



Omaha Public Power District  
444 South 16th Street Mall  
Omaha, Nebraska 68102-2247

November 21, 2000  
LIC-00-0106

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Reference Docket No. 50-285

**SUBJECT: Transmittal of changes to Radiological Emergency Response Plan (RERP), Emergency Plan Implementing Procedures (EPIP), and Emergency Planning Forms (EPF) manuals.**

In accordance with 10 CFR 50 Appendix A Part V and 10 CFR 50.4(b)(5)(iii), please find RERP, EPIP, and EPF change packages enclosed for the Document Control Center (holder of Copy 165) and the NRC Emergency Response Coordinator (holder of Copies 154 and 155).

The document update instructions and summary of changes are included on the Confirmation of Transmittal (Form EP-1) forms attached to each controlled copy change package. Please return the Confirmation of Transmittal forms by January 7, 2001.

The revised documents included in the enclosed package are:

RERP Index Page 2 of 2 issued 11/09/00  
RERP-Appendix A R16b issued 03/07/00  
RERP-Appendix C R12a issued 09/02/99  
EPIP Index pages 1 & 2 issued 11/07/00  
EPIP-EOF-21 R4 issued 11/07/00  
EPIP-RR-72 R12a issued 02/29/00  
FC-EPF Index Pages 1 and 2 issued 11/07/00  
FC-EPF-3 R1 issued 11/07/00  
FC-EPF-6 R4 issued 11/07/00  
FC-EPF-27 R3 issued 11/07/00

If you have any questions regarding the enclosed changes, please contact me at (402) 533-6647.

Sincerely,

S.K. Gambhir  
Division Manager  
Nuclear Operations

SKG/ash

A045

U. S. Nuclear Regulatory Commission

November 21, 2000

LIC-00-0106

Page 2

Enclosures

- c: T. H. Andrews, Emergency Response Coordinator (2 sets)
- L. R. Wharton, NRC Project Manager (w/o enclosures)
- W. C. Walker, NRC Senior Resident Inspector (w/o enclosures)
- Winston & Strawn (w/o enclosures)

OMAHA PUBLIC POWER DISTRICT

Confirmation of Transmittal for  
Emergency Planning Documents/Information

- Radiological Emergency Response Plan (RERP)       Emergency Plan Implementing Procedures (EPIP)       Emergency Planning Forms (EPF)
- Emergency Planning Department Manual (EPDM)       Other Emergency Planning Document(s)/Information

Transmitted to:

Name: Document Control Desk Copy No: 165  
Tom Andrews Copy No: 154  
Tom Andrews Copy No: 155

Date: \_\_\_\_\_

The following document(s) / information is forwarded for your manual:

**REMOVE SECTION**

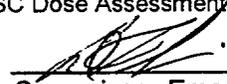
RERP Index page 2 of 2 issued 10/10/00  
RERP-Appendix A R16 issued 03/07/00  
RERP-Appendix C R12 issued 09/02/99  
EPIP Index page 1 issued 10/31/00 and page 2 issued 11/02/00  
EPIP-OSC-20 R7 issued 11/10/95  
EPIP-EOF-21 R3 issued 09/18/97  
EPIP-RR-72 R12 issued 02/29/00  
FC-EPF Index page 1 issued 08/24/00 and page 2 issued 01/20/00  
FC-EPF-3 R0 issued 11/01/90  
FC-EPF-6 R3 issued 09/12/97  
FC-EPF-27 R2 issued 11/02/95

**INSERT SECTION**

RERP Index page 2 of 2 issued 11/09/00  
RERP-Appendix A R16b issued 03/07/00  
RERP-Appendix C R12a issued 09/02/99  
EPIP Index pages 1 & 2 issued 11/07/00  
N/A - Procedure deleted.  
EPIP-EOF-21 R4 issued 11/07/00  
EPIP-RR-72 R12a issued 02/29/00  
FC-EPF Index pages 1 and 2 issued 11/07/00  
FC-EPF-3 R1 issued 11/07/00  
FC-EPF-6 R4 issued 11/07/00  
FC-EPF-27 R3 issued 11/07/00

**Summary of Changes:**

RERP-Appendix A was revised to incorporate the new agreement between the Board of Regents of the University of Nebraska, Nebraska Public Power District (NPPD) and Omaha Public Power District (OPPD).  
RERP-Appendix C was revised to delete reference to EPIP-OSC-20 on pages 2 and 21.  
FC-EPF-3 was revised to add information on the benefits and possible side effects of taking Potassium Iodide (KI).  
FC-EPF-6 was revised to update and clarify calculations.  
FC-EPF-27 was revised to deleted iodine concentration calculation and add a reference to FC-EPF-6.  
EPIP-OSC-20 was deleted and the information pertaining to the issuance of Potassium Iodide (KI) has been incorporated into FC-EPF-3.  
EPIP-EOF-21 a reference to the Protective Measures Basis Document (CHP-00-0038) was added and deleted the reference to prescription. The requirements to send records to UNMC were deleted and a new directive for EP to maintain records was added.  
EPIP-RR-72 was revised to update the format and change the reference to TSC Dose Assessment Coordinator to TSC Protective Measures Coordinator.

  
\_\_\_\_\_  
Supervisor - Emergency Planning

I hereby acknowledge receipt of the above documents/information and have included them in my assigned manuals.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please sign above and return by 01/07/01 to:

Karma Boone  
Fort Calhoun Station, FC-2-1  
Omaha Public Power District  
444 South 16<sup>th</sup> Street Mall  
Omaha, NE 68102-2247

NOTE: If the document(s)/information contained in this transmittal is no longer requested or needed by the recipient, or has been transferred to another individuals, please fill out the information below.

Document(s)/Information No Longer Requested/Needed

Document(s)/Information Transferred to:

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

**RADIOLOGICAL EMERGENCY RESPONSE PLAN INDEX  
RERP**

<u>PROCEDURE NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
RERP-APPENDIX A	Letters of Agreement	R16 03-07-00b
RERP-APPENDIX B	Supporting Emergency Plans	R4 10-27-98
RERP-APPENDIX C	NUREG/RERP/Implementing Procedure Cross Reference List	R12 09-02-99a
RERP-APPENDIX D	OPPD Resolution #4731, Radiological Emergency Response Plan Authority	R2 09-30-98

Fort Calhoun Station  
Unit No. 1

**Distribution Authorized**  
This procedure does not contain any proprietary information, or such information has been censored. This issue may be released to the public document room. Proprietary information includes personnel names, company phone numbers, and any information which could impede emergency response.

**RERP-APPENDIX A**

**RADIOLOGICAL EMERGENCY RESPONSE PLAN**

**Title: LETTERS OF AGREEMENT**

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**FC-68 Number: Documentable Error**

**Reason for Change:** Converted to WP8 with doc error incorporated. Adding back a separate letter from INPO that was previously deleted by mistake. Changing out letters of agreement revised during conduct of letter of agreement verification process.

**Requestor: N/A**

**Preparer: Rhonda Hankins**

**Documentable Error (a): Page 2 (10-10-00)**  
**Documentable Error (b): Page 16 (11-09-00)**

## LETTERS OF AGREEMENT

### 1. Letters of Agreement Review

OPPD and a number of organizations have drafted and formalized their intentions concerning emergency response and support. These Letters of Agreement are on file with the Fort Calhoun Station Emergency Planning Department and are reviewed annually in accordance with the Emergency Preparedness Test Program.

This Appendix contains copies of the current Letters of Agreement.

### 2. Copies of current Letters of Agreement are on file in the Emergency Planning Department. Files are attached as listed below:

#### 2.1 Law Enforcement Support Organizations

- (a) Nebraska State Patrol
- (b) Iowa State Patrol
- (c) Harrison County Sheriff's Department
- (d) Washington County Sheriff's Department
- (e) Pottawattamie County Sheriff's Department
- (f) Douglas County Sheriff's Department

#### 2.2 Fire and Rescue Support Organizations

- (a) Blair Fire Department
- (b) Fort Calhoun Fire and Rescue
- (c) Missouri Valley Fire Department

#### 2.3 Medical Support Organizations

- (a) UNMC Regional Radiation Health Center

#### 2.4 Nebraska's Governmental Support Organizations

- (a) State of Nebraska Emergency Management
- (b) State of Nebraska-Department of Health and Human Services, Regulation and Licensure
- (c) Washington County Board of Supervisors

2.5 Iowa's Governmental Support Organizations

- (a) Iowa Emergency Management Division
- (b) Harrison County Board of Supervisors
- (c) Pottawattamie County Board of Supervisors
- (d) Pottawattamie County Division of Telecommunications

2.6 Industrial Support Organizations

- (a) Union Pacific Railroad
- (b) Westinghouse Electric
- (c) Institute of Nuclear Power Operations/Electric Power Research Institute/Nuclear Energy Institute
- (d) Stone and Webster Engineering Corporation
- (e) Institute of Nuclear Power Operations (INPO)

2.7 Other Support Organizations

- (a) Nebraska Public Power District
- (b) Metropolitan Utilities District

# STATE OF NEBRASKA



Mike Johanns  
Governor

NEBRASKA STATE PATROL  
Colonel Tom Nesbitt  
Superintendent  
P.O. Box 94907  
Lincoln, Nebraska 68509-4907  
Phone (402) 471-4545

January 29, 1999

H. J. Sefick, Manager  
Security Services  
Omaha Public Power District  
P.O. Box 399  
Fort Calhoun, Nebraska 68023-0388

Dear Mr. Sefick:

The Nebraska State Patrol will cooperate in any way possible with the Omaha Public Power District Security Force in case of any problems that should arise with the nuclear power generator facility in Fort Calhoun. This includes any type of accident at the facility, and security of the plant due to demonstrations, subversive groups, etc.

The number of personnel we would commit to respond and the specific equipment we would use would vary upon the type of disaster or security needed. In making this decision, we would consider recommendations from your staff and of Civil Defense. It is our intent to fully cooperate with the federal, state, and nuclear plant personnel whenever possible.

Sincerely,

A handwritten signature in cursive script that reads "Tom Nesbitt".

Tom Nesbitt, Colonel  
Superintendent

cc Major Tuma



A NATIONALLY ACCREDITED LAW ENFORCEMENT AGENCY

An Equal Opportunity/Affirmative Action Employer

Printed with soy ink on recycled paper





DEPARTMENT OF PUBLIC SAFETY  
PAUL H. WIECK, III, COMMISSIONER

January 10, 1992

Mr. Owen J. Clayton  
Supervisor - Emergency Planning  
Omaha Public Power District  
444 South 16th Street Mall  
Omaha, NE 68102-2247

Re: EP-91-544

Dear Mr. Clayton:

This letter is to fulfill the requirements of the agreement between the Iowa State Patrol and the Omaha Public Power District.

The Iowa State Patrol will provide available resources under its authority in responding to a Fort Calhoun Station radiological emergency to fulfill our obligations, as are stated in the Fort Calhoun Station Emergency Plan. These primary duties will consist of, but may not be limited to the following areas:

1. Establishing communications with other Iowa state and local agencies, as needed for assistance in the event of an emergency.
2. Control off-site traffic.

This agreement shall be effective until such time as regulations of the NRC/FEMA permit modification or termination.

Sincerely,  
Elaine Goff, Colonel  
Chief, Iowa State Patrol

Loren Dykeman, Major  
Field Operations Officer

LD/lk  
cc: Captain Aringdale  
Enclosure

IOWA STATE PATROL / WALLACE STATE OFFICE BUILDING / DES MOINES, IOWA 50319 / 515-281-5824  
BUCKLE UP FOR LIFE / EMERGENCY PHONE 1-800-325-5555

THIS PAGE CONTAINS  
PRIVACY AND/OR PROPRIETARY  
INFORMATION

**STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE  
EMERGENCY MANAGEMENT DIVISION  
HARRISON COUNTY SHERIFF'S DEPARTMENT  
HARRISON COUNTY EMERGENCY MANAGEMENT AGENCY**

- I. In order to assure adequate and timely response to emergencies at Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Harrison County, Iowa, it is understood by parties to this agreement that the following provisions shall apply:
  - A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa – Department of Public Defense – Emergency Management Division the resources and assistance necessary to coordinate emergency response activities of Local, State, Federal and Non-Governmental Agencies and organizations. Specific major assistance includes:
    1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEMA-REP-1.
    2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
    3. Recommended protective actions consistent with Federal guidance.
    4. Recommendations for reentry and recovery of radiological affected sectors.
    5. As required, data and assessment from the Fort Calhoun Station operational meteorological measurements program.
    6. Working space and communications in the near-site Emergency Operations Facility for at least one and possibly two state liaison officers.
    7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.
  - B. OMAHA PUBLIC POWER DISTRICT agrees to provide the Harrison County Board of Supervisors the resources delineated in the Fort Calhoun Station Radiological Emergency Response Plan. Specific major assistance includes:
    1. Annual dissemination of information to the public for radiological education.
    2. Immediate notification of Site Area or General Emergency Classes through the Harrison County Sheriff's Department.
    3. Field monitoring within the plume exposure emergency planning zone.

4. Working space in the near-site Emergency Operations Facility for a county representative upon request.
  5. Evaluation of recovery actions which may indicate relaxation of protective measures.
- C. THE IOWA EMERGENCY MANAGEMENT DIVISION agrees to provide, upon notification from Omaha Public Power District, all resources delineated in the Iowa Emergency Plan. Specific major assistance includes:
1. Responsible for the notification and protection of the public in the Iowa portion of the ten-mile EPZ. To accomplish this task, the following procedures will be used:
    - a. The Iowa Emergency Management Division will be responsible for ensuring that public information, both general and specific, for residents in the ten-mile EPZ is provided by the affected counties to the EAS station in Omaha, Nebraska for dissemination.
    - b. The sirens in the two county area will be activated by the Sheriff's dispatcher in each county.
    - c. Traffic control and population assistance will be provided by the State Highway Patrol, DOT, and National Guard.
    - d. Congregate care facilities will be established and operated by the Red Cross in Denison, Iowa.
    - e. Public information and warning will be disseminated through radio station KFAB, the EAS station in Omaha, Nebraska.
    - f. Continue communication with the Fort Calhoun Station Nuclear Power Plant and State EOC to obtain information concerning duration and severity of effect to county residents.
  2. Initiation of early notification to the public with clear instructions in follow-up messages.
  3. Coordination of state resources with county and local organizations to maintain adequate response capabilities.
  4. Offsite radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases with the Omaha Public Power District's Manager - Public Relations.
  7. Participation in joint exercises and drills with coordination between Omaha Public Power District, state and county governments.

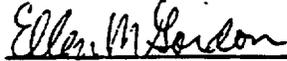
- D. THE HARRISON COUNTY SHERIFF'S DEPARTMENT agrees to support the Iowa Emergency Management Division during exercises and emergencies by providing, within their capabilities, personnel and equipment resources if requested. The Harrison County Sheriff's Department will provide facility space for a State Forward Command Post co-located with the Harrison County Emergency Operations Center and such facility space as may be necessary for the storage of equipment resources provided to support such operations.
- E. THE HARRISON COUNTY EMERGENCY MANAGEMENT AGENCY would be responsible for providing 24 hour staffing of the communications center and activation of the Early Warning Siren Network during scheduled operational tests, exercises, and actual emergencies at the Site Area and General Emergency classifications.
- F. This agreement shall be effective until such time as rescinded by separate agreements. This supersedes all previous agreements.

OMAHA PUBLIC POWER DISTRICT

  
\_\_\_\_\_  
W. Gary Gates  
Vice President

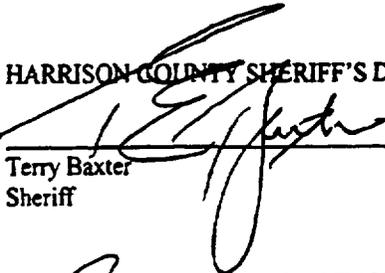
Date: 1-5-99

IOWA EMERGENCY MANAGEMENT DIVISION

  
\_\_\_\_\_  
Ellen M. Gordon  
Administrator

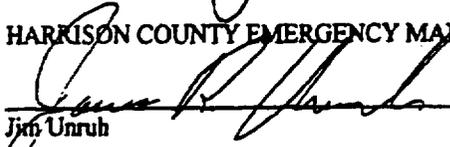
Date: 12-17-98

HARRISON COUNTY SHERIFF'S DEPARTMENT

  
\_\_\_\_\_  
Terry Baxter  
Sheriff

Date: 12-23-98

HARRISON COUNTY EMERGENCY MANAGEMENT AGENCY

  
\_\_\_\_\_  
Jim Unruh  
Coordinator

Date: 12-23-98



JAN 26 1997

# Washington County Sheriff's Office

1535 Colfax Street • Blair, Nebraska 68008  
Phone (402) 426-6866 • Fax (402) 426-6820

**TERRY W HORNER, County Sheriff**

**STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT AND THE  
WASHINGTON COUNTY SHERIFF'S DEPARTMENT**

The Washington County Sheriff's Department agrees to respond to any radiological emergency at Fort Calhoun Station. This agency will provide notification, evacuation, traffic control for affected county residents and any resources under its authority during this response. The Washington County Sheriff's Department will also provide prompt notification to Fort Calhoun Station when accidents involving hazardous chemicals have occurred within five miles of the plant.

