

| Facility: | | Wolf Creek | | Date of Exam: | | 3/3/2006 | | | | | | | | | | |
|--|-------------|---|--------|---------------|--------|----------|--------|--------|--------|--------|--------|--------|-----------------|----|----|-------|
| 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 | 1 | 0 | 6 | | | | 8 | 2 | | | 1 | 18 | 3 | 3 | 6 |
| | 2 | 1 | 3 | 1 | | | | 1 | 2 | | | 1 | 9 | 2 | 2 | 4 |
| | Tier Totals | 2 | 3 | 7 | | | | 9 | 4 | | | 2 | 27 | 5 | 5 | 10 |
| 2. Plant Systems | 1 | 3 | 3 | 2 | 4 | 3 | 1 | 3 | 3 | 2 | 2 | 2 | 28 | 2 | 3 | 5 |
| | 2 | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 10 | 1 | 2 | 3 |
| | Tier Totals | 3 | 5 | 3 | 4 | 4 | 2 | 4 | 4 | 4 | 3 | 2 | 38 | 3 | 5 | 8 |
| 3. Generic Knowledge and Abilities Categories | | | | 1 | | 2 | | 3 | | 4 | | 10 | 1 | 2 | 3 | 4 |
| | | | | 3 | | 2 | | 2 | | 3 | | | 1 | 2 | 2 | 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). | | | | | | | | | | | | | | |
| | 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 and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to ES-401, Attachment 2, for guidance regarding 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 KAs 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. | | | | | | | | | | | | | | |
| | 8. | On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) 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. 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 10CFR55.43 | | | | | | | | | | | | | | |

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| ES-401 | <p style="text-align: center;">Wolf Creek NRC Written Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1 Group 1</p> | Form ES-401-2 |
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| E/APE # / Name Safety Function | G | K1 | K2 | K3 | A1 | A2 | Number | K/A Topic(s) | Imp. | Q# |
|---|---|----|----|----|----|----|--------|--|------|----|
| 008 / Pressurizer Vapor Space Accident / 3 | X | | | | | | 2.4.30 | Emergency Procedures / Plan Knowledge of which events related to system operations/status should be reported to outside agencies | 3.6 | 76 |
| 015 / 17 / Reactor Coolant Pump Malfunctions / 4 | | | | | | X | AA2.08 | Ability to determine and interpret the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): When to secure RCPs on high bearing temperature | 3.5 | 77 |
| 057 / Loss of Vital AC Electrical Instrument Bus / 6 | X | | | | | | 2.2.27 | Equipment Control Knowledge of the refueling process. | 3.5 | 78 |
| 062 / Loss of Nuclear Service. Water / 4 | | | | | | X | AA2.03 | Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The valve lineups necessary to restart the SWS while bypassing the portion of the system causing the abnormal condition | 2.9 | 79 |
| E05 / Loss of Secondary Heat Sink / 4 | | | | | | X | EA2.2 | 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 | 80 |
| E12 / Uncontrolled Depressurization of all Steam Generators / 4 | X | | | | | | 2.4.6 | Emergency Procedures / Plan Knowledge of symptom based EOP mitigation strategies | 4.0 | 81 |
| 007 / Reactor Trip / 1 | X | | | | | | 2.4.49 | Emergency Procedures / Plan Ability to perform without reference to procedures those actions that require immediate operation of system components and controls. | 4.0 | 39 |
| 008 / Pressurizer Vapor Space Accident / 3 | | | | X | | | AK3.02 | Knowledge of the reasons for the following responses as they apply to the Pressurizer Vapor Space Accident: Why PORV or code safety exit temperature is below RCS or PZR temperature | 3.6 | 40 |
| 009 / Small Break LOCA / 3 | | | | X | | | EK3.08 | Knowledge of the reasons for the following responses as they apply to the small break LOCA: PTS limits on RCS pressure and temperature - NC and FC | 3.6 | 41 |
| 011 / Large Break LOCA / 3 | | | | | X | | EA1.11 | Ability to operate and monitor the following as they apply to a Large Break LOCA: Long-term cooling of core | 4.2 | 42 |
| 015 / 17 / Reactor Coolant Pump Malfunctions / 4 | | | | | X | | AA1.16 | Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): Low power reactor trip block status lights | 3.2 | 43 |
| 022 / Loss of Reactor Coolant Makeup / 2 | | | | | X | | AA1.08 | Ability to operate and / or monitor the following as they apply to the Loss of Reactor Coolant Makeup: VCT level | 3.4 | 44 |
| 025 / Loss of Residual Heat Removal System / 4 | | | | | X | | AA1.23 | Ability to operate and / or monitor the following as they apply to the Loss of Residual Heat Removal System: RHR heat exchangers | 2.8 | 45 |

