

QUALITY ASSURANCE PROJECT PLAN

Deployables QAPP for Japan Response

Effective Date March 18, 2011



Radiological Emergency Response Team
Office of Radiation and Indoor Air
U.S. Environmental Protection Agency
Las Vegas, Nevada 89119

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This Quality Assurance Project Plan has been prepared in accordance with requirements described in EPA QA/R-5, "EPA Requirements for Quality Assurance Project Plans," United States Environmental Protection Agency, Office of Environmental Information, Washington, D.C., March 2001, re-issued May 2006.

An incident specific Quality Assurance Project Plan is a living document which can be revised as incident response continues and more information is obtained about the incident. Field and laboratory staff, advisers, and others involved in the incident response may submit comments to R&IE or NAREL for inclusion in the next revision. If necessary, a revision can be made in a matter of days. It is therefore extremely important that all recipients of this document have only the most current revision of the document. If a revision is received, the previous version must be destroyed or, if maintained for historical reasons, must be stored in a way that it is not likely to be referenced by mistake.

This document references other documents which provide specific information about instrumentation, analysis, data review, quality assurance, and reporting. It is intended that these referenced documents be issued with this QAPP when copies are provided to users.

Deployables QAPP for Japan Response (QAPP-Japan Response)

Revision History

<u>Rev.</u>	<u>DCN</u>	<u>Responsible Official</u>	<u>Date</u>
0	QAPP-Japan Response	Alejandra M. Baer	2011-03-16
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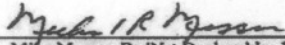
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Deployables QAPP - Japan Response

Revision: 1

Date: 3/18/2011

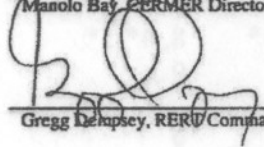
APPROVED BY:


Mike Messer, RadNet Deployables Lead, R&IE

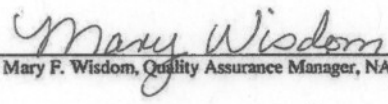
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Date


Manolo Bay, CERMER Director, R&IE

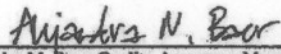
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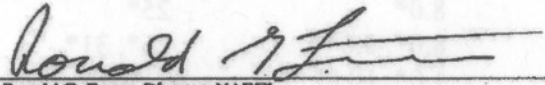
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3/18/11
Date


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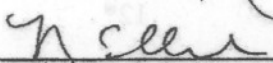
3/18/2011
Date


Ronald G. Fraass, Director, NAREL

3/18/2011
Date


Jed Harrison, Director, R&IE

18 March 2011
Date


Mary Clark, Ph.D. Quality Assurance Manager, ORIA

3/18/2011
Date

**CrossWalk Between Required EPA QAPP Elements and Contents of
this QAPP: Deployables QAPP for Japan Response**

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* Any QAPP section or page number identified with an asterisk (*) refers to a page number in the document incorporated by reference in Section C entitled: *NAREL QAPP: Expansion of the RadNet Fixed Station Air Monitoring System to Include Near Real-Time Gamma Monitoring (RadNet/QAPP-1)*, August 6, 2010

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Distribution List

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Ronald G. Fraass	NAREL Director
Jed Harrison	R&IE Director
RERT Members	R&IE and NAREL
Mary Clark, Ph.D.	ORIA Quality Assurance Manager
Michael P. Flynn	ORIA Office Director

Introduction

The policy of the Environmental Protection Agency (EPA) requires that all organizational units supporting environmental measurements and analyses participate in a centrally managed Quality Assurance (QA) program. The Office of Environmental Information serves as the central management authority for the EPA Quality Assurance Program. EPA policy and requirements to implement the QA program are contained in CIO 2105.0 (formerly EPA Order 5360.1 A2), issued May 5, 2000. This order states that:

It is EPA policy that all environmental programs performed by EPA or directly for EPA through EPA-funded extramural agreements shall be supported by individual quality systems that comply fully with the American National Standard ANSI/ASQC E4-2004, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs". Adoption of this standard is consistent with the statutory authority of the National Technology Transfer and Advancement Act of 1995 and the implementation authority of Office of Management and Budget (OMB) Circular 119, "Federal Participation in the Development and use of Voluntary Consensus Standards and in Conformity Assessment Activities".

