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## ***Nevada Site Specific Advisory Board*** ***Table of Contents***

**Full Board Meeting Handouts for  
Wednesday, November 9, 2016**

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has a link to the first page of each handout.**

**If you just want to print certain pages, the directions are: file, print, Pages to Print,  
choose the radio button-Pages and enter just the pages that you want printed,  
then choose print**

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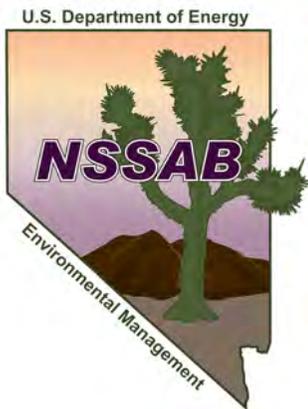
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# NSSAB MEETING ATTENDANCE

## Full Board Meetings

October 2016 through September 2017 (FY 2017)

Name	11/9/16	1/18/17	2/15/17	3/15/17	4/19/17	6/21/17	8/16/17	9/20/17	Max Terms
<b>MEMBERS</b>									
Michael Anderson	E								2020
Amina Anderson	√								2020
Arcadio Bolanos	√								2022
Francis Bonesteel	√								2022
Michael D'Alessio	√								2020
Pennie Edmond	√								2020
Karen Eastman	√								2022
Raymond Elgin	√								2022
Charles Fullen	√								2022
Richard Gardner	√								2022
Donald Neill	√								2020
Autumn Pietras	√								2022
Edward Rosemark	√								2018
Steve Rosenbaum	√								2020
William Sears	√								2018
Cecilia Flores Snyder	E								2020
Richard Stephans	√								2022
Jack Sypolt	√								2017
Richard Twiddy	√								2022
Dina Williamson-Erdag	E								2022
<b>LIAISONS</b>									
Clark County	√								
Consolidated Group of Tribes & Organizations	E								
Esmeralda County Commission	E								
Nye County Commission	U								
Nye County Emergency Management	E								
Nye Co. Nuclear Waste Repository Project Office	√								
State of NV Division of Env Protection	√								
U.S. Natl Park Service	E								
<b>KEY:</b> √ = Present    E - Excused    V=Vacant    U = Unexcused    RM = Remove    RS = Resign									



# Nevada Site Specific Advisory Board

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September 21, 2016

## Members

Michael Anderson  
Amina Anderson  
Michael D'Alessio  
Pennie Edmond  
**Donna Hruska, Chair**  
**Janice Keiserman, Vice Chair**  
Michael Moore  
Donald Neill  
Edward Rosemark  
Steve Rosenbaum  
William Sears  
Cecilia Flores Snyder  
Jack Sypolt  
Francisca Vega

## Liaisons

Clark County  
Consolidated Group of Tribes  
and Organizations  
Esmeralda County Commission  
Nye County Commission  
Nye County Emergency  
Management  
Nye County Nuclear Waste  
Repository Project Office  
State of Nevada Division of  
Environmental Protection  
U.S. National Park Service

## Administration

Barbara Ulmer, Administrator  
*Navarro*  
Kelly Snyder, DDFO  
*U.S. Department of Energy,  
Nevada Field Office*

Ms. Kelly K. Snyder  
Deputy Designated Federal Officer  
U.S. Department of Energy, Nevada Field Office  
P. O. Box 98518  
Las Vegas, NV 89193-8518

SUBJECT: Recommendation for Communication Improvement Opportunities  
(Work Plan Item #10)

Dear Ms. Snyder,

The Nevada Site Specific Advisory Board (NSSAB) was asked to provide recommendations, from a community perspective, to the U.S. Department of Energy (DOE) on ways that DOE can improve/enhance communication to the public (i.e. presentations, open houses, documents, fact sheets). Interim suggestions from NSSAB Members were documented in the official minutes of each Full Board meeting.

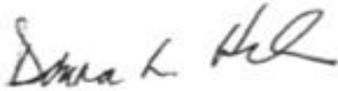
During fiscal year 2016, the NSSAB made the following recommendations for ways DOE can improve/enhance communication to the public:

- DOE should advertise NSSAB meetings/events on Pahrump Channel 46 and Clark County Channel 4.
- DOE should provide the NSSAB with an educational session on the national laboratories at the Nevada National Security Site (NNSS).
- DOE should invite town officials/representatives to NSSAB meetings/events when scheduled in their community.
- DOE should provide a clear bottom line earlier in work plan item presentations in order for the NSSAB to provide a more timely informed decision. Additionally, presentations should be structured differently by making it more focused for discussion by stating the activities that will be performed, estimated costs, and the estimated savings by using an alternate strategy.
- DOE should involve the NSSAB in more public involvement activities that reach larger audiences, i.e. radio and television interviews.
- DOE should hold more frequent and shorter NSSAB meetings in order to further involve the public.

- DOE should offer additional tours of the NNSS for local high school students.
- DOE should utilize more catchy phrases/events to capture the public's attention, i.e. "revisit of history" event during spring break at the Las Vegas sign.
- DOE should provide more promos on YouTube.
- DOE should utilize media outlets from the last NSSAB membership drive for future events as there was a tremendous response from the advertising.
- DOE should continue to enhance communications with generators and shippers regarding making prior arrangements with businesses in the communities for where the trucks should be parked and when they arrive, etc. This is in an effort to keep the public better informed.

