



U.S. Nuclear Regulatory
Commission

NUREG-1467

FEDERAL GUIDE FOR A RADIOLOGICAL RESPONSE:

Supporting the
Nuclear Regulatory
Commission
During the Initial
Hours of a Serious
Accident

Division of Operational
Assessment

Office for Analysis and
Evaluation of Operational
Data

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For sale by the U.S. Government Printing Office
Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328
ISBN 0-16-042995-1

Abstract

This document is a planning guide for those Federal agencies that work with the Nuclear Regulatory Commission (NRC) during the initial hours of response to a serious radiological emergency in which the NRC is the Lead Federal Agency (LFA). These Federal agencies are: DOE, EPA, USDA, HHS, NOAA, and FEMA. This guide is intended to help these agencies prepare for a prompt response. Instructions are provided on receiving the initial notification, the type of person to send to the scene, the facility at which people are needed, how to get them to that facility, and what they should do when they arrive. Federal agencies not specifically mentioned in this guide may also be asked to support the NRC.

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2. Purpose of This Document

This document is a planning guide for those Federal agencies that work with the Nuclear Regulatory Commission (NRC) during the initial hours of response to a serious radiological emergency in which the NRC is the Lead Federal Agency (LFA). These Federal agencies are:

- Department of Energy (DOE)
- Environmental Protection Agency (EPA)
- Department of Agriculture (USDA)
- Department of Health and Human Services (HHS)
- National Oceanic and Atmospheric Administration (NOAA)
- Federal Emergency Management Agency (FEMA)

This guide is intended to help these agencies prepare for a prompt response. Instructions are provided on receiving the initial notification, the type of person to send to the scene, the facility at which people are needed, how to get them to that facility, and what they should do when they arrive. Federal agencies not specifically mentioned in this guide may also be asked to support the NRC.

NOTE: During an emergency, if you need to coordinate your agency's response with NRC or the State personnel at the scene, or if you need to know the radiological conditions, contact the NRC Operations Center at (301) 951-0550. Ask for the Federal Liaison, your agency's representative at the NRC Operations Center, or a member of the Response Coordination Team.

Federal agencies may use this guide to help them understand how to work with the NRC during an emergency. The





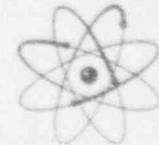
guide describes the NRC's responsibilities as LFA and the concept of operations for coordinating the Federal assessment of protective actions, public information, and monitoring assistance.

This guide does not address any of the Federal response functions coordinated by FEMA. The Federal response functions discussed in this guide are only those which the NRC coordinates in an emergency.



II. Background

In the event of a severe reactor accident, prompt actions may need to be taken to protect the public. The States expect a prompt Federal response to assist with the continuous assessments of radiological conditions and evaluation of appropriate protective actions. To assess Protective Action Recommendations (PARs), the NRC relies on the expertise, resources, and regulatory responsibilities of several Federal agencies: DOE, EPA, USDA, HHS, and NOAA. These agencies must be prepared to lend their support quickly.



A. Lead Federal Agency

The Federal Radiological Emergency Response Plan (FRERP) describes the role of the LFA and other Federal agencies that may be involved in a coordinated Federal response to assist State and local governments affected by a peacetime radiological emergency.



The NRC is the LFA when there is a radiological emergency involving

- a nuclear facility licensed by the NRC or an Agreement State, or
- transportation of radioactive materials licensed by the NRC or an Agreement State.

As LFA, the NRC is responsible for

- notifying Federal agencies when their response is warranted and determining the appropriate response
- maintaining cognizance of the FRERP response, and conducting and managing Federal onsite actions
- coordinating Federal positions on offsite protective actions for the public and presenting this assessment to State officials
- coordinating release to the public and to Congress of Federal interpretations of the technical aspects of the emergency on site and its potential or actual offsite radiological consequences

-
- sending reports to the White House on technical and radiological aspects of the emergency



B. Protective Actions

Protective actions are those actions recommended by appropriate State and local authorities to be taken by the public to avoid or reduce the public's exposure to radiation. State officials have the responsibility to determine and implement the protective actions that they will recommend to the public. To help them make their decision, the States may request additional information from the licensee, if applicable, and advice from Federal agencies.

