

State/FRMAC Semi-Annual Webinar

July 30, 2025



This document has been reviewed by a DC/RO and has been determined to be UNCLASSIFIED, not UCNI, and contains no CUI based on current classification guidance. This review does not constitute a review for CUI outside of classification guidance.

Name: Joshua Johnson
Date: 8/21/2025
NNS eDC/RO ID: 71391

This document has been reviewed by a DC/RO and has been determined to be UNCLASSIFIED, not UCNI, and contains no CUI based on current classification guidance. This review does not constitute a review for CUI outside of classification guidance.

Name: Valerie Ward
Date: 8/20/2025
NNS eDC/RO ID: 71385

AGENDA

INNOVATE. COLLABORATE. DELIVER.

- Introduction
- FRMAC Working Group Updates (DOE)
- Exercise Updates (DOE)
- DOE Regional Update (DOE)
- RadResponder Update (FEMA)
- National Radiological Emergency Preparedness Conference
- Emergency Preparedness Update (CRCPCD)
- State/Federal Agency Updates (All Partners)
- Open Discussion & Questions
- Closing

FRMAC MONITORING AND SAMPLING WORKING GROUP UPDATE

2025 Goals

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- Review existing documentation (one more year!)
 - Review M&S Documentation (group action by August)
 - Review manuals and provide minor edits
 - Review and update operator aids
 - Need to update applicable Monitoring Division Training (Gwin)
 - Last updated in 2020-2021 time frame.
- Socialize the standardization of RR settings/inputs (like equipment) among CMRT and RAP assets.
 - Document exists for configuration and instrument settings (Cerefice/Gwin).
 - Will help to respond more cohesively during operations.

FRMAC ASSESSMENT WORKING GROUP UPDATE

Assessment Working Group Update

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Assessment Manuals available

Vol 1, Assessment Operations – CM/FRMAC Assessment Operations

Vol 2, Assessment Methods – Technical Methods

Vol 3, Assessment Pre-Assessed Scenarios – 7 different types of release scenarios, replaces 2010 version

https://www.nnss.gov/pages/programs/frmac/frmac_documentsmanuals.html

Or just google “FRMAC Manuals”!

Assessment Working Group Update

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Training

- AS-50 is available in recorded form
- AS-100 available in an online self-study (LMS) version
- <https://snl.matrixlms.com/>
- Instructions at <https://nirp.sandia.gov> under AS100 Training “FRMAC Training Portal MATRIX Login Instructions”
- Quarterly Continuing Training continues
- Recordings available at nirp.sandia.gov
- Will be added to LMS as time allows

Assessment Working Group Update

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Turbo FRMAC 12.1.0 Released 1/23/25!

- Created an export top dose contributors feature in the Dose Roll Up Tool. This feature reduces a mixture to a set of radionuclides that contribute a percentage of dose for selected time phases. The percentage, dose type, and time phases are user-defined.
- Implemented OIL corrections for radionuclides with non-standard forms for inhalation and ingestion.
- Fixed an error where meat and milk transfer factor references did not appear. Also fixed an issue maintaining user-entered values when the user toggles between user defined transfer factors and provided transfer factors.
- Fixed an issue with saving and loading radionuclide group transfer factor values.
- Implemented option to only select and export total dose in the Excel Total Dose Export Tool.
- Increased the input size in the Paste Mixture From Tool to support all unique radionuclides.
- Updates to Java and third party libraries

<https://nirp.sandia.gov/Software/TurboFRMAC/TurboFRMAC.aspx>

Assessment Working Group Update

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NIRP Website Update (Now Live!)