This agreement shall be effective until such time as regulations of the NRC and FEMA permit modification or termination.

A handwritten signature in black ink, appearing to read "Terry Horner", is written over a horizontal line.

**Terry Horner**  
**Washington County Sheriff**

01/24/97

**THIS PAGE CONTAINS  
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INFORMATION**

STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE-  
EMERGENCY MANAGEMENT DIVISION  
POTTAWATTAMIE COUNTY SHERIFF'S DEPARTMENT

- I. In order to assure adequate and timely response to emergencies at Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Pottawattamie County, Iowa, it is understood by parties to this agreement that the following provisions shall apply:
  - A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa - Department of Public Defense - Emergency Management Division the resources and assistance necessary to coordinate emergency response activities of local, state, federal and non-governmental agencies and organizations. Specific major assistance includes:
    1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEMA-REP-1.
    2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
    3. Recommended protective actions consistent with Federal guidance.
    4. Recommendations for reentry and recovery of radiological affected sectors.
    5. As required, data and assessment from the Fort Calhoun Station operational meteorological measurements program.
    6. Working space and communications in the near-site Emergency Operations Facility for at least one and possibly two state liaison officers.
    7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.
  - B. OMAHA PUBLIC POWER DISTRICT agrees to provide the Pottawattamie County Board of Supervisors the resources delineated in the Fort Calhoun Station Radiological Emergency Response Plan. Specific major assistance includes:
    1. Annual dissemination of information to the public for radiological education.
    2. Immediate notification of Site Area or General Emergency Classes through the Pottawattamie County Sheriff's Department.

3. Field monitoring within the plume exposure emergency planning zone.
  4. Working space in the near-site Emergency Operations Facility for a county representative upon request.
  5. Evaluation of recovery actions which may indicate relaxation of protective measures.
- C. THE IOWA EMERGENCY MANAGEMENT DIVISION agrees to provide, upon notification from Omaha Public Power District, all resources delineated in the Iowa Emergency Plan. Specific major assistance includes:
1. Responsible for the notification and protection of the public in the Iowa portion of the ten-mile EPZ. To accomplish this task, the following procedures will be used:
    - a. The Iowa Emergency Management Division will be responsible for ensuring that public information, both general and specific, for residents in the ten-mile EPZ is provided by the affected counties to the EBS station in Omaha, Nebraska for dissemination.
    - b. The sirens in the two county area will be activated by the Sheriff's dispatcher in each county.
    - c. Traffic control and population assistance will be provided by the State Highway Patrol, DOT, and National Guard.
    - d. Congregate care facilities will be established and operated by the Red Cross in Denison, Iowa.
    - e. Public information and warning will be disseminated through radio station KFAB, the EBS station in Omaha, Nebraska.
    - f. Continue communication with the Fort Calhoun Station Nuclear Power Plant and State EOC to obtain information concerning duration and severity of effect to county residents.
  2. Initiation of early notification to the public with clear instructions in follow-up messages.
  3. Coordination of state resources with county and local organizations to maintain adequate response capabilities.
  4. Offsite radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases with the Omaha Public Power District's Manager - Public Relations.

7. Participation in joint exercises and drills with coordination between Omaha Public Power District, state and county governments.
- D. THE POTTAWATTAMIE COUNTY SHERIFF'S DEPARTMENT agrees to support the Iowa Emergency Management Division during exercises and emergencies by providing, within their capabilities, personnel and equipment resources if requested. The Sheriff's Department would further be responsible for providing 24 hour staffing of the communications center and activation of the Early Warning Siren Network during scheduled operational tests, exercises, and actual emergencies at the Site Area and General Emergency classifications. The Pottawattamie County Sheriff's Department will provide facility space for a State Forward Command Post co-located with the Harrison County Emergency Operations Center and such facility space as may be necessary for the storage of equipment resources provided to support such operations.
- E. This agreement shall be effective until such time as rescinded by separate agreements. This supersedes all previous agreements.

OMAHA PUBLIC POWER DISTRICT

W. Gary Gates  
W. Gary Gates  
Vice President

Date: 1-27-93

IOWA EMERGENCY MANAGEMENT DIVISION

Ellen M. Gordon  
Ellen M. Gordon  
Administrator

Date: 1-4-93

POTTAWATTAMIE COUNTY SHERIFF'S DEPARTMENT

Jeff Danker  
Jeff Danker  
Sheriff

Date: 1-18-93

LETTER OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND  
DOUGLAS COUNTY SHERIFF'S DEPARTMENT

In order to assure adequate and timely response to emergencies at the Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Douglas County, Nebraska, it is understood by all parties to this agreement that the following provisions shall apply:

- A. OMAHA PUBLIC POWER DISTRICT agrees to provide Douglas County the following, as delineated in the Douglas County Supplement to the Washington County Radiological Emergency Response Plan for Nuclear Power Plant Incidents, dated October 1, 1992.
1. Immediate notification and alert for site area and general emergencies to residents within the 10-mile emergency planning zone through the siren warning system.
  2. Protective action recommendations consistent with Federal guidance.
- B. THE DOUGLAS COUNTY SHERIFF'S DEPARTMENT agrees to provide full evacuation and traffic control support during exercises and emergencies within their capabilities, personnel, and equipment resources.
- C. This agreement shall be effective until such time as rescinded by either party through written notice one year prior to the annual anniversary date.

OMAHA PUBLIC POWER DISTRICT

*W. Gary Gates*  
W. Gary Gates  
Vice President

Date: 1-27-93

DOUGLAS COUNTY SHERIFF'S DEPARTMENT

*Richard A. Roth*  
Richard A. Roth  
Sheriff

Date: 12/22/92



**BLAIR FIRE DEPARTMENT**

Blair, Nebraska 68008

ac 25. 1979

Omaha Public Power District  
1623 Harney Street  
Omaha, NE 68102

Attention: Mr. Richard L. Andrews

Gentlemen:

The Blair Fire Department and Rescue Squad would assist the Omaha Public Power District in emergencies at Fort Calhoun Station. We are also a member of the Tri-Mutual Aid Association and, therefore, can receive the assistance of several municipal fire departments. Our primary area of responsibility would be the following:

1. Transportation of injured personnel to off-site medical facilities.
2. Notification to Fort Calhoun Station of local ammonia release or other emergencies which might affect operations.
3. Respond to all Fort Calhoun Station requests for personnel and equipment to extinguishing fires at the Station.

The Department will participate in any training or drills required under the Fort Calhoun Station Emergency Plan.

Sincerely,

A handwritten signature in cursive script, appearing to read "Don Kuhr".

Don Kuhr  
Fire Chief

THIS PAGE CONTAINS  
PRIVACY AND/OR PROPRIETARY  
INFORMATION



1913

**FORT CALHOUN FIRE/RESCUE**

P.O. BOX 187  
Fort Calhoun, Nebraska 68023



1975

January 18, 1993

Omaha Public Power District  
c Mr. O. Jay Clayton  
444 South 16th Street Mall  
Omaha Ne. 68103-2247

Dear Mr. Clayton

**SUBJECT: Letter of Agreement for Emergency Operations at Ft Calhoun Station.**

Fort Calhoun Fire/Rescue agrees to assist with emergency operations involving both the Power Station and surrounding areas. Fort Calhoun Fire/Rescue will, upon request, assist with fire fighting, emergency medical and evacuation and hazardous material operations.

Fort Calhoun Fire/Rescue presently incorporates 24 Fire Fighters of which 19 are qualified as Emergency Medical Technicians or higher.

Sincerely,

*Gordon Mallory*  
Gordon Mallory  
Fire Chief

*Randy Johnson*  
Randy Johnson  
President

*Mike Smith*  
Mike Smith  
E.M.S. Coordinator

*Pete Gundersen*  
Pete Gundersen  
Hazardous Materials Chief

cc:secretary file

THIS PAGE CONTAINS  
PRIVACY AND/OR PROPRIETARY  
INFORMATION

STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
MISSOURI VALLEY FIRE & RESCUE SQUAD

- A. The Missouri Valley Fire & Rescue Squad agrees to provide the following:
  1. Service as a back-up unit to the Blair Fire Department and Rescue Squad.
  2. Transportation of injured personnel to offsite medical facilities.
  3. Response to Fort Calhoun Station requests for personnel and equipment for extinguishing fires at the station.
  4. Participation in Fort Calhoun Station's radiological emergency preparedness training, drills, and exercises as they apply to fire and rescue squads.
  
- B. The Omaha Public Power District agrees to provide the following:
  1. Proper radiological emergency response training for fire and rescue squad personnel.
  2. Notification of radiological emergencies at the Fort Calhoun Station which requires response by the Missouri Valley Fire & Rescue Squad.

*William E. Miller*  
William E. Miller  
Assistant General Manager  
Omaha Public Power District

*Gregory Lockman Fire Chief 1-30*  
*Gregory Lockman Fire Chief 6*  
*Ed Spencer Fire Chief*  
 Missouri Valley Fire & Rescue Squad  
*Bill Dreyer Fire Chief*  
*Ed Spencer - Fire Chief 1/8*  
*12/3/83*  
*1/15/83*  
*Gregory Lockman - Fire Chief 01-3*

Date 6-4-81

Date 7-6-81

PRCD OPS 15-21-560 \_\_\_\_\_  
 \_\_\_\_\_ 5/21/81 \_\_\_\_\_

**RENEWAL OF THE AGREEMENT BETWEEN THE BOARD OF REGENTS  
 OF THE UNIVERSITY OF NEBRASKA, GOVERNING BODY FOR THE  
 UNIVERSITY OF NEBRASKA MEDICAL CENTER  
 AND  
 OMAHA PUBLIC POWER DISTRICT  
 AND  
 NEBRASKA PUBLIC POWER DISTRICT**

The renewal of this agreement is made and entered into on behalf of the Board of Regents of the University of Nebraska, governing body for the University of Nebraska Medical Center, an educational institution organized under the laws of the State of Nebraska (UNMC), Omaha Public Power District (OPPD), and Nebraska Public Power District (NPPD). The intent of this renewal is to update the relationship between the parties with respect to the Regional Radiation Health Center (RHC) established at the UNMC. The RHC's duties are defined as: 1) employment of professional medical and allied health personnel for the diagnosis and treatment of radiation casualties; 2) acquisition of appropriate instrumentation and equipment to support the unique aspects of diagnosis and treatment of radiation injury; 3) development of specialized patient care facilities for initial receiving, evaluation, decontamination, and emergency treatment of radiation casualties; 4) development of specialized patient care facilities for long-term inpatient management of radiation injury; and 5) development of appropriate support facilities to assist in the comprehensive management of radiation injury. Any of the facilities and services (1 to 5 above) may be applied to the care and treatment of patients other than radiation casualties whenever not being fully utilized for radiation casualties.

The period of performance under this renewal is effective July 1, 2000, pending previous ratification by the Board of the respective members and will be continuously renewable on July 1st of each succeeding year by mutual consent of the parties. The continuously renewable agreement makes specific provision for carry over of funds from year to year from the operation and maintenance of the RHC.

The total projected cost for the period beginning on July 1, 2000 through June 30, 2001 are itemized on attachment 1, "The Radiation Health Center Budget FY 2000-2001". The costs reflecting personnel, capital equipment investment, facilities operating costs, and contingency resources shall be reviewed annually by the Advisory Committee, and upon recommendation of the Director of the RHC and members of the Advisory Committee may be revised to appropriately maintain the RHC's capability to appropriately fulfill its responsibilities to the Legislative Act. The Director and Staff of the RHC agree to exert their best efforts to accomplish the responsibilities provided in the Legislative Act within the budget cost projection. Should extraordinary events require special considerations, all members of the Advisory Committee shall agree on additional funds beyond those approved at the annual meeting.

*Dorinda Crave*  
 Board of Regents of the  
 University of Nebraska  
*Assoc V.C. UNMC*  
 TITLE  
7/26/00  
 DATE

*Steve Sage*  
 OPPD  
Mgr. Security & EP  
 TITLE  
8/11/00  
 DATE

*Robert Zupfel*  
 NPPD  
Emergency Preparedness  
 Manager, Cooper Nuclear  
 Station  
 TITLE  
7/29/00  
 DATE

**AGREEMENT BETWEEN THE BOARD OF REGENTS  
OF THE UNIVERSITY OF NEBRASKA, GOVERNING BODY FOR THE  
UNIVERSITY OF NEBRASKA MEDICAL CENTER  
AND  
OMAHA PUBLIC POWER DISTRICT  
AND  
NEBRASKA PUBLIC POWER DISTRICT**

This agreement is made and entered into on behalf of the Board of Regents of the University of Nebraska, governing body for the University of Nebraska Medical Center, an educational institution organized under the laws of the State of Nebraska (UNMC), Omaha Public Power District (OPPD), and Nebraska Public Power District (NPPD). The intent of this agreement is to update and redefine the relationship between the parties with respect to the Regional Radiation Health Center (RHC) established at the UNMC. The RHC's duties are defined as: 1) employment of professional medical and allied health personnel for the diagnosis and treatment of radiation casualties; 2) acquisition of appropriate instrumentation and equipment to support the unique aspects of diagnosis and treatment of radiation injury; 3) development of specialized patient care facilities for initial receiving, evaluation, decontamination, and emergency treatment of radiation casualties; 4) development of specialized patient care facilities for long-term inpatient management of radiation injury; and 5) development of appropriate support facilities to assist in the comprehensive management of radiation injury. Any of the facilities and services (1 to 5 above) may be applied to the care and treatment of patients other than radiation casualties whenever not being fully utilized for radiation casualties.

**WHEREAS** Legislative Bill 1405 adopted by the 1972 Nebraska Legislature created the Regional RHC to be developed and supervised by the UNMC; and

**WHEREAS** Omaha Public Power District (OPPD) and Nebraska Public Power District (NPPD) have been members of the Radiation Health Center Advisory Committee from the initial establishment of the RHC, and initially provided fiscal support in the creation of the RHC; and

**WHEREAS** bylaws were established by the participants in the Advisory Committee including UNMC, OPPD, and NPPD, and these bylaws shall continue to govern the updated agreement between the afore-stated members; and

**NOW, THEREFORE, IT IS AGREED AS FOLLOWS:**

**Article I: Facilities and Service to be available and operational for performance of evaluation and management of radiation casualties.**

The RHC, UNMC shall furnish all necessary personnel, instruments, equipment, and facilities to evaluate and manage radiation incidents or accidents involving individuals exposed to or contaminated externally and/or internally with radioactive materials in keeping with the legislative mandate establishing the RHC. These facilities will be operationally capable at all times and in order to insure this operational capability will be integrated to as great a degree as possible with the ongoing routine medical practice at UNMC.

Beyond emergency services provided, NPPD and OPPD shall be responsible for the expenses involved in extended or special care of personnel associated with their operations, at cost at the time of admission to UNMC facilities for similar services.

Emergency services provided shall include, but not be limited to, any support of immediate life-support activities, disposition of radioactively-contaminated material removed from the patient(s), evaluation of extent of hazard to the patient(s) submitted, and a plan or program of treatment of such patient(s).

The services of the RHC and its staff may be made available to users other than NPPD and OPPD, at the discretion of the Director of the RHC. These services will be billed independently per the provisions of Article IV. At no time will the RHC be rendered incapable to respond to a nuclear incident associated with NPPD or OPPD, due to services being provided to another user.

**Article II: Period of Performance**

This period of performance under this agreement is effective July 1, 1999, pending previous ratification by the Board of the respective members and will be continuously renewable on July 1st of each succeeding year by mutual consent of the parties. The continuously renewable agreement makes specific provision for carry over of funds from year to year from the operation and maintenance of the RHC including, but not limited to, contingency operational funds should an accident of significant proportions impact the resources of the RHC.-

**Article III: Termination or Withdrawal**

Termination or withdrawal by any party from this agreement shall be only upon 90 days advance written notice and shall include reasons for withdrawal. No withdrawal in violation of the provisions of State law shall be permitted.

**Article IV: Projected Cost**

The total projected cost for the period beginning on July 1, 1999 through June 30, 2000 are itemized on attachment 1, "The Radiation Health Center Budget FY 1999-2000". The costs reflecting personnel, capital equipment investment, facilities operating costs, and contingency resources shall be reviewed annually by the Advisory Committee, and upon recommendation of the Director of the RHC and members of the Advisory Committee may be revised to appropriately maintain the RHC's capability to appropriately fulfill its responsibilities to the Legislative Act. The Director and Staff of the RHC agree to exert their best efforts to accomplish the responsibilities provided in the Legislative Act within the budget cost projection. Should extraordinary events require special considerations, all members of the Advisory Committee shall agree on additional funds beyond those approved at the annual meeting.

