SAND2015-4368C

Exceptional service in the national interest

Sandia National Laboratories

FRMAC
Laboratory Analysis Division
What Every Laboratory Needs to Know

Laboratory Analysis Working Group

Sandia National Laboratories

SAND-2014-XXXXX

U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

Operations Excellence Science Engineering RSL REMOTE SENSING LABORATORY

Lawrence Livermore National Laboratory

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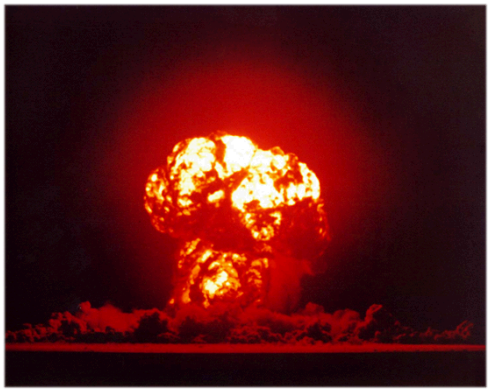
A Federal Response to a Nuclear Emergency

- Nuclear Weapon
- Radiological Dispersal Device
- Nuclear Power Plant Release (large scale)
- Determination by the Office of the President to be a "National Level Emergency"



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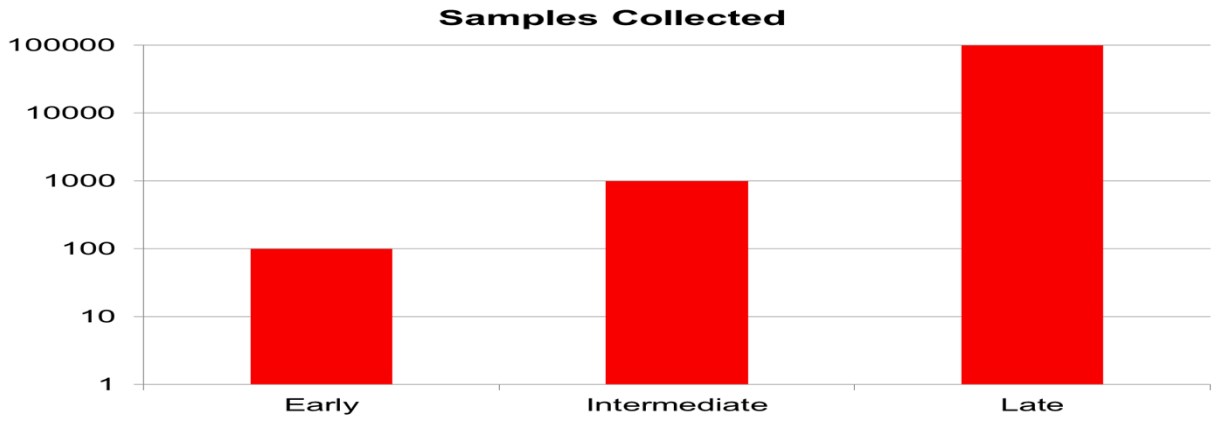
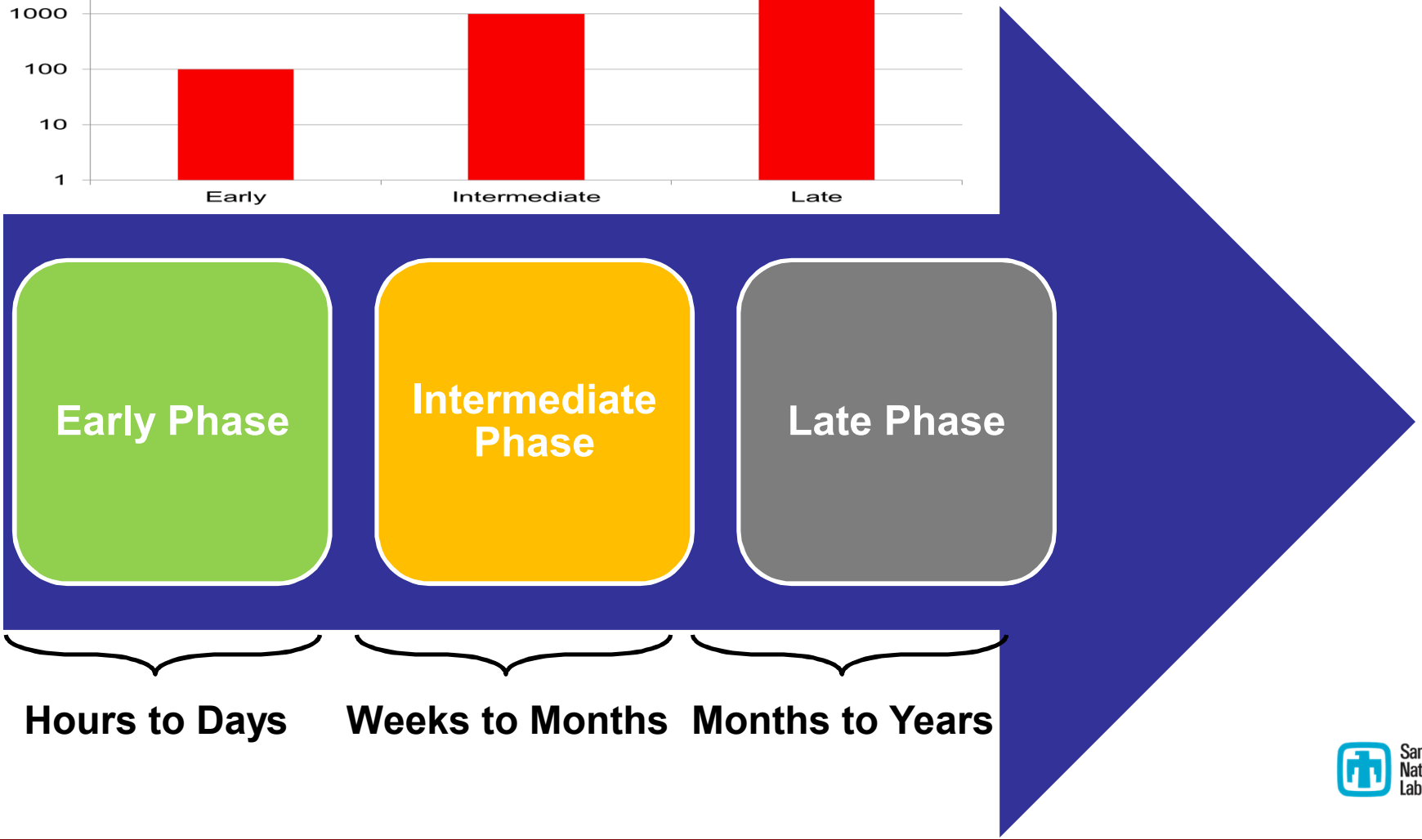
Anatomy of a Response





What is in place to respond?

U.S. Department of Energy assets

- Radiological Assistance Program (RAP)
  - Rapid local response (small team of experts)
- Radiation Emergency Assistance Center/Training Site (REAC/TS)
  - Training for medical personnel
- National Atmospheric Release Advisory Center (NARAC)
  - Weather modeling and plume maps
- Aerial Measuring System (AMS)
  - Flight surveys using advanced detection equipment
- Design of the Federal Radiological Monitoring and Assessment Center (FRMAC)

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Federal Radiological Monitoring and Assessment Center (FRMAC)

- **Multi-Agency** response effort conducted in two phases
  - Partners include: DOE, DoD, EPA, FDA, CDC, USDA
- Consequence Management Response Team (CMRT)
  - Phase I
  - Phase II
- Consequence Management Home Team (CMHT)
  - Off-location assets at the national laboratories

