

# ANO Unit Two 2002 RO Examination Outline

Based on NUREG-1021

Form ES-401-4

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Rev.8 Supplement 1

		<b>K/A Category Points</b>											
<b>Tier</b>	<b>Group</b>												<b>Point Total</b>
		<b>K1</b>	<b>K2</b>	<b>K3</b>	<b>K4</b>	<b>K5</b>	<b>K6</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>	<b>G</b>	
<b>Tier 1</b> Plant Evolutions	<b>1</b>	3	3	3				3	3			1	<b>16</b>
	<b>2</b>	3	3	3				3	3			2	<b>17</b>
	<b>3</b>	1	0	1				1	0			0	<b>3</b>
	<b>Tier Totals</b>	7	6	7				7	6			3	<b>36</b>
<b>Tier 2</b> Plant Systems	<b>1</b>	3	2	2	2	2	2	2	2	2	2	2	<b>23</b>
	<b>2</b>	2	2	2	1	2	2	1	2	2	2	2	<b>20</b>
	<b>3</b>	1	0	1	1	1	0	0	1	1	2	0	<b>8</b>
	<b>Tier Totals</b>	6	4	5	4	5	4	3	5	5	6	4	<b>51</b>
<b>Tier 3</b> Generic	<b>Cat1</b>												
	<b>Cat2</b>	4	4	2	3								<b>13</b>

<i>Temp Total</i>	<i>Average</i>	<i>Std. Dev.</i>
16		
17		
3		
36	6.00	1.55
23		
20		
8		
51	4.64	0.92
13		
100	9.09	4.93

<b>K/A/G/ Totals</b>	13	10	12	4	5	4	10	11	5	6	20	100
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**ANO Unit 2 2002 RO Examination Outline**  
**Emergency and Abnormal Plant Evolutions - Tier 1/Group 1**

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1							Not Selected		0
000015/17 RCP Malfunctions / 4				1			<b>015 AA1.06</b> - Ability to operate and/or monitor the CCWS as it applies to a Reactor Coolant Pump Malfunction. <b>(QID 0308)</b>	3.1	1
CE/A13; Natural Circ. / 4	1						<b>CE/A13 AK1.2</b> - Knowledge of the operational implications and the concepts contained in the normal, abnormal and emergency operating procedures associated with Natural Circulation Operations. <b>(QID 0309)</b>	3.2	1
000024 Emergency Boration / 1			1				<b>024 AK3.02</b> - Knowledge of the reasons for the actions contained in the EOP that apply to Emergency Boration. <b>(QID 0310)</b>	4.2	1
000026 Loss of Component Cooling Water / 8				1			<b>026 AA1.05</b> - Ability to operate and/or monitor the CCW Surge Tank, including level control and level alarms, and radiation monitors as they apply to the Loss of CCW. <b>(QID 0311)</b>	3.1	1
000027 Pressurizer Pressure Control System Malfunction / 3		1					<b>027 AK2.03</b> - Knowledge of the interrelations between the Pressurizer Pressure Control Malfunction and its associated controllers and positioners. <b>(QID 0312)</b>	2.6	1
000040 Steam Line Rupture / 4		1					<b>040 AK2.02</b> - Knowledge of the interrelations between the Steam Line Rupture and its associated sensors and detectors. <b>(QID 0313)</b>	2.6	1
CE/E05 Excessive Steam Demand / 4							Not Selected		
CE/A11 RCS Overcooling - PTS / 4	1						<b>CE/A11 AK1.2</b> - Knowledge of the operational implications of normal, abnormal and emergency operating procedures as they apply to RCS Overcooling. <b>(QID 0314)</b>	3.0	1
000051 Loss of Condenser Vacuum / 4			1				<b>051 AK3.01</b> - Knowledge of the reasons for the loss of steam dump capability upon loss of condenser vacuum. <b>(QID 0315)</b>	2.8	1
000055 Station Blackout / 6				1			<b>055 EA1.06</b> - Ability to operate and monitor the restoration of power with one EDG during a Station Blackout. <b>(QID 0316)</b>	4.1	1
000057 Loss of Vital AC Elec. Inst. Bus / 6					1		<b>057 AA2.05</b> - Ability to determine and interpret S/G pressure and level meters as they apply to a Loss of Vital AC Instrument Bus. <b>(QID 0431)</b>	3.5	1
000062 Loss of Nuclear Service Water / 4					1		<b>062 AA2.06</b> - Ability to determine and interpret the length of time after the loss of Service Water System flow to a component before that component may be damaged. <b>(QID 0432)</b>	2.8	1
000067 Plant Fire On-site / 9						1	<b>Generic 2.4.27</b> - Knowledge of fire in the plant procedure. <b>(QID 0319)</b>	3.0	1
000068 Control Room Evac. / 8			1				<b>068 AK3.17</b> - Knowledge of the reasons for the system response to injection of Boric Acid into the RCS. <b>(QID 0320)</b>	3.7	1

