

| Facility: Point Beach                         |             | Date of Exam: May 2017 |     |     |     |     |     |     |     |     |     |    |                 |    |    |       |    |
|---|-------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----------------|----|----|-------|----|
| 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   | 3   | N/A |     |     | 3   | 3   | N/A |     |    | 3               | 18 | 3  | 3     | 6  |
|   | 2           | 2                      | 1   | 1   | N/A |     |     | 1   | 2   | N/A |     |    | 2               | 9  | 2  | 2     | 4  |
|   | Tier Totals | 5                      | 4   | 4   | N/A |     |     | 4   | 5   | N/A |     |    | 5               | 27 | 5  | 5     | 10 |
| 2. Plant Systems                              | 1           | 3                      | 3   | 3   | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 3  | 28              | 3  | 2  | 5     |    |
|   | 2           | 1                      | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1  | 10              | 0  | 1  | 2     | 3  |
|   | Tier Totals | 4                      | 3   | 4   | 4   | 4   | 3   | 3   | 3   | 3   | 3   | 4  | 38              | 4  | 4  | 8     |    |
| 3. Generic Knowledge and Abilities Categories |             |                        |     | 1   |     | 2   |     | 3   |     | 4   |     | 10 | 1               | 2  | 3  | 4     | 7  |
|   |             |                        |     | 2   |     | 3   |     | 3   |     | 2   |     |    | 2               | 2  | 1  | 2     |    |

- 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 (RO)                |                         |          |          |          |          |           |   |     |           |
| E/APE # / Name / Safety Function   | K<br>1                  | K<br>2   | K<br>3   | A<br>1   | A<br>2   | G         | K/A Topic(s)  | IR  | #         |
| 000007 Reactor Trip - Stabilization - Recovery / 1                           |                         | 0<br>3   |          |          |          |           | EK2.03-Knowledge of the interrelations between a reactor trip and the following: Reactor trip status panel  | 3.5 | 1         |
| 000008 Pressurizer Vapor Space Accident / 3                                  |                         | 0<br>3   |          |          |          |           | AK2.03-Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the following: Controllers and positioners  | 2.5 | 2         |
| 000009 Small Break LOCA / 3  |                         |          | 2<br>8   |          |          |           | EK3.28-Knowledge of the reasons for the following responses as they apply to the small break LOCA: Manual ESFAS initiation requirements   | 4.5 | 3         |
| 000011 Large Break LOCA / 3  |                         |          | 0<br>6   |          |          |           | EK3.06-Knowledge of the reasons for the following responses as they apply to the Large Break LOCA: Actuation of Phase A and B during LOCA initiation  | 4.3 | 4         |
| 000015 RCP Malfunctions / 4<br>000017 RCP Malfunctions (Loss of RC Flow) / 4 |                         |          |          | 2<br>2   |          |           | AA1.22-Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): RCP seal failure/malfunction                                     | 4.0 | 5         |
| 000022 Loss of Rx Coolant Makeup / 2   |                         |          |          | 0<br>2   |          |           | AA1.02-Ability to operate and / or monitor the following as they apply to the Loss of Reactor Coolant Makeup: CVCS charging low flow alarm, sensor, and indicator                                   | 3.0 | 6         |
| 000025 Loss of RHR System / 4  |                         |          |          |          | 0<br>5   |           | AA2.05-Ability to determine and interpret the following as they apply to the Loss of Residual Heat Removal System: Limitations on LPI flow and temperature rates of change                          | 3.1 | 7         |
| 000026 Loss of Component Cooling Water / 8                                   |                         |          |          |          |          |           |   |     |           |
| 000027 Pressurizer Pressure Control System Malfunction / 3                   |                         |          |          |          |          | 02.<br>12 | 2.2.12-Knowledge of surveillance procedures.  | 3.7 | 8         |
| 000029 ATWS / 1  |                         |          |          |          |          |           |   |     |           |
| 000038 Steam Gen. Tube Rupture / 3   | 0<br>1                  |          |          |          |          |           | EK1.01-Knowledge of the operational implications of the following concepts as they apply to the SGTR: Use of steam tables   | 3.1 | 9         |
| 000040 Steam Line Rupture - Excessive Heat Transfer / 4                      |                         | 0<br>1   |          |          |          |           | AK2.01-Knowledge of the interrelations between the Steam Line Rupture and the following: Valves   | 2.6 | 10        |
| WE12 Uncontrolled Depressurization of all Steam Generators / 4               |                         |          |          |          |          |           |   |     |           |
| 000054 (CE/E06) Loss of Main Feedwater / 4                                   |                         |          |          |          |          |           |   |     |           |
| 000055 Station Blackout / 6  |                         |          |          |          |          |           |   |     |           |
| 000056 Loss of Off-site Power / 6  |                         |          | 0<br>2   |          |          |           | AK3.02-Knowledge of the reasons for the following responses as they apply to the Loss of Offsite Power: Actions contained in EOP for loss of offsite power  | 4.4 | 11        |