RSL Remote Sensing Laboratory — Operations, Excellence, Science, Engineering

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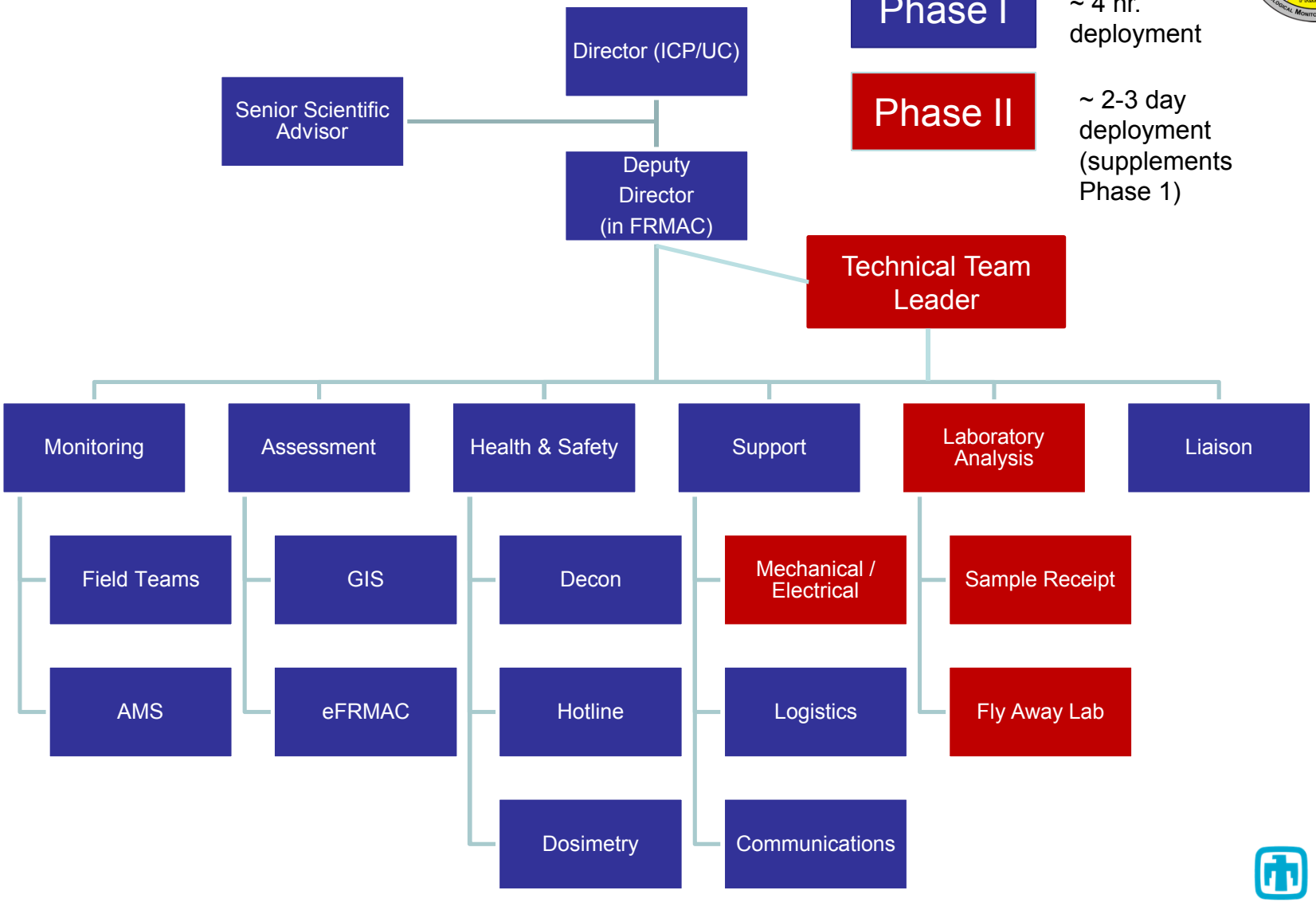
Lawrence Livermore National Laboratory

Los Alamos National Laboratory EST. 1943

MISSION: Assist federal, state, tribal, and local authorities by providing timely, high-quality predictions, measurements, analyses and assessments to promote efficient and effective emergency response for protection of the public and the environment from the consequences of nuclear or radiological incidents.

Organizational Structure



Phase I ~ 4 hr. deployment

Phase II ~ 2-3 day deployment (supplements Phase 1)

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The six divisions of FRMAC

- Monitoring
- Assessment
- Health & Safety
- Support
- Liaison
- Laboratory Analysis

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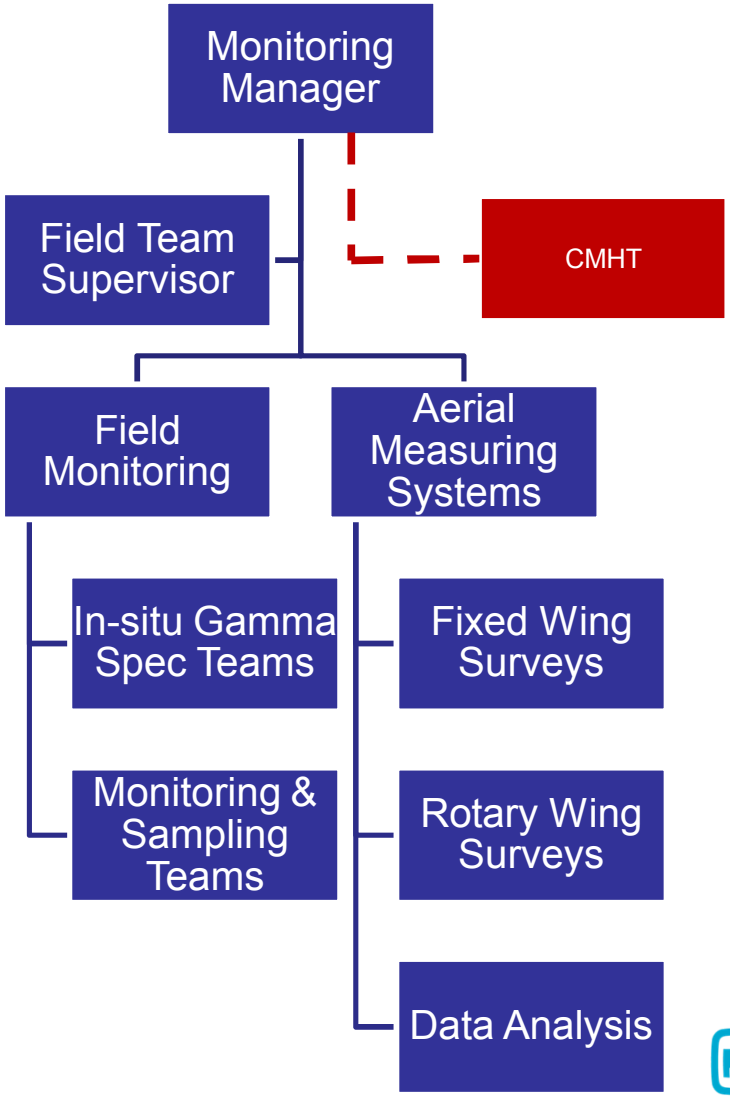
FRMAC: Monitoring Division

- **Portable Instrument**
  - Exposure Rate
  - Contamination
- **Sampling**
  - Air
  - Water
  - Soil
  - Vegetation



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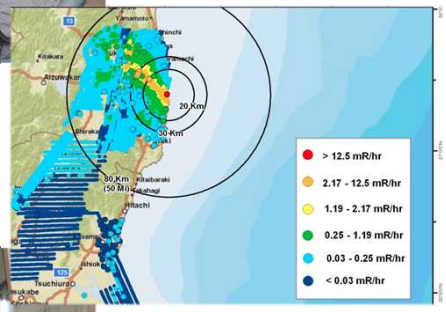
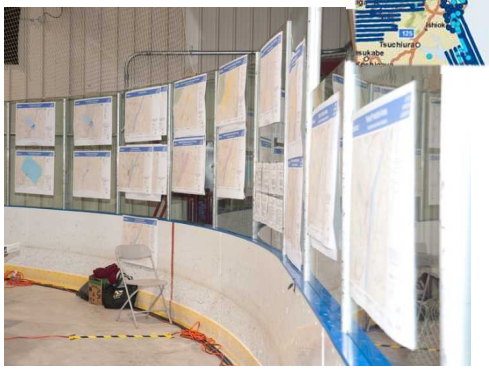
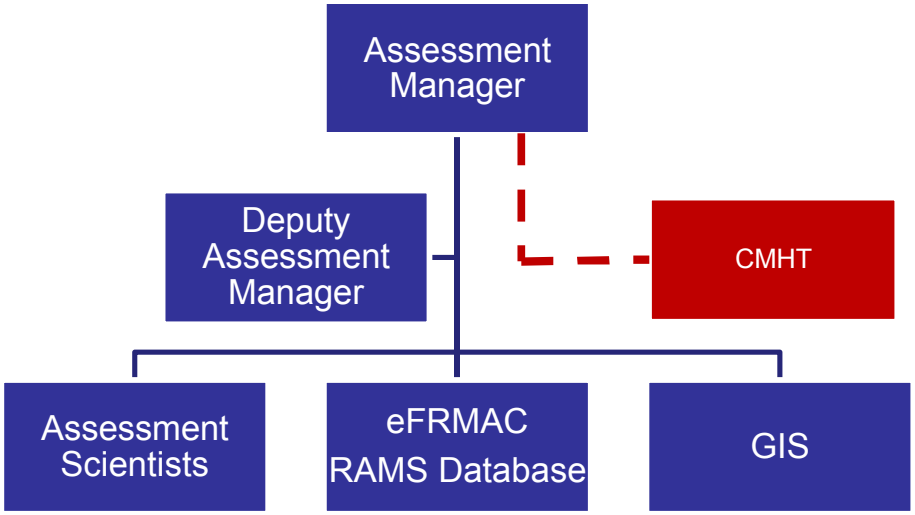
FRMAC: Assessment Division