- In a reactor accident, the NRC requires the licensee to make a Protective Action Recommendation (PAR) to the State for its consideration. The licensee bases the PAR on plant conditions and radiological conditions.
- USDA, EPA, and HHS may advise the State, if asked to do so, on actions concerning their particular areas of expertise.
- As LFA, the NRC will offer the State a Federal assessment of the PAR. The coordinated Federal assessment is based on the NRC's assessment of plant conditions and USDA, EPA, and HHS application of their published Protective Action Guides (PAGs) to the radiological data provided by the Federal Radiological Monitoring and Assessment Center (FRMAC). NOAA, though not responsible for assessing the PAR, contributes the meteorological information required for the assessment. The NRC and the other Federal agencies, in coordination with FEMA whenever possible, will present the Federal assessment to State and local officials.



C. Public Information

To be effective, public information must be clear, concise, consistent, timely, and accurate. The respective public affairs and media relations staffs of each responding Federal agency should issue information on agency response activities. The NRC, as LFA, will coordinate the Federal

information pertaining to the radiological support effort. To ensure that the public receives good emergency information, the NRC will coordinate its own efforts with the efforts of the public affairs personnel from DOE, EPA, USDA, HHS, NOAA, and FEMA, in addition to State, local, and licensee personnel.



III. Concept of Operations



A. Response Plan

The NRC operates its response within the framework of the Federal Response Plan (FRP). The FRP is a comprehensive plan that describes the structures by which the Federal Government will mobilize resources and conduct activities during an emergency. The FRP uses a functional approach to group the types of Federal assistance under 12 Emergency Support Functions (ESFs). Radiological support is provided using the Federal Radiological Emergency Response Plan (FRERP) as a radiological materials ESF. The NRC and FEMA roles in a radiological emergency are complementary. FEMA coordinates the non-radiological aspects of the Federal response as described in the FRP, with or without a Presidential declaration of an emergency.



B. Responsibilities by Location

The NRC's goal is to coordinate the Federal assessment of the radiological aspects of the accident from the scene as soon as possible. This on-scene response enhances support to the State. Until the on-scene facilities are fully operational, the NRC coordinates the Federal response from the NRC Operations Center. The NRC expects to transfer authority and responsibility for its response to a Site Team within a few hours of a response. An NRC Field Office, which should be activated by the end of the first shift (about 12 hours), will serve as the meeting place and briefing location for the second-shift responders. Throughout the emergency, major policy decisions, communications to and from the Congress, the White House and the international community, and support for the on-scene response are handled by NRC Headquarters.



C. Protective Action Support Team

When the NRC is the LFA, the Protective Action Support Team (PAST) will ultimately function from the scene and will be chaired by the NRC. This team works with the NRC to develop the Federal assessment of public protective actions and to assist the State. The personnel from the

responding Federal agencies should be knowledgeable about their agency's protective action guidance and about radiological assessment methods. They should also have the authority to carry out their assigned responsibilities without consulting their agency's headquarters for permission or guidance. Only changes to an agency's existing policies should require the approval of a high-ranking agency official. If time permits, responding personnel will be encouraged to consult with their agency's headquarters.



Until the PAST arrives at the scene, its functions will be performed by the agencies' representatives at the NRC Operations Center. The NRC may make the travel arrangements for the PAST members and will accompany them to the scene. The PAST and the State representatives will work together at the FRMAC for better access to the radiological assessment tools and results. The NRC will provide computer equipment and logistical support required by the PAST.

The Federal agencies involved in the response should be prepared to staff the response positions continuously with 24-hour coverage until the emergency has ended.

D. Communications

The NRC Operations Center will serve as the focal point for receiving and issuing information on status of the radiological aspects of the Federal response until the on-scene facilities are activated, and a formal delegation of authority has been made by the NRC Executive Team to the Site Team. The NRC will produce Status Summaries; these are sent to the White House in addition to FEMA's Situation Report. Via electronic mail (E-mail) or facsimile (fax), the NRC will issue copies of the Status Summaries and all Federal press releases as they become available.