The costs of services, materials, extended or special care, or specialized evaluation of personnel or equipment of any authorized user not associated with NPPD or OPPD, will be billed directly to that respective user at reasonable billing rates, as recommended by the Advisory Committee. Funds received for such services will be applied to the RHC operating account and reported by the Director of the RHC at the annual meeting.

No major expenditure shall be made without approval in advance by at least one authorized representative of each participant to this agreement.

No purchase or lease of any item of general purpose equipment, such as office furniture, office furnishings or office equipment, shall be made unless specifically approved by all participants of the RHC Advisory Committee.

No travel costs incurred under this agreement shall be reimbursed from these funds unless associated with participation in actual emergencies or established drills to comply with existing regulations. Any such items, if authorized, shall be reimbursed under the guidelines of Federal or State regulations and be separately billed to NPPD, OPPD, or any other authorized user of RHC services, as applicable.

**Article V: Payment**

All payments made hereunder shall be to the University of Nebraska Medical Center, Sponsored Programs Accounting Office, 600 South 42nd Street, Omaha, Nebraska 68198-5100, ATTN.: Radiation Health Center Account.

**Article VI: Accountability and Audit**

The accounts of the RHC, as maintained by UNMC, are subject to audit by State of Nebraska agencies, UNMC, NPPD, and OPPD on an annual basis. More frequent audits may be made, as required by governing bodies of each participant. Usual and customary accounting practices shall be observed. Any audit by any party shall provide sufficient time for preparation and availability of records, but in no case shall a time in excess of 30 days be necessary.

**Article VII: Governance**

The governing body of the RHC shall be as specified in the legislation which established the RHC, and the bylaws of same. Each member of the Advisory Committee is responsible only to his/her organization for the decisions made. Each participating member to this agreement shall have an equal vote in deliberations of the committee.

As provided in the RHC bylaws, the Director of RHC shall be the principal executive officer responsible for the conduct of the duties and responsibilities of the RHC. The Director shall be nominated by the Chairman of the Department of Radiology of the University of Nebraska College of Medicine, and shall be appointed by the Chancellor of the University of Nebraska Medical Center, subject to the approval of the Dean of the College of Medicine, the President of the University and the Board of Regents for the University of Nebraska. He shall be responsible for the day-to-day conduct of activities relating to the functional capability of the RHC and its staff members. He shall make periodic presentations to the Advisory Committee of the RHC to ensure their cognizance of factors which might adversely affect the operational capability of the Center as well as to recommend actions, policies, and/or procedures which will provide a continuing state of readiness to fulfill the responsibilities defined in the Legislative Act.

**Article VIII: Reports**

The Director of the RHC will report annually to the Advisory Committee regarding the state of the RHC. He will make recommendations where appropriate to ensure the continuing capability of the Center.

RHC shall provide a report of participation in any exercise. In the event of an actual emergency, an after-action report shall be submitted along with a copy of any pertinent medical records associated with the patients involved, with due regard to patient privacy of information.

An annual report of receipts and expenditures shall be provided by UNMC to the Director, RHC, NPPD and OPPD. The format shall be in accordance with accepted accounting methods.

**Article IX: Changes**

Any changes in the terms of this agreement including changes in scope of responsibility for facilities, services, and/or cost allocation must be made by amendment to this agreement and signed by all participating parties.

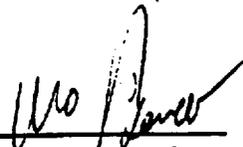
**Article X: Equipment**

Title to equipment purchased under this agreement shall reside with the Board of Regents of the University of Nebraska. Said equipment shall be inventoried within the University of Nebraska Medical Center, College of Medicine, Department of Radiology, and the RHC.

**Article XI: General Provisions**

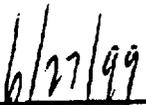
The provisions of the Legislative Act establishing the RHC and the bylaws of the RHC shall apply to this agreement and its conduct through the Grants and Contracts Office of UNMC, College of Medicine. This agreement shall be construed under the laws of the State of Nebraska.

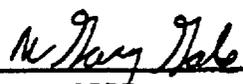
The above conditions are acceptable to all parties as evidenced by the signatures of their authorized officials.

  
Board of Regents of  
the University of  
Nebraska

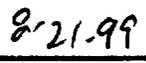
William Berndt, Ph.D.  
Vice-Chancellor  
Academic Affairs, UNMC

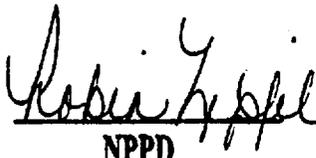
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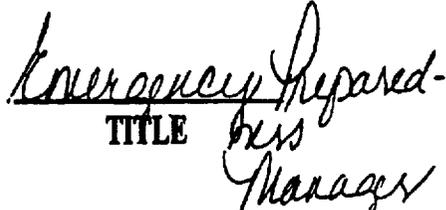
  
DATE

  
OPPD

  
TITLE

  
DATE

  
NPPD

  
TITLE

  
DATE

# STATE OF NEBRASKA



STATE OF NEBRASKA  
Secretary  
Assistant  
220 North  
Linn, Nebraska 68501  
Phone 482-5100

~~E. Barbara Wilson~~

December 22, 1995

Barbara A. Fried  
Emergency Planner  
Omaha Public Power District  
Fl. Calhoun Nuclear Station  
P.O. Box 369  
Hwy. 75 - North of Fl. Calhoun  
Fl. Calhoun, Nebraska 68023-0369

Dear Ms. Fried:

We are considering modifications to the Letter of Agreement between Omaha Public Power District (OPPD), Nebraska Public Power District (NPPD), Nebraska Department of Health (NDOH), and Nebraska State Civil Defense Agency (SCDA).

We intend to discuss these modifications in a meeting with representatives from all concerned on January 5, 1996 at the Nebraska State Emergency Operations Center.

If the modifications are acceptable then we will submit a new current Letter of Agreement for your records and will include it in the State of Nebraska Radiological Emergency Response Plan.

Unfortunately, with tight schedules around the holidays we will not be able to facilitate a new Letter of Agreement before December 29, 1995 as you had requested. We hope this is not an inconvenience.

Thank you for your support and cooperation.

Sincerely,

*for William E. Whitney*  
William E. Whitney  
Assistant Director

NEBRASKA HEALTH AND HUMAN SERVICES SYSTEM



DEPARTMENT OF SERVICES • DEPARTMENT OF REGULATION AND LICENSURE  
DEPARTMENT OF FINANCE AND SUPPORT

STATE OF NEBRASKA

MIKE JOHANNIS, GOVERNOR

September 24, 1999

H. J. Sefick  
Manager – Security and Emergency Planning  
Omaha Public Power District, Ft. Calhoun Station  
Emergency Planning Department, FC-2-4  
P.O. Box 399  
Ft. Calhoun, NE 68023-0399

Dear Mr. Sefick:

The Nebraska Department of Health and Human Services Regulation and Licensure will provide resources under its authority in response to any off-site Ft. Calhoun Nuclear Station radiation emergency upon appropriate notification.

Details of the Department's assistance are noted in the Nebraska Radiological Emergency Response Plan for Nuclear Power Plant Incidents, Annex A.

The Department will assist in evaluation of the radiation emergency and offer technical advice and assistance, conduct off-site radiological surveys and assist in the protection of the health and safety of the public from radiation.

Sincerely,

Richard P. Nelson, Director  
Department of Health and Human Services Regulation and Licensure

RPN/MSS/sf



*Institute of  
Nuclear Power  
Operations*

700 Galleria Parkway, NW  
Atlanta, GA 30339-5957  
770-644-8000  
FAX 770-644-8549

February 2, 1999

Mr. Mark T. Frans  
Manager, Nuclear Licensing  
Fort Calhoun Station  
Omaha Public Power District  
Admin FC-2-4  
Box 399  
Fort Calhoun, NE 68023

Dear Mr. Frans:

This letter certifies that the plant emergency assistance agreement between INPO and its member utilities remains in effect. In the event of an emergency at your utility, INPO will assist you in acquiring the help of other organizations in the industry, as described in Section 1 of the *Emergency Resources Manual*, INPO 86-032. If requested, INPO will provide the following assistance:

- facilitate technical information flow from the affected utility to the nuclear industry
- locate replacement equipment and personnel with technical expertise
- obtain technical information and industry experience regarding plant component and systems
- provide an INPO liaison to facilitate interface

This agreement will remain in effect until terminated in writing. Should you have questions, please call me at (770) 644-8210.

Sincerely,

A handwritten signature in cursive script that reads "James R. Morris".

James R. Morris  
Vice President and Director  
Plant Operations Division

JRM:ss

cc: Mr. W. Gary Gates  
Mr. Owen J. Clayton  
Mr. Sigval M. Berg

L98-5Q005

LETTER OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
WASHINGTON COUNTY, NEBRASKA

- I. In order to assure adequate and timely response to emergencies at the Fort Calhoun Station which affect, or can affect, the health and safety of the general public, be it understood by both parties involved that the following commitments shall apply:
  - A. OMAHA PUBLIC POWER DISTRICT agrees to provide the resources delineated in the Fort Calhoun Station Emergency Plan. Specific major assistance includes:
    1. Annual dissemination of information to the public for radiological education.
    2. Immediate notification of Site Area or General Emergency classes to the Washington County Sheriff's Department.
    3. Recommendations with supporting data for preparation of public messages and protective action instructions.
    4. Field monitoring within the plume exposure emergency planning zone.
    5. Working space in the near-site Emergency Operations Facility for a county representative upon request.
    6. Evaluation of recovery actions which may indicate relaxation of protective measures.
  - B. Washington County, State of Nebraska, agrees to provide the resources delineated in the Washington County Radiological Emergency Response Plan. Specific major assistance includes:
    1. Twenty-four (24) hours per day emergency response capability, including maintaining a communication link.
    2. Activation of early notification system to the public within the plume exposure pathway.
    3. Implementation of protective measures based on appropriate protective actions guidance.
    4. Participation in training exercises and drills, as required, to ensure operability of mutual emergency planning.

-2-

- II. This agreement shall be effective until such time as regulations of the NRC/EPA permit modification or termination.
- III. Notification to Washington County shall be made by notifying the Washington County Civil Defense Agency.

  
\_\_\_\_\_  
M. C. Jones  
Senior Vice President  
Omaha Public Power District  
\_\_\_\_\_  
10/16/89  
Date

  
\_\_\_\_\_  
John Letz  
Chairman  
Washington County Board of Supervisors  
\_\_\_\_\_  
10/10/89  
Date

  
\_\_\_\_\_  
John Smith  
\_\_\_\_\_  
1-14-92

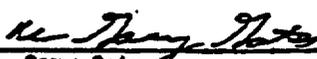
STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE  
EMERGENCY MANAGEMENT DIVISION

- I. In order to assure adequate and timely response to emergencies at the Fort Calhoun Station which affect, or can affect, the health and safety of the general public, be it understood by both parties involved that the following comments will apply:
- A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa - Department of Public Defense - Emergency Management Division the following:
1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEMA-REP-1.
  2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
  3. Recommended protective actions consistent with Federal guidance.
  4. Recommendations for reentry and recovery of radiological affected sectors.
  5. As required, data and assessment from the Fort Calhoun operational meteorological measurements program.
  6. Working space and communications in the near-site Emergency Operations Facility for two state liaison official representatives from the State of Iowa - Department of Public Defense - Emergency Management Division and the Iowa State Health Department.
  7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.
  8. Proper resources at the Media Release Center.
  9. Such other assistance as specified in the Iowa Radiological Emergency Response Plan, the Fort Calhoun Site Specific Annex to that plan (Section VIII) and ancillary plans and procedures relevant to Fort Calhoun Station.
- B. The State of Iowa - Department of Public Defense - Emergency Management Division agrees to provide upon proper notification from Omaha Public Power District, all resources delineated in the Iowa Radiological Emergency Response Plan and the Fort Calhoun Site Specific Annex to that plan (Section VIII).

Specific major assistance includes:

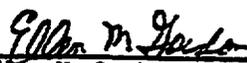
1. The State of Iowa - Department of Public Defense - Emergency Management Division will provide immediate notification to Harrison and Pottawattamie Counties upon notification of emergency classification declaration, from the Omaha Public Power District.
  2. Initiation of early notification to the public with clear instructions in the follow-up message.
  3. Coordination of State resources with county and local organizations to maintain adequate response capabilities.
  4. Off-site radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases of education and emergency actions with the Omaha Public Power District Manager, Public Relations.
  7. Participation in joint exercises and drills with coordination between Omaha Public Power District, State, and County governments.
  8. Appropriate follow-up to exercise critiques.
- II. This agreement encompasses Iowa agencies and local governments whose participation is committed within the Iowa Radiological Emergency Response Plan and the Fort Calhoun Site Specific Annex to that plan (Section VIII).
- III. This agreement shall be effective until such time as regulations of NRC/FEMA permit modification or termination, and as long as funding for activities outlined herein, is forthcoming.
- IV. This agreement shall be reviewed yearly.

OMAHA PUBLIC POWER DISTRICT

  
\_\_\_\_\_  
W. Gary Gates  
Vice President

Date: 1-27-93

IOWA EMERGENCY MANAGEMENT DIVISION

  
\_\_\_\_\_  
Ellen M. Gordon  
Administrator

Date: 1-11-93

STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE  
EMERGENCY MANAGEMENT DIVISION  
HARRISON COUNTY, IOWA

- I. In order to assure adequate and timely response to emergencies at Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Harrison County, Iowa, it is understood by parties to this agreement that the following provisions shall apply:
- A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa - Department of Public Defense - Emergency Management Division the resources and assistance necessary to coordinate emergency response activities of Local, State, Federal and Non-Governmental Agencies and organizations. Specific major assistance includes:
1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEMA-REP-1.
  2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
  3. Recommended protective actions consistent with Federal guidance.
  4. Recommendations for reentry and recovery of radiological affected sectors.
  5. As required, data and assessment from the Fort Calhoun Station operational meteorological measurements program.
  6. Working space and communications in the near-site Emergency Operations Facility for at least one and possibly two state liaison officers.
  7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.
- B. OMAHA PUBLIC POWER DISTRICT agrees to provide the Harrison County Board of Supervisors the resources delineated in the Fort Calhoun Station Radiological Emergency Response Plan. Specific major assistance includes:
1. Annual dissemination of information to the public for radiological education.
  2. Immediate notification of Site Area or General Emergency Classes through the Harrison County Sheriff's Department.

3. Field monitoring within the plume exposure emergency planning zone.
  4. Working space in the near-site Emergency Operations Facility for a county representative upon request.
  5. Evaluation of recovery actions which may indicate relaxation of protective measures.
- C. THE IOWA EMERGENCY MANAGEMENT DIVISION agrees to provide; upon notification from Omaha Public Power District, all resources delineated in the Iowa Emergency Plan. Specific major assistance includes:
1. Responsible for the notification and protection of the public in the Iowa portion of the ten-mile EPZ. To accomplish this task, the following procedures will be used:
    - a. The Iowa Emergency Management Division will be responsible for ensuring that public information, both general and specific, for residents in the ten-mile EPZ is provided by the affected counties to the EBS station in Omaha, Nebraska for dissemination.
    - b. The sirens in the two county area will be activated by the Sheriff's dispatcher in each county.
    - c. Traffic control and population assistance will be provided by the State Highway Patrol, DOT, and National Guard.
    - d. Congregate care facilities will be established and operated by the Red Cross in Denison, Iowa.
    - e. Public information and warning will be disseminated through radio station KFAB, the EBS station in Omaha, Nebraska.
    - f. Continue communication with the Fort Calhoun Station Nuclear Power Plant and State EDC to obtain information concerning duration and severity of effect to county residents.
  2. Initiation of early notification to the public with clear instructions in follow-up messages.
  3. Coordination of state resources with county and local organizations to maintain adequate response capabilities.
  4. Offsite radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases with the Omaha Public Power District's Manager - Public Relations.

- 7. Participation in joint exercises and drills with coordination between Omaha Public Power District, state and county governments.
- D. THE HARRISON COUNTY BOARD OF SUPERVISORS agrees to support the Iowa Emergency Management Division during Fort Calhoun Station radiological training drills, exercises and actual emergencies in the implementation of protective actions required to protect the health and safety of the public.
- E. This agreement shall be effective until such time as rescinded by separate agreements. This supersedes all previous agreements.

