discovered a mispositioned control rod. Candidates were required to

detect a mispositioned control rod, reduce plant power by 50 MWe and notify Nuclear Engineering. One candidate discovered the mispositioned control rod and immediately inserted the control rod to notch 00 (full in). The candidate then opened the procedure and realized the action he had taken was incorrect. The second candidate discovered the mispositioned control rod, retrieved the correct procedure and then improperly interpreted the actions to be taken. The procedure allows the operator to restore the control rod to the target position if the rod is mispositioned by one even notch. The target position for the mispositioned control rod was notch 08. The control rod was at notch 04. This is two even notches from the target position. The candidate restored the control rod to notch 08.

All the initial SRO candidates were unable to calculate a radioactivity release rate using Dresden EPIP 0150-05, Rev 01. The SROs were given a specified set of conditions and asked to calculate a release rate, then classify the event based on the release rate. The expected result was the operators would find the release rate to be 2.8 E6 microcuries per second and declare an Unusual Event. Six out of six candidates given the JPM were unable to correctly calculate the release rate. Their calculations caused them to respond with Emergency Action Levels, from "no declaration" to "General Emergency." Although all SRO candidates failed this JPM, none of the candidates failed more than 2 of 10 JPMs and hence all passed the exam.

While observing JPMs with the LSRO, it was noted that the refuel grapple did not work. The LSRO then struck the dummy bundle with the grapple to break the stuck parts loose. He indicated the grapple had been recently painted. Moving parts were apparently painted and prevented the grapple from operating. This appears to be a maintenance problem and has been referred to the NRC Senior Resident Inspector.

While simulating the performance of a TIP trace, candidates were asked where the key is located for the guillotine (shear) valves in the TIP system. The operators responded that the SCRE had the key. When the SCRE was asked where the key was located, he responded that the Shift Engineer (SE) had the key. The SE indicated he did not have the key. It took approximately 10 minutes to finally locate the key for these valves.

c. Simulator Scenarios

All operators were graded as satisfactory on performance in the dynamic simulator scenarios for the requalification examination.

The SRO who was given a requalification retake examination was also judged to be satisfactory. All simulator scenarios were completed in one day, therefore, only two scenarios were required.

Scenario 1 required the operators to respond to a Reactor Water Cleanup (RWCU) pressure regulator failure, a Recirculation pump runback and a Loss of Coolant Accident (LOCA) with a Loss of an Emergency Core Cooling System (ECCS) electrical bus.

Scenario 2 required the operators to respond to an Isolation Condenser tube leak, a Feedwater Heater Drain Line Break, a Loss of Transformer 22, simultaneous failure of 2 EMRVs (open) and a series of failures requiring the SRO to initiate Steam Cooling.

All operators were graded as satisfactory in the dynamic simulator scenarios for the initial examination. Simulator scenarios required two days. Three scenarios were used during the two days.

Scenario 1 was used on the first day and included: (1) a reactivity manipulation requiring candidates to raise reactor power using recirculation; (2) a normal evolution which required the operators to place the plant in Economic Generation Control (EGC); (3) a drifting control rod; (4) an LPRM failure; (5) a failure of the RWCU pressure controller; (6) a stuck open SRV; and (7) a total loss of high pressure feed/injection systems with an ATWS.

Scenario 2 was used on the second day and included: (1) a reactivity manipulation requiring candidates to raise reactor power using recirculation; (2) a normal evolution requiring operators to place the plant in EGC; (3) an APRM failure; (4) a spurious initiation of the isolation condenser; and (5) a loss of control air to the "A" FWRV; (6) a loss of main condenser vacuum; and (7) an ATWS.

Scenario 3 was used on both days and included: (1) a reactivity manipulation requiring the candidates to lower reactor power using recirculation; (2) a spurious start of the HPCI pump; (3) a failure of the recirculation pump "A" speed feedback signal; (4) a trip of CRD pump 2B; (5) a tube rupture on the Isolation Condenser; and (6) a large fuel failure.

1. <u>Strengths:</u>

   Communications were significantly improved during the requalification examination. They were closed loop, clear and accurate.

The scenarios submitted for the proposed requalification examination were of high quality and required only minor modifications to use them for the examination.

Operators consistently retrieved and executed the correct procedures for the conditions they were given. Operators were familiar with and rapidly went to the correct panel locations to find the indications they needed to operate systems with the exception being one of the weaknesses noted below concerning the 902(3)-8 panel.

The trainers assigned to assist the examination team for the initial license examination were well prepared and contributed to the success of the examination by providing realistic cues when required by the operators.

2. Weaknesses:

During the initial license examination, all six crews were presented with scenario #3 where a small steam line break occurred in the reactor building with a concurrent failure of the fuel cladding. During the scenario every crew sent a response team to obtain radiation levels in the Emergency Core Cooling System (ECCS) areas of the reactor building. The radiation levels were necessary because the DEOPs require the operators to Emergency Depressurize (ED) the reactor plant when two or more of the ECCS areas exceed 2500 mr/hr. The teams were necessary because six of eight of the ECCS room radiation monitors providing control room indication have an instrument scale with an upper limit of less than 2,500 mr/hr. As part of the scenario, the simulated Radiation Protection Supervisor on the team reported back to the control room that radiation levels at the Reactor Building air lock door were 1000 mr/hr, that he and his team had withdrawn to a safe location and would not enter the reactor building because of the high radiation levels. Three of the initial license simulator crews had experienced SROs from operations or training departments directing DEOP actions during the scenarios. The remaining three crews had Instant SRO candidates directing DEOP actions. All experienced SROs took immediate action to ED, indicating that if the radiation levels were 1000 mr/hr at the reactor building door, then they had to be exceeding the 2500 mr/hr limit given in the DEOPs for the ECCS rooms. None of the Instant SROs took action to ED basing their decision on the fact that they had no positive proof that 2500 mr/hr existed in the ECCS rooms. This is defined as a weakness because: (1) the two groups took diverging DEOP actions when presented with the same scenario conditions and (2) there is no clearly defined method for obtaining ECCS room radiation levels under these conditions without

endangering personnel due to the high radiation levels or the high temperatures from the steam leak. There is also no method of determining ECCS room water levels under adverse environmental/ radiological conditions.

It was noted that during the requalification examination that operations on the 902(3)-8 panel were weak. Each crew appeared to have one individual on the crew that had good knowledge of operations on this panel. If that individual was engaged in responding to other events, the other operator doing electrical line-ups on the 902(3)-8 panel had difficulties.

The simulator had some identified software problems which caused certain annunciators to repeatedly alarm, making it impossible to silence the annunciators during certain scenarios. This provided negative training in that annunciators were not being silenced in some cases. During the requalification scenarios, one crew seldom acknowledged annunciators and simply raised their voices to communicate over the noise of the alarms. The other two requal crews silenced the alarms when they could but at times allowed them to continue to alarm.

Some annunciators are not being properly diagnosed by operators. This may be a result of the annunciator problem noted above in that operators are ignoring annunciators because of the inability to acknowledge and silence alarms. In two separate cases during the initial license examination SROs failed to diagnose a steam leak in the reactor building when annunciators clearly indicated there was a leak in the reactor building.

4. Operations, Security, Rad Protection, Other

a. Strengths:

Training, Operations, and Security were all professional in their dealings with the examination team. The examination team was able to quickly process through the gate house and into the plant. The examination team was able to quickly obtain all materials needed for efficient administration of the examination.

b. Weaknesses:

On two separate occasions, radiation protection personnel at the dosimetry issue desk were noted to be reading material that was not job related.

On one occasion, at 11:55 a.m., two of the candidates with their examiners called radiation protection for assistance at the frisking desk to get out of the Radiation Control Area (RCA) and

were told, "I've still got 5 minutes of lunch left." The candidates and examiners had to wait at the frisk station inside the RCA for the five minutes before the rad tech would come to assist them. The station's policy would not allow the individuals to frisk out their own materials. This is not consistent with the ALARA program.

On a separate occasion one examiner was issued a TLD at the TLD issue counter. He returned the TLD to the counter at the end of the day and told the technician at the counter he would be back later during the week and would need the TLD again. Two days later he returned to the TLD issue counter and was told they could not find his old TLD and they would issue him a new one. It was later discovered that the original TLD had been moved to the security gate house where a security guard had given it to another examiner. The second examiner discovered the error because the TLD still had the first examiner's name written on it. The above are examples of poor performance in the rad-protection/health physics area.

In the Operations department, some procedural problems were identified. The procedure used to shift Control Rod Drive flow control valves has many minor errors. There are typos and errors such as the procedure calling for a switch to be moved to "HAND" when the actual position on the switch in the plant is labeled "MANUAL." The procedure for local manual operations of the Standby Gas Treatment System (SBGT) is located in the procedure for local manual operation of the HPCI system. This caused some confusion for initial license candidates as they were not sure where to find the procedure for local operation of the SBGT.

While performing the procedure for local operation of the SBGT, it was noted that the biological shield placed in front of the SBGT Train "A" local relay panel is so close to the panel, it prohibits local emergency operation of the SBGT "A" system. This item has been turned over to the NRC Senior Resident Inspector for further follow-up.

Plant housekeeping was satisfactory. In some areas housekeeping could be improved. For example, boron crystals have built up on the Standby Liquid Control System pumps.

5. Simulator Observations:

a. Simulator discrepancies were identified. The training department was aware of these discrepancies and had already issued simulator deficiency reports for the noted deficiencies.

6. Exit Meeting

An exit meeting with the Dresden Nuclear Generating Plant management was held at the Dresden training offices on August 5, 1993. Those attending the meeting are listed in Section 2 of this report. The following items were discussed during the exit meeting:

- Strengths and weaknesses noted in this report.
- The general observations relating to the plant noted in Section 4.

ENCLOSURE 2

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: Dresden Nuclear Power Station

Examiners: D. McNeil, Chief Examiner
C. Zelig, Region III
G. Buckley, Pacific Northwest Laboratories (PNL)
M. Mitchell, PNL

Dates of Evaluation: July 26 - August 5, 1993

Areas Evaluated: X Written X Oral X Simulator

Examination Results:

	RO Pass/Fail	SRO Pass/Fail	Total Pass/Fail	Evaluation (S or U)
Written Examination	3/0	7/0	10/0	S
Operating Examination Oral	3/0	6/1	9/1	S
Simulator	6/0	9/0	15/0	S

Evaluation of facility written examination grading S

Crew Examination Results:

	Crew 1 Pass/Fail	Crew 2 Pass/Fail	Crew 3 Pass/Fail	Evaluation (S or U)
Operating Examination	PASS	PASS	PASS	S

Overall Program Evaluation

Satisfactory

Submitted:
D. McNeil
Examiner
9/15/93

Forwarded:
M. Jordan
Section Chief
9/16/93

Approved:
M. Ring
Branch Chief
9/16/93

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 3

CANDIDATE'S NAME: _____

FACILITY: Dresden 2 & 3

REACTOR TYPE: BWR-GE3

ADMINISTERED: 93/07/26

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

TEST VALUE	CANDIDATE'S SCORE	%	
100.00		%	TOTALS
	FINAL GRADE		

All work done on this examination is my own. I have neither given nor received aid.

_____
Candidate's Signature

MASTER COPY

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	___	023	a	b	c	d	___
002	a	b	c	d	___	024	a	b	c	d	___
003	a	b	c	d	___	025	a	b	c	d	___
004	a	b	c	d	___	026	a	b	c	d	___
005	a	b	c	d	___	027	a	b	c	d	___
006	a	b	c	d	___	028	a	b	c	d	___
007	a	b	c	d	___	029	a	b	c	d	___
008	a	b	c	d	___	030	a	b	c	d	___
009	a	b	c	d	___	031	a	b	c	d	___
010	a	b	c	d	___	032	a	b	c	d	___
011	a	b	c	d	___	033	a	b	c	d	___
012	a	b	c	d	___	034	a	b	c	d	___
013	a	b	c	d	___	035	a	b	c	d	___
014	a	b	c	d	___	036	a	b	c	d	___
015	a	b	c	d	___	037	a	b	c	d	___
016	a	b	c	d	___	038	a	b	c	d	___
017	a	b	c	d	___	039	a	b	c	d	___
018	a	b	c	d	___	040	a	b	c	d	___
019	a	b	c	d	___	041	a	b	c	d	___
020	a	b	c	d	___	042	a	b	c	d	___
021	a	b	c	d	___	043	a	b	c	d	___
022	a	b	c	d	___	044	a	b	c	d	___
						045	a	b	c	d	___

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	a	b	c	d	___
055	a	b	c	d	___	078	a	b	c	d	___
056	a	b	c	d	___	079	a	b	c	d	___
057	a	b	c	d	___	080	a	b	c	d	___
058	a	b	c	d	___	081	a	b	c	d	___
059	a	b	c	d	___	082	a	b	c	d	___
060	a	b	c	d	___	083	a	b	c	d	___
061	a	b	c	d	___	084	a	b	c	d	___
062	a	b	c	d	___	085	a	b	c	d	___
063	a	b	c	d	___	086	a	b	c	d	___
064	a	b	c	d	___	087	a	b	c	d	___
065	a	b	c	d	___	088	a	b	c	d	___
066	a	b	c	d	___	089	a	b	c	d	___
067	a	b	c	d	___	090	a	b	c	d	___
068	a	b	c	d	___	091	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

092	a	b	c	d	___
093	a	b	c	d	___
094	a	b	c	d	___
095	a	b	c	d	___
096	a	b	c	d	___
097	a	b	c	d	___
098	a	b	c	d	___
099	a	b	c	d	___
100	a	b	c	d	___

(********** END OF EXAMINATION **********)

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination will result in a denial of your application and could result in more severe penalties.

2. After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination.

3. To pass the examination, you must achieve a grade of 80 percent or greater.

4. The point value for each question is indicated in parentheses after the question number.

5. There is a time limit of 4 hours for completing the examination.

6. Use only black ink or dark pencil to ensure legible copies.

7. Print your name in the blank provided on the examination cover sheet and the answer sheet.

8. Mark your answers on the answer sheet provided and do not leave any question blank.

9. If the intent of a question is unclear, ask questions of the examiner only.

10. Restroom trips are permitted, but only one applicant at a time will be allowed to leave. Avoid all contact with anyone outside the examination room to eliminate even the appearance or possibility of cheating.

11. When you complete the examination, assemble a package including the examination questions, examination aids, and answer sheets and give it to the examiner or proctor. Remember to sign the statement on the examination cover sheet.

12. After you have turned in your examination, leave the examination area as defined by the examiner.

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QUESTION: 001 (1.00)

WHICH ONE (1) of the following Emergency Operating Procedures (EOPs) would be entered if a reactor building floor drain sump high level alarm sounded?

a. DEOP 200-1 (Primary Containment)

b. DEOP 200-2 (Primary Containment Hydrogen Control)

c. DEOP 300-1 (Secondary Containment Control)

d. DEOP 400-2 (Emergency Depressurization)

QUESTION: 002 (1.00)

WHICH ONE (1) of the following is the Unit 2 plant response to a complete loss of instrument air pressure?

a. Level in the main condenser hotwell would DECREASE due to the MAKEUP valve failing CLOSED and the REJECT valve failing OPEN.

b. SBGT system discharge flow rate would DECREASE since the SUCTION FLOW CONTROL VALVES will fail CLOSED

c. The Reactor Recirculation Motor Generator oil coolers will overheat because the service water TEMPERATURE CONTROL VALVES to the oil coolers will fail CLOSED.

d. The reactor will scram on high reactor pressure or high reactor flux because all the INBOARD MSIVs will fail CLOSED.

QUESTION: 003 (1.00)

4Kv Bus 24-1 voltage drops to 3250 Volts and the DEGRADED VOLTAGE alarm is received on Panel 902-8. Assuming bus voltage stays at 3250 Volts, WHICH ONE (1) of the following describes the system response to this condition?

a. AFTER 7 SECONDS, Bus 24-1 will load shed and DG-2/3 will start and close onto the de-energized bus.

b. AFTER 5 MINUTES, Bus 24-1 will load shed and DG-2/3 AND the security diesel will start and close onto the de-energized bus.

c. AFTER 7 SECONDS, Bus 24-1 will load shed and DG-2 AND the security diesel will start and close onto the de-energized bus.

d. AFTER 5 MINUTES, Bus 24-1 will load shed and DG-2 will start and close onto the de-energized bus.

QUESTION: 004 (1.00)

The Main Turbine has tripped, but the Main Generator has failed to trip. WHICH ONE (1) of the following describes the locations and conditions needed to trip the main generator manually?

a. At panel 902-8 only if the main turbine control valves are closed, and panel 923-2 at any time.

b. At panel 902-8 only if the reverse power relay energizes, and panel 923-2 at any time.

c. At panel 923-2 only if the main turbine control valves are closed, and panel 902-8 at any time.

d. At panel 923-2 only if the reverse power relay energizes, and panel 902-8 at any time.

QUESTION: 005 (1.00)

DGP 02-03, "Reactor Scram", directs the operator to verify that the Main Turbine and Generator have tripped following a scram. WHICH ONE (1) of the following is the reason that the Main Turbine and Generator must be tripped following a reactor scram?

a. Prevents Turbine Stop Valve Closure scram subsequent to reset of initial scram signal.

b. Prevents overheating the turbine blades due to generator motoring on reverse power.

c. Prevents cycling of the Turbine Control Valves due to low steam flow conditions.

d. Prevents MSIV closure due to low main steam line pressure.

QUESTION: 006 (1.00)

WHICH ONE (1) of the following is the RPV pressure SAFETY LIMIT for UNIT 2?

a. 1175 psig

b. 1260 psig

c. 1375 psig

d. 1410 psig

QUESTION: 007 (1.00)

Unit 2 reactor power is 100% when Reactor Feed Pump "2B" trips. Reactor level drops to +18 inches. WHICH ONE (1) of the following actions would be in accordance with DOA-600-01 (Transient Level Control) and effective in recovering level?

a. Shift Main Feed Reg Valves to Manual and raise feed flow.

b. Open the Reactor Low Flow Feed Reg Valve.

c. Initiate HPCI.

d. Reduce reactor power with recirculation flow.

QUESTION: 008 (1.00)

An unisolable reactor coolant leak on Unit 2 has resulted in a reactor scram and a rapid increase in drywell pressure.

- Reactor building vent radiation is at 3 mr/hr
- Reactor pressure is 775 psig
- Drywell temperature is 155 degrees F
- All rods are inserted
- Drywell pressure = 3 psig increasing
- HPCI is maintaining reactor level at 10 inches

WHICH ONE (1) of the following DEOP(s) groups should be entered?

a. DEOP 0100 (Reactor Control) and DEOP 200-01 (Primary Containment Control)

b. DEOP 0100 (Reactor Control) only

c. DEOP 200-01 (Primary Containment Control) only

d. DEOP 200-01 (Primary Containment Control) and DEOP 300-01 (Secondary Containment Control)

QUESTION: 009 (1.00)

WHICH ONE (1) of the following conditions would REQUIRE an IMMEDIATE manual reactor SCRAM?

a. When total core flow is less than 45% of rated and above 80% Flow Control Line (FCL).

b. When six (6) LPRMs are alarming High and Low, with a period of 1.5 seconds.

c. When one Electromatic relief valve fails open.

d. When one recirculation pump trips from 90% or greater power.

QUESTION: 010 (1.00)

A severe fire has forced evacuation of the main control room. ADS has been inhibited and the Isolation Condenser has been initiated in accordance with DSSP 0100-CR. WHICH ONE (1) of the following describes the remaining operator actions (for each unit) required prior to evacuating the control room?

a. Scram the reactor by placing the Mode Switch to shutdown, and leave the MSIVs open.

b. Scram the reactor by depressing the manual scram pushbuttons, and leave the MSIVs open.

c. Scram the reactor by placing the Mode Switch to shutdown, and close the MSIVs.

d. Scram the reactor by depressing the manual scram pushbuttons, and close the MSIVs.

QUESTION: 011 (1.00)

A caution in DEOP 0500-05 (Alternate Insertion of Control Rods) warns that a specific order must be adhered to when pulling or inserting the power supply fuses for the scram solenoids. WHICH ONE (1) of the following is the reason for this requirement?

a. The scram discharge volume will not drain properly.

b. A vent path can be established from the primary containment to the reactor building.

c. A vent path can be established from the reactor vessel to the reactor building.

d. The scram discharge volume may be overpressurized.