The Board appreciates the opportunity to provide meaningful input to DOE on ways to enhance/improve communication to the public.

Sincerely,



Donna L. Hruska, Chair

cc: D. A. Borak, DOE/HQ (EM-3.2)  
E. B. Davison, DOE/HQ (EM-3.2)  
M. R. Hudson, DOE/HQ (EM-3.2)  
R. F. Boehlecke, NFO  
C. G. Lockwood, NFO  
S. A. Wade, NFO  
B. K. Ulmer, Navarro  
NSSAB Members and Liaisons



**Department of Energy**  
National Nuclear Security Administration  
Nevada Field Office  
P.O. Box 98518  
Las Vegas, NV 89193-8518



**OCT 17 2016**

Steve Rosenbaum, Chair  
Nevada Site Specific Advisory Board  
232 Energy Way  
North Las Vegas, NV 89030

**RESPONSE TO NEVADA SITE SPECIFIC ADVISORY BOARD (NSSAB)  
RECOMMENDATION FOR COMMUNICATION IMPROVEMENT OPPORTUNITIES  
(WORK PLAN ITEM #10)**

The Nevada Field Office (NFO) appreciates the NSSAB's recommendations on ways to enhance/improve communications to the public.

Below are the Board's recommendations and the NFO's responses:

- **NSSAB Recommendation:** DOE should advertise NSSAB meetings/events on Pahrump Channel 46 and Clark County Channel 4.

**NFO Response:** This recommendation will be considered during future event planning and execution.

- **NSSAB Recommendation:** DOE should provide the NSSAB with an educational session on the national laboratories at the Nevada National Security Site (NNSS).

**NFO Response:** A briefing on the national laboratories at the NNSS was included in the National Nuclear Security Administration-focused tour held on December 15, 2015.

- **NSSAB Recommendation:** DOE should invite town officials/representatives to NSSAB meetings/events when scheduled in their community.

**NFO Response:** The NFO has implemented this recommendation and will invite town officials/representatives to meetings held in rural communities.

- **NSSAB Recommendation:** DOE should provide a clear bottom line earlier in work plan item presentations in order for the NSSAB to provide a more timely informed decision. Additionally, presentations should be structured differently by making it more focused for discussion by stating the activities that will be performed, estimated costs, and the estimated savings by using an alternate strategy.

**NFO Response:** This recommendation has been implemented by communicating with presenters during internal planning meetings for all briefings given to the NSSAB.

- **NSSAB Recommendation:** DOE should involve the NSSAB in more public involvement activities that reach larger audiences, i.e. radio and television interviews.

**NFO Response:** This recommendation will be considered during future event planning and execution.

- **NSSAB Recommendation:** DOE should hold more frequent and shorter NSSAB meetings in order to further involve the public.

**NFO Response:** This recommendation has been implemented in the fiscal year 2017 planning.

- **NSSAB Recommendation:** DOE should offer additional tours of the NNSS for local high school students.

**NFO Response:** The NFO will work with local high schools to provide tours of the NNSS for students upon request.

- **NSSAB Recommendation:** DOE should utilize more catchy phrases/events to capture the public's attention, i.e. "revisit of history" event during spring break at the Las Vegas sign.

**NFO Response:** This recommendation will be considered during future event planning and execution.

- **NSSAB Recommendation:** DOE should provide more promos on YouTube.

**NFO Response:** The NFO is planning for future opportunities for more promos on all social media avenues, including YouTube.

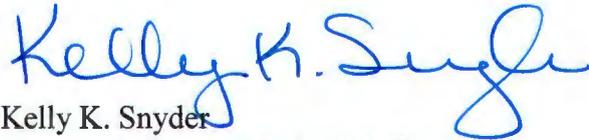
- **NSSAB Recommendation:** DOE should utilize media outlets from the last NSSAB membership drive for future events as there was a tremendous response from the advertising.

**NFO Response:** This recommendation has been implemented in events, such as, the Groundwater Open House.

- **NSSAB Recommendation:** DOE should continue to enhance communications with generators and shippers regarding making prior arrangements with businesses in the communities for where the trucks should be parked and when they arrive, etc. This is in an effort to keep the public better informed.

**NFO Response:** The NFO will continue to communicate with generators and shippers regarding this item.

The NFO has found these recommendations to be very valuable in communicating with the public and look forward to receiving your feedback on communication enhancements in the upcoming fiscal year.