**ANO Unit 2 2002 RO Examination Outline**  
**Emergency and Abnormal Plant Evolutions - Tier 1/Group 1**

<b>E/APE # / Name / Safety Function</b>	<b>K1</b>	<b>K2</b>	<b>K3</b>	<b>A1</b>	<b>A2</b>	<b>G</b>	<b>K/A Topic(s)</b>	<b>Imp.</b>	<b>Points</b>
000069 Loss of CTMT Integrity / 5	1						<b>069 AK1.01</b> - Knowledge of the operational implications of the effects of pressure on Containment leak rate as they apply to a Loss of Containment Integrity. <b>(QID 0321)</b>	2.6	1
000074 Inad. Core Cooling / 4		1					<b>074 EK2.03</b> - Knowledge of the interrelations between the AFW pump and Inadequate Core Cooling. <b>(QID 0322)</b>	4.0	1
BW/E03 Inadequate Subcooling Margin / 4							Not Applicable		0
000076 High Reactor Coolant Activity / 9					1		<b>076 AA2.02</b> - Ability to determine and interpret the corrective actions required for high fission product activity in the RCS as they apply to high Reactor Coolant Activity. <b>(QID 0323)</b>	2.8	1
BW/A02&A03 Loss of NNI-X/Y / 7							Not Applicable		0
K/A Category Totals:	3	3	3	3	3	1	Group Point Total =	16	16

## ANO Unit 2 2002 RO Examination Outline

### Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1							Not Selected		0
000003 Dropped Control Rod / 1	1						<b>003 AK1.10</b> - Knowledge of the operational implications of the definitions of core quadrant tilt as they apply to Dropped Control Rod. <b>(QID 0324)</b>	2.6	1
000007 Reactor Trip - Stabilization / 1	1						<b>007 EK1.06</b> - Knowledge of the operational implications of the relationship of emergency feedwater flow to S/G and decay heat removal following reactor trip. <b>(QID 0325)</b>	3.7	1
CE/E02 Reactor Trip Recovery / 1							Not Selected		
BW/A01 Plant Runback / 1							Not Applicable		0
BW/A04 Turbine Trip / 4							Not Applicable		0
000008 Pressurizer Vapor Space Accident / 3		1					<b>008 AK2.02</b> - Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the sensors & detectors. <b>(QID 0326)</b>	2.7	1
000009 Small Break LOCA / 3				1			<b>009 EA1.16</b> - Ability to operate and monitor Subcooling margin monitors as they apply to a Small Break LOCA. <b>(QID 0327)</b>	4.2	1
000011 Large Break LOCA / 3		1					<b>011 EK2.02</b> - Knowledge of the interrelations between the pumps and Large Break LOCA. <b>(QID 0328)</b>	2.6	1
W/E04 LOCA Outside Containment / 3							Not applicable.		0
BW/E08; W/E03 LOCA Cooldown/Depress. / 4							Not applicable.		0
W/E11 Loss of Emergency Coolant Recirc. / 4							Not applicable.		0
W/E01 & E02 Rediagnosis & SI Termination / 3							Not applicable.		0
000022 Loss of Reactor Coolant Makeup / 2				1			<b>022 AA1.08</b> - Ability to operate and/or monitor VCT level as it applies to the Loss of Reactor Coolant Makeup. <b>(QID 0329)</b>	3.4	1
000025 Loss of RHR System / 4						1	<b>025 AA2.04</b> - Ability to determine and interpret the location and isolability of leaks as they apply to the Loss of Residual Heat Removal System. <b>(QID 0433)</b>	3.3	1
000029 Anticipated Transient w/o Scram / 1			1				<b>029 EK3.11</b> - Knowledge of the reasons for initiating emergency boration as they apply to ATWS. <b>(QID 0331)</b>	4.2	1
000032 Loss of Source Range NI / 7							Not applicable.		0
000033 Loss of Intermediate Range NI / 7							Not applicable.		0
000037 Steam Generator Tube Leak / 3						1	<b>Generic 2.4.11</b> - Knowledge of Steam Generator Tube Leak abnormal condition procedures. <b>(QID 0332)</b>	3.4	1
000038 Steam Generator Tube Rupture / 3						1	<b>038 EA2.08</b> - Ability to determine viable alternatives for placing plant in safe condition when condenser is not available when SGTR present. <b>(QID 00434)</b>	3.8	1
000054 Loss of Main Feedwater / 4			1				<b>054 AK3.04</b> - Knowledge of the reasons for the following actions contained in the EOPs for Loss of MFW. <b>(QID 0334)</b>	4.4	1