<https://nirp.sandia.gov>

This screenshot shows the home page of the Nuclear Incident Response Program (NIRP) website. The header includes the Sandia National Laboratories logo and navigation links for Home, Software, Training, Help, and Contact Us. A central banner titled 'Our Mission' describes the program's role in providing research and technical solutions for nuclear incidents. Below this, a section titled 'Recent Software Updates' features four software products:

- Turbo FRMAC**: Version 11.3.1, Last Release: Sep 4, 2023. Description: The Turbo FRMAC (TF) software program is the software implementation of the science and methodologies utilized by the Federal Radiological Monitoring and Assessment Center (FRMAC). These methods are documented in the FRMAC Assessment Manual and are utilized in the event of the intentional or accidental...
- SHARC**: Version: 10.5.0, Last Release: Sep 4, 2023. Description: SHARC (Specialized Hazard Assessment Response Capability) is used to simulate the release of radioactivity from a nuclear weapon via either conventional detonation or by non-explosive techniques. Each scenario is associated with an event that describes when and where the material was released and each event...
- Mixture Manager**: Version: 4.0.0, Last Release: Jun 5, 2023. Description: Mixture Manager (MM) allows users to create and manage radionuclides mixtures for future use across applications.
- Radionuclide Viewer**: Version: 4.4.0, Last Release: Jun 5, 2023. Description: Radionuclide Viewer (RV) is an application for viewing the DCFPAK radiological data from Oakridge National Laboratories.

This screenshot shows the 'Training' page of the NIRP website. It features a grid of training modules, each with a title, description, last update date, and a 'VIEW TRAINING' button. The modules include:

- Assessment Scientist Continuing Training**: Needs description, Last Updated: Mar 31, 2023. Includes icons for 33, 4, and 0.
- AS300 Training**: Needs description, Last Updated: Mar 31, 2015. Includes icons for 1, 0, and 0.
- AS100 Training**: Needs description, Last Updated: Mar 22, 2021. Includes icons for 5, 0, and 1.
- AS50 Training**: Needs description, Last Updated: Jul 31, 2022. Includes icons for 0, 0, and 2.
- Assessment Work Group**: Needs description, Last Updated: Jul 17, 2019. Includes icons for 5, 0, and 0.

FRMAC LABORATORY ANALYSIS WORKING GROUP UPDATE

Lab Analysis Working Group Update

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Programmatic Improvements and Training Development

- **New iMatic unit for the Fly Away Lab**
 - Radon-compensated alpha/beta detector with automated sample changer (50 sample stack) with diameter <2 inches (smears and lo-vol filters)
- **Transportable Laboratory shelter for Fly Away Laboratory**
 - Purchase being worked out now, setup in FY26
- **FRMAC Lab Analysis Manual Vol. 1 Publication**



Drill Activities

- **RAP Regional Drills – Late summer 2025**
 - Participants: Sample Control Specialists
 - Exercise RAP/CM integration to operate a sample control hotline

Current Joint EPA/FRMAC FEMA-NIRT Projects

- **Pre-planned analytical strategies**
 - What to do about Sr-89/90?
 - Estimating MDAs for in-situ measurements for mission planning
 - How to verify resuspension factor and weathering factor assumptions with field measurements and samples
 - Estimating MDAs for handheld instruments
 - How to design a campaign to confirm no contamination is present
- **Future of NIRT is uncertain, future funding for Lab Analysis R&D is also uncertain**

Nuclear Incident Response Self-Paced Learning Opportunities



AS-100: Introduction to Assessment Science

24 ABHP CECs

- 22 module course covering FRMAC Assessment methods for public protection, worker protection, and ingestion pathway [PNNS-KDXC](#)

Turbo FRMAC Advanced Methods

1 ABHP CEC each

- Administration of Potassium Iodide Derived Response Level Calculation [OMXL-NMBV](#)
- Analytical Action Level Calculation [HZAK-EWAX](#)

LA-050: Support Laboratory Briefing

- What labs should expect when called to help FRMAC [CMOT-EKHS](#)

LA-075: Laboratory Data Reporting (Sept 2025)

- Detailed walkdown of data reporting in CBRNResponder

Gamma Spectroscopy Fundamentals [ERXF-ZREQ](#)

- Detector Calibration Methods
- Sample Analysis
- Software Functions
- Mathematical Instrument Calibration
- True Coincidence Summing Corrections
- In-Situ Gamma Spectrometry



Sandia and partners have developed *free, online* training!
Learn more: <https://snl.matrixlms.com/>

EXERCISE UPDATES

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EXERCISE UPDATES

Cobalt Magnet 25 Evaluation

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AARs are expected to be released this fall.