Kelly K. Snyder  
Deputy Designated Federal Officer

EMOS:12041.KKS

cc via e-mail:

D. A. Borak, DOE/HQ (EM-4.32)

E. B. Davison, DOE/HQ (EM-4.32)

M. R. Hudson, DOE/HQ (EM-4.32)

NSSAB Members and Liaisons

B. K. Ulmer, Navarro

R. F. Boehlecke, NFO

C. G. Lockwood, NFO

S. A. Wade, NFO

NFO Read File

# Tonopah Test Range Background for Clean Slate II



**Joseph Johnston**

Navarro Classification Officer

Nevada Site Specific Advisory Board (NSSAB)

November 9, 2016



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# Tonopah Test Range (TTR) History and Location

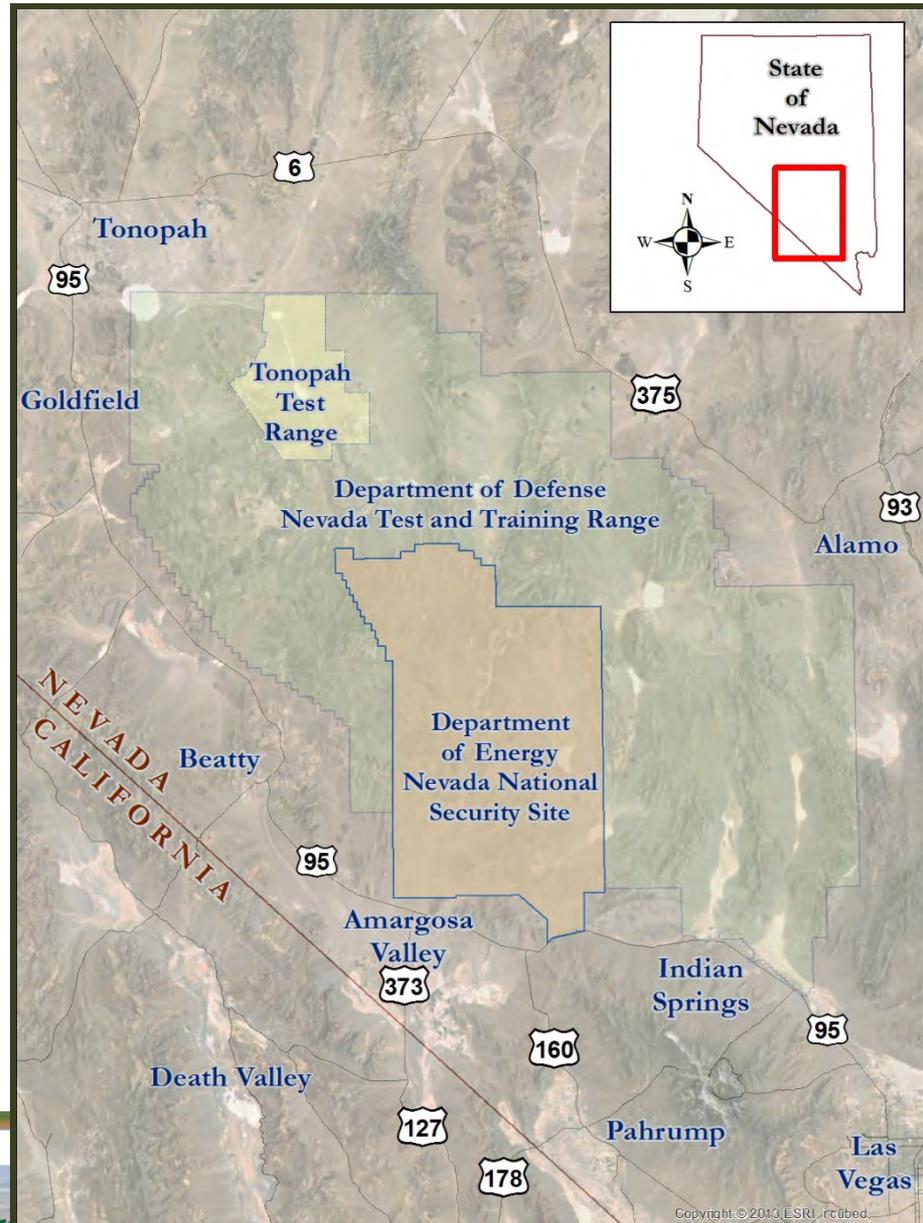
- The TTR is a specific part of the Nevada Test and Training Range (NTTR) which originated from lands withdrawn by President Roosevelt
- While the TTR's name has not changed since its beginning, the NTTR has changed names three times
  - Las Vegas Bombing and Gunnery Range in 1940
  - Nellis Air Force Range in mid-1970s
  - NTTR in 2001



# TTR History and Location

(continued)

- 150 miles northwest of Las Vegas, NV
- 30 miles southeast of Tonopah, NV
- Originally ~ 625 square miles
- Reduced to ~ 280 square miles in 2002



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# TTR Beginning and Initial Use

- TTR is located within the boundary and is part of the NTTR
- TTR established in 1956 and became operational for the Atomic Energy Commission in 1957
- Originally established for testing performance parameters of nuclear weapon delivery, arming, fusing, and firing systems



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# TTR Beginning and Initial Use

## (continued)

- Used in 1963 for Operation Roller Coaster
  - Four tests that included the non-nuclear yield producing, high explosives only, detonation of nuclear devices and surrogate nuclear devices (using depleted uranium)
    - All four were considered storage and transportation experiments
    - All four involved aspects considered safety experiments (i.e., proof that no nuclear yield would be produced)
    - Only three are within the current TTR land boundary (Clean Slate I, II, and III – Double Tracks is not)



# Current Use

- U.S. Air Force (USAF)
- Sandia National Laboratory
  - Stockpile reliability testing of nuclear weapons systems (not nuclear devices)
  - Arming, fusing, and firing systems testing
  - Testing nuclear weapon delivery systems
  - Research and development testing support of structural development
  - Characterize air performance of artillery, missiles, rockets, and drops from aircraft



