Nevada Site Specific Advisory Board
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Administrative Board Meeting Handouts for Wednesday, January 16, 2019

Please note: For your convenience, this Table of Contents has a link to the first page of each handout.

NSSAB FULL BOARD MEETING ATTENDANCE

October 2018 through September 2019 (FY 2019)

Name	11/7/18	1/16/19	3/20/19	4/24/19	7/17/19	9/18/19	Max Terms
MEMBERS							
Amina Anderson	√	√					2020
Francis Bonesteel	√	√					2022
William DeWitt	√	√					2024
Pennie Edmond	√	√					2020
Karen Eastman	√	√					2022
Raymond Elgin	E						2022
Charles Fullen	√	√					2022
Richard Gardner	√	√					2022
Anthony Graham	√	√					2024
Tanya Henderson	√	√					2024
Hepburn Klemm	√	√					2024
Donald Neill	√	√					2020
Steve Rosenbaum	√	√					2020
Janice Six	√	√					2024
Richard Stephans	√	√					2022
Richard Twiddy	√	√					2022
Dina Williamson-Erdag	√	√					2022
C.J. Wissmiller	√	√					2024
LIAISONS							
Clark County	√	E					
Consolidated Group of Tribes & Organizations	E	√					
Esmeralda County Commission	√	√					
Lincoln County Commission	E	√					
Nye County Commission	U	E					
Nye County Emergency Management	√	√					
Nye Co. Nuclear Waste Repository Project Office	√	√					
State of NV Division of Env Protection	√	√					
U.S. Natl Park Service	√	E					
White Pine County Commission		E					

KEY: √ - Present E - Excused V - Vacant U - Unexcused

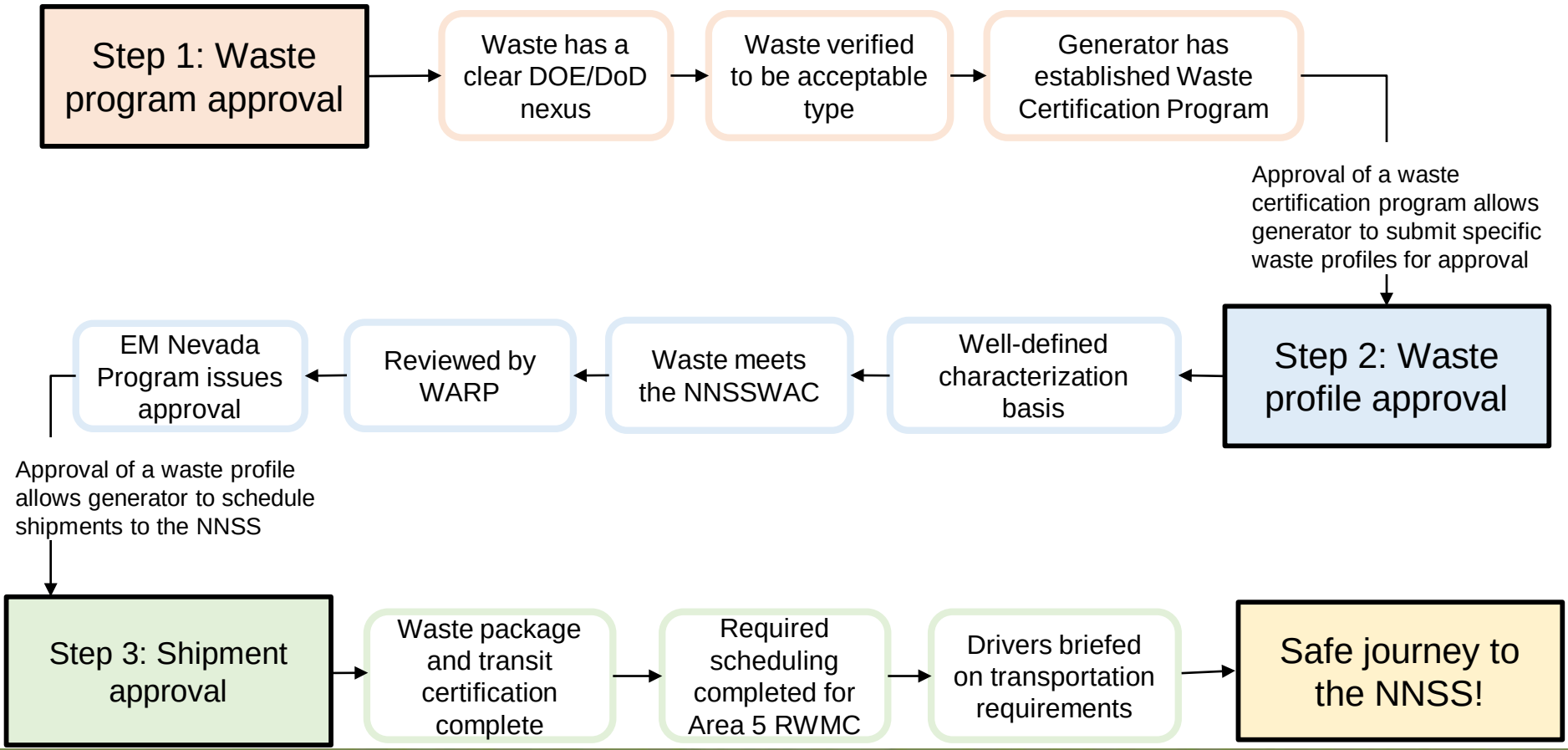
New Generators – Start to Finish Overview

Marilew Bartling
Radioactive Waste Acceptance Program Manager
Navarro
January 16, 2019