QUESTION: 012 (1.00)

The Off-Gas High Radiation alarm for Unit 2 has just annunciated. In addition to a fuel element failure, WHICH ONE (1) of the following could cause the high offgas radiation condition?

a. Failure to achieve recombination in the recombiner.

b. Failure of the condensate demineralizer post strainer

c. Trip of the operating Steam Jet Air Ejector.

d. Increased off gas dilution steam flow.

QUESTION: 013 (1.00)

WHICH ONE (1) of the following sets of parameters is an indication of an offgas fire?

a. Sudden INCREASE in offgas flow, sudden RISE in recombiner temperature.

b. Sudden DECREASE in offgas flow, sudden DROP in recombiner temperature.

c. Sudden INCREASE in offgas flow, sudden DROP in recombiner temperature.

d. Sudden DECREASE in offgas flow, sudden RISE in recombiner temperature

QUESTION: 014 (1.00)

WHICH ONE (1) of the following is the preferred method of venting the containment to maintain primary containment pressure below the Primary Containment Pressure Limit?

a. Offgas system via the drywell

b. SBGT system via the drywell

c. Offgas system via the torus

d. SBGT system via the torus

QUESTION: 015 (1.00)

The reactor is operating at full power, when all "Main Steam Line High-High Radiation" alarm annunciates. Highest reactor pressure noted is 1100 psig. WHICH ONE (1) of the following sets of automatic actions are expected to occur under this condition?

a. No automatic actions occur. The operator must respond manually to the annunciator.

b. The MSIVs shut on high pressure, the reactor scrams on MSIV closure.

c. The MSIVs shut on high pressure, the reactor scrams on steam line High-High radiation.

d. The MSIVs shut on high radiation, the reactor scrams on steam line High-High radiation.

QUESTION: 016 (1.00)

A transient on Unit 2 has resulted in a rupture of the torus causing torus level to decrease. Plant conditions are as follows:

- Torus level = 7.0 feet, steady
- Torus bottom pressure = 3.5 psig
- Torus water temperature = 145 deg F

WHICH ONE (1) of the following statements correctly describes the effect that this Torus water level has on the operation of ECCS pumps for reactor water level control.

a. Discontinue operation of the LPCI or the Core Spray pumps to prevent cavitation on low suction pressure.

b. Continued operation of HPCI is allowed if the suction is aligned to the CST to provide adequate suction pressure.

c. Total LPCI system flow must be limited to 20,000 gpm with four pumps operating to ensure adequate NPSH.

d. Total Core Spray system flow must be limited to 10,000 gpm with two pumps operating to ensure adequate NPSH.

QUESTION: 017 (1.00)

Core submergence is always the preferred means of ADEQUATE CORE COOLING. WHICH ONE (1) of the following states the other accepted method of maintaining ADEQUATE CORE COOLING?

a. core spray

b. steam cooling

c. radiative cooling

d. containment flooding

QUESTION: 018 (1.00)

WHICH ONE (1) of the following systems is used to inject Alternate Standby Liquid Control (SLC) boron into the reactor?

a. Feed and Condensate system

b. RWCU system

c. Head Spray line

d. Core Spray line

QUESTION: 019 (1.00)

Given the following plant conditions:

- Reactor SCRAM
- Reactor level is steady at +12 inches
- Drywell temperature is 150°F
- Small break LOCA of about 4 GPM
- SPING Channel 7 reading 4.8E6 uCi/sec
- Extensive core damage has occurred

An Auxiliary operator reports that the LOCA is on a CRDM line near the HCU. WHICH ONE (1) of the following DEOP's should be initiated?

a. DEOP 200-1, "Primary Containment"

b. DEOP 300-1, "Secondary Containment"

c. DEOP 300-2, "Radioactive Release"

d. DEOP 400-2, "Emergency RPV Depressurization"

QUESTION: 020 (1.00)

Unit 2 is operating at 100% rated thermal power when reactor recirculation pump 2A trips. The IMMEDIATE OPERATOR ACTIONS of DOA 202-1, Reactor Recirculation Pump Trip require the 2B recirculation pump's speed to be reduced. WHICH ONE (1) of the following states the B pump's speed and the reason for this speed?

a. Less than 60%, to allow inserting rods to get below the 80% flow control line.

b. Less than 60%, to allow a restart attempt of reactor recirculation pump 2A.

c. Less than 43%, to reduce the jet pump riser vibration during single loop operation.

d. Less than 43%, to prevent inducing excessive thermal stress on the reactor vessel lower head.

QUESTION: 021 (1.00)

Unit 3 is operating at 100% rated power. WHICH ONE (1) of the following systems would NOT function if unit 2 125 VDC battery power was lost? (Assume all ECCS systems are in normal standby and respond properly.)

a. Diesel Generator 3

b. Core Spray System I

c. Diesel Generator 2/3

d. HPCI

QUESTION: 022 (1.00)

WHICH ONE (1) of the following is the IMMEDIATE operator action if turbine speed is NOT decreasing and the Main Stop Valves (MSVs) are OPEN after an automatic turbine trip?

a. Open both main generator output circuit breakers.

b. Manually trip the main turbine and close the MSVs.

c. Initiate a reactor scram and close the MSIVs.

d. Verify the main generator trips on reverse power after 3 seconds.

QUESTION: 023 (1.00)

WHICH ONE (1) of the following is the reason that the feed pumps trip on high reactor level?

a. Prevent jet pump damage due to steam carryunder.

b. Prevent feed pump damage due to cavitation and/or runout.

c. Prevent HPCI turbine damage due to moisture carryover into the turbines.

d. Prevent main steam line piping and hanger damage due to filling the main steam lines.

QUESTION: 024 (1.00)

If the ESS bus is lost, WHICH ONE (1) of the following is the automatic response?

a. Half-scram, 4-light display "scram valve open" lights illuminated, individual rod drift lights illuminated

b. Full scram, 4-light display "scram valve open" lights illuminated, individual rod drift lights extinguished.

c. Half-scram, 4-light display "scram valve open" lights extinguished, individual rod drift lights extinguished.

d. Full scram, 4-light display "scram valve open" lights extinguished, individual rod drift lights illuminated

QUESTION: 025 (1.00)

WHICH ONE (1) of the following will occur if all 24 and 48 volt DC power is lost at Unit 3?

a. Unit 3 Core Spray system minimum flow valve will not operate.

b. Unit 2 will experience a half-scram.

c. Unit 3 wide range reactor level indication becomes inoperable.

d. Unit 2 HPCI will be inoperable.

QUESTION: 026 (1.00)

Unit 3 is operating at 100% Reactor Power. Control Rod Drive (CRD) pump 3B is inoperable. CRD pump 3A trips. Under WHICH ONE (1) of the following conditions is a Reactor SCRAM required?

a. Accumulator Trouble alarm on 5 randomly distributed control rods at position 48.

b. CRD pump low suction pressure of 18 inches Hg

c. Two (2) adjacent Accumulator Trouble alarms on control rods at position 04

d. Accumulator Trouble alarm on a control rod at position 24

QUESTION: 027 (1.00)

Given the following plant conditions:

- Small Break LOCA and ATWS
- Reactor Power 25% and oscillating
- Reactor Pressure 900 psig increasing
- Reactor Water Level -60 inches
- Torus Water Temperature 195 deg F increasing
- Torus Water Level 14 feet
- One LPCI pump in Torus Cooling
- All Safety Relief Valves Closed

WHICH ONE (1) of the following states the required actions?

a. Shift the LPCI pump from Torus Cooling to inject into the core and maintain reactor water level above TAF.

b. Line up to drain the Torus, increase Torus Cooling Water flow, and when water level reaches TAF enter DEOP 400-3, "Steam Cooling".

c. Initiate Emergency Depressurization using all five (5) ADS valves irrespective of loss of reactor water level and adequate core cooling.

d. Manually control reactor pressure at 900 psig by opening one (1) relief valve as necessary and maintain reactor water level above TAF.

QUESTION: 028 (1.00)

WHICH ONE (1) of the following plant conditions would require entry into DEOP 200-1, "Primary Containment Control?"

a. Torus Water Level +1.5 inches

b. Drywell Temperature 145 deg F

c. Drywell Pressure 1.68 psig

d. Primary Containment Hydrogen Concentration 3.1%

QUESTION: 029 (1.00)

WHICH ONE (1) of the following conditions will result in an automatic isolation of the Shutdown Cooling System?

a. Recirculation loop temperature 350 deg F or reactor water level of 8 inches

b. Recirculation loop temperature 340 deg F or reactor water level of 8 inches

c. Recirculation loop temperature 350 deg F or reactor water level of +20 inches

d. Recirculation loop temperature 340 deg F or reactor water level of +20 inches

QUESTION: 030 (1.00)

WHICH ONE (1) of the following statements provides guidance concerning Daily Orders, Operating Orders and approved procedures, when they provide conflicting information?

a. Daily Orders take precedence over Operating Orders, but not approved procedures.

b. Operating Orders take precedence over Daily Orders, but not over approved procedures.

c. Daily Orders take precedence over Operating Orders, but only during the time frame that the Daily Orders are valid.

d. Operating Orders and Daily Orders take precedence over approved procedures, but only for the time frame that the Orders are valid.

QUESTION: 031 (1.00)

A surveillance procedure is in progress, with the NSO (initials O.H.) directing the actions of the "B" man (initials S.L.) in the plant. WHICH ONE (1) of the following describes the initals that the NSO is to place on the surveillance step?

a. OH/SL

b. SL/OH

c. OH

d. SL by OH

QUESTION: 032 (1.00)

The following radiological conditions exist in the plant:

-General area radiation of 120 mRem per hour
-Smearable contamination of 70 counts above background

WHICH ONE (1) of the following postings should be applied to this area?

a. Radiation area

b. High radiation area

c. Locked High radiation area

d. Contamination area

QUESTION: 033 (1.00)

WHICH ONE (1) of the following radiation signals will automatically start the SBGT system?

a. 4 mr/hr Reactor Building Ventilation High High Radiation

b. 1000 mr/hr Drywell High Radiation

c. 6 mr/hr Off-Gas High High Radiation (posttreatment)

d. 10 mr/hr Refueling Floor High Radiation

QUESTION: 034 (1.00)

WHICH ONE (1) of the following states the reason for rapid depressurization of the reactor vessel PRIOR to reaching the heat capacity temperature limit curve?

a. Minimize the discharge of reactor coolant from unisolated primary system breaks.

b. Depressurize the reactor while the containment still has the ability to absorb the energy in the reactor.

c. Reduce the pressure in the reactor so that low pressure ECCS are able to inject.

d. Minimize radioactive releases from the reactor pressure vessel into or outside the primary containment.

QUESTION: 035 (1.00)

A TIP trace is being taken in automatic mode when an instrument technician error causes a Group II containment isolation signal. WHICH ONE (1) of the following describes the response of the TIP system?

a. The TIP drive automatically shifts to reverse and withdraws the detector to the shield position, and the ball valve closes.

b. The TIP shear valve automatically fires to cut the detector cable and seal the guide tube.

c. The TIP guide tube ball valve automatically closes, cutting the detector cable and sealing the guide tube.

d. The TIP drive automatically shifts to reverse and withdraws the detector to the shield position, and the shear valve closes.

QUESTION: 036 (1.00)

While at 90% power condenser vacuum is observed to be decreasing. WHICH ONE (1) of the following states the expected plant response that would occur if vacuum further decreases without operator action?

a. The turbine will trip at 20" Hg vacuum which will cause a reactor scram.

b. The turbine will trip at 23" Hg vacuum resulting in a generator load reject and actuation of the select rod insert.

c. The turbine will trip and the reactor will scram from a turbine control valve fast closure at 20" Hg vacuum

d. The turbine will trip after the reactor scrams at 23" Hg vacuum.

QUESTION: 037 (1.00)

Unit 3 is operating at full power when all RBCCW pumps trip. WHICH ONE (1) of the following is a required immediate action?

a. Scram the reactor if all RBCCW flow is lost for 1 minute.

b. Start the 2/3 RBCCW pump and align it to unit 3.

c. Reduce reactor power to less than 45% and trip the main turbine.

d. Trip the recirculation pumps if all RBCCW flow is lost for 1 minute.

QUESTION: 038 (1.00)

WHICH ONE (1) of the following conditions requires entry into DEOP 300-1, "Secondary Containment Control"?

a. Reactor building to atmosphere differential pressure at 0 inches of water

b. Reactor building corner room at 0 inches water level

c. Reactor building Vent Radiation above 2 mr/hr

d. Reactor building Area Temperature above 160°F

QUESTION: 039 (1.00)

Given the following Unit 2 plant conditions:

- RPV pressure 100 psig
- TR 2-1340-1 on panel 902-2:
  Point 9 = 295 deg F; Point 10 = 305 deg F
- Reactor Bldg. Temp 205 deg F

WHICH ONE (1) of the following is the lowest valid RPV water level reading?

a. Fuel Zone -300 inches

b. Fuel Zone -298 inches

c. Wide Range +10 inches

d. Wide Range +5 inches

QUESTION: 040 (1.00)

Given the following conditions:

- Steam line rupture in the HPCI room with a failure of the Group IV Isolation
- All personnel have been evacuated from the reactor building
- HPCI pump room temperature is 215 deg F and radiation level is 125 mr/hr.

WHICH ONE (1) of the following actions should be taken to control this event after entering DEOP 300-1?

a. Scram the reactor, perform an emergency depressurization, then enter DEOP 100.

b. Scram the reactor, then enter DEOP 100.

c. Enter DEOP 300-2 and DEOP 100.

d. Enter DEOP 300-2 and scram the reactor.

QUESTION: 041 (1.00)

An operator returns from two (2) days off, and works the following shift hours as a control room operator during a unit 2 outage.

Saturday - 6 am to 2 pm
Sunday - 6 am to 2 pm
Monday - 6 am to 6 pm
Tuesday - 6 am to 6 pm

WHICH ONE (1) of the following is the MAXIMUM number of additional hours the operator can work before 6 pm on Wednesday.

a. 4 hours

b. 8 hours

c. 12 hours

d. 16 hours

QUESTION: 042 (1.00)

What is the maximum Whole Body Dose you are allowed to receive to save a life during an emergency?

a. 25 REM

b. 50 REM

c. 75 REM

d. 100 REM

QUESTION: 043 (1.00)

Who is responsible for the distribution and repossession of Station Keys used for the Vital Controlled Areas?

a. Shift Engineer

b. Assistant Superintendent - Operating

c. Security Shift Supervisor

d. Station Security Administrator

QUESTION: 044 (1.00)

WHICH ONE (1) of the following correctly complete this statement? For drywell entry, oxygen concentration must be at least _____% and hydrogen concentration must be no more than _____% per DAP 7-11.

a. 18.0, 10.0

b. 19.5, 0.41

c. 20.0, 1.0

d. 21.0, 4.1

QUESTION: 045 (1.00)

WHICH ONE (1) of the following offsite fire departments should be contacted to assist in fighting a fire at Dresden station?

a. Morris Fire Department

b. Braidwood Fire Department

c. Coal City Fire Department

d. Channahon Fire Department

QUESTION: 046 (1.00)

WHICH ONE (1) of the following is an acceptable way to perform independent verification on a throttled valve? (Assume that the valve is installed in a system with a local flow indication controlled by the valve, and the valve has a rising stem.)

a. observe the initial valve operator's action in positioning the throttled valve

b. perform an independent visual check of the valve position by observing the valve stem

c. independently verify the valve position by a second valve operation

d. by observing flow indication through the throttled valve's system

QUESTION: 047 (1.00)

WHICH ONE (1) of the following is the MINIMUM cumulative radiation exposure guideline that allows waiver from Independent Verification requirements?

a. 7 mrem

b. 10 mrem

c. 20 mrem

d. 35 mrem

QUESTION: 048 (1.00)

WHICH ONE (1) of the following individual's approval is required prior to the installation of a Temporary Alteration per DAP 7-4?

a. SCRE

b. Shift Engineer

c. Assistant Supt. - Operations

d. OSRC

QUESTION: 049 (1.00)

WHICH ONE (1) of the following individuals has the initial responsibility of assuming the position of "Fire Chief"?

a. Security Shift Supervisor

b. SCRE

c. Radwaste Shift Supervisor

d. Shift Engineer

QUESTION: 050 (1.00)

QUESTION DELETED

QUESTION: 051 (1.00)

WHICH ONE (1) of the following is the MINIMUM period of time that an operator must abstain from drinking alcoholic beverages before assuming his/her on-shift duties inside a vital area?

a. 3 Hours

b. 5 Hours

c. 8 Hours

d. 12 Hours

QUESTION: 052 (1.00)

A Group II Isolation initiates. The Group II Isolation signal still exists and the Drywell Vent valves need to be operated. The reactor is SHUTDOWN with Mode Switch in "SHUTDOWN". What condition(s) is (are) required to open valves 1601-61 (Torus Vent) and 1601-63 (Drywell Vent to SBGT System)?

a. Bypass permissive switch in the Torus position

b. Bypass permissive switch in the Drywell position

c. Mode Switch in RUN and bypass permissive switch in the Drywell position

d. Mode Switch in RUN and bypass permissive switch in the TORUS position

QUESTION: 053 (1.00)

During normal 100% power, it is noted that Secondary Containment differential pressure is at 0 inches of water and increasing. WHICH ONE (1) of the following states the potential adverse consequences that could occur if this situation is NOT corrected?

a. In the event of a design basis Loss of Coolant Accident (LOCA) an unmonitored release could occur.

b. Increased inleakage to the containment would occur due to the excessive load being placed on the containment vent and purge system.

c. The differential pressure across access doors would limit the access to containment.

d. The torus could be overpressurized in the event of a Loss of Coolant Accident (LOCA).

QUESTION: 054 (1.00)

WHICH ONE (1) of the following statements describes the response of a control rod scrammed by reactor pressure alone?

a. Scram time will increase as reactor pressure increases.

b. It will stop inserting when the force difference between upper and lower piston cannot overcome the rod weight plus the friction.

c. It will insert faster than with normal accumulator pressure alone.

d. It will not insert fully unless a control rod drive pump is running.

QUESTION: 055 (1.00)

Control Rod 18-23 has been selected for a single notch withdrawal from position 02 to position 04. The following response from the CRD system was observed by the NSO.

- Insert light illuminates and goes out.
- Withdrawal light illuminates and goes out.
- Settle light illuminates and goes out.

The NSO also observed and reported to the SRO that the selected rod is now at position 08 and is continuing to drift out. A Rod Drift alarm is also present. WHICH ONE (1) of the following CRD Mechanism failures has occurred?

a. HCU scram pilot valve failure

b. Collet finger failure

c. Excessive Hydraulic Control Unit (HCU) Nitrogen Pressure

d. Excessive HCU Drive Water Pressure

QUESTION: 056 (1.00)

Under WHICH ONE (1) of the following conditions will the control rod selected for movement remain selected on the Rod Select Matrix?

a. Loss of power to RPIS.

b. Master timer malfunction while withdrawing a control rod.

c. Withdrawing a control rod with the Rod Drift Alarm Switch in "TEST".

d. Place the Rod Select Power Switch to "OFF".

QUESTION: 057 (1.00)

During a reactor startup the NSO must withdraw a group of rods from position "00" to "12". At what point may he/she utilize the Rod Out Notch Override switch?

a. After the SRM count rate has experienced 3 doublings.

b. After pulling the first two (2) rod groups to position "48".

c. When all IRM range switches are on 3 or above.

d. When the unit is on line.

QUESTION: 058 (1.00)

A reactor startup is in progress on Unit 2 with an operator withdrawing control rods. The operator inadvertently withdraws a control rod to position 10 instead of stopping at position 8 as designated in the CRSP. WHICH ONE (1) of the following states how the RWM will affect normal in-sequence rod movements?

a. The mispositioned rod may only be moved in, all other control rods may only move out.

b. The mispositioned rod may only be moved in, all other control rods are blocked from movement.

c. The mispositioned rod may move in or out, all other control rods may only move out.

d. The mispositioned rod may move in or out, all other control rods are blocked from movement.

