Guidance Document for the Transfer of Operational Control of the Federal Radiological Monitoring and Assessment Center (FRMAC) from the U.S. Department of Energy to the U.S. Environmental Protection Agency

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Version 2

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Table of Contents

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I. Background

As part of the Federal response to radiological emergencies under the National Response Framework's (NRF) Nuclear/Radiological Incident Annex (NRIA), the Federal Radiological Monitoring and Assessment Center (FRMAC) is an interagency asset that is available on request to respond to nuclear/radiological incidents. The U.S. Department of Energy (DOE) coordinates FRMAC activities for the initial response phase, then transitions FRMAC coordination responsibility to the U.S. Environmental Protection Agency (EPA). The concept of transferring coordination responsibility of FRMAC from DOE to EPA dates to the original Federal Radiological Emergency Response Plan (FRERP 1984) and artifacts of that time remain in the current NRIA document[1].

DOE is responsible for overseeing the operation of the FRMAC during the initial response phase, while EPA's Office of Radiation and Indoor Air (ORIA) and other EPA organizations provide personnel and support to the FRMAC. A FRMAC typically includes representatives from the Department of Commerce, the Department of Homeland Security (DHS) National Communications System, the U.S. Army Corps of Engineers (USACE), and other Federal departments and agencies (D/As) as needed, as well as incorporating State and local monitoring and assessment activities.

According to the NRIA, the DOE FRMAC Director and the FRMAC's Senior EPA Representative, with the requisite concurrences from their respective headquarters, will hold negotiations on terms of a transfer and agree on a time to transition the coordination responsibility to EPA. It is important to note that the resultant transfer agreement document is a "field transfer" conducted in the field. The DOE FRMAC Director and Senior EPA representative should have the authority or permission to sign as the official representative of their department or agency. State and local agencies giving concurrence should also be senior enough to represent their groups. Concurrences are noted by name only for transfer documentation. This transfer will most likely occur during the recovery phase of the response, but, depending on the situation, could be in the latter stages of the response phase. EPA would then be responsible for the transition into long-term monitoring and assessment. The responsible officials will also seek concurrence form the DHS, the Unified Coordination Group, and State, local, and tribal governments regarding the transfer.

Tests of FRMAC transfers from DOE to EPA have occurred in numerous exercises, notably *FRMAC '93* (1993, Omaha, Nebraska) and *Southern Crossing* (2006, Dothan, Alabama).

II. Purpose

The purpose of this guidance is to provide the framework for transfer of responsibility for operation and management of the FRMAC from DOE to EPA. This document addresses the items identified in the NRF/NRIA as prerequisites for transferring this operational control and is intended to facilitate the transfer of FRMAC coordination responsibility.

[1] The use of the word "site" dates from the original FRERP when the plan addressed nuclear power plants with fixed site boundaries, DOE national laboratories with fixed site boundaries, and National Security Areas or National Defense Areas with controlled site boundaries. In a terrorist-initiated event, the term "site" is questioned: the entire affected area could be construed as the site; however, some consider the "site" as the area under law enforcement control (i.e., the crime scene). For the purposes of a transfer, the use of the word "site" needs to be agreed upon.

A transfer most likely will occur in the recovery phase of a response, when immediate emergency operations have largely been completed. However, each radiological incident is unique and the DOE FRMAC Director and the FRMAC's Senior EPA representative, in cooperation with the Coordinating Agency (CA) and affected State(s), will use their experience and judgment to determine when it is beneficial and appropriate to initiate a transfer of control and direction of the FRMAC from DOE to EPA. For the purpose of gaining insight into the needs of EPA and other partners for a transfer, DOE may start a transition discussion at any time, recognizing that all specific conditions may not be met. This document adds details to the items identified in the NRF/NRIA as prerequisites for transferring operational control and is intended to facilitate the transfer of FRMAC operational responsibility.

III. Applicability

This guidance applies to all nuclear and radiological incidents where a FRMAC has been established and there is a recognized need for intermediate and/or long-term environmental monitoring. It is anticipated that FRMAC deployments will result in an ultimate transfer of responsibility to EPA. Possible exceptions to a transfer may be found, such as if a FRMAC was established for a threat that did not actually materialize, or if a FRMAC was established, but the consequences of an incident were short-term and remediated in a rapid manner.