The NRC response depends on orderly and effective communications. It will be most effective to use the telephone, fax, and E-mail capabilities that have been planned. These services are intentionally redundant. Communications questions can be addressed to the Response Coordination Team member in the NRC Operations Center or the Emergency Response Coordinator in each on-scene facility.



E. Public Information

When the NRC is the LFA, public information is initially coordinated from the NRC Operations Center. This responsibility is transferred to the Site Team when the NRC is represented at the Joint Information Center. The NRC will coordinate the public information for the agencies supporting the radiological aspects of the response. Public affairs and congressional affairs staff from all responding agencies should coordinate with the NRC before issuing information on the radiological monitoring and assessment aspects of the Federal response.



F. DOE Monitoring Assistance

Initially, either the State or the NRC can ask DOE for monitoring assistance (DOE Radiological Assistance Program (RAP)). Such requests should be made to the nearest DOE Regional Coordinating Office or to DOE Headquarters Emergency Operations Center (DOE HQ/EOC). DOE has designed its RAP so that response to a small incident can be escalated smoothly for a major radiological emergency. Should other forms of radiological monitoring assistance be needed from DOE (i.e., FRMAC), requests should be made to the DOE HQ/EOC. A member of the NRC Site Team will coordinate with the State and DOE.

IV. Receiving Initial Notification

The NRC Headquarters Operations Officer receives notification of an event from the licensee, from another Federal agency, or (for a transportation incident) from State Police, the State emergency management agency, or a member of the public. The Operations Officer will make notifications within the NRC. If the event warrants, the NRC will begin notifying the Federal agencies. The NRC will advise the agencies of the NRC's response mode and indicate whether or not the agency should send its representative to the NRC Operations Center.



When notified by the NRC:

1. Speed the notification process by asking only for information essential to your agency's response.

NOTE: This will allow the NRC to fulfill its responsibility to make timely notifications of the event.

2. Record the notification and information.
3. Ask if there are congressional or public affairs inquiries; ensure that your agency's public affairs and congressional affairs staffs coordinate with the NRC's Public Affairs and Congressional Affairs Liaisons.

CAUTION: Do not send anyone directly to the site of a reactor accident. Arrange through the NRC Operations Center to meet an NRC representative in the vicinity to ensure appropriate radiological precautions are taken.

V. Checklist for Responding



A. NRC Operations Center

Federal agencies represented:

DOE, EPA, USDA, HHS, NOAA, and FEMA.

The facility:

Until qualified personnel arrive at the scene, response functions will be performed from the NRC Operations Center.

NOTE: Until June 3, 1994, the NRC Operations Center is located in Bethesda, Maryland. Effective June 3, 1994, the NRC Operations Center will be relocated to Rockville, Maryland.

There are 11 teams working in the NRC Operations Center:

- Executive Team (NRC management)
- Reactor Safety Team (LFA accident assessment)
- Protective Measures Team (Federal assessment of the possible radiological consequences)
- Public Affairs Liaison
- Congressional Affairs Liaison
- Federal Liaison
- State Liaison
- International Liaison
- Safeguards Team (NRC security assessment)
- Operations Support Team (LFA distribution of updates, logistical arrangements)
- Response Coordination Team (RCT) (NRC support for the NRC Operations Center)



The representatives from agencies in the Protective Action Support Team (EPA, HHS, and USDA) and NOAA will work with the Protective Measures Team until the PAST is established at the scene. The representatives from DOE and FEMA will work with the Federal Liaison. They will act as a point of contact with their agency's response until their on-scene facilities (the FRMAC and the Disaster Field Office (DFO)) are activated. Once the on-scene facilities are activated and at a mutually agreed-upon time, the on-scene Federal agency representatives will assume responsibilities from their counterparts at the NRC Operations Center. The NRC Operations Center supports the NRC Site Team, and continues coordinating congressional, White House, and media relations in the Washington, D.C., area, responding to international inquiries, and coordinating with FEMA at the Emergency Information and Coordination Center (EICC).