Administrative

- Respond to requests for information
- Manage and prioritize action items
- Post products for interagency use
- Maintain situational awareness and coordinate with AMS & Monitoring
- Brief data, products, methods, etc to SEO, SSA and liaisons, as required



Technical

- Determine which NARAC runs are required
- Provide worker stay times for field teams
- Analyze non-FRMAC assessment products
- Ensure lab analysis/field activities are coordinated (fill holes where applicable)
- Review data
- Generate data products
- Manage CM databases
- QA/QC all map products

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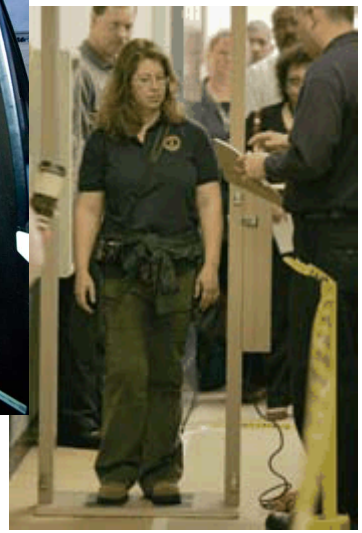
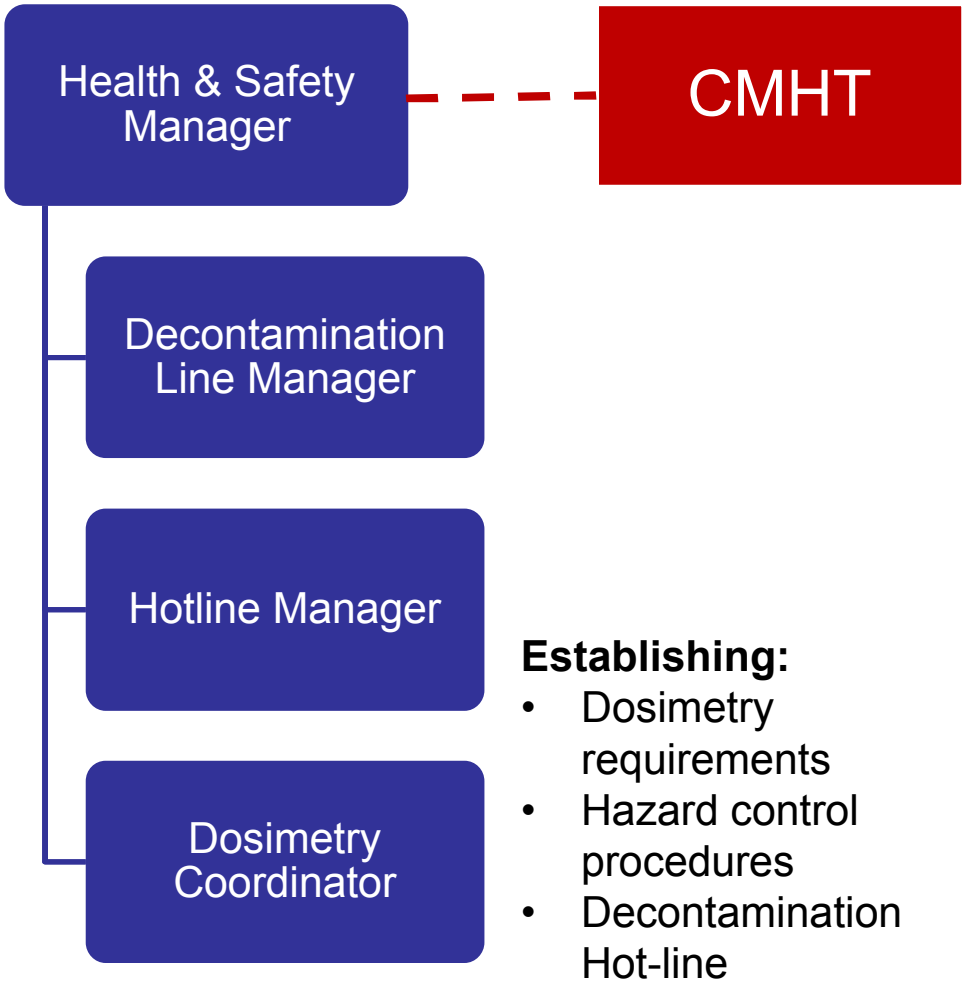
FRMAC: Health and Safety Division





Complete a Site Health & Safety Plan

Identifying:

- Radiological hazards from the event
- Natural environmental hazards
  - In the field
  - Around the FRMAC
- Other potential dangers

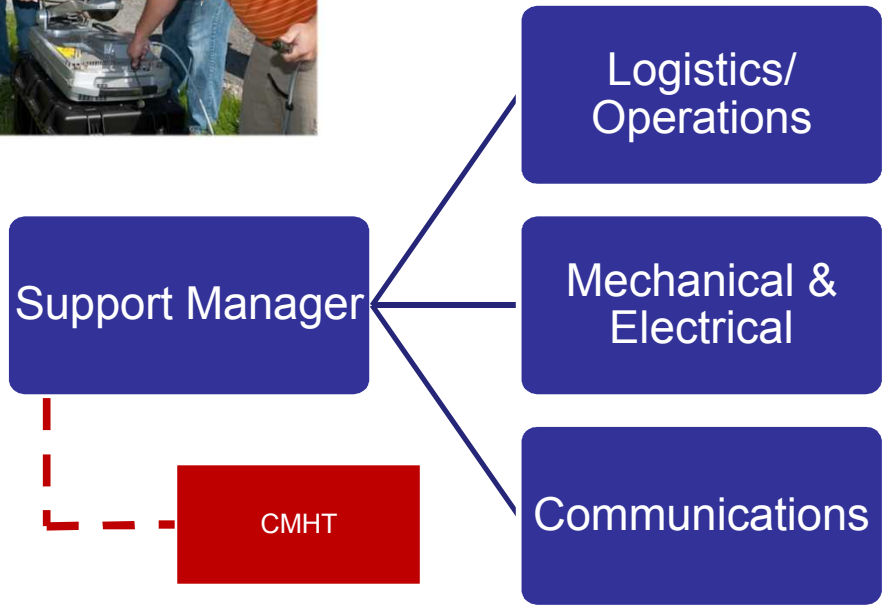
Establishing:

- Dosimetry requirements
- Hazard control procedures
- Decontamination Hot-line

FRMAC: Support Division

Base Support

- Tracking personnel locations and assignments
- Establishing communications
- Maintaining computers
- Obtaining equipment and supplies
- Coordinating personnel schedules with the Home Team
- Providing Field Command Post support
    - including tents, tables, chairs, generators, etc.



Security

- Badges (to limit access to authorized personnel)
- Property Protection
- Operations Security (OPSEC)

FRMAC: Liaison Division

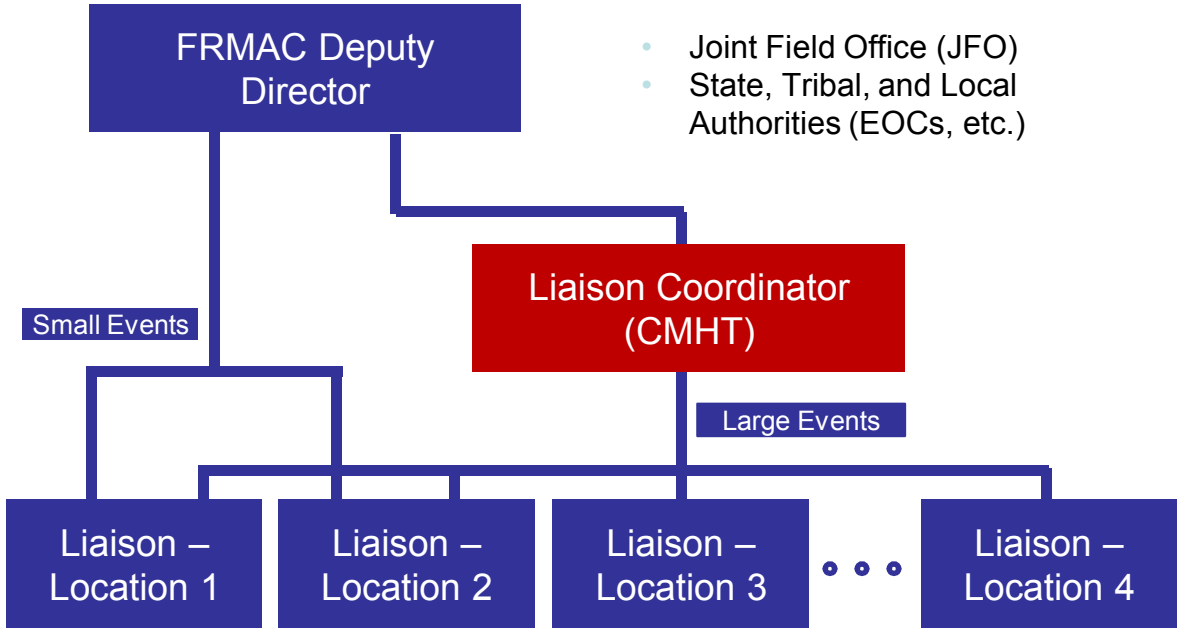
Primary channel for communicating FRMAC Information

