

ICLN Full Scale Radiological Laboratory Exercise

2015 APHL Annual Meeting
May 18-21, 2015

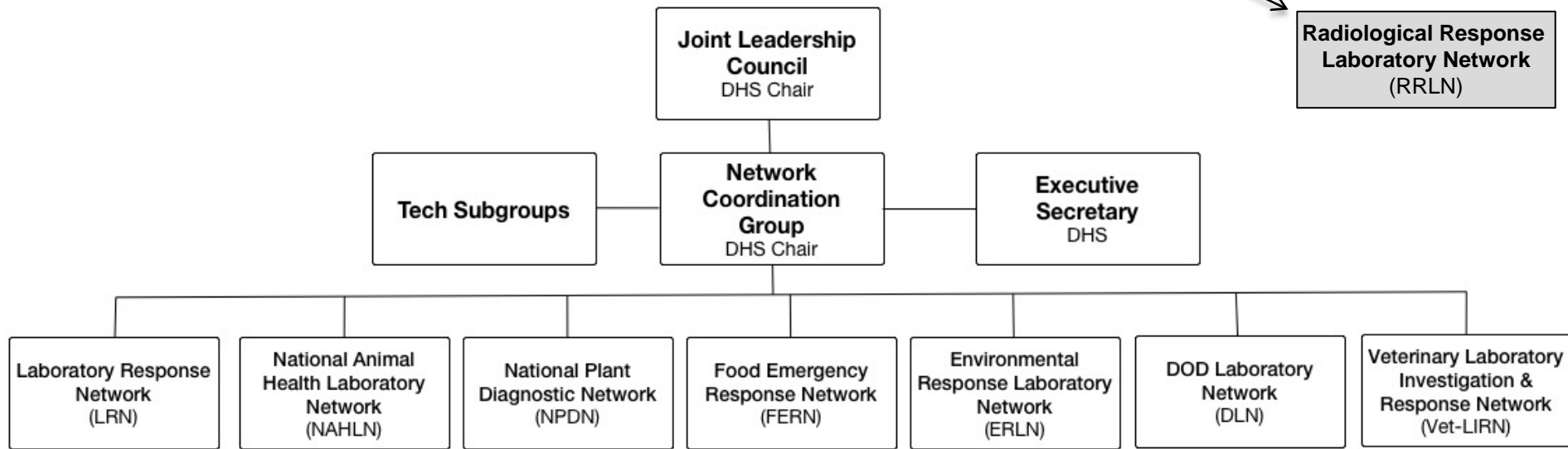
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Berta Oates, Portage Inc.

 Lawrence Livermore
National Laboratory

This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under contract DE-AC52-07NA27344. Lawrence Livermore National Security, LLC



Integrated Consortium of Laboratory Networks (ICLN)



Background

- **The ICLN - Confidence Building Competency Tests (CBCT) were developed to**
 - assess aspects of the *interoperability of laboratory networks*
 - provide agent detection and *surge support* to each other during a *large-scale event*.
- **Specific aspects of the CBCT include**
 - the ability of networks to perform a *non-routine method* on a *non-routine matrix* at an acceptable level of quality, and
 - *the ability to combine information from several networks* using prescribed data reporting and communication procedures.



In a Perfect World



There would be...