Outline

1. Steps to waste program approval
2. Steps to waste profile approval
3. Steps to shipment approval

Becoming an Approved Nevada National Security Site (NNSS) Generator



Environmental Management (EM)
U.S. Department of Energy (DOE)
U.S. Department of Defense (DoD)
Radioactive Waste Management Complex (RWMC)
Waste Acceptance Criteria (WAC)
Waste Acceptance Review Panel (WARP)

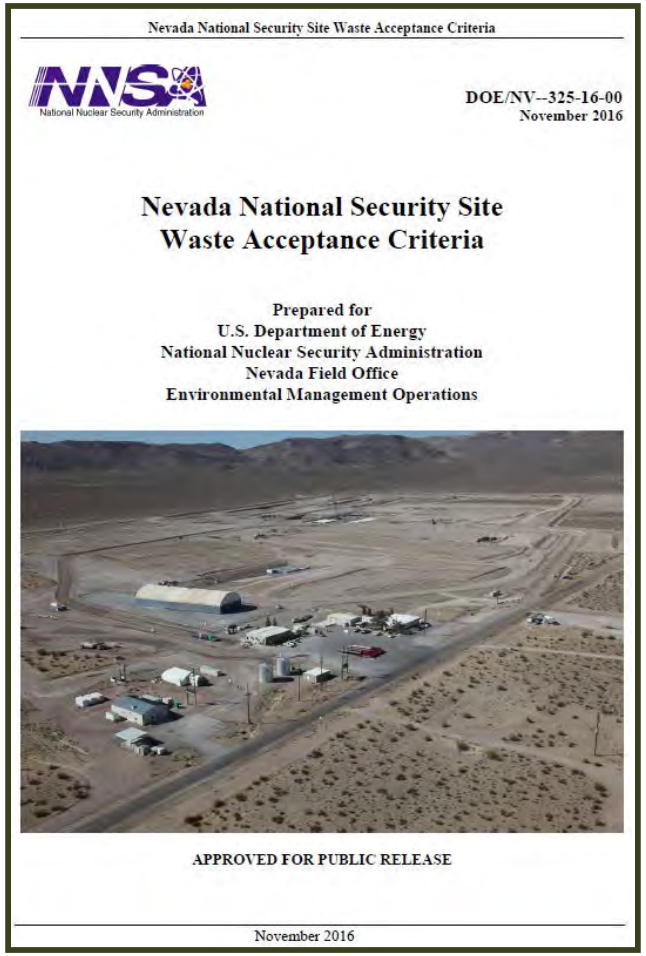
NNSS Waste Program Personnel

- **Radioactive Waste Acceptance Program (RWAP)** - Maintains the *Nevada National Security Site Waste Acceptance Criteria* and performs generator facility evaluations and verifications

- **Waste Acceptance Review Panel (WARP)** - Performs technical and regulatory profile reviews and makes recommendations regarding the acceptability of wastes; chaired by RWAP with subject matter experts from multiple disciplines

NNSS *Waste Acceptance Criteria (WAC)*

- Overarching document that details the requirements for generator sites and their proposed waste
  - Governs generator waste characterization and quality assurance policies, as well as the practices associated with waste inspection, packaging, shipping, and disposal
  - Designed to ensure the safe handling of waste in order to protect workers, the public, and environment


Nevada National Security Site Waste Acceptance Criteria

NNSA
National Nuclear Security Administration

DOE/NV--325-16-00
November 2016

Nevada National Security Site
Waste Acceptance Criteria

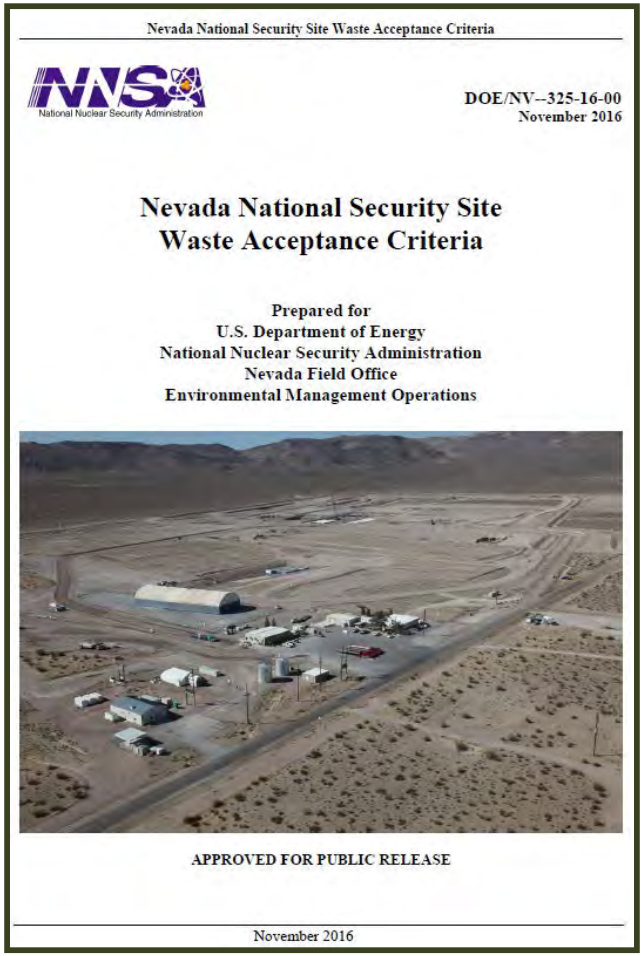
Prepared for
U.S. Department of Energy
National Nuclear Security Administration
Nevada Field Office
Environmental Management Operations

APPROVED FOR PUBLIC RELEASE

November 2016

NNSSWAC
(continued)

- Details process for submitting profiles of waste proposed for disposal at the NNSS
  - Waste information includes origin and eligibility, radiological content, hazardous material content and concentration, characterization methods, prohibited items, packaging and transportation
- Available online at: www.nnss.gov/docs/docs_RWM/NNSSWAC_Nov%202016.pdf