## ANO Unit 2 2002 RO Examination Outline

### Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
CE/E06 Loss of Main Feedwater / 4				1			<b>CE/E06 EA1.2</b> - Ability to operate and/or monitor Operating behavior characteristics of the facility as they apply to Loss of Feedwater. <b>(QID 0444)</b>	3.4	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4							Not applicable.		0
000058 Loss of DC Power / 6			1				<b>058 AK3.01</b> - Knowledge of the reasons for use of DC control power by D/Gs as they apply to the Loss of DC Power. <b>(QID 0336)</b>	3.4	1
000059 Accidental Liquid Radwaste Rel. / 9					1		<b>059 AA2.04</b> - Ability to determine and interpret the valve lineup for a release of radioactive fluid as they apply to the Accidental Liquid Radwaste Release. <b>(QID 0435)</b>	3.2	1
000060 Accidental Gaseous Radwaste Rel. / 9						1	<b>Generic 2.4.10</b> - Knowledge of annunciator response procedures associated with an accidental gaseous radwaste release. <b>(QID 0338)</b>	3.0	1
000061 ARM System Alarms / 7		1					<b>061 AK2.01</b> - Knowledge of the interrelations between the Area Radiation Monitoring (ARM) System Alarms and the detectors at each ARM location. <b>(QID 0339)</b>	2.5	1
W/E16 High Containment Radiation / 9							Not applicable.		0
CE/E09 Functional Recovery	1						<b>CE/E09 EK1.2</b> - Knowledge of the operational implications of normal, abnormal and emergency procedures associated with Functional Recovery. <b>(QID 0448)</b>	3.2	1
K/A Category Totals:	3	3	3	3	3	2	Group Point Total =	17	17

**ANO Unit 2 2002 RO Examination Outline**  
**Emergency and Abnormal Plant Evolutions - Tier 1/Group 3**

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points	
000028 Pressurizer Level Malfunction / 2				1			<b>028 AA1.07</b> - Ability to operate and/or monitor charging pumps in maintenance of PZR level (including manual backup) as applied to the Pressurizer Level Control Malfunctions. <b>(QID 0341)</b>	3.3	1	
000036 Fuel Handling Accident / 8							Not Selected		0	
000056 Loss of Off-site Power / 6	1						<b>056 AK1.01</b> - Knowledge of the operational implications of the principle of cooling by natural convection. <b>(QID 0342)</b>	3.7	1	
000065 Loss of Instrument Air / 8			1				<b>065 AK3.04</b> - Knowledge of the reasons for cross-over to backup air supplies as they apply to the Loss of Instrument Air. <b>(QID 0343)</b>	3.0	1	
BW/E13&E14 EOP Rules and Enclosures							Not applicable.		0	
BW/A05 Emergency Diesel Actuation / 6							Not applicable.		0	
BW/A07 Flooding / 8							Not applicable.		0	
CE/A16 Excess RCS Leakage / 2							Not Selected		0	
W/E13 Steam Generator Over-pressure / 4							Not applicable.		0	
W/E15 Containment Flooding / 5							Not applicable.		0	
K/A Category Totals:	1	0	1	1	0	0		Group Point Total =	3	3