- Predefined DQOs/MQOs



- Network of pre-qualified laboratories

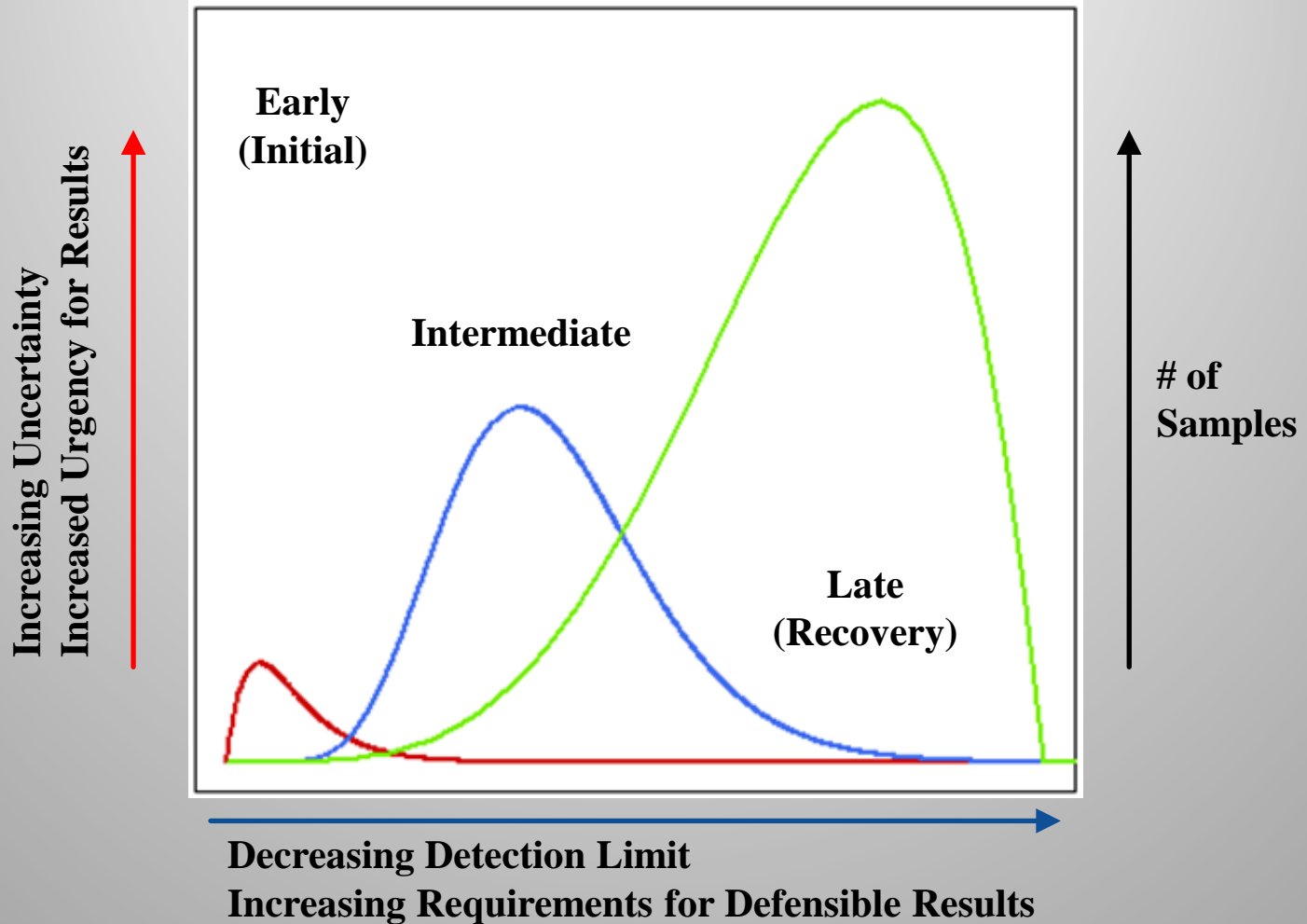
- Performance testing programs

- Laboratories capability exercises

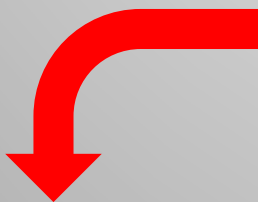
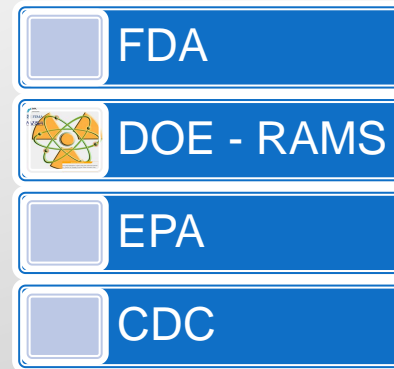
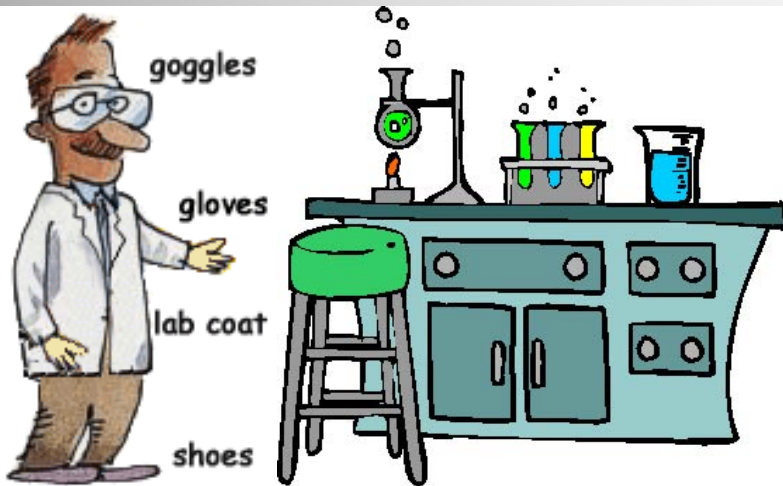
Participating Agencies



Overall Objectives



Objectives - Data Exchange



Objectives - ICLN Portal

The screenshot displays the ICLN Portal interface. At the top, a dark blue header contains the text "ICLN Portal" on the left and a series of icons for "Apps", notifications (32), help, user profile, and chat on the right. Below the header is a navigation bar with five tabs: "Incident Home", "Preparedness Alerts", "Situation Reports", "Data Exchanges", and "Communications". The main content area features a breadcrumb trail: "EXERCISE_RAD CBCT FSE_DENVER_CHICAGO_MAY_2014 ICLN Incident".