| 000057 Loss of Vital AC Inst. Bus / 6  |                         |          |          |          |          |           |   |     |           |
| 000058 Loss of DC Power / 6  |                         |          |          | 0<br>1   |          |           | AA1.01-Ability to operate and / or monitor the following as they apply to the Loss of DC Power: Cross-tie of the affected dc bus with the alternate supply  | 3.4 | 12        |
| 000062 Loss of Nuclear Svc Water / 4   |                         |          |          |          | 0<br>4   |           | AA2.04-Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The normal values and upper limits for the temperatures of the components cooled by SWS | 2.5 | 13        |
| 000065 Loss of Instrument Air / 8  |                         |          |          |          | 0<br>5   |           | AA2.05-Ability to determine and interpret the following as they apply to the Loss of Instrument Air: When to commence plant shutdown if instrument air pressure is decreasing                       | 3.4 | 14        |
| W/E04 LOCA Outside Containment / 3   |                         |          |          |          |          | 01.<br>31 | 2.1.31-Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.   | 4.6 | 15        |
| W/E11 Loss of Emergency Coolant Recirc. / 4                                  |                         |          |          |          |          | 04.<br>46 | 2.4.46-Ability to verify that the alarms are consistent with the plant conditions.  | 4.2 | 16        |
| BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4     | 0<br>1                  |          |          |          |          |           | EK1.01-Knowledge of the operational implications of the following concepts as they apply to the (Loss of Secondary Heat Sink): Components, capacity, and function of emergency systems              | 3.8 | 17        |
| 000077 Generator Voltage and Electric Grid Disturbances / 6                  | 0<br>2                  |          |          |          |          |           | AK1.02-Knowledge of the operational implications of the following concepts as they apply to Generator Voltage and Electric Grid Disturbances: Over-excitation                                       | 3.3 | 18        |
| <b>K/A Category Totals:</b>  | <b>3</b>                | <b>3</b> | <b>3</b> | <b>3</b> | <b>3</b> | <b>3</b>  | <b>Group Point Total:</b>   |     | <b>18</b> |

| ES-401   |     | PWR Examination Outline |     |     |     |       |  |     | Form ES-401-2 |  |
|--|-----|-------------------------|-----|-----|-----|-------|--|-----|---------------|--|
| Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO)                |     |                         |     |     |     |       |  |     |               |  |
| E/APE # / Name / Safety Function   | K 1 | K 2                     | K 3 | A 1 | A 2 | G     | K/A Topic(s)   | IR  | #             |  |
| 000001 Continuous Rod Withdrawal / 1   |     |                         |     |     |     |       |  |     |               |  |
| 000003 Dropped Control Rod / 1   |     |                         |     |     |     | 01.27 | 2.1.27-Knowledge of system purpose and/or function.  | 3.9 | 19            |  |
| 000005 Inoperable/Stuck Control Rod / 1                                      |     |                         |     |     |     |       |  |     |               |  |
| 000024 Emergency Boration / 1  | 01  |                         |     |     |     |       | AK1.01-Knowledge of the operational implications of the following concepts as they apply to Emergency Boration: Relationship between boron addition and change in T-ave  | 3.4 | 20            |  |
| 000028 Pressurizer Level Malfunction / 2                                     |     |                         |     |     |     |       |  |     |               |  |
| 000032 Loss of Source Range NI / 7   |     |                         |     |     |     |       |  |     |               |  |
| 000033 Loss of Intermediate Range NI / 7                                     |     |                         |     |     |     |       |  |     |               |  |
| 000036 Fuel Handling Accident / 8  |     |                         |     |     |     |       |  |     |               |  |
| 000037 Steam Generator Tube Leak / 3   |     |                         |     |     |     |       |  |     |               |  |
| 000051 Loss of Condenser Vacuum / 4  |     |                         |     |     |     |       |  |     |               |  |
| 000059 Accidental Liquid RadWaste Rel. / 9                                   |     |                         |     |     |     |       |  |     |               |  |
| 000060 Accidental Gaseous Radwaste Rel. / 9                                  |     |                         |     |     |     |       |  |     |               |  |
| 000061 ARM System Alarms / 7   |     |                         |     |     | 01  |       | AA2.01-Ability to determine and interpret the following as they apply to the Area Radiation Monitoring (ARM) System Alarms: ARM panel displays   | 3.5 | 21            |  |
| 000067 Plant Fire On-site / 8  |     |                         |     |     |     |       |  |     |               |  |
| 000068 Control Room Evac. / 8  |     |                         |     |     |     | 04.18 | 2.4.18-Knowledge of the specific bases for EOPs.   | 3.3 | 22            |  |
| 000069 Loss of CTMT Integrity / 5  |     |                         |     |     |     |       |  |     |               |  |
| W/E14 High Containment Pressure / 5  |     |                         |     |     |     |       |  |     |               |  |
| 000074 Inad. Core Cooling / 4  | 08  |                         |     |     |     |       | EK1.08-Knowledge of the operational implications of the following concepts as they apply to the Inadequate Core Cooling: Definition of subcooled liquid  | 2.8 | 23            |  |
| W/E06 Degraded Core Cooling / 4  |     |                         |     |     |     |       |  |     |               |  |