QUESTION: 059 (1.00)

The Rod Worth Minimizer (RWM) is required to be operational at less than 20% power decreasing as determined by the Low Power Set Point (LPSP). WHICH ONE (1) of the following parameters activates the LPSP and enables the RWM rod blocks?

a. APRM reference

b. 1st stage turbine pressure

c. Total main steam flow.

d. Total feedwater flow.

QUESTION: 060 (1.00)

During an ATWS, WHICH ONE (1) of the following states the initiating parameter, Alternate Rod Insertion System (ARI) valve response, and effect of the ARI system on the recirculation system?

a. Low RPV level, -59": ARI valves ENERGIZE, the recirculation pump field breakers trip after a nine (9) second time delay.

b. High reactor pressure, 1060 psig: the ARI valves ENERGIZE, the recirculation pump field breakers trip.

c. Low RPV level, -59": the ARI valves DE-ENERGIZE, the recirculation pump field breakers trip after a (9 second) time delay.

d. High reactor pressure, 1060 psig: The ARI valves DE-ENERGIZE, the recirculation pump field breakers trip

QUESTION: 061 (1.00)

WHICH ONE (1) of the following states the valve line up at UNIT 2 AND at UNIT 3 established to assure that an idle recirculation loop temperature is within limits for starting the recirculation pump with the other recirculation pump running. The pump suction valve is open and:

a. UNIT 2: pump discharge valve is jogged open; pump discharge valve bypass valve is closed.
   UNIT 3: pump discharge valve is jogged open.

b. UNIT 2: pump discharge valve is closed; pump discharge valve bypass valve is open.
   UNIT 3: pump discharge valve is jogged open.

c. UNIT 2: pump discharge valve is jogged open.
   UNIT 3: pump discharge valve is jogged open; pump discharge valve bypass valve is closed.

d. UNIT 2: pump discharge valve is jogged open.
   UNIT 3: pump discharge valve is closed; pump discharge valve bypass valve is open

QUESTION: 062 (1.00)

Given the following:

- Unit 2 is at 95% power
- Sudden increase in indicated core flow
- Decrease in core thermal power
- Main Generator power has decreased
- Core differential pressure has decreased

WHICH ONE (1) of the following is causing the above operating anomaly?

a. partial opening of an ERV

b. failure of a jet pump

c. failure of a condensate demineralizer post strainer

d. loss of the speed mismatch signal from an operating recirc pump

QUESTION: 063 (1.00)

A Reactor Water Cleanup isolation has occurred attributed to a spurious high temperature from the Aux pump cooling water and was corrected. WHICH ONE (1) of the following describes the actions that will result in resetting of the RWCU system with the correct expected system response to the isolation?

a. Clearing the RWCU to reactor differential pressure interlock by equalizing RWCU and reactor pressure (< 100 psid) and by placing the Low Filter Isolation Bypass switch in the BYPASS position on panel 902-5.

b. Operating the Main Steam Line (Group I) Isolation RESET switch, by turning it in both directions to reopen both the inboard (MO-1 and 1A) and outboard (MO-2 and 3) isolation valves on panel 902-5.

c. Operating the Drywell Isolation reset switch on panel 902-5 in both directions to allow reopening both the inboard (MO-1, and 1A) and outboard (MO-2 and 3) isolation valves.

d. Placing the inboard (MO-1, 1A, and 7) and outboard (MO-2 and 3) isolation valve switches first in the CLOSED position on panel 902-5, then by turning the Drywell Isolation RESET switch in both directions, to reopen the isolation valves after a Group III isolation.

QUESTION: 064 (1.00)

During a plant cooldown the operator opens the 2B SDC PP discharge valve (4B) to 90% to maximize cooldown rate. Which of the following describes the results of this valve manipulation on the 2B SDC PP?

a. Pump runout occurs

b. No adverse effects occur

c. Heat Exchanger shell side saturation occurs

d. Heat Exchanger baffle deformation occurs

QUESTION: 065 (1.00)

The reactor is shutdown with one loop of Shutdown Cooling system in operation. The Recirculation system is secured. Reactor water level is +45 inches and water temperature is 200 deg F and has been increasing. WHICH ONE (1) of the following statements is correct?

a. Reactor water temperature is representative of the actual water temperature.

b. Natural circulation is ensured.

c. Reactor vessel metal temperature will lag from actual water temperature and will result in vessel shell to shell flange differential temperature to exceed 140 deg F.

d. Reactor vessel temperature stratification may occur and results in vessel heatup and pressurization.

QUESTION: 066 (1.00)

The LPCI motor operated heat exchanger bypass valves (1501-11A/B) are interlocked open on an ECCS initiation signal. WHICH ONE (1) of the following describes proper valve operation?

a. The valves may be closed by operating the control switches to Pull-To-Lock (PTL) position to bypass the interlock.

b. 30 seconds after the LPCI initiation signal is received, these valves may be manually closed.

c. 5 minutes after the LPCI initiation signal is received, these valves may be manually closed.

d. 8.5 minutes after LPCI initiation signal is received these valves may be manually closed

QUESTION: 067 (1.00)

WHICH ONE (1) of the following describes power supply to the intermediate range monitor (IRM) detector and the voltage?

a. Instrument Bus 120 VAC.

b. High voltage power supply; 550 VDC.

c. Voltage preamplifier; 100 VDC.

d. 125 volt batteries; 125 VDC.

QUESTION: 068 (1.00)

WHICH ONE (1) of the following controls the reactivity addition rate during a control rod drop accident, so it ensures fuel damage does not occur?

a. Orificed Check Valve

b. Velocity Limiter

c. 121 Valve Disc

d. Control Rod Stabilizing valves

QUESTION: 069 (1.00)

WHICH ONE (1) of the following describes the process that is used in the charcoal beds to reduce the off-gas radioactive isotopes being released to the environment?

a. Hydrogen gas isotopes are removed using recombination with a catalyst and then condensation.

b. Radioactive particulates are removed using high efficiency filtration.

c. Nitrogen gas isotopes are removed using holdup and decay.

d. Noble gas isotopes are removed using adsorption and decay.

QUESTION: 070 (1.00)

Given the following set of initial plant conditions:

Load set 90%	Pressure set 920
Load limit 100%	Max combined flow 105%
100% power	100% core flow

recirc flow in master manual
equalizing header pressure 950 psig

WHICH ONE (1) of the following would be the current control valve/bypass valve lineup?

a. control valve demand 100%, bypass valve demand 0% open.

b. control valve demand 90%, bypass valve demand 10% open.

c. control valve demand 80%, bypass valve demand 20% open.

d. control valve demand 70%, bypass valve demand 30% open.

QUESTION: 071 (1.00)

WHICH ONE (1) of the following conditions will cause the fuel pool cooling pump 2A to trip?

a. Filter inlet pressure at 125 psig.

b. Pump suction pressure at 4 psig.

c. Skimmer Surge tank at 19 inches.

d. Undervoltage on Bus 29.

QUESTION: 072 (1.00)

WHICH ONE (1) of the following statements defines the cause and effect of moisture carryover?

a. Water level below the skirt results in cavitation of the recirculation pumps.

b. Water level below the skirt results in damage to the turbine blades.

c. Water level too high in the moisture separator, results in cavitation of the recirculation pumps.

d. Water level high in the moisture separator results in damage to the turbine blades.

QUESTION: 073 (1.00)

WHICH ONE (1) of the following describes core orifice location and the purpose of the core orifices?

a. Located in the lower tie plate; provide maximum flow to fuel bundles in the central region

b. Located in the fuel support pieces; provide even flow distribution throughout the core

c. Located in the lower tie plate; provide even flow distribution throughout the core

d. Located in the fuel support pieces; provide maximum flow to fuel bundles in the central region

QUESTION: 074 (1.00)

WHICH ONE (1) of the following statements explains how valve 1101-1 (Standby Liquid Control inner containment isolation valve) is verified to be in the OPEN position.

a. The final valve line up is performed and verified during Drywell closeout.

b. The valve is locked in the open position, with remote position indication in the control room.

c. The valve is a fail-open valve, with the air supply removed from the valve during normal operation.

d. The valve is opened and the motor operator is deenergized prior to securing the drywell.

QUESTION: 075 (1.00)

WHICH ONE (1) of the following is the MINIMUM temperature allowable for the SBLC tank if it contains borate solution at the MINIMUM concentration required by Unit 3 Technical Specifications? (Candidates were told they could use Unit 2 Tech Specs.)

a. 62 degs F

b. 75 degs F

c. 87 degs F

d. 92 degs F

QUESTION: 076 (1.00)

Unit 2 is operating at 100% rated power when a spurious scram on RPS Channel A occurs. The operator observes the following:

- the indicating lights for scram solenoid groups A1, A2, and A3 are ILLUMINATED
- the indicating lights for scram solenoid group for A4 is EXTINGUISHED.

WHICH ONE (1) of the following states the percentage of control rods that will insert into the core, if the operator inadvertently depresses the RPS Channel B manual scram button while implementing DOA 0500-2, Partial 1/2 or Full Scram Actuation?

a. 100%

b. 75%

c. 50%

d. 25%

QUESTION: 077 (1.00)

WHICH ONE (1) of the following is the reserve 120/240 VAC power source for the RPS Bus B?

a. MCC 29-2

b. MCC 28-2

c. MCC 25-2

d. MCC 29-7

QUESTION: 078 (1.00)

WHICH ONE (1) of the following states the normal operational control method for maintaining Drywell and Torus pressures so that in the event of a loss of coolant accident (LOCA) their integrity will not be lost?

a. The nitrogen pressure control valve maintains the Torus pressure at 1.1 psig and the pumpback system maintains a 0.5 psi differential pressure between the Torus and Drywell.

b. The nitrogen pressure control valve maintains the Drywell pressure at 1.1 psig and the pumpback system maintains a 1.0 psi differential pressure between the Drywell and the Torus.

c. The nitrogen pressure control valve maintains the Torus pressure at 1.0 psig and the Torus to Drywell vacuum breakers maintain a 0.5 psi differential pressure between the Torus and the Drywell.

d. The nitrogen pressure control valve maintains the Drywell pressure at 1.0 psig and the Torus to Reactor Building vacuum breakers maintain a 0.5 psi differential pressure between the Torus and the Reactor Building.

QUESTION: 079 (1.00)

A loss of coolant accident has occurred. WHICH ONE (1) of the following limits the amount of energy that the Primary Containment can absorb?

a. Total Energy in the coolant and the core

b. Drywell wall and atmosphere temperature

c. Torus Temperature

d. Blowdown Rate

QUESTION: 080 (1.00)

WHICH ONE (1) of the following describes the Low Pressure Coolant Injection (LPCI) injection valve performance during automatic LPCI initiation?

a. The LPCI injection valve (1501-22A(B)) is normally open; it is interlocked open for 5 minutes following selection by LPCI loop selection logic.

b. The LPCI injection valve (1501-22A(B)) is normally closed; it is interlocked open for 5 minutes after opening following selection by LPCI loop selection logic.

c. The LPCI injection valve (1501-21A(B)) is normally open; it is interlocked open for 5 minutes following selection by LPCI loop selection logic.

d. The LPCI injection valve (1501-21A(B)) is normally closed; it is interlocked open for 5 minutes after opening following selection by LPCI loop selection logic.

QUESTION: 081 (1.00)

Loop A jet pump riser pressure is 1016 psig. Loop B jet pump riser pressure is 908 psig. Both recirculation pumps ar running. WHICH ONE (1) of the following states the low pressure coolant injection (LPCI) Loop Selection Logic automatic line up for injection?

a. LPCI Loop Select Logic selects injection into recirculation loop "A".

b. LPCI Loop Select Logic selects injection into recirculation loop "B".

c. LPCI Loop Select Logic selects injection into recirculation loops "A" AND "B".

d. LPCI Loop Select Logic waits until the recirculation pumps trip and coast down, THEN selects injection into recirculation loop "B" after the reactor pressure blows down to less than 900 psig.

QUESTION: 082 (1.00)

WHICH ONE (1) of the following control circuits will be DIRECTLY affected by a FUEL ZONE Level instrument failure?

a. Containment Spray initiation

b. LPCI initiation

c. FWLC system

d. Alternate rod insertion

QUESTION: 083 (1.00)

During normal plant operation, an operator called the control room and stated that some vapor is showing from the isolation condenser (IC) vent on the reactor building. An investigation reveals that the shell side water temperature is increasing, but the level is not changing. WHICH ONE (1) of the following could be happening in the isolation condenser system?

a. The makeup valve to the shell side of the heat exchanger is leaking.

b. The condensate return valve to the reactor is leaking.

c. The steam line vent to the "A" main steam line has failed closed.

d. The isolation condenser has developed a tube leak.

QUESTION: 084 (1.00)

Operators have been attempting to reseat the Unit 3 Isolation Condenser Reactor INLET ISOLATION valve, 3-1301-3. The following conditions still exist:

- HPCI system is OOS
- Isolation Condenser shell side temp is rapidly increasing
- Isolation Condenser steam line temp is 180 deg F and rapidly increasing
- Isolation Condenser shell side level is rapidly approaching 12 feet

The operators must:

a. immediately scram the reactor and isolate the Isolation Condenser.

b. isolate the Isolation Condenser and reduce reactor pressure to less than or equal to 150 psig within 24 hours.

c. isolate the Isolation Condenser and return the HPCI system to operable status within 7 days.

d. isolate the Isolation Condenser and continue plant operations indefinitely as long as ADS remains operable.

QUESTION: 085 (1.00)

WHICH ONE (1) of the following states the reason for maintaining the electrohydraulic control (EHC) pressure setpoint about 50 psig greater than the reactor pressure prior to drawing a vacuum on the main condenser?

a. Prevent loss of pressure control by bypass valves due to inadequate differential pressure between the reactor vessel and the condenser.

b. Prevent erratic level and pressure indications caused by drawing a vacuum on the RPV.

c. Prevent severe main condenser tube erosion due to steam admission at low vacuum conditions.

d. Prevent the bypass valves from opening and possibly causing a flux/pressure transient.

QUESTION: 086 (1.00)

WHICH ONE (1) of the following describes the water supply to the control rod drive hydraulic system (CRDH)? The CRDH normal water supply is from the:

a. condensate storage tank (CST), its alternate supply is from the condensate reject line.

b. well water tank, its alternate supply is from the demineralized water header.

c. Well Water tank, its alternate supply is from the CST.

d. condensate reject line, its alternate supply is from the CST.

QUESTION: 087 (1.00)

Dresden 2 has just experienced a loss of offsite power concurrent with a +2.5 psig Drywell pressure. The diesels fast start as designed. WHICH ONE (1) of the following states the timed starting sequence for the emergency bus equipment?

a. When reactor pressure reaches 350 psig AND 8.5 minutes have elapsed from initiation, then the diesel generator breaker closes, then the first low pressure coolant injection (LPCI) pump starts followed by the core spray pump 5 seconds later followed by the second LPCI pump 5 seconds later.

b. When reactor pressure reaches 350 psig AND 8.5 minutes have elapsed from initiation, then the diesel generator breaker closes, then the first LPCI pump starts followed by the second LPCI pump 5 seconds later followed by the core spray pump 5 seconds later.

c. The diesel generator breaker closes within 10 seconds, then the first LPCI pump starts followed by the core spray pump 5 seconds later followed by the second LPCI pump 5 seconds later.

d. The diesel generator breaker closes within 10 seconds, then the first LPCI pump starts followed by the second LPCI pump 5 seconds later followed by the core spray pump 5 seconds later.

QUESTION: 088 (1.00)

The Reactor Building Ventilation and the Standby Gas Treatment Systems experience a total failure of the respective fans. WHICH ONE (1) of the following states the mechanism which occurs as the reactor building pressurizes to prevent structural damage of the Reactor Building?

a. At a pressure of 2.2" water gage, the normal ventilation supply and exhaust dampers open to equalize the pressure to the outside atmosphere.

b. At a pressure of 2.7" water gage, the Standby Gas Treatment outlet damper opens to equalize the pressure to the outside atmosphere.

c. At a pressure of 0.5 psi in the reactor building, the reactor building to torus vacuum breakers relieve pressure to the torus.

d. At a pressure of 0.5 psi in the reactor building, the blowout panels part from the beams on the refueling floor to equalize pressure to the outside atmosphere.

QUESTION: 089 (1.00)

WHICH ONE (1) of the following primary containment isolation system (PCIS) groups will send a withdrawal signal to the traversing incore probe (TIP) system?

a. Group I

b. Group II

c. Group III

d. Group IV

QUESTION: 090 (1.00)

WHICH ONE (1) of the following states a diesel generator protective trip which is bypassed during automatic start from an undervoltage condition?

a. FAILURE TO START

b. ENGINE OVERSPEED

c. DG REVERSE POWER

d. DG HIGH DIFFERENTIAL CURRENT

QUESTION: 091 (1.00)

WHICH ONE (1) of the following is a load required for maintaining safe shutdown conditions?

a. Core Spray Pump

b. SBGT Train

c. Diesel Generator Auxiliaries

d. AC Powered Valves

QUESTION: 092 (1.00)

Standby Gas Treatment (SBGT) train "A" is in PRIMARY and train "B" is in STANDBY. The operator manually starts the train A SBGT. WHICH ONE (1) of the following conditions will initiate train "B" of the SBGT?

a. Manual initiation ONLY.

b. MANUAL and Loss of power to the train "A" heater.

c. MANUAL and Low flow condition on train "A" for 10 seconds.

d. MANUAL and Drywell radiation level of 90 R/hr.

QUESTION: 093 (1.00)

WHICH ONE (1) of the following suction points is NOT available to the Standby Gas Treatment system following an automatic initiation?

a. Unit 2 and 3 Drywells

b. Atmosphere Containment Atmosphere Dilution System

c. Unit 2 and 3 Reactor Building HVAC

d. Turbine Building Ventilation System

QUESTION: 094 (1.00)

While operating at 100% power feedwater regulating valve (FWRV) 2A is in service controlling reactor vessel water level. The air line supplying FWRV 2A ruptures and air is rapidly lost to the operator. WHICH ONE (1) of the statements below identifies the response of the FWRV?

a. The valve fails full open immediately since it uses air to close, and spring pressure to open.

b. The valve fails full open, but the speed is limited by the hydraulic damper.

c. The valve would "lock up" in its present position, due to the actuation of the air lock valve.

d. The valve fails full closed, but the speed is limited by the hydraulic damper.

QUESTION: 095 (1.00)

There are no average power range monitor (APRM) channels bypassed. WHICH ONE (1) of the following sets of condition(s) will NOT result in an INOP trip?

a. APRM channel 1 has 2 LPRM inputs in "A" level; 3 LPRM inputs in "B" level; 1 LPRM inputs in "C" level and 5 LPRM inputs in "D" level.

b. APRM channel 4 meter function switch is in COUNT AND the meter indicates 50%.

c. APRM channel 4 APRM function switch is in POWER.

d. APRM channel 1 circuit board is removed.

QUESTION: 096 (1.00)

WHICH ONE (1) of the following states the difference in the function of ADS valves 203-3B and 203-3C from the other ADS valves AND the reason for the difference?

a. Each has a time delay to inhibit the valve from immediately reopening after it's last closure to allow for vacuum breaker operation in the relief lines.

b. Each has a time delay inhibiting the valve from immediately reopening on the Drywell High Pressure initiation to allow Suppression Pool Cooling to be placed in service prior to admitting steam to the Suppression Pool.

c. If actuated by ADS, each valve automatically closes if Suppression Pool temperature exceeds 170 degrees F to reduce the vibration in the Suppression Pool due to steam jet pulsations.

d. If the valves open due to high pressure, a time delay closes the valves after ten seconds to prevent over pressurization of the relief lines.