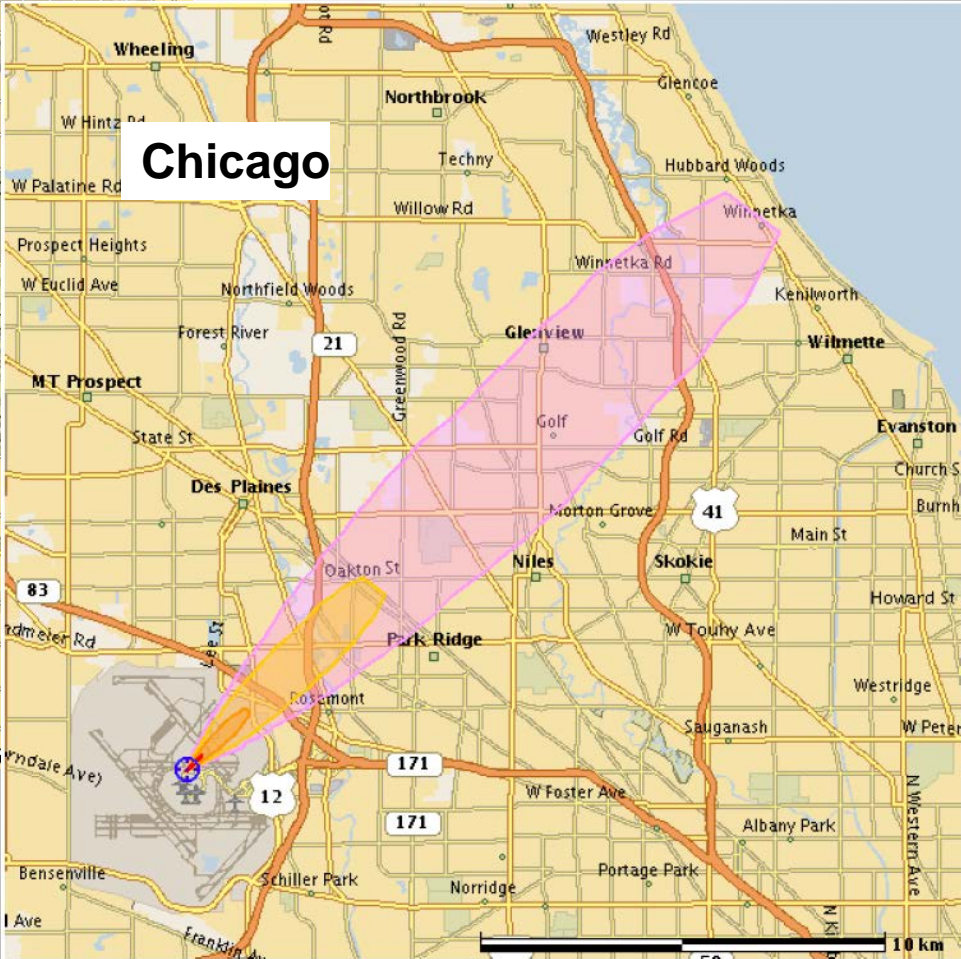
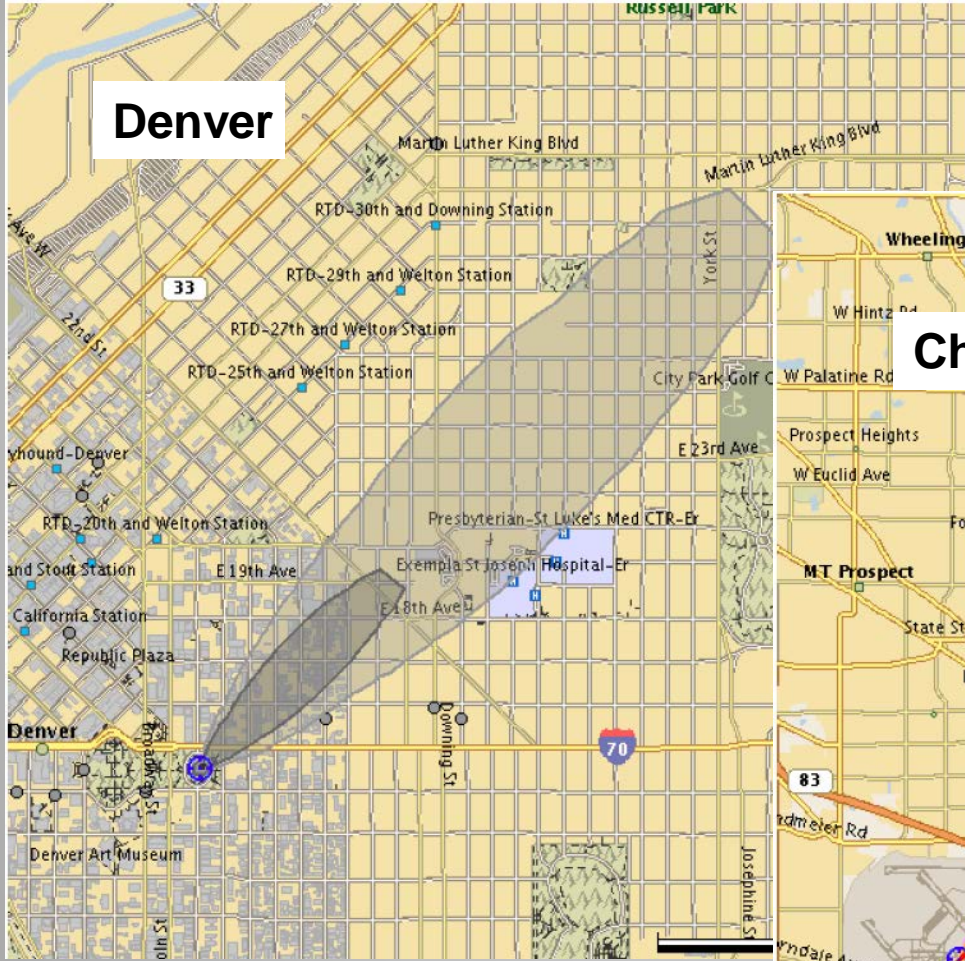
The central focus is a "SOP Guidance Steps" flowchart with the following steps: "Create PA" → "Create SitRep" → "Meetings" → "Update SitRep" → "Lessons" → "Close Event".