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| E/APE # / Name Safety Function | G | K1 | K2 | K3 | A1 | A2 | Number | K/A Topic(s) | Imp. | Q# |
|---|---|----|----|----|----|----|--------|---|------|----|
| 027 / Pressurizer Pressure Control System Malfunction / 3 | | X | | | | | AK1.01 | Knowledge of the operational implications of the following concepts as they apply to Pressurizer Pressure Control Malfunctions: Definition of saturation temperature | 3.1 | 46 |
| 029 / Anticipated Transient Without Scram (ATWS) / 1 | | | | X | | | EK3.12 | Knowledge of the reasons for the following responses as they apply to the ATWS: Actions contained in EOP for ATWS | 4.4 | 47 |
| 040 / Steam Line Rupture / 4 | | | | | X | | AA1.07 | Ability to operate and / or monitor the following as they apply to the Steam Line Rupture: Steam pressures and flow rates via computer, safety parameter display system, and other indications | 3.4 | 48 |
| 056 / Loss of Off-site Power / 6 | | | | | X | | AA1.07 | Ability to operate and / or monitor the following as they apply to the Loss of Offsite Power: Service water pump | 3.2 | 49 |
| 058 / Loss of DC Power / 6 | | | | | | 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 | 3.5 | 50 |
| 062 / Loss of Nuclear Service. Water / 4 | | | | | X | | AA1.02 | Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water: Loads on the SWS in the control room | 3.2 | 51 |
| 065 / Loss of Instrument Air / 8 | | | | | | X | AA2.06 | Ability to determine and interpret the following as they apply to the Loss of Instrument Air: When to trip reactor if instrument air pressure is de-creasing | 3.6 | 52 |
| E04 / LOCA Outside Containment / 3 | | | | | X | | EA1.2 | Ability to operate and / or monitor the following as they apply to the (LOCA Outside Containment) Operating behavior characteristics of the facility. | 3.6 | 53 |
| E05 / Loss of Secondary Heat Sink / 4 | | | | X | | | EK3.2 | Knowledge of the reasons for the following responses as they apply to the (Loss of Secondary Heat Sink) Normal, abnormal and emergency operating procedures associated with (Loss of Secondary Heat Sink). | 3.7 | 54 |
| E11 / Loss of Emergency Coolant Recirculation / 4 | | | | X | | | EK3.4 | Knowledge of the reasons for the following responses as they apply to the (Loss of Emergency Coolant Recirculation) RO or SRO function as a 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. | 3.6 | 55 |

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| E/APE # / Name Safety Function | G | K1 | K2 | K3 | A1 | A2 | Number | K/A Topic(s) | Imp. | Q# |
|--------------------------------|---|----|----|----|----|----|--------|--------------|------|----|
|--------------------------------|---|----|----|----|----|----|--------|--------------|------|----|

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|---|-----|---|---|---|---|-----|--------------------|---|-----|------|
| E12 / Uncontrolled Depressurization of all Steam Generators / 4 | | | | X | | | EK3.1 | Knowledge of the reasons for the following responses as they apply to the (Uncontrolled Depressurization of all Steam Generators) Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics. | 3.5 | 56 |
| K/A Category Point Totals: | 1/3 | 1 | 0 | 6 | 8 | 2/3 | Group Point Total: | | | 18/6 |