Nevada National Security Site Waste Acceptance Criteria

NNSA National Nuclear Security Administration

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Nevada National Security Site Waste Acceptance Criteria

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Environmental Management Operations

APPROVED FOR PUBLIC RELEASE

November 2016

Becoming an Approved NNSS Generator

1. **Waste program approval**
   - Ensures the intended waste has a clear U.S. Department of Energy (DOE)/U.S. Department of Defense (DoD) nexus for acceptance
   - Ensures the intended waste is one of the acceptable waste types
   - Approves the generator's Waste Certification Program
2. **Waste profile approval**
   - Verifies the waste has a well-defined characterization basis
   - Verifies the waste meets the NNSSWAC
   - Notifies the generator of approval to schedule waste shipment
3. **Shipment approval**
   - Ensures waste package traceability to approved profile
   - Certifies the waste packages complies with the NNSSWAC

Waste Program Approval:
A Clear DOE/DoD Nexus

- In order to be disposed at the NNSS, waste must be generated at a DOE facility, defense-affiliated site, or have a clear nexus to a DOE-sponsored program
- Wastes that do not originate at a DOE site *may* be eligible if it meets one of the following:
  - Waste is from an Atomic Energy Commission, Energy Research and Development Agency, or DOE-funded site or facility
  - Waste is classified and originating from a DoD facility

Waste Program Approval:
A Clear DOE/DoD Nexus
(continued)

– Waste is derived from raw materials produced at a DOE facility

– Waste is subject to a Memo of Understanding signed by DOE regarding disposal

– There is congressional direction to DOE to provide disposal

Waste Program Approval:
Acceptable Waste Types

- Four types of waste accepted: low-level radioactive waste (LLW), mixed LLW (MLLW), classified non-radioactive (CNR) waste, and classified non-radioactive hazardous (CNRH) waste
  - LLW not classified as high-level radioactive waste, transuranic waste, spent fuel, by-product material, etc.
  - MLLW is a combination of LLW with a hazardous constituent (i.e., toxic, corrosive, reactive, ignitable or listed by U.S. Environmental Protection Agency as hazardous)
  - CNR consists of classified components that have no radioactive or hazardous contamination but must be securely disposed in the interest of national security
  - CNRH classified components with no radioactive contamination but do contain hazardous constituents

Waste Program Approval:
Waste Certification Program

- In order to become NNSS-approved, a generator must have an approved waste certification program
- The NNSS program works with a variety of generators across the country, including:
  - DOE/DoD facilities that have established internal waste programs with responsibilities from the point of generation through management, certification, and shipment
  - Established certification programs hired by generators to certify waste generated at facilities with a DOE nexus
  - Commercial facilities that treat DOE-originating waste and submit under its own certification program

Waste Program Approval:
Waste Certification Program
(continued)

- Each generator is required to have a Waste Certification Official (WCO) who is responsible for implementing the requirements of the NNSSWAC
  - Independent of budget and schedule responsibilities
  - Certifies that requirements are met through characterization, profiling, packaging, and transportation

Waste Program Approval:
Waste Certification Program
(continued)

- Generator's Quality Assurance (QA) Program Plan for waste certification includes:
  - Design control
    - e.g., Ensuring drawings and specifications for packaging are controlled
  - Procurement control and receipt processes
    - e.g., Purchasing and inspecting packages for compliance with the drawings and specifications

Waste Program Approval:
Waste Certification Program
(continued)

- Generator's QA Program Plan for waste certification includes (continued):
  - Corrective actions
    - Robust identification, reporting, and closure
    - Tracking and trending
  - Software control
    - Ensuring software meets specifications
  - Training

Waste Program Approval:
Waste Certification Program
(continued)

- Prior to certification, generator programs undergo an onsite review by RWAP focusing on the following:
  - QA
  - Traceability
  - Radiological characterization
  - Chemical characterization
  - Transportation

Waste Program Approval:
Waste Certification Program
(continued)

- Audits are subject to observation by the Environmental Management (EM) Nevada Program and the State of Nevada Division of Environmental Protection (NDEP)
- Generators are required to respond to all written audit findings
- EM Nevada Program issues approval of generator's waste program after successful review by RWAP

Becoming an Approved NNSS Generator

1. **Waste program approval**
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   - Certifies the waste packages complies with the NNSSWAC

Waste Profile Approval:
A Well-Defined Characterization Basis

- A profile must be submitted for all wastes to be considered for acceptance at the NNSS
- Profile information includes:
  - Waste description, including origin and physical characteristics
  - Radionuclide data such as dose rates, total activity, and fissile activity
  - Chemical characterization and classification data
- Based on the information in the profile, a determination is made as to whether the waste meets the current NNSSWAC

Waste Profile Approval:
Meets the NNSSWAC

- All profiles are reviewed by the WARP, which includes subject matter experts from Federal and contractor staff
- NDEP offers input to indicate the Agency is cognizant of the waste, but does not formally approve or concur on WARP recommendations made to the EM Nevada Program

Waste Profile Approval:
Notification of Approval to Schedule Shipments

- WARP provides recommendations to EM Nevada Program on waste acceptance
- EM Nevada Program issues the profile approval letter to the generator
- The approval of a waste profile allows a generator to schedule shipments to the NNSS

Becoming an Approved NNSS Generator

1. **Waste program approval**
   - Ensures the intended waste has a clear DOE/DoD nexus for acceptance
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Shipment Approval:
Ensures Waste Traceability

- All NNSS-bound waste information is submitted to the NNSS disposal facility electronically prior to shipment, with specific container and shipment information including: profile identification, reportable nuclides, container types, and weight
  - Data is cross-checked to ensure waste adheres to the profile

Shipment Approval:
Waste Package Certification

- WCOs, working on behalf of RWAP, certify the containers are compliant with all program elements by placement of certification labels
- Drivers are briefed on all transportation requirements including off-limits routes and completion of a driver's questionnaire
- Trucks are released in compliance with U.S. Department of Transportation regulations for a safe journey to the NNSS

Recap

1. **Waste program approval**
   - A clear DOE/DoD nexus
   - Acceptable waste types
   - Waste Certification Program
2. **Waste profile approval**
   - A well-defined characterization basis
   - Meets the NNSSWAC
   - Notification of approval to schedule shipments
3. **Shipment approval**
   - Ensures waste traceability
   - Waste package certification

Questions?

