

GO2-16-104

Enclosure 1, Attachment 3


Emergency Action Level (EAL) Classification Matrix (Wallcharts)

(For information only)

| | | GENERAL EMERGENCY | | SITE AREA EMERGENCY | | ALERT | | UNUSUAL EVENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--|---------------------|-----------------|-----------------|---|---------------|---|---|---------------|---------|----|-----|-------|---|---|--------------------------|---------------|------|------|------|--------------|---------------|--------------|--------------|--------------|------|--------------------------|--|-----------------|-----------------|-----------------|-----------------|---------------------------|------------|---|-----------------|-----------------|-----------------|--------|-------------------|-------------|------|------|------|-----------------|--------------|-----------|---|------|------|-----------------|-------------------------|------------|------|------|------|--------------|-------------------------|------------|------|------|------|--------------|---|--|---|--|-----------|---------------------|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|-----|
| R Abnormal Rad Levels / Rad Effluent | 1 Rad Effluent | Release of gaseous radioactivity resulting in offsite dose greater than 1,000 mrem TEDE or 5,000 mrem thyroid CDE RG1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Reading on <u>any</u> Table 3 effluent radiation monitor GT column "GE" for GE 15 min. OR (2) Dose assessment using actual meteorology indicates doses GT 1,000 mrem TEDE or GT 5000 mrem thyroid CDE at or beyond the SITE BOUNDARY (Notes 1, 2, 3, 4) RG1.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Field survey results indicate EITHER of the following at or beyond the SITE BOUNDARY: <ul style="list-style-type: none">Closed window dose rates GT 1,000 mR/hr expected to continue for GE 60 min.Analyses of field survey samples indicate thyroid CDE GT 5,000 mrem for 60 min. of inhalation. (Notes 1, 2) | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | Release of gaseous radioactivity resulting in offsite dose greater than 100 mrem TEDE or 500 mrem thyroid CDE RS1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Reading on <u>any</u> Table 3 effluent radiation monitor GT column "SAE" for GE 15 min. OR (2) Dose assessment using actual meteorology indicates doses GT 100 mrem TEDE or GT 500 mrem thyroid CDE at or beyond the SITE BOUNDARY (Notes 1, 2, 3, 4) RS1.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Field survey results indicate EITHER of the following at or beyond the SITE BOUNDARY: <ul style="list-style-type: none">Closed window dose rates GT 100 mR/hr expected to continue for GE 60 min.Analyses of field survey samples indicate thyroid CDE GT 500 mrem for 60 min. of inhalation. (Notes 1, 2) | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE RA1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Reading on <u>any</u> Table 3 effluent radiation monitor GT column "ALERT" for GE 15 min. OR (2) Dose assessment using actual meteorology indicates doses GT 10 mrem TEDE or GT 50 mrem thyroid CDE at or beyond the SITE BOUNDARY (Notes 1, 2, 3, 4) RA1.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Analysis of a liquid effluent sample indicates a concentration or release rate that would result in doses GT 10 mrem TEDE or GT 50 mrem thyroid CDE at or beyond the SITE BOUNDARY for 60 min. of exposure (Notes 1, 2) RA1.3 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Field survey results indicate EITHER of the following at or beyond the SITE BOUNDARY: <ul style="list-style-type: none">Closed window dose rates GT 10 mR/hr expected to continue for GE 60 min.Analyses of field survey samples indicate thyroid CDE GT 50 mrem for 60 min. of inhalation. (Notes 1, 2) | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | Release of gaseous or liquid radioactivity greater than 2 times the ODCM limits for 60 minutes or longer RU1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Reading on <u>any</u> Table 3 effluent radiation monitor GT column "UE" for GE 60 min. OR (2) Sample analyses for a gaseous or liquid release indicates a concentration or release rate > 2 x ODCM limits for GE 60 min. (Notes 1, 2, 3) | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Irradiated Fuel Event | Spent fuel pool level cannot be restored to at least the top of the fuel racks for 60 minutes or longer RG2.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Spent fuel pool level cannot be restored to at least 0.5 ft for GE 60 min. (Note 1) | | 1 | 2 | 3 | 4 | 5 | DEF | Spent fuel pool level at the top of the fuel racks RS2.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Lowering of spent fuel pool level to 0.5 ft | | 1 | 2 | 3 | 4 | 5 | DEF | Significant lowering of water level above, or damage to, irradiated fuel RA2.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Uncovery of irradiated fuel in the REFUELING PATHWAY RA2.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Damage to irradiated fuel resulting in a release of radioactivity AND High alarm on <u>any</u> of the following radiation monitors: <ul style="list-style-type: none">ARM-RIS-1 Reactor Building Fuel Pool AreaARM-RIS-2 Reactor Building Fuel Pool AreaARM-RIS-34 Reactor Building Elevation 606REA-RIS-609A-D Rx Bldg Vent RA2.3 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Lowering of spent fuel pool level to 10 ft | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | Unplanned loss of water level above irradiated fuel RU2.