**PWR RO Examination Outline**  
**ANO Unit 2 2002 RO Examination Outline**  
**Plant Systems - Tier 2/Group 1**

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic	Imp.	Points
001 Control Rod Drive										1		<b>001 A4.03</b> - Ability to manually operate and/or monitor in the control room CRDS mode control. <b>(QID 0344)</b>	4.0	1
001 Control Rod Drive				1								<b>001 K4.20</b> - Knowledge of CRDS design feature(s) and/or interlocks which provide the permissives and interlocks associated with increase from zero power. <b>(QID 0345)</b>	3.2	1
003 Reactor Coolant Pump						1						<b>003 K6.04</b> - Knowledge of the effect of a loss or malfunction of containment isolation valves will have on RCP operation. <b>(QID 0346)</b>	2.8	1
003 Reactor Coolant Pump	1											<b>003 K1.13</b> - Knowledge of the physical connections and/or cause-effect relationships between the RCPs and RCP bearing lift oil pumps. <b>(QID 0347)</b>	2.5	1
004 Chem and Volume Control									1			<b>004 A3.06</b> - Ability to monitor automatic operation of the CVCS including effects of Tave and Tref. <b>(QID 0348)</b>	3.9	1
004 Chem and Volume Control				1								<b>004 K4.13</b> - Knowledge of CVCS design feature(s) and/or interlocks which provide for interlock between letdown isolation valve and flow control valve. <b>(QID 0349)</b>	3.1	1
013 Eng Safety Features Act										1		<b>013 A4.01</b> - Ability to manually operate and/or monitor in the control room ESFAS initiated equipment which fails to actuate. <b>(QID 0350)</b>	4.5	1
013 Eng Safety Features Act			1									<b>013 K3.03</b> - Knowledge of the effect that a loss or malfunction of the ESFAS will have on the Containment. <b>(QID 0351)</b>	4.3	1
015 Nuclear Instrumentation											1	<b>Generic 2.2.12</b> - Knowledge of surveillance procedures. <b>(QID 0352)</b>	3.0	1
015 Nuclear Instrumentation		1										<b>015 K2.01</b> - Knowledge of bus power supplies to the NIS channels, components, and interconnections. <b>(QID 0353)</b>	3.3	1
017 In-core Temp Monitor							1					<b>017 A1.01</b> - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ITM System controls including Core Exit Temperatures. <b>(QID 0354)</b>	3.7	1
017 In-core Temp Monitor						1						<b>017 K6.01</b> - Knowledge of the effect of a loss or malfunction of the ITM System sensors and detectors. <b>(QID 0355)</b>	2.7	1
022 Containment Cooling	1											<b>022 K1.01</b> - Knowledge of the physical connections and/or cause-effect relationships between the Containment Cooling System and Service Water System/Cooling System. <b>(QID 0356)</b>	3.5	1
022 Containment Cooling			1									<b>022 K3.02</b> - Knowledge of the effect that a loss or malfunction of the Containment Cooling System will have on Containment Instrumentation readings. <b>(QID 0357)</b>	3.0	1
025 Ice Condenser												Not applicable.		0

**Plant Systems - Tier 2/Group 1**

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic	Imp.	Points
056 Condensate								1				<b>056 A2.04</b> - Ability to (a) predict the impact of Loss of Condensate Pumps on the Condensate System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. <b>(QID 0358)</b>	2.6	1
059 Main Feedwater	1											<b>059 K1.05</b> - Knowledge of the physical connections and/or cause effect relationships between the MFW system and the RCS. <b>(QID 0359)</b>	3.1	1
061 Aux/Emerg Feedwater							1					<b>061 A1.05</b> - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW/EFW controls including AFW/EFW flow/motor amps. <b>(QID 0360)</b>	3.6	1
061 Aux/Emerg Feedwater		1										<b>061 K2.01</b> - Knowledge of bus power supplies to the AFW/EFW System MOVs. <b>(QID 0361)</b>	3.2	1
068 Liquid Radwaste									1			<b>068 A3.02</b> - Ability to monitor automatic operation of the Liquid Radwaste System including automatic isolation. <b>(QID 0362)</b>	3.6	1
068 Liquid Radwaste											1	<b>Generic 2.3.1</b> - Knowledge of 10CFR20 and related facility radiation controls. <b>(QID 449)</b>	2.6	1
071 Waste Gas Disposal					1							<b>071 K5.04</b> - Knowledge of the operational implications of the relationship of hydrogen/oxygen concentration to flammability as they apply to the Waste Gas Disposal System. <b>(QID 0364)</b>	2.5	1
072 Area Radiation Monitoring								1				<b>072 A2.02</b> - Ability to (a) predict the impacts of a detector failure on the Area Radiation Monitoring System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. <b>(QID 0365)</b>	2.8	1
072 Area Radiation Monitoring					1							<b>072 K5.01</b> - Knowledge of the operational implications of radiation theory, including sources, types, units and effects. <b>(QID 0366)</b>	2.7	1
K/A Category Totals:	3	2	2	2	2	2	2	2	2	2	2	Group Point Total =	23	23