| W/E07 Saturated Core Cooling / 4   |     |                         |     |     |     |       |  |     |               |  |
| 000076 High Reactor Coolant Activity / 9                                     |     |                         |     |     |     |       |  |     |               |  |
| W/E01 Rediagnosis / 3  |     | 01                      |     |     |     |       | EK2.01-Knowledge of the interrelations between the (Reactor Trip or Safety Injection/Rediagnosis) and the following:Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features  | 3.3 | 24            |  |
| W/E02 SI Termination / 3   |     |                         |     |     |     |       |  |     |               |  |
| W/E13 Steam Generator Over-pressure / 4                                      |     |                         |     |     |     |       |  |     |               |  |
| W/E15 Containment Flooding / 5   |     |                         | 04  |     |     |       | EK3.04-Knowledge of the reasons for the following responses as they apply to the (Containment Flooding): RO or SRO function within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and the limitations in the facilities license and amendments are not violated | 2.9 | 25            |  |
| W/E16 High Containment Radiation / 9   |     |                         |     |     |     |       |  |     |               |  |
| W/E03 LOCA Cooldown - Depress. / 4   |     |                         |     | 03  |     |       | EA1.03-Ability to operate and / or monitor the following as they apply to the (LOCA Cooldown and Depressurization): Desired operating results during abnormal and emergency situations   | 3.7 | 26            |  |
| W/E09 Natural Circulation Operations / 4                                     |     |                         |     |     |     |       |  |     |               |  |
| W/E10 Natural Circulation with Steam Voide in Vessel with/without RVLIS. / 4 |     |                         |     |     |     |       |  |     |               |  |
| W/E08 RCS Overcooling - PTS / 4  |     |                         |     |     | 02  |       | EA2.02-Ability to determine and interpret the following as they apply to the (Pressurized Thermal Shock): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments  | 3.5 | 27            |  |
| K/A Category Totals:   | 2   | 1                       | 1   | 1   | 2   | 2     | Group Point Total:   |     | 9             |  |

| ES-401                                   | PWR Examination Outline |     |     |     |     |     |     |     |     |     |       | Form ES-401-2   |            |          |
|--|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---|------------|----------|
| Plant Systems - Tier 2/Group 1 (RO)      |                         |     |     |     |     |     |     |     |     |     |       |   |            |          |
| 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         | #        |
| 003 Reactor Coolant Pump                 |                         |     |     |     |     | 14  |     |     | 0   | 3   |       | K6.14-Knowledge of the effect of a loss or malfunction on the following will have on the RCPS: Starting requirements<br>A3.03-Ability to monitor automatic operation of the RCPS, including: Seal D/P   | 2.6<br>3.2 | 28<br>29 |
| 004 Chemical and Volume Control          |                         |     |     |     |     |     |     |     |     |     | 04.31 | 2.4.31-Knowledge of annunciator alarms, indications, or response procedures.  | 4.2        | 30       |
| 005 Residual Heat Removal                |                         |     |     |     |     |     |     |     |     | 0   | 1     | A4.01-Ability to manually operate and/or monitor in the control room: Controls and indication for RHR pumps   | 3.6        | 31       |
| 006 Emergency Core Cooling               |                         |     | 0   |     |     |     |     |     |     |     | 02.36 | K3.02-Knowledge of the effect that a loss or malfunction of the ECCS will have on the following: Fuel<br>2.2.36-Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.   | 4.3<br>3.1 | 32<br>33 |
| 007 Pressurizer Relief/Quench Tank       |                         |     |     |     |     |     |     |     |     |     | 04.20 | 2.4.20-Knowledge of the operational implications of EOP warnings, cautions, and notes.  | 3.8        | 34       |
| 008 Component Cooling Water              | 0                       |     |     | 0   |     |     |     |     |     |     |       | K1.04-Knowledge of the physical connections and/or cause-effect relationships between the CCWS and the following systems: RCS, in order to determine source(s) of RCS leakage into the CCWS<br>K4.01-Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Automatic start of standby pump   | 3.3<br>3.1 | 35<br>36 |
| 010 Pressurizer Pressure Control         | 0                       |     |     |     |     |     |     |     |     |     |       | K1.06-Knowledge of the physical connections and/or cause-effect relationships between the PZR PCS and the following systems: CVCS   | 2.9        | 37       |
| 012 Reactor Protection                   |                         | 0   |     |     | 0   |     |     |     |     |     |       | K2.01-Knowledge of bus power supplies to the following: RPS channels, components, and interconnections<br>K5.01-Knowledge of the operational implications of the following concepts as they apply to the RPS: DNB   | 3.3<br>3.3 | 38<br>39 |
| 013 Engineered Safety Features Actuation |                         | 0   |     |     |     |     | 0   |     |     |     |       | K2.01-Knowledge of bus power supplies to the following: ESFAS/safeguards equipment control<br>A1.01-Ability to predict and/or monitor changes in parameters (to Prevent exceeding design limits) associated with operating the ESFAS controls including: RCS pressure and temperature   | 3.6<br>4.0 | 40<br>41 |