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> UNPLANNED water level drop in the REFUELING PATHWAY as indicated by EITHER of the following: <ul style="list-style-type: none">SFP level LE 22.3 ftSFP low level alarm AND UNPLANNED rise in area radiation levels as indicated by <u>any</u> of the following radiation monitors: <ul style="list-style-type: none">ARM-RIS-1 Reactor Building Fuel Pool AreaARM-RIS-2 Reactor Building Fuel Pool AreaARM-RIS-34 Reactor Building Elevation 606 | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Area Radiation Levels | <table><tr><th colspan="7">Table 3 Effluent Monitor Classification Thresholds</th></tr><tr><th></th><th>Release Point</th><th>Monitor</th><th>GE</th><th>SAE</th><th>Alert</th><th>UE</th></tr><tr><td rowspan="4">Gaseous</td><td rowspan="2">Reactor Building Exhaust</td><td>PRM-RE-1B (I)</td><td>----</td><td>----</td><td>----</td><td>6.00E+03 cps</td></tr><tr><td>PRM-RE-1C (H)</td><td>2.00E+04 cps</td><td>2.00E+03 cps</td><td>4.00E+02 cps</td><td>----</td></tr><tr><td>Turbine Building Exhaust</td><td>TEA-RIS-13</td><td>8.35E-02 µCi/cc</td><td>8.35E-03 µCi/cc</td><td>8.35E-04 µCi/cc</td><td>1.02E-04 µCi/cc</td></tr><tr><td>Radwaste Building Exhaust</td><td>WEA-RIS-14</td><td>3.45E-01 µCi/cc</td><td>3.45E-02 µCi/cc</td><td>3.45E-03 µCi/cc</td><td>1.98E-03 µCi/cc</td></tr><tr><td rowspan="4">Liquid</td><td>Radwaste Effluent</td><td>FDR-RIS-606</td><td>----</td><td>----</td><td>----</td><td>2 X HI-HI alarm</td></tr><tr><td>TSW Effluent</td><td>TSW-RIS-5</td><td>----</td><td>----</td><td>----</td><td>3.00E-05 µCi/cc</td></tr><tr><td>Service Water Process A</td><td>SW-RIS-604</td><td>----</td><td>----</td><td>----</td><td>1.00E+02 cps</td></tr><tr><td>Service Water Process B</td><td>SW-RIS-605</td><td>----</td><td>----</td><td>----</td><td>1.00E+02 cps</td></tr></table> | | Table 3 Effluent Monitor Classification Thresholds | | | | | | | | Release Point | Monitor | GE | SAE | Alert | UE | Gaseous | Reactor Building Exhaust | PRM-RE-1B (I) | ---- | ---- | ---- | 6.00E+03 cps | PRM-RE-1C (H) | 2.00E+04 cps | 2.00E+03 cps | 4.00E+02 cps | ---- | Turbine Building Exhaust | TEA-RIS-13 | 8.35E-02 µCi/cc | 8.35E-03 µCi/cc | 8.35E-04 µCi/cc | 1.02E-04 µCi/cc | Radwaste Building Exhaust | WEA-RIS-14 | 3.45E-01 µCi/cc | 3.45E-02 µCi/cc | 3.45E-03 µCi/cc | 1.98E-03 µCi/cc | Liquid | Radwaste Effluent | FDR-RIS-606 | ---- | ---- | ---- | 2 X HI-HI alarm | TSW Effluent | TSW-RIS-5 | ---- | ---- | ---- | 3.00E-05 µCi/cc | Service Water Process A | SW-RIS-604 | ---- | ---- | ---- | 1.00E+02 cps | Service Water Process B | SW-RIS-605 | ---- | ---- | ---- | 1.00E+02 cps | <table><tr><th colspan="2">Table 9 Safe Operation & Shutdown Rooms/Areas</th></tr><tr><th>Room/Area</th><th>Modes Applicability</th></tr><tr><td>RW 467' Radwaste Control Room (RHR flush to RW tanks)</td><td>3</td></tr><tr><td>RW 467' Vital Island (RHR-V-9 disconnect)</td><td>3</td></tr><tr><td>RB 422' B RHR Pump Rm (local pump temperatures)</td><td>3</td></tr><tr><td>RB 454' B RHR Pump Rm (operate RHR-V-85B)</td><td>3</td></tr></table> | | Table 9 Safe Operation & Shutdown Rooms/Areas | | Room/Area | Modes Applicability | RW 467' Radwaste Control Room (RHR flush to RW tanks) | 3 | RW 467' Vital Island (RHR-V-9 disconnect) | 3 | RB 422' B RHR Pump Rm (local pump temperatures) | 3 | RB 454' B RHR Pump Rm (operate RHR-V-85B) | 3 | Radiation levels that IMPEDE access to equipment necessary for normal plant operations, cooldown or shutdown RA3.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Dose rates GT 15 mR/hr in Control Room (ARM-RIS-19) or CAS (by survey) OR (2) An UNPLANNED event results in radiation levels that prohibit or IMPEDE access to <u>any</u> Table 9 rooms or areas (Note 5) | | 1 | 2 | 3 | 4 | 5 | DEF |
| Table 3 Effluent Monitor Classification Thresholds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Release Point | Monitor | GE | SAE | Alert | UE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gaseous | Reactor Building Exhaust | PRM-RE-1B (I) | ---- | ---- | ---- | 6.00E+03 cps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | PRM-RE-1C (H) | 2.00E+04 cps | 2.00E+03 cps | 4.00E+02 cps | ---- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turbine Building Exhaust | TEA-RIS-13 | 8.35E-02 µCi/cc | 8.35E-03 µCi/cc | 8.35E-04 µCi/cc | 1.02E-04 µCi/cc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Radwaste Building Exhaust | WEA-RIS-14 | 3.45E-01 µCi/cc | 3.45E-02 µCi/cc | 3.45E-03 µCi/cc | 1.98E-03 µCi/cc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liquid | Radwaste Effluent | FDR-RIS-606 | ---- | ---- | ---- | 2 X HI-HI alarm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TSW Effluent | TSW-RIS-5 | ---- | ---- | ---- | 3.00E-05 µCi/cc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Service Water Process A | SW-RIS-604 | ---- | ---- | ---- | 1.00E+02 cps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Service Water Process B | SW-RIS-605 | ---- | ---- | ---- | 1.00E+02 cps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Table 9 Safe Operation & Shutdown Rooms/Areas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Room/Area | Modes Applicability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW 467' Radwaste Control Room (RHR flush to RW tanks) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW 467' Vital Island (RHR-V-9 disconnect) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 422' B RHR Pump Rm (local pump temperatures) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RB 454' B RHR Pump Rm (operate RHR-V-85B) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| E ISFSI | 1 Confinement Boundary | None | | None | | None | | Damage to a loaded cask CONFINEMENT BOUNDARY EU1.1 <table><tr><th colspan="6">Storage Operations</th></tr></table> Damage to a loaded canister (MPC) CONFINEMENT BOUNDARY as indicated by measured dose rates on a loaded overpack GT EITHER: <ul style="list-style-type: none">20 mrem/hr (gamma + neutron) on the top of the overpack100 mrem/hr (gamma + neutron) on the side of the overpack, excluding inlet and outlet ducts | | Storage Operations | | | | | |
|----------------|----------------------------------|------|--|------|--|------|--|---|--|--------------------|--|--|--|--|--|