Nevada Site Specific Advisory Board

November 7, 2018

Ms. Kelly Snyder, DDFO
U.S. Department of Energy, Environmental
Management (EM) Nevada Program
P.O. Box 98518
Las Vegas, NV 89193-8518

SUBJECT: Recommendation for Offsite Groundwater Communication Plan (Work Plan Item #6)

Dear Ms. Snyder,

The Nevada Site Specific Advisory Board (NSSAB) was asked to provide a recommendation, from a community perspective, to the U.S. Department of Energy (DOE) on if the Offsite Groundwater Communication Plan is supported by the NSSAB and/or how it could be improved.

In support of this work plan item, Bill Wilborn, Deputy Program Manager, Operations for the EM Nevada Program, presented an overview at the November 7, 2018 NSSAB Meeting on the Underground Test Area groundwater activity and current contamination levels in the Pahute Mesa area of the Nevada National Security Site This provided an excellent foundation for your briefing on the work plan item explaining the purpose and the five key components of the Offsite Groundwater Communication Plan.

After deliberation, the NSSAB recommends that the Offsite Groundwater Communication Plan be accepted as presented as it is an excellent plan, well thought out, and simple to follow.

The NSSAB thanks you and Mr. Wilborn for your time in briefing this work plan item in order to provide this recommendation.

Sincerely,

Frank Bonesteel, Chair

cc: David Borak, DOE/HQ (EM-4.32)
Michelle Hudson, DOE/HQ (EM-4.32)
Barbara Ulmer, Navarro
NSSAB Members and Liaisons
Robert Boehlecke, EM
Catherine Hampton, EM
Bill Wilborn, EM

232 Energy Way, M/S 167, North Las Vegas, NV 89030
Phone 702-523-0894 ◇ Fax: 702-295-2025
E-mail: NSSAB@emcbc.doe.gov ◇ Website Home Page: www.nnss.gov/NSSAB

U.S. Department of Energy
Environmental Management
Nevada Program
P.O. Box 98518
Las Vegas, NV 89193-8518

December 10, 2018

Frank Bonesteel, Chair
Nevada Site Specific Advisory Board
232 Energy Way
North Las Vegas, NV 89030

RESPONSE TO THE NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB) RECOMMENDATION FOR OFFSITE GROUNDWATER COMMUNICATION PLAN (WORK PLAN ITEM #6)

Reference: Ltr Bonesteel to Snyder, dtd 11/7/2018

I would like to thank the NSSAB for its recommendation on the Offsite Groundwater Communication Plan work plan item in the above mentioned letter. The Environmental Management (EM) Nevada Program appreciates the time that the NSSAB spent in review and its subsequent support of the plan. The Department will continue to keep the NSSAB and other stakeholders aware of groundwater characterization and monitoring activities on a routine basis.

If you have any questions or comments on the Offsite Groundwater Communication Plan, please contact me at (702) 295-2836.

Kelly K. Snyder
Public Affairs Director
EM Nevada Program

EMOS:13023.KKS

cc via email:
David Borak, DOE/HQ (EM-4.32)
Michelle Hudson, DOE/HQ (EM-4.32)
Barbara Ulmer, Navarro
Navarro Central Files
NSSAB Members and Liaisons
Rob Boehlecke, EM
Catherine Hampton, EM
Bill Wilborn, EM

Evaluation of the Audit Determination Process – Work Plan Item #4

Robert Boehlecke
Program Manager
Environmental Management Nevada Program
January 16, 2019

Nevada Site Specific Advisory Board (NSSAB) Work Plan Item #4

- From a community perspective, provide a recommendation regarding if the existing Radioactive Waste Acceptance Program (RWAP) risk-informed process for scheduling facility evaluations is supported and how it could be enhanced
- The NSSAB recommendation is due by March 2019

Facility Evaluations

- There are 24* approved generator programs throughout the country under the RWAP
  - Includes U.S. Department of Energy, U.S. Department of Defense, and commercial sites – some which ship from multiple locations
  - Each generator program is subject to a facility evaluation on an annual basis
  - The RWAP subject matter experts execute the facility evaluation program

*As of December 2018

Facility Evaluations (continued)

- **Audits**: an onsite facility evaluation conducted on all program elements – quality assurance, traceability, transportation, radiological characterization, and chemical characterization
- **Surveillances**: an onsite facility evaluation more limited in scope to monitor the continued adherence to the program requirements
- **Table-Top Assessments:** a remote facility evaluation of program elements
- All facility evaluations involve reviews of procedures, records, and interviews with personnel
- EM Nevada Program, the State of Nevada Division of Environmental Protection (NDEP), and stakeholders may observe facility evaluations

Verifications

- In addition to facility evaluations, low-level waste (LLW) and mixed LLW (MLLW) verifications are conducted:
  - Verifications are site visits with the sole purpose of verifying that waste placed in a container is consistent with the profile
  - Verifications cannot substitute for an audit, surveillance, or table-top assessment
  - To best utilize resources, where possible, verifications are combined with audits or surveillances
- Other onsite evaluations, such as transportation assessments, may also be conducted