To the right of the flowchart is a "Point of Contact" box for Marie Socha, with contact information: mariesocha@shrrconsulting.com and P: 256-694-2317. A vertical "chat" button is located on the far right edge of the interface.

Below the flowchart is a "Latest Activity" section showing a post from 11/14/14 at 10:34 AM by Berta Oates, titled "Phase II Morning Briefing 11-14-14.docx", with "Read" and "Download" options.

On the right side, there is a "Templates" section listing "SitRep Template", "Preparedness Template", and "Data Exchange Template", each with a download icon.

Early Phase



Test Matrices

FDA



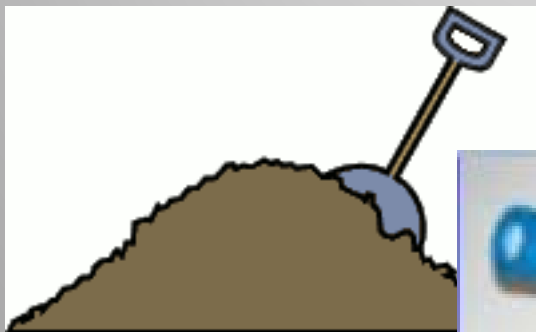
EPA



CDC



DOE



Participating Laboratories

Agency	# of Labs	Phase	Matrix	Radionuclides	# of Samples
FDA	17	Early	Apple Juice	Gross Beta	71
		Early	Apple Juice	Gross Alpha	62
		Recovery	Apple Juice	Sr-90	53
		Recovery	Apple Juice	Pu-239	51
DOE	5	Early	Air Filter	Total Sr	30
		Early	Air Filter	Pu-239	30
		Early	Soil	Total Sr	45
		Early	Soil	Pu-239	45
EPA	2	Early	Water	Total Sr	20
		Early	Water	Pu-239	20
	5	Recovery	Water	Total Sr	60
		Recovery	Water	Pu-239	60
CDC	1	Early	Urine	Sr-90	100
		Early	Urine	Pu-239	100