| | Storage Operations | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| H Hazards | 1 Security | None | | HOSTILE ACTION within the PROTECTED AREA HS1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by the Security Sergeant or Security Lieutenant | | 1 | 2 | 3 | 4 | 5 | DEF | HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes HA1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by the Security Sergeant or Security Lieutenant OR (2) A validated notification from NRC of an aircraft attack threat within 30 min. of the site | | 1 | 2 | 3 | 4 | 5 | DEF | Confirmed SECURITY CONDITION or threat HU1.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the Security Sergeant or Security Lieutenant OR (2) Notification of a credible security threat directed at the site OR (3) A validated notification from the NRC providing information of an aircraft threat | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | |
|---|--|------|--|---|---|--|---|---|---|---|---|--|---|---|-------------------------------------|---|---|-----|--|---|---|--|---|-----|--|---|-----|---|-----|---|---|-----|-----|---|-----|---|---|---|-----|---|-----|
| | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 Seismic Event | None | | None | | <table><tr><td>See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage</td></tr></table> | | See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | Seismic event GT OBE levels HU2.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Seismic event GT Operating Basis Earthquake (OBE) as indicated by H13.P851.S1.5-1 (OPERATING BASIS EARTHQUAKE EXCEEDED) activated | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | |
| | See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Natural or Tech. Hazard | <table><tr><th colspan="2">Notes</th></tr><tr><td>1</td><td>The Emergency Director should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded</td></tr><tr><td>2</td><td>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded the specified time limit</td></tr><tr><td>3</td><td>If the effluent flow past an effluent monitor is known to have stopped, indicating that the release path is isolated, the effluent monitor reading is no longer VALID for classification purposes</td></tr><tr><td>4</td><td>The pre-calculated effluent monitor values presented in EALs RA1.1, RS1.1 and RG1.1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available</td></tr><tr><td>5</td><td>If the equipment in the listed room or area was already inoperable or out-of-service before the event occurred, then no emergency classification is warranted</td></tr><tr><td>6</td><td>If CONTAINMENT CLOSURE is re-established prior to exceeding the 30-minute time limit, declaration of a General Emergency is not required</td></tr></table> | | Notes | | 1 | The Emergency Director should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded | 2 | If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded the specified time limit | 3 | If the effluent flow past an effluent monitor is known to have stopped, indicating that the release path is isolated, the effluent monitor reading is no longer VALID for classification purposes | 4 | The pre-calculated effluent monitor values presented in EALs RA1.1, RS1.1 and RG1.1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available | 5 | If the equipment in the listed room or area was already inoperable or out-of-service before the event occurred, then no emergency classification is warranted | 6 | If CONTAINMENT CLOSURE is re-established prior to exceeding the 30-minute time limit, declaration of a General Emergency is not required | None | | <table><tr><td>See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage</td></tr></table> | | See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | Hazardous event HU3.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) A tornado strike within the PROTECTED AREA OR (2) Volcanic ash fallout requiring plant shutdown HU3.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Internal room or area FLOODING of a magnitude sufficient to require manual or automatic electrical isolation of a SAFETY SYSTEM component needed for the current operating mode HU3.3 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) Movement of personnel within the PROTECTED AREA is IMPEDED due to an offsite event involving hazardous materials (e.g., an offsite chemical spill, 618-11 event or toxic gas release) OR (2) A hazardous event that results in on-site conditions sufficient to prohibit the plant staff from accessing the site via personal vehicles (Note 7) | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF |
| Notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | The Emergency Director should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded the specified time limit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | If the effluent flow past an effluent monitor is known to have stopped, indicating that the release path is isolated, the effluent monitor reading is no longer VALID for classification purposes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | The pre-calculated effluent monitor values presented in EALs RA1.1, RS1.1 and RG1.1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | If the equipment in the listed room or area was already inoperable or out-of-service before the event occurred, then no emergency classification is warranted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | If CONTAINMENT CLOSURE is re-established prior to exceeding the 30-minute time limit, declaration of a General Emergency is not required | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 Fire | None | | None | | <table><tr><th colspan="2">Table 5 Plant Structures Containing Safe Shutdown Systems or Components</th></tr><tr><td>• Vital portions of the Rad Waste/Control Building:<ul style="list-style-type: none">467' elevation vital island487' elevation cable spreading roomMain Control Room and vertical cable chase525' elevation HVAC area</td><td></td></tr><tr><td>• Reactor Building</td><td></td></tr><tr><td>• Vital portions of the Turbine Building<ul style="list-style-type: none">DEH pressure switchesRPS switches on turbine throttle valvesMain steam line radiation monitorsTurbine Building ventilation radiation monitorsMain steam line piping up to MS-V-146 and the first stop