| 022 Containment Cooling                  |                         |     | 0   |     |     |     |     |     |     |     |       | K3.01-Knowledge of the effect that a loss or malfunction of the CCS will have on the following: Containment equipment subject to damage by high or low temperature, humidity, and pressure  | 2.9        | 42       |
| 025 Ice Condenser                        |                         |     |     |     |     |     |     |     |     |     |       |   |            |          |
| 026 Containment Spray                    |                         |     | 0   |     |     |     |     |     |     |     |       | K3.02-Knowledge of the effect that a loss or malfunction of the CSS will have on the following: Recirculation spray system  | 4.2        | 43       |
| 039 Main and Reheat Steam                |                         |     |     | 0   |     |     |     |     |     |     |       | K4.04-Knowledge of MRSS design feature(s) and/or interlock(s) which provide for the following: Utilization of steam pressure program control when steam dumping through atmospheric relief/dump valves, including T-ave. limits   | 2.9        | 44       |
| 059 Main Feedwater                       |                         |     |     | 1   |     |     |     |     |     |     |       | K4.16-Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following: Automatic trips for MFW pumps   | 3.1        | 45       |
| 061 Auxiliary/Emergency Feedwater        |                         |     |     |     | 0   |     |     |     |     |     |       | K5.01-Knowledge of the operational implications of the following concepts as they apply to the AFW: Relationship between AFW flow and RCS heat transfer   | 3.6        | 46       |
| 062 AC Electrical Distribution           |                         |     |     |     |     |     | 0   |     |     |     |       | A1.03-Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ac distribution system controls including: Effect on instrumentation and controls of switching power supplies  | 2.5        | 47       |
| 063 DC Electrical Distribution           | 0                       |     |     |     |     |     |     |     |     |     |       | K1.02-Knowledge of the physical connections and/or cause-effect relationships between the DC electrical system and the following systems: AC electrical system  | 2.7        | 48       |
| 064 Emergency Diesel Generator           |                         |     |     |     |     | 0   |     | 1   |     |     |       | K6.07-Knowledge of the effect of a loss or malfunction of the following will have on the ED/G system: Air receivers<br>A2.13-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 opening auxiliary feeder bus (ED/G sub supply)          | 2.7<br>2.6 | 49<br>50 |
| 073 Process Radiation Monitoring         |                         |     |     |     | 0   |     |     |     |     |     |       | K5.02-Knowledge of the operational implications as they apply to concepts as they apply to the PRM system: Radiation intensity changes with source distance   | 2.5        | 51       |
| 076 Service Water                        |                         |     |     |     |     |     |     |     | 0   |     |       | A3.02-Ability to monitor automatic operation of the SWS, including: Emergency heat loads  | 3.7        | 52       |
| 078 Instrument Air                       |                         | 0   |     |     |     |     |     |     |     |     |       | K2.01-Knowledge of bus power supplies to the following: Instrument air compressor   | 2.7        | 53       |
| 103 Containment                          |                         |     |     |     |     |     |     | 0   |     | 0   |       | A2.04-Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Containment evacuation (including recognition of the alarm)<br>A4.06-Ability to manually operate and/or monitor in the control room: Operation of the containment personnel airlock door | 3.5<br>2.7 | 54<br>55 |
| K/A Category Totals:                     | 3                       | 3   | 3   | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 3     | Group Point Total:  | 28         |          |

| ES-401                                    | PWR Examination Outline |     |     |     |     |     |     |     |     |        |   | Form ES-401-2   |     |    |
|---|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|--------|---|---|-----|----|
| Plant Systems - Tier 2/Group 2 (RO)       |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 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  | #  |
| 001 Control Rod Drive                     |                         |     |     |     |     |     |     |     | 0 7 |        |   | A3.07-Ability to monitor automatic operation of the CRDS, including: Boration/dilution  | 4.1 | 56 |
| 002 Reactor Coolant                       |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 011 Pressurizer Level Control             |                         |     |     |     |     | 0 3 |     |     |     |        |   | K6.03-Knowledge of the effect of a loss or malfunction on the following will have on the PZR LCS: Relationship between PZR level and PZR heater control circuit   | 2.9 | 57 |
| 014 Rod Position Indication               |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 015 Nuclear Instrumentation               |                         |     |     | 0 7 |     |     |     |     |     |        |   | K4.07-Knowledge of NIS design feature(s) and/or interlock(s) provide for the following: Permissives   | 3.7 | 58 |
| 016 Non-nuclear Instrumentation           |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 017 In-core Temperature Monitor           |                         |     |     |     |     |     |     |     | 0 1 |        |   | A4.01-Ability to manually operate and/or monitor in the control room: Actual in-core temperatures   | 3.8 | 59 |