Preliminary Observations:

- Greater realism in exercises would boost training effectiveness and overall preparedness.
- No clear boundary exists between plume and deposition phases, emphasizing the need for integrated planning and training approaches.
- Clearer procedures are needed to improve coordination when radiological releases cross state or international boundaries.
- Numerous observations have been gathered from federal and state partners, promising a highly insightful Interagency After-Action Report.



Cobalt Magnet Series Overview

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The Cobalt Magnet exercise series is a Department of Energy (DOE)/National Nuclear Security Administration (NNSA)-led that focuses on managing the off-site consequences of a radiological or nuclear incident.

Response organizations come together in a full-scale environment to establish working relationships prior to an event; validate concepts of operation; and identify best practices, capability gaps, and areas for improvement.

The key is that this is the only exercise that we fully guide and can ensure preparedness amongst NEST responders for a CM event.

Southern Exposure 2015: South Carolina



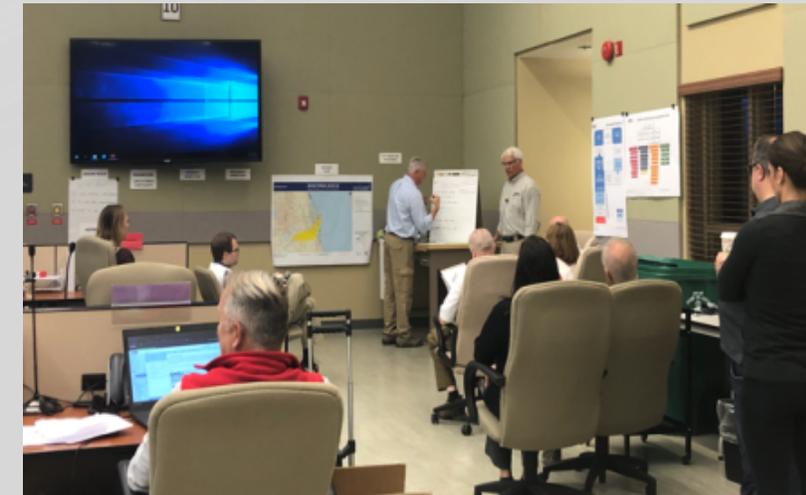
Northern Lights 2016: Minnesota



Cobalt Magnet 2022: Texas



Cobalt Magnet 2019: Florida



RAP CM Regional Drill Fiery Yucca

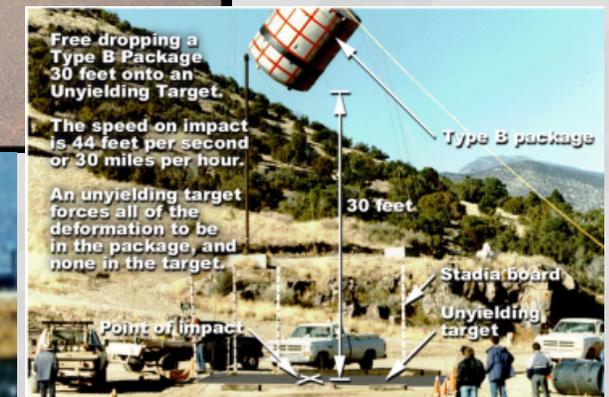
Albuquerque, NM
July 30 – 1 Aug, 2025



Exercise Scenario

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- Shipping Accident
 - Transport struck by train
 - Container Breached
 - Large explosion
- Very large Cs-137 source
 - Cs-137 contaminated with
 - Cs-134
 - Sr-90
 - Release of >10% of Inventory
- Release results in
 - Long term relocation of public
 - Agricultural & Economic impacts



