

Facility: <u>Duane Arnold Energy Center</u>		Date of Examination: <u>4/6/15 – 4/17/15</u>
Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test No.: <u>2015301</u>
Control Room Systems [®] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Start a Recirc MG Set and Recirc Pump. K/A: 202001, A4.01 IR: 3.7/3.7 BANK: #202001-04	D, L	1
b. Establish RPV Level Control Post Scram with RWCU Drain to Condenser (AP with System High Temperature and Failure to Isolate). K/A: 204000, A2.14 IR: 3.2/3.2 BANK: #204000-7.	D, A	2
c. Isolate an MSIV at Power. K/A: 239001, A2.10 IR: 3.8/3.9. BANK: #239001-03.	D	3
d. Manually Inject into the RPV with Core Spray to Achieve Alternate Shutdown Cooling. K/A: 209001, A4.05 IR: 3.8/3.6	M, A	4
e. Drain Torus to Radwaste (AP must install Defeat 13). K/A: 219000, A2.12 IR: 3.0/3.1 BANK: #219000-04	D, A	5
f. Placing the Main Generator on the Grid. K/A: 262001, A4.05 IR: 3.3/3.3 BANK 262001-05.	D, L	6
g. APRM Gain Adjust. K/A: 215005, A1.07 IR: 3.0/3.4.	N	7
h. Install EOP Defeat 4 with a Group 7 Isolation. K/A: 400000, A4.01 IR: 3.1/3.0 BANK: #400000-04	D, A, P	8
In-Plant Systems [®] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Vent the Scram Air Header. K/A 2001001, K1.09, IR: 3.1/3.2	N, E, R	1
j. Operate RCIC from 1C208. K/A: 217000, A1.03 IR: 4.0/4.0	N, R, A	2
k. Shutdown of Regulating Transformer 1Y1A for Maintenance. K/A: 262002, A4.01 IR: 2.8/3.1 BANK: #262002-05	D, R	6
<p>@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>		
* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	
(C)ontrol room		
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	
(EN)gineered safety feature	- / - / ≥1 (control room system)	
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1	
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R)CA	≥ 1 / ≥ 1 / ≥ 1	
(S)imulator		

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Exam Level: RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test No.: <u>2015301</u>
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Start a Recirc MG Set and Recirc Pump. K/A: 202001, A4.01 IR: 3.7/3.7 BANK: #202001-04	D, L	1
b. Establish RPV Level Control Post Scram with RWCU Drain to Condenser (AP with System High Temperature and Failure to Isolate). K/A: 204000, A2.14 IR: 3.2/3.2 BANK: #204000-7.	D, A	2
c. n/a	n/a	n/a
d. Manually Inject into the RPV with Core Spray to Achieve Alternate Shutdown Cooling. K/A: 209001, A4.05 IR: 3.8/3.6	M, A	4
e. Drain Torus to Radwaste (AP must install Defeat 13). K/A: 219000, A2.12 IR: 3.0/3.1 BANK: #219000-04	D, A	5
f. Placing the Main Generator on the Grid. K/A: 262001, A4.05 IR: 3.3/3.3 BANK 262001-05.	D, L	6
g. APRM Gain Adjust. K/A: 215005, A1.07 IR: 3.0/3.4.	N	7
h. Install EOP Defeat 4 with a Group 7 Isolation. K/A: 400000, A4.01 IR: 3.1/3.0 BANK: #40000-04	D, A, P	8
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Vent the Scram Air Header. K/A 2001001, K1.09, IR: 3.1/3.2	N, E, R	1
j. Operate RCIC from 1C208. K/A: 217000, A1.03 IR: 4.0/4.0	N, R, A	2
k. Shutdown of Regulating Transformer 1Y1A for Maintenance. K/A: 262002, A4.01 IR: 2.8/3.1 BANK: #262002-05	D, R	6
<p>[@] All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>		
* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	
(C)ontrol room	≤ 9 / ≤ 8 / ≤ 4	
(D)irect from bank	≥ 1 / ≥ 1 / ≥ 1	
(E)mergency or abnormal in-plant	- / - / - ≥ 1 (control room system)	
(EN)gineered safety feature	≥ 1 / ≥ 1 / ≥ 1	
(L)ow-Power / Shutdown	≥ 2 / ≥ 2 / ≥ 1	
(N)ew or (M)odified from bank including 1(A)	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(P)revious 2 exams	≥ 1 / ≥ 1 / ≥ 1	
(R)CA		
(S)imulator		