| 027 Containment Iodine Removal            |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 028 Hydrogen Recombiner and Purge Control |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 029 Containment Purge                     |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 033 Spent Fuel Pool Cooling               |                         |     |     |     |     |     |     |     |     | 01. 32 |   | 2.1.32-Ability to explain and apply system limits and precautions.  | 3.8 | 60 |
| 034 Fuel Handling Equipment               |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 035 Steam Generator                       |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 041 Steam Dump/Turbine Bypass Control     |                         |     |     |     | 0 5 |     |     |     |     |        |   | K5.05-Knowledge of the operational implications of the following concepts as they apply to the SDS: Basis for RCS design pressure limits  | 2.6 | 61 |
| 045 Main Turbine Generator                |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 055 Condenser Air Removal                 |                         |     | 0 1 |     |     |     |     |     |     |        |   | K3.01-Knowledge of the effect that a loss or malfunction of the CARS will have on the following: Main condenser   | 2.5 | 62 |
| 056 Condensate                            |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 068 Liquid Radwaste                       |                         |     |     |     |     |     |     | 0 4 |     |        |   | A2.04-Ability to (a) predict the impacts of the following malfunctions or operations on the Liquid Radwaste System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of automatic isolation | 3.3 | 63 |
| 071 Waste Gas Disposal                    |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 072 Area Radiation Monitoring             |                         |     |     |     |     |     | 0 1 |     |     |        |   | A1.01-Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ARM system controls including: Radiation levels  | 3.4 | 64 |
| 075 Circulating Water                     |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| 079 Station Air                           | 0 1                     |     |     |     |     |     |     |     |     |        |   | K1.01-Knowledge of the physical connections and/or cause-effect relationships between the SAS and the following systems: IAS  | 3.0 | 65 |
| 086 Fire Protection                       |                         |     |     |     |     |     |     |     |     |        |   |   |     |    |
| K/A Category Totals:                      | 1                       | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1      | 1 | Group Point Total:  |     | 10 |

| 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<br>1                  | K<br>2 | K<br>3 | A<br>1 | A<br>2 | G         | K/A Topic(s)  | IR            | #  |
| 000007 Reactor Trip - Stabilization - Recovery / 1                           |                         |        |        |        |        |           |   |               |    |
| 000008 Pressurizer Vapor Space Accident / 3                                  |                         |        |        |        |        |           |   |               |    |
| 000009 Small Break LOCA / 3  |                         |        |        |        |        |           |   |               |    |
| 000011 Large Break LOCA / 3  |                         |        |        |        |        |           |   |               |    |
| 000015 RCP Malfunctions / 4<br>000017 RCP Malfunctions (Loss of RC Flow) / 4 |                         |        |        |        |        |           |   |               |    |
| 000022 Loss of Rx Coolant Makeup / 2   |                         |        |        |        | 0<br>3 |           | AA2.03-Ability to determine and interpret the following as they apply to the Loss of Reactor Coolant Makeup: Failures of flow control valve or controller   | 3.6           | 76 |
| 000025 Loss of RHR System / 4  |                         |        |        |        |        |           |   |               |    |
| 000026 Loss of Component Cooling Water / 8                                   |                         |        |        |        |        | 04.<br>08 | 2.4.8-Knowledge of how abnormal operating procedures are used in conjunction with EOPs.   | 4.5           | 77 |
| 000027 Pressurizer Pressure Control System Malfunction / 3                   |                         |        |        |        |        |           |   |               |    |
| 000029 ATWS / 1  |                         |        |        |        | 0<br>9 |           | EA2.09-Ability to determine or interpret the following as they apply to a ATWS: Occurrence of a main turbine/reactor trip   | 4.5           | 78 |
| 000038 Steam Gen. Tube Rupture / 3   |                         |        |        |        |        |           |   |               |    |
| 000040 Steam Line Rupture - Excessive Heat Transfer / 4                      |                         |        |        |        |        |           |   |               |    |
| WE12 Uncontrolled Depressurization of all Steam Generators / 4               |                         |        |        |        |        |           |   |               |    |
| 000054 (CE/E06) Loss of Main Feedwater / 4                                   |                         |        |        |        |        | 04.<br>04 | 2.4.4-Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating proedures.   | 4.7           | 79 |
| 000055 Station Blackout / 6  |                         |        |        |        |        | 02.<br>37 | 2.2.37-Ability to determine operability and/or availability of safety related equipment.  | 4.6           | 80 |
| 000056 Loss of Off-site Power / 6  |                         |        |        |        |        |           |   |               |    |