Participants

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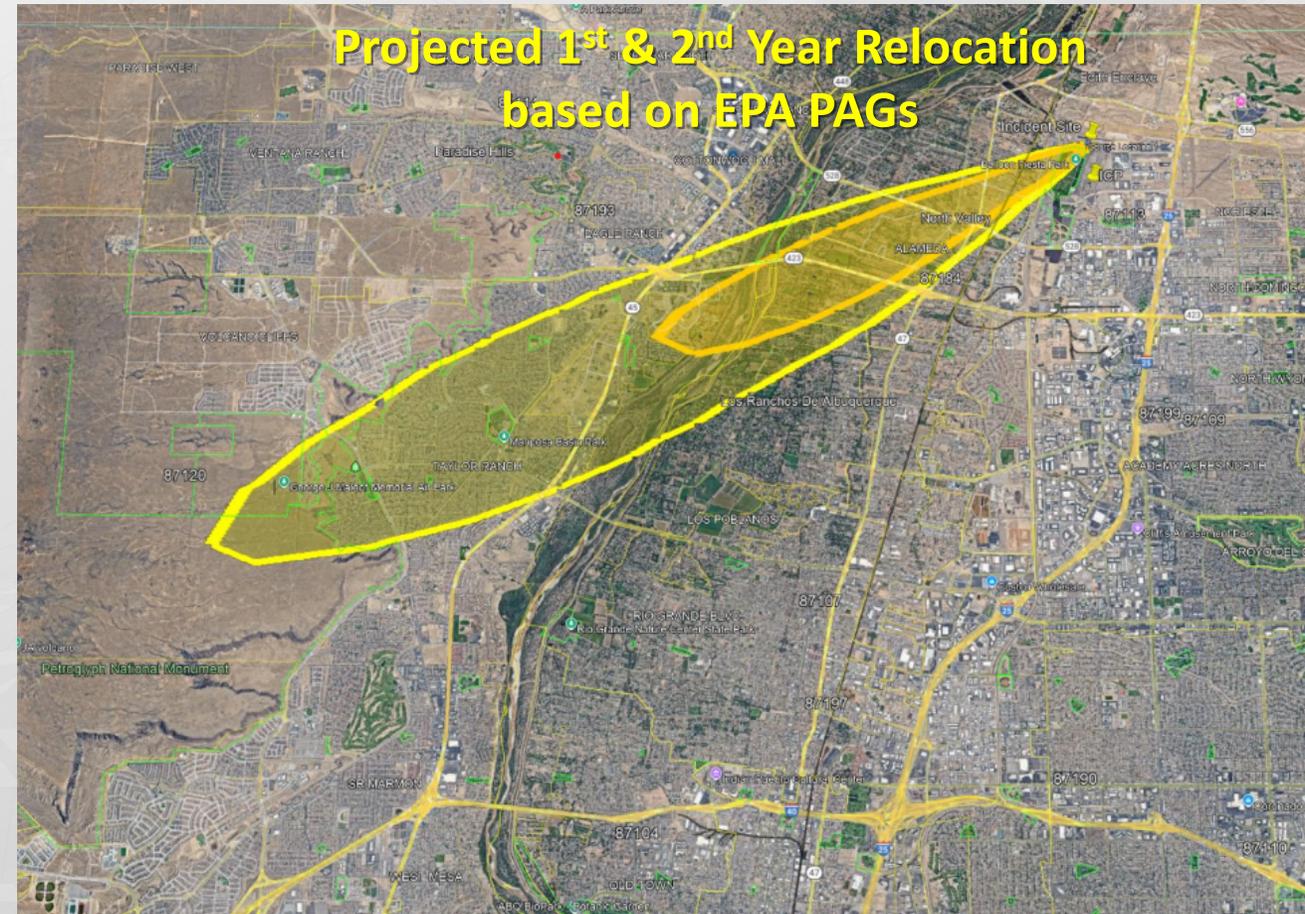
- Department of Energy
 - Radiological Assistance Program (RAP)
 - Consequence Management (CM)
- New Mexico State
 - Radiation Control Bureau (w/CRCPPD)
 - Department of Agriculture
 - Livestock Board
 - 64th CST
 - UNM Hospital
- Bernalillo County
 - Emergency Management
 - Fire and Rescue
 - Sheriffs Office
- Albuquerque City
 - Albuquerque Fire and Rescue Hazmat
 - Albuquerque Police Department