Wolf Creek
NRC Written Examination Outline
Emergency and Abnormal Plant Evolutions – Tier 1 Group 2

| E/APE # / Name Safety Function | G | K1 | K2 | K3 | A1 | A2 | Number | K/A Topic(s) | Imp. | Q# |
|---|---|----|----|----|----|----|--------|---|------|----|
| 068 / Control Room Evacuation / 8 | X | | | | | | 2.4.49 | Emergency Procedures / Plan Ability to perform without reference to procedures those actions that require immediate operation of system components and controls. | 4.0 | 82 |
| E06 / Degraded Core Cooling / 4 | | | | | | X | EA2.1 | Ability to determine and interpret the following as they apply to the (Degraded Core Cooling) Facility conditions and selection of appropriate procedures during abnormal and emergency operations. | 4.2 | 83 |
| E09 / Natural Circulation Operations / 4 | X | | | | | | 2.4.6 | Emergency Procedures / Plan Knowledge symptom based EOP mitigation strategies. | 4.0 | 84 |
| E02 / SI Termination / 3 | | | | | | X | EA2.2 | Ability to determine and interpret the following as they apply to the (SI Termination) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments. | 4.0 | 85 |
| 024 / Emergency Boration / 1 | | | | | X | | AA1.07 | Ability to operate and monitor the following as they apply to Emergency Boration: BWST level | 3.3 | 57 |
| 037 / Steam Generator Tube Leak / 3 | | X | | | | | AK1.02 | Knowledge of the operational implications of the following concepts as they apply to Steam Generator Tube Leak: Leak rate vs. pressure drop | 3.5 | 58 |
| 059 / Accidental Liquid RadWaste Release / 9 | | | | | | X | AA2.06 | Ability to determine and interpret the following as they apply to the Accidental Liquid Radwaste Release: That the flow rate of the liquid being released is less than or equal to that specified on the release permit | 3.5 | 59 |
| 060 / Accidental Gaseous RadWaste Release / 9 | | | X | | | | AK2.01 | Knowledge of the interrelations between the Accidental Gaseous Radwaste Release and the following: ARM system, including the normal radiation-level indications and the operability status | 2.6 | 60 |
| 061 / Area Radiation Monitoring (ARM) System Alarms / 7 | | | X | | | | AK2.01 | Knowledge of the interrelations between the Area Radiation Monitoring (ARM) System Alarms and the following: Detectors at each ARM system location | 2.5 | 61 |
| 068 / Control Room Evacuation / 8 | | | X | | | | AK2.07 | Knowledge of the interrelations between the Control Room Evacuation and the following: EDG | 3.3 | 62 |
| 069 / Loss of Containment Integrity / 5 | | | | | | X | AA2.02 | Ability to determine and interpret the following as they apply to the Loss of Containment Integrity: Verification of automatic and manual means of restoring integrity | 3.9 | 63 |
| E09 / Natural Circulation Operations / 4 | X | | | | | | 2.1.33 | Conduct of Operations: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. | 3.4 | 64 |

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| E/APE # / Name Safety Function | G | K1 | K2 | K3 | A1 | A2 | Number | K/A Topic(s) | Imp. | Q# |
|--------------------------------|---|----|----|----|----|----|--------|--------------|------|----|
|--------------------------------|---|----|----|----|----|----|--------|--------------|------|----|

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|-------------------------------------|-----|---|---|---|---|-----|--------------------|---|-----|-----|
| E14 / High Containment Pressure / 5 | | | | X | | | EK3.4 | Knowledge of the reasons for the following responses as they apply to the (High Containment Pressure) RO or SRO function as a 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. | 3.3 | 65 |
| K/A Category Point Total: | 1/2 | 1 | 3 | 1 | 1 | 2/2 | Group Point Total: | | | 9/4 |

