MEMORANDUM FOR: Rebecca Nease

FROM: Troy Pruett

SUBJECT: RISK INSIGHTS FOR ANO UNIT 1 FIRE PROTECTION INSPECTION

Per your request, a review of the ANO Unit 1 Individual Plant Examination (IPE) and Individual Plant Examination of External Events (IPEEE) was performed to provide risk insights for the upcoming fire protection inspection.

Plant events of concern involve front line systems that if affected by a fire could cause a plant transient. In addition to causing an initiating event, the following systems were also credited in the licensee's analysis for safe shutdown capability.

- **High Pressure Injection:** Results in a reactor trip on high pressure and may also result in a reactor coolant system relief valve lifting. High pressure injection is necessary for decay heat removal and inventory control.

- **Emergency Feedwater:** Small probability of initiating a reactor trip. The main feedwater level control system should be able to compensate for an inadvertent actuation. Emergency feedwater is necessary for primary to secondary heat removal.

- **AC Busses A3, A4, B5, and B6:** Results in a reactor trip. The loss of the A3 or A4 bus could render service water, high pressure injection, and reactor building spray unavailable. AC Busses B5 and B6 are powered from A3 and A4.

- **DC Busses D1, D2, D11, and D21:** Results in a loss of offsite power event. DC Busses D11 and D21 are powered from D1 and D2.

- **Service Water/Intermediate Cooling Water:** Results in a loss of the power conversion system. These systems also supply cooling water to various safe shutdown systems and provide cooling water to the reactor coolant pump seals.

- **Instrument Air:** Results in a loss of the power conversion system.

Core damage sequences with the highest contribution and systems with the largest risk achievement worth included all of the above front line systems with the exception of instrument air.

The licensee should be contacted to obtain a listing of equipment by fire zone/area. Fire zones/areas selected by the team should include plant locations which affect combinations of the front line systems specified above. Systems of particular interest based on risk rankings and dominant cutsets are AC Busses, service water/intermediate cooling water, high pressure injection, emergency feedwater, and DC Busses.

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