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# Current Use

(continued)

- Side array of signal-tracking instrumentation
  - Video
  - High-speed cameras
  - Telemetry
  - Radar tracking devices
- Performance metrics
  - Ballistics
  - Aerodynamics
  - Parachute performance



# Sandia TTR Operations Center



- Houses mission critical systems
- Coordinates all test activities during testing operations

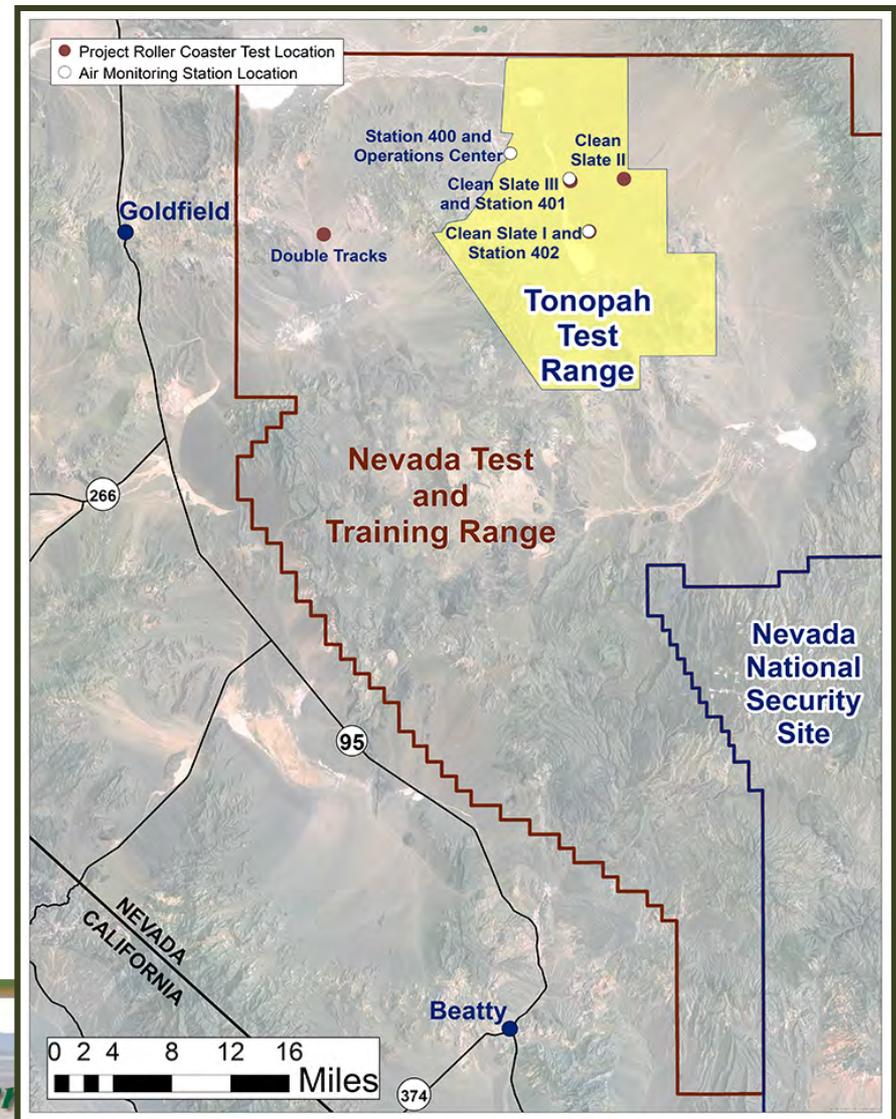


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# Air Monitoring

- Three preliminary air monitoring stations:
  - Station 400 – Near Range Operations Center (since July 2008)
  - Station 401 – North edge of Clean Slate III (since July 2008)
  - Station 402 – North edge of Clean Slate I (since August 2011)



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# Air Monitoring (continued)

- Collect data on selected meteorological and environmental parameters:
  - Wind speed and direction
  - Airborne particulate concentration as a function of particle size

Sandia National Laboratory TTR Station 400 near the Range Operations Center



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# Air Monitoring Results

- Filters capture particulates from continuous flow, low-volume air samplers that intake air at about the same height as a standing person
- Gross alpha and gross beta results are comparable to similar samples collected elsewhere in Nevada
- Gamma spectroscopy has identified only naturally occurring radionuclides except in 2011 when cesium-134 and cesium-137 from Fukushima detected



Pressurized  
Ion Chamber

Air sampler intake



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# Clean Slate II Path Forward Work Plan Item 2



**Tiffany Lantow**

Soils Activity Lead

U.S. Department of Energy (DOE), National Nuclear  
Security Administration, Nevada Field Office



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# Clean Slate II Overview

- Located on TTR which is an active test and training range
- May 1963 Operation Roller Coaster nonnuclear detonation conducted inside concrete bunker (three sides covered with two feet of soil)
- One outer fence posted as Contamination Area that encloses ~ 120 acres
  - A Contamination Area is any area where removable surface contamination levels exceed or are likely to exceed specified values



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# NSSAB Work Plan Item 2

From a community perspective, the NSSAB will provide recommendations as to which path forward option should be pursued for Clean Slate II