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| System #/Name | G | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | Number | K/A Topics | Imp. | Q# |
|--|---|----|----|----|----|----|----|----|----|----|----|--------|--|------|----|
| 008 Component Cooling Water | X | | | | | | | | | | | 2.2.22 | Equipment Control Knowledge of limiting conditions for operations and safety limits. | 4.1 | 86 |
| 013 Engineered Safety Features Actuation | | | | | | | | | X | | | A2.03 | Ability to (a) predict the impacts of the following malfunctions or operations on the ESFAS; and (b) based Ability on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations; Rapid depressurization | 4.7 | 87 |
| 064 Emergency Diesel Generator | X | | | | | | | | | | | 2.4.4 | Emergency Procedures / Plan Ability to recognize abnormal indications for system operating parameters which are entry conditions for emergency and abnormal operating procedures | 4.3 | 88 |
| 005 Residual Heat Removal | X | | | | | | | | | | | 2.2.25 | Equipment Control: Knowledge of bases in technical specifications for LCOs and safety limits. | 3.7 | 89 |
| 103 Containment | | | | | | | | | X | | | 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) | 3.6 | 90 |
| 003 Reactor Coolant Pump | | | | | | | | | | | | K5.04 | Knowledge of the operational implications of the following concepts as they apply to the RCPS: Effects of RCP shutdown on secondary parameters, such as steam pressure, steam flow, and feed flow | 3.2 | 1 |
| 004 Chemical and Volume Control | | | | | | X | | | | | | K5.43 | Knowledge of the operational implications of the following concepts as they apply to the CVCS: Saturation, subcooling, superheat in steam/water | 3.6 | 2 |
| 004 Chemical and Volume Control | | | | | | | X | | | | | K6.17 | Knowledge of the effect of a loss or malfunction on the following will have on the CVCS: Flow paths for emergency boration | 4.4 | 3 |
| 005 Residual Heat Removal | | | X | | | | | | | | | K2.01 | Knowledge of bus power supplies to the following: RHR pumps | 3.0 | 4 |
| 006 Emergency Core Cooling | X | | | | | | | | | | | 2.1.27 | Conduct of Operations: Knowledge of system purpose and or function. | 2.8 | 5 |
| 007 Pressurizer Relief/Quench Tank | | | | | | | | X | | | | A1.02 | Ability to predict and/or monitor changes (to prevent exceeding design limits) associated with operating the PRTS controls including: Maintaining Quench Tank Pressure | 2.7 | 6 |
| 008 Component Cooling Water | | | | | | | | X | | | | A1.02 | Ability to predict and/or monitor changes in parameters to prevent exceeding design limits) associated with operating the CCWS controls including: CCW temperature | 2.9 | 7 |

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| System #/Name | G | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | Number | K/A Topics | Imp. | Q# |
|--|---|----|----|----|----|----|----|----|----|----|----|--------|--|------|----|
| 010 Pressurizer Pressure Control | | | | | | | | | X | | | A2.03 | 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: PORV failures | 4.1 | 8 |
| 012 Reactor Protection | X | | | | | | | | | | | 2.1.28 | Conduct of Operations: Knowledge of the purpose and function of major system components and controls. | 3.2 | 9 |
| 013 Engineered Safety Features Actuation | | | | X | | | | | | | | K3.01 | Knowledge of the effect that a loss or malfunction of the ESFAS will have on the following: Fuel | 4.4 | 10 |
| 022 Containment Cooling | | | | | | | | | | | X | A4.01 | Ability to manually operate and/or monitor in the control room: CCS fans | 3.6 | 11 |
| 026 Containment Spray | | | X | | | | | | | | | K2.02 | Knowledge of bus power supplies to the following: MOVs | 2.7 | 12 |
| 026 Containment Spray | | | | | | | | X | | | | A1.03 | Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including: Containment sump level | 3.5 | 13 |
| 039 Main and Reheat Steam | | | | | | X | | | | | | K5.08 | Knowledge of the operational implications of the following concepts as they apply to the MRSS: Effect of steam removal on reactivity | 3.6 | 14 |
| 059 Main Feedwater | | X | | | | | | | | | | K1.04 | Knowledge of the physical connections and/or cause-effect relationships between the MFW and the following systems: S/GS water level control system | 3.4 | 15 |
| 059 Main Feedwater | | | | | X | | | | | | | K4.14 | Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following: Start permissives for MFW pumps | 3.1 | 16 |
| 061 Auxillary/Emergency Feedwater | | | | | | | | | | X | | A3.02 | Ability to monitor automatic operation of the AFW, including: RCS cooldown during AFW operations | 4.0 | 17 |
| 062 AC Electrical Distribution | | | | | X | | | | | | | K4.10 | Knowledge of AC Distribution design features and/or interlocks which provide for the following: Uninterruptible AC power sources | 3.1 | 18 |
| 063 DC Electrical Distribution | | | | | | | | | | X | | A3.01 | Ability to monitor automatic operation of the dc electrical system, including: Meters, annunciators, dials, recorders, and indicating lights | 2.7 | 19 |
| 063 DC Electrical Distribution | | | | | | | | | X | | | A2.01 | Ability to (a) predict the impacts of the following malfunctions or operations on the dc electrical systems; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Grounds | 2.5 | 20 |