- Map Products
- Data Interpretation
- CM/FRMAC Capabilities, Plans, Status

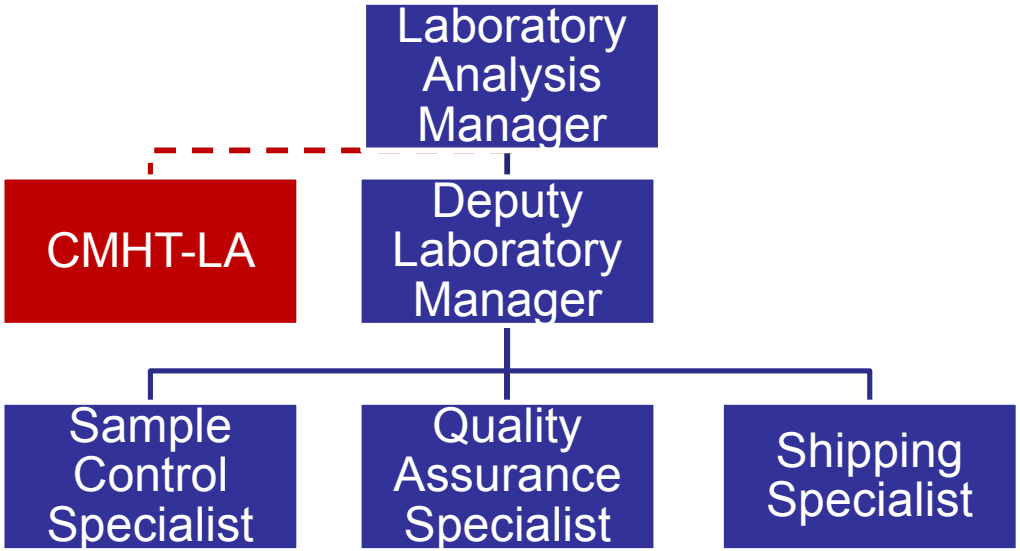
- Submit requests from stakeholders to FRMAC

Possible Stakeholders

- Joint Field Office (JFO)
- State, Tribal, and Local Authorities (EOCs, etc.)

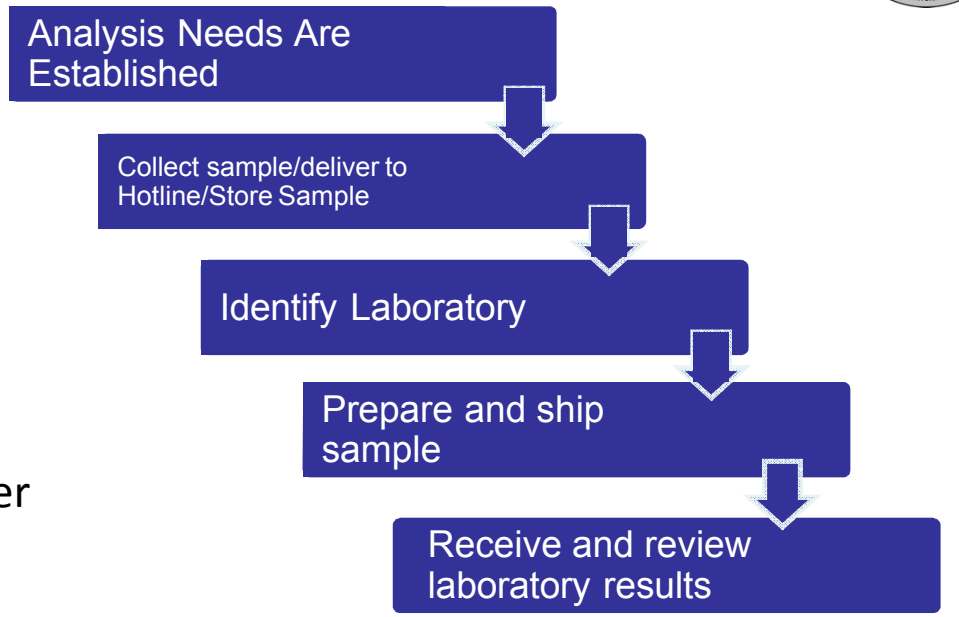


FRMAC: Laboratory Analysis Division



Laboratory Analysis Division

- Responsibilities
  - Begin
    - When FRMAC responds
    - Sample is dropped off at the hotline
  - End
    - Recovery phase – turned over to EPA with reduced FRMAC presence



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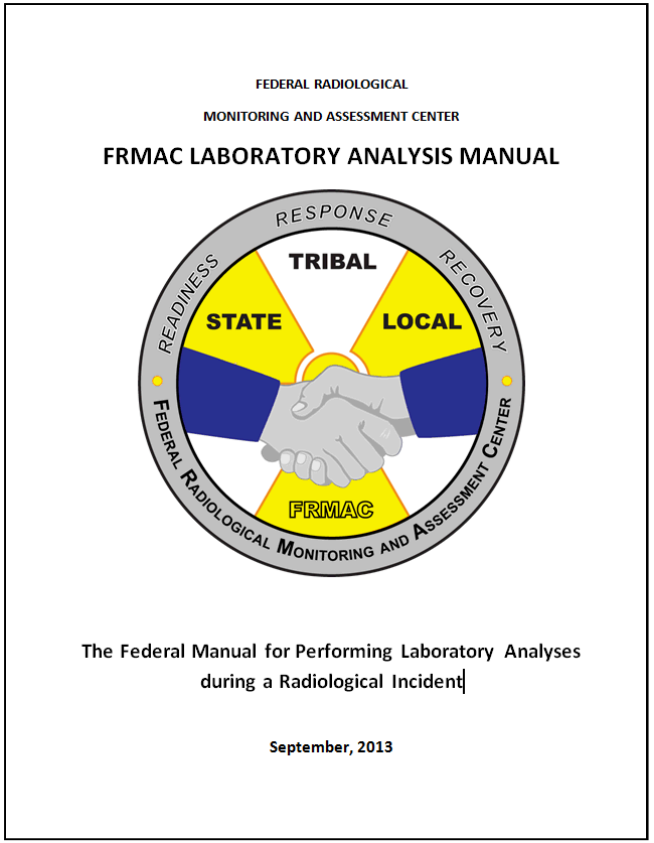
FRMAC
Laboratory Analysis Manual



Available at:
http://www.nv.doe.gov/nationalsecurity/homelandsecurity/frmac

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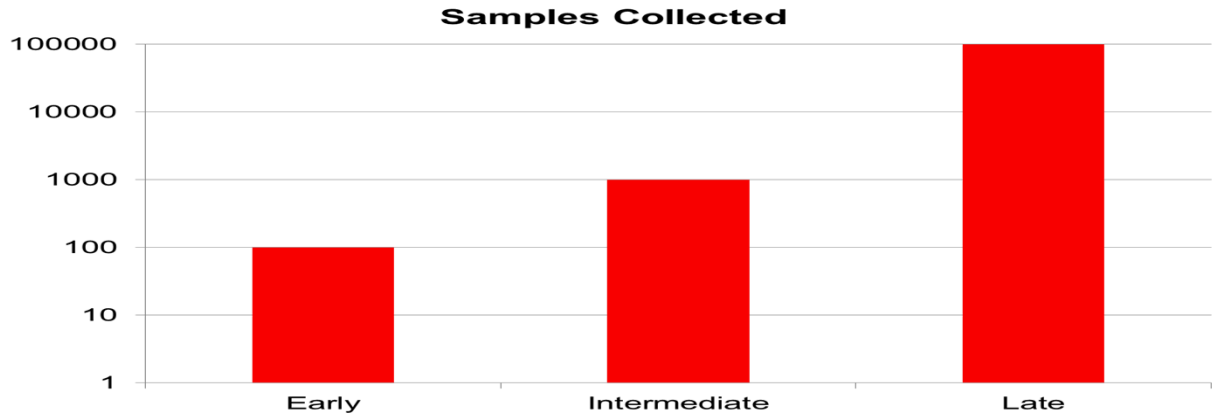
The Laboratory Analysis Challenge