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# Discussion Topics

- Soils Activity Refresher
- Clean Slate II Activities and Data
- Corrective Action Alternatives
- Evaluation of Remediation Options



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# Work Plan Background

- Nevada Field Office has completed a corrective action alternative analysis with input from the USAF; clean closure tentatively selected
  - Current staffing, technology, and access to disposal are readily available
  - Preliminary estimates indicate that the cost of clean closure is reasonable



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# Soils Activity Mission

- Characterize and/or remediate surface soil contamination at Corrective Action Sites (CASs)
  - Characterize means to identify the nature and extent of the contamination present
  - Remediate means to select and complete a closure option (clean closure, closure in place, etc.)
  - CASs are sites that have been identified in the Federal Facility Agreement and Consent Order (FFACO) as needing remediation
  - CASs may be grouped into Corrective Action Units (CAUs) based upon similar remediation techniques, types of contaminants or proximity to each other



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# Soils Activity Mission

(continued)

- Conduct long-term monitoring of sites
- State of Nevada Division of Environmental Protection (NDEP) provides oversight under the FFACO



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# Soils CAU/CAS Summary

- 32 total CAUs comprised of 148 total CASs\*
  - 123 CASs are closed



**83% of  
CASs  
Closed**

\*As of 10/18/2016

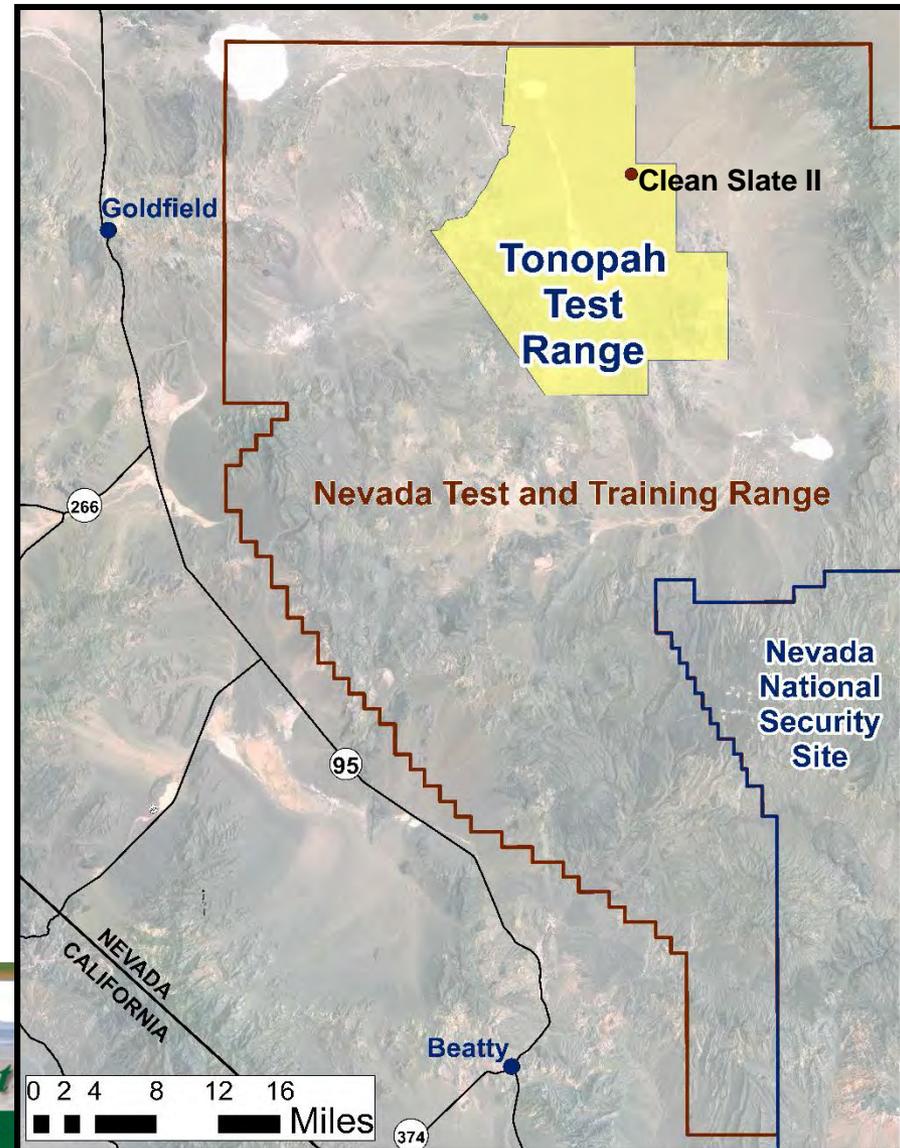


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# Clean Slate II Contamination & Status

- Detonation of high explosives on a variety of surface structures with various combinations of weapon material: plutonium, americium, and uranium
- Radionuclides dispersed in plumes southeast from detonation points over large areas