valves</td><td></td></tr><tr><td>• Standby Service Water Pump Houses</td><td></td></tr><tr><td>• Diesel Generator Building</td><td></td></tr></table> <table><tr><td>See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage</td></tr></table> | | Table 5 Plant Structures Containing Safe Shutdown Systems or Components | | • Vital portions of the Rad Waste/Control Building: <ul style="list-style-type: none">467' elevation vital island487' elevation cable spreading roomMain Control Room and vertical cable chase525' elevation HVAC area | | • Reactor Building | | • Vital portions of the Turbine Building <ul style="list-style-type: none">DEH pressure switchesRPS switches on turbine throttle valvesMain steam line radiation monitorsTurbine Building ventilation radiation monitorsMain steam line piping up to MS-V-146 and the first stop valves | | • Standby Service Water Pump Houses | | • Diesel Generator Building | | See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | FIRE potentially degrading the level of safety of the plant HU4.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> A FIRE is <u>not</u> extinguished within 15 min. of <u>any</u> of the following FIRE detection indications (Note 1): <ul style="list-style-type: none">Report from the field (i.e., visual observation)Receipt of multiple (more than 1) fire alarms or indicationsField verification of a single fire alarm AND The FIRE is located within <u>any</u> Table 5 area HU4.2 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Receipt of a single fire alarm (i.e., <u>no</u> other indications of a FIRE) AND The fire alarm is indicating a FIRE within <u>any</u> Table 5 area AND The existence of a FIRE is <u>not</u> verified within 30 min. of alarm receipt (Note 1) HU4.3 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> (1) A FIRE within the ISFSI or plant PROTECTED AREA <u>not</u> extinguished within 60 min. of the initial report, alarm or indication (Note 1) OR (2) A FIRE within the ISFSI or plant PROTECTED AREA that requires firefighting support by an offsite fire response agency to extinguish | | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | 1 | 2 | 3 | 4 | 5 | DEF | | |
| Table 5 Plant Structures Containing Safe Shutdown Systems or Components | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Vital portions of the Rad Waste/Control Building: <ul style="list-style-type: none">467' elevation vital island487' elevation cable spreading roomMain Control Room and vertical cable chase525' elevation HVAC area | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Reactor Building | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Vital portions of the Turbine Building <ul style="list-style-type: none">DEH pressure switchesRPS switches on turbine throttle valvesMain steam line radiation monitorsTurbine Building ventilation radiation monitorsMain steam line piping up to MS-V-146 and the first stop valves | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Standby Service Water Pump Houses | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Diesel Generator Building | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| See CA6.1/MA8.1 for potential for upgrade to an Alert based on degraded safety system performance or damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 Hazardous Gases | None | | None | | Gaseous release IMPEDING access to equipment necessary for normal plant operations, cooldown or shutdown HA5.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Release of a toxic, corrosive, asphyxiant or flammable gas into <u>any</u> Table 9 rooms or areas AND Entry into the room or area is prohibited or IMPEDED (Note 5) | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 Control Room Evacuation | None | | Inability to control a key safety function from outside the Control Room HS6.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr></table> An event has resulted in plant control being transferred from the Control Room to the Remote Shutdown Panel or Alternate Remote Shutdown Panel AND Control of <u>any</u> of the following key safety functions is <u>not</u> reestablished within 15 min. (Note 1): <ul style="list-style-type: none">Reactivity (Modes 1 and 2 only)RPV water levelRCS heat removal | | 1 | 2 | 3 | 4 | 5 | | Control Room evacuation resulting in transfer of plant control to alternate locations HA6.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> An event has resulted in plant control being transferred from the Control Room to the Remote Shutdown Panel or Alternate Remote Shutdown Panel | | 1 | 2 | 3 | 4 | 5 | DEF | None | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 Judgment | Other conditions existing which in the judgment of the Emergency Director warrant declaration of General Emergency HG7.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area. | | 1 | 2 | 3 | 4 | 5 | DEF | Other conditions existing which in the judgment of the Emergency Director warrant declaration of Site Area Emergency HS7.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts. (1) toward site personnel or equipment that could lead to the likely failure of or, (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the SITE BOUNDARY. | | 1 | 2 | 3 | 4 | 5 | DEF | Other conditions existing which in the judgment of the Emergency Director warrant declaration of an Alert HA7.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels. | | 1 | 2 | 3 | 4 | 5 | DEF | Other conditions existing which in the judgment of the Emergency Director warrant declaration of a UE HU7.1 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of SAFETY SYSTEMS occurs. | | 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | |
|--|---|---|---|---|-----|---|---|---|---|---|-----|---|--|---|--|
| Modes: <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>DEF</td></tr></table> Power Operations Startup Hot Shutdown Cold Shutdown Refueling Defueled | | | | | | 1 | 2 | 3 | 4 | 5 | DEF |  | | 13.1.1A EAL Classification Matrix Page 1 of 3 ALL CONDITIONS | |
| 1 | 2 | 3 | 4 | 5 | DEF | | | | | | | | | | |