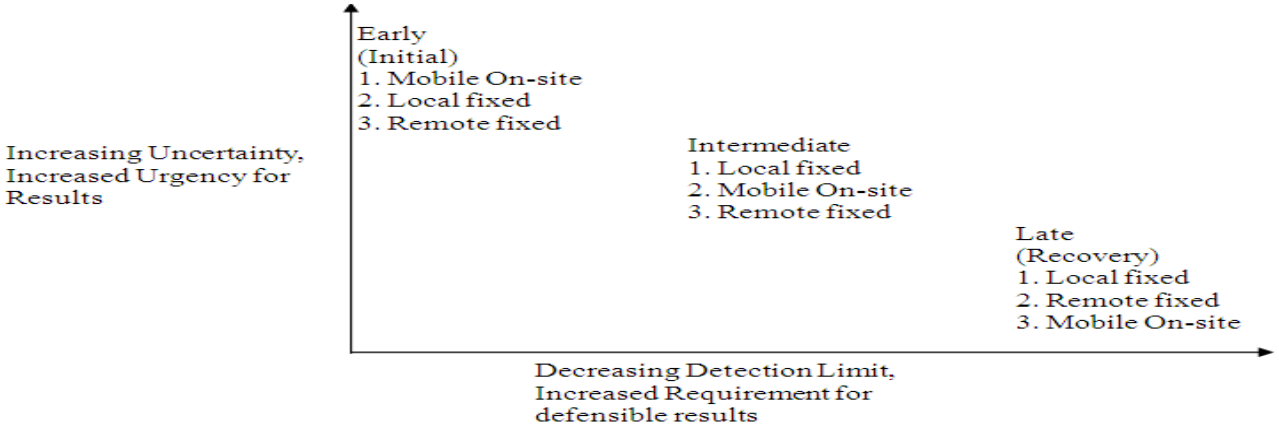
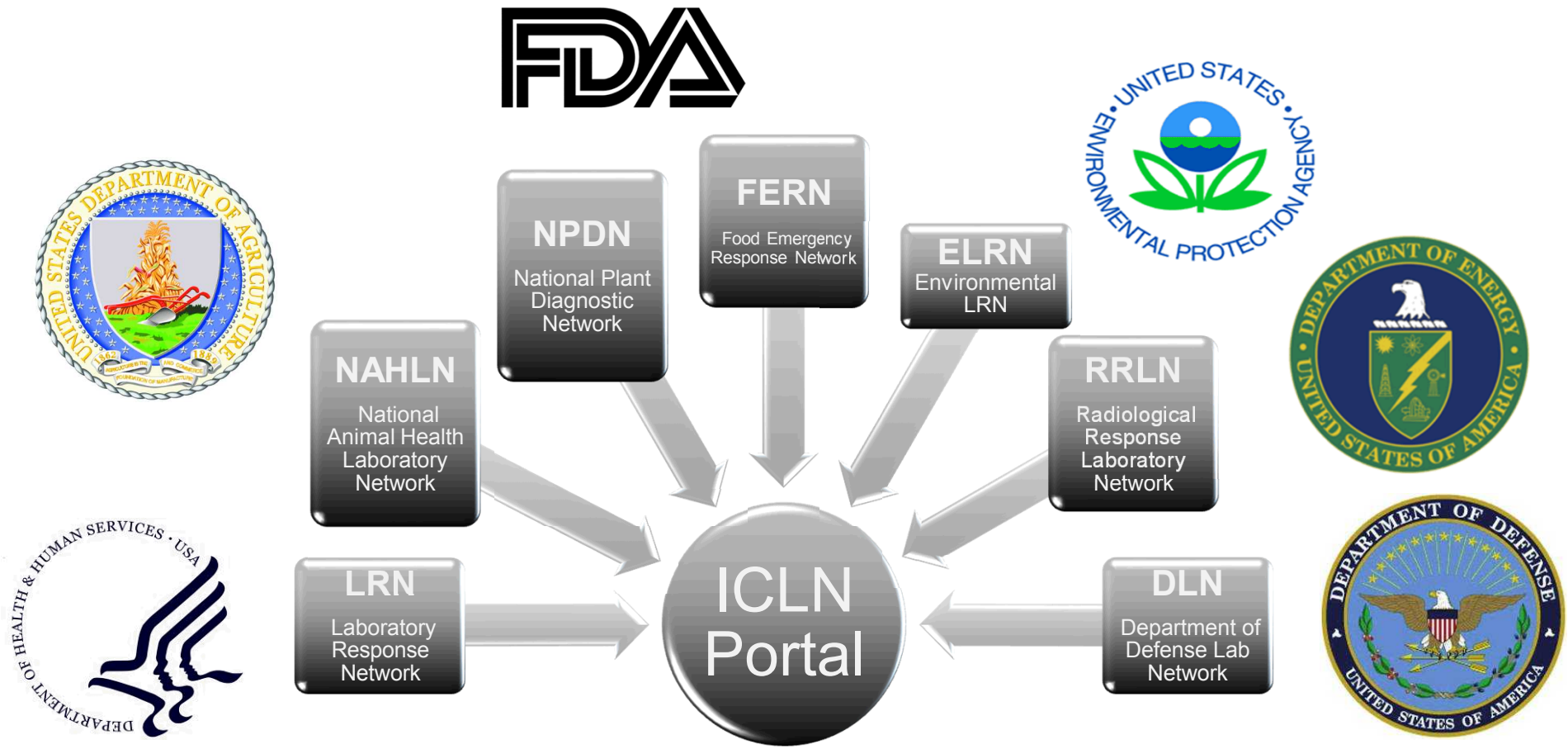


Figure 4-2. Phase-related MQOs & Laboratory Asset Role

Laboratory Selection Guidelines

- FRMAC Experience
- FRMAC LAWG member lab or contractor
- Member of ICLN Laboratory Network?
- Proficiency test performance
- Permits, accreditations, certifications
- Matrices capabilities
- Ability to meet Data Quality Objectives (DQO) and Turn-Around-Times (TAT)
- Sample capacity

Integrated Consortium of Laboratory Networks (ICLN)



Headed by Department of Homeland Security (DHS)

Comprised of laboratory networks from all federal agencies

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Lessons Learned from Fukushima
How can you prepare your laboratory?

- Plan for MQOs in Lab Analysis Manual
- Provide data that meets FRMAC requirements
- Have/Obtain the required USDA permits if needed
- Prepare for 24/7 Staffing
- Prepare to provide:
  - Level 4 data package:
    - Results and…
    - Total Propagated Uncertainty
    - Method Validation Packages
    - Qualifications and Training
    - Procedures

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what to expect from FRMAC

Laboratory Analysis Process

- Initial Laboratory Questionnaire
- Introductory or notification email from the Web Portal
- Electronic forms via Web Portal
- Data Reporting

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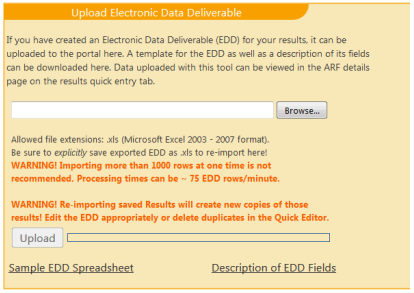
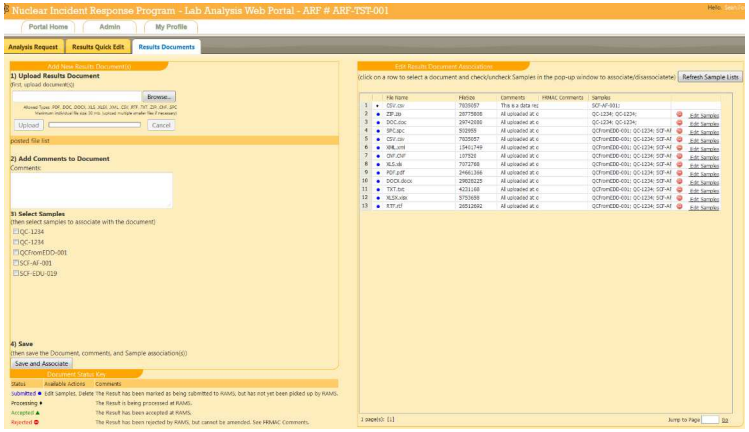
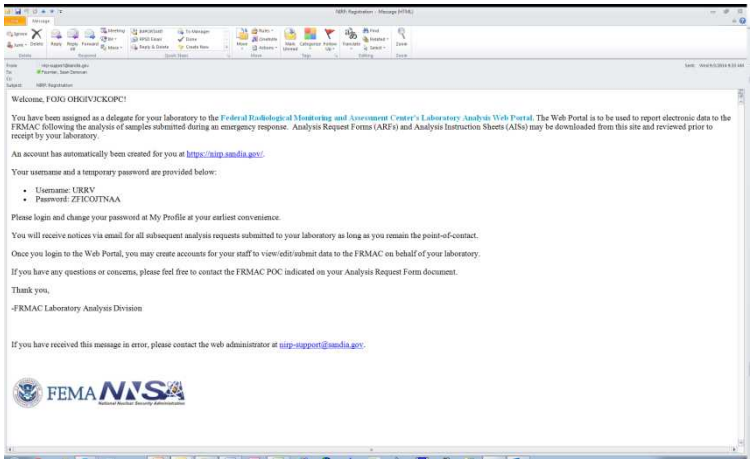
FRMAC Laboratory Analysis Web Portal

- Online database used for data reporting
- User accounts created on-the-fly during a drill or event
- Users can delegate accounts for their own staff
- Manual data entry via Excel-like table
- Or, upload of Electronic Data Deliverable (EDD)
- Users can upload documents (scanned reports)





Lab Analysis Web Portal Email Communication



Welcome, FOJG OHGIV3CKOPC!