OMAHA PUBLIC POWER DISTRICT

  
\_\_\_\_\_  
W. Gary Gates  
Vice President

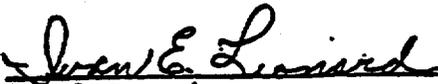
Date: 1-27-93

IOWA EMERGENCY MANAGEMENT DIVISION

  
\_\_\_\_\_  
Ellen M. Gordon  
Administrator

Date: 1-4-93

HARRISON COUNTY BOARD OF SUPERVISORS

  
\_\_\_\_\_  
Ivan C. Leonard  
Chairman

Date: 1-14-93

STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE  
EMERGENCY MANAGEMENT DIVISION  
POTTAWATTAMIE COUNTY, IOWA

I. In order to assure adequate and timely response to emergencies at Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Pottawattamie County, Iowa, it is understood by parties to this agreement that the following provisions shall apply:

A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa - Department of Public Defense - Emergency Management Division the resources and assistance necessary to coordinate emergency response activities of local, State, Federal and Non-Governmental Agencies and organizations. Specific major assistance includes:

1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEMA-REP-1.
2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
3. Recommended protective actions consistent with Federal guidance.
4. Recommendations for reentry and recovery of radiological affected sectors.
5. As required, data and assessment from the Fort Calhoun Station operational meteorological measurements program.
6. Working space and communications in the near-site Emergency Operations Facility for at least one and possibly two state liaison officers.
7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.

B. OMAHA PUBLIC POWER DISTRICT agrees to provide the Pottawattamie County Board of Supervisors the resources delineated in the Fort Calhoun Station Radiological Emergency Response Plan. Specific major assistance includes:

1. Annual dissemination of information to the public for radiological education.
2. Immediate notification of Site Area or General Emergency Classes through the Pottawattamie County Sheriff's Department.

3. Field monitoring within the plume exposure emergency planning zone.
  4. Working space in the near-site Emergency Operations Facility for a county representative upon request.
  5. Evaluation of recovery actions which may indicate relaxation of protective measures.
- C. THE IOWA EMERGENCY MANAGEMENT DIVISION agrees to provide, upon notification from Omaha Public Power District, all resources delineated in the Iowa Emergency Plan. Specific major assistance includes:
1. Responsible for the notification and protection of the public in the Iowa portion of the ten-mile EPZ. To accomplish this task, the following procedures will be used:
    - a. The Iowa Emergency Management Division will be responsible for ensuring that public information, both general and specific, for residents in the ten-mile EPZ is provided by the affected counties to the EBS station in Omaha, Nebraska for dissemination.
    - b. The sirens in the two county area will be activated by the Sheriff's dispatcher in each county.
    - c. Traffic control and population assistance will be provided by the State Highway Patrol, DOT, and National Guard.
    - d. Congregate care facilities will be established and operated by the Red Cross in Denison, Iowa.
    - e. Public information and warning will be disseminated through radio station KFAB, the EBS station in Omaha, Nebraska.
    - f. Continue communication with the Fort Calhoun Station Nuclear Power Plant and State EOC to obtain information concerning duration and severity of effect to county residents.
  2. Initiation of early notification to the public with clear instructions in follow-up messages.
  3. Coordination of state resources with county and local organizations to maintain adequate response capabilities.
  4. Offsite radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases with the Omaha Public Power District's Manager - Public Relations.

- 7. Participation in joint exercises and drills with coordination between Omaha Public Power District, state and county governments.
- D. THE POTTAWATTAMIE COUNTY BOARD OF SUPERVISORS agrees to support the Iowa Emergency Management Division during Fort Calhoun Station radiological training drills, exercises and actual emergencies in the implementation of protective actions required to protect the health and safety of the public.
- E. This agreement shall be effective until such time as rescinded by separate agreements. This supersedes all previous agreements.

OMAHA PUBLIC POWER DISTRICT

*W. Gary Gates*  
W. Gary Gates  
Vice President

Date: 1-27-93

IOWA EMERGENCY MANAGEMENT DIVISION

*Ellen M. Gordon*  
Ellen M. Gordon  
Administrator

Date: 1-4-93

POTTAWATTAMIE COUNTY BOARD OF SUPERVISORS

*Richard C. Dierker*  
Chairman

Date: 1-13-93

STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
AND THE  
STATE OF IOWA  
DEPARTMENT OF PUBLIC DEFENSE  
EMERGENCY MANAGEMENT DIVISION  
POTTAWATTAMIE COUNTY DIVISION OF COMMUNICATIONS

- I. In order to assure adequate and timely response to emergencies at Omaha Public Power District's Fort Calhoun Station for the protection, health, and safety of the general public within the boundaries of Pottawattamie County, Iowa, it is understood by parties to this agreement that the following provisions shall apply:
- A. OMAHA PUBLIC POWER DISTRICT agrees to provide to the State of Iowa - Department of Public Defense - Emergency Management Division the resources and assistance necessary to coordinate emergency response activities of Local, State, Federal and Non-Governmental Agencies and organizations. Specific major assistance includes:
1. Immediate notification of all reportable incidents in accordance with the four emergency classifications established in NUREG-0654/FEHA-REP-1.
  2. As required by Federal guidance, radiological instrument readings from plant and field monitoring instruments to perform accident dose assessment.
  3. Recommended protective actions consistent with Federal guidance.
  4. Recommendations for reentry and recovery of radiological affected sectors.
  5. As required, data and assessment from the Fort Calhoun Station operational meteorological measurements program.
  6. Working space and communications in the near-site Emergency Operations Facility for at least one and possibly two state liaison officers.
  7. Radiological monitoring support if any vehicle transporting radioactive materials either to or from Fort Calhoun Station is involved in an accident in Iowa which could breach or has breached the integrity of a shipping container.
- B. OMAHA PUBLIC POWER DISTRICT agrees to provide the Pottawattamie County Board of Supervisors the resources delineated in the Fort Calhoun Station Radiological Emergency Response Plan. Specific major assistance includes:
1. Annual dissemination of information to the public for radiological education.
  2. Immediate notification of Site Area or General Emergency Classes through the Pottawattamie County Sheriff's Department.

3. Field monitoring within the plume exposure emergency planning zone.
  4. Working space in the near-site Emergency Operations Facility for a county representative upon request.
  5. Evaluation of recovery actions which may indicate relaxation of protective measures.
- C. THE IOWA EMERGENCY MANAGEMENT DIVISION agrees to provide, upon notification from Omaha Public Power District, all resources delineated in the Iowa Emergency Plan. Specific major assistance includes:
1. Responsible for the notification and protection of the public in the Iowa portion of the ten-mile EPZ. To accomplish this task, the following procedures will be used:
    - a. The Iowa Emergency Management Division will be responsible for ensuring that public information, both general and specific, for residents in the ten-mile EPZ is provided by the affected counties to the EBS station in Omaha, Nebraska for dissemination.
    - b. The sirens in the two county area will be activated by the Sheriff's dispatcher in each county.
    - c. Traffic control and population assistance will be provided by the State Highway Patrol, DOT, and National Guard.
    - d. Congregate care facilities will be established and operated by the Red Cross in Denison, Iowa.
    - e. Public information and warning will be disseminated through radio station KFAB, the EBS station in Omaha, Nebraska.
    - f. Continue communication with the Fort Calhoun Station Nuclear Power Plant and State EOC to obtain information concerning duration and severity of effect to county residents.
  2. Initiation of early notification to the public with clear instructions in follow-up messages.
  3. Coordination of state resources with county and local organizations to maintain adequate response capabilities.
  4. Offsite radiological monitoring by State Radiation Response Teams with analysis of data.
  5. Assessment results and protective measures determined by Iowa based on current protective action guides.
  6. Coordination of public information releases with the Omaha Public Power District's Manager - Public Relations.

- 7. Participation in joint exercises and drills with coordination between Omaha Public Power District, state and county governments.
- D. THE POTTAWATTAMIE COUNTY DIVISION OF COMMUNICATIONS agrees to support the Iowa Emergency Management Division during Fort Calhoun Station radiological training drills, exercises and actual emergencies and activate the Early Warning Siren Network during scheduled operational tests, exercises, and actual emergencies at the Site Area and General Emergency classifications. The Division of Communications would further be responsible for providing 24 hours staffing of the communications center and the Fort Calhoun Operations Network.
- E. This agreement shall be effective until such time as rescinded by separate agreements. This supersedes all previous agreements.

OMAHA PUBLIC POWER DISTRICT

W. Gary Gates  
W. Gary Gates  
Vice President

Date: 1-27-93

IOWA EMERGENCY MANAGEMENT DIVISION

Ellen M. Gordon  
Ellen M. Gordon  
Administrator

Date: 1-4-93

POTTAWATTAMIE COUNTY DIVISION OF COMMUNICATIONS

Linda McEvoy  
Linda McEvoy  
Director

Date: 1-19-93

# FORT CALHOUN STATION RADIOLOGICAL EMERGENCY RESPONSE PLAN

## STATEMENT OF AGREEMENT BETWEEN OMAHA PUBLIC POWER DISTRICT & UNION PACIFIC RAILROAD

Union Pacific Railroad Company (UPR) agrees to provide notification to Fort Calhoun Station's Shift Supervisor at (402) 533-7404 following a derailment between Missouri Valley and Blair involving any chemicals or gas releases which may require special handling.

UPR further agrees to curtail any rail traffic in the 10 mile Emergency Planning Zone (EPZ) in the vicinity of the Fort Calhoun Station upon receiving notification that a radiological emergency has been declared and traffic through Blair, NE, should be stopped.

Omaha Public Power District agrees to notify UPR at (402) 636-7436 of a radiological emergency at the Fort Calhoun Station which may require stopping railway traffic through the 10 mile EPZ.

W. Gary Gates



Vice President  
Omaha Public Power District

DATE: 2-20-96

Steve Barkley



Assistant Vice President - HDC  
Union Pacific Railroad Company

DATE: 2/26/96

THIS PAGE CONTAINS  
PRIVACY AND/OR PROPRIETARY  
INFORMATION



Ms. Barbara Fried  
Omaha Public Power District  
444 South 16th Street Mall  
Omaha, NE 68102-2247

February 9, 1993  
OPPD-93-019

Enclosure: (1) ABB CENS Nuclear Emergency Response System  
Activation Procedure for the Utility, Rev 8

Subject: ABB Emergency Response

Dear Ms. Fried:

As we discussed, please find enclosed ABB CE Nuclear Service's (CENS) Emergency Response Activation Procedure. If activated by OPPD, ABB CENS will provide support in accordance with the General Services Agreement in existence between ABB CENS and OPPD.

It may be of interest to know that ABB CENS did provide such support for the July 3 event at Ft Calhoun in 1992. ABB provided support that was well received by OPPD staff in a timely and expert manner, even though no memorandum of understanding was in place.

Thank you for cooperation in this matter. If I may answer any questions, please reach me at (203) 285-3043.

Sincerely,  
*Bob Pearce*  
Bob Pearce

cc: SA Toelle w/o  
GL Anglehart w/  
JJ Poy w/o  
SK Ganbir w/

THIS PAGE CONTAINS  
PRIVACY AND/OR PROPRIETARY  
INFORMATION

ABB Combustion Engineering Nuclear Power

Company: Emergency 77      1000 ...      Telephone: (203) 285-3043  
Fax: (203) 285-3043  
Telex: 9227 ...

REC'D OCT 16 1997

**INPO**

*Institute of  
Nuclear Power  
Operations*

700 Galleria Parkway, NW  
Atlanta, GA 30339-5957  
770-644-8000  
FAX 770-644-8549

INPO-97-129

October 14, 1997

Mr. James W. Tills  
Manager, Nuclear Licensing  
Fort Calhoun Station  
Omaha Public Power District  
Box 399  
Fort Calhoun, NE 68023

*Jing*  
Dear Mr. Tills:

Enclosed for your information and use is a copy of the recently approved Memorandum of Agreement (MOA) among the Electric Power Research Institute (EPRI), Institute of Nuclear Power Operations (INPO), and Nuclear Energy Institute (NEI). The MOA outlines the mutually supportive and cooperative relationship among the three industry organizations and provides an important foundation for our ongoing cooperation and coordination in support of nuclear utilities.

The MOA contains three addenda that describe how the key principles of cooperation will be carried out. Addendum 3 is of particular interest to utilities in that it provides the coordination agreement on sharing emergency information among EPRI, INPO, and NEI and their member utilities. The coordination agreement in Addendum 3 is an updated version of and should replace the coordination agreement that is currently included in the *Emergency Resources Manual* (INPO 86-032). Each station emergency plan should be updated, as appropriate.

It is recognized that during an emergency the affected utility retains the primary responsibility for releasing appropriate information to the public and news media. The purpose of the agreement in Addendum 3 is to provide a coordinated process by which the industry support organizations can effectively convey information to the rest of the industry and, when appropriate, to the media to lessen the burden on the affected utility.

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October 14, 1997  
Page Two

If there are any questions on the MOA, please call me at (770) 644-8207 or Jim Lynch of Government Relations at (770) 644-8766. Specific questions regarding the coordination agreement on sharing emergency information should be directed to Joe Solymossy, division director, Plant Assistance Division, at (770) 644-8224.

Sincerely,



William J. Hastie  
Director  
Government Relations Division

WHJ:ss

Enclosure: (As stated above)

cc/wo: Mr. W. Gary Gates  
Mr. Kenneth A. Strahm

Revision 1

**MEMORANDUM OF AGREEMENT**

**AMONG**

**THE ELECTRIC POWER RESEARCH INSTITUTE,**

**THE INSTITUTE OF NUCLEAR POWER OPERATIONS,**

**AND**

**THE NUCLEAR ENERGY INSTITUTE**

**June 1997**

Revision 1

**MEMORANDUM OF AGREEMENT  
AMONG  
THE ELECTRIC POWER RESEARCH INSTITUTE,  
THE INSTITUTE OF NUCLEAR POWER OPERATIONS,  
AND  
THE NUCLEAR ENERGY INSTITUTE**

**Purpose**

This Memorandum of Agreement (MOA) outlines the mutually supportive and cooperative relationship that exists among the Electric Power Research Institute (EPRI), the Institute of Nuclear Power Operations (INPO), and the Nuclear Energy Institute (NEI). EPRI, INPO, and NEI activities are often interrelated because most industry issues include elements of plant performance; research and development; and regulatory, political, or public interface. Further, it is becoming increasingly important that nuclear utilities, EPRI, INPO, and NEI coordinate their activities to achieve the benefits of collaboration and unified approaches.

**Missions**

While individual utilities retain responsibility for all aspects of nuclear plant performance, the industry jointly sponsors support organizations to serve industrywide objectives and needs. Although the specific missions of these support organizations vary, each shares the broad mission of helping utilities optimize industrywide performance, as well as helping them achieve their individual goals for plant performance.

EPRI's mission is to discover, develop, and deliver high-value technological advances through networking and partnership with the electric industry. In support of this mission, EPRI's Nuclear Power Group (NPG) carries out research and development activities to improve the safety, reliability, and economy of nuclear plants. EPRI's Research, Development, and Delivery Plan and the NPG's Target Authorization Documents provide additional details on EPRI's programs and its role and relationship with its members.

INPO's mission is to promote the highest levels of safety and reliability—to promote excellence—in the operation of nuclear electric generating plants. In support of this mission, INPO developed four cornerstone programs: Evaluation, Training and Accreditation, Events Analysis and Information Exchange, and Assistance. INPO's Institutional Plan defines INPO's cornerstone programs and interfaces with its members, the Nuclear Regulatory Commission, and other industry organizations.

NEI's mission is to focus the collective strength of the nuclear energy industry to shape policy that ensures the beneficial uses of nuclear energy and related technologies in the United States and around the world. In support of this mission, NEI will provide the following:

- policy direction on critical issues and topics facing the nuclear energy industry
- a unified approach to addressing and resolving nuclear regulatory issues and related technical matters

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- advocacy and representation before Congress, executive branch agencies, federal regulatory bodies, and state government organizations and forums
- accurate and timely information to policy-makers, the public, and other external constituencies to promote recognition of, and support for, nuclear energy's vital role in the nation's electricity supply
- assistance on state issues, such as environmental considerations and rates
- encouragement to educational institutions to promote education in nuclear energy disciplines

#### Principles of Cooperation

The effective coordination of activities among EPRI, INPO, and NEI allows for optimum and timely support to member utilities, makes efficient use of utility resources, and helps each organization carry out its respective mission. This agreement provides guidance to maintain an active, cooperative relationship; to promote teamwork among the organizations; and to minimize duplication or conflicting efforts, while remaining responsive to the collective needs of nuclear power plant owners and operators and their requests for assistance.

The key principles of cooperation are as follows:

- The three organizations maintain several interfaces to coordinate their activities effectively. EPRI, INPO, and NEI representatives selectively participate in each other's advisory bodies, ad hoc committees, and working groups, as well as attend each other's workshops and conferences on issues of mutual interest. Also, members of each organization may participate as invited, nonvoting guests at each other's Board of Directors and/or Executive Committee meetings. The organizations occasionally sponsor joint workshops or meetings on selected subjects. On an ongoing basis, EPRI, INPO, and NEI have designated points of contact to coordinate activities and information exchange. In addition, liaison personnel are assigned for specific technical subjects of mutual interest. Each organization supplements its technical expertise by soliciting input from the others.
- Individual employees of each organization are expected to understand and respect the mission and work of the other organizations. Recognizing one another's missions and scope of work will allow the organizations to coordinate their efforts to better serve member utilities, to complement each other's work, and to avoid duplication or conflict. Ongoing communication into each organization's planned projects or initiatives is important to achieving these results.