| | | GENERAL EMERGENCY | SITE AREA EMERGENCY | ALERT | UNUSUAL EVENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|--|--|----------------------------------|---|--|---|---|------|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|--|---|---|---|--|---|---|---|---|---|---|--|---|---|---|--|--|--|--|
| M System Malfunct. | 1 Loss of Emergency AC Power | <p>Prolonged loss of <u>all</u> offsite and <u>all</u> onsite AC power to emergency buses</p> <p>MG1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss of <u>all</u> offsite AND <u>all</u> onsite AC power capability to emergency buses SM-7 and SM-8</p> <p>AND EITHER:</p> <p>Restoration of emergency bus SM-7 or SM-8 in LT 4 hours is <u>not</u> likely (Note 1)</p> <p>OR</p> <p>RPV level <u>cannot</u> be restored and maintained GT -186 in.</p> <p>Loss of <u>all</u> emergency AC and vital DC power sources for 15 minutes or longer</p> <p>MG1.2 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss of <u>all</u> offsite AND <u>all</u> onsite AC power capability to emergency buses SM-7 and SM-8 for GE 15 min. (Note 1)</p> <p>AND</p> <p>Indicated voltage is LT 108 VDC on <u>both</u> 125 VDC buses DP-S1-1 and DP-S1-2 for GE 15 min. (Note 1)</p> | 1 | 2 | 3 | | | | 1 | 2 | 3 | | | | <p>Loss of <u>all</u> offsite and <u>all</u> onsite AC power to emergency buses for 15 minutes or longer</p> <p>MS1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss of <u>all</u> offsite and <u>all</u> onsite AC power capability to emergency buses SM-7 and SM-8 for GE 15 min. (Note 1)</p> <p>Loss of <u>all</u> vital DC power for 15 minutes or longer</p> <p>MS2.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Indicated voltage is LT 108 VDC on <u>both</u> 125 VDC buses DP-S1-1 and DP-S1-2 for GE 15 min. (Note 1)</p> | 1 | 2 | 3 | | | | 1 | 2 | 3 | | | | <p>Loss of <u>all</u> but one AC power source to emergency buses for 15 minutes or longer</p> <p>MA1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>AC power capability, Table 2, to emergency buses SM-7 and SM-8 reduced to a single power source for GE 15 min. (Note 1)</p> <p>AND</p> <p><u>Any</u> additional single power source failure will result in loss of <u>all</u> AC power to emergency buses SM-7and SM-8</p> <p>None</p> | 1 | 2 | 3 | | | | <p>Loss of <u>all</u> offsite AC power capability to emergency buses for 15 minutes or longer</p> <p>MU1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss of <u>all</u> offsite AC power capability, Table 2, to emergency buses SM-7 and SM-8 for GE 15 min. (Note 1)</p> <div><p>Table 2 AC Power Sources</p><p>Offsite</p><ul style="list-style-type: none">Startup Transformer TR-SBackup Transformer TR-BBackfeed 500 KV power through Main Transformers (if already aligned in modes 4, 5, def only)<p>Onsite</p><ul style="list-style-type: none">DG1DG2Main Generator via TR-N1/N2<p>None</p></div> | 1 | 2 | 3 | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 Loss of Vital DC Power | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Loss of Control Room Indications | None | None | <p>UNPLANNED loss of Control Room indications for 15 minutes or longer with a significant transient in progress</p> <p>MA3.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>An UNPLANNED event results in the inability to monitor one or more Table 10 parameters from within the Control Room for GE 15 min. (Note 1)</p> <p>AND</p> <p><u>Any</u> Table 11 transient event in progress</p> <div><p>Table 10 Safety System Parameters</p><ul style="list-style-type: none">Reactor powerRPV levelRPV pressurePrimary containment pressureWetwell levelWetwell temperature<p>Table 11 Transient Events</p><ul style="list-style-type: none">Reactor scramRunback GT 25% thermal reactor powerElectrical load rejection GT 25% full electrical loadECCS injectionThermal power oscillations GT 10%</div> | 1 | 2 | 3 | | | | <p>UNPLANNED loss of Control Room indications for 15 minutes or longer</p> <p>MU3.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>An UNPLANNED event results in the inability to monitor one or more Table 10 parameters from within the Control Room for GE 15 min. (Note 1)</p> | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 RCS Activity | None | <div><p>Table 5 Plant Structures Containing Safe Shutdown Systems or Components</p><ul style="list-style-type: none">Vital portions of the Rad Waste/Control Building:<ul style="list-style-type: none">467' elevation vital island487' elevation cable spreading roomMain Control Room and vertical cable chase525' elevation HVAC areaReactor BuildingVital portions of the Turbine Building<ul style="list-style-type: none">DEH pressure switchesRPS switches on turbine throttle valvesMain steam line radiation monitorsTurbine Building ventilation radiation monitorsMain steam line piping up to MS-V-146 and the first stop valvesStandby Service Water Pump HousesDiesel Generator Building</div> | | <p>Reactor coolant activity greater than Technical Specification allowable limits</p> <p>MU4.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>SJAE CONDSR OUTLET RAD HI-HI alarm (P602)</p> <p>MU4.2 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Coolant activity GT 0.2 µCi/gm dose equivalent I-131</p> | 1 | 2 | 3 | | | | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 RCS Leakage | None | | | <p>RCS leakage for 15 minutes or longer</p> <p>MU5.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>(1) RCS unidentified or pressure boundary leakage GT 10 gpm for GE 15 min.</p> <p>OR</p> <p>(2) RCS identified leakage GT 25 gpm for GE 15 min.</p> <p>OR</p> <p>(3) Leakage from the RCS to a location outside containment GT 25 gpm for GE 15 min.</p> | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 RPS Failure | <div><p>Table 4 Communication Methods</p><table><tr><th>System</th><th>Onsite</th><th>ORO</th><th>NRC</th></tr><tr><td>Plant Public Address (PA) System</td><td>X</td><td></td><td></td></tr><tr><td>Plant Telephone System</td><td>X</td><td>X</td><td></td></tr><tr><td>Plant Radio System Operations and Security Channels</td><td>X</td><td></td><td></td></tr><tr><td>Offsite calling capability from the Control Room via direct telephone and fax lines</td><td></td><td>X</td><td>X</td></tr><tr><td>Long distance calling capability on the commercial phone system</td><td></td><td>X</td><td>X</td></tr></table></div> | System | Onsite | ORO | NRC | Plant Public Address (PA) System | X | | | Plant Telephone System | X | X | | Plant Radio System Operations and Security Channels | X | | | Offsite calling capability from the Control Room via direct telephone and fax lines | | X | X | Long distance calling capability on the commercial phone system | | X | X | <p>Inability to shut down the reactor causing a challenge to RPV water level or RCS heat removal</p> <p>MS6.1 <table><tr><td>1</td><td>2</td><td></td><td></td><td></td><td></td></tr></table></p> <p>An