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# Pre-Test, 1963



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# Post-Test, 1963



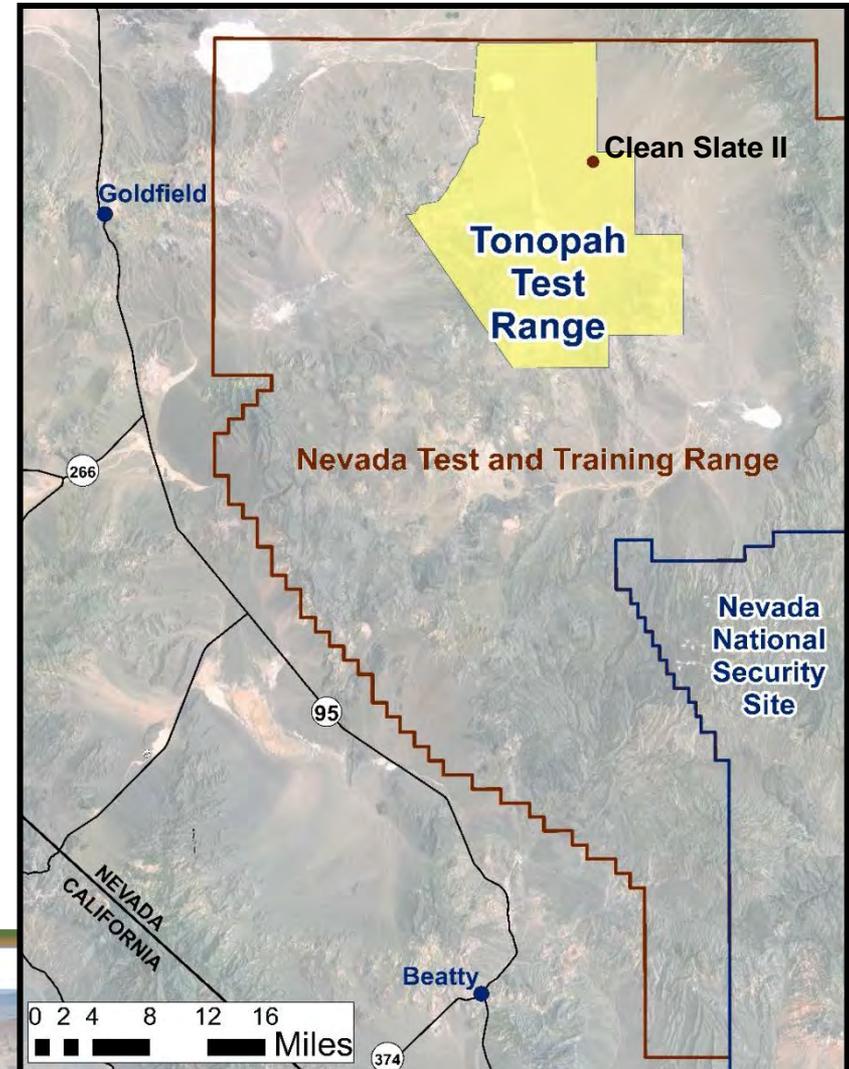
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# Clean Slate II Contamination & Status

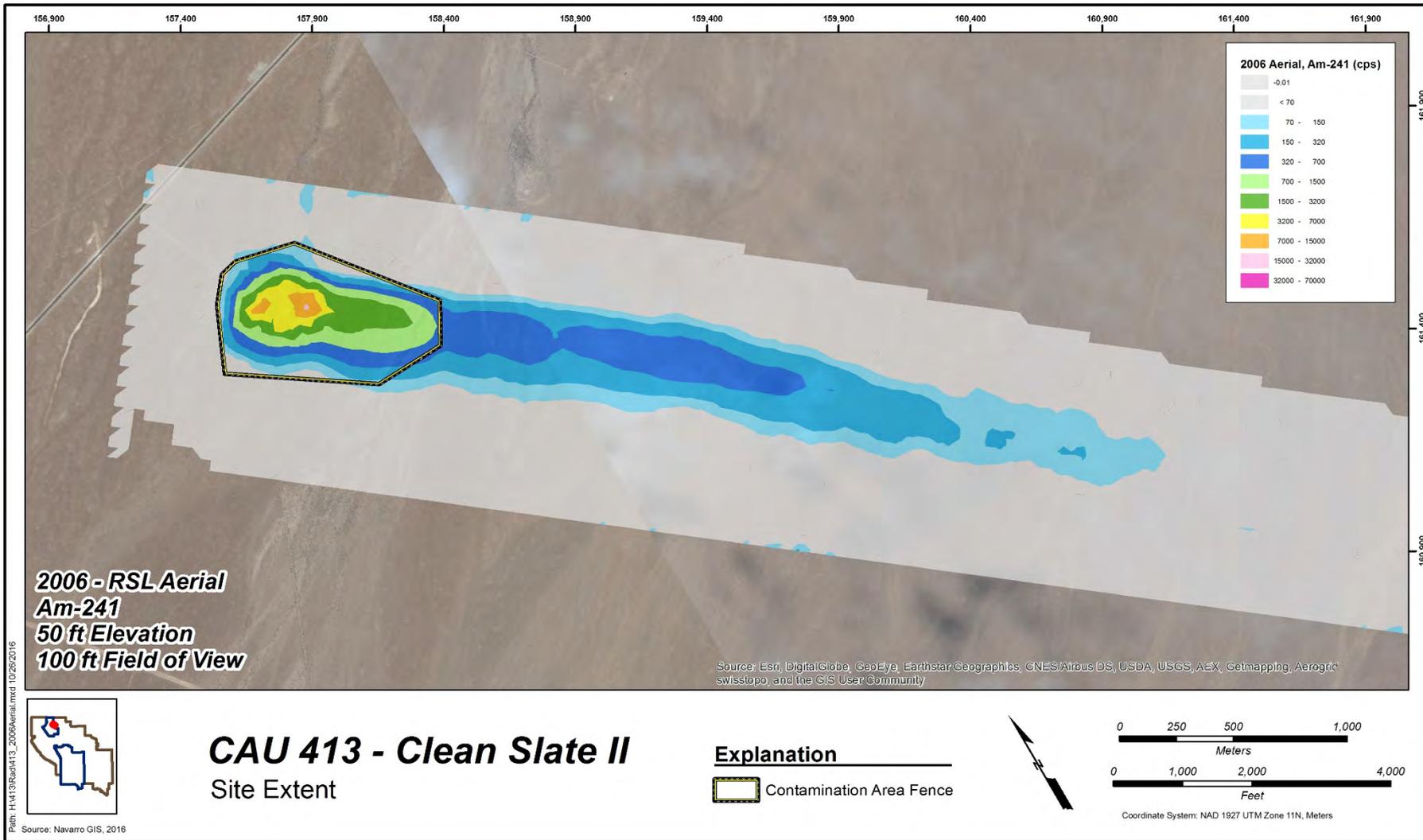
(continued)

