June 30, 2004

NRC REPORT TO IEEE/NPEC

1.0 Key Topics

1.1 License Renewal

The staff expects to issue final revised guidance documents for power reactor license renewal applications in early 2006 and the draft revisions of the standard review plan and GALL report by September 2004.

Last year NRC initiated a pilot program that used audit teams to gather information for review of renewal applications for Arkansas Nuclear One-2 (ANO-2), Cook, and Farley. The audit report for ANO-2 is expected to be made public soon.

Status of License Renewal (attachment 1-routed).

1.2 10 CFR 50.69

The staff expects the commission to make the rulemaking package public and to seek feedback. Regulatory Guide 1.201 that would endorse the NEI guidance on categorization of SSCs based on their safety significance will be issued for trial use.

1.3 Fire Protection Rulemaking 10 CFR 50.48:

A final rule was issued on June 16, 2004 to amend fire protection requirements for nuclear power plants (attachment 2-routed). It permits existing reactor licensees to voluntarily adopt fire protection requirements contained in the NFPA Std 805-2001, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants."

1.4 Risk-Informed Regulation Implementation Plan:

The staff provided to the Commission an update of the risk-informed regulation implementation plan (see SECY-04-068 dated April 23, 2004) (attachment 3-routed).

1.5 Review Standard for Extended Power Uprates

See attachment 4 (routed) for a listing of (a) Approved Applications for Power Uprates, and (b) Pending Applications for Power Uprates.

NRC expects power uprates for 26 units: The latest survey of planned uprates indicates that licensees plan to submit over the next five years uprate applications for 26 units. As a result of these uprates, electric generating capacity could increase by 1,766 MW.

1.6 Effectiveness of the NRC Inspections of Design Issues:

The staff plans to conduct a pilot program to assist in determining whether changes should be made to the Reactor Oversight Process to improve the effectiveness of NRC inspections in design/engineering area (See SECY-04-071).

1.7 Risk-Informed Changes to 10 CFR 50.46:

The staff requested Commission direction and additional guidance on policy issues that would facilitate resolution of identified technical issues associated with rulemaking to risk-informed requirements for large break LOCA coincident with loss-of-offsite power (see SECY-04-037 dated March 3, 2004).

2.0 Research Activities:

2.1 Update of the NRC Digital Systems Safety Research Plan

The staff is in the process of updating its Digital Systems Safety Research Program Plan. The last revision (SECY-01-0155), covered research planned for FY 01-04, and the new plan will cover research planned for FY 05- 08 (a projected completion date of mid-October 2004). As part of the development of the research plan, the NRC is planning to interact with interested stakeholders.

2.2 4th International Topical Meeting on Nuclear Plant Instrumentation, Control and Human Machine Interface Technology (NPIC&HMIT '04)

The NRC is co-sponsoring the 4th International Topical Meeting on Nuclear Power Plant Instrumentation, Control and Human Machine Interface Technology, September19-22, 2004, in Columbus, Ohio. This the 4th in a series of conferences that are recognized as the premier meetings in nuclear power instrumentation, control and human machine interface technologies. Based on experience with first three meetings, about 225 papers will be presented and published in the proceedings. Program will include key note addresses from leaders in both government and industry, from around the world. The technical content of this meeting has always been very strong and the last meeting resulted in many of the authors being invited to expand their paper for publication in the Nuclear Technology journal.

2.3 International Workshop on International Workshop on Systems Software Engineering

The NRC will be co-sponsoring, with the NEA, an International Workshop on System Software Engineering in Istanbul, Turkey, on September 6-8, 2004. This work shop will bring together leading experts in the area of systems and software engineering disciplines from diverse engineering fields (Software

Engineering, Risk and Reliability Engineering, Real Time Safety Critical Computing, Control Engineering and Cognitive Sciences) to present and discuss emerging and common technical methods and issues in this area. Of particular interest are methods for measuring effectiveness of various V&V approaches.

2.4 NUREG/CR-6842, "Advanced Reactor Licensing: Experience with Digital I&C Technology in Evolutionary Plants," was issued in April 2004.

3.0 NRC Rulemaking and Regulatory Guide Activities:

3.1 Regulatory Guide 1.32, Revision 3, "Criteria for Power Systems for Nuclear Power Plants," was issued in March 2004. This Revision of the Guide endorses IEEE Std. 308-2001.

3.2 Draft Regulatory Guide DG-1121, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants according to their Safety Significance," is under development.

3.3 Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," was issued in February 2004.

3.4 Regulatory Guide 1.168, Revision 1 "Verification, Validation, Reviews, and Audits for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," was issued in February 2004.

3.5 Draft Regulatory Guide on IEEE Std 802.x, regarding low-level data communication protocols is under development.

3.6 Draft Regulatory Guide on IEC 61158, regarding Profibus is under development.

3.7 Draft Regulatory Guide DG-1128, which is a revision of Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants," is under development. This Revision will endorse IEEE Std 497-2002.

3.8 Draft Regulatory Guide DG-1129 (Revision of Regulatory Guide 1.75), "Criteria for Independence of Electrical Safety Systems,"was issued for public comment in December 2003.. This draft guide endorses IEEE Std 384-1992. The final Regulatory Guide is expected to be issued by December 2004.

4.0 Human Factors:

4.1 NUREG/CR-6838 "Technical Basis for Regulatory Guidance for Assessing Exemption Requests from the Nuclear Power Plant Licensed Operator Staffing Requirements Specified in 10 CFR 50.54(m)," was issued in February 2004.

4.2 NUREG/CR-6840, "The Technical Basis for the NRC's Guidelines for External Risk Communication," was issued in January 2004.

4.3 NUREG-1764, "Guidance for the Review of Changes to Human Actions" was issued in February 2004.

4.4 NUREG-0800, Standard Review Plan, Chapter 18, "Human Factors Engineering," Rev 1 was issued in February 2004.

4.5 NUREG-0711, Rev 2, "Human Factors Engineering Program Review Model," was issued in February 2004.

5.0 Recent NRC Generic Communications

5.1 Generic Letter(s):

None.

5.2 Information Notice(s):

None in Electrical, and I&C areas.

5.3 Regulatory Issue Summaries

RIS 04-003 Risk-Informed Approach for Post-Fire Safe-Shutdown Associated Circuit Inspections.

RIS 04-005 Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power.

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