

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Public Hearing on Safety Management of Waste Storage and Processing in the Defense Nuclear Facilities Complex

Acronyms

830	Code of Federal Regulations, Title 10 Part 830	Facrep	DOE facility representative
3009	DOE Standard 3009	GSTR	Generator Site Technical Review
5506	DOE Standard 5506-2007	ICP	Idaho Cleanup Project
AIB	DOE Accident Investigation Board	INL	Idaho National Laboratory
AK	Acceptable Knowledge	JON	Judgment of Need
AMWTP	Advanced Mixed Waste Treatment Project	LANL	Los Alamos National Laboratory
ARF	Airborne Release Fraction	LFL	Lower Flammability Limit
ARP	Accelerated Retrieval Project	LLW	Low level waste
BOK	Basis of Knowledge	NNSA	National Nuclear Security Administration
CAP	Corrective Action Plan	OE	Operating Experience
CBFO	DOE Carlsbad Field Office	ORPS	Occurrence Reporting and Processing System
CCE	Chemical Compatibility Evaluation	RH	Remote-handled transuranic waste
CCP	Central Characterization Program	RF	Respirable Fraction
CH	Contact-handled transuranic waste	RWMC	Radioactive Waste Management Complex
CON	Conclusion	SDA	Subsurface Disposal Area
Conops	Conduct of operations	SRP	Sludge Repacking Project
DNFSB	Defense Nuclear Facilities Safety Board	SRS	Savannah River Site
DSA	Documented Safety Analysis	TRU	Transuranic waste
EM	DOE Office of Environmental Management	TSR	Technical Safety Requirements
ESS	Evaluation of the Safety of the Situation	WAC	Waste Acceptance Criteria
		WIPP	Waste Isolation Pilot Plant

Glossary and Additional Information

Accelerated Retrieval Project: A DOE project to remove certain wastes from the Idaho National Laboratory. The April 2018 event took place at a building called Accelerated Retrieval Project V. The Accelerated Retrieval Project buildings are above portions of the Subsurface Disposal Area, which contains buried wastes.

Deflagration: A combustion event where the flame front propagates at less than the speed of sound. Nuclear wastes often emit flammable gases and vapors, such as hydrogen, methane and xylene. If these fuels are present in sufficient concentrations, if there is sufficient oxygen or other oxidizer, and if there is an ignition source, a deflagration could occur. A deflagration can represent a type of explosion.

Defense-in-Depth: A fundamental approach to hazard control for nuclear facilities that is based on several layers of protection to prevent the release of radioactive or other hazardous materials to the environment. These protective layers are generally redundant and independent of each other to compensate for unavoidable human and mechanical failures so that no single layer, no matter how robust, is exclusively relied upon. [DOE Standard 3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*]

Fluor Idaho, LLC: A DOE contractor that performs cleanup work at the Idaho National Laboratory. Fluor Idaho, LLC, operates the Radioactive Waste Management Complex and the Advanced Mixed Waste Treatment Project.

Generator Site Technical Review: Reviews at DOE sites that generate transuranic waste. These reviews “will ensure that necessary and sufficient processes and procedures are in place and are implemented to assure TRU waste containers meet WIPP WAC requirements...” [DOE/CBFO 16-3563, *Waste Isolation Pilot Plant Generator Site Technical Review Plan*]. DOE initiated these reviews as a corrective action after the 2014 WIPP event.

Operating Experience: Information that relates to methods by which work is planned and conducted and an organization’s missions are performed. Operating experience provides the basis for knowledge and understanding that fosters development of lessons learned and improvement of operational experience. [DOE Order 210.2A, *DOE Corporate Operating Experience Program*]

Radioactive Waste Management Complex: The Accelerated Retrieval Project buildings are part of this larger facility. This facility also includes the Subsurface Disposal Area.

Safety Basis: The documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that adequately protects workers, the public, and the environment. [10 CFR 830, *Nuclear Safety Management*]

Transuranic waste: Material contaminated with transuranic elements – artificially made, radioactive elements, such as neptunium, plutonium, americium, and others – that have atomic numbers higher than uranium in the periodic table of elements. Transuranic waste is primarily produced from recycling spent fuel or using plutonium to fabricate nuclear weapons. [Glossary on the website of the U.S. Nuclear Regulatory Commission]

(formal definition) Waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for...high-level radioactive waste... [for complete definition, see WIPP Land Withdrawal Act, as amended]