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| System #/Name | G | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | Number | K/A Topics | Imp. | Q# |
|----------------------------------|-----|----|----|----|----|----|----|----|-----|----|----|--------------------|---|------|------|
| 064 Emergency Diesel Generator | | | | | | | | | | | X | A4.03 | Ability to manually operate and/or monitor in the control room: Synchroscope | 3.2 | 21 |
| 064 Emergency Diesel Generator | | | | | | | | | X | | | A2.16 | 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: Loss of offsite power during full-load testing of ED/G | 3.3 | 22 |
| 073 Process Radiation Monitoring | | | | | X | | | | | | | K4.01 | Knowledge of PRM system design feature(s) and/or interlocks which provide for the following: Release termination when radiation exceeds setpoint | 4.0 | 23 |
| 076 Service Water | | | X | | | | | | | | | K2.08 | Knowledge of bus power supplies to the following: ESF-actuated MOVs | 3.1 | 24 |
| 078 Instrument Air | | | | X | | | | | | | | K3.01 | Knowledge of the effect that a loss or malfunction of the IAS will have on the following: Containment air system | 3.1 | 25 |
| 078 Instrument Air | | X | | | | | | | | | | K1.02 | Knowledge of the physical connections and/or cause-effect relationships between the IAS and the following systems: Service air | 2.7 | 26 |
| 103 Containment | | X | | | | | | | | | | K1.03 | Knowledge of the physical connections and/or cause-effect relationships between the containment system and the following systems: Shield building vent system | 3.1 | 27 |
| 103 Containment | | | | | X | | | | | | | K4.06 | Knowledge of containment system design feature(s) and/or interlock(s) which provide for the following: Containment isolation system | 3.1 | 28 |
| K/A Category Point Totals: | 2/3 | 3 | 3 | 2 | 4 | 3 | 1 | 3 | 3/2 | 2 | 2 | Group Point Total: | | | 28/5 |