Facility Evaluation Scheduling Guidance

- Goal is to conduct a facility evaluation for each generator program annually
- Ensure all program elements are assessed at least every two years

Risk-Informed Spreadsheet

- Background:
  - Facility evaluations must be prioritized based on available resources and funding
  - The Risk-Informed Spreadsheet was developed to determine the relative risk for each generator program
    - The Risk-Informed Spreadsheet is now used as a tool to help schedule facility evaluations

Risk-Informed Spreadsheet
(continued)

- The goals of the Risk-Informed Spreadsheet are to:
  - Use a defined, documented model that is quantitative in nature
  - Incorporate waste forecasting to understand challenges
  - Incorporate generator past performance to help identify the relative risk
  - Identify special or unique waste streams
  - Identify other considerations that may prioritize a particular site

Risk-Informed Spreadsheet
(continued)

Generator	# SHIPMENT	# PACKAGES	LLW	NRC	MLLW	NRCH	ACTIVITY (curies)	FINDINGS	OBSER	# of Deviations	OVERSIGHT	TYPE B	D&D WASTE	COMMER-CIAL	OTHER CONSIDERATION	SPECIAL/UNIQUE/SENSITIVE - EXAMPLES ONLY	DATE OF LAST AUDIT	LLW Forecast (ft^3)	MLLW Forecast (ft^3)	NRC (ft^3)	NRCH (ft^3)	CALCULATED RISK SCORE	OVERALL RANKING
CNS Y-12	114	1,655	129,483	0	8,954	0	1.332E+01	0	0	0	NNSA	0				Soils	10/16/2014	144,518	9,538	0	0	50	1
Energy Solutions-Bear Creek (DRTK)	4	5	1,422	0	1,306	0	2.301E+03	0	0	1	ALL	1		X		U-233 Waste	1/17/2013	4,004	0	0	0	45	2
Portsmouth Gaseous Diffusion Plant	123	712	216,400	0	0	0	2.570E+01	0	1	1	EM	0	X		Large Ship Campaign		4/9/2015	631,229				45	2
Idaho Cleanup Project (ICP) (Fluor Idaho)[4]	80	566	12,750	0	11,281	0	2.790E+02	0	4	0	EM	40	X			Roaster Oxide	9/15/2016	15,641	13,320	0	0	45	2
Advanced Mixed Waste Treatment Plant (AMWTP)[4]	105	639	12,435	0	80,838	0	3.783E+01	0	1	1	EM	0				Pucks	9/15/2016	15,252	31,776	0	0	40	5
Lawrence Livermore National Laboratory	25	149	26,814	0	164	0	1.455E+05	1	0	1	NNSA	11				Spheres	2/9/2017	61,360	150	0	0	40	5
Nuclear Fuel Services	15	944	9,418	0	0	0	5.398E+00	0	1	0	Other	0		X		Chromium Exclusion	5/18/2017	7,831	0	0	0	40	5
Oak Ridge Reservation (UCOR)	143	684	79,822	0	3,554	0	7.336E+01	0	0	0	EM	0	X			Melton Valley Storage Tank Sludge, U-233	9/27/2018	53,348	3,859	0	0	40	5
M&EC Perma-Fix[1]	26	70	9,815	0	2,268	94	1.168E+03	0	4	0	NNSA/EM	0		X			7/14/2011	36,490	585	0	0	30	9
MSTS (NNSS)	40	77	6,349	1,383	347	172	8.370E+00	0	5	3	NNSA/EM/DoD	0				BWXT Shapes, Spheres	4/5/2018	3,760	165	2,725	640	30	9
Pantex Plant	6	7	2,881	0	322	221	3.184E-01	2	0	0	NNSA	0					5/23/2013	2,720	19	0	19	25	11
Oak Ridge National Laboratory (UT Battelle)	21	63	48,467	0	0	0	1.255E+04	0	0	1	Science	3					1/12/2017	13,814	0	0	0	25	11
Navarro	211	422	102,199	0	0	0	7.592E+01	1	0	1	EM	0			Large Ship Campaign			173,304	0	0	0	25	11
Los Alamos National Laboratory	43	334	28,199	0	0	0	8.187E+00	0	1	2	NNSA/EM	0	X			U-233 Waste	9/24/2015	56,400	2,500	100	0	20	14
West Valley Demonstration Project	104	327	113,509	0	0	0	1.898E+02	1	0	5	EM	0	X				10/19/2017	96,000	0	0	0	20	14
Depleted Uranium Hexafluoride Conversion Project (DUF6)[2]	6	12	13,855	0	0	0	5.554E-02	1	0	0	EM	0				Conversion Product	9/25/2014	4,692	47	0	0	15	16
Savannah River National Laboratory	0	0	0	0	0	0	0.000E+00	0	0	0	NNSA	0				Treatment Plant Waste	11/19/2015	1,820	0	0	0	15	16
Argonne National Laboratory	0	0	0	0	0	0	0.000E+00	0	4	0	Science	0					6/22/2017	0	0	0	0	15	16
Brookhaven National Laboratory	0	0	0	0	0	0	0.000E+00	1	6	0	Science	0					5/10/2018	1,356	0	0	0	15	16
Idaho National Lab (BEA)	46	251	30,539	2,564	0	0	1.515E+02	1	3	1	NE	0					7/12/2018	23,505	585	6,200	0	15	16
Berkeley (Old Town Decommissioning)[3]	138	402	89,497	0	11,251	0	7.511E-01	0	0	0	EM	0										10	21
General Atomics	0	0	0	0	0	0	0.000E+00	0	0	0	Other	0					7/15/2004	2,400	0	0	0	5	22
TRU Waste Processing Center	20	503	12,813	0	5,868	0	1.666E+01	0	0	1	EM	0					8/25/2016	16,770	9,090	0	0	5	22
Aberdeen Proving Ground	11	60	6,674	0	0	0	8.855E+00	0	1	0	Other	0					8/10/2017	2,112	0	0	0	5	22
Paducah Gaseous Diffusion Plant (PGDP)	0	0	0	0	0	0	0.000E+00	0	1	0	EM	0	X				4/26/2018	6,990	47	0	0	5	22
Knolls Atomic Power Lab[3]	5	33	670	0	9	0	4.421E+01	0	0	0	Other	0										5	22
Sandia National Laboratory	15	116	3,252	1,001	2,650	684	8.758E+02	0	1	0	NNSA/EM	0					11/3/2016	2,250	2,300	450	330	0	27
ORNL U233 Disposition Project (Isotek)[2]	0	0	0	0	0	0	0.000E+00	0	0	0	EM	0										0	27
Totals	1,301	8,031	957,262	4,949	128,812	1,171	1.633E+05	8	33	18		55						1,377,566	73,981	9,475	989		
Points Awarded to Top X Rankings	5	5	4		3		4	1	6	2								5	4				
Points Awarded	5	15	5		5		15	25	10	5	5	5	5	5	10	15		5	5				
															Average			FY 2019				22.5	