NOTE: Direct all Federal inquiries about the Federal response to the NRC Operations Center at (301) 951-0550.

Who to send:

General qualifications: Someone who can coordinate requests for assistance and keep his/her agency informed on the status of the accident and the Federal response.

EPA, HHS, and USDA: Someone who can apply his/her agency's protective action guidance for the Protective Measures Team. Issues not addressed by established policy and not requiring immediate action to protect the public can be forwarded to each agency's headquarters for resolution.

FEMA: Someone who can coordinate non-radiological support.

DOE: Someone who is knowledgeable of DOE's emergency response assets and capabilities and how to activate them.

NOAA: Someone who can supply meteorological information to the Protective Measures Team.



How to get there:

Until June 3, 1994, the NRC Operations Center is located in the basement of the Maryland National Bank Building (MNBB) at 7735 Old Georgetown Road in Bethesda, Maryland. Take the Metro (Red Line) to the Bethesda Station and walk three blocks north on Old Georgetown Road. If driving, garage parking is available one-half block south of MNBB on Old Georgetown Road.

NOTE: Effective June 3, 1994, the NRC Operations Center will be relocated to:

Two White Flint North
11545 Rockville Pike
Rockville, Maryland

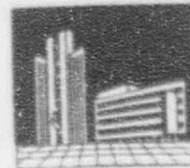
Two White Flint North is located immediately adjacent to the White Flint Station on the Metro Red Line. Parking will be available in the building for visitors.

What to do upon arrival:

1. Sign in with the security guard in the lobby on the first floor. Call the NRC Operations Center at 951-0550 and ask for the Federal Liaison. If the Federal Liaison is unavailable, ask for a member of the RCT. The Federal Liaison or an RCT member will come to the guard station to escort you to the Center. (After hours, use the telephone located to the left of the outer door to gain entry.)
2. Report to your team's work area; obtain your procedure book; read procedures and appendices. The PAST and the NOAA representative report to the Protective Measures Team Room; DOE and FEMA representatives report to the Liaison Room.
3. Sign in on the Staffing Board.
4. Report to the team manager or, if the team manager is unavailable, report to the Response Coordination Team Coordinator.

5. Take an active part in the protective action evaluation discussions; make sure your agency's guidance and concerns are considered.

NOTE: BE AGGRESSIVE! The NRC Operations Center is a hectic place. "Wall-flow-ers" will be overlooked.



B. Protective Action Support Team—Reporting to the Scene

Federal agencies represented:

NRC, EPA, HHS, and USDA

The facility:

The Federal Radiological Monitoring and Assessment Center (FRMAC) coordinates Federal field monitoring support and provides offsite radiological conditions to the NRC (as the LFA) and the State. The NRC will disseminate the results of the FRMAC effort to the other Federal agencies through the Protective Action Support Team (PAST) and the NRC Operations Center. The FRMAC is activated and initially operated by the DOE. EPA will assume operation of the FRMAC at a mutually agreed upon time, usually after the emergency phase.

Who to send:

Someone who can apply his/her agency's guidance, keep his/her agency informed of the NRC actions, and keep the NRC informed of his/her agency response.

When to send someone:

Agencies represented on the PAST will be advised to send a representative to the scene, either by the NRC in the initial notification or by their agency's representative at the NRC Operations Center.

How to get there:

When notified by the Federal Liaison, prepare to travel and arrange when and where to meet (NRC Operations Center or an airport in the vicinity of accident). Bring agency identification.





NOTE: The NRC may assist in making travel arrangements.

If reporting to the NRC Operations Center:

1. Until June 3, 1994, report to the NRC Operations Center (basement of Maryland National Bank Building at 7735 Old Georgetown Road) when you are asked. Effective June 3, 1994, the NRC Operations Center will be relocated to Two White Flint North, 11545 Rockville Pike. An NRC representative will accompany you to the accident scene.

NOTE: The NRC will bring "go kits" containing agency procedures and resources that the EPA, HHS, and USDA have indicated they would need. NRC will supply basic materials and one computer for all the Federal representatives to share. NRC can arrange both for transportation to and from the airport and for lodging.

