

CAROLFIRE and NRR

Fire Protection Branch

Office of Nuclear Reactor Regulation

Background

- Regulatory Issue Summary (RIS) 2004-03, “Binned” circuit configurations types
 - Bin 1 – most likely to fail and to be considered during inspection
 - Bin 2 – need more research
 - Bin 3 – unlikely or least likely to fail
- RES researched the Bin 2 types, which included
 - Intercable thermoset cable faults,
 - Intercable faults between thermoset and thermoplastic cables,
 - Faults requiring three or more cables,
 - Faults involving properly sized control power transformers, and
 - Faults that last more than 20 minutes

NRR Views of CAROLFIRE Results

- NRR's view is that CAROLFIRE confirmed the original premise that Bin 2 circuit faults were more likely than many Bin 3 circuit fault configurations and less likely than Bin 1 circuit fault configurations
- Currently NRR does not anticipate updating the inspection procedure to include these items
- Currently NRR does not anticipate taking the regulatory position that no protection is needed for the "Bin 2" cable failure modes examined by CAROLFIRE, because the cable failure modes are considered plausible
- NRR will work with RES to quantify these failure modes so they can be added to the fire protection significance determination process