This order further states that:

Each EPA Headquarters Office, National Program Office, Region, and components thereof, that conducts activities described by ANSI/ASQC E4-2004 shall develop and implement a quality system that complies with the requirements of this Order.

A. PROJECT MANAGEMENT

A1 Project/Task Organization

The key Radiological Emergency Response Team (RERT) personnel responsible for the implementation of the QAPP are listed below:

Project Management

Name: Gregg Dempsey

Title: RERT Commander

Name: Michael Messer

Title: R&IE Deployable Lead

Name: Dan Askren

Title: NAREL Deployable Lead

Name: Mary Wisdom

Title: NAREL Quality Assurance Manager

Name: Alejandra Baer

Title: R&IE QA Manager/Environmental Engineer

A1.1 RERT Commander

The RERT Commander is integral in the early phases of a RadNet Deployables operation. He suggests the actual sites for the units to be placed, in accordance with the RadNet ConOps Plan, and works the fine details with the affected EPA Regions and Headquarters. He works directly with Deployables Leads (DL) and Laboratory Directors on shipping of units and deployment of personnel to handle set up and operation of the units. He is also the Point of Contact (POC) for questions on what is happening with the deployables as they are shipped and set up.

A1.2 Quality Assurance Manager

The Quality Assurance Manager oversees any quality concerns that may occur during the project activities, and provides oversight and guidance through QA measures to ensure that the activities are consistent with Agency, the Radiation and Indoor Environments National Laboratory (R&IE), and the National Air and Radiation Environmental Laboratory (NAREL) Quality System requirements.

A1.3 Deployable Leads

Each laboratory has assigned one person to oversee the deployable monitoring systems, and there is at least one backup person at each ORIA location who is familiar with the monitors to assure that someone will always be available during an emergency.

Location:	Deployable Lead:	Backup:
R&IE	Mike Messer	Mark Sells
NAREL	Dan Askren	Josh Pate & Ananias Perry

The DLs have a thorough knowledge of the set up, QA/QC, equipment, and data transmission of the deployable stations. They must perform troubleshooting in the field and make on-the-spot decisions about micro-siting of stations (on which property; assist station operators with where on a property). They oversee the loading and shipping of the stations, identify sites while in transit, and manage the station operators' activities.

A1.4 Station Operators

Station operators are members of the RERT and recruits from Response Support Corps (RSC). These personnel will be expected to have an EPA government travel credit card, be willing to travel for two weeks or more, be capable of lifting up to 50 lbs., and have basic computer skills.

Station operators are expected to make travel arrangements and arrive at the forward staging location (to be determined by the deployable leads) as soon as 24 hours post-incident. They will support the deployment efforts by using the Local Siting Criteria, setting up stations in teams of two, collecting air samples as directed and per SOPs identified within this document and/or its references, and disassembling the units during demobilization.

Once activated, Station Operators will report to the DL, the person in charge, or Resources Unit at their assigned work area. Deployables work will generally fall under Operations – Monitoring and Sampling Division; if there is a response structure in place. Station Operators will fall under the command of the individual in charge of that location, who may be from another Division or another EPA Region: a manager or staff, an OSC or a non-OSC. The Station Operators should plan on working long hours, including weekends, and being in travel status. Station Operators members deployed to the field will maintain contact with the Regional Emergency Operations Center (EOC) and/or the RSC Coordinator according to established Regional policy.

A2 Problem Definition

A2.1 Purpose/Background

EPA's nationwide radiation monitoring system, RadNet, monitors the nation's air, drinking water, milk and precipitation for environmental radiation and has been doing so for over 50 years.



- The network contains 124 near-real-time fixed monitors across the United States.
- RadNet sends near-real-time air monitoring data to the National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama.
- An additional 33 deployable monitors can be sent to take readings anywhere in the country. (17 ready for deployment from Las Vegas and 16 from NAREL).