2. Sign in with the security guard in the lobby. (After hours, use the telephone located to the left of the outer door.) Call the NRC Operations Center at 951-0550 and ask for the Federal Liaison. If the Federal Liaison is unavailable, ask for a member of the RCT. The Federal Liaison or an RCT member will come to you at the guard station to escort you to the Center.
3. Report to the Federal Liaison and receive a briefing that covers
 - where to meet the NRC representative who will accompany the PAST to the accident scene
 - reviewing the contents of the "go kit" to ensure it contains the materials you will require at the scene
 - providing your name, agency affiliation, and Social Security number to the Federal Liaison; this information will be forwarded to the NRC Site

Team to allow you access to the emergency response facilities

- reviewing the travel arrangements



If reporting directly to the scene:

CAUTION: Do not go directly to the accident site. Arrange to meet an NRC representative in the vicinity who will assure you have required radiological protection and that you proceed to the appropriate location.

1. Contact the Federal Liaison or RCT to determine if you or the NRC are making your travel arrangements. Obtain the following:
 - the name of the NRC contact at the scene
 - the destination (e.g., airport) and where and when you will meet your contact
2. Give your name, agency affiliation, and Social Security number to the Federal Liaison.

What to do upon arrival:

1. The NRC representative will link up with the PAST as arranged and will contact the Federal Liaison in the NRC Operations Center to obtain status of the accident, appropriate radiological precautions, and directions on how to link up with the NRC Site Team.

NOTE: If you miss the meeting point with the NRC representative, contact the Federal Liaison in the NRC Operations Center for instructions.

2. Report to the NRC Field Office. Obtain dosimetry and a briefing on radiological conditions and precautions before going to the scene.
3. Review the procedure (given to you by the NRC representative).



C. Radiological Monitoring Assistance

Federal agency represented:

DOE's Radiological Assistance Program (RAP) Team and Federal Radiological Monitoring and Assessment Center (FRMAC) Advance Team.

The facility:

A facility is not pre-determined for these teams. DOE will establish with the State and the NRC the best place to meet at the time of the emergency. The meeting place could be an airport, the State Emergency Operations Center (EOC), or another location, such as the reactor licensee's Emergency Operations Facility (EOF).

NOTE: Members of the Protective Measures Site Team will co-locate with the FRMAC but will accommodate the State's radiological information needs from any location the State chooses.

Who to send:

RAP Team: Personnel who are qualified to perform radiological monitoring.

FRMAC Advance Team: Personnel who are authorized to represent DOE in working with the State on determining a location for the FRMAC.

When to send someone:

If the DOE Regional Coordinating Office or the DOE HQ/EOC receives a request for Federal radiological monitoring resources from a Federal, State, local, or tribal agency, private organizations, or private persons, DOE may dispatch a Radiological Assistance Program (RAP) Team to give help. Responses to requests from private organizations and individuals will be coordinated with the appropriate State or tribal agency. If the incident exceeds the resource capabilities of the RAP Team, DOE Headquarters will activate the FRMAC response. After the RAP Team responds, an advance FRMAC party from the

DOE (including aerial radiological survey capability) will respond, followed by a full FRMAC team.

How to get there:

DOE will make travel arrangements for DOE personnel who respond to the emergency.

Coordinate the arrangements for DOE response personnel to link up with the NRC response personnel (and licensee personnel, if applicable) at the scene through the DOE Liaison or the Federal Liaison in the NRC Operations Center. The NRC Operations Center can also coordinate with the State, since the State Liaison Team maintains contact with the State personnel who respond to the emergency.

What to do upon arrival:

If a meeting place has not been determined before you leave your home base, contact the DOE Liaison or the Federal Liaison at the NRC Operations Center to determine the status of the NRC Site Team and current radiological conditions. Arrange where and when to meet with the NRC Monitoring and Analysis Coordinator.