- Although some cleanup activities have occurred, contaminants remain in place
  - Post-test debris gathered into soil mounds and soil from detonation areas scraped into mounds, all covered by other soil
  - Fences constructed around contaminated areas



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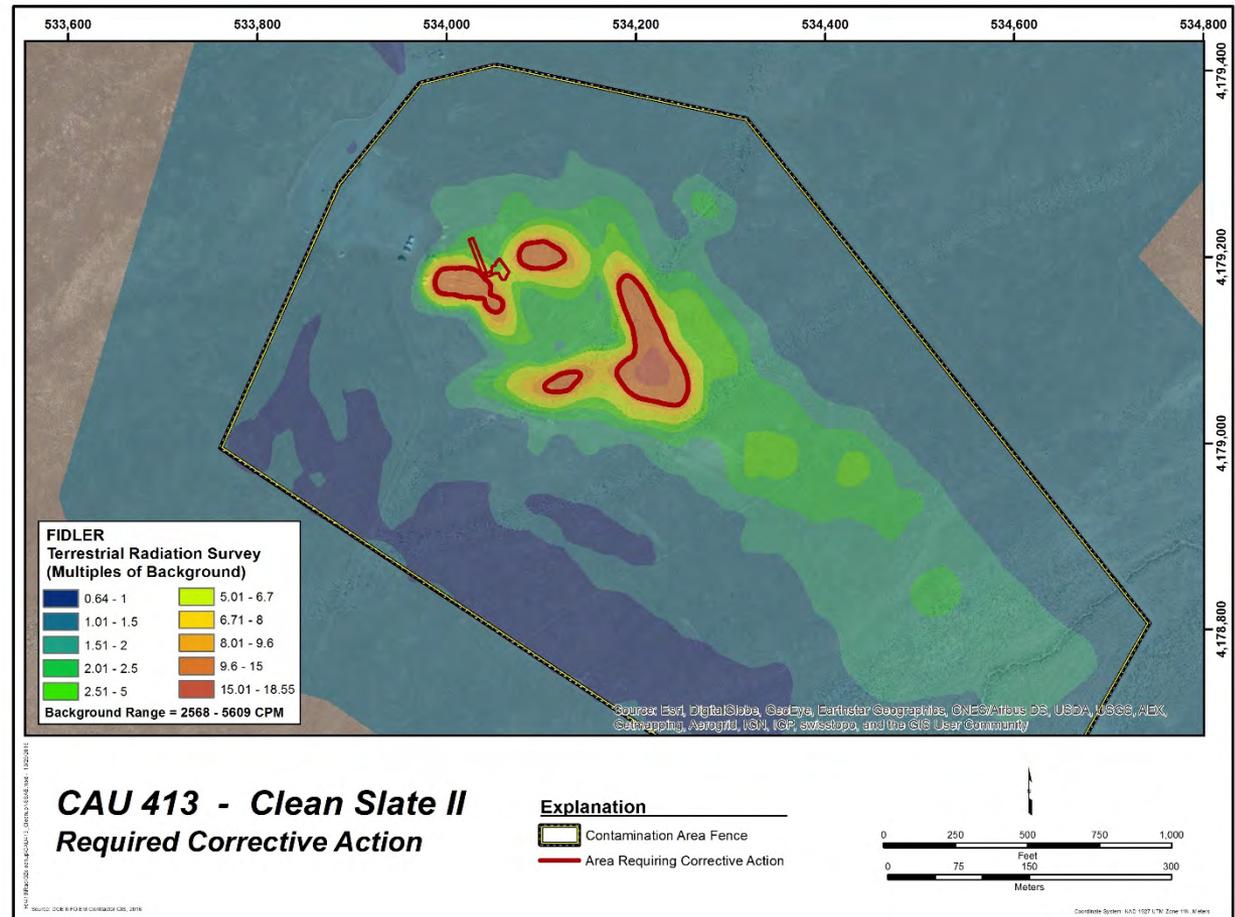
# Clean Slate II Field Activities