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| ES-401 | <p style="text-align: center;">Wolf Creek NRC Written Examination Outline Plant Systems – Tier 2 Group 2</p> | | | | | | | | | | | | Form ES-401-2 |
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| System #/Name | G | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | Number | K/A Topics | Imp. | Q# |
|---|---|----|----|----|----|----|----|----|----|----|----|--------|---|------|----|
| 015 Nuclear Instrumentation | X | | | | | | | | | | | 2.2.25 | Equipment Control: Knowledge of bases in technical specifications for limiting conditions for operations and safety limits | 3.7 | 91 |
| 016 Non-nuclear Instrumentation | X | | | | | | | | | | | 2.4.47 | Emergency Procedures / Plan Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material. | 3.7 | 92 |
| 035 Steam Generator | | | | | | | | | X | | | A2.01 | Ability to (a) predict the impacts of the following malfunctions or operations on the S/GS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Faulted or Ruptured SGs | 4.6 | 93 |
| 011 Pressurizer Level Control | | | | | | X | | | | | | K5.12 | Knowledge of the operational implications of the following concepts as they apply to the PZR LCS Criteria and purpose of PZR level program | 2.7 | 29 |
| 015 Nuclear Instrumentation | | | X | | | | | | | | | K2.01 | Knowledge of bus power supplies to the following: NIS channels, components, and interconnections | 3.3 | 30 |
| 017 In-core Temperature Monitor | | | | | | | X | | | | | K6.01 | Knowledge of the effect of a loss or malfunction of the following ITM system components: Sensors and detectors | 2.7 | 31 |
| 028 Hydrogen Recombiner and Purge Control | | | | | | | | X | | | | A1.01 | Ability to predict and/or monitor changes in parameter (to prevent exceeding design limits) associated with operating the HRPS controls including: Hydrogen concentration | 3.4 | 32 |
| 029 Containment Purge | | | | | | | | | | X | | A3.01 | Ability to monitor automatic operation of the Containment Purge System including: CPS isolation | 3.8 | 33 |
| 033 Spent Fuel Pool Cooling | | | | | | | | | | X | | A3.02 | Ability to monitor automatic operation of the Spent Fuel Pool Cooling System including: Spent fuel leak or rupture | 2.9 | 34 |
| 001 Rod Control | | | X | | | | | | | | | K2.01 | Knowledge of bus power supplies to the following: One line diagram of power supply to M/G sets | 2.8 | 35 |
| 071 Waste Gas Disposal | | | | X | | | | | | | | K3.04 | Knowledge of the effect that a loss or malfunction of the Waste Gas Disposal System will have on the following: Ventilation system | 2.7 | 36 |
| 035 Steam Generator | | | | | | | | | | | X | A4.06 | Ability to manually operate and/or monitor in the control room: S/GS isolation on steam leak or tube rupture/leak | 4.5 | 37 |

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|----------------------------|---|----|----|----|----|----|----|----|-----|----|----|--------------------|--|---------------|------|
| ES-401 | Wolf Creek NRC Written Examination Outline Plant Systems – Tier 2 Group 2 | | | | | | | | | | | | | Form ES-401-2 | |
| System #/Name | G | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | Number | K/A Topics | Imp. | Q# |
| 086 Fire Protection | | | | | | | | | X | | | A2.04 | Ability to (a) predict the impacts of the following malfunctions or operations on the Fire Protection System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure to actuate the FPS when required, resulting in fire damage | 3.3 | 38 |
| K/A Category Point Totals: | 0/2 | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 1/1 | 2 | 1 | Group Point Total: | | | 10/3 |

| Facility: | Wolf Creek | | Date of Exam: | 3/3/2006 | | | |
|-----------------------------------|------------|--|---------------|----------|----------|-----|--|
| Category | K/A # | Topic | RO | | SRO-Only | | |
| | | | IR | Q# | IR | Q# | |
| 1. Conduct of Operations | 2.1.5 | Ability to locate and use procedures and directives related to shift staffing and activities. | | | 3.4 | 94 | |
| | 2.1.17 | Ability to make accurate, clear and concise verbal reports. | 3.5 | 66 | | | |
| | 2.1.32 | Ability to explain and apply all system limits and precautions. | 3.4 | 67 | | | |
| | 2.1.22 | Ability to determine Mode of Operation. | 2.8 | 68 | | | |
| | Subtotal | | | 3 | | 1 | |
| 2. Equipment Control | 2.2.17 | Knowledge of the process for managing maintenance activities during power operations. | | | 3.5 | 95 | |
| | 2.2.7 | Knowledge of the process for conducting tests or experiments not described in the safety analysis report. | | | 3.2 | 96 | |
| | 2.2.34 | Knowledge of the process for determining the internal and external effects on core reactivity. | 2.8 | 69 | | | |
| | 2.2.33 | Knowledge of control rod programming. | 2.5 | 70 | | | |
| | Subtotal | | | 2 | | 2 | |
| 3. Radiation Control | 2.3.6 | Knowledge of the requirements for reviewing and approving release permits. | | | 3.1 | 97 | |
| | 2.3.4 | Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. | | | 3.1 | 98 | |
| | 2.3.10 | Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. | 2.9 | 71 | | | |
| | 2.3.2 | Knowledge of facility ALARA program. | 2.5 | 72 | | | |
| | Subtotal | | | 2 | | 2 | |
| 4. Emergency Procedures / Plan | 2.4.33 | Knowledge of the process used track inoperable alarms. | | | 2.8 | 99 | |
| | 2.4.9 | Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies. | | | 3.9 | 100 | |
| | 2.4.21 | Knowledge of the parameters and logic used to assess the status of safety functions including: 1 Reactivity control 2. Core cooling and heat removal 3. Reactor coolant system integrity 4. Containment conditions 5. Radioactivity release control. | 3.7 | 73 | | | |
| | 2.4.34 | Knowledge of RO tasks performed outside the main control room during emergency operations including system geography and system implications. | 3.8 | 74 | | | |
| | 2.4.2 | Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions. | 3.9 | 75 | | | |
| | Subtotal | | | 3 | | 2 | |
| Tier 3 Point Total | | | | 10 | | 7 | |