The system has been used to track radioactive material in the United States associated with foreign atmospheric nuclear weapons testing as well as for monitoring foreign nuclear accidents such as Chernobyl.

A3 Project/Task Description and Schedule

Fukushima Daiichi reactor units 1, 2, and 3 in Japan have released radioactive material to the environment. Currently, winds are from the west which is blowing the radioactive material out over the Pacific Ocean. The objective of this study is to conduct air monitoring to assess the environmental and population impact of the releases on the United States or its territories.

A4 Data Quality Objectives

The RadNet Deployable System has been designed as a tool for emergency response (ER). The system can be used to support or enhance the current fixed stations of the EPA's RadNet monitoring network in the continental United States, or used as a tool for monitoring areas associated with a real or perceived nuclear or radiological threat to the public of the United States.

The default sampling parameters have been set to meet the majority of possible data quality needs, while making optimum use of the equipment within specifications. The default parameters are based on experience with past radiological incidents where EPA conducted monitoring and sampling. Default parameters are used until incident-specific data quality decisions are made by incident response leadership.

Pre-designated default sampling parameters were chosen to meet most of the possible data quality needs envisioned for radiological incident scenarios where Deployables will be used. The default sampling parameters are as follows:

Ideally the units:

- Should run for a full cycle (24 hours) before the plume makes land. This would allow a direct comparison between normal or background conditions and how it changed when the plume passed.
- Low Volume to run at nominal 3 cubic feet per minute (scfm),
- High Volume to run at nominal 30 scfm,
- Samplers will run continuously and samples will be collected on a 24-hour cycle, unless the deployable is manually shutdown
- Record Frequency is set to 4 (times per hour)

- Gamma Detector (Genitron) record cycle is set to 15 minutes
- Auto Send Frequency (frequency to transmit all current data to the NAREL server) is set to 1/2 hour (30 minutes)
- Default Units are set to milliRoentgens per hour (mR/hr)
- Air Sampling Default Units are set to scfm
- Weather Station Default Units are set to US units (Fahrenheit degrees, inches of mercury, and miles per hour)
- GPS Default Units are set to decimal degrees
- Time Default Zone is set to Universal Time Coordinated (UTC)

The default parameter file is preloaded into the data-logger and the PDA for use with the deployables. Subsequently, incident-specific parameters may be developed and loaded after initial operation, with the default file, has demonstrated proper functioning of the monitor. New parameters to meet incident-specific needs may be developed after initial operation, in consultation with RERT Commander and data customer(s).

A5 Special Training Requirements/Certification

R&IE will develop a Health and Safety Plan for field activities.

A5.1 Personnel Qualification Evaluation

The initial capabilities of an individual are based upon an evaluation of their education, experience, and training and are compared to those established for the position. Evaluations are documented by managers or supervisors responsible for the activities to be performed.

A5.2 Field Personnel Training

Station Operators will help in the deployment, transport, and set up the units. Efforts to recruit standing volunteers will be conducted, but since the Deployables were designed to be set up and operated by people with limited training, specific experience or radiation knowledge, volunteers can be called upon after an incident happens.

Approximately four hours of setup training are required before sending new teams out to place and set up Deployables. DLs may provide the training to newly recruited station operators at a staging area in preparation for sending them out to place units, and training documented.

B. MEASUREMENT/DATA ACQUISITION

B1 Sampling Process Design

The EPA has RadNet Real-Time fixed monitors across the country. In addition to these fixed monitors RadNet Deployable monitors will be deployed to allow better coverage of the western coast of United States, Hawaii, Alaska, and Guam. Ideally, the units should

run for a full cycle before the plume makes land. This would allow a direct comparison between normal or background conditions. The RERT, both in Las Vegas and Montgomery, have additional (40+ low volume, and 20+ high volume) air samplers. These units can collect samples for both particulate and gaseous radiation analysis.

The RadNet Deployable Monitors contain a high volume air sampler, a low volume air sampler, a gamma radiation measuring instrument, and an integral weather station. The high volume air sampler collects particulate radiation. The low volume air sampler can collect particulate radiation and radioactive gases. The gamma monitoring instrument and weather station communicate directly with NAREL in Alabama.