| 000057 Loss of Vital AC Inst. Bus / 6  |                         |        |        |        |        |           |   |               |    |
| 000058 Loss of DC Power / 6  |                         |        |        |        |        |           |   |               |    |
| 000062 Loss of Nuclear Svc Water / 4   |                         |        |        |        |        |           |   |               |    |
| 000065 Loss of Instrument Air / 8  |                         |        |        |        |        |           |   |               |    |
| W/E04 LOCA Outside Containment / 3   |                         |        |        |        |        |           |   |               |    |
| W/E11 Loss of Emergency Coolant Recirc. / 4                                  |                         |        |        |        |        |           |   |               |    |
| BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4     |                         |        |        |        | 0<br>2 |           | EA2.02-Ability to determine and interpret the following as they apply to the (Loss of Secondary Heat Sink): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments | 4.3           | 81 |
| 000077 Generator Voltage and Electric Grid Disturbances / 6                  |                         |        |        |        |        |           |   |               |    |
| <b>K/A Category Totals:</b>  | 0                       | 0      | 0      | 0      | 3      | 3         | <b>Group Point Total:</b>   |               | 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<br>1                  | K<br>2 | K<br>3 | A<br>1 | A<br>2 | G         | K/A Topic(s)  | IR            | #  |
| 000001 Continuous Rod Withdrawal / 1   |                         |        |        |        |        |           |   |               |    |
| 000003 Dropped Control Rod / 1   |                         |        |        |        |        |           |   |               |    |
| 000005 Inoperable/Stuck Control Rod / 1                                      |                         |        |        |        |        |           |   |               |    |
| 000024 Emergency Boration / 1  |                         |        |        |        |        |           |   |               |    |
| 000028 Pressurizer Level Malfunction / 2                                     |                         |        |        |        |        |           |   |               |    |
| 000032 Loss of Source Range NI / 7   |                         |        |        |        | 07     |           | AA2.07-Ability to determine and interpret the following as they apply to the Loss of Source Range Nuclear Instrumentation: Maximum allowable channel disagreement | 3.4           | 82 |
| 000033 Loss of Intermediate Range NI / 7                                     |                         |        |        |        |        |           |   |               |    |
| 000036 Fuel Handling Accident / 8  |                         |        |        |        |        |           |   |               |    |
| 000037 Steam Generator Tube Leak / 3   |                         |        |        |        |        |           |   |               |    |
| 000051 Loss of Condenser Vacuum / 4  |                         |        |        |        |        |           |   |               |    |
| 000059 Accidental Liquid RadWaste Rel. / 9                                   |                         |        |        |        |        |           |   |               |    |
| 000060 Accidental Gaseous Radwaste Rel. / 9                                  |                         |        |        |        |        | 01.<br>28 | 2.1.28-Knowledge of the purpose and function of major system components and controls.   | 4.1           | 83 |
| 000061 ARM System Alarms / 7   |                         |        |        |        |        |           |   |               |    |
| 000067 Plant Fire On-site / 8  |                         |        |        |        |        |           |   |               |    |
| 000068 Control Room Evac. / 8  |                         |        |        |        |        |           |   |               |    |
| 000069 Loss of CTMT Integrity / 5  |                         |        |        |        |        |           |   |               |    |
| W/E14 High Containment Pressure / 5  |                         |        |        |        |        |           |   |               |    |
| 000074 Inad. Core Cooling / 4  |                         |        |        |        |        |           |   |               |    |
| W/E06 Degraded Core Cooling / 4  |                         |        |        |        |        |           |   |               |    |
| W/E07 Saturated Core Cooling / 4   |                         |        |        |        |        |           |   |               |    |
| 000076 High Reactor Coolant Activity / 9                                     |                         |        |        |        | 04     |           | AA2.04-Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity: Process effluent radiation chart recorder             | 3.0           | 84 |
| W/E01 Rediagnosis / 3  |                         |        |        |        |        |           |   |               |    |
| W/E02 SI Termination / 3   |                         |        |        |        |        |           |   |               |    |
| W/E13 Steam Generator Over-pressure / 4                                      |                         |        |        |        |        |           |   |               |    |
| W/E15 Containment Flooding / 5   |                         |        |        |        |        |           |   |               |    |
| W/E16 High Containment Radiation / 9   |                         |        |        |        |        |           |   |               |    |