DOE FRMAC Objectives

Assess ability of DOE to identify the

an Assess ability of DOE to solicit laboratory

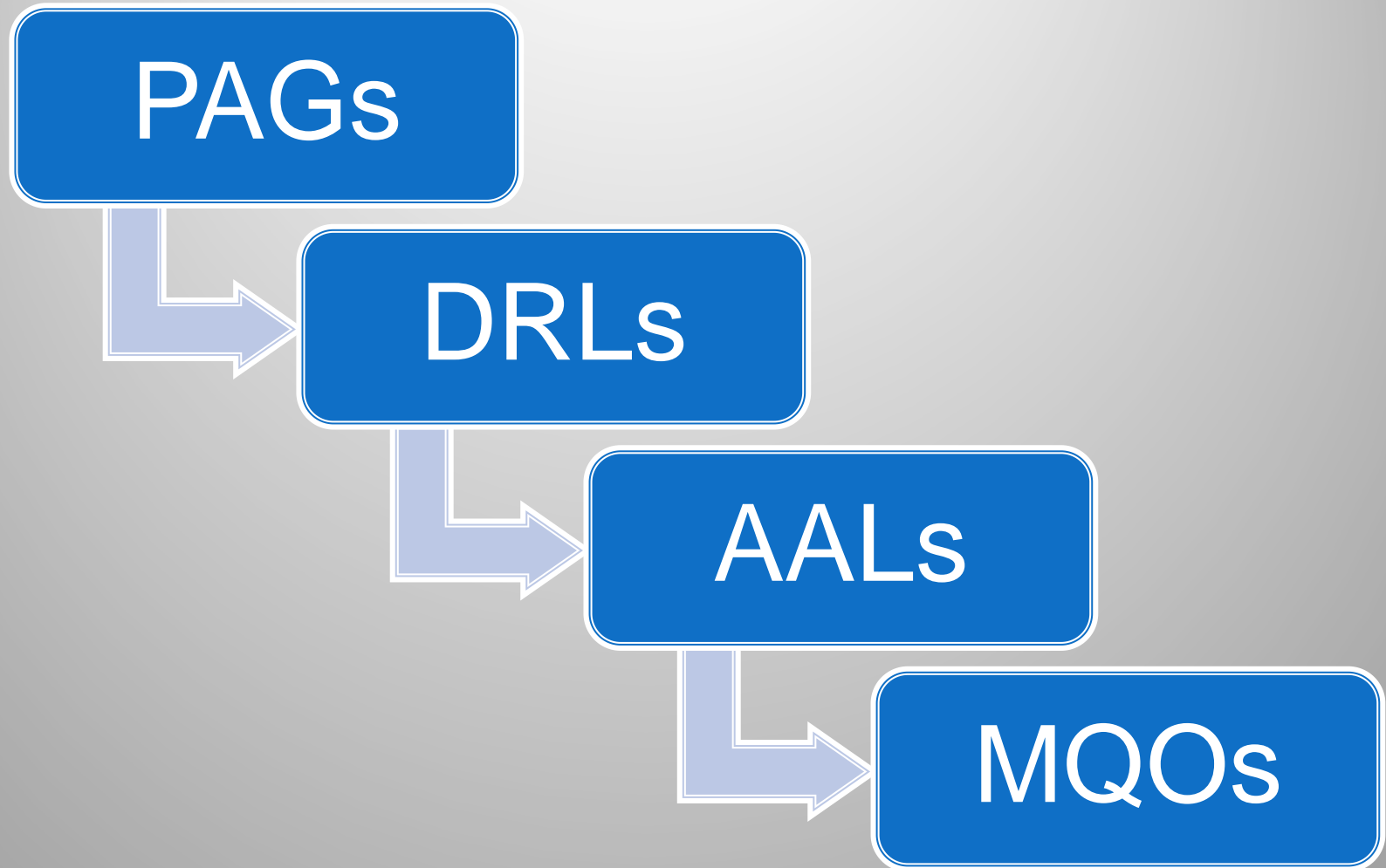
in pa Assess ability of DOE to prepare and ship

su all Assess the ability of the DOE FRMAC

lab ins RA Assess the ability of the participating

as rec res lab the Po Assess ability of the DOE FRMAC to internally collate (merge) member laboratory results using the minimum data elements and provide results to other ICLN member networks through use of the ICLN portal.