[1] Includes M&EC, Northwest, and Florida Facilities
[2] Includes Portsmouth and Paducah
[3] EnergySolutions Contract
[4] ICP and AMWTP scored separately, will be assessed as Fluor I
[5] PermaFix Contract

LLW – Low Level Waste
NRC – Non-Radioactive Classified
MLLW – Mixed Low Level Waste
NRCH – Non-Radioactive Classified Hazardous

EM – Environmental Management
DoD – Department of Defense
NE – Nuclear Energy
NNSA – National Nuclear Security Administration
Other – work for others, Army, etc.
D&D – Decontamination and Decommissioning

Units	
SHIPMENTS	Number
PACKAGES	Number
LLW	cubic feet (ft^3)
MLLW	cubic feet (ft^3)
FORECASTS	cubic feet (ft^3)

Attributes Considered for Risk

- Generator's experience level and waste forecasts:
  - Waste types – LLW versus MLLW
  - Number of packages
  - Number of shipments
  - Levels of radioactivity
  - Types of shipping containers

Attributes Considered for Risk
(continued)

- Generator's past performance:
  - Previous evaluation performances (number of Findings and Observations)
  - Number of *Nevada National Security Site Waste Acceptance Criteria* (NNSSWAC) deviation requests

Attributes Considered for Risk
(continued)

- Special or unique wastes:
  - Activity level
  - Wastes requiring special authorizations from regulatory bodies
  - Large campaigns

SEFOR – Southwest Experimental Fast Oxide Reactor

Calculating the Risk Score

- Risk score is calculated by:
  - Determining weight factor for each attribute
  - Using spreadsheet data to determine logical breaking points
  - Assigning weight factors to each generator
  - Summing up the weight factors for each generator
  - Ranking the generator by their total-risk score

Facility Evaluation Scheduling

- Generators are contacted by RWAP to identify their plans for packaging waste
- Using the information from the generators and the Risk-Informed Spreadsheet, a draft Facility Evaluation Schedule is prepared
- The draft Facility Evaluation Schedule is reviewed by Federal and contractor staff
- Comments are considered and changes made, if appropriate
- Federal and NDEP resources are added to the schedule
- Schedule is finalized and distributed

Path Forward

- NSSAB to recommend if the existing RWAP risk-informed process for scheduling facility evaluations is supported and how it could be enhanced