## ANO Unit 2 2002 RO Examination Outline

### Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic	Imp.	Points
002 Reactor Coolant											1	<b>Generic 2.1.32</b> - Ability to explain and apply all system limits and precautions. <b>(QID 0367)</b>	3.4	1
006 Emergency Core Cooling											1	<b>006 A4.03</b> - Ability to operate and/or monitor in the control room transfer from boron storage tank to boron injection tank. <b>(QID 0368)</b>	3.5	1
010 Pressurizer Press Control		1										<b>010 K2.02</b> - Knowledge of bus power supplies to the controller for PZR spray valve. <b>(QID 0369)</b>	2.5	1
010 Pressurizer Press Control						1						<b>010 K6.03</b> - Knowledge of the effect of a loss or malfunction of the PZR sprays and heaters will have on the PZR Pressure Control System. <b>(QID 0370)</b>	3.2	1
011 Pressurizer Level Control		1										<b>011 K2.02</b> - Knowledge of bus power supplies to the PZR heaters. <b>(QID 0371)</b>	3.1	1
012 Reactor Protection						1						<b>012 K6.01</b> - Knowledge of the effect of a loss or malfunction of bistables and bistable test equipment will have on the RPS. <b>(QID 0372)</b>	2.8	1
014 Rod Position Indication					1							<b>014 K5.01</b> - Knowledge of the operational implications of the reasons for differences between Rod Position Indication System and step counter. <b>(QID 0373)</b>	2.7	1
016 Non-nuclear Instrument												Not Applicable		0
026 Containment Spray	1											<b>026 K1.01</b> - Knowledge of the physical connections and/or cause-effect relationships between the Containment Spray System and the ECCS. <b>(QID 0374)</b>	4.2	1
029 Containment Purge	1											<b>029 K1.03</b> - Knowledge of the physical connections and/or cause-effect relationships between the Containment Purge System and Engineered Safeguards System. <b>(QID 0219)</b>	3.6	1
033 Spent Fuel Pool Cooling								1				<b>033 A2.03</b> - Ability to (a) predict the impacts of abnormal SFP water level or loss of water level 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. <b>(QID 0300)</b>	3.1	1
035 Steam Generator											1	<b>Generic 2.1.12</b> - Ability to apply technical specifications for the Steam Generator System. <b>(QID 0377)</b>	2.9	1
039 Main and Reheat Steam										1		<b>039 A3.02</b> - Ability to monitor automatic operation of the Main/Reheat Steam System, including isolation of the M/R Steam System. <b>(QID 0378)</b>	3.1	1

## ANO Unit 2 2002 RO Examination Outline

### Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic	Imp.	Points
055 Condenser Air Removal			1									<b>055 K3.01</b> - Knowledge of the effect that a loss or malfunction of the Condenser Air Removal System will have on the main condenser. <b>(QID 0379)</b>	2.5	1
062 AC Electrical Distribution							1					<b>062 A1.03</b> - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AC Distribution System controls including the effect on instrumentation and controls of switching power supplies. <b>(QID 0442)</b>	2.5	1
063 DC Electrical Distribution			1									<b>063 K3.01</b> - Knowledge of the effect that a loss or malfunction of the DC electrical system will have on the EDG. <b>(QID 0381)</b>	3.7	1
064 Emerg Diesel Generator									1			<b>064 A3.07</b> - Ability to monitor automatic operation of the EDG system, including load sequencing. <b>(QID 0382)</b>	3.6	1
073 Process Radiation Monitoring					1							<b>073 K5.01</b> - Knowledge of the operational implications of radiation theory, including sources, types, units and effects as they apply to the Process Radiation Monitoring System. <b>(QID 0383)</b>	2.5	1
075 Circulating Water				1								<b>075 K4.01</b> - Knowledge of Circulating Water System design feature(s) and interlock(s) which provide for heat sink. <b>(QID 0384)</b>	2.5	1
079 Station Air								1				<b>079 K4.01</b> - Deselected - Use Plant Specific Priorities <b>QID 0385</b> in Tier 2 Group 3.	3.1	1
086 Fire Protection										1		<b>086 A4.01</b> - Ability to manually operate and/or monitor in the control room the fire detection panels. <b>(QID 0386)</b>	3.3	1
K/A Category Totals:	2	2	2	1	2	2	1	2	2	2	2	Group Point Total =	20	20