Measurement Quality Objectives



DOE Required L_c

	Air Filters ¹	Soil ²
Pu-239	1.5 pCi/Sample	0.2 pCi/g
Sr-Total	4.0 pCi/Sample	2.0 pCi/g

1. Air filter samples are 10 m³/sample
2. Soil samples are 100 cm² x 2 cm deep, soil density = 1.6 g/cm³

Requested Turn-around Time: 3 – 5 Days

DOE FRMAC Test Plan

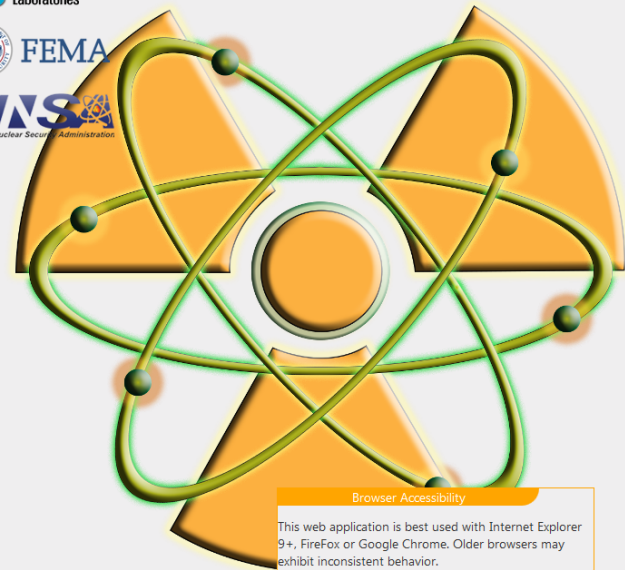
	Lab A	Lab B	Lab C	Lab D	Lab E	Total
AF – Pu-239		10		10	10	30
AF – Sr Total		10		10	10	30
Soil – Pu-239	10	10	15	10		45
Soil – Sr Total	10	10	15	10		45
Total	20	40	30	40	20	150

FRMAC Web Portal

Welcome to the Laboratory Analysis Portal

This tool is used by the Department of Energy's Federal Radiological Monitoring and Assessment Center (FRMAC) to send and receive information to and from your laboratory. The FRMAC has requested assistance from your laboratory to analyze samples of various matrices in support of emergency response efforts. The information in this web portal will assist you in preparing to receive and analyze these high-priority samples. The Analysis Request Form (ARF) and Analysis Instruction Sheet (AIS) for each sample group can be accessed in the table below by selecting the analysis group you wish to view.

Analysis requests that show up here are currently on their way to your laboratory or may already be at your laboratory undergoing analysis. Please use this portal to report electronic data back to the FRMAC. A tutorial for using this portal can be found through a link at the bottom of this page. If you have questions regarding the use of this web portal, please contact the FRMAC Point of Contact indicated on your analysis request form. Thank you for your service to the nation during this time of crisis.



ARF's assigned to

Click 'Open ARF' to view the ARF details page.

ARF #	Date Sent (utc)	Samples Complete	Viewed?	
1 ARF-NAMP-Demo-002	2014/03/20	Test: 2; Results: 0	pending	Open ARF
2 ARF-NAMP-Demo-001	2014/03/20	Test: 2; Results: 0	pending	Open ARF
3 ARF-TestSite001	2014/09/30	Test: 4; Results: 0	pending	Open ARF
4 ARF-CommsTest	2014/03/18	Test: 2; Results: 0	viewed	Open ARF

1 page(s): [1]

Jump to Page [Go](#)

[Laboratory Analysis Portal Tutorials](#) | [Manage Laboratory Accounts](#)

Electronic Data Deliverable Loader

If you have created an Electronic Data Deliverable (EDD) for your results, it can be uploaded to the portal here. A template for the EDD as well as a description of its fields can be downloaded here. Data uploaded with this tool can be viewed in the ARF details page on the results quick entry tab.

Allowed file extensions: .xls (Microsoft Excel 2003 - 2007 format).

Be sure to explicitly save exported EDD as .xls to re-import here!

WARNING! Importing more than 1000 rows at one time is not recommended. Processing times can be ~ 75 EDD rows/minute.

WARNING! Re-importing saved Results will create new copies of those results! Edit the EDD appropriately or delete duplicates in the Quick Editor.

Upload

[Sample EDD Spreadsheet](#)

[Description of EDD Fields](#)

Browser Accessibility

This web application is best used with Internet Explorer 9+, FireFox or Google Chrome. Older browsers may exhibit inconsistent behavior.