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- Each organization is expected to encourage the use of the others' products to improve industry performance, as appropriate; and, during the normal course of business, is expected to seek to identify areas of industry performance that might warrant new or improved unified utility approaches or selective assistance by one of the other organizations. This includes identifying potential research areas for EPRI, areas to improve operational performance for INPO, and items that may be important from a regulatory, political, or public interest perspective for NEI.
- The three organizations are expected to adhere to each other's respective document control processes. The organizations shall treat certain documents as confidential and restrict their use for the benefit and support of utilities that are members of the organization that originated the document. During the preparation of documents that involve areas of mutual interest, input and review should be solicited from the appropriate organizations.

EPRI, INPO, and NEI are committed to these and other areas of ongoing cooperation and coordination of programs to optimize their individual and collective assistance to nuclear utilities. The attached addenda provide detailed guidance on implementing the principles discussed above.

**AGREEMENT:**

(Original Signed)  
Kurt E. Yeager  
President and CEO  
Electric Power Research Institute

(Original Signed)  
Zack T. Pate  
President and CEO  
Institute of Nuclear Power Operations

(Original Signed)  
Joe F. Colvin  
President and CEO  
Nuclear Energy Institute

**Effective Date: June 30, 1997**

**NOTE:** Changes to the key principles discussed above require the agreement of the president and CEO of each organization. Addenda developed to recognize how these key principles will be carried out can be agreed to at the senior manager (vice president/director) level, as specified on the following page.

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**LIST OF ADDENDA**

1. **Contacts for Coordinating Activities and Information Exchange**
2. **Availability and Use of Products and Documents**
3. **Coordination Agreement on Sharing Emergency Information Among EPRI, INPO, and NEI and Their Member Utilities**

**Agreement**

**Senior Management Contacts:**

**(ORIGINAL SIGNED)** \_\_\_\_\_  
EPRI, Vice President, Nuclear Power Group

**6/22/97**  
Date

**(ORIGINAL SIGNED)** \_\_\_\_\_  
INPO, Vice President/Director, Government Relations

**5/21/97**  
Date

**(ORIGINAL SIGNED)** \_\_\_\_\_  
NEI, Senior Vice President and Chief Nuclear Officer

**6/3/97**  
Date

Revision 1  
ADDENDUM 1

**CONTACTS FOR COORDINATING**

**ACTIVITIES AND INFORMATION EXCHANGE**

Revision 1  
ADDENDUM 1

### CONTACTS FOR COORDINATING ACTIVITIES AND INFORMATION EXCHANGE

#### Background:

To maintain strong working relationships among the Electric Power Research Institute (EPRI), the Institute of Nuclear Power Operations (INPO), and the Nuclear Energy Institute (NEI), it is necessary to communicate frequently and effectively at appropriate levels of the organizations. To promote this concept, three levels of interface are maintained, as follows: senior manager contacts, overall liaisons between the organizations, and technical liaisons for specific areas of mutual interest.

#### Agreement:

The following general guidance applies:

- As they carry out their responsibilities, contacts and liaisons are expected to be familiar with and respect the missions of the other organizations, to identify areas of interest for discussion, to avoid duplication or conflicting efforts, and to coordinate efforts to better support our member utilities.

In the event of duplication or conflicting efforts among the organizational activities, particularly if an organization's mission or the industry's focus on excellence may be impacted, the situation is to be brought to the attention of the three senior management contacts.

- The contacts and liaisons are expected to keep each other informed of their organization's planned workshops or meetings in areas of mutual interest to avoid conflicts in scheduling and, if appropriate, to obtain input on workshop or meeting content and to seek appropriate participation.
- The contacts and liaisons, or their representatives, will normally be invited to attend meetings and workshops in areas of mutual interest and may provide presentations, if requested and appropriate. Registration fees will normally not be charged for this attendance. However, attendance and registration fees at workshops or meetings sponsored by the nonnuclear sector of EPRI, as well as attendance and registration fees for nonnuclear EPRI personnel attending INPO or NEI workshops or meetings, will be handled on a case basis with the agreement of the senior manager contacts. Normally, however, up to 10 individuals per year from each organization will be allowed free attendance at such meetings.
- The contacts and liaisons are expected to communicate periodically on matters of mutual interest. Where appropriate, they will participate in committees or working groups of the other organizations.

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ADDENDUM 1  
CONTACTS FOR COORDINATING  
ACTIVITIES AND INFORMATION EXCHANGE

- All three organizations have on-loan employees who supplement their permanent staffs and, as such, may be assigned as contacts or liaisons or be asked to interface on behalf of their organizations. This can create a complication when such persons are from companies that are not members of EPRI. Such INPO or NEI on-loan employees will normally be treated as permanent INPO or NEI employees, and participate in EPRI-sponsored activities regardless of their utilities' EPRI membership status. These on-loan employees will only provide EPRI products to their parent companies in compliance with the rules in Addendum 2.

EPRI is to be notified when an on-loan employee from a non-EPRI member utility represents INPO or NEI at an EPRI-sponsored function.

- During emergency situations, EPRI, INPO, and NEI coordinate their efforts to maximize assistance to a specific utility and the industry. Addendum 3 describes this coordination process.

The following contacts and liaisons will be maintained:

1. Senior Manager Contacts

A senior manager point of contact will be designated by each organization. The senior managers will normally be the following individuals:

- EPRI, Vice President, Nuclear Power Group
- INPO, Vice President/Director, Government Relations
- NEI, Senior Vice President and Chief Nuclear Officer

The primary focus at this level will be policy-related interactions, including developing longer-term goals for mutual and industry support, defining organizational roles, and resolving issues that are not covered by this Memorandum of Agreement. Issues or activities that appear to duplicate or conflict, or that may have an adverse affect on an organization's mission, are to be brought to the attention of the senior manager contacts for appropriate resolution.

2. Overall Liaisons

Overall liaisons will be designated for each organization to function as the interface on routine matters and to coordinate the interface activities of the technical liaisons. More than one individual at each organization may fulfill this role. For example, INPO may designate one individual as an overall liaison for NEI and another individual for EPRI, communicating sufficiently to maintain an overall awareness of items of interest to all three organizations. The overall liaisons are responsible for maintaining a current listing of

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ADDENDUM 1  
CONTACTS FOR COORDINATING  
ACTIVITIES AND INFORMATION EXCHANGE

and facilitating coordination and communications among technical liaisons described below. The listing will be distributed periodically by the EPRI overall liaison.

3. **Technical Liaisons**

Each organization will designate individuals to be technical liaisons for specific areas of mutual interest. In general, these liaisons are the working level people who are most familiar with the details of the specific areas. The areas of mutual interest and the designated liaisons will be identified on an EPRI/INPO/NEI liaison list.

The functions of the technical liaisons include the following:

- Communicate and exchange information on status/progress of work in areas of mutual interest.
- Discuss plans for new projects, programs, or initiatives of mutual interest early in the development phase.
- Identify/acquire information from other organizations that would be useful to support programs and product development for their organizations.
- Provide comments on the products and projects being worked on by the other organizations, as appropriate.
- Coordinate, as much as practical, in areas of electronic communications.

For some projects or initiatives, a team approach among the organizations may be appropriate to develop integrated and comprehensive action or strategic plans to improve coordinated support of our member utilities.

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ADDENDUM 2

**AVAILABILITY AND USE OF PRODUCTS**

**AND DOCUMENTS**

Revision 1  
ADDENDUM 2

### AVAILABILITY AND USE OF PRODUCTS AND DOCUMENTS

#### Background:

To complement each organization's work, to better integrate our activities in support of member utilities, and to avoid duplication or conflicts, a clear understanding of the mission and work of the three organizations and early input into the development of products are essential. In addition to complementing efforts in the developmental process, each organization is encouraged to promote the use of the others' products in their communications and other dealings with utility members, within the provisions and restrictions of this addendum.

#### Agreement:

The following paragraphs outline the products available to each organization and the interfaces to be followed in document development and use.

#### 1. Availability of Products and Documents

The Electric Power Research Institute (EPRI) will make, as a minimum, the following EPRI documents available to NEI and INPO for internal use:

- Annual Report
- Nuclear Power Group (NPG) Annual Program Review Documentation
- Annual Research, Development, and Delivery Plan
- NPG reports
- NPG guidelines
- NPG Target Authorization Documents (TADs)
- NPG First Use Documentation
- *EPRI Journal*
- Document Catalog
- NPG nonlicensable material
- Other EPRI documents as requested by INPO or NEI and approved by EPRI's senior manager contact
- Workshop and Significant Meeting Announcements and Proceedings (if produced)
- EPRI Web Site

The Institute of Nuclear Power Operations (INPO) will make, as a minimum, the following INPO or National Academy for Nuclear Training documents available to NEI and EPRI for internal use:

- Institutional Plan
- Long-Term Plan
- Annual Report
- *Review*
- *The Nuclear Professional*

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ADDENDUM 2  
AVAILABILITY AND USE OF PRODUCTS  
AND DOCUMENTS

- Semiannual U.S. Performance Indicator Report
- Good Practices
- Guidelines
- SEE-IN Documents (minus non-U.S. WANO information, as required)
- NUCLEAR NETWORK®
- Equipment Performance Information Exchange, when available
- Performance Objectives and Criteria for Plant and Corporate Evaluations
- Objectives and Criteria for Accreditation of Training in the Nuclear Power Industry
- Document and Videotape Catalog
- Services Guide
- Other INPO documents, as requested by NEI or EPRI and approved by INPO's senior manager contact
- Workshop and Significant Meeting Announcements and Proceedings (if produced)
- INPO Web Site

The Nuclear Electric Institute (NEI) will make, as a minimum, the following NEI documents available to EPRI and INPO for internal use:

- Institutional Plan
- Annual Report
- Technical Reports and Guidelines
- Insight Newsletter
- *Nuclear Energy Overview*
- Nuclear Generation Active Issue Summaries
- Other NEI documents as requested by EPRI or INPO and approved by NEI's senior manager contact
- Workshops and Significant Meeting Announcements and Proceedings (if produced)
- NEI Members Web Site

These products and documents are available free of charge to each organization.

New EPRI reports and publications are listed in the notification of publication section provided in the *EPRI Journal*. Also, NEI and INPO have access to the EPRI web, which provides a list and brief description of EPRI products. INPO documents are listed in the Document and Videotape Catalog, and newly issued documents are described in the *Review* newsletter.

To obtain EPRI licensable material, a confidentiality agreement is to be executed. The confidentiality agreement specifies the conditions that must be followed regarding the use of licensable or proprietary material.

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ADDENDUM 2  
AVAILABILITY AND USE OF PRODUCTS  
AND DOCUMENTS

2. Coordination and Communication on Projects or Products Being Developed

Early input to planned projects, initiatives, and documents normally will be obtained from the other two organizations to better serve our member utilities and to avoid duplication or conflicting efforts. If the product clearly falls within an area for which technical liaisons are identified, the coordination and communications normally should take place directly between these liaisons, otherwise the coordination will be between the overall liaisons or possibly the senior manager contacts. The liaisons will be responsible for keeping their respective management informed, as appropriate.

Ways in which the need for early input or coordination should be identified are as follows:

- The contacts and liaisons are expected to periodically communicate with each other to include planning for and participating in meetings or on committees. With knowledge of the others' mission, contacts and liaisons normally will be able to recognize activities that can be coordinated to best benefit the industry, while avoiding duplication or conflict.
- EPRI will provide copies of its Target Authorization Documents, used to record planned EPRI research and development activities for the upcoming years, to NEI and INPO for review. NEI and INPO will review these documents to identify opportunities for mutual support and potential areas of duplication or conflict. EPRI will also provide shortened descriptions that would be useful for an executive-level review.

Similarly, NEI and INPO will provide lists of new products or initiatives being planned for the upcoming year that can be reviewed by the other organizations to identify opportunities for mutual support and potential areas of duplication or conflict.

- If an organization is planning a project that tends to fall under one of the other organization's traditional areas of cognizance, the organization planning the project will inform the appropriate organization prior to commitment to the project or extensive project development.
- Where appropriate, each organization contributes to the development of the other organizations' products. For example, INPO may request that EPRI review and comment on a SEE-IN document that is being developed or provide support in the analysis of a plant event if EPRI has expertise in the area of interest. Similarly, INPO personnel may provide input into an EPRI research project. INPO personnel involvement in EPRI work will not normally be referenced or "INPO" listed as a contributor unless agreed to by the overall liaison coordinator for INPO.

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ADDENDUM 2  
AVAILABILITY AND USE OF PRODUCTS  
AND DOCUMENTS

3. Use of Products or Documents

Each organization is expected to promote the use of documents and reports developed by the other two organizations. For example, INPO and NEI are expected to inform their member utilities of EPRI products that support their programs and activities and are expected to encourage utility use of such products.

Limitations on the use of products are as follows:

- Products will be controlled and used in accordance with printed restrictions on the products.
- Confidential, Restricted, or Limited Distribution documents will normally be limited to personnel within each organization unless otherwise specified by appropriate agreement of the senior manager contacts.
- Because INPO Limited Distribution documents are normally not available outside INPO membership, these documents normally will not be referenced in other organizations' products unless specific permission is granted by the INPO senior manager contact.
- Distribution of products outside of an organization shall only be done by the responsible organization unless specific approval is obtained otherwise. The products will not be reproduced without specific permission. Utilities will be encouraged to contact the appropriate organization's document distribution center to obtain products.
- Normally, INPO Limited Distribution documents that are shared with EPRI and NEI are expected to remain on the premises of these organizations. However, in situations where it would be beneficial for EPRI or NEI contractors to use the documents at their places of business, the guidelines of Section 4 of this Addendum are to be followed.
- EPRI reports and products are available free of charge to EPRI members who elect to participate in the Nuclear Power Group. EPRI reports that enhance nuclear safety, or that have been accepted as industrywide standards (for example, chemistry guidelines), are available at a range of prices, depending on the document, to non-EPRI members and members not participating in the Nuclear Power Group. EPRI will keep INPO and NEI informed of such documents. Other EPRI reports (for example, cost-saving methodologies) are typically not available to utilities that have not elected Nuclear Power Group membership. EPRI will keep NEI and INPO informed of changes to the list of utilities that are EPRI Nuclear Power Group members.

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ADDENDUM 2  
AVAILABILITY AND USE OF PRODUCTS  
AND DOCUMENTS

EPRI results and products are divided in three categories as follows:

- Category 1: "Public Domain" safety results/products available to all
- Category 2: "Market Price" safety results/products available for sale to all
- Category 3: "Members Only" nonsafety results/products not available to nonmembers of EPRI Nuclear Power Group

Product categories are reviewed and updated each year based on input from INPO and NEI.

International utilities are eligible for EPRI participation in a status similar to membership. International utility requests for EPRI documents are handled on a case basis and are to be referred to EPRI's overall liaison contact.

4. Use of INPO Documents by EPRI or NEI Contractors

Normally, INPO Limited Distribution documents that are shared with EPRI and NEI are expected to remain on their premises. However, situations arise when it would be beneficial for EPRI or NEI contractors to use the documents at their places of business. In these situations, EPRI or NEI will follow the guidance below to maintain reasonable assurance that INPO Limited Distribution documents will be used solely for the benefit of INPO members and participants.

Guidance:

- Review each situation internally to ensure there is a reasonable need for the contractor to use the document off the EPRI or NEI premises.
- Ensure the contractor understands the Limited Distribution copyright statement in the document. Note that the provision in this statement, allowing the document to be reproduced, applies only to INPO members and participants. Contractors may not copy or make specific reference to the document.
- Ensure that each contractor signs the attached letter of agreement indicating that the need for control of the document is clearly understood, copies or specific reference to the document will not be made, and the document will be returned to EPRI or NEI when usefulness to support the work of the contract has ceased or the estimated date of return has been reached. This agreement recognizes that the document is copyrighted and not for commercial use.
- Provide an original document to the contractor.
- Track the INPO publications that are in the possession of contractors and ensure that the documents are returned in a timely manner.

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Revision 1

**AGREEMENT FOR USE OF INPO  
LIMITED DISTRIBUTION DOCUMENTS  
BY EPRI OR NEI CONTRACTORS**

**Background:**

The Institute of Nuclear Power Operations (INPO) is a private, not-for-profit organization whose mission is to promote the highest levels of safety and reliability—to promote excellence—in the operation of nuclear electric generating plants. The Institute's members are all U.S. electric utility organizations responsible for the operation of commercial nuclear power plants.

INPO documents are the result of in-depth analysis and interaction with utilities and are produced to assist member utilities in enhancing the operation of their facilities. To maintain an open and trusting relationship, INPO must be able to communicate with its member utilities with the assurance that the information contained in INPO documents will not be misused by external organizations. The documents are therefore considered nonpublic, proprietary information and are protected under copyright law.