automatic OR manual scram fails to shut down the reactor</p> <p>AND</p> <p><u>All</u> actions to shut down the reactor are <u>not</u> successful as indicated by reactor power GT 5%</p> <p>AND EITHER:</p> <p>RPV level <u>cannot</u> be restored and maintained above -186 in. or <u>cannot</u> be determined</p> <p>OR</p> <p>WW temperature and RPV pressure <u>cannot</u> be maintained below the HCTL</p> | 1 | 2 | | | | | <p>Automatic or manual scram fails to shut down the reactor, and subsequent manual actions taken at the reactor control consoles are <u>not</u> successful in shutting down the reactor</p> <p>MA6.1 <table><tr><td>1</td><td>2</td><td></td><td></td><td></td><td></td></tr></table></p> <p>An automatic OR manual scram fails to shut down the reactor</p> <p>AND</p> <p>Manual scram actions taken at the reactor control console (mode switch in shutdown, manual push buttons or ARI) are <u>not</u> successful in shutting down the reactor as indicated by reactor power GT 5% (Note 8)</p> | 1 | 2 | | | | | <p>Automatic or manual scram fails to shut down the reactor</p> <p>MU6.1 <table><tr><td>1</td><td>2</td><td></td><td></td><td></td><td></td></tr></table></p> <p>An automatic OR manual scram did <u>not</u> shut down the reactor</p> <p>AND</p> <p>A subsequent automatic scram OR manual scram action taken at the reactor control console (mode switch in shutdown, manual push buttons or ARI) is successful in shutting down the reactor as indicated by reactor power LE 5% (APRM downscale) (Note 8)</p> | 1 | 2 | | | | |
| System | Onsite | ORO | NRC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Public Address (PA) System | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Telephone System | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Radio System Operations and Security Channels | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Offsite calling capability from the Control Room via direct telephone and fax lines | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Long distance calling capability on the commercial phone system | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 Loss of Comm. | | | None | None | <p>Loss of <u>all</u> onsite or offsite communications capabilities</p> <p>MU7.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>(1) Loss of <u>all</u> Table 4 onsite communication methods</p> <p>OR</p> <p>(2) Loss of <u>all</u> Table 4 ORO communication methods</p> <p>OR</p> <p>(3) Loss of <u>all</u> Table 4 NRC communication methods</p> | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 Hazardous Event Affecting Safety Systems | None | <div><p>Table 8 Hazardous Events</p><ul style="list-style-type: none">Seismic eventInternal or external FLOODING eventHigh windsTornado strikeFIREEXPLOSIONVolcanic ash falloutOther events with similar hazard characteristics as determined by the Shift Manager</div> | | <p>Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode</p> <p>MA8.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>The occurrence of <u>any</u> Table 8 hazardous event</p> <p>AND EITHER:</p> <p>Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM needed for the current operating mode</p> <p>OR</p> <p>The event has caused VISIBLE DAMAGE to a SAFETY SYSTEM component or structure, Table 5, needed for the current operating mode</p> | 1 | 2 | 3 | | | | None | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F Fission Product Barrier Degradation | <p>FG1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss of <u>any</u> two barriers</p> <p>AND</p> <p>Loss or potential loss of the third barrier (Table F-1)</p> | 1 | 2 | 3 | | | | <p>FS1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p>Loss or potential loss of <u>any</u> two barriers (Table F-1)</p> | 1 | 2 | 3 | | | | <p>FA1.1 <table><tr><td>1</td><td>2</td><td>3</td><td></td><td></td><td></td></tr></table></p> <p><u>Any</u> loss or <u>any</u> potential loss of EITHER Fuel Clad or RCS barrier (Table F-1)</p> | 1 | 2 | 3 | | | | None | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Table F-1 Fission Product Barrier Threshold Matrix | | | | | | |
|--|--|--|--|---|---|--|
| | FC - Fuel Clad Barrier | | RCS - Reactor Coolant System Barrier | | PC - Containment Barrier | |
| | Loss | Potential Loss | Loss | Potential Loss | Loss | Potential Loss |
| A RPV Water Level | SAG entry required | RPV level <u>cannot</u> be restored and maintained GT -161 in. or <u>cannot</u> be determined. | RPV level <u>cannot</u> be restored and maintained GT -161 in. or <u>cannot</u> be determined. | None | None | SAG entry required |
| B RCS Leak Rate | None | None | UNISOLABLE break in <u>any</u> of the following: <ul style="list-style-type: none">Main Steam LineRCIC Steam LineRWCUFeedwater OR Emergency RPV Depressurization is required | UNISOLABLE primary system leakage that results in exceeding EITHER: RB area temperature alarm level (PPM 5.3.1 Table 23) OR RB area radiation alarm level (PPM 5.3.1 Table 24) | UNISOLABLE primary system leakage that results in exceeding EITHER: RB area maximum safe operating temperature (PPM 5.3.1 Table 23) OR RB area maximum safe operating radiation (PPM 5.3.1 Table 24) | None |
| C PC Conditions | None | None | PC pressure GT 1.68 psig due to RCS leakage | None | UNPLANNED rapid drop in PC pressure following PC pressure rise OR PC pressure response <u>not</u> consistent with LOCA conditions | PC pressure GT 45 psig OR Explosive mixture exists inside PC (H ₂ GE 6% and O ₂ GE 5%) OR WW temperature and RPV pressure <u>cannot</u> be maintained below the HCTL |
| D PC Rad / RCS Activity | Containment Radiation Monitor CMS-RIS-27E or CMS-RIS-27F reading GT 3,600 R/hr OR Primary coolant activity GT 300 µCi/gm Dose Equivalent I-131 | None | Containment Radiation Monitor CMS-RIS-27E or CMS-RIS-27F reading GT 70 R/hr | None | None | Containment Radiation Monitor CMS-RIS-27E or CMS-RIS-27F reading GT 14,000 R/hr |
| E PC Integrity or Bypass | None | None | None | None | UNISOLABLE direct downstream pathway to the environment exists after PC isolation signal OR Intentional PC venting per EOPs | None |
| F Emergency Director Judgment | <u>Any</u> condition in the opinion of the Emergency Director that indicates loss of the fuel clad barrier | <u>Any</u> condition in the opinion of the Emergency Director that indicates potential loss of the Fuel Clad barrier | <u>Any</u> condition in the opinion of the Emergency Director that indicates loss of the RCS barrier | <u>Any</u> condition in the opinion of the Emergency Director that indicates potential loss of the RCS barrier | <u>Any</u> condition in the opinion of the Emergency Director that indicates loss of the Containment barrier | <u>Any</u> condition in the opinion of the Emergency Director that indicates potential loss of the Containment barrier |

