Risk-Perspective on Manual Actions

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Risk Reduction

- Most III.G.2 fire areas are low risk (screened) based on maintained Fire PRA.
  - Maximum Calculated Risk is 2E-08/year
  - Most of the plant fire risk is from III.G.3 fire areas and the Turbine Building.
- Likely Risk Reduction for adding suppression is less than 1E-07/year.
- Likely risk reduction for meeting time margins for III.G.2 manual actions is much lower:
  - None of the review manual actions are directly required for ensuring Safe Shutdown.

Risk Increase

- Internal Flooding Risk represents 1% and 15% of internal events CDF.
- Adding suppression could significantly increase this risk.
  - Greater than 1% change in risk would make the overall change a risk increase.
- Added risk from installation of new suppression systems:
  - Hot work
  - Working above Safety Related Equipment

Costs

- 2 of 3 Duke Plants would require significant addition of suppression.
- Initially estimated as >$4M.
- Could be higher, depending on:
  - Turbine Building (need full suppression in all areas?).
  - Containment (how to fully detect and suppress).
  - Protection of Electrical Equipment.

Implementation

- Can time-margin T-H calculations use realistic (PRA) calculations:
  - RCP Seal Leakage (2.1 gpm worst case versus expected range).