QUESTION: 097 (1.00)

WHICH ONE (1) of the following conditions will automatically initiate the Automatic Depressurization System (ADS) for a leak inside the drywell?

a. Reactor water level -69 inches, drywell pressure peaks at 2.2 psig and decreases to 1.5 psig, and 120 seconds timer timed out.

b. Reactor water level -56 inches, drywell pressure 2.2 psig, LPCI pumps A and C running, and 120 seconds time timed out.

c. Reactor water level -56 inches , drywell pressure 2.8 psig and increasing, 8.5 minutes time delay permissive, and LPCI pumps A and B running.

d. Reactor water level -60 inches, drywell pressure peak at 2.2 psig then decreased to 1.5 psig, core spray pump A running, and 120 seconds timer timed out.

QUESTION: 098 (1.00)

A pressure transient has occurred in the reactor pressure vessel (RPV). The RPV pressure increased to a peak pressure of 1230 psig. The following parameters currently exist:

- 125 Vdc Power Supply 2A-1 has failed
- RPV Pressure is 1095 psig
- RPV level is at -60 inches slowly decreasing
- Drywell pressure is +2.25 psig increasing
- Keylock switch is in AUTO.
- LPCI Pump 2A is running

WHICH ONE of the following statements describes the status of ADS valve 203-3A after 120 seconds?

a. CLOSED

b. OPEN with only reactor pressure

c. OPEN with only solenoid action

d. OPEN with reactor pressure and solenoid action

QUESTION: 099 (1.00)

Keylock switch 1130-301 on panel 903-5 is placed in the System 2+1 position. WHICH ONE (1) of the following states the starting sequence for the SBLC system.

a. Squib valve B fired, B SBLC pump received a start signal, and the RWCU inboard (MO-1 and 1a) and outboard (MO-2 and 3) isolation valves closed.

b. Squib valve A fired, A and B SBLC pumps received a start signal, and RWCU inboard (MO-1 and 1a) isolation valves closed.

c. Squib valves A and B fired, only the B SBLC pump received a start signal, and RWCU inboard (MO-1, 1a and 7) and outboard (MO-2 and 3) isolation valves closed.

d. Squib valves A and B fired, A and B SBLC pumps received a start signal, and RWCU inboard (MO-1, 1a and 7) and outboard (MO-2 and 3) isolation valves closes.

QUESTION: 100 (1.00)

Several hours after a severe LOCA, torus water level is 31 feet and primary containment venting is necessary to control primary containment pressure. WHICH ONE (1) of the following is the preferred method of venting the containment to maintain primary containment pressure below the Primary Containment Pressure Limit?

a. Offgas system via the drywell

b. SBGT system via the drywell

c. Offgas system via the torus

d. SBGT system via the torus

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)

c.

REFERENCE:

1. Dresden EOPs, DEOP 300-1 Secondary Containment Control.
2. K/A 295027G011 (4.3/4.7)
   295024G011 ..(KA's)

ANSWER: 002 (1.00)

a.

REFERENCE:

1. 278L-S1, Instrument Air System, pp 20, Objective 11a
2. DOA 4700-1, Instrument Air System Failure, pp 4 and 5
3. K/A 295019K212 (3.3/3.4)
   295019K212 ..(KA's)

ANSWER: 003 (1.00)

d.

REFERENCE:

1. DGA-12, Rev 12, steps B.6 and C.2.b.
2. Objective 262L-S1-08, e
3. K/A: 295003A102 (4.2/4.3)
   295003A102 ..(KA's)

ANSWER: 004 (1.00)

b.

REFERENCE:

1. Objective 262L-S1-08b
2. K/A 295005A107 (3.3/3.3)
   295005A107 ..(KA's)

ANSWER: 005 (1.00)

b.

REFERENCE:

1. DGP 02-03, "Reactor Scram", Rev. 15, pg. 2,3
2. 245-S3, P. 19 of 20
3. K/A: 295006K305 (3.8/4.0)
   295006K305 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

1. T.S. 1.2
2. K/A: 295025G003 (3.5/4.3*)
   295025G003 ..(KA's)

ANSWER: 007 (1.00)

d.

REFERENCE:

1. DOA 600-01, Rev 09, B.1.a and C.1
2. K/A: 295009G010 (4.2*/4.0*)
   295009G010 ..(KA's)

ANSWER: 008 (1.00)

a.

REFERENCE:

1. DEOP 1 and DEOP 2 entry conditions
2. K/A: 295010G011 (4.2*/4.5*)
   295010G011 ..(KA's)

ANSWER: 009 (1.00)

b.

REFERENCE:

1. DGA-2, Rev 2, sec C
2. DOA 250-1, Rev 7, sec C
3 DOA 202-01, Rev 7, sec C
4. K/A: 295014G010 (4.0*/3.9*)
295014G010 ..(KA's)

ANSWER: 010 (1.00)

d.

REFERENCE:

1. DSSP 0100-CR, Rev 3, Section G
2. K/A: 295016A101 (3.8/3.9)
295016A101 ..(KA's)

ANSWER: 011 (1.00)

c.

REFERENCE:

1. DEOP 0500-05, Rev 01, p.4 and 5 of 8
2. K/A: 295015K204 (4.0/4.1)
295015K204 ..(KA's)

ANSWER: 012 (1.00)

b.

REFERENCE:

1. DGA-16, Section F, Rev 04, p. 5 of 6
2. K/A 271000A112 (3.1/3.5)
271000A112 ..(KA's)

ANSWER: 013 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan 271L-S1, Obj. 2d
2. K/A: 295017A102 (3.5/3.7)
295017A102 ..(KA's)

ANSWER: 014 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan DEOP 500-4, rev 0, sec II
2. K/A: 223001A206 (4.1/4.1)
223001A206 ..(KA's)

ANSWER: 015 (1.00)

d.

REFERENCE:

1. Tech Specs 1.1
2. K/A: 295025K202 (4.2*/4.5*)
295025K202 ..(KA's)

ANSWER: 016 (1.00)

a.

REFERENCE:

1. DEOP 100
2. K/A: 295030K204 (3.7/3.8)
295030K204 ..(KA's)

ANSWER: 017 (1.00)

b.

REFERENCE:

1. DEOP 100 lesson plan, Rev 0, Objective 1, p. 3 of 32
2. K/A: 295031A204 (4.6*/4.8*)
295031A204 ..(KA's)

ANSWER: 018 (1.00)

a.

REFERENCE:

1. DEOP 500-1, Rev 0, sec I, p. 4 of 19
2. K/A: 295037K213 (3.4/4.1)
295037K213 ..(KA's)

ANSWER: 019 (1.00)

c.

REFERENCE:

1. DEOP 300-2, rev 0
2. K/A: 295038G011 (4.2*/4.5*)
295038G011 ..(KA's)

ANSWER: 020 (1.00)

c.

REFERENCE:

1. DOA 202-1, Rev 07, p. 2 of 7
2. K/A: 295001A101 (3.5/3.6)
295001A101 ..(KA's)

ANSWER: 021 (1.00)

a.

REFERENCE:

1. DOA 6900-1, Rev 01, p. 4 of 29
2. K/A: 295004A202 (3.5/3.9)
295004A202 ..(KA's)

ANSWER: 022 (1.00)

c.

REFERENCE:

1. DOA-5600, Rev 4, p. 3 of 6
2. K/A: 295005G010 (3.8/3.6)
295005G010 ..(KA's)

ANSWER: 023 (1.00)

d.

REFERENCE:

1. 259L-S1, p. 23 of 27,
2. K/A 256000K313 (3.3/3.3)
256000K313 ..(KA's)

ANSWER: 024 (1.00)

a.

REFERENCE:

1. DOA 6800-01, Rev 5, p. 3 of 14
2. K/A: 295003K305 (3.7/3.7)
295003K305 ..(KA's)

ANSWER: 025 (1.00)

b.

REFERENCE:

1. DOA 6900-01, Rev 03, p. 2 of 9
2. K/A: 295004K303 (3.1/3.5)
295004K303 ..(KA's)

ANSWER: 026 (1.00)

c.

REFERENCE:

1. DOA 300-1, rev 9, sec C.5
2. K/A: 295022K301 (3.7*/3.9*)
295022K301 ..(KA's)

ANSWER: 027 (1.00)

c.

REFERENCE:

1. DEOP 200-1, Rev 02, sec II B.6, obj 3.b
2. K/A: 295026K301 (3.8/4.1)
295026K301 ..(KA's)

ANSWER: 028 (1.00)

a.

REFERENCE:

1. DEOP 200-1 flowchart.
2. K/A 219000G015 (4.1/4.2)
219000G015 ..(KA's)

ANSWER: 029 (1.00)

a.

REFERENCE:

1. 205L-S1, Rev 2, Section B3, p. 8 of 10
2. K/A: 295021A204 (3.6/3.6)
295021A204 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

1. DAP 7-03
294001A103 ..(KA's)

ANSWER: 031 (1.00)

b.

REFERENCE:

1. DAP 07-02, Rev 18, p. 9 of 43
2. KA: 294001A102 (4.2*/4.2*)
294001A102 ..(KA's)

ANSWER: 032 (1.00)

b.

REFERENCE:

1. 10 CFR 20, para. 20.203 "Caution Signs, Labels, Signals, and Controls
2. K/A: 294001K103 (3.3/3.8)
294001K103 ..(KA's)

ANSWER: 033 (1.00)

a.

REFERENCE:

1. 261L-S1, Rev 2. p. 10 of 17
2. K/A 295034K203 (4.3*/4.5*)
295034K203 ..(KA's)

ANSWER: 034 (1.00)

b.

REFERENCE:

1. 295L-S2, Rev 1, p. 7 of 38, objective 2b
2. K/A: 295026K301 (3.8/4.1)
295026K301 ..(KA's)

ANSWER: 035 (1.00)

a.

REFERENCE:

1. 215L-S1, Rev dated 7/25/92 [no rev #] p. 24 of 24
2. K/A: 295020G010 (3.6/3.5)
295020G010 ..(KA's)

ANSWER: 036 (1.00)

d.

REFERENCE:

1. 245L-S1, Rev 1, p. 35 of 44
2. 212L-S1, Rev 0, p. 16 of 35
3. K/A: 295002K103 (3.6/3.8)
295002K103 ..(KA's)

ANSWER: 037 (1.00)

d.

REFERENCE:

1. DOA-3700-01, Rev 07, Section C Immediate Actions, p. 2 of 6
2. K/A: 295018G010 (3.4/3.3)
295018G010 ..(KA's)

ANSWER: 038 (1.00)

a.

REFERENCE:

1. DEOP-300-1
295035G011 ..(KA's)

ANSWER: 039 (1.00)

b.

REFERENCE:

1. DEOP-100, Detail 100-A
2. K/A: 295028A203 (3.7/3.9)
295028A203 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

1. DEOP 300-01
2. K/A: 295032G012 [3.6/4.4]
295032G012 ..(KA's)

ANSWER: 041 (1.00)

c.

REFERENCE:

1. DAP 07-21, Attachment A, Rev 02
2. K/A: 294001A109 (3.3/4.2)
294001A109 ..(KA's)

ANSWER: 042 (1.00)

c.

REFERENCE:

1. CECo Radiation Protection Standards, Sept. 85, p.34
2. K/A: 294001K103 (3.3/3.8)
294001K103 ..(KA's)

ANSWER: 043 (1.00)

d.

REFERENCE:

1. DAP 13-11, rev 1, sec B.1
2. K/A: 294001K102 (3.9/4.5*)
294001K102 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

1. DAP 07-11, Rev 10, p. 4 of 9
2. K/A: 294001K114 (3.2/3.4)
294001K114 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

1. DAP 3-1, Rev 04, p. 10 of 44
2. K/A 294001K116 (3.5/3.8)
294001K116 ..(KA's)

ANSWER: 046 (1.00)

a.

REFERENCE:

1. DAP 7-27, Rev 03B p. 4 of 12, item 17
2. K/A: 294001K101 (3.7/3.7)
294001K101 ..(KA's)

ANSWER: 047 (1.00)

c.

REFERENCE:

1. DAP 7-27, Rev 03B p. 5 of 12, item 19
2. K/A: 294001K104 (3.3/3.6)
294001K104 ..(KA's)

ANSWER: 048 (1.00)

a.

REFERENCE:

1. DAP 07-04, Rev 14, P9 of 23, d.(9)
2. K/A 294001A110 (3.6/4.2)
294001A110 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

1. DAP 03-01, Rev 04, p. 8 of 44, Item 3.b.(1)
2. K/A: 294001A109 (3.3/4.2*)
   294001A109 ..(KA's)

ANSWER: 050 (1.00)

b.

REFERENCE:

1. DFP 0850-02, Rev 0, p. 3 of 4
2. K/A 295023G010 (3.8*/3.9*)
   295023G010 ..(KA's)

ANSWER: 051 (1.00)

b.

REFERENCE:

1. 10 CFR 26
2. K/A: 294001A103 (2.7/3.7)
   294001A103 ..(KA's)

ANSWER: 052 (1.00)

a.

REFERENCE:

1. K/A: 295020K302 (3.1/3.3)
   295020K302 ..(KA's)

ANSWER: 053 (1.00)

a.

REFERENCE:

1. T.S. 3.7 Bases, B 3/4.7-59
2. K/A: 290001A202 (3.5/3.7)
   290001A202 ..(KA's)

ANSWER: 054 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 201L-S3(6/92) Control Rod Blade and Drive
   Mechanism. pp 24, 25
2. Learning Objective #1 and 3
3. KA # 201001K405 (3.8/3.8)
   201001K405 ..(KA's)

ANSWER: 055 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, CRDH 201L-S1, 6-92, Pg. 26-27
2. Learning Objective 12
3. K/A 201001K303 (3.1/3.2)
   201001K303 ..(KA's)

ANSWER: 056 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Reactor Manual Control and RPIS System 201L-S2, 6-8-92, Pg. 12, 14 & 20
2. Learning Objective 8.1.1, 9.a.4
3. K/A # 201002K601 (2.5/2.6)
   201002K601 ..(KA's)

ANSWER: 057 (1.00)

d.

REFERENCE:

1. DGP 1-01
2. DGP 3-04
3. K/A # 201002A402 (3.5/3.5)
201002A402 ..(KA's)

ANSWER: 058 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan 201L-S6 NO DATE, Rod Worth Minimizer, pp.
8.
2. Learning Objective 8.a
3. K/A # 201006K510 (3.2/3.3)
201006K510 ..(KA's)

ANSWER: 059 (1.00)

c.

REFERENCE:

1. Dresden Technical Specifications & DEOP 400-2
2. K/A 201006G011 (3.2/3.2)
201006K409 ..(KA's)

ANSWER: 060 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Nuclear Boiler Instrumentation pp 33
2. Learning Objective #1, 3, and 4
3. KA 202001K127 4.1/4.3
202001K127 ..(KA's)

ANSWER: 061 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan , Recirculation System 202L-S1, 4-7-92, SEC. D.1.d.2, p. 23 of 29
2. Learning Objective 5.b, 6.a.
3. KA # 202001A113 (3.1/3.2)
   202001A113 ..(KA's)

ANSWER: 062 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Recirculation System 202L-S1 4-7-92, D.2.a., Pg.25.
2. Learning Objective 11.c.
3. K/A 202001K606 (3.1/3.1)
   202001K606 ..(KA's)

ANSWER: 063 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, RWCU 204L-S1, 4-6-92, Pg. 18.
2. Learning Objective 9.
3. K/A 204000K111 (3.3/3.5)
   204000K111 ..(KA's)

ANSWER: 064 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Shutdown Cooling System, 205L-S1, Pg. 5
2. Learning Objective 10
3. K/A 205000A210 (2.9/2.9)
   205000A210 ..(KA's)

ANSWER: 065 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Shutdown Cooling, 205L-S1, A.3.d., Pg. 7.
2. Learning Objective 1.
3. K/A 204000A407 (3.7/3.7)
   205000A407 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 203L-S1 4-92, B.3.d., Pg. 8.
2. Learning Objective 8.d
3. K/A 219000K504 (2.9/2.9)
   219000K504 ..(KA's)

ANSWER: 067 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Intermediate Range Monitoring System 215L-S3 7-92, D.12, Pg.14.
2. Leaning Objective 6.b.
3. K/A 215003K201 (2.5/2.7)
   215003K201 ..(KA's)

ANSWER: 068 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, CRD Blade and Mechanism 6-92, 201L-S3, C.4.c., Pg.9.
2. Learning Objective 6.g.
3. K/A 201003K401 (2.9/3.0)
   201003K401 ..(KA's)

ANSWER: 069 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Off-Gas 271L-S1 8-31-92, PG. 10.
2. Learning Objective 6.r.
3. KA 271000K508 (2.5/2.6)
   271000K508 ..(KA's)

ANSWER: 070 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Electro-Hydraulic Control System, 248L-S1
   8-11-92, Pg. 17.
2. Learning Objective 6.c.4.
3. KA 245000A312 (3.3/3.5)
   245000A312 ..(KA's)

ANSWER: 071 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Fuel Pool Cooling and Cleanup 233L-S1 5-92, Pg. 12.
2. Learning Objective 8.
3. K/A: 233000A302 (2.6/2.6)
   233000A302 ..(KA's)

ANSWER: 072 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Reactor Pressure Vessel and Internals 223L-S1 7-92, Pg. 26
2. Learning Objective 6.m.
3. K/A 290002K404 (2.8/2.8)
   290002K404 ..(KA's)

ANSWER: 073 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Reactor Pressure Vessel and Internals 223L-S1 7-92, Pg. 20
2. Learning Objective 6.h.
3. KA 290002K403 (3.2/3.3)
   290002K403 ..(KA's)

ANSWER: 074 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Standby Liquid Control System 211L-S1 4-2-92, Pg. 8.
2. Learning Objective 3 & 5.
3. K/A 211000A206 (3.1/3.3)
   211000A206 ..(KA's)

ANSWER: 075 (1.00)

b.

REFERENCE:

1. Tech Specs Bases, B 3/4.4-6, Amendment No. 109
2. K/A 211000K503 (3.2/3.5)
   211000K503 ..(KA's)

ANSWER: 076 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Reactor Protection System 212L-S1 4-89, Pg. 7.
2. DEOP 0500-2, Partial 1/2 or Full Scram Actuation, pp 2
3. Learning Objective 11
4. K/A 212000K106 (3.5/3.6)
   212000K106 ..(KA's)

ANSWER: 077 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, RPS 212L-S1 4-89, Pg. 6.
2. Learning Objective 6.
3. K/A 212000K201 (3.2/3.3)
   212000K201 ..(KA's)

ANSWER: 078 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Primary Containment Systems 223L-S3 4-92, Pg. 4 & 5.
2. Learning Objective 3
3. K/A 223002K406 (3.1/3.3)
   223001K406 ..(KA's)

ANSWER: 079 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Primary Containment 223L-S1 4-92, Pg. 11,
   B.3.c.
2. Learning Objective 2.
3. K/A 223001K101 (3.7/3.9)
   223001K101 ..(KA's)

ANSWER: 080 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan , LPCI, 203L-S1 4-92, Pg. 11.
2. Learning Objective 8.e
3. KA 203000A301 (3.8/3.7)
   203000A301 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Low Pressure Coolant Injection 203L-S14-92, Pg. 18 to 20.
2. Learning Objective 6.
3. K/A 203000A307 (4.2/4.6)
   203000A307 ..(KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Nuclear Boiler Instrumentation 261L-S1 4-89, Pg. 18
2. Learning Objective 12.
3. K/A 216000K
   216000K305 ..(KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Isolation Condenser 207L-S1 8-92, Pg. 19.
2. Learning Objective 11.
3. KA 207000K109 (3.0/3.2)
   207000K109 ..(KA's)

ANSWER: 084 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Isolation Condenser 207L-S1, Pg. 7, 10, and 13.
2. Learning Objective 10.
3. K/A 207000K607 (3.0/3.2)
   207000K607 ..(KA's)

ANSWER: 085 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, EHC Pressure Control and Logic 241L-S1 8-5-92, Pg. 25.
2. Learning Objective 9
3. K/A 241000K127 (3.1/3.1)
   241000K127 ..(KA's)

ANSWER: 086 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Condensate and Feedwater 259L-S1 4-13-92,
   Pg. 27.
2. Learning Objective 13.
3. Dresden Lesson Plan, CRDH 201L-S1 6-92, Pg. 14.
4. Learning Objective 12.c &12.d.
5. K/A 256000K105 (3.1/3.1)
   256000K105 ..(KA's)

ANSWER: 087 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Low Pressure Coolant Injection 203L-S1
   4-92, Pg. 22.
2. Learning Objective 8
3. K/A 262001K602 (3.6/3.9)
   262001K602 ..(KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Primary and Secondary Containment 223L-S1
   4-92, Pg. 17.
2. Learning Objective 6
3. KA 290001K402 (3.4/3.5)
   290001K402 ..(KA's)

ANSWER: 089 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Traversing Incore Probe System 215L-S1 7-25-92, Pg. 24.
2. Learning Objective 8.
3. K/A 215001K401 (3.4/3.5)
   215001K401 ..(KA's)

ANSWER: 090 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Diesel Generators 264L-S1 7-1-92, Pg. 16 to 19.
2. Learning Objectives 8.b.
3. K/A 264000A109 (3.0/3.1)
   264000A109 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Diesel Generators 264L-S1 7-1-92, Table 3
2. Learning Objective 13.
3. K/A 264000K303 (4.1/4.2)
   264000K303 ..(KA's)

ANSWER: 092 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, SBGT 261L-S1 5-7-92, Pg. 11.
2. Learning Objective 8.
3. K/A 261000G014 (3.8/3.3)
   261000G014 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, 261L-S1 5-7-92, Pg. 4.
2. Learning Objective 3.
3. K/A 261000K101 (3.4/3.6)
   261000K101 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Feedwater Level Control System 259L-S2 4-13-92, Pg. 8.
2. Learning Objective 11.a.
3. K/A 259002K601 (3.2/3.2)
   259002K601 ..(KA's)

ANSWER: 095 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 215L-S5 7--25-92, Pg. 19.
2. Learning Objective 8.
3. K/A 215005A403 (3.2/3.3)
   215005A403 ..(KA's)

ANSWER: 096 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Automatic Depressurization System 218L-S1
8-92, Pg. 5.
2. Learning Objective 8.
3. K/A 218000A301 (4.2/4.3)
218000A301 ..(KA's)

ANSWER: 097 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, ADS 218L-S1, Pg. 6.
2. Learning Objective 8.
3. K/A 218000K501 (3.8/3.8)
218000K501 ..(KA's)

ANSWER: 098 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, 239L-S1 (7/92) Main Steam System, Pg. 11
& 12.
2. KA # 218000K501 (3.8/3.8)
218000K501 ..(KA's)

ANSWER: 099 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, SBLC 211L-S1 Pg. 13 to 15.
2. Learning Objective 9.
3. K/A 211000K408 (4.2/4.2)
211000K408 ..(KA's)

ANSWER: 100 (1.00)

b.

