

# Donald C. Cook Nuclear Plant

## NFPA 805 Industry Experience from Non-Pilot Plant

*Presented by:*

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# Current Status

- Submitted LAR on July 1, 2011.
- First non-pilot plant submittal.
- First submittal to rely on analysis margin vs. modifications as primary strategy.
- Completed post submittal NRC Audit November 7-10, 2011.
  - Positive NRC/Utility Interface.
  - Lower Number of LAR RAI's.

# Transition Process

- Fire Safety Analysis identified the physical configuration, fire protection features, VFDRs, and Fire Risk Evaluations.
- Participation in the NEI NFPA 805 Task Force provided transition insights.
- Focused on performance-based analysis (fire modeling and risk evaluation) instead of plant modifications to demonstrate safety.

# Circuit Analysis

- Circuit analysis identified two enforcement discretion issues completed in 2009.
  - Conduit wrap installation.
  - Procedure change for cold shutdown action – Use of Alternate Power Supply.
- Requires new Mods of 10 MOVs -Rewiring at Supply Breaker to include overload protection (IN 92-18).

# Fire Modeling

- Modeled the NFPA 805 Fire Areas using over 900 scenarios.
- Fire Areas included one or more Fire Zones with ignition sources and target sets identified and analyzed, including the impact of transient combustibles.
- Requires re-setting of two CO2 Systems from “Isolate” to “Automatic” in the 600V MCC Area of each Unit.

# Operator Recovery Actions

- Significant reduction in operator manual actions under NFPA 805.
- As part of NFPA 805 implementation, the remaining Recovery Actions will be revalidated.

# Summary

- With knowledge gained with NFPA 805 fire modeling and risk evaluations, the plant is safer from the effects of a fire.
- Limited plant modifications to implement.
- Acceptable CDF & LERF Risk Success Path documented for each fire area.
- Significant reduction in operator recovery actions.

# Acronyms

- CDF – Core Damage Frequency
- LAR – License Amendment Request
- LERF – Large Early Release Frequency
- MCC – Motor Control Center
- MOV – Motor Operated Valve
- RAI – Request for Additional Information
- VFDR – Variance From Deterministic Requirement