D. Joint Information Center (JIC)

Federal agencies represented:

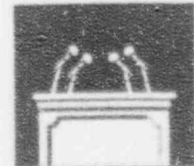
All responding Federal agencies

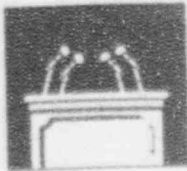
The facility:

The JIC is activated by the licensee at a location designated in the licensee's emergency plan to coordinate the dissemination of media announcements. (If the event is a transportation accident, a location will be selected in response to the accident.) The NRC will coordinate the dissemination of the radiological information for the Federal Government. Each agency that responds will handle its particular area of expertise.

Who to send:

Experienced public affairs personnel able to speak for the agency's response efforts at the scene.





How to get there:

The NRC will notify the Federal agencies of the JIC location and will recommend travel arrangements to those agencies sending official representatives or support staff.

What to do upon arrival:

1. Present agency identification to the JIC security staff.
 2. Report to the NRC Public Affairs Coordinator.
 3. Notify your agency's headquarters of your arrival.
 4. Review procedures.
 5. Establish contact with your agency's representative on the PAST, if necessary.
 6. Establish contact with your agency's representative at the Interagency Committee for Public Affairs in Emergencies (ICPAE) national JIC.
 7. Formulate media releases about your agency's efforts at the scene.
 8. Coordinate your agency's public affairs activities with the NRC Public Affairs staff.
 9. Participate in the media briefings.
 10. Ensure copies of media releases on your agency's efforts are given to the NRC for distribution.
- E. Emergency Information and Coordination Center



NOTE: This section describes the response to radiological emergencies for the NRC and its support agencies. Additional Emergency Support Functions may be activated by FEMA which would require additional agency support not mentioned here.

Federal agencies represented:

NRC and Emergency Support Function (ESF) Support Agencies (Departments of Agriculture, Commerce (NOAA), Defense, Energy, Health and Human Services, Housing and Urban Development, Interior, Justice, State,

Transportation, Veteran Affairs, Environmental Protection Agency, FEMA, General Services Administration, and National Communications System)

The facility:

If the FRP is activated, the Emergency Information and Coordination Center (EICC) will be activated at FEMA Headquarters in Washington, D.C.

Who to send:

Emergency Support Team (EST): Someone who can keep his/her agency informed of the FEMA response, keep the NRC, as an ESF Primary Agency, informed of his/her agency's radiological response, and can coordinate requests for assistance. This person can also support other ESFs in the EICC during a response.

Interagency Committee on Public Affairs in Emergencies (ICPAE): Someone who is an experienced Public Affairs person, knowledgeable about the radiological aspects of his/her agency's guidance.

Catastrophic Disaster Response Group (CDRG): Someone who is a high-level policy maker. This group meets only as required, so it does not require 24-hour staffing.

How to get there:

The EICC is located at FEMA Headquarters at 500 C Street, S.W., in Washington, D.C. Take the Metro (Yellow Line) to L'Enfant Plaza; take the Maryland Avenue exit and walk one block east to 6th Street then one block south to C Street.

What to do upon arrival:

1. Present agency identification to the EICC security staff.
2. Report to the NRC representative as ESF Liaison.
3. Notify your agency's headquarters of your arrival.
4. Review procedures.
5. Notify the NRC representative of any radiological response activities that your agency is performing.





E. Disaster Field Office (DFO)

NOTE: This section describes the response to radiological emergencies for the NRC and its Support Agencies. Additional ESFs may be activated by FEMA which would require additional agency support not mentioned here.

Federal agencies represented:

NRC and Emergency Support Function (ESF) Support Agencies (Departments of Agriculture, Commerce (NOAA), Defense, Energy, Health and Human Services, Housing and Urban Development, Interior, Justice, State, Transportation, Veteran Affairs, Environmental Protection Agency, FEMA, General Services Administration, and National Communications System)

The facilities:

The DFO will be the central location for coordinating Federal non-radiological support to the State. FEMA will activate a DFO, whether or not there has been a Presidential declaration of an emergency. FEMA will work with State officials to select a DFO location for Federal and State responders.

