

Nevada National Security Site (NNSS) Area 5 Radioactive Waste Management Site – Environmental and Waste Management Perspective



Teri Browdy

Director, Environmental and Waste Management
National Security Technologies, LLC, Nevada National Security Site
2015 WM Symposia – Panel Session 093 (Phoenix, AZ)
March 18, 2015

This work was done by National Security Technologies, LLC, under Contract No. DE-AC52-06NA25946 with the U.S. Department of Energy.



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

DOE/NV/25946--2375

NNSS Waste Disposal Program

- Area 5 Radioactive Waste Management Site (RWMS) consists of 740 acres that was permanently transferred to U.S. Department of Energy (DOE) ownership
- Area 5 RWMS accepts low-level waste, mixed low-level waste, and non-radioactive classified waste from across the DOE Complex (25 approved generators).
- During the last 5 years, 7.3 million cubic feet (206,713 cubic meters) of waste in 9,684 shipments (containing 55,775 packages) was disposed at the Area 5 RWMS
- At the current rate of cell use, the facility is expected to provide a nominal disposal capacity of 1.5 million cubic feet (42,475.3 cubic meters) per year for more than 50 years



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

National Security Technologies LLC
Vision • Service • Partnership

www.em.doe.gov
03/18/2015 – Page 2
DOE/NV/25946--2375

NNSS Waste Disposal Program

(continued)

- Historically, the DOE Nevada Field Office relied on fees collected from directly billing the waste generators
- To alleviate the funding uncertainties, DOE Environmental Management (EM) Headquarters initiated full, direct program funding for NNSS Disposal Operations costs in fiscal year 2008
- Direct funding now contains allocated contributions from EM, the National Nuclear Security Administration, and other DOE programs that use the NNSS for waste disposal
- Funding level adjusted annually to maintain a stable, trained, and qualified work force that can safely receive at least 1.1 million cubic feet (31,148.5 cubic meters) of waste annually



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

National Security Technologies LLC
Vision • Service • Partnership

NNSS Waste Disposal Program

(continued)

- In January 2011, a new Resource Conservation and Recovery Act (RCRA) waste disposal cell opened (900,000 cubic feet capacity) to replace a cell operating under Interim Status
 - Constructed to prevent any migration of wastes out to the adjacent subsurface soil, groundwater, or surface water
 - Primary leachate collection system and leak detection system designed to operate and collect leachate during the active and closed life of the cell
 - Currently, 70% of available floor space and 41% of permitted capacity has been used



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

National Security Technologies LLC
Vision • Service • Partnership

www.em.doe.gov
03/18/2015 – Page 4
DOE/NV/25946--2375

NNSS Waste Disposal Program

(continued)

- Historically, disposal at Area 5 RWMS occurred in a 92-acre section of the site since the early 1960s
 - Commonly referred to as the 92-Acre Area, it consisted of 31 disposal cells (pits and trenches) and 13 Greater Confinement Disposal boreholes
 - Closure activities included
 - Construction of an engineered evapotranspiration cover
 - Installation of use restriction signs, concrete monuments, and subsidence survey monuments
 - Implementing a use restriction and post-closure inspections and monitoring



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

National Security Technologies LLC
Vision • Service • Partnership

www.em.doe.gov
03/18/2015 – Page 5
DOE/NV/25946--2375

Summary of Current Monitoring at Area 5 RWMS

- Direct radiation monitoring
- Air monitoring
- Radon flux monitoring
- Groundwater monitoring
- Meteorology monitoring
- Vadose zone monitoring
- Soil gas monitoring
- Biota monitoring (plant and animal)
- Monitoring results reported and published annually



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

National Security Technologies LLC
Vision • Service • Partnership

www.em.doe.gov
03/18/2015 – Page 6
DOE/NV/25946--2375