NSTR-006-99

CONSISTENCY COMPARISON BETWEEN NSTR AND APPLICABLE SARAH TASKS AND RELEVANT DOE TECHNICAL DIRECTION

Item	Topic	Related DOE Technical Direction	NSTR Approach Used
		Applicable SARAH Tasks and Related DOE Technical Direction	
01	Standardize Unmitigated Consequences and Frequency without Prevention	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #7.	MAR controls (container loading and criticality limits) are the only inherent controls assumed for unmitigated scenario consequence determination. "Without Mitigation" scenarios are evaluated only when a facility system can be credited as a mitigative protective feature (e.g., automatic sprinkler system, HEPA filtration, etc.)
02	Frequency Bin Designations		DOE-STD-3011 frequency bin designations.
03	Standardize Consequence Evaluation for the IW		Building 991 FSAR methodology.
04	Determine When to Model Class W and Class Y Material and when to use blended	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #1.	Followed KH direction (AMP-236-99, 9-7-99). Used current blended DCFs developed for Building 991 FSAR.
06	Pu Equivalence	▪ DOE Approval for 750/904 Pads FSAR, Rev. 8, 4-5-99, Appendix 2, #3. ▪ DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-1, #4.	Followed referenced DOE technical direction for aircraft crash scenario (i.e., POCs modeled as 883 grams WG Pu Class W equivalent).
09	Incorporate ICRP-68 Data/Breathing Rates		RADIDOSE Version 1.2 DCFs.
11	Cover treatment of Liquid in Waste Containers		Building 991 FSAR methodology.
12	Standardize Control Set Selection Criteria Process		Building 991 FSAR methodology.

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CONSISTENCY COMPARISON BETWEEN NSTR AND APPLICABLE SARAH TASKS AND RELEVANT DOE TECHNICAL DIRECTION

Item	Topic	Related DOE Technical Direction	NSTR Approach Used
		Applicable SARAH Tasks and Related DOE Technical Direction	
13	Standardize Guidance on Crediting Preventive Controls		Building 991 FSAR methodology.
14	Revise SARAH with new Evaluation Guidelines		DOE-STD-3011 risk binning criteria.
15	Guidance on Reducing Risk Dominant Scenarios		Building 991 FSAR methodology.
17	Establish Approach for Credit of SSCs		Building 991 FSAR methodology.
18	Develop Adequacy/Vulnerability Assessment Methodology	▪ DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #3 & #7. ▪ DOE Review Report for Building 707 BIO, Rev. 1, 7-22-99, Appendix C-2, #1.	Used streamlined approach to control set adequacy/vulnerability. Control set vulnerability sections for each evaluated accident scenario qualitatively discuss how the failure of a specific control affects scenario frequency and/or consequence (does not discuss whether or not there is a frequency, consequence, or risk bin jump). Detailed discussions will be provided in facility-specific AB documents.
19	Standardize Drum/Crate Fire Methodology		Fire sizes: 1 MW (3 drums, doesn't activate suppression) and 4 MW (9 drums mitigated to 6 drums by activation of fire suppression).
20	Standardize Frequencies of Dock Fires Involving TRU/Residue		Building 991 FSAR methodology.
21	Standardize Fire Durations		Building 991 FSAR methodology.
23	Standardize Terminology for Fuel Package Sizes + Inspection/Spacing Requirements		Building 991 FSAR methodology.

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CONSISTENCY COMPARISON BETWEEN NSTR AND APPLICABLE SARAH TASKS AND RELEVANT DOE TECHNICAL DIRECTION

Item	Topic	Related DOE Technical Direction	NSTR Approach Used
Applicable SARAH Tasks and Related DOE Technical Direction			
24	Determine Hydrogen Explosion in Drum Frequency		Building 991 FSAR methodology.
26	Update Flammable Gas Explosion Methodology	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix B, #1.	Used approach in Building 991 FSAR Rev. 1 (MDB-315-99, 9-23-99). Use of "pony packs" in lieu of standard size acetylene cylinder to be addressed in individual facility ABs.
27	Develop ARF/RF for POCs and Drums	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #2.	Followed KH direction (AMP-221-99, 8-26-99).
28	Examine LPF and DR for a Forklift Tine Puncture		Used B991 drum puncture evaluation.
32	Incorporate Data for Tornado/High Wind		Building 991 FSAR methodology.
34	Revise Airplane Crash Methodology		FSAR methodologies for Building 440, 664, 750/904 Pad, and 991.
36	Standardize Earthquake MAR Assumptions	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #6.	Modeled earthquake scenario after Building 569 and Building 991.
44	Standardize Hazard Evaluation Process & Format		Building 991 FSAR and B440 PSAR Methodology.
45	Coverage of Various Container Types		Building 991 FSAR methodology.
46	Handling of MAR/Material Uncertainty		Building 991 FSAR methodology.

CONSISTENCY COMPARISON BETWEEN NSTR AND APPLICABLE SARAH TASKS AND RELEVANT DOE TECHNICAL DIRECTION

Item	Topic	Related DOE Technical Direction	NSTR Approach Used
		Related Topics Not Included Above	
1	Bounding NPH Events	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-2, #5.	Per referenced DOE technical direction, NSTR uses qualitative consequence assessments and assignment of risk classes for natural phenomena hazards other than seismic (i.e., wind, tornado, snow loads).
2	Compressed Gas Cylinder Missiles	DOE Letter Disapproving Building 991 JCO for Headspace Gas Sampling & Analysis Operation, 8-13-99, #2.	Used approach in Building 991 JCO (Rev. 2) for Headspace Gas Sampling & Analysis Unit Operation (reference TWO-086-99, 9-9-99).
3	Forklift Tine Punctures of POCs and Type B Containers	DOE Review Report for Building 991 FSAR, 5-5-99, Appendix C-1, #1.	Used approach in Building 991 FSAR Rev. 1 (MDB-315-99, 9-23-99) which provided additional justification for reducing likelihood of a POC and Type B container puncture to a beyond extremely unlikely event.
4	Dock Fires	DOE Review Report for Building 569 BIO, Rev. 3, 7-2-99, #5.	No dock fires or other dock accidents were included in the NSTR per referenced DOE technical direction.
5	Credit Fire Department Response	▪ DOE Review Report for Building 991 FSAR, 5-5-99, Appendix A, #2. ▪ DOE Review Report for Building 707 BIO, Rev. 1, 7-22-99, Appendix C-2, #3.	Per referenced DOE technical direction, Fire Department response is credited in the scenario description and summary tables whenever the automatic sprinklers are credited to prevent or mitigate fires.