Exercise Highlights

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- Full Notification Process Tested
- Rescue of “driver” from truck
 - Over 200 R/hr at 1 m (simulated)
- Follow-on drills at local hospitals
 - Managing exposed and worried well patients
 - Managing contamination in ED
 - Managing contamination of EMS units responding
- Exercised DOE Support for BERNCO EM led response
 - Data Acquisition and Analysis Support
 - Decision support for the PAR process
- Worked through PAR process for
 - Shelter-in-place & Evacuations
 - Long-term Relocation
 - Stop Movement for Ag products
- Consultations with A-Team addressing
 - Reopening highways & rail
 - Decontaminating Ambulances
 - Managing nearby cattle farms



Questions?

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RADIOLOGICAL ASSISTANCE PROGRAM

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REGIONAL UPDATES





Region 1 Request For Assistance/Outreach

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- **Provided radiation training/exercise support to:**
 - ROAD RAPTER Training to Weapons of mass destruction civil Support teams
 - TRIAGE training for Response partners (conducted remotely)

- **Participated in:**
 - Operation Shield (large scale port security operation across Long Island, NY)
 - NYS DEC response to improper disposal of radioactive Material
 - Isotope Crossroads
 - Irradiator Source removals in Pennsylvania

- **Preventive Radiological / Nuclear Detection - Support to Special Events:**
 - Boston Marathon
 - 250th Anniversary to the Shot heard round the world
 - 4th of July Boston Pops
 - FIFA World Cup 26 preparation
 - United Nations General Assembly (upcoming)



Region 2 Request For Assistance/Outreach

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Provided radiation training/exercise support to:

- Isotope Crossroads, Louisville, KY
- Regional Render Safe Training (RRST), Nashville, TN
- 41st & 22nd CST Training San Juan, Puerto Rico
- Y-12 Full Participation Exercise (FPE), Oak Ridge, TN
- Regional Render Safe Training (RRST), Norfolk, VA
- Regional Render Safe Training (RRST), Kansas City, MO

Participated in:

- Supported TEMA Radiological Training, Dickson, TN

Preventive Radiological / Nuclear Detection - Support to Special Events:

- Super Bowl LIX, New Orleans, LA
- 2025 Mardi Gras, New Orleans, LA
- 151st Kentucky Derby, Louisville, KY
- FIFA Club World Cup, Nashville, TN





Region 3 Request For Assistance/Outreach

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Browns Ferry Nuclear Plant – Ingestion Pathway Exercise

- Provided classroom training, hands-on equipment training, and a field exercise:
 - FRMAC Sampling (air, water, ground deposition)
 - Contamination Control practices and techniques
 - CBRN Responder – inputting data on tablets and cell phone app
- Provided a full RAP Team to support the plume phase and tabletop exercises



Assisted RAP Region 2 with PRND support for Super Bowl LIX

Training conducted and exercises supported in all states in Region 3



Preparing for 2026 Masters and Heritage Golf Tournaments

- Provide PRND support to ensure public safety.
- Partner with FBI, CSTs, USPIS and state and local police and emergency responders.





Region 4 Request for Assistance

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- Support to REAC/TS Possible ARS patient with follow up Jal NM Jan 2025
- Support to NMED Rad Control Source search Pecos NM Feb 2025
- Support to Texas DSHS Lost radiography camera W. Texas Mar 2025
- Support to NMED Rad Hotspot Carlsbad (Permian Ghost) NM Mar 2025
- Support to Sandia National Lab H3D Contamination Apr/May 2025
- Support to OKC 30th Memorial Marathon Apr 2025





Region 6 Request For Assistance/Outreach

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Provided support to:

- Idaho Department of Quality (DEQ) & EPA Region 10, On-Scene Commander
- Response to unlicensed Troxler depth moisture gauge

Located in:

- Hayden, Idaho

Actions taken:

- April 17, 2025
- Gauge surveyed for potential contamination
- Assisted the state transporting gauge for turn over to Idaho Department of Transportation





Region 7 Request for Assistance/Outreach

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Provided radiation training/exercise support to:

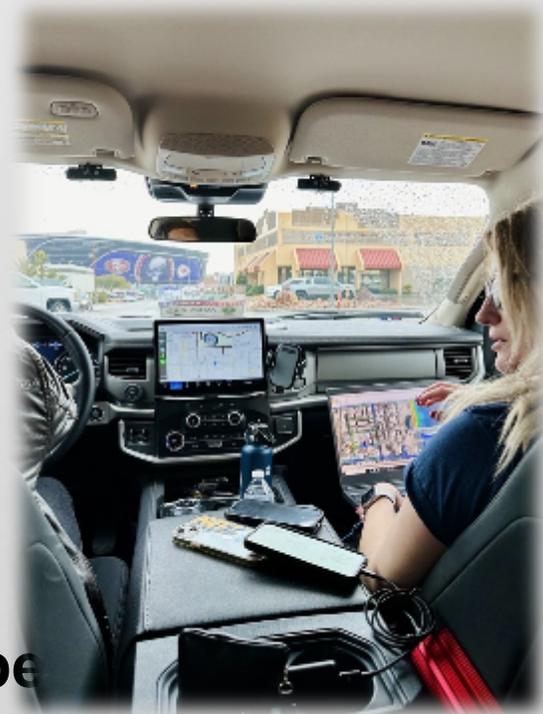
- Vandenberg Space Force EOD
- Honolulu County CBRN training
- Civil Support Team - Bakersfield full scale exercise

Participated in:

- Guam Nuclear Detention Meeting
- San Francisco Bay Area Emergency Exercise (BAYEX)

Preventive Radiological / Nuclear Detection - Support to Special Events:

- Aviation Nation, Inauguration (NSSE)





CBRNResponder
July 30, 2025



New CBRNResponder App is Available

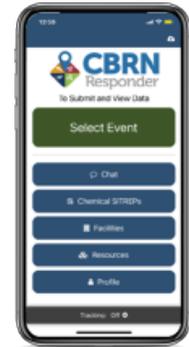
New CBRNResponder mobile app was released in June 2025.

Improvements include a Microsoft-supported framework and the remediation of compatibility issues that some users experienced. This is for IOS and Android users. No changes at this time for Windows users.

Action Required:

Best Practice: If you have not yet downloaded the new version, we recommend first uninstalling the old version. Then, install the new version CBRNResponder Mobile application. Your login and password will be the same.

Administrative Permissions: If your organization requires administrative permissions to install or update apps, please double check that they have the June 2025 version. If not, work with your IT department to update to the new version.



What is CBRNResponder?

- CBRNResponder is a **free**, single, secure platform for all chemical, biological, radiological and nuclear (CBRN) incident data-sharing and multi-hazard event management. CBRNResponder integrates with federal assets and incorporates national-level policy guidance, providing a one-stop shop for all CBRN planning, preparedness, and operational tools and resources .
- Users create a **real-time common-operating picture** to share ground-truth data in addition to managing equipment, SITREPs, facility information, lessons learned, and more, all of which can be shared at the organization's discretion with any other FSLTT agency.
- If you do not have an account, register at <https://www.cbrnresponder.net>
- CBRNResponder Support team: support@cbrnresponder.net

36th ANNUAL NATIONAL RADIOLOGICAL EMERGENCY PREPAREDNESS CONFERENCE

April 20th – 23rd, 2026

Overland Park Hotel

Kansas City, Kansas

<https://nationalrep.org>



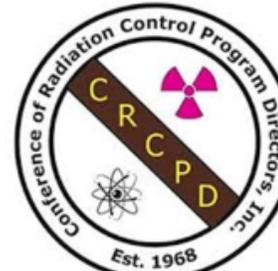
CONFERENCE OF RADIATION CONTROL PROGRAM DIRECTORS



FRMAC PARTNER UPDATES

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STATE AND FEDERAL AGENCY UPDATES