| W/E03 LOCA Cooldown - Depress. / 4   |                         |        |        |        |        |           |   |               |    |
| W/E09 Natural Circulation Operations / 4                                     |                         |        |        |        |        |           |   |               |    |
| W/E10 Natural Circulation with Steam Voide in Vessel with/without RVLIS. / 4 |                         |        |        |        |        | 04.<br>50 | 2.4.50-Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.   | 4.0           | 85 |
| W/E08 RCS Overcooling - PTS / 4  |                         |        |        |        |        |           |   |               |    |
| <b>K/A Category Totals:</b>  | 0                       | 0      | 0      | 0      | 2      | 2         | <b>Group Point Total:</b>   |               | 4  |

| ES-401                                   | PWR Examination Outline |        |        |        |        |        |        |        |        |        |           | Form ES-401-2   |     |    |
|--|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|---|-----|----|
| Plant Systems - Tier 2/Group 1 (SRO)     |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| System # / Name                          | K<br>1                  | K<br>2 | K<br>3 | K<br>4 | K<br>5 | K<br>6 | A<br>1 | A<br>2 | A<br>3 | A<br>4 | G         | K/A Topic(s)  | IR  | #  |
| 003 Reactor Coolant Pump                 |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 004 Chemical and Volume Control          |                         |        |        |        |        |        |        | 2<br>8 |        |        |           | A2.28-Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Depressurizing of RCS while it is hot | 4.3 | 86 |
| 005 Residual Heat Removal                |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 006 Emergency Core Cooling               |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 007 Pressurizer Relief/Quench Tank       |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 008 Component Cooling Water              |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 010 Pressurizer Pressure Control         |                         |        |        |        |        |        |        | 0<br>2 |        |        |           | A2.02-Ability to (a) predict the impacts of the following malfunctions or operations on the PZR PCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Spray valve failures               | 3.9 | 87 |
| 012 Reactor Protection                   |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 013 Engineered Safety Features Actuation |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 022 Containment Cooling                  |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 025 Ice Condenser                        |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 026 Containment Spray                    |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 039 Main and Reheat Steam                |                         |        |        |        |        |        |        | 0<br>4 |        |        |           | A2.04-Ability to (a) predict the impacts of the following malfunctions or operations on the MRSS; and (b) based on predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Malfunctioning steam dump                   | 3.7 | 88 |
| 059 Main Feedwater                       |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 061 Auxiliary/Emergency Feedwater        |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 062 AC Electrical Distribution           |                         |        |        |        |        |        |        |        |        |        | 02.<br>44 | 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.   | 4.4 | 89 |
| 063 DC Electrical Distribution           |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 064 Emergency Diesel Generator           |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 073 Process Radiation Monitoring         |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 076 Service Water                        |                         |        |        |        |        |        |        |        |        |        | 04.<br>21 | 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.                              | 4.6 | 90 |
| 078 Instrument Air                       |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| 103 Containment                          |                         |        |        |        |        |        |        |        |        |        |           |   |     |    |
| K/A Category Totals:                     | 0                       | 0      | 0      | 0      | 0      | 0      | 0      | 3      | 0      | 0      | 2         | Group Point Total:  | 5   |    |



| ES-401                                    | PWR Examination Outline |        |        |        |        |        |        |        |        |        |           | Form ES-401-2  |                    |    |
|---|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--|--------------------|----|
| Plant Systems - Tier 2/Group 2 (SRO)      |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| System # / Name                           | K<br>1                  | K<br>2 | K<br>3 | K<br>4 | K<br>5 | K<br>6 | A<br>1 | A<br>2 | A<br>3 | A<br>4 | G         | K/A Topic(s)   | IR                 | #  |
| 001 Control Rod Drive                     |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 002 Reactor Coolant                       |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 011 Pressurizer Level Control             |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 014 Rod Position Indication               |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 015 Nuclear Instrumentation               |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 016 Non-nuclear Instrumentation           |                         |        |        |        |        |        |        |        |        |        | 02.<br>42 | 2.2.42-Ability to recognize system parameters that are entry-level conditions for Technical Specifications.  | 4.6                | 91 |