It should be recognized that FRMAC support in the response and recovery phases is limited to environmental radiological monitoring, sampling, and assessment activities. The FRMAC's mission does not include monitoring of the general public, although some partner agencies of the FRMAC may perform this mission. The FRMAC mission also does not include on-site (i.e., within a facility boundary), controlled, or secured area cleanup; however, the FRMAC may provide limited support to these activities when there is an urgent need and other resources are insufficient or not available.

FRMAC transfer as specified in the NRIA is not intended for operational control for cleanup and recovery, but could provide support for those operations. Cleanup and recovery are activities under the purview of the CA, independent of the FRMAC role.

Termination of FRMAC operations will occur when the following determinations are made, as stated in NRF/NRIA (Recovery, page NUC24):

> *Radiological monitoring and assessment activities are normally terminated when the coordinating agency, in consultation with all participating Federal agencies, and State, tribal, and local governments, determines that:*
>
> - *There is no longer a threat to public health and safety of the environment;*
> - *State, tribal, and local resources are adequate for the situation; and*
> - *There is mutual agreement among the agencies involved to terminate monitoring and assessment.*

IV. Transfer Requirements

The DOE FRMAC Director will work closely with the FRMAC's Senior EPA representative to facilitate a smooth transition of the Federal radiological monitoring and assessment coordination responsibility to EPA at a mutually agreeable time and after consultation with DHS, the Unified Coordination Group, and State, tribal, and local governments. These consultations and confirmations are important because in many situations, a State or the CA may have the ultimate authority for emergency management and may have issued the request for Federal assistance that led to the establishment of the FRMAC. DOE and EPA Headquarters will have a voice in the decision, since they will be responsible for the outcome of the response, including funding considerations, and must respond to public authorities.

Although it is difficult to specify in advance when the transfer of this coordination responsibility would occur, certain conditions must be met prior to this transfer. DOE may request that EPA consider the transfer when DOE believes it practical and appropriate to do so and EPA will consider this request. The transfer will be based upon the five criteria established under the NRF/NRIA:

1. The immediate emergency condition is stabilized.
2. Offsite releases of radioactive material have ceased, and there is little or no potential for further unintentional off-site releases.
3. The offsite radiological conditions are evaluated and the immediate consequences are assessed.
4. An initial long-range monitoring plan has been developed in conjunction with the affected State, tribal, and local governments, and appropriate Federal agencies.
5. EPA has received adequate assurances from the other Federal agencies that they are committing the required resources, personnel, and funds for the duration of the Federal response.

DOE may order that a committee or working group be formed during the response phase to address the practical matter of gathering the information necessary to allow for a transfer. Although DOE may select other entities to participate in the discussion, at a minimum, it should include EPA and the affected States(s).

Once DOE and EPA have set up an agreement for the appropriate time of transfer, DHS, the Unified Coordination Group, and the State(s), tribe(s), and local governments will be brought in to consult on the organization of the post-emergency FRMAC. At this time, the State(s) and other entities will have the opportunity to suggest modifications to the structure of the plan.

V. Conditions for Transfer

The following lists potentially applicable situational conditions that could meet each of the five criteria for transfer. The list is not inclusive and does not represent absolute requirements, but indicates the type and range of conditions and requirements necessary for a transfer to take place.

A. Criterion 1: The immediate emergency condition is stabilized.

- If applicable, recoverable remains of a radiological dispersion device or improvised nuclear device have been secured. Intelligence indicates that no additional devices are likely to be detonated in the general area.
- Reactor (if involved) is in a safe shutdown mode, and no further significant releases into the environment are anticipated. Damaged fuel is in a configuration so it will not degrade further; remaining fuel is in stable mode.
- Resuspension of long-lived radionuclides is not predicted to result in significant exposure or contamination of previously unaffected areas.
- All evacuation, sheltering, and initial protective actions have been accomplished.
- The DOE may measure or propose bounding resuspension factors for long-lived radionuclides to verify absence of further significant inhalation dose.
- Airborne concentrations due to resuspension indicate no further emergency-phase protective actions are necessary to comply with EPA Protective Action Guidelines (PAGs).