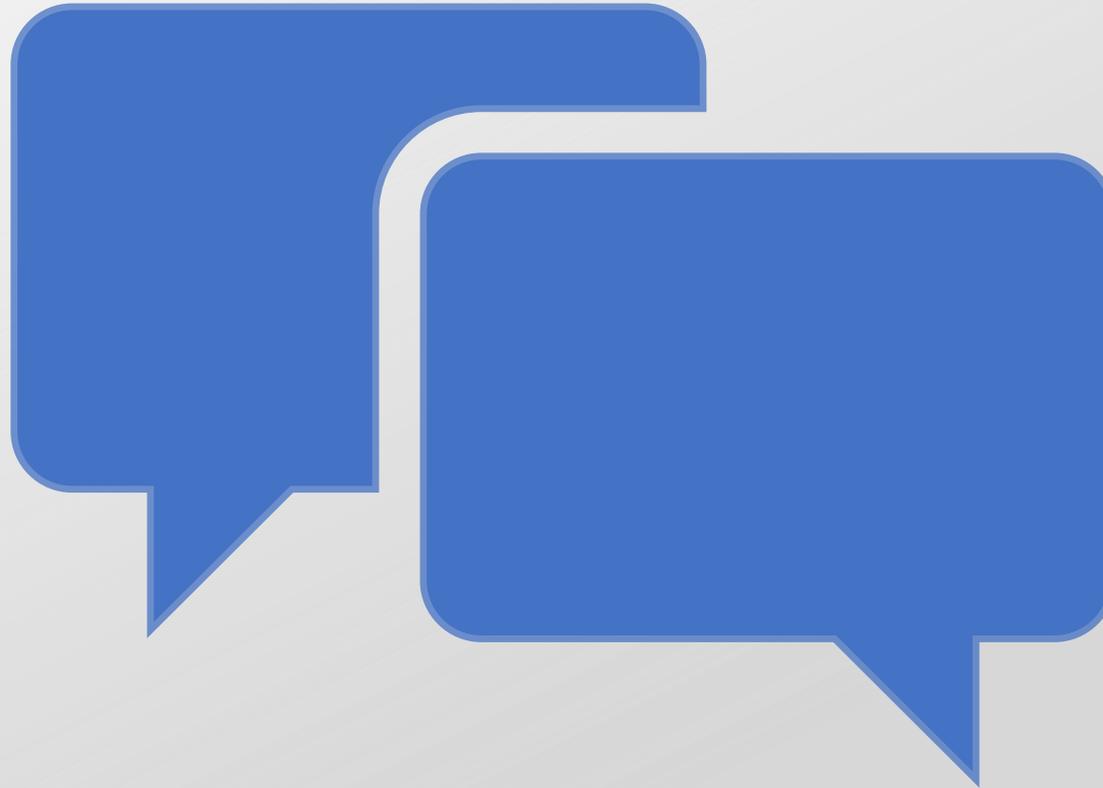
FEMA Ingestion Pathway Schedule (2025-2027)

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MON	2025	2026	2027
JAN	✓ Palo Verde DR 30-31 (RAP 4)		Turkey Point IPX 08-12 (RAP 3)
FEB	✓ Browns Ferry OUT 19 (RAP 3)		
MAR	✓ Palo Verde IPX 03-07 (RAP 4)	Perry OUT TBD (RAP 5)	
APR	✓ Callaway OUT 29-30 (RAP 5)		
MAY			Comanche Peak IPX 10-14 (RAP 4)
JUN	✓ Browns Ferry IPX 23-27 (RAP 3) ✓ Callaway DR 26-27 (RAP 5)		
JUL			Point Beach IPX 12-16 (RAP 5) Surry IPX 19-23 (RAP 2)
AUG			McGuire IPX 16-20 (RAP 3) Peach Bottom IPX 30 (RAP 1)
SEP	Callaway IPX 16-17 (RAP 5)	Calvert Cliffs IPX 14-18 (RAP 1) Perry IPX 21-25 (RAP 5)	Wolf Creek IPX 01-03 (RAP 4)
OCT			
NOV		Salem/Hope Creek IPX (RAP 1)	
DEC			