| Tier / Group | Randomly Selected K/A | Reason for Rejection |
|--------------|-----------------------|--|
| 1 / 1 | 008 G2.4.36 | Selected KA topic irrelevant to the APE. Impossible to develop a psychometrically sound test item. Replaced with G2.4.30 |
| 1 / 1 | E12 G2.2.9 | Selected KA topic irrelevant to the APE. Impossible to develop a psychometrically sound test item. Replaced with G2.4.6 |
| 1 / 1 | 015 AA1.19 | Component does not exist at facility. Replaced with AA1.16 |
| 1 / 1 | 056 AA1.15 | Component does not exist at facility. Replaced with AA1.07 |
| 1 / 2 | E15 EA2.2 | Unacceptable overlap with system item #13. Replaced with E02 EA2.2 |
| 2 / 1 | 008 G2.3.9 | Selected KA topic irrelevant to the APE. Impossible to develop a psychometrically sound test item. Replaced with G2.2.22 |
| 2 / 1 | 064 G2.4.38 | Selected KA topic irrelevant to the APE. Impossible to develop a psychometrically sound test item. Replaced with G2.4.4 |
| 2 / 1 | 005 K6.03 | Unacceptable overlap with EPE/APE item #45. Replaced with 004 K6.17 |
| 2 / 1 | 059 K1.07 | Component does not exist at facility. Replaced with K1.04 |
| 2 / 1 | 073 K4.02 | Interlock does not exist at facility. Replaced with K4.01 |
| 2 / 2 | 015 G2.4.34 | Over-sample of topics related to CR Evacuation. No RO task related to selected system. Replaced with G2.2.25 |
| 2 / 2 | 041 K2.02 | Component does not exist at facility. Replaced with 001 K2.01 |
| 2 / 2 | 079 A4.01 | Unacceptable overlap with system item #26. Replaced with 035 A4.06 |
| | | |
| 1 / 2 | 024 AK1.02 | Unacceptable overlap, replaced with AA1.07 |
| 1 / 2 | 068 AA1.17 | Unacceptable overlap, replaced with AK2.07 |
| 2 / 1 | 078 G2.2.29 | Topic selected would not yield a test item due to plant design. Replaced with 005 G2.2.25 |
| 2 / 1 | 007 A4.04 | Component does not exist at facility. Replaced with A1.02 |
| 2 / 1 | 039 K5.05 | SRO level and unacceptable overlap. Replaced with K5.08 |
| 2 / 1 | 062 A4.02 | Impossible to develop a psychometrically sound test item for the selected topic. Replaced with K4.10 |
| 2 / 2 | 086 A2.03 | Unacceptable overlap with Test Item 38. Replaced with 035 A2.01 |
| 2 / 2 | 028 A1.02 | Unable to develop psychometrically sound item. Topic has no relevance. Replaced with A1.01 |
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