

## 14.0 PLANT SAFETY ANALYSIS

### 14.1 ANALYTICAL OBJECTIVE

The objective of the Plant Safety Analysis is to evaluate the ability of the plant to operate without undue hazard to the health and safety of the public.

Previous sections of this report provide the objective, design basis, and description of each major system and component. Systems that have unique requirements arising from considerations of nuclear safety are evaluated in the safety evaluation portions of those sections of the report. The safety evaluations consider the effects of failures within the system being investigated. Systems essential to safety are capable of performing their functions in adverse circumstances.

This chapter provides the analytical objective, design basis, and safety evaluation for the overall plant integrated systems. Limiting events which may be affected by reload core designs are evaluated and documented in reload licensing reports for each fuel cycle. Safety evaluations for specific reload fuel types are documented or referenced in either the Reload Licensing Report for the specific cycle or in the licensing topical report, "General Electric Standard Application for Reactor Fuel," NEDE-24011-P-A, and revisions thereto.

Safety analyses have also been performed to justify plant operating flexibility options such as operation in the Extended Load Line Limit (ELLL) Region, operation in the Increased Core Flow (ICF) Region and operation with Final Feedwater Temperature Reduction (FFWTR). Subsequent to these analyses, additional analyses have been performed<sup>1</sup>, and plant performance improvements have been implemented on Units 1, 2, and 3 for operation in the Maximum Extended Load Line Limit (MELLL) Region. Results of these analyses are reconfirmed with each reload analyses as documented in the Reload Licensing Reports for a specific cycle.

Definitions for key terms used in this section are presented in Subsection 1.2, "Definitions."

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<sup>1</sup> NEDC-32422P, "Maximum Extended Load Line Limit and ARTS Improvement Program Analyses for Browns Ferry Nuclear Plant Unit 1, 2 and 3," GE Nuclear Energy, April 1995