OPEN DISCUSSION AND QUESTIONS

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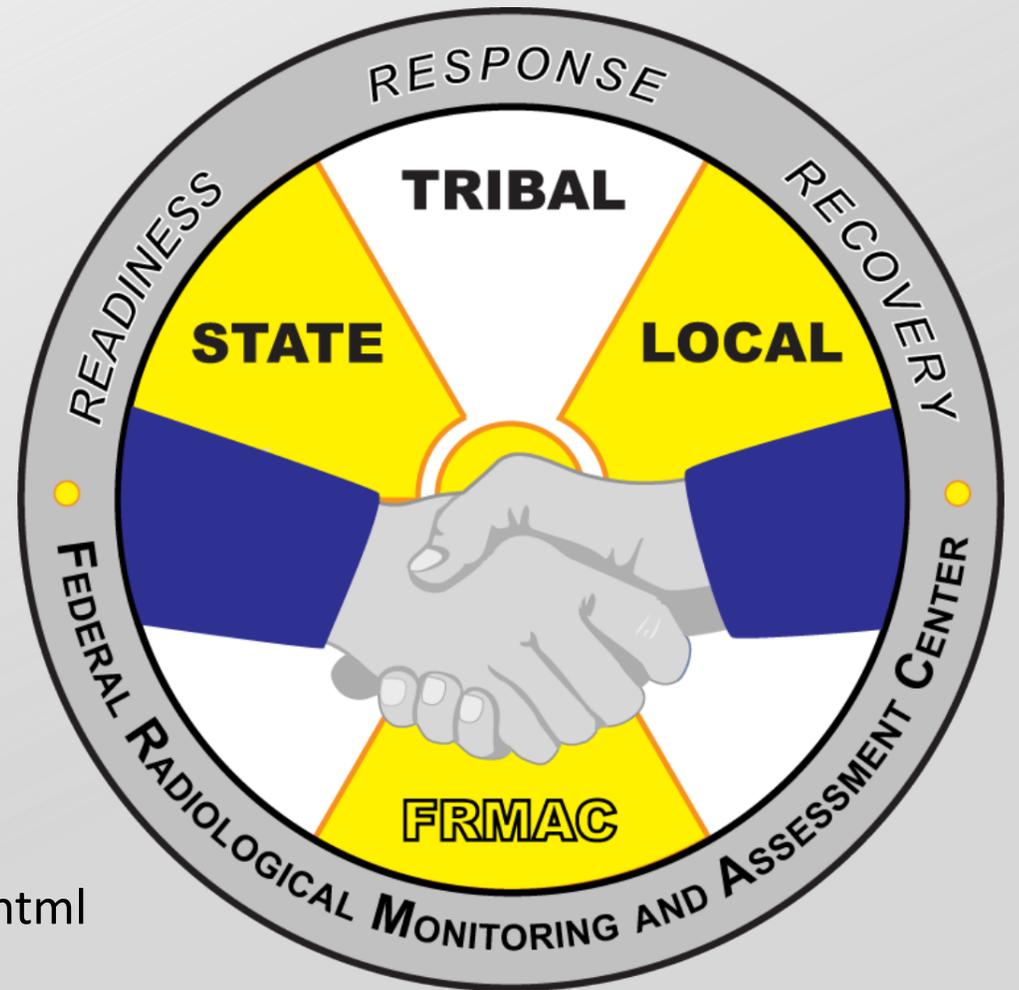


Next Webinar

Wednesday, Jan 28, 2026

Visit the site below for additional content

<https://www.nnss.gov/pages/programs/FRMAC/FRMAC.html>



“Scientifically Informed, Operationally Focused.”

CTCP Website:

<https://nnsa.energy.gov/aboutus/ourprograms/ctcp>

CTCP Office Phone: 202-586-1734

IN CASE OF EMERGENCY: 202-586-8100