Recommended Locations: (specific locations identified in *Incident-Specific Siting Plan* form on the 15th page of this document, found on the page numbered 14).

4 Deployables to Portland, that covers Coos Bay, Lincoln City, Seaside, and one reserve (or for Portland)

USEPA Emergency Response Warehouse
11811 NE Sumner Ave.
Portland, OR 97220
Contact: Ron St. John (503) 255-2913 (Contractor Warehouse Manager)

2 Deployables to Seattle, that covers Aberdeen/Hoquiam and LaPush, WA

USEPA
1620 S. 92nd Place
Seattle, WA 98108
Contact: Paul White (206) 362-3443

1 Deployable to EPA Juneau office -- to be placed in Sitka

EPA Juneau Office
709 W. 9th Street Room 223
Juneau, AK 99802-9998
Ken Fisher 907-586-7658

4 Deployables to Anchorage, AK -- we'll have to reship to Nome, Dutch Harbor, and hold one in reserve (or use in Anchorage). FEMA will help on that.

EPA Response Warehouse
5761 Silverado Way, Unit M
Anchorage, AK 99518
Robert Whittier 907-271-3557 or 907-271-3247

Nome, AK

City of Nome Public Safety Building
102 Bypass Road
Nome, AK 99762
Contact person: Vanessa Music
Ph: 907-443-8517

City of Unalaska "Dutch Harbor"

USCG Marine Safety Detachment
Airport Beach Road
Unalaska, AK 99692
Contact Person: Lt. Schmidt
Ph: 907-581-3466

City of Juneau

Juneau Fire Station
820 Glacier Avenue
Juneau, AK 99801
Contact person: Chief Richard Ethridge
Ph: 907-586-0251

Note: Juneau Fire has several possible locations for RadNet deployment.

RERT-LV Deployables (locations may change).

- Santa Barbara, CA
- Morrow Bay, CA
- Monterey, CA
- Santa Cruz, CA
- Fort Bragg area, CA
- Crescent City, CA
- Coos Bay, OR
- Lincoln City, OR
- Seaside, OR
- Aberdeen/Hoquiam area, WA
- LaPush, WA
- Juneau/Sitka, AK
- Nome, AK
- Dutch Harbor, AK

Not Immediately Deployed/Held in Reserve:

- EPA Region 9 Warehouse, San Francisco, CA
- EPA Region 10 Warehouse, Portland, OR
- EPA Region 10 Office, Anchorage, AK

RERT-Montgomery Deployables

- Guam (location to be determined)
- Guam (location to be determined)
- Honolulu (O’Ahu), HI
- Kailua Kona (Hawaii), HI

Note: Remaining Units Available for Midwest US if weather changes

- C Incorporate, by reference, for the remaining sections of this QAPP EPA’s NAREL Quality Assurance Project Plan *RadNet/QAPP-1: Expansion of the RadNet Fixed Station Air Monitoring System to include Near-Real-Time Gamma Monitoring* (Rev.1, August 6, 2010) - to be applicable for the RadNet Deployable monitors near-real-time monitoring.
- D Incorporate by reference the following SOPs and Operators Manual from EPA’s NAREL and R&IE SOPs for Deployable Monitoring Set-up and Operation listed below:
 1. NAREL Standard Operating Procedure (FMM/SOP-12) for *Deployable Monitoring Setup and Operation*, (Rev.0, August 10, 2008).
 2. R&IE Standard Operating Procedure (CER-360) for *Deployable Monitoring System Assembly and Disassembly*, (Rev. 0, February 17, 2011).
 3. R&IE Deployable Monitoring System Operators Manual (2007).

Incident-Specific Siting Plan

Site Name:					
Site Region/Location:					
Deployables Lead:	Name:		Phone #:		
Health & Safety Officer:	Name:		Phone #:		
Weather:					
Objectives:					
Personnel:			Equipment		
# of RERT Members			# of Deployable Units		
# of RSC Personnel			Fixed RadNet Units?	Yes / no	
Unit No.	Address	GPS Point	Team Contact Names	Team Phone #	