| 017 In-core Temperature Monitor           |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 027 Containment Iodine Removal            |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 028 Hydrogen Recombiner and Purge Control |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 029 Containment Purge                     |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 033 Spent Fuel Pool Cooling               |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 034 Fuel Handling Equipment               |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 035 Steam Generator                       |                         |        |        |        |        |        |        |        |        |        | 04.<br>41 | 2.4.41-Knowledge of the emergency action level thresholds and classifications.   | 4.6                | 92 |
| 041 Steam Dump/Turbine Bypass Control     |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 045 Main Turbine Generator                |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 055 Condenser Air Removal                 |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 056 Condensate                            |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 068 Liquid Radwaste                       |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 071 Waste Gas Disposal                    |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 072 Area Radiation Monitoring             |                         |        |        |        |        |        |        | 0<br>3 |        |        |           | A2.03-Ability to (a) predict the impacts of the following malfunctions or operations on the ARM system- and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Blown power-supply fuses | 2.9                | 93 |
| 075 Circulating Water                     |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 079 Station Air                           |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| 086 Fire Protection                       |                         |        |        |        |        |        |        |        |        |        |           |  |                    |    |
| K/A Category Totals:                      | 0                       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1      | 0      | 0         | 2  | Group Point Total: | 3  |

| Facility Name: Point Beach      Date of Exam: May 2017 |          |  |     |    |          |     |
|--|----------|--|-----|----|----------|-----|
| Category   | K/A #    | Topic  | RO  |    | SRO-Only |     |
|  |          |  | IR  | #  | IR       | #   |
| 1.<br>Conduct of Operations                            | 2.1. 14  | 2.1.14-Knowledge of criteria or conditions that require plant-wide announcements, such as pump starts, reactor trips, mode changes, etc.   | 3.1 | 66 |          |     |
|  | 2.1. 38  | 2.1.38-Knowledge of the station's requirements for verbal communications when implementing procedures.   | 3.7 | 67 |          |     |
|  | 2.1.     |  |     |    |          |     |
|  | 2.1.     |  |     |    |          |     |
|  | 2.1. 02  | 2.1.2-Knowledge of operator responsibilities during all modes of plant operation.  |     |    | 4.4      | 94  |
|  | 2.1. 06  | 2.1.6-Ability to manage the control room crew during plant transients.   |     |    | 4.8      | 95  |
|  | Subtotal |  |     |    | 2        |     |
| 2.<br>Equipment Control                                | 2.2. 03  | 2.2.3-Knowledge of the design, procedural, and operational differences between units.  | 3.8 | 68 |          |     |
|  | 2.2. 14  | 2.2.14-Knowledge of the process for controlling equipment configuration or status.   | 3.9 | 69 |          |     |
|  | 2.2. 15  | 2.2.15-Ability to determine the expected plant configuration using design and configuration control documentation, such as drawings, line-ups, tag-outs, etc.  | 3.9 | 70 |          |     |
|  | 2.2.     |  |     |    |          |     |
|  | 2.2. 07  | 2.2.7-Knowledge of the process for conducting special or infrequent tests.   |     |    | 3.6      | 96  |
|  | 2.2. 21  | 2.2.21-Knowledge of pre- and post-maintenance operability requirements.  |     |    | 4.1      | 97  |
| Subtotal   |          |  |     | 3  |          | 2   |
| 3.<br>Radiation Control                                | 2.3. 07  | 2.3.7-Ability to comply with radiation work permit requirements during normal or abnormal conditions.  | 3.5 | 71 |          |     |
|  | 2.3. 11  | 2.3.11-Ability to control radiation releases.  | 3.8 | 72 |          |     |
|  | 2.3. 15  | 2.3.15-Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.   | 2.9 | 73 |          |     |
|  | 2.3.     |  |     |    |          |     |
|  | 2.3.     |  |     |    |          |     |
|  | 2.3. 13  | 2.3.13-Knowledge of radiological safety procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc. |     |    | 3.8      | 98  |
| Subtotal   |          |  |     | 3  |          | 1   |
| 4.<br>Emergency Procedures / Plan                      | 2.4. 14  | 2.4.14-Knowledge of general guidelines for EOP usage.  | 3.8 | 74 |          |     |
|  | 2.4. 45  | 2.4.45-Ability to prioritize and interpret the significance of each annunciator or alarm.  | 4.1 | 75 |          |     |
|  | 2.4.     |  |     |    |          |     |
|  | 2.4.     |  |     |    |          |     |
|  | 2.4. 25  | 2.4.25-Knowledge of fire protection procedures.  |     |    | 3.7      | 99  |
|  | 2.4. 32  | 2.4.32-Knowledge of operator response to loss of all annunciators.   |     |    | 4.0      | 100 |
| Subtotal   |          |  |     | 2  |          | 2   |
| Tier 3 Point Total                                     |          |  |     | 10 |          | 7   |