

Facility: <u>Quad Cities</u> Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>	Date of Examination: <u>July 2018</u> Operating Test Number: _____
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Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	S, D	Perform APRM Flow Biased High Flux (Heat Balance) Calibration Test (Partial for step H.4.) K/A 2.1.43 Rating 4.1  Ability to use procedures to determine the effects on reactivity of plant changes, such as reactor coolant system temperature, secondary plant, fuel depletion, etc.
Conduct of Operations	R, N	Determine Action Time for Work in a Heat Stress Control Environment K/A 2.1.26 Rating 3.4  Knowledge of industrial safety procedures (such as rotating equipment, electrical, high temperature, high pressure, caustic, chlorine, oxygen, and hydrogen).
Equipment Control	S, D	Review Quarterly SBLC Pump Flow Rate Test K/A 2.2.12 Rating 3.7  Knowledge of surveillance procedures.
Radiation Control	R, D	Perform Whole Body Frisk K/A 2.3.5 Rating 2.9  Ability to use radiation monitoring systems. Such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.
Emergency Plan		

  

NOTE: All items (five total) are required for SROs. RO applicants require only four items unless they are retaking only the administrative topics (which would require all five items).

  

\* Type Codes and Criteria:

(C)ontrol room, (S)imulator, or Class(R)oom

(D)irect from bank ( $\leq 3$  for ROs;  $\leq 4$  for SROs and RO retakes)

(N)ew or (M)odified from bank ( $\geq 1$ )

(P)revious 2 exams ( $\leq 1$ , randomly selected)

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Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, D	Coaching for Proper Behaviors - Rounds K/A 2.1.18 Rating 3.8  Ability to make accurate, clear and concise logs, records, status boards, and reports.
Conduct of Operations	R, N	Executing ReMA Review Checklist K/A 2.1.37 Rating 4.6  Knowledge of procedures, guidelines, or limitations associated with reactivity management.
Equipment Control	S, D	Determine Protected Equipment K/A 2.2.17 Rating 3.8  Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, and coordination with the transmission system operator.
Radiation Control	R, D	Select Personnel for Radiation Work K/A 2.3.4 Rating 3.7  Knowledge of radiation exposure limits under normal and emergency conditions.
Emergency Plan	S, D	Perform a Rapid Dose Assessment K/A 2.4.38 Rating 4.4  Ability to take actions called for in the facility emergency plan, including supporting or acting as emergency coordinator if required.

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Facility: <u>Quad Cities</u>	Date of Examination: <u>July 2018</u>
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Control Room Systems:* 8 for RO, 7 for SRO-I, and 2 or 3 for SRO-U		
System/JPM Title	Type Code*	Safety Function
a. Recirculation Flow Control System 202002 A2.04 3.0/3.2 Correct Recirculation Flow Control Pump Speed Mismatch	S, N	1
b. Safe Shutdown Makeup Pump System 217000 A4.04 3.6/3.6 Inject SSMP to U1 with Trip of Normal Feed	S, A, L, M	2
c. Standby Gas Treatment System 261000 2.1.31 4.6/4.3 Shutdown ½ "B" SBTG with a Failure of the ½-7505B Damper to Close	S, D, A, EN	9
d. Secondary Containment 290001 A4.01 3.3/3.4 Unisolate and Start the Reactor Building Ventilation System	S, D	5
e. Shutdown Cooling System 205000 A2.09 3.6/3.8 Place Shutdown Cooling System in Operation with RHR System Leak	S, A, L, P	4
f. Reactor Pressure Control 295007 AA1.02 3.5/3.7 HPCI Startup for Pressure Control with an Inadvertent Isolation	S, L, N, A	3
g. Rod Block Monitoring System 215002 A2.05 3.2/3.3 RBM Malfunction During Control Rod Withdrawal	S, D, A	7
h. A.C. Electrical Distribution 262001 A4.04 3.6/3.7 Synchronize the Main Generator to the Grid	S, D, L	6

  

In-Plant Systems:* 3 for RO, 3 for SRO-I, and 3 or 2 for SRO-U		
i. D.C. Electrical Distribution 263000 2.1.29 4.1/4.0 Swapping 125 VDC Battery Chargers	D, R	6
j. Control Room Heating, Ventilation and Air Conditioning 290003 2.1.23 4.3/4.4 Provide Alternate Ventilation to the Control Room and AEER	D, E, P	9
k. Component Cooling Water System 400000 2.1.30 4.4/4.0 Locally Change Online Turbine Building Closed Cooling Water Heat Exchangers	D, R	8

  

\* All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions, all five SRO-U systems must serve different safety functions, and in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for R /SRO-I/SRO-U
(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (EN)gineered safety feature (L)ow-Power/Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator	4-6/4-6 /2-3  ≤ 9/≤ 8/≤ 4 ≥ 1/≥ 1/≥ 1 ≥ 1/≥ 1/≥ 1 (control room system) ≥ 1/≥ 1/≥ 1 ≥ 2/≥ 2/≥ 1 ≤ 3/≤ 3/≤ 2 (randomly selected) ≥ 1/≥ 1/≥ 1

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a. Recirculation Flow Control System 202002 A2.04 3.0/3.2 Correct Recirculation Flow Control Pump Speed Mismatch	S, N	1
b. Safe Shutdown Makeup Pump System 217000 A4.04 3.6/3.6 Inject SSMP to U1 with Trip of Normal Feed	S, A, L, M	2
c. Standby Gas Treatment System 261000 2.1.31 4.6/4.3 Shutdown ½ "B" SBTG with a Failure of the ½-7505B Damper to Close	S, D, A, EN	9
d. Secondary Containment 290001 A4.01 3.3/3.4 Unisolate and Start the Reactor Building Ventilation System	S, D	5
e. Shutdown Cooling System 205000 A2.09 3.6/3.8 Place Shutdown Cooling System in Operation with RHR System Leak	S, A, L, P	4
f. Reactor Pressure Control 295007 AA1.02 3.5/3.7 HPCI Startup for Pressure Control with an Inadvertent Isolation	S, L, N, A	3
g. Rod Block Monitoring System 215002 A2.05 3.2/3.3 RBM Malfunction During Control Rod Withdrawal	S, D, A	7
h.		

  

In-Plant Systems:* 3 for RO, 3 for SRO-I, and 3 or 2 for SRO-U		
i. D.C. Electrical Distribution 263000 2.1.29 4.1/4.0 Swapping 125 VDC Battery Chargers	D, R	6
j. Control Room Heating, Ventilation and Air Conditioning 290003 2.1.23 4.3/4.4 Provide Alternate Ventilation to the Control Room and AEER	D, E, P	9
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