## ANO Unit 2 2002 RO Examination Outline

### Plant Systems - Tier 2/Group 3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic	Imp.	Points
005 Residual Heat Removal					1							<b>005 K5.02</b> - Knowledge of the operational implications of the need for adequate subcooling as they apply to the Residual Heat Removal System. <b>(QID 0387)</b>	3.4	1
007 Pressurizer Relief/Quench Tank	1											<b>007 K1.03</b> - Knowledge of the physical connections and/or cause-effect relationships between the Quench Tank System and the RCS. <b>(QID 0388)</b>	3.0	1
008 Component Cooling Water												Not selected		0
027 Containment Iodine Removal												Not selected		0
028 Hydrogen Recomb/ Purge Control											1	<b>028 A4.01</b> - Ability to manually operate and/or monitor in the control room the Hydrogen Recombiner and Purge Control System controls. <b>(QID 0389)</b>	4.0	1
034 Fuel Handling Equipment											1	<b>034 A4.02</b> - Ability to manually operate and/or monitor neutron levels in the control room during refueling operations <b>(QID 0390)</b>	3.5	1
041 Stm Dump/Turb Bypass Control			1									<b>041 K3.01</b> - Knowledge of the effect that a loss or malfunction of the Steam Dump System will have on SGs. <b>(QID 0391)</b>	3.2	1
045 Main Turbine Generator								1				<b>045 A2.08</b> - Ability to (a) predict the impacts of steam dumps not cycling properly at low load, or stick open at higher load (isolate and use atmospheric reliefs when necessary) on MTG system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. <b>(QID 0392)</b>	2.8	1
076 Service Water												Not selected		0
078 Instrument Air									1			<b>078 A3.01</b> - Ability to monitor automatic operation of the Instrument Air System including air pressure. <b>(QID 0393)</b>	3.1	1
103 Containment				1								<b>103 K4.06</b> - Knowledge of containment system design feature(s) and/or interlock(s) which provide for the containment isolation system. <b>(QID 0394)</b>	3.1	1
														0
K/A Category Totals:	1	0	1	1	1	0	0	1	1	2	0	Group Point Total =	8	8

## ANO Unit 2 2002 RO Examination Outline

### Plant Systems - Tier 2/Group 3

Plant-Specific Priorities			
System/Topic	Recommended Replacement for.....	Reason	Points
064 Emergency Diesel Generators	079 Station Air in Tier 2 Group 2	<p><b>064 A2.09</b> Ability to predict the impact of a malfunction of the EDG System during synchronizing an EDG with other electric power supplies and based on those predictions, use procedures to correct, control or mitigate the consequences of the malfunction or operation. Condition reports ANO-2-2001 0158 and 0491 document a condition whereby the number 1 EDG was declared inoperable during an attempt to tie the diesel to offsite power during a surveillance. (Refer to the references in the question) This is a much higher plant priority than the randomly selected Station Air K&amp;A 079 K4.01 (Tier 2 Group2) especially since the Station Air System crossconnect to the Instrument Air system is a manual valve. <b>QID 0385</b></p>	1
Plant-Specific Priority Total: (limit 10)			1

Facility: ANO - Unit 2		Date of Exam: 02/08/02	Exam Level: RO	
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.17	Ability to make accurate, clear and concise verbal reports. <b>(QID 0447)</b>	3.5	1
	2.1.22	Ability to determine Mode of Operations. <b>(QID 0421)</b>	2.8	1
	2.1.12	Ability to apply technical specifications for a system. <b>(QID 0397)</b>	2.9	1
	2.1.32	Ability to explain and apply all system limits and precautions. <b>(QID 0398)</b>	3.4	1
	2.1.			
	2.1.			
Total				4
Equipment Control	2.2.27	Knowledge of the refueling process <b>(QID 0399)</b>	2.6	1
	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels. <b>(QID 0400)</b>	4.0	1
	2.2.33	Knowledge of control rod programming. <b>(QID 0401)</b>	2.5	1
	2.2.11	Knowledge of the process for controlling temporary changes. <b>(QID 0037)</b>	2.5	1
	2.2.			
	2.2.			
Total				4
Radiation Control	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. <b>(QID 0298)</b>	2.9	1
	2.3.2	Knowledge of facility ALARA program. <b>(QID 0439)</b>	2.5	1
	2.3.			
	2.3.			
	2.3.			
	2.3.			
Total				2
Emergency Procedures / Plan	2.4.31	Knowledge of annunciator alarms and indications, and use of the response instructions. <b>(QID 0405)</b>	3.3	1
	2.4.19	Knowledge of EOP layout, symbols, and icons. <b>(QID 0406)</b>	2.8	1
	2.4.15	Knowledge of communications procedures associated with EOP Implementation. <b>(QID 0407)</b>	3.0	1
	2.4.			
	2.4.			
	2.4.			
Total				3
Tier 3 Point Total (RO)				13