



Independent Spent Fuel Storage Installation  
(ISFSI) License Renewal

Public Meeting and Presentation to NRC

July 26, 2004



# ISFSI

- Facility Includes A Three-Module And Five-Module Structure
- Each Horizontal Storage Module (HSM) Contains 7 PWR Fuel Assemblies In A Dry Shielded Canister (DSC); 56 Total Stored Assemblies
- Facility Is Located Inside The Protected Area At Robinson Nuclear Plant (RNP)

# Demonstration Program

- Facility Originally Built As A Joint Demonstration Program With Department Of Energy And EPRI
- Two Modules Were Instrumented For One Year Temperature Monitoring Program
- Demonstration Program Showed Satisfactory Performance
- Instruments Abandoned-In-Place After One Year

# ISFSI License Renewal

- Current License Expires August 31, 2006
- Regulations Require Submittal For Renewed License Two Years Prior To Expiration

# ISFSI License Renewal

- Exemption From 10 CFR 72.42(a) Needed To Allow Extended License Period Of 40 Years
- License Renewal Evaluations Support 40 Year Period
- Exemption Request Mirrors Exemption Requested By Surry

# Background

- RNP Is First Utility To Submit License Renewal Application (LRA) For Horizontal Storage Module Design
- Renewal Of An ISFSI License Is Allowed By 10 CFR 72.42
- 10 CFR 72 Does Not Provide Regulatory Guidance For ISFSI License Renewal Process

# ISFSI License Renewal

- Draft Regulatory Guidance Provided To Robinson And Surry In 2001
- Surry Submitted Renewal Application In April 2002 Using NRC Draft Guidance
- Robinson Used NRC Draft Guidance And Surry Application As A Precedent For Format And Content of LRA
- Renewal Process Mirrors 10 CFR 54 Process

# Electronic Submittal On CD

- PDF Format
- User Friendly
- NRC Reviewers Can Navigate Through the LRA, Including Environmental Report (ER)
- Hypertext Links Provided To All Portions Of LRA And To Safety Analysis Report (SAR)
- Proven Beneficial For NRC Reviewers In Development Of Safety Evaluation Report For Part 54 License Renewal



# ISFSI LRA Format

- **Technical And Administrative Information**
  - 1.0 General Information**
  - 2.0 Scoping Evaluation**
  - 3.0 Aging Management Reviews with Results Tables**
- **Appendices**
  - A Aging Management Programs**
  - B Time-Limited Aging Analysis**
  - C SAR Supplement Changes**
  - D Technical Specifications Changes**
  - E Environmental Report Supplement**
  - F Additional Information**

# ISFSI License Renewal Scoping

- Scoping Process Results In Four Items In Scope
  - ▶ Horizontal Storage Modules (HSMs)
  - ▶ Dry Shielded Canisters (DSCs)
  - ▶ Irradiated Fuel Assemblies (IFAs)
  - ▶ IF-300 Transfer Cask

# Aging Management Review (AMR)

- Identified Subcomponents And Commodities
- Screened For Subcomponents And Commodities
- Identified Aging Effects Requiring Management
  - Industry Tools Used
- Operating Experience Reviewed For Process Confirmation
- Selected Aging Management Programs To Manage Effects Of Aging

# ISFSI License Renewal Aging Management Programs

- Two Aging Management Programs Required
  - ▶ ISFSI Aging Management Program
  - ▶ Transfer Cask Aging Management Program
- Programs Generally Consist Of Existing Implementing Procedures
  - ▶ 2 Harris Nuclear Plant (HNP) Procedures To Be Revised For RNP
  - ▶ 2 RNP Procedures To Be Revised

# ISFSI License Renewal Time-Limited Aging Analyses (TLAAs)

- Four Time-Limited Aging Analyses Identified
  - ▶ DSC Shell Fatigue
  - ▶ EpoxyLite Change in Material Properties Due to Ionizing Radiation (Instrumented DSCs)
  - ▶ Poison Plates Depletion of Boron
  - ▶ Polyethylene Degradation Due to Ionizing Radiation (Access Cover Plate)
- Each TLAA Will Remain Valid Until The End Of The 40 Year Renewal Period

# ISFSI License Renewal

- ER Prepared By Tetra Tech – Same Vendor That Prepared Surry ER
- ER Prepared Based On RNP ER, With Consideration Of Surry ER Requests For Additional Information
- No Adverse Environmental Impacts Identified

# ISFSI License Renewal

- Conclusions

- ▶ No Adverse Nuclear Safety Considerations
- ▶ LR for ISFSI is Technically Supported
- ▶ TLAAs Remain Valid for 40-Year Extended Period of Operation
- ▶ No Adverse Environmental Impacts
- ▶ No New Commitments

# ISFSI License Renewal

- Demonstration Of Use Of LRA With Linkages.
- Questions And Discussion