You have been assigned as a delegate for your laboratory to the Federal Radiological Monitoring and Assessment Center's Laboratory Analysis Web Portal. The Web Portal is to be used to report electronic data to the FRMAC following the analysis of samples submitted during an emergency response. Analysis Request Forms (ARFs) and Analysis Instruction Sheets (AISs) may be downloaded from this site and reviewed prior to receipt by your laboratory.

An account has automatically been created for you at https://nirp.sandia.gov/.

Your username and a temporary password are provided below:

- Username: URRV
- Password: ZFICOJTNAA

Please login and change your password at My Profile at your earliest convenience.

You will receive notices via email for all subsequent analysis requests submitted to your laboratory as long as you remain the point-of-contact.

Once you login to the Web Portal, you may create accounts for your staff to view/edit/submit data to the FRMAC on behalf of your laboratory.

If you have any questions or concerns, please feel free to contact the FRMAC POC indicated on your Analysis Request Form document.

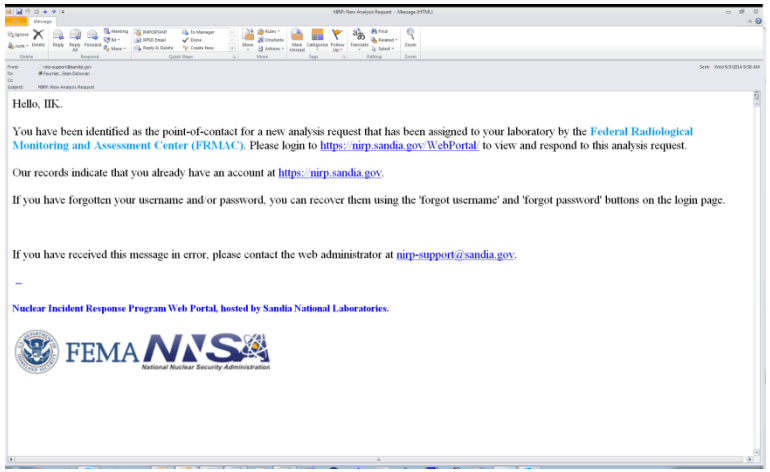
Thank you,

-FRMAC Laboratory Analysis Division

If you have received this message in error, please contact the web administrator at nirp-support@sandia.gov.

FEMA NNSA National Nuclear Security Administration

Introductory Email: Account is automatically created, user must login and create a new password



Hello, IIK,

You have been identified as the point-of-contact for a new analysis request that has been assigned to your laboratory by the Federal Radiological Monitoring and Assessment Center (FRMAC). Please login to https://nirp.sandia.gov/WebPortal/ to view and respond to this analysis request.

Our records indicate that you already have an account at https://nirp.sandia.gov.

If you have forgotten your username and/or password, you can recover them using the 'forgot username' and 'forgot password' buttons on the login page.

If you have received this message in error, please contact the web administrator at nirp-support@sandia.gov.

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Nuclear Incident Response Program Web Portal, hosted by Sandia National Laboratories.

FEMA NNSA National Nuclear Security Administration

Notification Email: Users with existing accounts are notified that another analysis request has been sent to their laboratory

Laboratory Process Review

1. Analysis Request is sent to the Lab via Web Portal.

2. Laboratory reviews analysis request/instructions and prepares to receive samples.

3. Laboratory receives samples and analyzes them; data is posted to Web Portal.

4. FRMAC continuously parses Web Portal for new data, collects new data, and processes it through QA engine. Lab is given feedback if there is an issue with the results.

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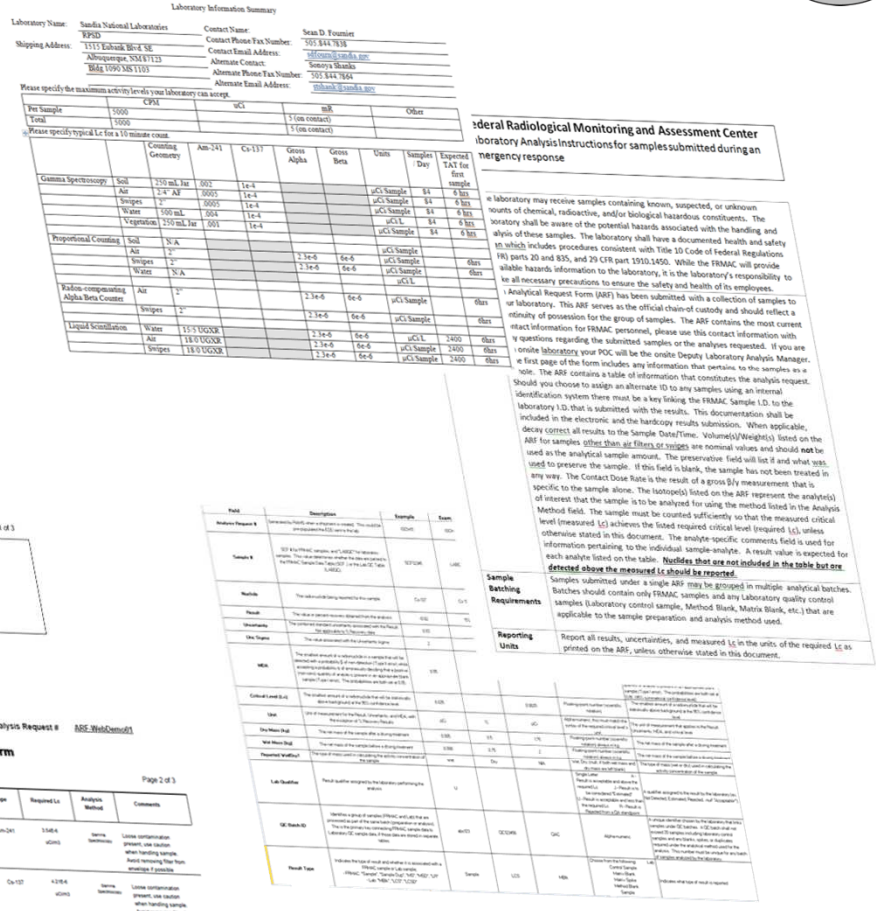
FRMAC Lab Analysis Forms

- Initial Laboratory Questionnaire
- Analysis Request Form (ARF)
- Analysis Instruction Sheet (AIS)
- Electronic Data Deliverable (EDD)



Laboratory Information Summary

Laboratory Name: Sandia National Laboratories — RPSD
Shipping Address: 1515 Eubank Blvd SE, Albuquerque, NM 87123, Bldg 1090 MS 1103
Contact Name: Sean D. Fournier
Contact Phone/Fax Number: 505.844.7836
Contact Email Address: sdfourn@sandia.gov
Alternate Contact: Sonoya Shanks
Alternate Phone/Fax Number: 505.844.7664
Alternate Email Address: shshank@sandia.gov

Please specify the maximum activity levels your laboratory can accept.

	CPM	uCi	mR	Other
Per Sample	5000		5 (on contact)	
Total	10000		5 (on contact)	

Please specify typical Lc for a 10 minute count.