Normally, INPO documents that are shared with EPRI and NEI are expected to remain on the premises of these organizations. However, INPO recognizes that in some situations it is beneficial to allow EPRI or NEI contractors to use the documents at their places of business. In these situations, this agreement will be used to maintain reasonable assurance that INPO Limited Distribution documents will be used solely for the benefit of INPO members and participants.

**Agreement:**

EPRI or NEI has determined that there is a need for the contractor to use the INPO document at the contractor's place of business. Therefore, EPRI or NEI will provide the contractor an original document for use and track its location subject to the conditions noted below.

The contractor signing below agrees to protect the information contained in the INPO document and will return the document to EPRI or NEI when usefulness to support the work of the contract has ceased or the estimated date of return has been reached. Additionally, the contractor understands the Limited Distribution copyright statement in the document and that the document is not for commercial use. Note that the provision in the copyright, allowing the document to be reproduced, applies only to INPO members and participants. The contractor agrees not to copy or make specific reference to the document.

Document Number and Title: \_\_\_\_\_  
\_\_\_\_\_

Reason Document is Needed: \_\_\_\_\_  
(project number/title)

Date of Release: \_\_\_\_\_

Estimated Date of Return: \_\_\_\_\_

Signature: \_\_\_\_\_

Contractor Company: \_\_\_\_\_

Revision 1  
ADDENDUM 3

**COORDINATION AGREEMENT**

**ON**

**SHARING EMERGENCY INFORMATION**

**AMONG EPRI, INPO, AND NEI**

**AND THEIR MEMBER UTILITIES**

Revision 1  
ADDENDUM 3

**COORDINATION AGREEMENT ON SHARING EMERGENCY INFORMATION  
AMONG EPRI, INPO, AND NEI AND THEIR MEMBER UTILITIES**

**Background:**

To provide for the efficient and timely transfer of technical and public information regarding emergencies at nuclear power stations and to maximize their assistance roles to their utility members and the industry, the Electric Power Research Institute (EPRI), the Institute of Nuclear Power Operations (INPO), and the Nuclear Energy Institute (NEI) have agreed to coordinate their actions and activities as outlined in this agreement.

The primary responsibility for release of appropriate information concerning an emergency situation to the public and the news media rests with the affected utility. The purpose of this agreement is to provide a coordinated process by which the industry organizations can effectively convey information to the rest of the industry and to the media to lessen the burden on the affected utility.

**Agreement:**

1. Among the organizations involved in this coordination agreement, NEI will provide information concerning industrywide implications of an emergency and will use existing mechanisms and media contacts to disseminate timely information on the events themselves. NEI normally will do the following:
  - Develop and issue, in coordination with the affected utility, appropriate public statements to the news media.
  - Use INFOWIRE, or other electronic means, to relay information about the emergency to INPO, its members, and other industry organizations.
  - Place statements issued to the news media on INFOWIRE or other electronic means.
  - Maintain an emergency response capability for consultation on regulatory issues, and handle inquiries from media, government, and other organizations and individuals.
2. Among the organizations, INPO will coordinate assistance requests from the utility to INPO members and participants to include the following:
  - Notify NEI and EPRI of U.S. events classified Alert or higher or non-U.S. events classified as level 3 or higher on the International Nuclear Events Scale.

Revision 1  
ADDENDUM 3

**COORDINATION AGREEMENT ON SHARING EMERGENCY INFORMATION  
AMONG EPRI, INPO, AND NEI AND THEIR MEMBER UTILITIES**

- Provide available emergency information on the NUCLEAR NETWORK<sup>®</sup>, or its replacement electronic communications system, to its members, participants, NEI, and EPRI to facilitate the flow of technical information about the emergency and to share media information provided by the affected utility on a selected basis.
  - Maintain an emergency resource capability to furnish EPRI and NEI technical information relevant to the emergency as obtained from the utility and/or available in its own databases.
  - Maintain information on utility industry assistance capabilities and coordinate the deployment of persons and material under its Nuclear Power Plant and Transportation Agreements, as requested by the affected utility.
3. EPRI will maintain an emergency response capability and will be available for consultation and for conducting in-depth analyses of the emergency as appropriate.
  4. Both EPRI and INPO will be available to assist the affected utility through its technical analysis and events analysis capabilities, respectively. EPRI and INPO will coordinate such efforts with each other.
  5. EPRI, INPO, and NEI will encourage the use of NEI's INFOWIRE, or its replacement, for general information flow to the media and the industry; and the INPO NUCLEAR NETWORK, or its replacement, for technical information flow to the industry, including selected information on media coverage as appropriate.
  6. EPRI, INPO, and NEI will develop and share written procedures governing emergency notifications.



Mr. H.J. Sefick  
Manager – Security and Emergency Planning  
Omaha Public Power District  
444 South 16<sup>th</sup> Street Mall  
Omaha, Nebraska 68102-2247

January 4, 2000

LETTER OF AGREEMENT TO PROVIDE  
EMERGENCY SUPPORT AND ASSISTANCE

Dear Mr. Sefick:

This Letter of Agreement is written to affirm Stone & Webster's support to OPPD's Fort Calhoun Station during an emergency. The procedure attached to your original letter in August is out of date organizationally. We agree with the support functions described in Attachment 1 during an emergency as written. However, on Attachment 2, we request Gary Bell's name and phone numbers be revised to John Donnell; office phone, (303) 741-7009, and home phone (303) 925-1213. As an alternate, change Ernie Erickson to Jerry Cooper; office phone, (303) 741-7139, and home phone (303) 858-1368. We request deletions of the telephone and telex numbers and provide an e-mail address for the above personnel as follows, [john.donnell@stoneweb.com](mailto:john.donnell@stoneweb.com), and [jerry.cooper@stoneweb.com](mailto:jerry.cooper@stoneweb.com). Also delete the Procedure, SWEC EAR Center, as well as Figures 1 and 2.

If you have any questions concerning this, please call either John Donnell or Jerry Cooper.

Sincerely yours,

N.C. Spence  
Manager, Denver Operations Center

Post-it® Fax Note	7671	Date	1/6/00	# of pages	1
To	Khonde Hankins	From	Lynn Schwarz		
Co/Dept		Co			
Phone #		Phone #			
Fax #	402-533-7294	Fax #			

Stone & Webster Engineers and Constructors, Inc.  
7677 East Berry Avenue  
Englewood, Colorado 80111-2137  
Phone: 303.741.7700  
Fax: 303.741.7670 or 303.741.7671  
[www.stoneweb.com](http://www.stoneweb.com)  
Address all correspondence to P.O. Box 5406, Denver, CO 80217-5406

V2258.doc/misc

TOTAL P. 01

**STONE & WEBSTER ENGINEERING CORPORATION (SWEC)**  
**EMERGENCY ASSISTANCE RESPONSE PLAN SUMMARY**  
**AND**  
**ACTIVATION INSTRUCTIONS**

**INITIAL NOTIFICATION FROM OPPD TO SWEC**

To activate the OPPD - SWEC Engineering Assistance Response Plan, the OPPD Design and Construction Manager or designee should contact on the of the following:

John Donnell:   Office:           (303) 741-7009  
                  Home:           (303) 925-1213  
                  E-Mail:          [john.donnell@stoneweb.com](mailto:john.donnell@stoneweb.com)

Jerry Cooper   Office:           (303) 741-7139  
                  Home:           (303) 858-1368  
                  E-Mail:          [jerry.cooper@stoneweb.com](mailto:jerry.cooper@stoneweb.com)



**Nebraska Public Power District**  
*Nebraska's Energy Leader*

**G. R. HORN**  
Senior Vice President, Energy Supply  
(402) 563-5518

September 13, 1999

Mr. Carl F. Simmons  
Supervisor-Emergency Planning  
Omaha Public Power District, FC-2-1  
P.O. Box 399  
Fort Calhoun, NE 68023-0399

Dear Mr. Simmons:

This letter is written to document the willingness of Cooper Nuclear Station to respond to a radiological emergency at the Ft. Calhoun Nuclear Station. Cooper Nuclear Station maintains an inventory of radiological instrumentation, supplies, and manpower as required by NRC regulations for nuclear power plant operation and emergency preparedness. Trained field monitoring teams equipped with radiation detection instrumentation, air samplers and other survey equipment can be made available for radiological monitoring. These teams and equipment meet NRC emergency preparedness criteria and may be requested during an emergency to supplement your emergency efforts.

In the event your radiochemistry laboratory should become inoperable during an emergency, the Cooper Nuclear Station's radiochemistry laboratory is equipped to do gross and isotopic determinations on radionuclides in concentrations and counting geometries necessary for nuclear power plant operation and emergency monitoring. This laboratory meets NRC criteria and affords the flexibility and adaptability desirable during emergency situations.

Cooper Nuclear Station fully intends to support Ft. Calhoun Nuclear Station during a radiological emergency with manpower and equipment available at the time of the emergency.

Sincerely,

G. R. Horn  
Senior Vice President, Energy Supply

GRH:th

cc: R. L. Zipfel

GENERAL OFFICE  
1414 15th Street / P.O. Box 499 / Columbus, NE 68602-0499  
Telephone: (402) 564-8561 / Fax: (402) 563-5551  
<http://www.nppd.com>

**STATEMENT OF AGREEMENT  
BETWEEN  
OMAHA PUBLIC POWER DISTRICT  
and  
METROPOLITAN UTILITIES DISTRICT**

Upon notification by Omaha Public Power District of a release of radioactive liquids into the Missouri River, the Metropolitan Utilities District will determine and provide water analyses and will take such reasonable steps as it determines necessary to protect the public water supply at the expense of the Omaha Public Power District.

Dated: November 18, 1994

  
\_\_\_\_\_  
G. A. Radek, Assistant General  
Manager - Operations  
METROPOLITAN UTILITIES DISTRICT

Fort Calhoun Station  
Unit No. 1

**Distribution Authorized**  
This procedure does not contain any proprietary information, or such information has been censored. This issue may be released to the public document room. Proprietary information includes personnel names, company phone numbers, and any information which could impede emergency response.

**RERP-APPENDIX C**

**RADIOLOGICAL EMERGENCY RESPONSE PLAN**

**Title: NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST**

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**FC-68 Number: 50572**

**Reason for Change: Update in conjunction with Department Review of the RERP.**

**Contact Person: M. Reller**

**Documentable Error (a): Pages 2 and 21 (issue all pages) (11-07-00)**

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>A. Assignment of Responsibility</b>			
A.1.a	Identify the State, Local, Federal and private sector organizations (including utilities) intended to be a part of the ERO.	A 1.1-1.8	N/A
A.1.b	Each organization shall specify its concept of operations and its relationship to the total effort.	A 2.0, C 1.0, 2.0, 3.0 Appendix A	EOF-1, OSC-2/21, TSC-1
A.1.c	Block diagram of organizational interrelationships.	FIG. A-1	N/A
A.1.d	Identify a specific individual (by title) who shall be in charge of the emergency response.	A 2.0	OSC-2
A.1.e	Provide for 24-hr per day response, including communications links.	A 1.0	OSC-2/15/RR-11/13/ 17/17A/19A/21/21A/22/22 A/23/25/28/29/63/66/72/87
A.2.a	State/Local applicability	N/A	N/A
A.2.b	State/Local applicability	N/A	N/A
A.3	Letters of Agreement	Appen. A	EPT-22
A.4	Capability of continuous 24-hour operations. Identify, by title, the individual in the principal organization responsible for continuity of resources.	A 1.0, 2.0	OSC-2/15/RR-11/13/ 17/17A/19A/21/21A/22/22 A/23/25/28/29/63/66/72/87

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>B. Onsite Emergency Organization</b>			
B.1	Specify the onsite emergency organization of plant staff personnel for all shifts and its relation to the responsibilities and duties of the normal staff complement.	B 2.1	OSC-2
B.2	Designate an individual as emergency coordinator who is on shift at all times.	B 7.1, 7.2	OSC-2
B.3	Identify a line of succession for the emergency coordinator position and identify the specific conditions for higher level utility officials assuming this function.	B 7.0	EOF-1/7 OSC-1/2 TSC-1
B.4	Specification of responsibilities, and designation of which may not be delegated.	B 6.2	EOF-7/11/19/21 OSC-1/2
B.5	Positions or titles and major tasks to be performed by the persons assigned to the functional areas of emergency activity.	B 8/9/10/ 11/12	EOF-1/3/6/7/11/19 OSC-1/2/9/15/21 RR-11/13/17/17A/19A/21/ 21A/22/22A/23/25/29/87 TSC-1/8
B.6	Interfaces between and among the onsite, offsite, corporate, state and local government response organizations.	B-13	N/A
B.7	Each licensee shall specify the corporate, management, admin., and technical personnel who will augment plant staff in Table B-1 and in the following areas:	Table B-1 B 4.0	OSC-2
B.7.a	Logistics support, e.g., trans, comm, quarters, food, water, special equipment and supplies purchase;	B 9.0, 11.0	RR-17A/29
B.7.b	Technical support for planning reentry and recovery operations;	B 6.0 M 6.0	EOF-19

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
B.7.c	Management level interface with government authorities; and	B 1.3	OSC-2
B.7.d	Release of information to news media during an emergency (coordinated with governmental authorities).	B 12,13	OSC-2
B.8	Specification of contractor and private organizations to provide assistance.	A 1.0, B-13, B-15, Fig. B-3, Appen A	RR-17A, RR-29 EPT-22
B.9	Expected services from local agencies e.g., police, fire, ambulance, medical, hospital.	A 1.0 Appen A B 15, Fig B-3 RERP Sec L	EPT-22

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>C. Emergency Response Support and Resources</b>			
C.1	Incorporation of Federal response into the operational plan:		
C.1.a	Specific persons to request Federal assistance (See A.1.d and A.2.a)	C1.1, B 6.3.1	OSC-2, Att 6.7E
C.1.b	Specific Federal resources expected and expected times of arrival, and	C 1.2-1.3	N/A
C.1.c	Specific licensee, state, local resources to support Federal response, air fields, command posts, tel lines, radio frequencies, and telecommunications centers.	C 2.0	N/A
C.2.a	State/Local Applicability	N/A	N/A
C.2.b	Licensee representative to offsite EOC's	C 3.0	RR-22 Att 6.2
C.3	Radiological laboratories, general capabilities and expected availability to provide radiological monitoring and analyses services which can be used in an emergency.	C 2.2 4.0	N/A
C.4	Identify Nuclear and other facilities, organizations or individuals which can be relied upon in an emergency to provide assistance. Such assistance shall be identified and supported by appropriate letters of agreement.	C 4.0, Appen A	RR-29 Att 6.1, EPT-22

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>D. Emergency Classification System</b>			
D.1	Establish an Emergency Action Level Scheme and Emergency Classification scheme.	D 2.0	OSC-1
D.2	Initiating conditions shall include NUREG-0654, Appendix 1 conditions and all FSAR postulated accidents.	D 1.0	OSC-1
D.3	State/Local applicability	N/A	N/A
D.4	State/Local applicability	N/A	N/A

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>E. Notification Methods and Procedures</b>			
E.1	Notification procedures consistent with EALs including a means for verification of messages.	E 2.0	OSC-1/2
E.2	Procedures for alerting, notifying and mobilizing emergency response personnel.	E 2.0	OSC-2
E.3	Licensee and state/local establish content of the initial messages, and shall contain: class, release, potentially affected population, and if PARs are needed.	E 3.1	OSC-2
E.4	Provisions for follow-up messages, and shall contain the following:	E 3.2	OSC-2/15, EOF-6
E.4.a	Location of incident, and name and telephone number (or communications channel identification) of caller;	E 3.2	OSC-2/15, EOF-6
E.4.b	Date/time of incident;	E 3.2	OSC-2/15, EOF-6
E.4.c	Class of emergency;	E 3.2	OSC-2/15, EOF-6
E.4.d	Type of actual/projected release, and estimated duration/impact times;	E 3.2	OSC-2/15, EOF-6
E.4.e	Estimate of radioactive material released or being released and the points and height of releases.	E 3.0	OSC-2/15, EOF-6
E.4.f	Chemical and physical form of material, estimates of quantities/concentration of noble gases, iodines, and particulates;	E 3.0	OSC-2/15, EOF-6
E.4.g	Met conditions at appropriate levels: wind speed, direction (to and from) stability, precip, if any;	E 3.0	OSC-2/15, EOF-6

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
E.4.h	Type of actual projected does rates at site boundary, projected integrated dose at site boundary;	E 3.0	OSC-2/15, EOF-6
E.4.i	Projected dose rates and integrated dose at 2, 5, and 10 miles, include the sector(s) affected;	E 3.0	OSC-2/15, EOF-6
E.4.j	Estimate of any surface contamination inplant, onsite, offsite;	E 3.0	OSC-2/15, EOF-6
E.4.k	Licensee emergency response actions underway;	E 3.0	OSC-2/15, EOF-6
E.4.l	Recommended emergency actions, including protective measures;	E 3.2	OSC-2/15, EOF-6, EOF-7
E.4.m	Request for any needed onsite support by offsite organizations, and;	E 3.0	OSC-2/15, EOF-6, EOF-7
E.4.n	Prognosis for worsening/termination based on plant information.	E 3.2	OSC-2/15, EOF-6, EOF-7
E.5	State/Local applicability	N/A	N/A
E.6	Notification/prompt instructions to the public. (ANS)	E 4.0	EOF-24, RR-29, EPT-1/2/3
E.7	Written messages for the public, consistent with the EALs, to include ad hoc PARs.	E 5.0	OSC-2 EOF-7

