



APPLIED ANALYSIS CORP.

GOTHIC PROGRAM SPECIFIC EXPERIENCE

AREVA NP

1. US EPR primary containment analysis GOTHIC model development and benchmarking.

Entergy Operations Inc. (EOI)

1. River Bend Station (RBS) Auxiliary Building (AB) GOTHIC model/analysis of loss of HVAC transients. Preparation of RBS GOTHIC code Software Quality Assurance Manual.
2. RBS GOTHIC model/analysis of Containment Annulus and AB for Standby Gas Treatment System (SGTS) draw down transients.
3. RBS GOTHIC model/analysis of steam tunnel area steam leak detection system response to design basis leaks.
4. RBS GOTHIC model/analysis of primary containment (Mark III) response to design basis Recirculation Line Break, Steam Line Break, and Small Break LOCA. Benchmark with FSAR.
5. RBS GOTHIC model/analysis of the Control Building Pressure Boundary to support plant operability concerns.
6. RBS GOTHIC model/analysis of Integrated Containment Annulus, AB, and Standby Gas Treatment System (SGTS) for building positive pressure and draw down transients. Preparation of Topical Report to document qualification of GOTHIC code for RBS design basis calculations.
7. RBS GOTHIC model/analysis of the Diesel Generator Building for loss of HVAC transients.
8. Cooper Nuclear Station (CNS) Reactor Building (RB) GOTHIC HELB analysis for electrical EQ evaluation. Complete RB HELB analysis reconstitution and EQ temperature and pressure profiles development. Thermal-lag calculations for EQ components.
9. Waterford 3 GOTHIC model/analysis of Reactor Auxiliary Building for loss of HVAC transients.
10. Arkansas One GOTHIC model/analysis of Auxiliary Building for loss of HVAC transients.
11. Pilgrim Nuclear Power Station (PNSP) Drywell Transient Temperature Analyses for Simulator Design.
12. Grand Gulf Nuclear Station (GGNS) Auxiliary Building transient temperature response to loss of HVAC conditions in support of PRA assessments.

Tennessee Valley Authority (TVA)

1. Watts Bar Nuclear Plant (WBN) Unit 1 AB GOTHIC model/analysis of HELBs.
2. Sequoyah Nuclear Plant (SQN) Units 1&2 AB GOTHIC model/analysis of HELBs.
3. Browns Ferry Nuclear Plant (BFN) Units 2&3 Reactor Building (RB) GOTHIC model/analysis of HELBs. Also EPU HELB analyses.

Progress Energy

1. Brunswick Nuclear Plant (BNP). Reactor Building (RB) GOTHIC HELB analysis for electrical EQ (MCC's) evaluations.
2. BNP Reactor Building SGTS post-LOCA drawdown analysis.
3. BNP post-LOCA transient MSIV discharge piping temperature analysis.

Nuclear Management Co. / Xcel Energy

1. Kewaunee Nuclear Power Plant (KNPP) thermal-lag analyses for HELB events in support of EQ evaluations of electrical components.
2. Monticello Nuclear Generating Plant Reactor Building SGTS post-LOCA drawdown analysis.
3. Monticello Nuclear Generating Plant, post-LOCA transient MSIV discharge piping temperature analysis.
4. Monticello Nuclear Generating Plant thermal-lag analyses for HELB events in support of EQ evaluations of electrical components.

Yankee Atomic Electric Company (YAEC)

1. Maine Yankee (MY). Design review of Turbine Building GOTHIC HELB analysis.
2. Vermont Yankee (VY). Perform containment response GOTHIC analysis to Appendix R reactor shutdown scenarios.
3. Maine Yankee (MY). Design review of Protected Switchgear Room, Protected Cable Tray Room, and Battery Room Loss of HVAC GOTHIC analysis.
4. Seabrook. Perform design basis primary containment GOTHIC analysis.
5. Maine Yankee (MY). Design review of Control Room Loss of HVAC GOTHIC analysis.
6. Maine Yankee (MY). Design review of Circulating Water Pumphouse Loss of HVAC GOTHIC analysis.
7. Vermont Yankee. Perform small break LOCA drywell heat-up GOTHIC analysis.

General Electric Nuclear Energy

1. BFN Units 2&3 Reactor Building GOTHIC model/analyses to support Power Uprate project EQ projects. Included subdivided GOTHIC models to support crack break detection.

Korea Power Engineering Company (KOPEC)

1. Preparation of Kori 1 & 2 GOTHIC HELB model outside containment. HELB analysis and GOTHIC simulation training.
2. APR 1400 Main Steam Valve House (MSVH) COMPARE/GOTHIC Benchmark Study.
3. Barrakah Nuclear Power Plant (APR 1400) Main Steam Valve House (MSVH) GOTHIC model for MSLB EQ evaluations.
4. APR 1400 Containment Analysis GOTHIC model review and update support; Containment Analysis Design Certification Report review and update/preparation support.

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