		Counting Geometry	Am-241	Cs-137	Gross Alpha	Gross Beta	Units	Samples / Day	Expected TAT for first sample
Gamma Spectroscopy	Soil	250 mL Jar	.002	1e-4			uCi/Sample	84	6 hrs
	Air	2-4" AF	.0005	1e-4			uCi/Sample	84	6 hrs
	Swipes	2"	.0005	1e-4			uCi/Sample	84	6 hrs
	Water	500 mL	.004	1e-4			uCi/L	84	6 hrs
	Vegetation	250 mL Jar	.001	1e-4			uCi/Sample	84	6 hrs
Proportional Counting	Soil	N/A							
	Air	2"			2.3e-6	6e-6	uCi/Sample		
	Swipes	2"			2.3e-6	6e-6	uCi/Sample		6hrs
	Water	N/A					uCi/Sample		6hrs
Radon-compensating Alpha/Beta Counter	Air	2"					uCi/L		
	Swipes	2"			2.3e-6	6e-6	uCi/Sample		6hrs
					2.3e-6	6e-6	uCi/Sample		6hrs
Liquid Scintillation	Water	15-5 UGXR			2.3e-6	6e-6	uCi/L	2400	6hrs
	Air	18.0 UGXR			2.3e-6	6e-6	uCi/Sample	2400	6hrs
	Swipes	18.0 UGXR			2.3e-6	6e-6	uCi/Sample	2400	6hrs

ederal Radiological Monitoring and Assessment Center
laboratory Analysis Instructions for samples submitted during an
nergency response

e laboratory may receive samples containing known, suspected, or unknown
ounts of chemical, radioactive, and/or biological hazardous constituents. The
oratory shall be aware of the potential hazards associated with the handling and
alysis of these samples. The laboratory shall have a documented health and safety
n which includes procedures consistent with Title 10 Code of Federal Regulations
FR) parts 20 and 835, and 29 CFR part 1910.1450. While the FRMAC will provide
ailable hazards information to the laboratory, it is the laboratory's responsibility to
e all necessary precautions to ensure the safety and health of its employees.

Analytical Request form (ARF) has been submitted with a collection of samples to
ur laboratory. This ARF serves as the official chain-of custody and should reflect a
ntinuity of possession for the group of samples. The ARF contains the most current
ntact information for FRMAC personnel, please use this contact information with
y questions regarding the submitted samples or the analyses requested. If you are
onsite laboratory your POC will be the onsite Deputy Laboratory Analysis Manager.
e first page of the form includes any information that pertains to the samples as a
hole. The ARF contains a table of information that constitutes the analysis request.
Should you choose to assign an alternate ID to any samples using an internal
identification system there must be a key linking the FRMAC Sample I.D. to the
laboratory I.D. that is submitted with the results. This documentation shall be
included in the electronic and the hardcopy results submission. When applicable,
decay correct all results to the Sample Date/Time. Volume(s)/Weight(s) listed on the
ARF for samples other than air filters or swipes are nominal values and should not be
used as the analytical sample amount. The preservative field will list if and what was
used to preserve the sample. If this field is blank, the sample has not been treated in
any way. The Contact Dose Rate is the result of a gross β/γ measurement that is
specific to the sample alone. The Isotope(s) listed on the ARF represent the analyte(s)
of interest that the sample is to be analyzed for using the method listed in the Analysis
Method field. The sample must be counted sufficiently so that the measured critical
level (measured Lc) achieves the listed required critical level (required Lc), unless
otherwise stated in this document. The analyte-specific comments field is used for
information pertaining to the individual sample-analyte. A result value is expected for
each analyte listed on the table. **Nuclides that are not included in the table but are detected above the measured Lc should be reported.**

Sample Batching Requirements	Samples submitted under a single ARF may be grouped in multiple analytical batches. Batches should contain only FRMAC samples and any Laboratory quality control samples (Laboratory control sample, Method Blank, Matrix Blank, etc.) that are applicable to the sample preparation and analysis method used.
Reporting Units	Report all results, uncertainties, and measured Lc in the units of the required Lc as printed on the ARF, unless otherwise stated in this document.

Analysis Request # ARF-WebDemo01

FRMAC Analytical Request Form

Page 1 of 3

Laboratory Information
Event: SNL-Web Portal-Demo
Laboratory: SNL RPSD Laboratories
Laboratory POC: Beth Hanson
Phone: 505-284-9400
Fax: 505-844-0112
Email: chanso@sandia.gov

Report & Turnaround Information
Send Report To: Sean D. Fournier
Phone: 505.844.8736
Fax:
Email: sdfourn@sandia.gov
Turnaround: ( ) A.S.A.P.
Turnaround Date:

Sample Hazards/Comments/Additional Information:
Use caution when handling sample, loose contamination on filter media

Sample Management Information
Samples are associated with a signed S.O.W. ( ) yes (X) no
Analysis entered here agrees with the
If not, identify the variation:

*Report sample results in same units

Analysis Request # ARF-WebDemo01

FRMAC Analytical Request Form

Page 2 of 3

Sample I.D.	Sample Date/Time (UTC)	Matrix	Volume/Weight	Preservative	Contact Dose Rate	Isotope	Required Lc	Analysis Method	Comments
SCF-00001	10/9/2012 9:14:51 PM	Air Filter	33755 cubic feet		2.5 mR/hr	Am-241	3.54E-4 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible
SCF-00001	10/9/2012 9:14:51 PM	Air Filter	33755 cubic feet		2.5 mR/hr	Cs-137	4.21E-4 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible
SCF-00001	10/9/2012 9:14:51 PM	Air Filter	33755 cubic feet		2.5 mR/hr	Co-60	1.99E-4 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible

Report Generated: 10/18/2012
Not For Public Disclosure

Field	Description	Example	Exam
Analysis Request #	Generated by FRMAC when a shipment is created. This could be anticipated by ICD, name that etc.	ICD-01	ICD-
Sample #	SCF # for FRMAC samples, and "LABID" for laboratory samples. This value determines whether the data are entered in the FRMAC Sample Data Table (SCF_) or the Lab QC Table (LABID_).	SCF1234	LABC
Nuclide	The radionuclide being reported for the sample.	Cs-137	Cs-1
Result	The value of sample's response, obtained from the analysis.	4.5E	9.5
Uncertainty	The combined standard uncertainty associated with the Result. For applications to 2 Nuclides, data	0.45	
Unc Digits	The value associated with the uncertainty digits.	2	
MDA	The smallest amount of a radionuclide in a sample that will be detected with a probability β of non-detection (Type II error), while accepting a probability α of erroneously deciding that a positive (non-zero) quantity of analyte is present in an appropriate blank sample (Type I error). The probabilities are both set at 5%.	3.5E	
Critical Level (Lc)	The smallest amount of a radionuclide that will be statistically above background at the 95% confidence level.	0.25	
Unit	Unit of measurement for the Result, Uncertainty, and MDA, with the exception of the Percent Recovery Result.	uCi	%
Dry Mass (kg)	The net mass of the sample after a drying treatment.	0.55	kg
Wet Mass (kg)	The net mass of the sample before a drying treatment.	0.58	kg
Percent Moisture	The mass of water used in calculating the activity concentration of the sample.	Yes	Dry
Lab Qualifier	Result qualifier assigned by the laboratory performing the analysis	U	
QC Batch ID	Identifies a group of samples (FRMAC and LAB) that are processed as part of the same batch (preparation or analysis). This is the primary key connecting FRMAC sample data to Laboratory QC sample data. If those data are stored in separate tables.	abc123	SCD345
Result Type	Indicates the type of result and whether it is associated with a FRMAC sample or Lab sample. "FRMAC Sample" "Sample Dup" "MS" "MSD" "LCS" "LCSD" Lab "MBK" "LCS" "LCSD"	Sample	LCS

	QC	Alphanumeric
	Sample	Choice from the following: Control Sample Matrix Blank Matrix Spike Method Blank Sample

Initial Laboratory Questionnaire

Laboratory Information Summary

Laboratory Name:	Sandia National Laboratories	Contact Name:	Sean D. Fournier
	RPSD	Contact Phone/Fax Number:	505.844.7838
Shipping Address:	1515 Eubank Blvd. SE	Contact Email Address:	sdfourn@sandia.gov
	Albuquerque, NM 87123	Alternate Contact:	Sonoya Shanks
	Bldg 1090 MS 1103	Alternate Phone/Fax Number:	505.844.7864
		Alternate Email Address:	stshank@sandia.gov

Please specify the maximum activity levels your laboratory can accept.

	CPM	uCi	mR	Other
Per Sample	5000		5 (on contact)	
Total	5000		5 (on contact)	

Please specify typical Lc for a 10 minute count.