Radiological Assessment and Monitoring System (RAMS)



ICLN Full Scale Radiological Exercise wong65

22:56 UTC

System Home Account Products Equipment Measurements Lab Analysis ECAM/Sample Results Action Items Upload/Download

Search Create Refresh Field Sample(s) All available field samples Status Print Labels

CURRENT PAGE: 1 OF 7 RECORDS PER PAGE: 25 (151 RECORDS)

Sample#	Status	Sample Type	Collection Date (UTC)	Contact Dose Rate	Contact Dose Rate Unit	Sample Size	Non-Conform	Latitude	Longitude
<input type="checkbox"/> SCF-02750	Sent to Lab	Soil	7/21/2014 5:30:00 PM	2.00E1	uRem/hr	5E+0 grams	No	42.0081	-87.7979
<input type="checkbox"/> SCF-02710	Sent to Lab	Soil	7/16/2014 9:20:45 PM	2.00E1	uRem/hr	5E+0 grams	No	42.0516	-87.6746
<input type="checkbox"/> SCF-02938	Sent to Lab	Air Filter	5/8/2014 5:30:00 AM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	42.0421	-87.7103
<input type="checkbox"/> SCF-02735	Sent to Lab	Air Filter	5/7/2014 6:30:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.7787	-104.9785
<input type="checkbox"/> SCF-02909	Sent to Lab	Air Filter	5/7/2014 6:30:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.7787	-104.9785
<input type="checkbox"/> SCF-02713	Sent to Lab	Soil	5/7/2014 6:30:00 PM	2.00E1	uRem/hr	5E+0 grams	No	39.7787	-104.9785
<input type="checkbox"/> SCF-02781	Sent to Lab	Soil	5/7/2014 6:30:00 PM	2.00E1	uRem/hr	5E+0 grams	No	39.7787	-104.9785
<input type="checkbox"/> SCF-02939	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	42.0516	-87.6746
<input type="checkbox"/> SCF-02945	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.8131	-104.8447
<input type="checkbox"/> SCF-02948	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.7407	-104.9410
<input type="checkbox"/> --	*Sample Collected	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	-87.6746	42.0516
<input type="checkbox"/> SCF-02794	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	42.0516	-87.6746
<input type="checkbox"/> SCF-02901	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.8131	-104.8447
<input type="checkbox"/> SCF-02904	Sent to Lab	Air Filter	5/7/2014 6:00:00 PM	2.50E1	uRem/hr	1E+1 Cubic Meters	No	39.7407	-104.9410
<input type="checkbox"/> SCF-02775	Sent to Lab	Soil	5/7/2014 6:00:00 PM	2.00E1	uRem/hr	5E+0 grams	No	42.0516	-87.6746

ICLN Portal Data Exchange



ICLNPortal
INTEGRATED CONSORTIUM OF LABORATORY NETWORKS



Welcome !












ICLN Portal
Search Data
Upload Data
Manage Users
Downloads

Search

EXERCISE_RAD CBCT FSE_DENVER_CHICAGO_MAY_2014
[Download \(.csv\)](#) [Download \(.xml\)](#)

Analyte (+)

[Add OR Group](#)

945 results found.

	SourceNetwork	TestingLaboratoryId	TestingLaboratoryName	IcInIncidentIdentifier	NetworkIncidentIdentifier	SampleId
show/hide details	DOE			Exercise_Rad CBCT FSE_Denver_Chicago_May_2014	ICLN Full Scale Radiological Exercise	SCF-02732
show/hide details	DOE			Exercise_Rad CBCT FSE_Denver_Chicago_May_2014	ICLN Full Scale Radiological Exercise	SCF-02905
show/hide details	DOE			Exercise_Rad CBCT FSE_Denver_Chicago_May_2014	ICLN Full Scale Radiological Exercise	SCF-02722
show/hide details	DOE			Exercise_Rad CBCT FSE_Denver_Chicago_May_2014	ICLN Full Scale Radiological Exercise	SCF-02756
show/hide details	DOE			Exercise_Rad CBCT FSE_Denver_Chicago_May_2014	ICLN Full Scale Radiological Exercise	SCF-02746

DOE Results

Assess ability of DOE to identify the analytical criteria required for participation in a united analytical effort, and successfully share resources with these laboratories in order to enable them to assist in emergency response testing.

- FRMAC LAWG worked with FRMAC Assessment WG to establish MQOs

DOE Results

Assess ability of DOE to solicit laboratory participation.

- Via the DOE NAMP, laboratories were identified to perform the analyses
- FRMAC LAWG prepared and shipped samples to the laboratories
- All analyses were completed within the requested 3 – 5 day turn-around time.

DOE Results

Assess the ability of the DOE RAMS database to manage sample and result information and validation of data.

- FRMAC LAWG successfully managed the sample and result information and validation of the data using the RAMS database.

DOE Results

Assess the ability of the participating laboratories to upload analytical results to the FRMAC Laboratory Analysis Web Portal.

- Participating laboratories successfully used the FRMAC WebPortal to provide data to/from the laboratories.