Modes:

1

Power Operations

2

Startup

3

Hot Shutdown

4

Cold Shutdown

5

Refueling

DEF

Defueled



13.1.1A

EAL Classification Matrix

Page 2 of 3

HOT CONDITIONS

(RCS GT 200°F)

| | | GENERAL EMERGENCY | SITE AREA EMERGENCY | ALERT | UNUSUAL EVENT | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|--|---|------------------|--------|-----|------------------------|-------------------|-------------|-----------|---|--------|---|--|---|--|---|---|---|--|---|---|-----------------|---|
| C | Cold SD/ Refuel System Malfunct. | <div>1</div> <div>RPV Level</div> <div>Loss of RPV inventory affecting fuel clad integrity with containment challenged</div> <div>CG1.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>RPV level LT -161 in. for GE 30 min. (Note 1) AND Any of the following indications of containment challenge:<ul style="list-style-type: none">CONTAINMENT CLOSURE <u>not</u> established (Note 6)Explosive mixture inside PC (H₂ GE 6% and O₂ GE 5%)UNPLANNED rise in PC pressureRB area radiation GT <u>any</u> Maximum Safe Operating level (PPM 5.3.1 Table 24)</div> <div>CG1.2<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>RPV level <u>cannot</u> be monitored for GE 30 min. (Note 1) AND Core uncover is indicated by <u>any</u> of the following:<ul style="list-style-type: none">UNPLANNED wetwell level rise GT 2 inches (PPM 5.2.1 entry condition)VALID indication of RB room flooding as identified by high level alarms (PPM 5.3.1 Table 25)Observation of UNISOLABLE RCS leakage outside primary containment of sufficient magnitude to indicate core uncoverAND Any of the following indications of containment challenge:<ul style="list-style-type: none">CONTAINMENT CLOSURE <u>not</u> established (Note 6)Explosive mixture inside PC (H₂ GE 6% and O₂ GE 5%)UNPLANNED rise in PC pressureRB area radiation GT <u>any</u> Maximum Safe Operating level (PPM 5.3.1 Table 24)</div> | <div>CS1.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>(1) CONTAINMENT CLOSURE <u>not</u> established AND RPV level LT -129 in. OR (2) CONTAINMENT CLOSURE established AND RPV level LT -161 in.</div> <div>CS1.2<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>RPV level <u>cannot</u> be monitored for GE 30 min. (Note 1) AND Core uncover is indicated by <u>any</u> of the following:<ul style="list-style-type: none">UNPLANNED wetwell level rise GT 2 inches (PPM 5.2.1 entry condition)VALID indication of RB room flooding as identified by high level alarms (PPM 5.3.1 Table 25)Observation of UNISOLABLE RCS leakage outside primary containment of sufficient magnitude to indicate core uncover</div> | <div>CA1.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>(1) Loss of RPV inventory as indicated by RPV level LT -50 in. OR (2) RPV level <u>cannot</u> be monitored for GE 15 min. (Note 1) AND UNPLANNED increase in <u>any</u> Table 1 sump or pool levels due to a loss of RPV inventory</div> <div>Table 1 Sumps/Pool<ul style="list-style-type: none">Any valid Hi-Hi level alarm on R-1 through R-5 sumpsEDR GE 25 GPMFDR GE 10 GPMWetwell level riseObservation of UNISOLABLE RCS leakage</div> | <div>CU1.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>(1) UNPLANNED loss of reactor coolant results in RPV level less than a required lower limit for GE 15 min. (Note 1) OR (2) RPV level <u>cannot</u> be monitored AND UNPLANNED increase in <u>any</u> Table 1 sump or pool levels due to a loss of RPV inventory</div> <div>Table 2 AC Power Sources<div>Offsite<ul style="list-style-type: none">Startup Transformer TR-SBackup Transformer TR-BBackfeed 500 KV power through Main Transformers (if already aligned in modes 4, 5, def <u>only</u>)Onsite<ul style="list-style-type: none">DG1DG2Main Generator via TR-N1/N2</div></div> | | | | | | | | | | | | | | | | | | | | | |
| | | <div>2</div> <div>Loss of Emergency AC Power</div> <div>None</div> | <div>None</div> | <div>Loss of <u>all</u> offsite and <u>all</u> onsite AC power to emergency buses for 15 minutes or longer</div> <div>CA2.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div>DEF</div></div>Loss of <u>all</u> offsite and <u>all</u> onsite AC power capability to emergency buses SM-7 and SM-8 for GE 15 min. (Note 1)</div> | <div>Loss of <u>all</u> but one AC power source to emergency buses for 15 minutes or longer</div> <div>CU2.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div>DEF</div></div>AC power capability, Table 2, to emergency buses SM-7 and SM-8 reduced to a single power source for GE 15 min. (Note 1) AND Any additional single power source failure will result in loss of <u>all</u> AC power to emergency buses SM-7 and SM-8</div> | | | | | | | | | | | | | | | | | | | | | |