Initially, Federal agency representatives may report to the FEMA Regional Operations Center (ROC) then travel to the State EOC. The NRC and Federal agency representatives supporting the radiological aspects of the response will not report to the ROC. The NRC will report to the State EOC. When the location of the DFO is identified, the Emergency Response Team of the Federal agencies will move there, and will invite the State to move its operation to the DFO.

When the NRC is the LFA, the NRC will send a senior technical person to the DFO to represent the LFA and the agencies supporting the LFA as a radiological materials ESF. The NRC will determine the need for representation from the Support Agencies.

Who to send:

Someone who can keep his/her agency informed of the FEMA response, keep the NRC, as an ESF Primary Agency, informed of his/her agency radiological response, and can coordinate requests for assistance. This person can support other ESFs in the DFO during a response.

How to get there:

When the location of the DFO is determined, FEMA will notify the ESF Primary Agencies of its location.

What to do upon arrival:

1. Present agency identification to the DFO security staff.
2. Report to the NRC representative, as ESF Coordinator.
3. Notify your agency's headquarters of your arrival.
4. Review procedures.
5. Notify the NRC representative of any radiological response activities that your agency is performing.



VI. Checklist for Preparing Agency Response



The NRC has assigned coordinators for each major functional response area. The coordinators are responsible for ensuring that the personnel assigned to these functional areas have the materials and procedures they will need for performing their functions. The coordinator also offers personnel the opportunity to attend NRC training related to their functions.

1. Contact the NRC to ensure the following information is current:
 - phone numbers for initial notification
 - procedures
 - resources for the NRC Operations Center
 - resources for the "go kit" for the on-scene facilities (FRMAC, JIC) and the PAST.
2. Review the distribution list for Status Summaries and press releases to ensure it meets your agency's needs.
3. Develop procedures for your agency's representatives at all response facilities.
4. Send copies of necessary documents (such as agency phone directories) to the NRC (one set for the NRC Operations Center, several sets for the on-scene facilities).
5. Give the NRC a list of the materials you will need for performing your agency's function.
6. Recruit the appropriate people; provide for 24-hour staffing at all response facilities for as long as deemed necessary. Make sure they meet the qualifications discussed in this guide.
7. Ensure the appropriate people are trained. The NRC will train the representatives of the Federal agencies on the procedures and will invite them to participate in exercises. Procedures are revised after each exercise based on the recommendations of the participants.
8. Be prepared to have people staffing the NRC Operations Center and traveling to the scene within a couple of hours of notification.

VII. Federal Response Supporting the NRC

Agency	NRC Ops. Ctr.	PAST	JIC	EICC			DFO	FRMAC	State EOC
				EST	CDRG	JIC			
NRC	X	X	X	X	X	X	X	X	X
FEMA	X		X	X	X	X	X		X
DOE	X		X	E	E	E	E	X	S
EPA	X	X	X	E	E	E	E	X	S
HHS	X	X	X	E	E	E	E	X	S
USDA	X	X	X	E	E	E	E	X	S
NOAA	X	X*	X					X	S

NOTES: All positions require 24-hour staffing except the CDRG Representative.

FRMAC "X" represents staffing other than the PAST representatives. Support for the FRMAC is not discussed in this guide. Refer to the Federal Radiological Monitoring and Assessment Center (FRMAC) Operations Plan.

* - NOAA gives technical support to the NRC but is not part of the PAST.

E - May be ESF support agencies.

S - May send a representative if the State requests one.

VIII. Resources for the Protective Action Support Team



1. The NRC will place a personal computer (PC) and facsimile machine at each response facility. The PC will have WordPerfect, Harvard Graphics, Lotus, dBase III Plus, and Crosstalk (link to E-mail).
2. The NRC will supply a collection of computer programs and technical procedures to assist EPA, HHS, and USDA in performing calculations needed to implement EPA and HHS Protective Action Guides. These materials have been developed to allow every type of data available early in an event to be used, from gross gamma measurements to full isotopic analysis. The materials are based on EPA and HHS guidance and include procedures (Response Technical Manual) and computer codes to perform the following analyses:
 - Projection of acute red bone marrow, acute lung, and thyroid dose and Committed Effective Dose Equivalent (CEDE) based on plant radionuclide releases. The CEDE projections will be based on dose resulting from inhalation, immersion (cloud shine), and ground shine.
 - Projection of first-year CEDE dose resulting from exposure.
 - Determination of ingestion dose based on gross gamma readings for various accident conditions.