B. Criterion 2: Offsite releases of radioactive material have ceased, and there is little or no potential for further unintentional off-site releases.

- All airborne and/or waterborne releases have ceased, or at most, are anticipated to be of only minor consequence.
- At most, only minor releases of short-lived radionuclides are expected.
- Contamination in onsite and National Security or National Defense Areas pose no or minor potential for releases to off-site areas.

C. Criterion 3: The offsite radiological conditions are evaluated and the immediate consequences are assessed.

- Along with detailed data from the affected area, EPA needs assurance that there are no major unidentified or unevaluated contaminated areas. It is expected that, at a minimum, a comparison will be available of aerial data with ground survey data and environmental sample analyses, including those from outside the release footprint in areas presumed to have been unaffected. EPA may be able to provide available RadNet data to support this task.
- Prior to the transfer, available data should be sufficient to characterize small operable units (e.g., bounded neighborhoods or districts with a clear picture of the contamination conditions for each neighborhood). The data provided should be readily understood, since they will likely be used for public dissemination by both agencies.
- Deposition profiles completed out to all levels comparable to background.
- Radiological analyses completed on all applicable consumable products.
- Decontamination and/or stabilization have been completed for contaminated areas or areas where resuspension remains a concern and where egress is required.

- Infrastructure in place to support remaining population and response personnel.
- A National Security Area or National Defense Area, if previously declared, is no longer in effect or is secured and controlled.

D. Criterion 4: An initial long-range monitoring plan has been developed in conjunction with the affected State, tribal, and local governments, and appropriate Federal agencies.

- A separate plan should have been developed within the Incident Command structure to support decontamination and restoration activities (a so-called "Site Restoration Plan" or "Recovery Plan"). To support that plan, a long-term monitoring program, which includes important pathways, needs to be identified, at least in an initial draft. The program should also:

  i. identify the resources required to execute the plan by agency;
  ii. define continuing monitoring requirements,
  iii. propose monitoring locations and frequencies; and
  iv. identify the laboratory resources that will be able to provide the required analyses. For an interim period, to be negotiated, DOE may continue to allow samples to be sent to its contract laboratories. DOE may also transfer its interest in private agreements with other Federal and State laboratories for their continued use by EPA. EPA will provide a termination point for the DOE contracting of private labs and ensure that EPA contracted services provide continuity.

E. Criterion 5: EPA has received adequate assurances from the other Federal agencies that they are committing the required resources, personnel, and funds for the duration of the Federal response.

- An agreement to support the long-term activities is developed that includes all participating Federal departments and agencies and the resources necessary for continuation of monitoring efforts.
- EPA will provide DOE and other Federal agencies in the FRMAC a reasonable expectation of the services and staff skills it will continue to need and the timeframe required, and identify how the salaries/contract fees for those groups will be paid. DOE and other departments and agencies have a reasonable expectation that their emergency response assets will be released to prepare for a new emergency. EPA recognizes this and will release those assets at a mutually agreeable time.
- Specific examples of EPA's needs for a post-emergency FRMAC include:
  - Radiation monitoring equipment to stay as long as required and be released at a mutually agreeable time.
  - DOE "FRMAC (CM) Home Team" and assessment scientist support to augment EPA until it can replace these roles on its own. This support does not necessarily need to be at the incident site and can occur from

DOE's Remote Sensing Laboratory in Las Vegas or other locations, as negotiated.

- A FRMAC Senior DOE representative to function in an advisory role to the EPA FRMAC Lead. This person is also necessary to serve as the DOE Contract Officer Representative (COR) while DOE FRMAC contractors remain in an on-site or near site assistance role to EPA.
- DOE's AMS support on an as-needed basis for radiation recharacterization as clean up proceeds. EPA will provide DOE with an expected timeframe for this standby support and negotiate a schedule for surveys.
- On-site training on equipment, systems, and data systems.
- Environmental and Radiation Health and Safety support.
- Logistical support for the FRMAC, possibly for the long-term. This may include experts who will assist in deploying equipment and in setting up a "new" FRMAC location for the long-term use of EPA.
- Data management support, especially those individuals necessary for the smooth integration of DOE FRMAC data into the EPA Scribe database.
- Personnel dosimetry and bioassay.
- Laboratory capacity, which will become a large issue in the long-term.
- Mobile whole-body counting capabilities.
- Advice on sampling and public consumption of agricultural products.

