



Connecticut Yankee Decommissioning

Spent Fuel Storage Facility Licensing Basis/Design Basis
(LB/DB)

GRPI-30

Revision Draft
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Goals:

The goal of this effort is to define the LB/DB of the Spent Fuel Storage Facility (SFSF) for CY. The SFSF includes the existing Fuel Pool and all support systems and structures required for safe storage of the existing spent fuel.

Roles:

The roles and responsibilities of personnel associated with the process are as follows:

- Engineering Director to approve GRPI
- The team leader will be responsible for overall coordination, review and issuance of the deliverables.
- Support from personnel assigned to the Spent Fuel Pool Island Studies will be required and will be assigned as necessary.
- Information from the System Reclassification GRPI and the Systems Categorization activity will be required to complete Revision 0 of the LB/DB of the Spent Fuel Storage Facility (SFSF) for CY.
- Information from this GRPI will be required to complete the PSDAR, Spent Fuel Pool Island Studies, Security Plan Revision and Decommissioning UFSAR.
- The final report will be prepared, reviewed and approved in accordance with Northeast Utilities Common Engineering Department Instructions (NUC EDI) Procedure 30020 "Engineering Reports" (Latest revision in effect at the time of publication).

Process:

The following steps are those considered necessary to define the LB/DB of the Spent Fuel Storage Facility (SFSF) for CY.

- **List the barriers that preclude exceeding 10CFR20 limits**
The fundamental Licensing Basis of the SFSF is to ensure that the continued storage of CY spent fuel does not result in the release of radiation in amounts exceeding 10CFR20 limits. Spent fuel contains a large inventory of fission products that, if released to the environs in a

short time frame, could exceed limits specified in 10CFR20. In addition, the structural materials of the fuel elements (principally stainless steel and zircalloy) have been activated and contribute to the overall inventory of radioactive material stored in the SFSF. Confinement of these fission and activation products and shielding from the direct radiation being released from these radioactive materials requires a number of barriers to ensure that failure of one barrier will not cause the uncontrolled release of the stored activity. The fundamental Design Basis of the SFSF is to protect these barriers. A listing of these barriers provides a benchmark for evaluating the impact that site systems and structures have on the maintenance of these barriers.

- **List the Systems Structures and Components (SSC) that comprise the SFSF**

Once the barriers are identified, a listing of SSC that are required to protect these barriers can be developed. For those systems or structures that also support non-SFSF requirements, boundaries will be defined that includes only those portions required for support of SFSF. The LB/DB for the SFSF will be a compilation of the LB/DB for each listed SSC.

- **Document the LB/DB for the Systems and Structures that comprise the SFSF**

For each of the SSC listed above, the LB/DB will be documented in accordance with ENG 1.7-157, "Documenting LB/DB For Specific Systems, Structures and Components".

- **Validate the LB/DB for the SSC that comprise the SFSF**

Calculations and other design documents will be reviewed to ensure they support the documented LB/DB. Similarly, commitments will be reviewed to ensure they are being satisfied. Procedures will be reviewed to ensure they satisfy the LB/DB. Where discrepancies are identified, these will be resolved in accordance with the Corrective Action Program.

A second validation will be done by comparing the listing of SSC in this document to the listing of SSC in the System Reclassification effort.

- **Compare the Systems and Structures that comprise the SFSF against ANSI/ANS 57.7 "Design Criteria for an Independent Spent Fuel Storage Installation (Water Pool Type)"**

Regulatory Guide 3.49 endorses this Standard for newly constructed Spent Fuel Storage Installations. An SEP-Type evaluation of the existing design and the proposed changes to the existing design necessary to establish the Spent Fuel Storage Building as an Independent Facility will be completed. This evaluation will be documented in a Topical Report. A

SEP-Type comparison of our existing design and proposed changes against this Standard will provide reasonable assurance that our design will satisfy NU's goal to "...do the right thing..." as well as satisfying any increased scrutiny from the regulator. Any unjustified deviations from the standard will be addressed in changes to the facility as the existing design evolves to an independent spent fuel storage facility. The deliverable will be a Topical Report.

Interpersonal:

- Open communications are encouraged. Periodic meetings should be conducted to ensure that all group leaders and team members are kept informed and have a forum in which to discuss issues and questions.
- Individual and team self-assessment should be routinely used to ensure that the LB/DB development is on schedule and continually on track. Team members are encouraged to bring to the attention of the team leader any barriers that have the potential to undermine success.
- Encourage new ideas and "thinking outside the box" to foster innovation and creative thinking to solve problems.
- Contact with Licensing will be used to ensure the LB/DB includes the latest License Amendments.

Tentative Schedule:

2/10/97	List barriers
2/17/97	List Systems and Structures affecting barriers
3/15/97	Document LB/DB for listed systems and structures
4/01/97	Validate LB/DB
5/01/97	Compare original design with ANSI/ANS 57.7
6/01/97	Compare proposed revised design with ANSI/ANS 57.7
6/30/97	Complete final documentation package including Topical Report on ANSI/ANS 57.7 comparison.