### Form 7.1-AP Written Examination Outline for Senior Operators Limited to Fuel Handling for the AP1000

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| **ES-7.1 Form 7.1-AP**  **Written Examination Outline for Senior Operators Limited to Fuel Handling for the AP1000**  **Emergency and Abnormal Plant Evolutions—Tier 1** | | | | | | | | | |
| E/APE #/Name/Safety Function | K1 | K2 | K3 | A1 | A2 | G | K/A Topic(s) | IR | # |
| A-337, Passive RHR Heat Exchanger Leak / 4 |  |  |  |  |  |  |  |  |  |
| A-343, Loss of Normal Residual Heat  Removal / 4 |  |  |  |  |  |  |  |  |  |
| A-317, Loss of Component Cooling Water / 8 |  |  |  |  |  |  |  |  |  |
| FR-S.1, Response to Nuclear Power Generation / 1 |  |  |  |  |  |  |  |  |  |
| A-323, Loss of 6.9‑kV, 4,160‑V, or 480‑V Bus Power / 6 |  |  |  |  |  |  |  |  |  |
| A-345, Loss of Nuclear Service Water / 4 |  |  |  |  |  |  |  |  |  |
| A-329, Loss of Instrument Air / 8 |  |  |  |  |  |  |  |  |  |
| ECA-1.1, Loss‑of‑Coolant Accident Outside Containment / 3 |  |  |  |  |  |  |  |  |  |
| FR-H.1, Response to Loss of Heat Sink / 4 |  |  |  |  |  |  |  |  |  |
| SDP-1, Response to Loss of RCS Inventory during Shutdown / 2 |  |  |  |  |  |  |  |  |  |
| SDP-2, Response to Loss of RNS during Shutdown / 4 |  |  |  |  |  |  |  |  |  |
| A-308, Loss of Control Room AC / 8 |  |  |  |  |  |  |  |  |  |
| A-320, Loss of Circulating Water / 8 |  |  |  |  |  |  |  |  |  |
| A-302, Emergency Boration / 1 |  |  |  |  |  |  |  |  |  |
| A-314, Fuel Handling Incident / 8 |  |  |  |  |  |  |  |  |  |
| SDP-4, Response to Rising Nuclear Flux during Shutdown / 1 |  |  |  |  |  |  |  |  |  |
| SDP-5, Response to RCS Cold Overpressure during Shutdown / 3 |  |  |  |  |  |  |  |  |  |
| SDP-6, Response to Unexpected RCS Temperature Changes during Shutdown / 4 |  |  |  |  |  |  |  |  |  |
| A-306, Evacuation of Control Room / 8 |  |  |  |  |  |  |  |  |  |
| FR-Z.2, Response to Containment Flooding / 5 |  |  |  |  |  |  |  |  |  |
| FR-Z-3, Response to High Containment Radiation / 9 |  |  |  |  |  |  |  |  |  |
| A-321, Loss of Data Display and Processing System / 7 |  |  |  |  |  |  |  |  |  |
| A-340, Reactor Coolant Leak / 2 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| K/A Category Totals: |  |  |  |  |  |  | Tier Point Total: | | 10 |

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| **ES-7.1 Form 7.1-AP**  **Written Examination Outline for Senior Operators Limited to Fuel Handling for the AP1000**  **Plant Systems—Tier 2** | | | | | | | | | | | | | | |
| System Name/Safety Function | K1 | K2 | K3 | K4 | K5 | K6 | A1 | A2 | A3 | A4 | G | K/A Topic(s) | IR | # |
| Reactor Coolant / 2, 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Normal Residual Heat Removal / 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Passive Residual Heat Removal /4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Passive Core Cooling / 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Component Cooling Water / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineered Safeguards Actuation / 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Passive Containment Cooling / 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AC Electrical Distribution / 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Class 1E and Non‑Class 1E DC and UPS / 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Onsite Standby Power System / 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Service Water / 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Compressed Air / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Containment System / 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Containment Air Filtration / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Containment Hydrogen Control / 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Main Control Room HVAC / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spent Fuel Pool Cooling / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fuel Handling / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gaseous Radwaste / 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Radiation Monitoring / 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Circulating Water / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fire Protection / 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| K/A Category Point Totals: |  |  |  |  |  |  |  |  |  |  |  | Tier Point Total: | | 20 |