VI. Possible Timeframes for Transfer

The following table provides estimates for the lengths of time involved for some anticipated scenarios, measured from the initiation of the FRMAC (with the exception of Criterion 5). It should be recognized that these are only estimates and can vary widely depending on a number of variables.

FRMAC Response	**Transfer Anticipated**	**Anticipated Time to Achieve**					**Significant Resources Required from Federal D/As in EPA-led FRMAC**
		Time from FRMAC Initiation[1]				**Time from Transfer Until Release[2]**	
		Criterion 1	**Criterion 2**	**Criterion 3**	**Criterion 4**	**Criterion 5**	
Wide Scale Contaminating Event – Foreign Source							
Unlikely	No	N/A	N/A	N/A	N/A	N/A	N/A
Nuclear Power Plant or Spent Fuel Accident							
Yes	Yes	2 months	2 months	4 months	6 months	6 months	Yes
RDD – Long Lived Radionuclide							
Yes	Yes	1 month	1 month	6 weeks	4 months	6 months	Yes
Failed Improvised Nuclear Device							
Yes	Yes	6 weeks	6 weeks	8 weeks	4 months	6 months	Yes
Improvised Nuclear Device							
Yes	Yes	1 year	1 year	1 year	18 months	8 months	Yes
Localized Event – Short Lived Nuclides							
Yes	No	N/A	N/A	N/A	N/A	N/A	N/A

[1] This is the time required to develop a robust plan, a draft or interim plan could be developed in less time.

[2] DOE and other federal agencies agree in principle to support an EPA-lead FRMAC at transfer with negotiated services and equipment. The time shown in the column represents the period of time EPA may need these DOE and other federal agency resources until they can be replaced.

Cited and Uncited References

1. Department of Homeland Security, National Response Framework, Publication P-682, January 2008.

2. Department of Homeland Security, National Response Framework, Publication P-682, Nuclear/Radiological Incident Annex, NUC-1, June 2008.

3. EPA Radiological Emergency Response Plan, EPA-402-R-00-003, January, 2000.

4. Federal Radiological Emergency Response Plan (FRERP), 49 FR 35896, September 12, 1984.

5. Federal Radiological Emergency Response Plan (FRERP), 50 FR 46542, November 8, 1985.

6. Federal Radiological Emergency Response Plan (FRERP), 9230.1-PL. April, 1999.

7. FRMAC Assessment Manual, Pre-Assessed Default Scenarios, The Federal Manual for Assessing Environmental Data During a Radiological Emergency, SAND 2003-1073P, September 2007.

8. Federal Radiological Monitoring and Assessment Center, Operations Manual - Emergency Phase, USDOE, April 2000.

9. Assignment of Emergency Preparedness Responsibilities, Executive Order 12656 (1988).

10. The National Oil and Hazardous Substances Pollution Contingency Plan, dated October 17, 1994 (40 CFR Part 300).

11. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (SUPERFUND), 42 USC 9601 et seq. (P.L. 96-510, December 11, 1980), as amended by the Superfund Amendments and Reauthorization Act of 1986 (PL 99-499) (1986).

12. National Incident Coordination Team, Operational Guidelines, U.S. Environmental Protection Agency, October 1988.

APPENDIX A

Post-Emergency FRMAC Facility Considerations

When preparing to transfer control of the FRMAC from DOE to EPA, the condition of the current facility being used by FRMAC will need to be evaluated, and a new facility may be deemed necessary prior to the transfer taking place. To avoid the disruptions and expenses involved in moving FRMAC operations to a different long-term facility, DOE should consider the long-term requirements in its initial selection of a FRMAC facility. Facility types may include, but are not limited to, a warehouse, a vacated department store, or a strip mall. The facility should have large power capacities, a large amount of office space, and the capability to have an onsite lab.