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>F. Emergency Communications</b>			
F.1.a	Provision for 24 hour notification to and activation of the State/local ER network, with telephone link and backup, and 24-hour manning of communication links that initiate emergency response actions;	E 2.0 F 2.0 F 10	OSC-2/15
F.1.b	Communications with contiguous states/locals;	F 2.0, 2.4, Fig F-1, F-2	OSC-2/15
F.1.c	Communications with Federal EROs;	F 2.10-2.11	OSC-2, OSC-15, RR-24, TSC-1
F.1.d	Communication between the plant, EOF, state and local EOCs, and rad monitor teams;	F 2.4, 2.5, 2.9	OSC-15, EOF-23, RR-72/95
F.1.e	Provision for alerting or activating emergency personnel in each response organization, and	E 2.0	OSC-2/15, RR-17A/29
F.1.f	Communication (by licensee) with NRC HQ and Regional Office EOC and the EOF and Rad Mon Team Assembly area.	F	OSC-15
F.2	Each organization shall ensure that a coordinated comm link for fixed and mobile medical support facilities exists.	F 3.0	FCSG-15
F.3	Each organization shall conduct periodic testing of the entire emergency communications system. (See also H.10, N.2.a and Appendix 3).	N 2.1	EPT-5/6/7/8/9

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>G. Public Education and Information</b>			
G.1	Each organization shall provide a coordinated periodic (at least annually) dissemination of information to the public re: how they will be notified, and what their actions should be.	G 1.0	Corporate Crisis Communication Plan EPT-23
G.2	The public information program shall provide permanent and transient adult population within the EPZ an adequate opportunity to become aware of the information annually. This section also makes reference to: Signs, decals, posted notices, for hotel, motels, gas stations, and phone booths).	G 1.0	Corporate Crisis Communication Plan EPT-23
G.3.a	Media contact point during an emergency (i.e., MRC, etc).	G 2.0	Corporate Crisis Communication Plan
G.3.b	Space for limited number of news media at the EOF.	G 2.0	Corporate Crisis Communication Plan
G.4.a	Each organization shall have a spokesperson.	G 3.0	Corporate Crisis Communication Plan
G.4.b	Each organization shall establish arrangements for timely exchange of information among designated spokes persons.	G 3.0	Corporate Crisis Communication Plan
G.4.c	Each organization shall establish coordinated arrangements for dealing with rumors.	G 2.1	Corporate Crisis Communication Plan
G.5	Each organization shall conduct coordinated programs at least annually to acquaint news media with the emergency plans, information concerning radiation, and points of contact for release of public information in an emergency.	G 4.0	EPT-29

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>H. Emergency Facilities and Equipment</b>			
H.1	Each licensee shall establish a TSC and an OSC.	H 1.0, 3.0	OSC-21, TSC-1
H.2	Establish an EOF.	H 2.0	EOF-1
H.3	State/Local applicability	N/A	N/A
H.4	Timely activation of the facilities and centers described in the Plan.	H 1.3, 2.3, 3.3, 4.3	EOF-1, OSC-21, TSC-1
H.5	Each licensee shall identify and establish onsite monitoring systems that are to be used to initiate emergency measures, in accordance with Appendix 1, as well as those used to conduct assessment. The equipment shall include:		
H.5.a	Geophysical phenomena monitors, (e.g., met, hydrological, seismic);	12.0, 12.1.2, 12.1.3, 12.2.3, 12.3.2(c)	OSC-1
H.5.b	Rad monitors, (e.g., process, area, emergency, effluent, wound and portable monitors and sampling equipment);	H.1.2 (f) 12.2.1 12.2.2	EOF-3, 6, 11 RR-22/72, TSC-1
H.5.c	Process monitors (e.g., reactor coolant system pressure and temp, containment pressure and temp, liquid levels, flow rates, status or lineup of equipment components); and	12.2	OSC-1, TSC-8
H.5.d	Fire and combustion products detectors.	12.1.1	OSC-1, SO-G-28

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
H.6	Each licensee shall make provision to acquire data from or for emergency access to offsite monitoring and analysis equipment, including:		
H.6.a	Geophysical phenomena monitors (e.g., met, hydrologic, seismic):	I 2.1.2 2.1.3 2.2.3	OSC-1
H.6.b	Radiological monitors including ratemeters and sampling devices. Dosimetry shall be provided and shall meet, as a minimum, the NRC Rad Assessment Branch Tech Position for the Environmental Rad Monitoring program; and	H 2.2 5.2 5.3 5.6	EOF-3, 11 RR-28
H.6.c	Laboratory facilities, fixed or mobile.	C 4.0	RR-22A/87
H.7	Each organization, where appropriate, shall provide for offsite rad monitoring equipment in the vicinity of the plant.	I 2.3.3 J 2.5	EOF-3
H.8	Each licensee shall provide met instrumentation and procedures which satisfy the criteria in Appendix 2, and provisions to obtain representative current met data from other sources.	I 2.2.3	EOF-6, RR-25
H.9	Each licensee shall provide for an onsite OSC which shall have adequate capacity and supplies, including, for example, respiratory protection, protective clothing, portable lighting, portable radiation monitoring equipment, cameras and communications equipment for personnel present in the OSC.	H 3.0	EOF-11 RR-21/87 OSC-21

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
H.10	Inspect/inventory/operationally check equipment at least quarterly and after each use. There shall be sufficient reserves of instruments/equipment to replace those which are removed from emergency kits for calibration or repair.	H 5.0	EPT-24, 25, 26 RP Surv. Tests
H.11	Identify emergency kits, by general category (i.e., protective equipment, comm equipment, rad monitoring equipment).	H 5.0	N/A
H.12	Each organization will establish a central point for receipt and analysis of all field monitoring data and coordination of sample media.	H 2.1	EOF-3

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>I. Accident Assessment</b>			
I.1	Identify plant system and effluent parameter values characteristic of a spectrum of off-normal conditions and accidents, and shall identify the plant parameter values or other information which correspond to the example initiating conditions of Appendix 1.	Sec D I 1.0 2.0	OSC-1
I.2	Onsite capability and resources to provide initial values and continuing assessment throughout the course of an accident shall include post accident sampling capability, radiation and effluent monitors, in-plant iodine instrumentation and containment radiation monitoring.	I 1.0 2.0	EOF-6 OSC-1
I.3	Each licensee shall establish methods and techniques to be used for determining:		
I.3.a	The source term of releases of radioactive material within plant systems.	D 1.0 Table D-1	EOF-6 OSC-2
I.3.b	The magnitude of the release of radioactive materials based on plant system parameters and effluent monitors.	D 2.0	OSC-1 EOF-6
I.4	Each licensee shall establish the relationship between effluent monitor readings and onsite and offsite exposures and contamination for various met conditions.	D 2.0	OSC-1 EOF-6
I.5	Each licensee shall have the capability of acquiring and evaluating met information sufficient to meet the criteria of Appendix 2.	I 2.2.3	EOF-6

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
1.6	Each licensee shall establish the methodology for determining the release rate/projected doses of the instrumentation used are offscale or inoperable.	13.1	EOF-6
1.7	Field monitoring plans.	12.3	EOF-3, RR-22, 72, 87
1.8	Provide methods, equipment and expertise to make rapid assessment of the actual or potential magnitude of any rad hazard through liquid or gaseous release pathways.	13.0	EOF-6
1.9	Each organization shall have a capability to detect and measure radioiodine concentrations in air in the plume exposure EPZ as low as $10^{-7}$ $\mu\text{Ci/cc}$ under field conditions.	13.0	EOF-3
1.10	Each organization shall establish means for relating the various measured parameters (e.g. contamination levels, water and air activity levels) to dose rates for key isotopes and gross radioactivity measurements.	13.0	EOF-6
1.11	Arrangements to locate and track the plume.	12.3	EOF-3 RR-22/72/87

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>J. Protective Response</b>			
J.1	Each licensee shall establish the means and time required to warn or advise individuals within the owner-controlled area, including:	J 1.3.2 J 1.1	
J.1.a	Employees not having emergency assignments;	J 1.1 J 1.3.2	OSC-2
J.1.b	Visitors;	J 1.1 J 1.3.2	OSC-2 Security Procedures RR-17
J 1.c	Contractor and construction personnel, and	J 1.1 J 1.3.2	OSC-2 RR-17
J 1.d	Other persons who may be in the public access areas or passing through the site or within the owner-controlled area.	J 1.1 J 1.3.2	OSC-2 Security Procedures RR-17
J.2	Make provisions for evacuation routes and transportation for onsite individuals to some suitable offsite location, including alternatives for inclement weather, high traffic density and specific rad conditions.	J 1.2 Table J-9	OSC-2
J.3	Each licensee shall provide for radiological monitoring of people evacuated from the site.	J 1.2	RR-87
J.4	Each licensee shall provide for the evacuation of onsite non-essential personnel in the event of a Site Area or General Emergency and shall provide a decon capability at or near the monitoring point specified in J.3, above.	J 1.2	EOF-10, OSC-2 RR-87

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
J.5	Each licensee shall provide for a capability to account for all individuals onsite at the time of the emergency and ascertain the names or missing individuals within 30 minutes of the start of the emergency and account for all onsite individuals continuously thereafter.	J 1.3.2	OSC-2, RR-17 Security Procedures
J.6	Each licensee shall, for people remaining onsite, make provisions for:		
J.6.a	Individual respiratory protection;	J 1.4.4	EOF-11 RP Manual
J.6.b	Use of protective clothing;	J 1.4.3	EOF-11 RP Manual
J.6.c	Use of KI.	J 1.4.5	EOF-21, RR-87
J.7	Each licensee shall establish a mechanism for recommending PAs to State and locals.	J 2.1.1	EOF-7
J.8	Each licensee's plan shall contain an ETE. These shall be in accordance with Appendix 4.	J 2.3	N/A
J.9	State/local applicability	N/A Table J-9 J-10	N/A
J.10	The organization's plans to implement protective measures for the EPZ shall include:		
J.10.a	Maps showing evacuation routes, evacuation areas, preselected radiological sampling and monitoring points, relocation centers in host areas, and shelter areas;	J 2.3.2 Fig J-1 J-2	OSC-2 ANS Map 10-Mile EPZ Map

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
J.10.b	Maps showing pop distribution around the Nuclear facility. This shall also be by evacuation areas;	J 2.3.3 Fig J-4 J-7 J-8	N/A
J.10.c	Means for notifying all segments of the transient and resident population;	J 2.2	EOF-24
J.10.d	State/local applicability	N/A	N/A
J.10.e	State/local applicability	N/A	N/A
J.10.f	State/local applicability	N/A	N/A
J.10.g	State/local applicability	N/A	N/A
J.10.h	State/local applicability	N/A	N/A
J.10.i	State/local applicability	N/A	N/A
J.10.j	State/local applicability	N/A	N/A
J.10.k	State/local applicability	N/A	N/A
J.10.l	State/local applicability	N/A	N/A
J.10.m	The basis for the choice of recommended protective actions from the EPZ during emergency conditions.	J 2.1 Table J-2 J-3 J-4	EOF-7
J.11	State applicability	N/A	N/A
J.12	State/local applicability	N/A	N/A

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>K. Radiological Exposure Control</b>			
K.1	Each licensee shall establish onsite exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity PAGs for:		
K.1.a	Removal of injured persons;	K 1.1	RP Manual
K.1.b	Undertaking corrective actions;	K 1.1	RP Manual
K.1.c	Performing assessment actions;	K 1.1	RP Manual
K.1.d	Providing first aid;	K 1.1	FCSG-15 RP Manual
K.1.e	Performing personnel decon;	K 1.1	RP Manual
K.1.f	Providing ambulance service; and	K 1.1	FCSG-15 RP Manual
K 1.g	Providing medical treatment services.	K 1.1	FCSG-15 RP Manual
K.2	Each licensee shall provide an onsite rad protection program to be implemented during emergencies, including methods to implement exposure guidelines.	K 1.1	EOF-11 RP Manual
K.3.a	24 hour capability to determine the doses received by emergency personnel involved in any nuclear accident, including volunteers.	K 1.2	RP Manual RR-28
K.3.b	Each organization shall ensure that dosimeters are read at appropriate frequencies.	J 1.4.2 K 1.2	RP Manual
K.4	State/local applicability	N/A	N/A
K.5.a	Action levels for determining the need for decon.	K 2.1	RP Manual
K.5.b	Decon of personnel wounds, supplies, instruments and equipment and for waste disposal.	K 2.0, 3.0	RP Manual

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
K.6	Each licensee shall provide onsite contamination control measure including:		
K.6.a	Area access control;	K 2.0	RP Manual
K.6.b	Drinking water and food supplies;	K 2.2	Chemistry Manual
K.6.c	Criteria for permitting return of areas and items to normal use (see ANSI 12.13).	K 2.4	RP Manual
K.7	Each licensee shall provide the capability for decon of relocated onsite personnel, including provisions for extra clothing and decontaminants suitable for the type of contamination given to radioiodine contamination of the skin.	K 2.1 L 3.2	EOF-10

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>L. Medical and Public Health Support</b>			
L.1	Each organization shall arrange for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake, including assurances that persons providing these services are adequately prepared to handle contaminated persons.	L 3.0	FCSG-15
L.2	Each licensee shall provide for onsite first aid capability.	L 1.0	FCSG-15
L.3	State applicability	N/A	N/A
L.4	Each organization shall arrange for transportation of rad victims to medical support facilities.	L 2.0	FCSG-15

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>M. Recovery and Reentry Planning and post Accident Operations</b>			
M.1	Each organization shall develop plans and procedures for reentry and recovery and describe the means by which decisions to relax protective measures are reached.	M 1.3 2.0	EPIP-EOF-19 EPIP-OSC-2
M.2	Each licensee plan shall contain the position/title, authority and responsibilities of individuals who will fill key positions in the recovery organization.	M 1.2	EPIP-EOF-19
M.3	Each licensee and state plan shall specify the means for informing members of the response organizations that a recovery operation is to be initiated, and of any changes in the organizational structure that may occur.	M 1.2	EPIP-EOF-19 EPIP-OSC-2
M.4	Each plan shall establish a method for periodically estimating total population exposure.	I 3.0	EPIP-EOF-6 EPF-6

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>N. Exercises and Drills</b>			
N.1.a	Exercises shall be conducted as set forth in NRC and FEMA rules.	N	EPT-20
N.1.b	An exercise shall include mobilization of State and local personnel and resources...shall provide for a critique by federal and state observers/evaluators...scenario varied from year to year....6:00 PM and Midnite/Midnite and 6:00 AM exercises....under various weather conditions....some unannounced.	N 1.0	EPT-20
N.2.a	Communications drills:		
	Comm with State and Locals (monthly)	N 2.1.a	EPT-5/6
	Comm with Federal EROs and states within the IPZ (quarterly)	N 2.1.c	EPT-7
	Comm between the plant, state and local EOCs, and field assessment teams (annually)	N 2.1.d	EPT - 8
N.2.b	Fire Drills	N 2.2	EPT-35, FCSG-10
N.2.c	Medical Emergency Drills	N 2.3	EPT-35, FCSG-15
N.2.d	Rad Monitoring Drills	N 2.4	EPT-12/13
N.2.e	HP Drills		
	Shall be conducted semi-annually which involve response to and analysis of simulated elevated airborne and liquid samples and direct rad measurements. The state drills need not be at each site.	N 2.4	EPT-12
	Analysis of inplant liquid samples with actual elevated rad levels including use of the PASS shall be included in HP drills by licensees annually.	N 2.4	EPT-13

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
N.3	Each organization shall describe how exercises and drills are to be carried out to allow free play for decision making and to meet the following objectives. ....The scenarios shall include, but not be limited to, the following:		
N.3.a	Basic objectives and appropriate evaluation criteria;	N 1.0, 3.0	EPT-20
N.3.b	Dates, time periods, places, and participating organizations;	N 1.0, 3.0	EPT-20
N.3.c	The simulated events;	N 1.0, 3.0	EPT-20
N.3.d	Time schedule of real and simulated initiating events;	N 1.0, 3.0	EPT-20
N.3.e	A narrative summary;	N 1.0, 3.0	EPT-20
N.3.f	A description of arrangements and advance materials for official observers.	N 1.0, 4.0	EPT-20
N.4	An exercise critique.	N 4.0	EPT-20
N.5	Evaluating the comments from observers and participants.	N 4.0	EPT-20