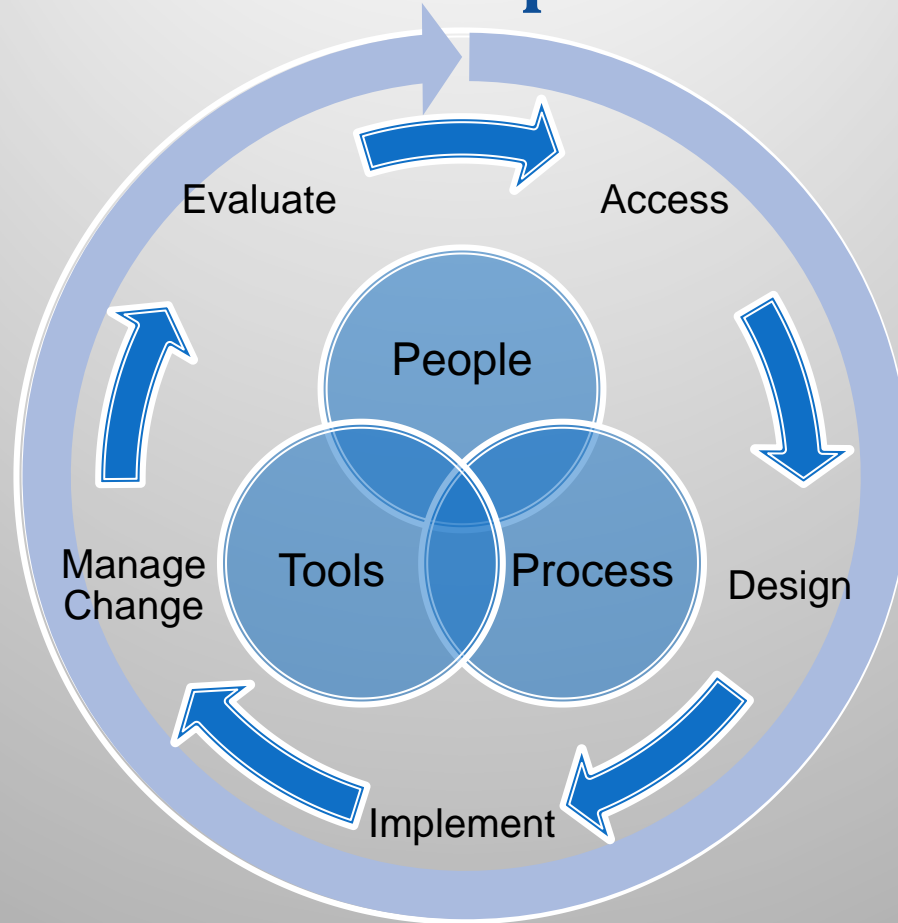
DOE Results

Assess ability of the DOE FRMAC to internally collate (merge) member laboratory results using the minimum data elements and provide results to other ICLN member networks through use of the ICLN portal.

- DOE FRMAC successfully uploaded results to the ICLN Portal.
- Analysis results from other agencies were downloaded from the ICLN Portal.
- Other agency data was successfully uploaded to RAMS after the exercise.

Lessons Learned

Continuous Improvement



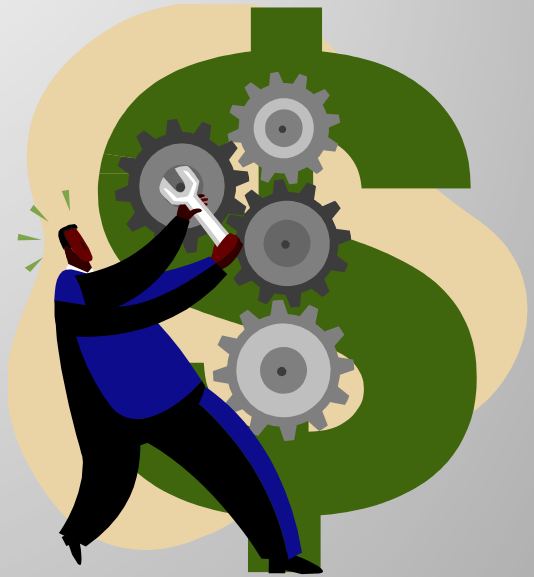
Funding

■ DHS / ICLN Funds

- Funding requested for participating laboratories to perform the analyses
- Formal SOW with participating laboratories

■ FEMA – NIRT Funds

- Funding requested to support the FRMAC LAWG participation
 - Exercise planning
 - Sample preparation
 - Shipping
 - Training
 - Data validation and upload
 - After Action Report



Special Thanks

Laboratories

ORISE

Sandia

SRS

WIPP

Y-12

FRMAC

LLNL

Sandia

RSL

NSTec

NAMP

ICLN

CDC

EPA

FDA

DOE

DoD

DHS

RESL

ERA





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