REFERENCE:

1. 295L-S9, Rev 0, p. 16 of 19
2. K.A. 295024K307 (3.5/4.0)
   295024K307 ..(KA's)

(********** END OF EXAMINATION **********)

A N S W E R K E Y

MULTIPLE CHOICE

001	c
002	a
003	d
004	b
005	b
006	c
007	d
008	a
009	b
010	d
011	c
012	b
013	b
014	d
015	d
016	a
017	b
018	a
019	c
020	c
021	a
022	c
023	d
024	a
025	b
026	c
027	c
028	a
029	a
030	b
031	b
032	b
033	a
034	b
035	a
036	d
037	d
038	a
039	b
040	b
041	c
042	c
043	a & d
044	b
045	c

A N S W E R K E Y

046	a	069	d
047	c	070	b
048	a	071	b
049	c	072	d
050	~~b~~ deleted	073	b
051	b	074	b
052	a	075	b
053	a	076	d
054	b	077	c
055	b	078	b
056	c	079	b & c
057	d	080	c
058	b	081	a
059	c	082	a
060	a	083	b
061	b	084	b
062	b	085	d
063	c	086	d
064	a	087	d
065	d	088	d
066	b	089	b
067	c	090	c
068	b	091	c

A N S W E R K E Y

092 a

093 d

094 c

095 b

096 a

097 d

098 c

099 d

100 b

(********** END OF EXAMINATION **********)

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR REACTOR OPERATOR LICENSE
REGION 3

CANDIDATE'S NAME: _____

FACILITY: Dresden 2 & 3

REACTOR TYPE: BWR-GE3

ADMINISTERED: 93/07/26

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

TEST VALUE	CANDIDATE'S SCORE	%	
100.00		%	TOTALS
	FINAL GRADE		

All work done on this examination is my own. I have neither given nor received aid.

_____
Candidate's Signature

MASTER COPY

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	___
002	a	b	c	d	___
003	a	b	c	d	___
004	a	b	c	d	___
005	a	b	c	d	___
006	a	b	c	d	___
007	a	b	c	d	___
008	a	b	c	d	___
009	a	b	c	d	___
010	a	b	c	d	___
011	a	b	c	d	___
012	a	b	c	d	___
013	a	b	c	d	___
014	a	b	c	d	___
015	a	b	c	d	___
016	a	b	c	d	___
017	a	b	c	d	___
018	a	b	c	d	___
019	a	b	c	d	___
020	a	b	c	d	___
021	a	b	c	d	___
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028	a	b	c	d	___
029	a	b	c	d	___
030	a	b	c	d	___
031	a	b	c	d	___
032	a	b	c	d	___
033	a	b	c	d	___
034	a	b	c	d	___
035	a	b	c	d	___
036	a	b	c	d	___
037	a	b	c	d	___
038	a	b	c	d	___
039	a	b	c	d	___
040	a	b	c	d	___
041	a	b	c	d	___
042	a	b	c	d	___
043	a	b	c	d	___
044	a	b	c	d	___
045	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	a	b	c	d	___
055	a	b	c	d	___	078	a	b	c	d	___
056	a	b	c	d	___	079	a	b	c	d	___
057	a	b	c	d	___	080	a	b	c	d	___
058	a	b	c	d	___	081	a	b	c	d	___
059	a	b	c	d	___	082	a	b	c	d	___
060	a	b	c	d	___	083	a	b	c	d	___
061	a	b	c	d	___	084	a	b	c	d	___
062	a	b	c	d	___	085	a	b	c	d	___
063	a	b	c	d	___	086	a	b	c	d	___
064	a	b	c	d	___	087	a	b	c	d	___
065	a	b	c	d	___	088	a	b	c	d	___
066	a	b	c	d	___	089	a	b	c	d	___
067	a	b	c	d	___	090	a	b	c	d	___
068	a	b	c	d	___	091	a	b	c	d	___

A N S W E R S H E E T

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

092	a	b	c	d	___
093	a	b	c	d	___
094	a	b	c	d	___
095	a	b	c	d	___
096	a	b	c	d	___
097	a	b	c	d	___
098	a	b	c	d	___
099	a	b	c	d	___
100	a	b	c	d	___

(********** END OF EXAMINATION **********)

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination will result in a denial of your application and could result in more severe penalties.

2. After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination.

3. To pass the examination, you must achieve a grade of 80 percent or greater

4. The point value for each question is indicated in parentheses after the question number.

5. There is a time limit of 4 hours for completing the examination.

6. Use only black ink or dark pencil to ensure legible copies.

7. Print your name in the blank provided on the examination cover sheet and the answer sheet.

8. Mark your answers on the answer sheet provided and do not leave any question blank.

9. If the intent of a question is unclear, ask questions of the examiner only.

10. Restroom trips are permitted, but only one applicant at a time will be allowed to leave. Avoid all contact with anyone outside the examination room to eliminate even the appearance or possibility of cheating.

11. When you complete the examination, assemble a package including the examination questions, examination aids, and answer sheets and give it to the examiner or proctor. Remember to sign the statement on the examination cover sheet.

12. After you have turned in your examination, leave the examination area as defined by the examiner.

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QUESTION: 001 (1.00)

DEOP 300-1, Secondary Containment Control, is entered when a Reactor Building area radiation exceeds its maximum normal value in any area. WHICH ONE (1) of the following states what this area radiation level indicates?

a. An uncontrolled release of radioactivity to the environment is occurring.

b. A direct challenge to the structural integrity of the secondary containment exists.

c. The Reactor Building ventilation system has failed to properly isolate.

d. The impact that a breach of secondary containment would have on the environment.

QUESTION: 002 (1.00)

WHICH ONE (1) of the following is the Unit 2 plant response to a complete loss of instrument air pressure?

a. Level in the main condenser hotwell would DECREASE due to the MAKEUP valve failing CLOSED and the REJECT valve failing OPEN.

b. SBGT system discharge flow rate would DECREASE since the SUCTION FLOW CONTROL VALVES will fail CLOSED

c. The Reactor Recirculation Motor Generator oil coolers will overheat because the service water TEMPERATURE CONTROL VALVES to the oil coolers will fail CLOSED.

d. The reactor will scram on high reactor pressure or high reactor flux because all the INBOARD MSIVs will fail CLOSED.

QUESTION: 003 (1.00)

4Kv Bus 24-1 voltage drops to 3250 Volts and the DEGRADED VOLTAGE alarm is received on Panel 902-8. Assuming bus voltage stays at 3250 Volts, WHICH ONE (1) of the following describes the system response to this condition?

a. AFTER 7 SECONDS, Bus 24-1 will load shed and DG-2/3 will start and close onto the de-energized bus.

b. AFTER 5 MINUTES, Bus 24-1 will load shed and DG-2/3 AND the security diesel will start and close onto the de-energized bus.

c. AFTER 7 SECONDS, Bus 24-1 will load shed and DG-2 AND the security diesel will start and close onto the de-energized bus.

d. AFTER 5 MINUTES, Bus 24-1 will load shed and DG-2 will start and close onto the de-energized bus.

QUESTION: 004 (1.00)

WHICH ONE (1) of the following describes the reason for having an automatic SCRAM for average power range monitor (APRM) high flux in the startup mode?

a. prevent exceeding MCPR Safety Limit

b. prevent exceeding LHGR Thermal Limit

c. reduce reactor vessel pressure transient

d. reduce reactor vessel level transient

QUESTION: 005 (1.00)

The Main Turbine has tripped, but the Main Generator has failed to trip. WHICH ONE (1) of the following describes the locations and conditions needed to trip the main generator manually?

a. At panel 902-8 only if the main turbine control valves are closed, and panel 923-2 at any time.

b. At panel 902-8 only if the reverse power relay energizes, and panel 923-2 at any time.

c. At panel 923-2 only if the main turbine control valves are closed, and panel 902-8 at any time.

d. At panel 923-2 only if the reverse power relay energizes, and panel 902-8 at any time.

QUESTION: 006 (1.00)

WHICH ONE (1) of the following conditions would result in a Safety Limit Violation in accordance with Technical Specifications?

a. A high water level in the Scram Discharge Volume results in a scram. Reactor water level drops to -60 inches on the Medium Range Instrument and water level is being controlled by HPCI.

b. A recirculation pump trips. The reactor operator checks the process computer and finds MCPR to be 1.10.

c. During reactor startup at 30% power, a problem in the EHC Pressure Set causes the bypass valves to open. This results in reactor pressure decreasing to 785 psig.

d. The reactor is at 100% power, a loss of C and D feedwater heaters occur. The reactor scrams on High APRM Flux.

QUESTION: 007 (1.00)

DGP 02-03, "Reactor Scram", directs the operator to verify that the Main Turbine and Generator have tripped following a scram. WHICH ONE (1) of the following is the reason that the Main Turbine and Generator must be tripped following a reactor scram?

a. Prevents Turbine Stop Valve Closure scram subsequent to reset of initial scram signal.

b. Prevents overheating the turbine blades due to generator motoring on reverse power.

c. Prevents cycling of the Turbine Control Valves due to low steam flow conditions.

d. Prevents MSIV closure due to low main steam line pressure.

QUESTION: 008 (1.00)

The reactor has scrammed due to High Main Steam Line Radiation and closure of all MSIVs. Reactor pressure control is vital. WHICH ONE (1) of the following is the proper method for controlling reactor pressure under these conditions?

a. SJAEs.

b. Max Recycle Reboiler.

c. HPCI system.

d. Main Condenser, after re-opening the MSIVs.

QUESTION: 009 (1.00)

Unit 2 reactor power is 100% when Reactor Feed Pump "2B" trips. Reactor level drops to +18 inches. WHICH ONE (1) of the following actions would be in accordance with DOA-600-01 (Transient Level Control) and effective in recovering level?

a. Shift Main Feed Reg Valves to Manual and raise feed flow.

b. Open the Reactor Low Flow Feed Reg Valve.

c. Initiate HPCI.

d. Reduce reactor power with recirculation flow.

QUESTION: 010 (1.00)

An unisolable reactor coolant leak on Unit 2 has resulted in a reactor scram and a rapid increase in drywell pressure. The Shift Engineer has just entered the DEOPs to take action to mitigate the leak. Plant conditions are as follows:

- Reactor pressure is 775 psig
- Drywell temperature is 175°F
- All rods are inserted
- Drywell pressure = 9 psig increasing
- All automatic plant functions have performed properly
- HPCI is maintaining reactor level at 0 inches

WHICH ONE (1) of the following actions should the Shift Engineer direct?

a. Initiate venting with SBGT.

b. Initiate torus sprays only.

c. Initiate drywell sprays only.

d. Initiate torus and drywell sprays.

QUESTION: 011 (1.00)

During reactor isolation conditions, reactor pressure must be reduced to 150 psig at a normal cooldown rate if suppression pool temperature reaches 120°F. WHICH ONE (1) of the following is the BASIS for this requirement?

a. to prevent chugging in the drywell to torus downcomers during a small break LOCA.

b. to provide complete condensation of the steam exiting the drywell to torus downcomers during a design basis LOCA.

c. to prevent chugging in the relief valve downcomers after a relief valve lift event.

d. to provide adequate NPSH to the HPCI system.

QUESTION: 012 (1.00)

WHICH ONE (1) of the following conditions would REQUIRE an IMMEDIATE manual reactor SCRAM?

a. When total core flow is less than 45% of rated and above 80% Flow Control Line (FCL).

b. When six (6) LPRMs are alarming High and Low, with a period of 1.5 seconds.

c. When one Electromatic relief valve fails open.

d. When one recirculation pump trips from 90% or greater power.

QUESTION: 013 (1.00)

A severe fire has forced evacuation of the main control room. ADS has been inhibited and the Isolation Condenser has been initiated in accordance with DSSP 0100-CR. WHICH ONE (1) of the following describes the remaining operator actions (for each unit) required prior to evacuating the control room?

a. Scram the reactor by placing the Mode Switch to shutdown, and leave the MSIVs open.

b. Scram the reactor by depressing the manual scram pushbuttons, and leave the MSIVs open.

c. Scram the reactor by placing the Mode Switch to shutdown, and close the MSIVs.

d. Scram the reactor by depressing the manual scram pushbuttons, and close the MSIVs.

QUESTION: 014 (1.00)

A caution in DEOP 0500-05 (Alternate Insertion of Control Rods) warns that a specific order must be adhered to when pulling or inserting the power supply fuses for the scram solenoids. WHICH ONE (1) of the following is the reason for this requirement?

a. The scram discharge volume will not drain properly.

b. A vent path can be established from the primary containment to the reactor building.

c. A vent path can be established from the reactor vessel to the reactor building.

d. The scram discharge volume may be overpressurized.

QUESTION: 015 (1.00)

WHICH ONE (1) of the following sets of parameters is an indication of an offgas fire?

a. Sudden INCREASE in offgas flow, sudden RISE in recombiner temperature.

b. Sudden DECREASE in offgas flow, sudden DROP in recombiner temperature.

c. Sudden INCREASE in offgas flow, sudden DROP in recombiner temperature.

d. Sudden DECREASE in offgas flow, sudden RISE in recombiner temperature

QUESTION: 016 (1.00)

WHICH ONE (1) of the following is the preferred method of venting the containment to maintain primary containment pressure below the Primary Containment Pressure Limit?

a. Offgas system via the drywell

b. SBGT system via the drywell

c. Offgas system via the torus

d. SBGT system via the torus

QUESTION: 017 (1.00)

The reactor is operating at full power, when all "Main Steam Line High-High Radiation" alarm annunciates. Highest reactor pressure noted is 1100 psig. WHICH ONE (1) of the following sets of automatic actions are expected to occur under this condition?

a. No automatic actions occur. The operator must respond manually to the annunciator.

b. The MSIVs shut on high pressure, the reactor scrams on MSIV closure.

c. The MSIVs shut on high pressure, the reactor scrams on steam line High-High radiation.

d. The MSIVs shut on high radiation, the reactor scrams on steam line High-High radiation.

QUESTION: 018 (1.00)

A transient on Unit 2 has resulted in a rupture of the torus causing torus level to decrease. Plant conditions are as follows:

- Torus level = 7.0 feet, steady
- Torus bottom pressure = 3.5 psig
- Torus water temperature = 145°F

WHICH ONE (1) of the following statements correctly describes the effect that this Torus water level has on the operation of ECCS pumps for reactor water level control.

a. Discontinue operation of the LPCI or the Core Spray pumps to prevent cavitation on low suction pressure.

b. Continued operation of HPCI is allowed if the suction is aligned to the CST to provide adequate suction pressure.

c. Total LPCI system flow must be limited to 20,000 gpm with four pumps operating to ensure adequate NPSH.

d. Total Core Spray system flow must be limited to 10,000 gpm with two pumps operating to ensure adequate NPSH.

QUESTION: 019 (1.00)

Unit 3 is experiencing a LOCA. The following condition exists:

- reactor shutdown
- drywell pressure 10 psig
- drywell temperature 350°F
- reactor pressure 75 psig
- reactor water level -70 inches
- reactor building temperature is 105°F
- Fuel Zone level indication is out of service

WHICH ONE (1) of the following is the reason that RPV water level indication is NOT reliable?

a. Drywell pressure is excessive.

b. Actual RPV level is below indicating levels.

c. Reactor Building temperature is excessive.

d. Drywell temperature is excessive.

QUESTION: 020 (1.00)

WHICH ONE (1) of the following defines the "Maximum Core Uncovery Time Limit"?

a. The maximum amount of time available before the core is uncovered with prevailing decay heat loads and no injection to the vessel.

b. The maximum amount of time the core can remain completely uncovered and uncooled without any fuel rod exceeding 1500°F.

c. The maximum amount of time available before the core is uncovered with prevailing decay heat loads with only CRD and Standby liquid control injecting to the vessel.

d. The maximum amount of time the core can remain 1/3 uncovered with steam cooling only without any fuel rod exceeding 1500°F.

QUESTION: 021 (1.00)

WHICH ONE (1) of the following systems is used to inject Alternate Standby Liquid Control (SLC) boron into the reactor?

a. Feed and Condensate system

b. RWCU system

c. Head Spray line

d. Core Spray line

QUESTION: 022 (1.00)

Given the following plant conditions:

- Reactor SCRAM
- Reactor level is steady at +12 inches
- Drywell temperature is 150°F
- Small break LOCA of about 4 GPM
- SPING Channel 7 reading 4.8E6 uCi/sec
- Extensive core damage has occurred

An Auxiliary operator reports that the LOCA is on a CRDM line near the HCU. WHICH ONE (1) of the following DEOP's should be initiated?

a. DEOP 200-1, "Primary Containment"

b. DEOP 300-1, "Secondary Containment"

c. DEOP 300-2, "Radioactive Release"

d. DEOP 400-2, "Emergency RPV Depressurization"

QUESTION: 023 (1.00)

Unit 2 is operating at 100% rated thermal power when reactor recirculation pump 2A trips. The IMMEDIATE OPERATOR ACTIONS of DOA 202-1, Reactor Recirculation Pump Trip require the 2B recirculation pump's speed to be reduced. WHICH ONE (1) of the following states the B pump's speed and the reason for this speed?

a. Less than 60%, to allow inserting rods to get below the 80% flow control line.

b. Less than 60%, to allow a restart attempt of reactor recirculation pump 2A.

c. Less than 43%, to reduce the jet pump riser vibration during single loop operation.

d. Less than 43%, to prevent inducing excessive thermal stress on the reactor vessel lower head.

