

***Updating NUREG-1536
Standard Review Plan for Spent
Fuel Dry Storage Systems
at a General License Facility***

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1st Revision Since 1997

- **Incorporated several ISG's**
- **Updated to reflect current review practices**
- **Added new materials chapter**
- **Prioritized the review procedures section of each chapter**
- **Resolved public (industry) comments**
- **Improved safety focus of certification**



History of Storage SRP Project

- **Staff begins technical updating** 4/06
- **Staff Completes 1st Technical input** 11/06
- **Complete prioritization process** 2/08
- **Contractor provides prioritized version** 12/08
- **FRN Issued for Public Comments** 4/15/09
- **Public Comments Received** 7/15/09
- **ACRS Subcommittee Briefings** 2/17 & 4/21/10
- **ACRS Full Committee Briefing** 5/6/10
- **Published** Ju/10



ISGs Incorporated- Appendix C of SRP

ISGs	Title	Status
ISG 1 Rev. 2	Damaged Fuel	Added
ISG 2 Rev. 1	Fuel Retrievability	Added
ISG 3	Post Accident Recovery and Compliance with 10 CFR 72.122(l)	Added
ISG 4 Rev. 1	Cask Closure Weld Inspections	Superseded by ISGs 15 & 18
ISG 5 Rev. 1	Confinement Evaluation	Added
ISG 6	Establishing Minimum Initial Enrichment for the Bounding Design Basis Fuel Assembly(s)	Added
ISG 7	Establishing Minimum Initial Enrichment for the Bounding Design Basis Fuel Assembly(s)	Added
ISG 8 Rev 2	Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks	Not Added: Referenced Current Revision
ISG 9 Rev 1	Storage of Components Associated with Fuel Assemblies	Added



Incorporation of ISGs (cont)

ISG 10 Rev 1	Alternatives to the ASME Code	Added
ISG 11 Rev 3	Cladding Considerations for the Transportation and Storage of Spent Fuel	Added
ISG 12 Rev 1	Buckling of Irradiated Fuel Under Bottom End Drop Conditions	Added
ISG 13	Real Individual	Added
ISG 14	Supplemental Shielding	Added
ISG 15	Materials Evaluation	Added
ISG 16	Emergency Planning	NA
ISG 17	Interim Storage of Greater Than Class C Waste	NA
ISG 18 Rev 1	The Design & Testing of Lid Welds on Austenitic Stainless Steel Canisters as Confinement Boundary for Spent Fuel Storage	Added



Incorporation of ISGs

ISG 19	Moderator Exclusion Under Hypothetical Accident Conditions and Demonstrating Subcriticality of Spent Fuel Under the Requirements of 10 CFR 71.55(e)	NA
ISG 20	Transportation Package Design Changes Authorized Under 10 CFR Part 71 Without Prior NRC Approval	NA
ISG 21	Use of Computational Modeling Software	Added
ISG 22	Potential Rod Splitting Due to Exposure to an Oxidizing Atmosphere During Short-Term Cask Loading Operations in LWR or Other Uranium Oxide Based Fuel	Added
ISG 23 (draft)	Neutron Absorbers	Not Added
ISG 25	Pressure and Helium Leakage Testing of the Confinement Boundary of Spent Fuel Storage Casks	Added



Prioritization Methodology

- **Performed by experienced staff for that specific discipline**
- **Methodology described in Appdx B**
- **Results in a ranking of high, medium or low for each item in review procedures**
- **High results in more staff review time**
- **Low results in less staff review time**



Summary of Prioritization Results

Chapter	HIGH	MEDIUM	LOW	Total
1) General Info	----	4	----	4
2) Principle Design Criteria	----	4	1	5
3) Structural	6	13	7	26
4) Thermal	6	7	5	18
5) Confinement	----	5	2	7
6) Shielding	5	3	----	8
7) Criticality	11	3	1	15
8) Materials	7	13	7	27
9) Operating Procedures	2	5	4	11
10) Acceptance tests and Maintenance Program	5	3	7	15
11) Radiation Protection	----	4	----	4
12) Accident Analyses	----	1	----	1
13) Technical Specifications and Operational Controls & Limits	1	----	----	1
14) Quality Assurance	1	----	----	1
TOTALS	44	65	34	143

Protecting People and the Environment



Public Comments

- **Only received comments from industry (190+)**
- **Dispositioned in Appendix D to SRP**
- **Staff agreement on over 60% of the comments**
- **Improved the SRP**



Next Steps

- **Publish NUREG-1536, Rev. 1**
- **Proceed with revision to NUREG-1567, SRP for Spent Fuel Dry Storage Facilities, March 2000**
 - **Utilize NUREG-1536 to maximum extent by referencing**