The technical procedures are published in the NRC Response Technical Manual and the computer codes are part of the NRC RASCAL code package. These materials are being continually revised. These tools and codes will be the basis of the PAG analysis performed at an early stage of an accident in the NRC Operations Center and the FRMAC.

EPA, HHS, and USDA should become familiar with these materials and should keep NRC apprised of any revisions required to improve their usefulness during an event. The NRC will revise the materials to meet EPA, HHS, and USDA needs. The NRC will offer EPA, HHS, and USDA personnel an opportunity every year to be trained on using these materials.

IX. Abbreviations

CDRG	Catastrophic Disaster Response Group
CEDE	Committed Effective Dose Equivalent
DFO	Disaster Field Office
DOE	Department of Energy
EICC	Emergency Information and Coordination Center
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
ESF	Emergency Support Function
EST	Emergency Support Team
FEMA	Federal Emergency Management Agency
FRERP	Federal Radiological Emergency Response Plan
FRP	Federal Response Plan
FRMAC	Federal Radiological Monitoring and Assessment Center
HHS	Department of Health and Human Services
HQ	Headquarters
ICPAE	Interagency Committee for Public Affairs in Emergencies
JIC	Joint Information Center
LFA	Lead Federal Agency
MNBB	Maryland National Bank Building
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission





PAG Protective Action Guide
 PAR Protective Action Recommendation
 PAST Protective Action Support Team
 PC Personal Computer

RAP Radiological Assistance Program
 RCT Response Coordination Team
 ROC Regional Operations Center

USDA Department of Agriculture

NRC FORM 325 (2-80) REVISED 11/82 NRC-1, 2012		U.S. NUCLEAR REGULATORY COMMISSION		1. REPORT NUMBER (CLASSIFY BY NRC, NOT BY Spons. Org., and Abbreviate NRC No. if any.)
BIBLIOGRAPHIC DATA SHEET <small>(See instructions on the inside)</small>			NUREG-1467	
2. TITLE AND SUBTITLE			3. DATE REPORT PUBLISHED	
Federal Guide for a Radiological Response: Supporting the Nuclear Regulatory Commission During the Initial Hours of a Serious Accident			MONTH	YEAR
			November	1993
4. AUTHOR(S)			5. TYPE OF REPORT	
Rosemary T. Hogan				
6. PERFORMING ORGANIZATION - NAME AND ADDRESS (If NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address; if contractor, provide name and mailing address.)			7. PERIOD COVERED (Include Dates)	
U.S. Nuclear Regulatory Commission Washington, DC 20555-0001				
8. SPONSORING ORGANIZATION - NAME AND ADDRESS (Use "Same as above" if contractor; provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)				
Same as above.				
10. SUPPLEMENTARY NOTES				
11. ABSTRACT (200 words or less)				
This document is a planning guide for those Federal agencies that work with the Nuclear Regulatory Commission (NRC) during the initial hours of response to a serious radiological emergency in which the NRC is the Lead Federal Agency (LFA). These Federal agencies are: DOE, EPA, USDA, HHS, NOAA, and FEMA. This guide is intended to help these agencies prepare for a prompt response. Instructions are provided on receiving the initial notification, the type of person to send to the scene, the facility at which people are needed, how to get them to that facility, and what they should do when they arrive. Federal agencies not specifically mentioned in this guide may also be asked to support the NRC.				
12. KEY WORDS/DESCRIPTORS (List words or phrases that will assist researchers in locating the report.)			13. AVAILABILITY STATEMENT	
Lead Federal Agency Protective Actions Public Information Protective Action Support team DOE Monitoring Assistance Initial Notification Checklist			Unlimited	
			14. SECURITY CLASSIFICATION (This Page)	
			Unclassified	
			(This Report)	
			Unclassified	
			15. NUMBER OF PAGES	
			16. PRICE	

NRC FORM 325 (2-80)