QUESTION: 024 (1.00)

Unit 3 is operating at 100% rated power. WHICH ONE (1) of the following systems would NOT function if unit 2 125 VDC battery power was lost? (Assume all ECCS systems are in normal standby and respond properly)

a. Diesel Generator 3

b. Core Spray System I

c. Diesel Generator 2/3

d. HPCI

QUESTION: 025 (1.00)

WHICH ONE (1) of the following is the reason that the feed pumps trip on high reactor level?

a. Prevent jet pump damage due to steam carryunder.

b. Prevent feed pump damage due to cavitation and/or runout.

c. Prevent HPCI turbine damage due to moisture carryover into the turbines.

d. Prevent main steam line piping and hanger damage due to filling the main steam lines.

QUESTION: 026 (1.00)

If the ESS bus is lost, WHICH ONE (1) of the following is the automatic response?

a. Half-scram, 4-light display "scram valve open" lights illuminated, individual rod drift lights illuminated

b. Full scram, 4-light display "scram valve open" lights illuminated, individual rod drift lights extinguished.

c. Half-scram, 4-light display "scram valve open" lights extinguished, individual rod drift lights extinguished.

d. Full scram, 4-light display "scram valve open" lights extinguished, individual rod drift lights illuminated

QUESTION: 027 (1.00)

WHICH ONE (1) of the following will occur if all 24 and 48 volt DC power is lost at Unit 3?

a. Unit 3 Core Spray system minimum flow valve will not operate.

b. Unit 2 will experience a half-scram.

c. Unit 3 wide range reactor level indication becomes inoperable.

d. Unit 2 HPCI will be inoperable.

QUESTION: 028 (1.00)

Unit 3 is operating at 60% rated power with CRD pump 3A tagged out of service for maintenance. A trip of CRD pump 3B results in TWO ADJACENT control rod "ACCUMULATOR TROUBLE" alarms. The two control rods are not at notch 00. WHICH ONE (1) of the following is the reason that DOA 300-1, Control Rod Drive System Failure, directs the operator to immediately scram the reactor?

a. To prevent reactor coolant back leakage into the CRD hydraulic accumulators and the subsequent high area radiation conditions.

b. To prevent criticality in a control cell if the two rods, which are both in a three by three rod array, fail to scram.

c. To ensure sufficient control rods can be fully inserted to shutdown the reactor since a generic CRD problem may have occurred.

d. To prevent damage to the control rod drive mechanisms due to overheating

QUESTION: 029 (1.00)

Given the following plant conditions:

- Small Break LOCA and ATWS
- Reactor Power 25% and oscillating
- Reactor Pressure 900 psig increasing
- Reactor Water Level -60 inches
- Torus Water Temperature 195°F increasing
- Torus Water Level 14 feet
- One LPCI pump in Torus Cooling
- All Safety Relief Valves Closed

WHICH ONE (1) of the following states the required actions?

a. Shift the LPCI pump from Torus Cooling to inject into the core and maintain reactor water level above TAF.

b. Line up to drain the Torus, increase Torus Cooling Water flow, and when water level reaches TAF enter DEOP 400-3, "Steam Cooling".

c. Initiate Emergency Depressurization using all five (5) ADS valves irrespective of loss of reactor water level and adequate core cooling.

d. Manually control reactor pressure at 900 psig by opening one (1) relief valve as necessary and maintain reactor water level above TAF.

QUESTION: 030 (1.00)

A transient is in progress on Unit 3 that is causing Torus Water level to INCREASE. The operating crew is executing DEOP 200-1, Primary Containment Control. WHICH ONE (1) of the following is the adverse condition that is prevented by maintaining Torus Water level below the SRV Tail Pipe Level Limit in accordance with DEOP 200-1?

a. Failure of the SRV tailpipes and quenchers due to rapid evacuation of water in the tail pipe during SRV operation.

b. Failure of primary containment due to rapid blowdown of water in the SRV tailpipe.

c. Damage to the lower region of the Torus due to exceeding the maximum allowed Torus Bottom Pressure Limit.

d. Overpressurization of the torus during rapid reactor depressurization.

QUESTION: 031 (1.00)

During operation at 100% power, isolation condenser steam inlet valve 1301-1 inadvertently closes and remains closed. All other plant systems and components are operable. WHICH ONE (1) of the following actions is required? (HPCI is fully operable)

a. Plant operation can continue at full power, for up to seven days

b. An orderly shutdown shall be initiated and have the reactor in the COLD SHUTDOWN or REFUEL CONDITION within 24 hours.

c. Plant operation can continue at up to 80% power, until such time that the valve is repaired.

d. An orderly shutdown shall be initiated and the reactor coolant pressure shall be less than 150 psig within 24 hours.

QUESTION: 032 (1.00)

WHICH ONE (1) of the following conditions will result in an automatic isolation of the Shutdown Cooling System?

a. Recirculation loop temperature 350°F or reactor water level of 8 inches

b. Recirculation loop temperature 340°F or reactor water level of 8 inches

c. Recirculation loop temperature 350°F or reactor water level of +20 inches

d. Recirculation loop temperature 340°F or reactor water level of +20 inches

QUESTION: 033 (1.00)

WHICH ONE (1) of the following statements provides guidance concerning Daily Orders, Operating Orders and approved procedures, when they provide conflicting information?

a. Daily Orders take precedence over Operating Orders, but not approved procedures.

b. Operating Orders take precedence over Daily Orders, but not over approved procedures.

c. Daily Orders take precedence over Operating Orders, but only during the time frame that the Daily Orders are valid.

d. Operating Orders and Daily Orders take precedence over approved procedures, but only for the time frame that the Orders are valid.

QUESTION: 034 (1.00)

A surveillance procedure is in progress, with the NSO (initials O.H.) directing the actions of the "B" man (initials S.L.) in the plant. WHICH ONE (1) of the following describes the initals that the NSO is to place on the surviellance step?

a. OH/SL

b. SL/OH

c. OH

d. SL by OH

QUESTION: 035 (1.00)

During a refueling outage, a Refueling Platform Operator has worked the following hours: (No non-working breaks were taken, turnover time has been excluded)

Friday	1600 to 0400	Saturday	1200 to 2400
Sunday	0800 to 1600	Monday	0800 to 1600
Tuesday	0800 to 2400	Wednesday	0800 to 2000

WHICH ONE (1) of the following statements identifies the violations of the Overtime Guidelines which occurred?

a. The operator worked more than 24 hours in 48.

b. The operator worked more than 24 hours in 72.

c. The operator worked more than 12 hours in 24.

d. The operator worked more than 16 hours in 48.

QUESTION: 036 (1.00)

The following radiological conditions exist in the plant:

-General area radiation of 120 mRem per hour
-Smearable contamination of 70 counts above background

WHICH ONE (1) of the following postings should be applied to this area?

a. Radiation area

b. High radiation area

c. Locked High radiation area

d. Contamination area

QUESTION: 037 (1.00)

During a plant transient on Unit 3, the Shift Supervisor enters DEOP 300-1, Secondary Containment Control. Plant conditions are as follows:

- Reactor power = 80% by APRMs
- Reactor Building East Corner Room is 8 inches above the floor and increasing
- Reactor Building West Corner Room is 0 inches above the floor and increasing
- HPCI area temperature = 205°F increasing rapidly
- HPCI cubicle area radiation = 50 mr/hr increasing slowly
- Alarm "HPCI AUTO ISOLATION INITIATED" is annunciating
- HPCI inboard isolation valve 3-2301-4 indicates open
- HPCI outboard isolation valve 3-2301-5 indicates closed

WHICH ONE (1) of the following is the corrective action that the Shift Engineer is required to direct?

a. Isolate all systems discharging into the HPCI area and execute DGP 2-1, Normal Unit Shutdown.

b. Attempt to isolate all systems discharging into the HPCI area and execute DEOP 400-1, RPV Flooding.

c. Initiate a reactor scram and execute DEOP 400-2, Emergency Depressurize the RPV.

d. Initiate a reactor scram and execute DEOP 100, RPV Control.

QUESTION: 038 (1.00)

WHICH ONE (1) of the following radiation signals will automatically start the SBGT system?

a. 4 mr/hr Reactor Building Ventilation High High Radiation

b. 1000 mr/hr Drywell High Radiation

c. 6 mr/hr Off-Gas High High Radiation (posttreatment)

d. 10 mr/hr Refueling Floor High Radiation

QUESTION: 039 (1.00)

A high reactor pressure switch (PS 263-55C) has to be isolated during full power operations. WHICH ONE (1) of the following states the action that is required?

a. If not corrected within 24 hours insert All operable control rods.

b. Prior to the isolation, place the reactor in Hot Shutdown and reduce reactor pressure to less than 600 psig.

c. Initiate constant monitoring and record reactor pressure every 10 minutes from PS 263-55A.

d. Insert a half scram on channel "A" of RPS manually.

QUESTION: 040 (1.00)

WHICH ONE (1) of the following is the reason that during an ATWS DEOP 400-2 directs that all injection except boron and CRD be terminated before initiating EMERGENCY DEPRESSURIZATION?

a. Excessive injection may cause pressurized thermal shock resulting in pressure vessel damage.

b. Excessive injection will result in cooldown rates greater than 100 degrees F/hour resulting in violation of cooldown limits.

c. Excessive injection and depressurization may cause excessive RPV water level swell resulting in Main Steam and Turbine damage.

d. Excessive injection may cause a large power excursion resulting in core damage.

QUESTION: 041 (1.00)

A TIP trace is being taken in automatic mode when an instrument technician error causes a Group II containment isolation signal. WHICH ONE (1) of the following describes the response of the TIP system?

a. The TIP drive automatically shifts to reverse and withdraws the detector to the shield position, and the ball valve closes.

b. The TIP shear valve automatically fires to cut the detector cable and seal the guide tube.

c. The TIP guide tube ball valve automatically closes, cutting the detector cable and sealing the guide tube.

d. The TIP drive automatically shifts to reverse and withdraws the detector to the shield position, and the shear valve closes.

QUESTION: 042 (1.00)

While at 90% power condenser vacuum is observed to be decreasing. WHICH ONE (1) of the following states the expected plant response that would occur if vacuum further decreases without operator action?

a. The turbine will trip at 20" Hg vacuum which will cause a reactor scram.

b. The turbine will trip at 23" Hg vacuum resulting in a generator load reject and actuation of the select rod insert.

c. The turbine will trip and the reactor will scram from a turbine control valve fast closure at 20" Hg vacuum

d. The turbine will trip after the reactor scrams at 23" Hg vacuum.

QUESTION: 043 (1.00)

Unit 3 is operating at full power when all RBCCW pumps trip. WHICH ONE (1) of the following is a required immediate action?

a. Scram the reactor if all RBCCW flow is lost for 1 minute.

b. Start the 2/3 RBCCW pump and align it to unit 3.

c. Reduce reactor power to less than 45% and trip the main turbine.

d. Trip the recirculation pumps if all RBCCW flow is lost for 1 minute.

QUESTION: 044 (1.00)

Given the following Unit 2 plant conditions:

- RPV pressure 100 psig
- TR 2-1340-1 on panel 902-2:
  Point 9 = 295°F; Point 10 = 305°F
- Reactor Bldg. Temp 205°F

WHICH ONE (1) of the following is the lowest valid RPV water level reading?

a. Fuel Zone -300 inches

b. Fuel Zone -298 inches

c. Wide Range +10 inches

d. Wide Range +5 inches

QUESTION: 045 (1.00)

WHICH ONE (1) of the following is (are) the consequence(s) of initiating DRYWELL SPRAY at a drywell temperature of 325°F and pressure of 30 psig?

a. Convection cooling resulting in a nearly instantaneous pressure drop to about 2 psig.

b. Evaporative cooling resulting in drywell pressure reducing to less than 2 psig and possible collapse of the downcomer legs in the torus.

c. Evaporative Cooling resulting in drywell pressure reducing to less than 2 psig and possible implosion of the Torus due to negative pressure.

d. Convection Cooling creating an 8.4 psid across the downcomer, but is buffered by the mass of Nitrogen in the drywell.

QUESTION: 046 (1.00)

During an Anticipated Transient Without a Scram on Unit 3, operators lowered level to -140 inches to cause reactor power to drop low in the source range. WHICH ONE (1) of the following is true concerning the subsequent operator actions?

The operator must wait until the SBLC tank level decreases to a level of:

a. 8% before terminating boron injection.

b. 35% before restoring and maintaining RPV water level between 8 and 48 inches.

c. 8% before cooling down the RPV per DGP 2-1, "Normal Unit Shutdown."

d. 27% before restoring and maintaining RPV water level between 8 inches and 48 inches.

QUESTION: 047 (1.00)

DEOP 200-1 (T/L), "Primary Containment Control", directs the operator to maintain Torus water level above 12 feet wide range. WHICH ONE (1) of the following is the reason for this level limitation?

a. It is the elevation of the HPCI exhaust, where HPCI operation must be secured to preclude primary containment over pressurization.

b. To ensure there is adequate margin to operate in accordance with the Heat Capacity Temperature Limit.

c. It is the minimum water level at which emergency depressurization can be initiated and still not exceed Primary Containment Pressure Limit.

d. It is the elevation that ensures Torus Bottom Pressure can be maintained below the Pressure Suppression Pressure with Emergency RPV depressurization.

QUESTION: 048 (1.00)

For WHICH ONE (1) of the following situations can the Unit 3 NSO operate outside Dresden's Technical Specifications?

The action is necessary to prevent:

a. exceeding 10CFR100 limits and permission has been obtained from the Illinois Department of Nuclear Safety.

b. exceeding 10CFR100 limits and you (SCRE) have given the NSO permission.

c. a CECO employee from exceeding their 10CFR20 limits and permission has been obtained from the Dresden site vice-president.

d. injury to a CECO employee and permission has been obtained from OSHA.

QUESTION: 049 (1.00)

An operator returns from two (2) days off, and works the following shift hours as a control room operator during a unit 2 outage.

Saturday - 6 am to 2 pm
Sunday - 6 am to 2 pm
Monday - 6 am to 6 pm
Tuesday - 6 am to 6 pm

WHICH ONE (1) of the following is the MAXIMUM number of additional hours the operator can work before 6 pm on Wednesday.

a. 4 hours

b. 8 hours

c. 12 hours

d. 16 hours

QUESTION: 050 (1.00)

What is the maximum Whole Body Dose you are allowed to receive to save a life during an emergency?

a. 25 REM

b. 50 REM

c. 75 REM

d. 100 REM

QUESTION: 051 (1.00)

Who is responsible for the distribution and repossession of Station Keys used for the Vital Controlled Areas?

a. Shift Engineer

b. Assistant Superintendent - Operating

c. Security Shift Supervisor

d. Station Security Administrator

QUESTION: 052 (1.00)

WHICH ONE (1) of the following correctly complete this statement? For drywell entry, oxygen concentration must be at least _____% and hydrogen concentration must be no more than _____% per DAP 7-11.

a. 18.0, 10.0

b. 19.5, 0.41

c. 20.0, 1.0

d. 21.0, 4.1

QUESTION: 053 (1.00)

WHICH ONE (1) of the following offsite fire departments should be contacted to assist in fighting a fire at Dresden station?

a. Morris Fire Department

b. Braidwood Fire Department

c. Coal City Fire Department

d. Channahon Fire Department

QUESTION: 054 (1.00)

WHICH ONE (1) of the following is an acceptable way to perform independent verification on a throttled valve? (Assume that the valve is installed in a system with a local flow indication controlled by the valve, and the valve has a rising stem.)

a. observe the initial valve operator's action in positioning the throttled valve

b. perform an independent visual check of the valve position by observing the valve stem

c. independently verify the valve position by a second valve operation

d. by observing flow indication through the throttled valve's system

QUESTION: 055 (1.00)

WHICH ONE (1) of the following is the MINIMUM cumulative radiation exposure guideline that allows waiver from Independent Verification requirements?

a. 7 mrem

b. 10 mrem

c. 20 mrem

d. 35 mrem

QUESTION: 056 (1.00)

WHICH ONE (1) of the following individual's approval is required prior to the installation of a Temporary Alteration per DAP 7-4?

a. SCRE

b. Shift Engineer

c. Assistant Supt. - Operations

d. OSRC

QUESTION: 057 (1.00)

WHICH ONE (1) of the following individuals has the initial responsibility of assuming the position of "Fire Chief"?

a. Security Shift Supervisor

b. SCRE

c. Radwaste Shift Supervisor

d. Shift Engineer

QUESTION: 058 (1.00)

Drywell pressure is 3.2 psig. Primary containment hydrogen concentration is 4.5%, oxygen concentration is 3.5%. WHICH ONE (1) of the following states the additional conditions necessary to allow containment venting?

a. Offsite doses must be expected to remain below LCO levels

b. Nitrogen purge must be established

c. Hydrogen concentration must be lowered below 3.5%

d. Oxygen concentration must be lowered below 3.5%

QUESTION: 059 (1.00)

QUESTION DELETED

QUESTION: 060 (1.00)

WHICH ONE (1) of the following is the MINIMUM period of time that an operator must abstain from drinking alcoholic beverages before assuming his/her on-shift duties inside a vital area?

a. 3 Hours

b. 5 Hours

c. 8 Hours

d. 12 Hours

QUESTION: 061 (1.00)

A control rod is at position 48. Testing of the control rod revealed a scram time of 7.5 seconds. The control rod can still be positioned by normal control rod drive pressure. The reactivity margin is adequate for all positions of the control rod. WHICH ONE (1) of the following states the status of this control rod?

a. It is operable and may remain electrically armed at position 48.

b. It is inoperable but may remain electrically armed at position 48.

c. It is inoperable but may remain electrically armed if driven into position 00.

d. It is inoperable and must be electrically disarmed at position 00.

QUESTION: 062 (1.00)

A Reactor Scram has occurred with the reactor pressure now at 1050 psig. WHICH ONE (1) of the following states the flow from the Control Rod Drive (CRD) system pump that is running?

a. 20 gpm minimum flow plus 179 gpm charging flow.

b. 20 gpm minimum flow plus 96 gpm charging flow.

c. 179 gpm charging flow only.

d. 96 gpm charging flow only.

QUESTION: 063 (1.00)

Control Rod 18-23 has been selected for a single notch withdrawal from position 02 to position 04. The following response from the CRD system was observed by the NSO.

- Insert light illuminates and goes out.
- Withdrawal light illuminates and goes out.
- Settle light illuminates and goes out.

The NSO also observed and reported to the SRO that the selected rod is now at position 08 and is continuing to drift out. A Rod Drift alarm is also present. WHICH ONE (1) of the following CRD Mechanism failures has occurred?

a. HCU scram pilot valve failure

b. Collet finger failure

c. Excessive Hydraulic Control Unit (HCU) Nitrogen Pressure

d. Excessive HCU Drive Water Pressure

QUESTION: 064 (1.00)

During a reactor startup the NSO must withdraw a group of rods from position "00" to "12". At what point may he/she utilize the Rod Out Notch Override switch?

a. After the SRM count rate has experienced 3 doublings.

b. After pulling the first two (2) rod groups to position "48".

c. When all IRM range switches are on 3 or above.

d. When the unit is on line.

QUESTION: 065 (1.00)

With reactor power at 28%, an in-sequence control rod at position "24" is to be taken OOS at position "00". Which is the correct action to be performed?

a. Select the RWM rod out-of-service function for that control rod, then insert the rod to position "00".

b. disable the blocking function of the RWM by placing its mode switch to BYPASS, then insert the rod to position "00".

c. bypass the RWM, insert the rod to position "00", then use the RWM rod out-of-service function to take the rod out of service.

d. disable the blocking function of the RWM, insert the control rod to position "00", then contact a ANE to load a new sequence into the RWM.

QUESTION: 066 (1.00)

The plant was placed in Single Loop Operations (SLO) for brush replacement and realignment of Unit 2 "B" recirculation MG set. WHICH ONE (1) of the following describes the change in MCPR Safety Limit and the MAPLHGR operating limit prior to SLO continuing beyond 24 hours?

a. Increase MCPR safety limits, decrease MAPLHGR operating limit.

b. Increase MCPR safety limits, increase MAPLHGR operating limit.

c. Decrease MCPR safety limits, increase MAPLHGR operating limit.

d. Decrease MCPR safety limits, decrease MAPLHGR operating limit.