- Sampling and radiological dose measurements conducted between June 2015 and August 2016
  - Soil sampling (chemical and radiological)
  - Thermoluminescent dosimeter placement
  - Terrestrial radiological surveys
  - Characterization and removal of waste debris



# Investigation Results

- Approximately three acres of land area exceed the final action level for dose and require corrective actions



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# Corrective Action Alternatives

- Corrective Action Alternatives identified in the FFACO
  - Closure in place with use restrictions, as necessary
  - Clean closure (removal of contamination that exceeds action levels, no use restrictions)
  - No further action
- Corrective Action Alternatives evaluated based on general standards and remedy selection decision factors defined by the U.S. Environmental Protection Agency (40 CFR 300.430(e)(9))



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# Corrective Action Alternatives EPA General Standards

- Corrective Action Alternatives must meet the following standards
  - Protection of human health and the environment
  - Compliance with environmental cleanup standards
  - Control the source(s) of the release
  - Comply with applicable federal, state, and local standards for waste management



# Corrective Action Alternatives EPA Selection Factors

- Short-term reliability and effectiveness
- Reduction of toxicity, mobility, and/or volume
- Long-term reliability and effectiveness
- Feasibility
- Cost



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# Assumptions

- NTTR/TTR remains in government control
- USAF and other entities perform work adjacent to the Clean Slate II area
- No public access
- Any changes to future use may initiate reevaluation of closure



# Corrective Action Analysis

- Nevada Field Office completed a corrective action alternative analysis with input from the USAF and identified clean closure\* as the recommended corrective action based on the following factors
  - Current staffing, technology, and access to disposal are readily available
  - Preliminary estimates indicate that the cost of clean closure is reasonable
  - Clean closure allows the USAF to utilize the area for their current land use needs

*\*Clean closure is the removal of contamination above a specified action level*



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# Corrective Action Analysis

## (continued)

- To finalize the corrective action decision, the following actions are pending
  - Input from other stakeholders (i.e. NSSAB)
  - Final cost estimates to complete the work
  - Completion and NDEP approval of the Corrective Action Decision Document (includes the results of the site investigations and provides a final analysis of the corrective action alternatives to NDEP)



# NSSAB Involvement

- DOE requests a NSSAB recommendation this evening on the Corrective Action Alternative for Clean Slate II that should be presented to the NDEP for final approval
  - Do you agree with clean closure? Why or why not?
  - Do you have any other recommendations?



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# Evaluation of Clean Closure

Corrective Action Alternative	Pros	Cons
<p>Clean Closure</p> <p>Remove approx. 5,000 yds<sup>3</sup> of soil (less than three acres) destined for disposal at NNSS</p>	<ul style="list-style-type: none"> <li>• Reduces environmental risk by removing hazard</li> <li>• Long-term reliability and effectiveness</li> <li>• Land area may be used by tenant organization (USAF desires clean closure)</li> <li>• Eliminates long-term monitoring and maintenance costs</li> <li>• Consistent with how Clean Slate I and Double Tracks were remediated</li> </ul>	<ul style="list-style-type: none"> <li>• Occupational risk during removal due to heavy equipment and location within Contamination Areas</li> <li>• Potential risk associated with transportation</li> <li>• Cost associated with excavation, waste packaging and disposal</li> </ul>



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# Evaluation of Closure in Place

Corrective Action Alternative	Pros	Cons
<p>Closure in Place</p> <p>Install and maintain use-restriction signs and fencing</p>	<ul style="list-style-type: none"> <li>• Feasible and cost effective</li> <li>• Minimal environmental risk</li> <li>• Minimal occupational risk to install and maintain use restriction sites</li> </ul>	<ul style="list-style-type: none"> <li>• Does not remove hazard</li> <li>• Potential inadvertent exposure to site personnel</li> <li>• Area cannot be used by tenant organization</li> <li>• Land use will be restricted</li> <li>• DOE does not have site access control</li> <li>• Will require long-term monitoring and maintenance costs</li> </ul>



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# Waste Shipment Summary

- Estimated waste volume is 5,000 cubic yards of soil & debris for Clean Slate II
- Approximately 300 low-level waste (LLW) shipments anticipated
  - Waste shipments to occur over five-six month period (May-October)
  - Maximum of five trucks per day, four days per week (up to 20 trucks/week Monday through Thursday)
- In comparison:
  - For fiscal year 2015, 254 LLW and mixed LLW (MLLW) shipments arrived at the Nevada National Security Site (NNSS) from northern routes (US 95 through Goldfield) - approximately 21 trucks/month
  - For fiscal year 2016, 184 LLW and MLLW shipments arrived at the NNSS from northern routes – approximately 15 trucks/month
- In fiscal year 2018 or beyond, if the Corrective Action Alternative of Clean Closure is also selected for Clean Slate III, then anticipate similar volumes of LLW and waste shipments



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# Next Steps

- DOE considers NSSAB recommendations
- DOE completes Corrective Action Decision Document by February 2017
  - Document presents the Corrective Action Alternatives and identifies the selected alternative



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# Path Forward

From a community perspective, the NSSAB will provide recommendations as to which path forward option should be pursued for Clean Slate II



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