Facility: **Davis-Besse SRO** Date of Exam **6/13 thru 6/24 2016**

Tier	Group	RO K/A Category Points												SRO ONLY Points						
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	TOTAL	A2		G*		TOTAL
1. Emergency & Abnormal Plant Evolutions	1													3		3		**6**
	2													2		2		**4**
	Tier Totals													**5**		**5**		**10**
2. Plant Systems	1													3		2		**5**
	2													0	2	1		**3**
	Tier Totals													**5**		**3**		**8**
3. Generic Knowledge and Abilities Category														1	2	3	4	**7**
														2	**2**	**2**	**1**	

Note:

1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two). (One Tier 3 Radiation Control K/A is allowed if the K/A is replaced by a K/A from another Tier 3 Category).
2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted with justification; operationally important, site-specific systems/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the elimination of inappropriate K/A statements.
4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
7. The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401 for the applicable K/As.
8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above; if fuel handling equipment is sampled in a category other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

G* Generic K/As

ES-401	PWR Examination Outline						Form ES-401-2		
	Emergency and Abnormal Plant Evolutions - Tier 1/Group 1(SRO)								
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000055 Station Blackout ***[Question 76]***					X		EA2.03 Ability to determine or interpret the following as they apply to a Station Blackout: Actions necessary to restore power (CFR 43.5 / 45.13)	4.7	1
000022 Loss of Rx Coolant Makeup ***[Question 77]***					X		AA2.04 Ability to determine and interpret the following as they apply to the Loss of Reactor Coolant Makeup: How long PZR level can be maintained within limits (CFR 43.5/ 45.13)	3.8	1
000040 Steam Line Rupture ***[Question 78]***						X	2.4.21 Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc. (CFR: 41.7 / 43.5 / 45.12)	4.6	1
000054 Loss of Main Feedwater ***[Question 79]***						X	2.2.37 Ability to determine operability and/or availability of safety related equipment. (CFR: 41.7 / 43.5 / 45.12)	4.6	1
000058 Loss of DC Power ***[Question 80]***					X		AA2.03 Ability to determine and interpret the following as they apply to the Loss of DC Power: DC loads lost; impact on ability to operate and monitor plant systems (CFR: 43.5 / 45.13)	3.9	1
000062 Loss of Nuclear Svc Water ***[Question 81]***						X	2.1.20 Ability to interpret and execute procedure steps. (CFR: 41.10 / 43.5 / 45.12)	4.6	1
K/A Category Point Totals:					3	3	Group Point Total:		6

ES-401	PWR Examination Outline						Form ES-401-2		
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2(SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000028 Pressurizer Level Malfunction ***[Question 82]***						X	2.2.44 Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions. (CFR: 41.5 / 43.5 / 45.12)	4.4	1
000024 Emergency Boration ***[Question 83]***					X		AA2.05 Ability to determine and interpret the following as they apply to the Emergency Borationthe Emergency Boration: Amount of boron to add to achieve required SDM (CFR: 43.5 / 45.13)	3.9	1
BW/A04 Turbine Trip ***[Question 84]***						X	2.4.30 Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator. (CFR: 41.10 / 43.5 / 45.11)	4.1	1
BW/A07 Flooding ***[Question 85]***					X		AA2.1 Ability to determine and interpret the following as they apply to the (Flooding): Facility conditions and selection of appropriate procedures during abnormal and emergency operations. (CFR: 43.5 / 45.13)	3.6	1
K/A Category Point Totals:					**2**	**2**	Group Point Total:		**4**

ES-401	PWR Examination Outline	Form ES-401-2
	Plant Systems - Tier 2/Group 1(SRO)	

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
012 Reactor Protection ***[Question 86]***								X				A2.03 Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Incorrect channel bypassing (CFR: 41.5 / 43.5 / 45.3 / 45.5)	3.7	1
026 Containment Spray ***[Question 87]***								X				A2.08 Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Safe securing of containment spray when it can be done (CFR: 41.5 / 43.5 / 45.3 / 45.13)	3.7	1
061 Auxiliary/Emergency Feedwater ***[Question 88]***											X	2.2.25 Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits. (CFR: 41.5 / 41.7 / 43.2)	4.2	1
063 DC Electrical Distribution ***[Question 89]***											X	2.2.36 Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations. (CFR: 41.10 / 43.2 / 45.13)	4.2	1
064 Emergency Diesel Generator ***[Question 90]***								X				A2.17 Ability to (a) predict the impacts of the following malfunctions or operations on the ED/G system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of not shedding loads during nonoperability test (CFR: 41.5 / 43.5 / 45.3 / 45.13)	2.6*	1
K/A Category Point Totals:								**3**			**2**	Group Point Total:		**5**

ES-401	PWR Examination Outline	Form ES-401-2
	Plant Systems - Tier 2/Group 2(SRO)	

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
017 In-core Temperature Monitor ***[Question 91]***											**X**	2.4.46 Ability to verify that the alarms are consistent with the plant conditions. (CFR: 41.10 / 43.5 / 45.3 / 45.12)	4.2	1
033 Spent Fuel Pool Cooling ***[Question 92]***								**X**				A2.03 Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Abnormal Spent Fuel Pool water level or loss of water level (CFR: 41.5 / 43.5 / 45.3 / 45.13)	3.5	1
034 Fuel Handling Equipment ***[Question 93]***								**X**				A2.01 Ability to (a) predict the impacts of the following malfunctions or operations on the Fuel Handling System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Dropped fuel element (CFR: 41.5 / 43.5 / 45.3 / 45.13)	4.4	
K/A Category Point Totals:								**2**			**1**	Group Point Total:		**3**

ES 401	Generic Knowledge and Abilities Outline (Tier 3)	Form ES-401-3

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Category	K/A#	Topic	RO		SRO Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.35	Knowledge of the fuel handling responsibilities of SRO (CFR: 41.10 / 43.7) ***[Question 94]***			3.9	1
	2.1.37	Knowledge of procedures, guidelines, or limitations associated with reactivity management. (CFR: 41.1 / 43.6 / 45.6) ***[Question 95]***			4.6	1
	Subtotal					**2**
2. Equipment Control	2.2.20	Knowledge of the process for managing troubleshooting activities. (CFR: 41.10 / 43.5 / 45.13) ***[Question 96]***			3.8	1
	2.2.23	Ability to track Technical Specification limiting conditions for operations. (CFR: 41.10 / 43.2 / 45.13) ***[Question 97]***			4.6	1
	Subtotal					**2**
3. Radiation Control	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions. (CFR: 41.12 / 43.4 / 45.10) ***[Question 98]***			3.7	1
	2.3.11	Ability to control radiation releases. (CFR: 41.11 / 43.4 / 45.10) ***[Question 99]***			4.3	1
	Subtotal					**2**
4. Emergency Procedures/ Plan	2.4.9	Knowledge of low power/shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies. (CFR: 41.10 / 43.5 / 45.13) ***[Question 100]***			4.2	1
	Subtotal					**1**
Tier 3 Point Total						**7**