QUESTION: 067 (1.00)

Given the following:

- Unit 2 is at 95% power
- Sudden increase in indicated core flow
- Decrease in core thermal power
- Main Generator power has decreased
- Core differential pressure has decreased

WHICH ONE (1) of the following is causing the above operating anomaly?

a. partial opening of an ERV

b. failure of a jet pump

c. failure of a condensate demineralizer post strainer

d. loss of the speed mismatch signal from an operating recirc pump

QUESTION: 068 (1.00)

A Reactor Water Cleanup isolation has occurred attributed to a spurious high temperature from the Aux pump cooling water and was corrected. WHICH ONE (1) of the following describes the actions that will result in resetting of the RWCU system with the correct expected system response to the isolation?

a. Clearing the RWCU to reactor differential pressure interlock by equalizing RWCU and reactor pressure (< 100 psid) and by placing the Low Filter Isolation Bypass switch in the BYPASS position on panel 902-5.

b. Operating the Main Steam Line (Group I) Isolation RESET switch, by turning it in both directions to reopen both the inboard (MO-1 and 1A) and outboard (MO-2 and 3) isolation valves on panel 902-5.

c. Operating the Drywell Isolation reset switch on panel 902-5 in both directions to allow reopening both the inboard (MO-1, and 1A) and outboard (MO-2 and 3) isolation valves.

d. Placing the inboard (MO-1, 1A, and 7) and outboard (MO-2 and 3) isolation valve switches first in the CLOSED position on panel 902-5, then by turning the Drywell Isolation RESET switch in both directions, to reopen the isolation valves after a Group III isolation.

QUESTION: 069 (1.00)

During a plant cooldown the operator opens the 2B SDC PP discharge valve (4B) to 90% to maximize cooldown rate. Which of the following describes the results of this valve manipulation on the 2B SDC PP?

a. Pump runout occurs

b. No adverse effects occur

c. Heat Exchanger shell side saturation occurs

d. Heat Exchanger baffle deformation occurs

QUESTION: 070 (1.00)

The LPCI motor operated heat exchanger bypass valves (1501-11A/B) are interlocked open on an ECCS initiation signal. WHICH ONE (1) of the following describes proper valve operation?

a. The valves may be closed by operating the control switches to Pull-To-Lock (PTL) position to bypass the interlock.

b. 30 seconds after the LPCI initiation signal is received, these valves may be manually closed.

c. 5 minutes after the LPCI initiation signal is received, these valves may be manually closed.

d. 8.5 minutes after LPCI initiation signal is received these valves may be manually closed

QUESTION: 071 (1.00)

WHICH ONE (1) of the following describes power supply to the intermediate range monitor (IRM) detector and the voltage?

a. Instrument Bus 120 VAC.

b. High voltage power supply; 550 VDC.

c. Voltage preamplifier; 100 VDC.

d. 125 volt batteries; 125 VDC.

QUESTION: 072 (1.00)

Given the following set of initial plant conditions:

Load set 90%	Pressure set 920
Load limit 100%	Max combined flow 105%
100% power	100% core flow

recirc flow in master manual
equalizing header pressure 950 psig

WHICH ONE (1) of the following would be the current control valve/bypass valve lineup?

a. control valve demand 100%, bypass valve demand 0% open.

b. control valve demand 90%, bypass valve demand 10% open.

c. control valve demand 80%, bypass valve demand 20% open.

d. control valve demand 70%, bypass valve demand 30% open.

QUESTION: 073 (1.00)

WHICH ONE (1) of the following conditions will result in an automatic start of the condensate/condensate booster pump selected to standby?

a. Reactor feed water pump suction pressure is 210 psig decreasing.

b. Reactor feedwater pump suction pressure is 190 psig decreasing.

c. The operating condensate/condensate booster pump suction pressure decreases to 105 psig.

d. An operating condensate/condensate booster pump trips off.

QUESTION: 074 (1.00)

WHICH ONE (1) of the following systems can be used to supplement the heat removal capability of the Fuel Pool Cooling and Cleanup system?

a. Low Pressure Coolant Injection System

b. Service Water System

c. Shutdown Cooling System

d. Reactor Water Cleanup System

QUESTION: 075 (1.00)

WHICH ONE (1) of the following describes core orifice location and the purpose of the core orifices?

a. Located in the lower tie plate; provide maximum flow to fuel bundles in the central region

b. Located in the fuel support pieces; provide even flow distribution throughout the core

c. Located in the lower tie plate; provide even flow distribution throughout the core

d. Located in the fuel support pieces; provide maximum flow to fuel bundles in the central region

QUESTION: 076 (1.00)

WHICH ONE (1) of the following statements explains how valve 1101-1 (Standby Liquid Control inner containment isolation valve) is verified to be in the OPEN position.

a. The final valve line up is performed and verified during Drywell closeout.

b. The valve is locked in the open position, with remote position indication in the control room.

c. The valve is a fail-open valve, with the air supply removed from the valve during normal operation.

d. The valve is opened and the motor operator is deenergized prior to securing the drywell.

QUESTION: 077 (1.00)

WHICH ONE (1) of the following is the reserve 120/240 VAC power source for the RPS Bus B?

a. MCC 29-2

b. MCC 28-2

c. MCC 25-2

d. MCC 29-7

QUESTION: 078 (1.00)

WHICH ONE (1) of the following states the normal operational control method for maintaining Drywell and Torus pressures so that in the event of a loss of coolant accident (LOCA) their integrity will not be lost?

a. The nitrogen pressure control valve maintains the Torus pressure at 1.1 psig and the pumpback system maintains a 0.5 psi differential pressure between the Torus and Drywell.

b. The nitrogen pressure control valve maintains the Drywell pressure at 1.1 psig and the pumpback system maintains a 1.0 psi differential pressure between the Drywell and the Torus.

c. The nitrogen pressure control valve maintains the Torus pressure at 1.0 psig and the Torus to Drywell vacuum breakers maintain a 0.5 psi differential pressure between the Torus and the Drywell.

d. The nitrogen pressure control valve maintains the Drywell pressure at 1.0 psig and the Torus to Reactor Building vacuum breakers maintain a 0.5 psi differential pressure between the Torus and the Reactor Building.

QUESTION: 079 (1.00)

WHICH ONE (1) of the following describes the Low Pressure Coolant Injection (LPCI) injection valve performance during automatic LPCI initiation?

a. The LPCI injection valve (1501-22A(B)) is normally open; it is interlocked open for 5 minutes following selection by LPCI loop selection logic.

b. The LPCI injection valve (1501-22A(B)) is normally closed; it is interlocked open for 5 minutes after opening following selection by LPCI loop selection logic.

c. The LPCI injection valve (1501-21A(B)) is normally open; it is interlocked open for 5 minutes following selection by LPCI loop selection logic.

d. The LPCI injection valve (1501-21A(B)) is normally closed; it is interlocked open for 5 minutes after opening following selection by LPCI loop selection logic.

QUESTION: 080 (1.00)

Loop A jet pump riser pressure is 1016 psig. Loop B jet pump riser pressure is 908 psig. Both recirculation pumps ar running. WHICH ONE (1) of the following states the low pressure coolant injection (LPCI) Loop Selection Logic automatic line up for injection?

a. LPCI Loop Select Logic selects injection into recirculation loop "A".

b. LPCI Loop Select Logic selects injection into recirculation loop "B".

c. LPCI Loop Select Logic selects injection into recirculation loops "A" AND "B".

d. LPCI Loop Select Logic waits until the recirculation pumps trip and coast down, THEN selects injection into recirculation loop "B" after the reactor pressure blows down to less than 900 psig.

QUESTION: 081 (1.00)

WHICH ONE (1) of the following statements describes the effect of a loss of MCC 29-1 on the High Pressure Coolant Injection System (HPCI)?

a. Power is lost to MO 2301-4 (HPCI Turbine Steam Supply Valve inside the Drywell), but will not effect automatic initiation.

b. Power is lost to the manual speed changer (MSC) making the system inoperable.

c. Power is lost to HPCI Flow Controller (2301-1) the injection valve will not open.

d. Power is lost to MO 2301-15 (Reject Line to Contaminated Condensate Storage) negating reject capability.

QUESTION: 082 (1.00)

WHICH ONE (1) of the following Primary Containment Isolation Groups will initiate at a Reactor Pressure of less than 80 psig?

a. Group II

b. Group III

c. Group IV

d. Group V

QUESTION: 083 (1.00)

WHICH ONE (1) of the following control circuits will be DIRECTLY affected by a FUEL ZONE Level instrument failure?

a. Containment Spray initiation

b. LPCI initiation

c. FWLC system

d. Alternate rod insertion

QUESTION: 084 (1.00)

During normal plant operation, an operator called the control room and stated that some vapor is showing from the isolation condenser (IC) vent on the reactor building. An investigation reveals that the shell side water temperature is increasing, but the level is not changing. WHICH ONE (1) of the following could be happening in the isolation condenser system?

a. The makeup valve to the shell side of the heat exchanger is leaking.

b. The condensate return valve to the reactor is leaking.

c. The steam line vent to the "A" main steam line has failed closed.

d. The isolation condenser has developed a tube leak.

QUESTION: 085 (1.00)

Operators have been attempting to reseat the Unit 3 Isolation Condenser Reactor INLET ISOLATION valve, 3-1301-3. The following conditions still exist:

- HPCI system is OOS
- Isolation Condenser shell side temp is rapidly increasing
- Isolation Condenser steam line temp is 180°F and rapidly increasing
- Isolation Condenser shell side level is rapidly approaching 12 feet

The operators must:

a. immediately scram the reactor and isolate the Isolation Condenser.

b. isolate the Isolation Condenser and reduce reactor pressure to less than or equal to 150 psig within 24 hours.

c. isolate the Isolation Condenser and return the HPCI system to operable status within 7 days.

d. isolate the Isolation Condenser and continue plant operations indefinitely as long as ADS remains operable.

QUESTION: 086 (1.00)

WHICH ONE (1) of the following states the reason for maintaining the electrohydraulic control (EHC) pressure setpoint about 50 psig greater than the reactor pressure prior to drawing a vacuum on the main condenser?

a. Prevent loss of pressure control by bypass valves due to inadequate differential pressure between the reactor vessel and the condenser.

b. Prevent erratic level and pressure indications caused by drawing a vacuum on the RPV.

c. Prevent severe main condenser tube erosion due to steam admission at low vacuum conditions.

d. Prevent the bypass valves from opening and possibly causing a flux/pressure transient.

QUESTION: 087 (1.00)

Dresden 2 has just experienced a loss of offsite power concurrent with a +2.5 psig Drywell pressure. The diesels fast start as designed. WHICH ONE (1) of the following states the timed starting sequence for the emergency bus equipment?

a. When reactor pressure reaches 350 psig AND 8.5 minutes have elapsed from initiation, then the diesel generator breaker closes, then the first low pressure coolant injection (LPCI) pump starts followed by the core spray pump 5 seconds later followed by the second LPCI pump 5 seconds later.

b. When reactor pressure reaches 350 psig AND 8.5 minutes have elapsed from initiation, then the diesel generator breaker closes, then the first LPCI pump starts followed by the second LPCI pump 5 seconds later followed by the core spray pump 5 seconds later.

c. The diesel generator breaker closes within 10 seconds, then the first LPCI pump starts followed by the core spray pump 5 seconds later followed by the second LPCI pump 5 seconds later.

d. The diesel generator breaker closes within 10 seconds, then the first LPCI pump starts followed by the second LPCI pump 5 seconds later followed by the core spray pump 5 seconds later.

QUESTION: 088 (1.00)

The Reactor Building Ventilation and the Standby Gas Treatment Systems experience a total failure of the respective fans. WHICH ONE (1) of the following states the mechanism which occurs as the reactor building pressurizes to prevent structural damage of the Reactor Building?

a. At a pressure of 2.2" water gage, the normal ventilation supply and exhaust dampers open to equalize the pressure to the outside atmosphere.

b. At a pressure of 2.7" water gage, the Standby Gas Treatment outlet damper opens to equalize the pressure to the outside atmosphere.

c. At a pressure of 0.5 psi in the reactor building, the reactor building to torus vacuum breakers relieve pressure to the torus.

d. At a pressure of 0.5 psi in the reactor building, the blowout panels part from the beams on the refueling floor to equalize pressure to the outside atmosphere.

QUESTION: 089 (1.00)

WHICH ONE (1) of the following primary containment isolation system (PCIS) groups will send a withdrawal signal to the traversing incore probe (TIP) system?

a. Group I

b. Group II

c. Group III

d. Group IV

QUESTION: 090 (1.00)

WHICH ONE (1) of the following is a diesel generator protective trip which is bypassed during automatic start from an undervoltage condition?

a. FAILURE TO START

b. ENGINE OVERSPEED

c. DG REVERSE POWER

d. DG HIGH DIFFERENTIAL CURRENT

QUESTION: 091 (1.00)

WHICH ONE (1) of the following is a load required for maintaining safe shutdown conditions?

a. Core Spray Pump

b. SBGT Train

c. Diesel Generator Auxiliaries

d. AC Powered Valves

QUESTION: 092 (1.00)

Standby Gas Treatment (SBGT) train "A" is in PRIMARY and train "B" is in STANDBY. The operator manually starts the train A SBGT. WHICH ONE (1) of the following conditions will initiate train "B" of the SBGT?

a. Manual initiation ONLY.

b. MANUAL and Loss of power to the train "A" heater.

c. MANUAL and Low flow condition on train "A" for 10 seconds.

d. MANUAL and Drywell radiation level of 90 R/hr.

QUESTION: 093 (1.00)

WHICH ONE (1) of the following suction points is NOT available to the Standby Gas Treatment system following an automatic initiation?

a. Unit 2 and 3 Drywells

b. Atmosphere Containment Atmosphere Dilution System

c. Unit 2 and 3 Reactor Building HVAC

d. Turbine Building Ventilation System

QUESTION: 094 (1.00)

While operating at 100% power feedwater regulating valve (FWRV) 2A is in service controlling reactor vessel water level. The air line supplying FWRV 2A ruptures and air is rapidly lost to the operator. WHICH ONE (1) of the statements below identifies the response of the FWRV?

a. The valve fails full open immediately since it uses air to close, and spring pressure to open.

b. The valve fails full open, but the speed is limited by the hydraulic damper.

c. The valve would "lock up" in its present position, due to the actuation of the air lock valve.

d. The valve fails full closed, but the speed is limited by the hydraulic damper.

QUESTION: 095 (1.00)

There are no average power range monitor (APRM) channels bypassed. WHICH ONE (1) of the following sets of condition(s) will NOT result in an INOP trip?

a. APRM channel 1 has 2 LPRM inputs in "A" level; 3 LPRM inputs in "B" level; 1 LPRM inputs in "C" level and 5 LPRM inputs in "D" level.

b. APRM channel 4 meter function switch is in COUNT AND the meter indicates 50%.

c. APRM channel 4 APRM function switch is in POWER.

d. APRM channel 1 circuit board is removed.

QUESTION: 096 (1.00)

WHICH ONE (1) of the following states the difference in the function of ADS valves 203-3B and 203-3C from the other ADS valves AND the reason for the difference?

a. Each has a time delay to inhibit the valve from immediately reopening after it's last closure to allow for vacuum breaker operation in the relief lines.

b. Each has a time delay inhibiting the valve from immediately reopening on the Drywell High Pressure initiation to allow Suppression Pool Cooling to be placed in service prior to admitting steam to the Suppression Pool.

c. If actuated by ADS, each valve automatically closes if Suppression Pool temperature exceeds 170°F to reduce the vibration in the Suppression Pool due to steam jet pulsations.

d. If the valves open due to high pressure, a time delay closes the valves after ten seconds to prevent over pressurization of the relief lines.

QUESTION: 097 (1.00)

WHICH ONE (1) of the following conditions will automatically initiate the Automatic Depressurization System (ADS) for a leak Inside the Drywell?

a. Reactor water level -69 inches, drywell pressure peaks at 2.2 psig and decreases to 1.5 psig, and 120 seconds timer timed out.

b. Reactor water level -56 inches, drywell pressure 2.2 psig, LPCI pumps A and C running, and 120 seconds time timed out.

c. Reactor water level -56 inches , drywell pressure 2.8 psig and increasing, 8.5 minutes time delay permissive, and LPCI pumps A and B running.

d. Reactor water level -60 inches, drywell pressure peak at 2.2 psig then decreased to 1.5 psig, core spray pump A running, and 120 seconds timer timed out.

QUESTION: 098 (1.00)

Keylock switch 1130-301 on panel 903-5 is placed in the System 2+1 position. WHICH ONE (1) of the following states the starting sequence for the SBLC system.

a. Squib valve B fired, B SBLC pump received a start signal, and the RWCU inboard (MO-1 and 1a) and outboard (MO-2 and 3) isolation valves closed.

b. Squib valve A fired, A and B SBLC pumps received a start signal, and RWCU inboard (MO-1 and 1a) isolation valves closed.

c. Squib valves A and B fired, only the B SBLC pump received a start signal, and RWCU inboard (MO-1, 1a and 7) and outboard (MO-2 and 3) isolation valves closed.

d. Squib valves A and B fired, A and B SBLC pumps received a start signal, and RWCU inboard (MO-1, 1a and 7) and outboard (MO-2 and 3) isolation valves closes.

QUESTION: 099 (1.00)

Several hours after a severe LOCA, torus water level is 31 feet and primary containment venting is necessary to control primary containment pressure. WHICH ONE (1) of the following is the preferred method of venting the containment to maintain primary containment pressure below the Primary Containment Pressure Limit?

a. Offgas system via the drywell

b. SBGT system via the drywell

c. Offgas system via the torus

d. SBGT system via the torus

QUESTION: 100 (1.00)

Water and chemicals were added to the Standby Liquid Control (SBLC) storage tank. Which ONE of the following describes the final SBLC parameters which are in compliance with Technical Specifications, to allow two central non-adjacent control rods to be withdrawn from the core?

a. 4617 gallons of SBLC solution at 15.0 weight percent and at 72°F.

b. 3606 gallons of SBLC solution at 14.5 weight percent and at 79°F.

c. 3403 gallons of SBLC solution at 14.0 weight percent and at 86°F.

d. 3299 gallons of SBLC solution at 13.5 weight percent and 92°F.

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, DEOP Secondary Containment Control Series 300, Section I.A, Objective 1
2. NRC GE EOPM, Emergency Operating Procedures Manual, pp 5-2
3. DEOP 300-1
4. K/A 295033K103 (3.9/4.2)
   295033K103 ..(KA's)

ANSWER: 002 (1.00)

a.

REFERENCE:

1. 278L-S1, Instrument Air System, pp 20, Objective 11a
2. DOA 4700-1, Instrument Air System Failure, pp 4 and 5
3. K/A 295019K212 (3.3/3.4)
   295019K212 ..(KA's)

ANSWER: 003 (1.00)

d.

REFERENCE:

1. DGA-12, Rev 12, steps B.6 and C.2.b.
2. Objective 262L-S1-08, e
3. K/A: 295003A102 (4.2/4.3)
   295003A102 ..(KA's)

ANSWER: 004 (1.00)

a.

REFERENCE:

1. Lesson Plan, APRMs, pp 11
2. Tech Spec Bases pp 3/4.1-12&13 and 3/4.2-29
3. K/A: 295006G004 (3.3/4.2)
   295006G004 ..(KA's)

ANSWER: 005 (1.00)

b.

REFERENCE:

1. Objective 262L-S1-08b
2. K/A 295005A107 (3.3/3.3)
   295005A107 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

1. Tech Specs 1.1
2. K/A: 295006G003 (3.8/4.4*)
   295006G003 ..(KA's)

ANSWER: 007 (1.00)

b.

REFERENCE:

1. DGP 02-03, "Reactor Scram", Rev. 15, pg. 2,3
2. 245-S3, P. 19 of 20
3. K/A: 295006K305 (3.8/4.0)
   295006K305 ..(KA's)

ANSWER: 008 (1.00)

c.

REFERENCE:

1. 295L-S1, DEOP-100, Rev 0, p. 30 of 32
2. K/A: 295007K302 (3.7/3.8)
   295007K302 ..(KA's)

ANSWER: 009 (1.00)

d.