QUESTIONS
ANSWERS

RISK-INFORMED SPREADSHEET - DRAFT

Generator	# SHIPMENT	# PACKAGES	LLW	NRC	MLLW	NRCH	ACTIVITY (curies)	FINDINGS	OBSER	# of Deviations	OVERSIGHT	TYPE B	D&D WASTE	COMMERCIAL	OTHER CONSIDERATION	SPECIAL/UNIQUE/SENSITIVE - EXAMPLES ONLY	DATE OF LAST AUDIT	LLW Forecast (ft^3)	MLLW Forecast (ft^3)	NRC (ft^3)	NRCH (ft^3)	CALCULATED RISK SCORE	OVERALL RANKING
CNS Y-12	114	1,655	129,483	0	8,954	0	1.332E+01	0	0	0	NNSA	0				Soils	10/16/2014	144,518	9,538	0	0	50	1
Energy Solutions-Bear Creek (DRTK)	4	5	1,422	0	1,306	0	2.301E+03	0	0	1	ALL	1		X		U-233 Waste	1/17/2013	4,004	0	0	0	45	2
Portsmouth Gaseous Diffusion Plant	123	712	216,400	0	0	0	2.570E+01	0	1	1	EM	0	X		Large Ship Campaign		4/9/2015	631,229				45	2
Idaho Cleanup Project (ICP) (Fluor Idaho)[4]	80	566	12,750	0	11,281	0	2.790E+02	0	4	0	EM	40	X			Roaster Oxide	9/15/2016	15,641	13,320	0	0	45	2
Advanced Mixed Waste Treatment Plant (AMWTP) [4]	105	639	12,435	0	80,838	0	3.783E+01	0	1	1	EM	0				Pucks	9/15/2016	15,252	31,776	0	0	40	5
Lawrence Livermore National Laboratory	25	149	26,814	0	164	0	1.455E+05	1	0	1	NNSA	11				Spheres	2/9/2017	61,360	150	0	0	40	5
Nuclear Fuel Services	15	944	9,418	0	0	0	5.398E+00	0	1	0	Other	0		X		Chromium Exclusion	5/18/2017	7,831	0	0	0	40	5
Oak Ridge Reservation (UCOR)	143	684	79,822	0	3,554	0	7.336E+01	0	0	0	EM	0	X			Melton Valley Storage Tank Sludge, U-233	9/27/2018	53,348	3,859	0	0	40	5
M&EC Perma-Fix[1]	26	70	9,815	0	2,268	94	1.168E+03	0	4	0	NNSA/EM	0		X			7/14/2011	36,490	585	0	0	30	9
MSTS (NNSS)	40	77	6,349	1,383	347	172	8.370E+00	0	5	3	NNSA/EM/DoD	0				BWXT Shapes, Spheres	4/5/2018	3,760	165	2,725	640	30	9
Pantex Plant	6	7	2,881	0	322	221	3.184E-01	2	0	0	NNSA	0					5/23/2013	2,720	19	0	19	25	11
Oak Ridge National Laboratory (UT Battelle)	21	63	48,467	0	0	0	1.255E+04	0	0	1	Science	3					1/12/2017	13,814	0	0	0	25	11
Navarro	211	422	102,199	0	0	0	7.592E+01	1	0	1	EM	0			Large Ship Campaign			173,304	0	0	0	25	11
Los Alamos National Laboratory	43	334	28,199	0	0	0	8.187E+00	0	1	2	NNSA/EM	0	X			U-233 Waste	9/24/2015	56,400	2,500	100	0	20	14
West Valley Demonstration Project	104	327	113,509	0	0	0	1.898E+02	1	0	5	EM	0	X				10/19/2017	96,000	0	0	0	20	14
Depleted Uranium Hexafluoride Conversion Project (DUF6)[2]	6	12	13,855	0	0	0	5.554E-02	1	0	0	EM	0				Conversion Product	9/25/2014	4,692	47	0	0	15	16
Savannah River National Laboratory	0	0	0	0	0	0	0.000E+00	0	0	0	NNSA	0				Treatment Plant Waste	11/19/2015	1,820	0	0	0	15	16
Argonne National Laboratory	0	0	0	0	0	0	0.000E+00	0	4	0	Science	0					6/22/2017	0	0	0	0	15	16
Brookhaven National Laboratory	0	0	0	0	0	0	0.000E+00	1	6	0	Science	0					5/10/2018	1,356	0	0	0	15	16
Idaho National Lab (BEA)	46	251	30,539	2,564	0	0	1.515E+02	1	3	1	NE	0					7/12/2018	23,505	585	6,200	0	15	16
Berkeley (Old Town Decommissioning)[5]	138	402	89,497	0	11,251	0	7.511E-01	0	0	0	EM	0										10	21
General Atomics	0	0	0	0	0	0	0.000E+00	0	0	0	Other	0					7/15/2004	2,400	0	0	0	5	22
TRU Waste Processing Center	20	503	12,813	0	5,868	0	1.666E+01	0	0	1	EM	0					8/25/2016	16,770	9,090	0	0	5	22
Aberdeen Proving Ground	11	60	6,674	0	0	0	8.855E+00	0	1	0	Other	0					8/10/2017	2,112	0	0	0	5	22
Paducah Gaseous Diffusion Plant (PGDP)	0	0	0	0	0	0	0.000E+00	0	1	0	EM	0	X				4/26/2018	6,990	47	0	0	5	22
Knolls Atomic Power Lab[5]	5	33	670	0	9	0	4.421E+01	0	0	0	Other	0										5	22
Sandia National Laboratory	15	116	3,252	1,001	2,650	684	8.758E+02	0	1	0	NNSA/EM	0					11/3/2016	2,250	2,300	450	330	0	27
ORNL U233 Disposition Project (Isotek)[3]	0	0	0	0	0	0	0.000E+00	0	0	0	EM	0										0	27
Totals	1,301	8,031	957,262	4,949	128,812	1,171	1.633E+05	8	33	18		55						1,377,566	73,981	9,475	989		
Points Awarded to Top X Rankings	5	5	4		3		4	1	6	2								5	4				
Points Awarded	5	15	5		5		15	25	10	5	5	5	5	5	10	15		5	5				
															Average			FY 2019				22.5	

[1] Includes M&EC, Northwest, and Florida Facilities
[2] Includes Portsmouth and Paducah
[3] EnergySolutions Contract
[4] ICP and AMWTP scored separately, will be assessed as Fluor Idaho
[5] PermaFix Contract

LLW - Low Level Waste
NRC - Non-Radioactive Classified
MLLW - Mixed Low Level Waste
NRCH - Non-Radioactive Classified Hazardous

EM - Environmental Management
DoD - Department of Defense
NE - Nuclear Energy
NNSA - National Nuclear Security Administration
Other - work for others, Army, etc.
D&D - Decontamination and Decommissioning

Units	
SHIPMENTS	Number
PACKAGES	Number
LLW	cubic feet (ft^3)
MLLW	cubic feet (ft^3)
FORECASTS	cubic feet (ft^3)

Low-Level Waste Visual Verification – Work Plan Item #5

Marilew Bartling
Radioactive Waste Acceptance Program Manager
Navarro
January 16, 2019

Nevada Site Specific Advisory Board (NSSAB) Work Plan Item #5

- From a community perspective, provide a recommendation to the Environmental Management (EM) Nevada Program on how Radioactive Waste Acceptance Program (RWAP) visual verifications could be enhanced
- Up to two NSSAB members are invited to observe a low-level waste (LLW) visual verification and present their observations to the full board
- NSSAB recommendation is due by July 2019

Visual Verification

- Process of visually observing the generator as they place waste in the disposal package
  - Disposal packages may include drums, soft-sided containers, and cargo-type containers