		Counting Geometry	Am-241	Cs-137	Gr... ...ph	Gross Beta	Units	Samples / Day	Expected TAT for first sample
Gamma Spectroscopy	Soil	250 mL Jar	.002	1...			µCi/Sample	84	6 hrs
	Air	2/4" AF	.0005	1e			µCi/Sample	84	6 hrs
	Swipes	2"	.0005	...e-4			µCi/Sample	84	6 hrs
	Water	500 mL	...	1e-4			µCi/L	84	6 hrs
	Vegetation	250 ... Jar	.001	1e-4			µCi/Sample	84	6 hrs
Proportional Counting	Soil	N/A					µCi/Sample		
	Air	2"			2.3e-6	6e-6	µCi/Sample		6hrs
	Swipes	2"			2.3e-6	6e-6	µCi/Sample		6hrs
	Wa...	N/A					µCi/L		
Radon-compensating Alpha/Beta Counter	Air	2"			2.3e-6	6e-6	µCi/Sample		6hrs
	Swipes	2"			2.3e-6	6e-6	µCi/Sample		6hrs
Liquid Scintillation	Water	15/5 UGXR			2.3e-6	6e-6	µCi/L	2400	6hrs
	Air	18/0 UGXR			2.3e-6	6e-6	µCi/Sample	2400	6hrs
	Swipes	18/0 UGXR			2.3e-6	6e-6	µCi/Sample	2400	6hrs

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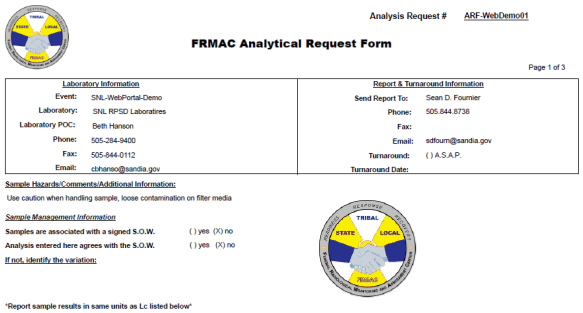
Analysis Request Form



Analysis Request # ARF-WebDemo01

FRMAC Analytical Request Form

Page 1 of 3

Laboratory Information		Report & Turnaround Information	
Event:	SNL-WebPortal-Demo	Send Report To:	Sean D. Fournier
Laboratory:	SNL RPSD Laboratires	Phone:	505.844.8738
Laboratory POC:	Beth Hanson	Fax:	
Phone:	505-284-9400	Email:	sdfourn@sandia.gov
Fax:	505-844-0112	Turnaround:	( ) A.S.A.P.
Email:	cbhanso@sandia.gov	Turnaround Date:	

Sample Hazards/Comments/Additional Information:

Use caution when handling sample, loose contamination on filter media

Sample Management Information

Samples are associated with a signed S.O.W. ( ) yes (X) no

Analysis entered here agrees with the S.O.W. ( ) yes (X) no

If not, identify the variation:

Report sample results in same units as Lc listed below

Page 1 Cover Page

Analysis Request # ARF-WebDemo01

FRMAC Analytical Request Form

Page 2 of 3

Sample I.D.	Sample Date/Time (UTC)	Matrix	Volume/Weight	Preservative	Contact Dose Rate	Isotope	Required Lc	Analysis Method	Comments
SCF-00001	10/8/2012 8:14:51PM	Air Filter	33750 cubic feet		2.5 mR/hr	Am-241	3.54E-6 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible
SCF-00001	10/8/2012 8:14:51PM	Air Filter	33750 cubic feet		2.5 mR/hr	Cs-137	4.21E-6 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible
SCF-00001	10/8/2012 8:14:51PM	Air Filter	33750 cubic feet		2.5 mR/hr	Co-60	1.06E-6 uCi/m3	Gamma Spectroscopy	Loose contamination present, use caution when handling sample. Avoid removing filter from envelope if possible

Page 2 - ??
Sample/Analyte List

Analysis Request # ARF-WebDemo01

FRMAC Analytical Request Form

Page 3 of 3

Custody Transfer:

Relinquished By: (print)	Signature	Date/Time (UTC)	Received By: (print)	Signature	Date/Time (UTC)

Barcode labels:

Last Page: Chain of Custody

Analysis Instruction Sheet

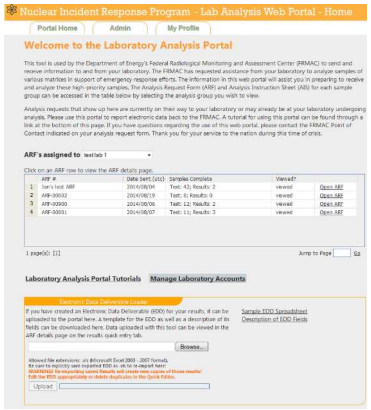
- Hazard identification and safety considerations
- Description of Analysis Request Form
- Sample batching requirements and data reporting guidelines
- Special instructions for samples with no critical level provided
- Additional instructions pertaining to the analysis request

Data Reporting

- Reporting electronic results
  - Manual Entry in Lab Analysis Web Portal
  - Electronic Data Deliverable (EDD) upload
- Documenting signed ARF for COC purposes
- Reporting hardcopy data packages for archival and data verification purposes
  - Initial Level I data package required with submittal of electronic results
  - Level IV data package required at a later time

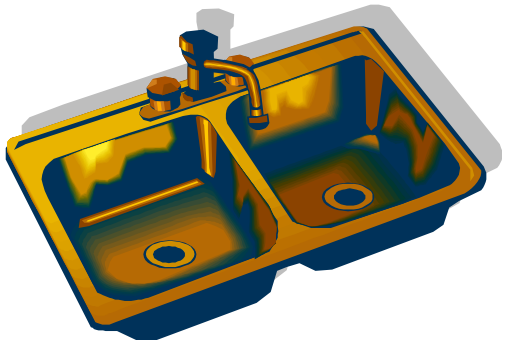
FRMAC RAMS Electronic Data Deliverable

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Analysis Request #	Sample #	Nuclide	Result	Uncertainty	Unc Sigma	MDA	Critical Level (Lc)	Unit	Dry Mass (kg)	Wet Mass (kg)	Reported Wet/Dry	Lab Qualifier	QC Batch ID	Result Type	% Recovery	Analysis Method	Comments	Upload Settings
2	ARF-0001	SCF00001	Cs-137	-0.02	0.03	2	0.05		pCi	0.5	0.75	Wet	U	abc123	Sample		Gamma	Batch QC passed internal standards	R
3	ARF-0001	SCF00002	Am-241	0.05	0.005	2	0.02	0.01	pCi	0.5	0.75	Wet	U	QCBATCH01	Sample		Alpha Spec	Result > MDA	A
4	ARF-0003	SCF00003	H-3	20	0.002	2	0.05	0.025	dpm	0.005	N/A	N/A	U	cba321	Sample		H3 by LSC	Result > MDA	A
5	ARF-0004	SCF00004	H-3	0.001	0.02	2	0.05	0.025	dpm	N/A	N/A	N/A	U	cba321	MBlk		H3 by LS	Result < Critical Level	R
6	ARF-0005	SCF12345	Mn-54	0.001	0.03	2	0.01	0.005	pCi	0.5	0.75	Dry	U	zyx123	Sample		Gamma	Not Detected	R
7	ARF-0001	SCF00001c	Cs-137	0.002	0.03	2	0.015	0.005	pCi	0.5	0.75	Wet	U	abc123	Sample dup		Gamma	Duplicate of sample SCF00001	
8	ARF-0001	LCS090720	Cs-137	25	2	2	0.015	0.005	uCi	N/A	N/A	N/A	U	abc123	LCS	0.950	Gamma	LCS for QC batch abc123 gamma spec	
9	ARF-0001	MS090720	Am-243	63	5	2	0.015	0.04	pCi	N/A	N/A	N/A	U	QCBATCH01	MS	0.85	Alpha Sp	MS for QC batch QCBATCH01 alpha sp	



Data Packages

- Level I
  - Electronic data via EDD or manual entry in Web Portal
  - Analysis report to verify electronic data
- Level IV
  - Procedures
  - QC checks
  - Calibrations
  - Validations
  - Total Propagated Uncertainty calculations
  - QA Manual
  - Personnel training and qualifications
  - Etc...



Be Flexible !!

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We need your help!

- We need laboratory input to help improve this process
  - Mapping your LIMS to export the EDD
    - Providing feedback on EDD format to make your life easier
  - Testing of Lab Analysis Web Portal
    - Providing feedback on the user experience
  - Participating in drills and exercises
    - Gaining experience in emergency response and interfacing with laboratories

How Do I Get Involved or Prepare?

Sonoya Shanks
Sandia National Laboratories
stshank@sandia.gov
(505)844-7864

Ted Redding
NSTec
reddintj@nv.doe.gov
(702)295-7220

Phil Torretto
Lawrence Livermore National Laboratory
torretto1@llnl.gov
(925)422-5515

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More Information?

If you are interested in seeing a demo of the FRMAC Lab Analysis Web Portal or have any questions, please contact me

Sean Fournier
Sandia National Laboratories
sdfourn@sandia.gov
(505)844-7838

Or, drop a card with me and I'll be in touch.

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Questions, Comments?