| | | <div>3</div> <div>RCS Temp.</div> <div>None</div> | <div>Table 7 RCS Reheat Duration Thresholds<div>* If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced the EAL is <u>not</u> applicable</div><table><tr><th>RCS Status</th><th>Containment Closure Status</th><th>Heat-up Duration</th></tr><tr><td>Intact</td><td>N/A</td><td>60 min. *</td></tr><tr><td rowspan="2"><u>Not</u> intact</td><td>established</td><td>20 min. *</td></tr><tr><td><u>not</u> established</td><td>0 min.</td></tr></table></div> | RCS Status | Containment Closure Status | Heat-up Duration | Intact | N/A | 60 min. * | <u>Not</u> intact | established | 20 min. * | <u>not</u> established | 0 min. | <div>Inability to maintain plant in cold shutdown</div> <div>CA3.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>UNPLANNED increase in RCS temperature to GT 200°F for GT Table 7 duration (Note 1) OR UNPLANNED RPV pressure increase GT 10 psig</div> | <div>UNPLANNED increase in RCS temperature</div> <div>CU3.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>UNPLANNED increase in RCS temperature to GT 200°F</div> <div>CU3.2<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>Loss of <u>all</u> RCS temperature and RPV water level indication for GE 15 min. (Note 1)</div> | | | | | | | | | | |
| | | RCS Status | Containment Closure Status | Heat-up Duration | | | | | | | | | | | | | | | | | | | | | | |
| | | Intact | N/A | 60 min. * | | | | | | | | | | | | | | | | | | | | | | |
| | | <u>Not</u> intact | established | 20 min. * | | | | | | | | | | | | | | | | | | | | | | |
| <u>not</u> established | 0 min. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>4</div> <div>Loss of Vital DC Power</div> <div>None</div> | | <div>Loss of vital DC power for 15 minutes or longer</div> <div>CU4.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>Indicated voltage LT 108 VDC on <u>required</u> 125 VDC buses DP-S1-1 and DP-S1-2 for GE 15 min. (Note 1)</div> | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>5</div> <div>Loss of Comm.</div> <div>Table 4 Communication Methods<table><tr><th>System</th><th>Onsite</th><th>ORO</th><th>NRC</th></tr><tr><td>Plant Public Address (PA) System</td><td>X</td><td></td><td></td></tr><tr><td>Plant Telephone System</td><td>X</td><td>X</td><td></td></tr><tr><td>Plant Radio System Operations and Security Channels</td><td>X</td><td></td><td></td></tr><tr><td>Offsite calling capability from the Control Room via direct telephone and fax lines</td><td></td><td>X</td><td>X</td></tr><tr><td>Long distance calling capability on the commercial phone system</td><td></td><td>X</td><td>X</td></tr></table></div> | System | Onsite | ORO | NRC | Plant Public Address (PA) System | X | | | Plant Telephone System | X | X | | Plant Radio System Operations and Security Channels | X | | | Offsite calling capability from the Control Room via direct telephone and fax lines | | X | X | Long distance calling capability on the commercial phone system | | X | X | <div>None</div> | <div>Loss of <u>all</u> onsite or offsite communications capabilities</div> <div>CU5.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div>DEF</div></div>Loss of <u>all</u> Table 4 onsite communication methods OR Loss of <u>all</u> Table 4 ORO communication methods OR Loss of <u>all</u> Table 4 NRC communication methods</div> |
| System | Onsite | ORO | NRC | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Public Address (PA) System | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Telephone System | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Plant Radio System Operations and Security Channels | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Offsite calling capability from the Control Room via direct telephone and fax lines | | X | X | | | | | | | | | | | | | | | | | | | | | | | |
| Long distance calling capability on the commercial phone system | | X | X | | | | | | | | | | | | | | | | | | | | | | | |
| <div>6</div> <div>Hazardous Events Affecting Safety Systems</div> <div>Table 8 Hazardous Events<ul style="list-style-type: none">Seismic eventInternal or external FLOODING eventHigh windsTornado strikeFIREEXPLOSIONVolcanic ash falloutOther events with similar hazard characteristics as determined by the Shift Manager</div> | | <div>Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode</div> <div>CA6.1<div><div></div><div></div><div></div><div>4</div><div>5</div><div></div></div>The occurrence of <u>any</u> Table 8 hazardous event AND EITHER: Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM needed for the current operating mode OR The event has caused VISIBLE DAMAGE to a SAFETY SYSTEM component or structure, Table 5, needed for the current operating mode</div> | <div>None</div> | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--|--|--|
| | | Table 5 Plant Structures Containing Safe Shutdown Systems or Components <ul style="list-style-type: none">Vital portions of the Rad Waste/Control Building:<ul style="list-style-type: none">467' elevation vital island487' elevation cable spreading roomMain Control Room and vertical cable chase525' elevation HVAC areaReactor BuildingVital portions of the Turbine Building<ul style="list-style-type: none">DEH pressure switchesRPS switches on turbine throttle valvesMain steam line radiation monitorsTurbine Building ventilation radiation monitorsMain steam line piping up to MS-V-146 and the first stop valvesStandby Service Water Pump HousesDiesel Generator Building |
|--|--|--|