Goals of Visual Verification

- Ensure waste placed in container is consistent with the profile
- Ensure the absence of prohibited items, such as free liquid
- Assess the physical form of the waste and the overall compliance to the profile and the *Nevada National Security Site Waste Acceptance Criteria* (NNSSWAC)

FY 2018 Visual Verifications

- RWAP performed 37 LLW visual verifications in fiscal year (FY) 2018, sites included:
  - National Laboratories at Oak Ridge, Lawrence Livermore, Los Alamos, Brookhaven, and Sandia
  - Clean-up and decommissioning projects at Idaho, West Valley, Portsmouth, Nevada National Security Site, and Tonopah Test Range
  - Production facilities including Advanced Mixed Waste Treatment Project in Idaho Falls, Idaho; Y-12 in Oak Ridge, TN; and Nuclear Fuel Services in Erwin, TN

FY 2019 Visual Verifications

- RWAP plans to conduct ~ 30 LLW visual verifications in FY 2019
  - As of the end of the first quarter of FY 2019, five visual verifications were completed
- The goal is to include visual verifications during the performance of annual audits and surveillances, whenever possible

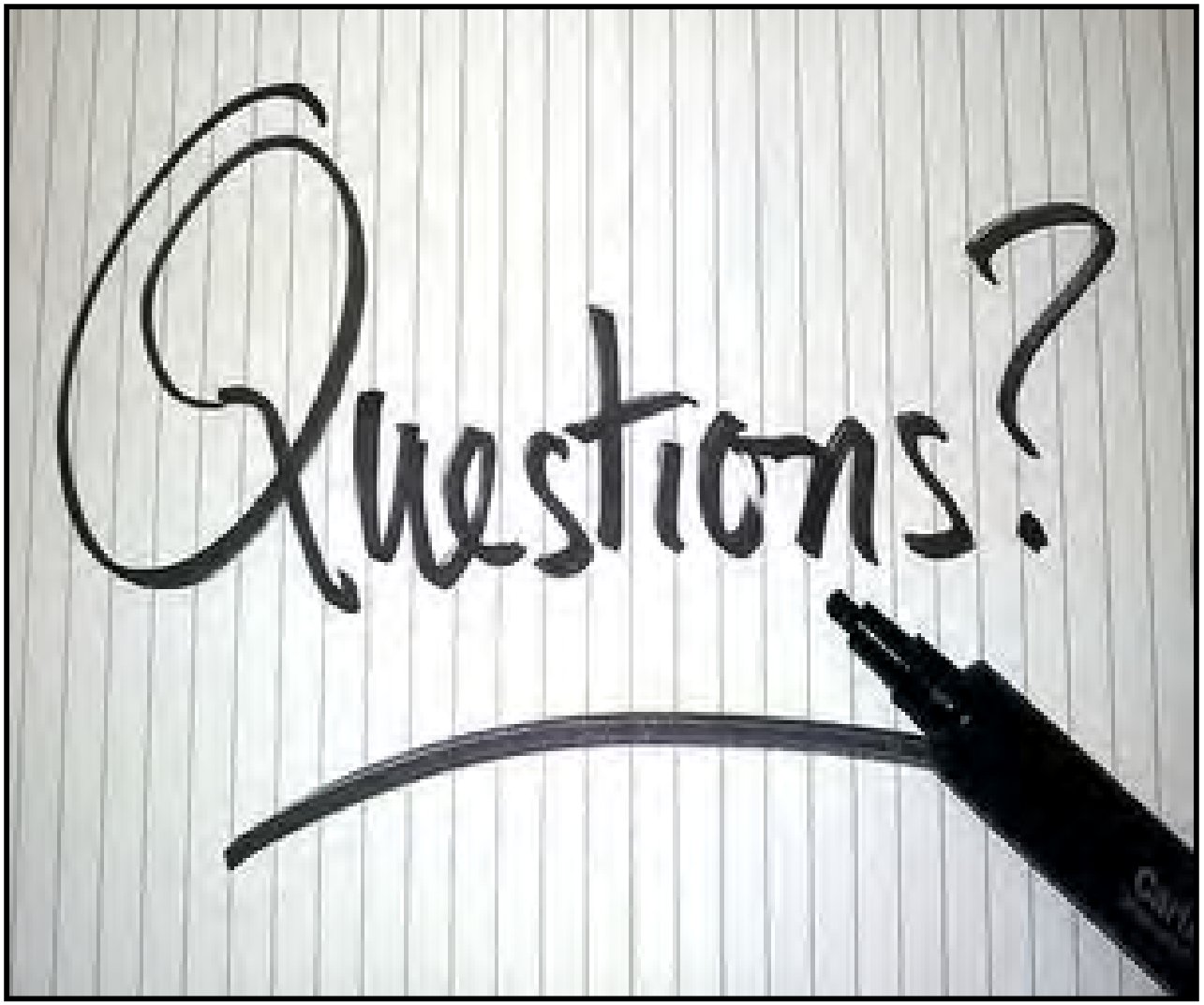
Proposed LLW Visual Verifications for NSSAB Observations

Date	Generator	Location	NSSAB Vote
02/12/2019	Mission Support and Test Services, LLC	Mercury, NV	
02/26/2019*	General Atomics	San Diego, CA	
03/26/2019*	URS CH2M Oak Ridge, LLC (UCOR)	Oak Ridge, TN	
06/04/2019*	Fluor-BWXT Portsmouth	Portsmouth, OH	

*Day one of a multi-day facility evaluation

Path Forward

- Select up to two NSSAB members to observe a LLW visual verification
- NSSAB members report their observations to the full board by July 2019
- Full board provides a recommendation to EM Nevada Program for ways to enhance LLW visual verifications by July 2019


Questions?