REFERENCE:

1. DOA 600-01, Rev 09, B.1.a and C.1
2. K/A: 295009G010 (4.2*/4.0*)
   295009G010 ..(KA's)

ANSWER: 010 (1.00)

d.

REFERENCE:

1. DEOP 200-1, Rev 02
2. K/A: 294001A102 (4.2*/4.2*)
   294001A102 ..(KA's)

ANSWER: 011 (1.00)

b.

REFERENCE:

1. T.S. 3.7.A Bases
2. K/A: 295013G004 (3.0*/4.1)
   295013G004 ..(KA's)

ANSWER: 012 (1.00)

b.

REFERENCE:

1. DGA-2, Rev 2, sec C
2. DOA 250-1, Rev 7, sec C
3 DOA 202-01, Rev 7, sec C
4. K/A: 295014G010 (4.0*/3.9*)
295014G010 ..(KA's)

ANSWER: 013 (1.00)

d.

REFERENCE:

1. DSSP 0100-CR, Rev 3, Section G
2. K/A: 295016A101 (3.8/3.9)
295016A101 ..(KA's)

ANSWER: 014 (1.00)

c.

REFERENCE:

1. DEOP 0500-05, Rev 01, p.4 and 5 of 8
2. K/A: 295015K204 (4.0/4.1)
295015K204 ..(KA's)

ANSWER: 015 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan 271L-S1, Obj. 2d
2. K/A: 295017A102 (3.5/3.7)
295017A102 ..(KA's)

ANSWER: 016 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan DEOP 500-4, rev 0, sec II
2. K/A: 223001A206 (4.1/4.1)
   223001A206 ..(KA's)

ANSWER: 017 (1.00)

d.

REFERENCE:

1. Tech Specs 1.1
2. K/A: 295025K202 (4.2*/4.5*)
   295025K202 ..(KA's)

ANSWER: 018 (1.00)

a.

REFERENCE:

1. DEOP 100
2. K/A: 295030K204 (3.7/3.8)
   295030K204 ..(KA's)

ANSWER: 019 (1.00)

d.

REFERENCE:

1. DEOP 100, Rev 02, Detail 100-A
2. K/A: 295031K101 (4.6*/4.7*)
   295031K101 ..(KA's)

ANSWER: 020 (1.00)

b.

REFERENCE:

1. DEOP 400-1 lesson plan, Rev 0, p. 17 of 18
2. K/A: 295031K302 (4.4*/4.7*)
295031K302 ..(KA's)

ANSWER: 021 (1.00)

a.

REFERENCE:

1. DEOP 500-1, Rev 0, sec I, p. 4 of 19
2. K/A: 295037K213 (3.4/4.1)
295037K213 ..(KA's)

ANSWER: 022 (1.00)

c.

REFERENCE:

1. DEOP 300-2, rev 0
2. K/A: 295038G011 (4.2*/4.5*)
295038G011 ..(KA's)

ANSWER: 023 (1.00)

c.

REFERENCE:

1. DOA 202-1, Rev 07, p. 2 of 7
2. K/A: 295001A101 (3.5/3.6)
295001A101 ..(KA's)

ANSWER: 024 (1.00)

a.

REFERENCE:

1. DOA 6900-1, Rev 01, p. 4 of 29
2. K/A: 295004A202 (3.5/3.9)
295004A202 ..(KA's)

ANSWER: 025 (1.00)

d.

REFERENCE:

1. 259L-S1, p. 23 of 27,
2. K/A 256000K313 (3.3/3.3)
256000K313 ..(KA's)

ANSWER: 026 (1.00)

a.

REFERENCE:

1. DOA 6800-01, Rev 5, p. 3 of 14
2. K/A: 295003K305 (3.7/3.7)
295003K305 ..(KA's)

ANSWER: 027 (1.00)

b.

REFERENCE:

1. DOA 6900-01, Rev 03, p. 2 of 9
2. K/A: 295004K303 (3.1/3.5)
295004K303 ..(KA's)

ANSWER: 028 (1.00)

b.

REFERENCE:

1. DOA 0300-01, Rev 09, p. 5 of 5
2. T. S. 3.3.D, and Bases
3. K/A: 295022K301 (3.7*/3.9*)
   295022K301 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

1. DEOP 200-1, Rev 02, sec II B.6, obj 3.b
2. K/A: 295026K301 (3.8/4.1)
   295026K301 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

1. 295L-S2, Rev 1, Objective 2e, p. 25 of 38
2. K/A: 295029K206 (3.4/3.5)
   295029K206 ..(KA's)

ANSWER: 031 (1.00)

a.

REFERENCE:

1. T. S. 3.5.E and 3.7.D.2
2. K/A: 295020G008 (3.1/3.9)
   295020G008 ..(KA's)

ANSWER: 032 (1.00)

a.

REFERENCE:

1. 205L-S1, Rev 2, Section B3, p. 8 of 10
2. K/A: 295021A204 (3.6/3.6)
295021A204 ..(KA's)

ANSWER: 033 (1.00)

b.

REFERENCE:

1. DAP 7-03
294001A103 ..(KA's)

ANSWER: 034 (1.00)

b.

REFERENCE:

1. DAP 07-02, Rev 18, p. 9 of 43
2. KA: 294001A102 (4.2*/4.2*)
294001A102 ..(KA's)

ANSWER: 035 (1.00)

a.

REFERENCE:

1. K/A 294001A110 (3.6/4.2)
294001A110 ..(KA's)

ANSWER: 036 (1.00)

b.

REFERENCE:

1. 10 CFR 20, para. 20.203 "Caution Signs, Labels, Signals, and Controls
2. K/A: 294001K103 (3.3/3.8)
294001K103 ..(KA's)

ANSWER: 037 (1.00)

d.

REFERENCE:

1. DEOP 300-1, Secondary Containment Control
2. K/A: 295036G012 (3.5/3.9*)
295036G012 ..(KA's)

ANSWER: 038 (1.00)

a.

REFERENCE:

1. 261L-S1, Rev 2. p. 10 of 17
2. K/A 295034K203 (4.3*/4.5*)
295034K203 ..(KA's)

ANSWER: 039 (1.00)

d.

REFERENCE:

1. T. S. table 3.1.1
2. 212L-S1, Rev 0, p. 9 of 35, Objective 2 and 5
3. K/A 295006K201 (4.3/4.4)
295006K201 ..(KA's)

ANSWER: 040 (1.00)

d.

REFERENCE:

1. 295L-S5, Rev 0. p. 3 of 8, objective 2
2. K/A: 295037K102 (4.1/4.3)
295037K102 ..(KA's)

ANSWER: 041 (1.00)

a.

REFERENCE:

1. 215L-S1, Rev dated 7/25/92 [no rev #] p. 24 of 24
2. K/A: 295020G010 (3.6/3.5)
295020G010 ..(KA's)

ANSWER: 042 (1.00)

d.

REFERENCE:

1. 245L-S1, Rev 1, p. 35 of 44
2. 212L-S1, Rev 0, p. 16 of 35
3. K/A: 295002K103 (3.6/3.8)
295002K103 ..(KA's)

ANSWER: 043 (1.00)

d.

REFERENCE:

1. DOA-3700-01, Rev 07, Section C Immediate Actions, p. 2 of 6
2. K/A: 295018G010 (3.4/3.3)
295018G010 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

1. DEOP-100, Detail 100-A
2. K/A: 295028A203 (3.7/3.9)
   295028A203 ..(KA's)

ANSWER: 045 (1.00)

b.

REFERENCE:

1. 295L-S2, Rev 1, p. 12 of 38, Objective 2a
2. K/A: 295028A205 (3.6/3.8)
   295028A205 ..(KA's)

ANSWER: 046 (1.00)

b.

REFERENCE:

1. 295L-S8 Failure to Scram 400-5, Section II.A.12, Objective 7,
   10, 11
2. K/A: 295037K304 (3.2/3.7)
   295037K304 ..(KA's)

ANSWER: 047 (1.00)

a.

REFERENCE:

1. DEOP 200-1, rev 02
2. 295L-S2, Rev 1, p. 24 of 38, Objective 5
3. K/A: 295030K302 (3.5/3.7)
   295030K302 ..(KA's)

ANSWER: 048 (1.00)

b.

REFERENCE:

1. DAP 09-13 Rev 01, p. 5 of 8
2. K/A: 294001A109 (3.3/4.2)
294001A109 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

1. DAP 07-21, Attachment A, Rev 02
2. K/A: 294001A109 (3.3/4.2)
294001A109 ..(KA's)

ANSWER: 050 (1.00)

c.

REFERENCE:

1. CECo Radiation Protection Standards, Sept. 85, p.34
2. K/A: 294001K103 (3.3/3.8)
294001K103 ..(KA's)

ANSWER: 051 (1.00)

d.

REFERENCE:

1. DAP 13-11, rev 1, sec B.1
2. K/A: 294001K102 (3.9/4.5*)
294001K102 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

1. DAP 07-11, Rev 10, p. 4 of 9
2. K/A: 294001K114 (3.2/3.4)
   294001K114 ..(KA's)

ANSWER: 053 (1.00)

c.

REFERENCE:

1. DAP 3-1, Rev 04, p. 10 of 44
2. K/A 294001K116 (3.5/3.8)
   294001K116 ..(KA's)

ANSWER: 054 (1.00)

a.

REFERENCE:

1. DAP 7-27, Rev 03B p. 4 of 12, item 17
2. K/A: 294001K101 (3.7/3.7)
   294001K101 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

1. DAP 7-27, Rev 03B p. 5 of 12, item 19
2. K/A: 294001K104 (3.3/3.6)
   294001K104 ..(KA's)

ANSWER: 056 (1.00)

a.

REFERENCE:

1. DAP 07-04, Rev 14, P9 of 23, d.(9)
2. K/A 294001A110 (3.6/4.2)
   294001A110 ..(KA's)

ANSWER: 057 (1.00)

c.

REFERENCE:

1. DAP 03-01, Rev 04, p. 8 of 44, Item 3.b.(1)
2. K/A: 294001A109 (3.3/4.2*)
   294001A109 ..(KA's)

ANSWER: 058 (1.00)

a.

REFERENCE:

1. 295L-S2, Rev 1, p. 31 of 38
2. KA Values: 295010A107 (3.2/3.4)
   295010A107 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

1. DFP 0850-02, Rev 0, p. 3 of 4
2. K/A 295023G010 (3.8*/3.9*)
   295023G010 ..(KA's)

ANSWER: 060 (1.00)

b.

REFERENCE:

1. 10 CFR 26
2. K/A: 294001A103 (2.7/3.7)
294001A103 ..(KA's)

ANSWER: 061 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Control Rod Drive Hydraulic 201L-S1 6-92.
Pg. 35
2. Learning Objective 14
3. TS 3/4.3-3 (3.3.c.)
4. K/A 201001A210 (3.0/3.4)
201001A210 ..(KA's)

ANSWER: 062 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan , CRDH, 6-92, sec. C.3.b.1)c), p. 14 of 39
2. Learning Objective 6.a
3. KA # 201001A103 (2.9/2.8)
201001A103 ..(KA's)

ANSWER: 063 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, CRDH 201L-S1, 6-92, Pg. 26-27
2. Learning Objective 12
3. K/A 201001K303 (3.1/3.2)
201001K303 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

1. DGP 1-01
2. DGP 3-04
3. K/A # 201002A402 (3.5/3.5)
   201002A402 ..(KA's)

ANSWER: 065 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan 201L-S6 NO DATE, pp.31
2. Learning Objective 9.e.3
3. K/A 201006A302 (3.5/3.4)
   201006K102 ..(KA's)

ANSWER: 066 (1.00)

a.

REFERENCE:

1. Dresden Operating Procedure DGOP 3-3, REV 6, SEC F.2; TECH SPECS 3.6.H.3.f
2. Learning Objective 202L-S1 14 & 15
3. K/A 202001G005 (3.4/4.2)
   202001G005 ..(KA's)

ANSWER: 067 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Recirculation System 202L-S1 4-7-92, D.2.a., Pg.25.
2. Learning Objective 11.c.
3. K/A 202001K606 (3.1/3.1)
   202001K606 ..(KA's)

ANSWER: 068 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, RWCU 204L-S1, 4-6-92, Pg. 18.
2. Learning Objective 9.
3. K/A 204000K111 (3.3/3.5)
204000K111 ..(KA's)

ANSWER: 069 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Shutdown Cooling System, 205L-S1, Pg. 5
2. Learning Objective 10
3. K/A 205000A210 (2.9/2.9)
205000A210 ..(KA's)

ANSWER: 070 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 203L-S1 4-92, B.3.d., Pg. 8.
2. Learning Objective 8.d
3. K/A 219000K504 (2.9/2.9)
219000K504 ..(KA's)

ANSWER: 071 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Intermediate Range Monitoring System 215L-S3 7-92, D.12, Pg.14.
2. Leaning Objective 6.b.
3. K/A 215003K201 (2.5/2.7)
   215003K201 ..(KA's)

ANSWER: 072 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Electro-Hydraulic Control System, 248L-S1 8-11-92, Pg. 17.
2. Learning Objective 6.c.4.
3. KA 245000A312 (3.3/3.5)
   245000A312 ..(KA's)

ANSWER: 073 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Condensate/Feed Water 259L-S1 4-13-92, Pg. 10.
2. Learning Objective 8.
3. K/A: 256000A302 (3.0/2.9)
   256000A302 ..(KA's)

ANSWER: 074 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Shutdown Cooling System 205L-S1 3-30-92, Pg. 3 & 6.
2. Learning Objective 3.
3. K/A 205000K305 (2.6/2.7)
   205000K305 ..(KA's)

ANSWER: 075 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Reactor Pressure Vessel and Internals 223L-S1 7-92, Pg. 20
2. Learning Objective 6.h.
3. KA 290002K403 (3.2/3.3)
   290002K403 ..(KA's)

ANSWER: 076 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Standby Liquid Control System 211L-S1 4-2-92, Pg. 8.
2. Learning Objective 3 & 5.
3. K/A 211000A206 (3.1/3.3)
   211000A206 ..(KA's)

ANSWER: 077 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, RPS 212L-S1 4-89, Pg. 6.
2. Learning Objective 6.
3. K/A 212000K201 (3.2/3.3)
   212000K201 ..(KA's)

ANSWER: 078 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Primary Containment Systems 223L-S3 4-92,
   Pg. 4 & 5.
2. Learning Objective 3
3. K/A 223002K406 (3.1/3.3)
   223001K406 ..(KA's)

ANSWER: 079 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan , LPCI, 203L-S1 4-92, Pg. 11.
2. Learning Objective 8.e
3. KA 203000A301 (3.8/3.7)
   203000A301 ..(KA's)

ANSWER: 080 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Low Pressure Coolant Injection
   203L-S14-92, Pg. 18 to 20.
2. Learning Objective 6.
3. K/A 203000A307 (4.2/4.6)
   203000A307 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, High Pressure Coolant Injection 206L-S1,
   Pg. 58
2. Learning Objective 9.k.
3. K/A 206000K201 (3.2/3.3)
   206000K201 ..(KA's)

ANSWER: 082 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, HPCI 206L-S1 8-92, Pg. 48.
2. Learning Objective 11.c.
3. K/A 206000A102 (4.2/4.2)
206000A102 ..(KA's)

ANSWER: 083 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Nuclear Boiler Instrumentation 261L-S1 4-89, Pg. 18
2. Learning Objective 12.
3. K/A 216000K
216000K305 ..(KA's)

ANSWER: 084 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Isolation Condenser 207L-S1 8-92, Pg. 19.
2. Learning Objective 11.
3. KA 207000K109 (3.0/3.2)
207000K109 ..(KA's)

ANSWER: 085 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Isolation Condenser 207L-S1, Pg. 7, 10, and 13.
2. Learning Objective 10.
3. K/A 207000K607 (3.0/3.2)
   207000K607 ..(KA's)

ANSWER: 086 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, EHC Pressure Control and Logic 241L-S1 8-5-92, Pg. 25.
2. Learning Objective 9
3. K/A 241000K127 (3.1/3.1)
   241000K127 ..(KA's)

ANSWER: 087 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Low Pressure Coolant Injection 203L-S1 4-92, Pg. 22.
2. Learning Objective 8
3. K/A 262001K602 (3.6/3.9)
   262001K602 ..(KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, Primary and Secondary Containment 223L-S1
   4-92, Pg. 17.
2. Learning Objective 6
3. KA 290001K402 (3.4/3.5)
   290001K402 ..(KA's)

ANSWER: 089 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, Traversing Incore Probe System 215L-S1 7-25-92, Pg. 24.
2. Learning Objective 8.
3. K/A 215001K401 (3.4/3.5)
215001K401 ..(KA's)

ANSWER: 090 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Diesel Generators 264L-S1 7-1-92, Pg. 16 to 19.
2. Learning Objectives 8.b.
3. K/A 264000A109 (3.0/3.1)
264000A109 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Diesel Generators 264L-S1 7-1-92, Table 3
2. Learning Objective 13.
3. K/A 264000K303 (4.1/4.2)
264000K303 ..(KA's)

ANSWER: 092 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, SBGT 261L-S1 5-7-92, Pg. 11.
2. Learning Objective 8.
3. K/A 261000G014 (3.8/3.3)
   261000G014 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, 261L-S1 5-7-92, Pg. 4.
2. Learning Objective 3.
3. K/A 261000K101 (3.4/3.6)
   261000K101 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

1. Dresden Lesson Plan, Feedwater Level Control System 259L-S2 4-13-92, Pg. 8.
2. Learning Objective 11.a.
3. K/A 259002K601 (3.2/3.2)
   259002K601 ..(KA's)

ANSWER: 095 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 215L-S5 7--25-92, Pg. 19.
2. Learning Objective 8.
3. K/A 215005A403 (3.2/3.3)
   215005A403 ..(KA's)

ANSWER: 096 (1.00)

a.

REFERENCE:

1. Dresden Lesson Plan, Automatic Depressurization System 218L-S1
8-92, Pg. 5.
2. Learning Objective 8.
3. K/A 218000A301 (4.2/4.3)
218000A301 ..(KA's)

ANSWER: 097 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, ADS 218L-S1, Pg. 6.
2. Learning Objective 8.
3. K/A 218000K501 (3.8/3.8)
218000K501 ..(KA's)

ANSWER: 098 (1.00)

d.

REFERENCE:

1. Dresden Lesson Plan, SBLC 211L-S1 Pg. 13 to 15.
2. Learning Objective 9.
3. K/A 211000K408 (4.2/4.2)
211000K408 ..(KA's)

ANSWER: 099 (1.00)

b.

REFERENCE:

1. 295L-S9, Rev 0, p. 16 of 19
2. K.A. 295024K307 (3.5/4.0)
295024K307 ..(KA's)

ANSWER: 100 (1.00)

b.

REFERENCE:

1. Dresden Lesson Plan, 211L-S1 (4-2-92) Standby Liquid Control (SBLC), Pg. 10, 11.
294001A108 ..(KA's)

(********** END OF EXAMINATION **********)

A N S W E R K E Y

MULTIPLE CHOICE

001	d	023	c
002	a	024	a
003	d	025	d
004	a	026	a
005	b	027	b
006	c	028	b
007	b	029	c
008	c	030	b
009	d	031	a
010	d	032	a
011	b	033	b
012	b	034	b
013	d	035	a
014	c	036	b
015	b	037	d
016	d	038	a
017	d	039	d
018	a	040	d
019	d	041	a
020	b	042	d
021	a	043	d
022	c	044	b
		045	b

A N S W E R K E Y

046	b	069	a
047	a	070	b
048	b	071	c
049	c	072	b
050	c	073	d
051	a & d	074	c
052	b	075	b
053	c	076	b
054	a	077	c
055	c	078	b
056	a	079	c
057	c	080	a
058	a	081	a
059	deleted	082	c
060	b	083	a
061	b	084	b
062	a	085	b
063	b	086	d
064	d	087	d
065	a	088	d
066	a	089	b
067	b	090	c
068	c	091	c

A N S W E R K E Y

092 a

093 d

094 c

095 b

096 a

097 d

098 d

099 b

100 b

(********** END OF EXAMINATION **********)