The required criteria in choosing a facility include the following:

- 40,000+ ft^2
- Large power capabilities (400kW minimum)
- Loading docks able to handle semi-trailers
- Fork lift, pallet jacks, extra pallets
- Sample Receipt, Handling, and Management Area (with Hotline Potential)
- Supply Storage Area
- Archival Sample Storage Area
- Mailing/Shipping Center
- Internet (at least T2) with wireless network and telephone capability
- Badging Area
- Equipment Training Area
- Meeting/Briefing Room
- Calibration/Instrument Maintenance/Instrument Storage Area
- Food Services Area
- Decontamination/Shower/Restroom Area (may be separated)
- Temporary Radwaste/Other Waste Storage Area
- Break Room
- Area for processing personal protective equipment and air masks
- Secured by guard (FPS or contracted)/gated/fenced
- Assigned GSA vehicles: 2 pickups, 20 mini-vans, 20 SUV's, 1 box-style delivery truck, 1 lift-gate pickup truck
- Ability to add an on-facility radiation laboratory (if needed)
- Large parking area (~10,000 sq. ft.)
- Nearby lodging
- Reasonably close to an airport
- A separate Forward Staging Area

The above list is not comprehensive, but is intended to demonstrate the type of requirements and equipment that may be necessary for long-term FRMAC operation.

In addition to a primary FRMAC facility, there should also be an acceptable Forward Staging Area. The Forward Staging Area has several requirements, including the following:

- 6,000–10,000 ft^2
- Shower facility
- Sample control area
- Appropriate climate control
- Parking lot
- Decontamination "hotline"
- Provisions for vehicle decontamination
- Access for larger vehicles
- Field teams' equipment and supplies
- First aid
- Vehicle fuel

Possible considerations:

- Heliport
- Multiple forward staging areas, because of the size of area to be served or geographical barriers

EPA may require a support/transition manager to facilitate all the above needs and to coordinate with the General Services Administration (GSA) for a suitable facility to fulfill long-term monitoring needs. This coordination with GSA may be necessary early in a response, while FRMAC leadership is still with DOE, in order to have a facility available when needed.

If a proper facility cannot be acquired, other options, such as leasing office trailers and using trade schools, can be considered. If no facility is available and the need for a facility could extend over a protracted time, GSA could be requested to arrange for a structure to be constructed.

FRMAC will need a support/transition manager to facilitate all the above needs.

APPENDIX B

Suggested Agreement Format

Federal Radiological Monitoring and Assessment Center (FRMAC)

Agreement to Transfer Operational Control of FRMAC from the U.S. Department of Energy to the U.S. Environmental Protection Agency

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Name of Response

It is be the responsibility of the DOE FRMAC Director and the FRMAC's Senior EPA representative to ensure that the following conditions have been satisfied and the appropriate concurrences obtained prior to effecting transfer of operational control of the FRMAC from DOE to EPA.

By our signatures below, we certify that the following CONDITIONS have been met:

1. The immediate emergency condition requiring a FRMAC response has stabilized.

2. Off-site release of radioactive material has ceased, and there is little or no potential for further unintentional off-site releases.

3. The off-site radiological conditions have been evaluated and the immediate consequences have been assessed.

4. An initial long-range monitoring plan has been developed in conjunction with the affected State, tribal, and local governments and appropriate Federal agencies.

5. The EPA has received adequate assurances from the other Federal agencies that they are committing the required resources, personnel, and funds for the duration of the Federal response.

Sub Conditions

Attach the results of all negotiations and agreements on data transfer, assets required for a longer term, and contract payment.

The effective date and time of FRMAC Transfer is_____

CONCURRENCES

		(Name)	(Date/Time)
HQ DOE	Concurrence from	_____	_____
HQ EPA	Concurrence from	_____	_____
DHS PO	Concurrence from	_____	_____
UCG Leader	Concurrence from	_____	_____
CA	Concurrence from	_____	_____
State	Concurrence from	_____	_____
State	Concurrence from	_____	_____

Signed:

DOE FRMAC Director	_____	_____
FRMAC's EPA Senior Representative	_____	_____