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>O. Radiological Emergency Response Training</b>			
O.1	Each organization shall assure training of appropriate individuals.	O 4.0 5.0	EPDM-10
O.1.a	Each facility shall train members of the ERO.	O 5.0	EPDM-10
O.1.b	State/local applicability	O 6.0	N/A
O.2	Training shall include drills.	N 2.0	EPT-35
O.3	Licensee training for First Aid teams to include ARC Multi-Media or equivalent.	O 1.0	EPDM-10
O.4	Each organization shall establish a training program for ERO. Training shall be in the following categories:		
O.4.a	Directors or coordinators of EROs;	O 5.0	EPDM-10
O.4.b	Accident assessment personnel;	O 5.0	EPDM-10
O.4.c	Rad Mon Teams and rad analysis personnel;	O 5.0	EPDM-10
O.4.d	Police, security and fire fighting personnel;	O 6.0	Security Manual
O.4.e	Repair and damage control/correctional action teams (onsite);	O 5.0	EPDM-10
O.4.f	First aid and rescue personnel;	O 1.0 6.0	EPDM-10 EPT-18
O.4.g	Local support services personnel, including CD/Emergency Services personnel;	O 6.0	EPDM-10 EPT-18
O.4.h	Medical Support Personnel;	L 3.2 O 6.0	EPDM-10 EPT-18
O.4.i	Licensee Headquarters support personnel;	O 4.0	EPDM-10 Crisis Communication Plan

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
O.4.j	Personnel responsible for transmission of emergency information and instructions.	O 4.0	EPDM-10 OSC-15
O.5	Initial and annual retraining.	O 5.0	EPDM-10

NUREG/RERP/IMPLEMENTING PROCEDURE CROSS REFERENCE LIST

NUREG Section	NUREG Criteria	RERP Section	Implementing Procedure(s)
<b>P. Responsibility for the Planning Effort; Development, Periodic Review and Distribution of Emergency Plans</b>			
P.1	Each organization shall provide for the training of individuals responsible for the planning effort.	P 1.0	N/A
P.2	Each organization shall identify by title the individual with overall planning authority;	P 1.0	N/A
P.3	Each organization will designate an Emergency Planning Coordinator.	P 1.0	N/A
P.4	Each organization shall update its plan and agreements as needed, review and certify it to be current on an annual basis. Changes will take into consideration items from drills and exercises.	P 2.0	EPT-16/22
P.5	Plans and plan changes shall be forwarded to all organizations and appropriate persons with EP responsibility. Revised pages dated and marked to show changes.	P 2.0	N/A
P.6	List supporting plans and source.	APPEN B	N/A
P.7	Each plan shall contain an appendix listing procedures required to implement the plan. The listing shall include the sections of the plan to be implemented by each procedure.	APPEN C	N/A
P.8	Each plan shall contain a table of contents. Plans submitted for review should be cross-referenced to these criteria.	APPEN C	N/A
P.9	Independent review of the plans.	P 3.0	N/A
P.10	Quarterly update of plan telephone numbers.	P 4.0	EPT-10

## EMERGENCY PLAN IMPLEMENTING PROCEDURE INDEX

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EPIP-OSC-2	Command and Control Position Actions/Notifications	R36 08-24-00
EPIP-OSC-9	Emergency Team Briefings	R7 12-09-99
EPIP-OSC-15	Communicator Actions	R22 10-24-00
EPIP-OSC-21	Activation of the Operations Support Center	R9 08-24-00
EPIP-TSC-1	Activation of the Technical Support Center	R21 08-24-00
EPIP-TSC-2	Catastrophic Flooding Preparations DELETED (05-09-95) <b>REINSTATED</b>	(R0 03-22-95) R2 02-06-96
EPIP-TSC-8	Core Damage Assessment	R13 01-19-00
EPIP-EOF-1	Activation of the Emergency Operations Facility	R12 08-24-00
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EPIP-EOF-7	Protective Action Guidelines	R13 10-31-00
EPIP-EOF-10	Warehouse Personnel Decontamination Station Operation	R10 01-13-00
EPIP-EOF-11	Dosimetry Records, Exposure Extensions and Habitability	R18 09-18-97b
EPIP-EOF-19	Recovery Actions	R7 09-30-98
EPIP-EOF-21	Potassium Iodide Issuance	R4 11-07-00
EPIP-EOF-23	Emergency Response Message System	R5 10-12-99
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## EMERGENCY PLAN IMPLEMENTING PROCEDURE INDEX

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EPIP-RR-17	TSC Security Coordinator Actions	R13 11-30-99
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EPIP-RR-19A	Operations Liaison Actions	R5 10-07-99
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EPIP-RR-87	Radiation Protection Coordinator Actions	R7 08-24-00
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Fort Calhoun Station  
Unit No. 1

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**EPIP-EOF-21**

**EMERGENCY PLAN IMPLEMENTING PROCEDURE**

**Title:** POTASSIUM IODIDE ISSUANCE

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**FC-68 Number:** DCR 11277

**Reason for Change:** Delete reference to "prescription." Delete requirements to send records to UNMC and add new directive for EP to maintain records. Change method for calculating CDE for Iodine. Delete Attachment 6.1.

**Requestor:** Mark Reller

**Preparer:** Mark Reller

POTASSIUM IODIDE ISSUANCE

NON-SAFETY RELATED

1. PURPOSE

- 1.1 Potassium iodide may be used as a countermeasure for exposure to airborne concentrations of radioiodine. This represents the most direct approach to preventing accumulation of radioiodine in the thyroid gland. This procedure controls the administration of potassium iodide to **personnel employed at Fort Calhoun Station only.**

2. REFERENCES/COMMITMENT DOCUMENTS

- 2.1 NCRP Report No. 55, Protection of the Thyroid Gland in the Event of Releases of Radioiodine; NCRP (1979)
- 2.2 EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents; USEPA (1992)
- 2.3 EPIP-EOF-7, Protective Action Guidelines
- 2.4 Quality Report FC1-89-069, (March 28, 1989)
- 2.5 JAMA, August 7, 1987-Vol 258, No. 5, Reactor Accidents Public Health Strategies and Their Medical Implications; David V. Becker, MD
- 2.6 Protective Measures Basis Document, CHP-00-038, September 28, 2000

3. DEFINITIONS

- 3.1 KI - Potassium Iodide
- 3.2 CDE - Committed Dose Equivalent
- 3.3 ERO - Emergency Response Organization

4. PREREQUISITES

- 4.1 High airborne I<sup>131</sup> levels exist and a calculated dose of 25 Rem or greater to the thyroid gland is likely to be received by Emergency Response personnel.

5. PROCEDURE

**NOTE:** The following steps shall be directed by the Protective Measures Manager or Protective Measures Coordinator and performed by qualified personnel.

5.1 Obtain Iodine concentration in  $\mu\text{Ci/cc}$  or projected CDE (thyroid) dose rates in affected area(s), and the exposure time in hours.

5.2 Determine thyroid dose rate using the following equation:

$$\frac{\text{Iodine } (\mu\text{Ci/CC})}{\text{Iodine } (\mu\text{Ci/CC})} \times 3.6\text{E}+08 (1 - e^{-0.0036 \times \text{hrs}}) = \frac{\text{CDE (rem)}}{\text{CDE (rem)}}$$

OR

$$\frac{\text{CDE (rem/hr)}}{\text{CDE (rem/hr)}} \text{ rem/hr} \times \text{hrs} = \frac{\text{CDE (rem)}}{\text{CDE (rem)}}$$

OR

$$\frac{\text{Eagle Projected Integrated Dose}}{\text{CDE (rem)}}$$

Where:  $3.6\text{E}+08$  = Dose Conversion Factor for Iodine<sub>131</sub> divided by the decay constant for Iodine<sub>131</sub>

$0.0036$  = decay constant for Iodine<sub>131</sub>

**NOTE:** Only the Command and Control Position has the authority to authorize issuance of Potassium Iodide (KI). This responsibility cannot be delegated.

- 5.3 If Committed Dose Equivalent to the thyroid is expected to approach or exceed 25 rem, inform the Command and Control position that conditions meet the criteria to authorize the use of KI by OPPD employees.
- 5.4 The Command and Control person shall record in their log the date and time and statement to the effect that KI is authorized to be used by OPPD employees.
- 5.5 Request the Command and Control Person or their designee to inform personnel in the ERO, using available communications equipment (e.g., Gai-Tronics, radios, etc.), that the issuance of KI has been authorized.

- 5.6 Obtain bottle(s) of KI tablets from the emergency equipment lockers or other storage areas:
  - 5.6.1 Instruct personnel authorized to take KI to read the information about Potassium Iodide on the back of FC-EPF-3 and verify that they understand the information about Potassium Iodide (KI) and accept or decline by completing and signing as required on the front of that form.
  - 5.6.2 If the individual desires, one tablet of Potassium Iodide may now be taken and they may continue to take one tablet a day for no more than ten days.
  - 5.6.3 Document the KI administration for all individuals using Form FC-EPF-3.
  - 5.6.4 Instruct individuals to maintain a daily log of the date and time they took KI using FC-EPF-3.
- 5.7 Inform Emergency Response Coordinator or the Administrative Logistics Manager that KI is being used so that adequate supplies are maintained.

**NOTE:** The Administrative Logistics Coordinator/Manager will forward all documentation from the event to the Emergency Planning Department for safekeeping.

- 5.8 Retain all documentation (logs, calculation sheets, notes, etc.) generated or used during the emergency. At the termination, deliver all documentation to the TSC Administrative Logistics Coordinator position in the TSC or the EOF Administrative Logistic Manager.
- 5.9 Emergency Planning shall retain copies of administration records.

6. ATTACHMENT

None

Fort Calhoun Station  
Unit No. 1

**EPIP-RR-72**

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**EMERGENCY PLAN IMPLEMENTING PROCEDURE**

**Title: FIELD TEAM SPECIALIST ACTIONS**

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FC-68 Number: 53197

Reason for Change: Revise Format. Change Reference to "TSC Dose Assessment Coord" to "TSC Protective Measures Coordinator". Delete Note.

Contact Person: Mark Reller

Documentable Error (a): Pages 1 and 4 (11-07-00)

FIELD TEAM SPECIALIST ACTIONS

NON-SAFETY RELATED

1. PURPOSE

- 1.1 The purpose of this procedure is to provide guidance to the EOF Field Team Specialist in performing actions in response to an emergency at Fort Calhoun Station.

2. REFERENCES/COMMITMENT DOCUMENTS

- 2.1 EPIP-EOF-3, Offsite Monitoring
- 2.2 FC-EPF-2, Offsite Monitor Log
- 2.3 FC-EPF-6, Estimated Exposure Worksheet
- 2.4 FC-EPF-7, Estimated Exposure Log
- 2.5 S.W. Gebers, CHP. ESTIMATES OF TOTAL EFFECTIVE DOSE EQUIVALENT: USING DIRECT READING DOSIMETERS. December, 1993.
- 2.6 Radiological Health and Engineering, "Dose Assessment Model: Site Population Dose", Memorandum FC-RP-028-94
- 2.7 Radiological Analysis 95-006, Halogen DCF Based on Field Air Sample

3. DEFINITIONS

None

4. PREREQUISITES

None

5. PROCEDURE

- 5.1 The EOF Field Team Specialist will use Attachment 6.1 as an aid to completing required actions.
- 5.2 Use Attachment 6.2 as guidance in directing Field Teams.
- 5.3 Review the procedure and appropriate checklists, and accomplish the applicable steps both upon initial activation and periodically, as required, thereafter.
- 5.4 Retain all documentation (logs, calculation sheets, notes, etc.) generated or used during the emergency. At the termination, deliver all documentation to the Administrative Logistics Manager in the EOF.

6. ATTACHMENTS

- 6.1 EOF Field Team Specialist Checklist
- 6.2 Plume Tracking Techniques

ATTACHMENT 6.1

**EOF FIELD TEAM SPECIALIST CHECKLIST**

**\*\* Maintain a log of all key activities \*\***

	<input checked="" type="checkbox"/>	<u>INIT/TIME</u>
1. Obtain and put on Position Identification Badge.		<u>  /  </u>
2. Contact the TSC Protective Measures Coordinator to receive briefing on status of field team activation, meteorological data, and radiological conditions.		<u>  /  </u>
3. When Field Teams initiate a radio check, direct the teams to standby for further direction.		<u>  /  </u>
4. Brief the Field Teams on plant conditions and projected/known radiological conditions.		<u>  /  </u>
5. Instruct the Field Teams to closely observe dosimeter readings and to immediately report if any dosimeters are approaching 150 mRem.		<u>  /  </u>
6. Periodically review the following steps and perform, as required:		
6.1 Keep the Field Teams updated on plant conditions and projected/known radiological conditions.	<input type="checkbox"/>	
6.2 Coordinate with the EOF Dose Assessment Coordinator to direct the Field Teams to appropriate monitoring locations.	<input type="checkbox"/>	
6.3 Record survey results and dosimeter readings from teams using FC-EPF-2.	<input type="checkbox"/>	<u>  /  </u>

ATTACHMENT 6.1  
(Continued)

✓ INIT/TIME

6.4 If any field team dosimeter readings approach or reach 150 mRem prior to performing a TEDE calculation, perform the following:

6.4.1 Instruct the teams to exit the area and report to either the EOF or plant site, as determined by the EOF Dose Assessment Coordinator.

6.4.2 Initiate an estimated TEDE determination for the team using FC-EPF-6.

A. IF an estimated TEDE cannot be calculated due to lack of data, THEN go to Step 6.4.3.

B. IF the estimated TEDE is greater than 1 Rem, THEN go to Step 6.4.3.

C. If the estimated TEDE is less than 1 Rem, team may again be dispatched upon approval from the Protective Measures Manager.

6.4.3 Initiate replacement of the team and a dosimetry/bioassay evaluation for the team through the EOF Dose Assessment Coordinator.

6.5 Use FC-EPF-6 to calculate estimated TEDE for the field teams, and inform them of the results

6.5.1 If an estimated TEDE is greater than 1 Rem:

A. Instruct the teams to exit the area and report to either the EOF or plant site, as determined by the EOF Dose Assessment Coordinator.

B. Initiate replacement of the team and dosimetry/bioassay evaluation for the team through the EOF Dose Assessment Coordinator.

6.5.2 If an estimated TEDE is less than 1 Rem, team may continue.

ATTACHMENT 6.1  
(Continued)

✓      INIT/TIME

- |   |                              |  |
|---|------------------------------|--|
| 6.6 Post OPPD field team survey results.  | <u>          /          </u> |  |
| 6.7 Submit completed FC-EPF-2 forms to the EOF Dose Assessment Coordinator for review and comparison to EAGLE data. | <u>          /          </u> |  |
| 7. Provide detailed briefing to oncoming shift relief of emergency conditions and status of field team monitoring.  | <u>          /          </u> |  |

ATTACHMENT 6.2

PLUME TRACKING TECHNIQUES

✓

INIT/TIME

**NOTE:** Gamma radiation, above normal background, with no beta component may indicate the presence of a nearby elevated or horizontally displaced plume. A significant difference between open and closed window readings probably indicates immersion in the plume as the most energetic beta particle expected (3 MeV) would travel approximately 30 feet in air.

**NOTE:** An open air ion chamber becomes internally contaminated with noble gas after immersion in the plume for a short time. This condition gives the appearance of a "Gamma only response" (no difference between open and closed window). In this case, confirm background gamma radiation levels with GM detectors or other sealed chamber survey instruments.

1. If time and roadways allow, dispatch one team to a downwind location to intercept the projected center line of the plume and have them standby with dose rate instruments on.
2. Dispatch the second team closer to the plant to continuously traverse the projected plume path with instruments on. Direct this team to notify you immediately upon locating the actual centerline. After the centerline has been located, direct the team to transverse the plume to determine the plume boundaries.

\_\_\_\_\_ / \_\_\_\_\_

\_\_\_\_\_ / \_\_\_\_\_

ATTACHMENT 6.2  
(Continued)

✓

INIT/TIME

**NOTE:** As time to compare actual and projected dose is critical, give consideration to the roadway network and direct sampling by the team which can be placed closest to the centerline in the least amount of time.

3. Use the overlay map and plot the centerline path. As needed, move the first team to intercept the actual centerline and to take surveys as close to the centerline as dose rates and roadways allow.

\_\_\_\_\_ /

4. After the centerline surveys have been taken, direct the teams to determine the plume edges and remain outside the plume. Place teams on either side of the plume and periodically monitor the plume boundaries to ensure wind shift has not occurred.

\_\_\_\_\_ /

5. Based on radiological conditions and changes in plant status, additional surveys may be taken to confirm dose assessment projections.

\_\_\_\_\_ /

6. After plume passage and release termination, determine the following:

6.1 Boundaries of ground deposition

\_\_\_\_\_

6.2 Beta and gamma dose rates from ground deposition

\_\_\_\_\_

6.3 Surface contamination levels

\_\_\_\_\_ /

**EMERGENCY PLAN FORMS INDEX  
FC-EPF**

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FC-EPF-2	Offsite Monitoring Log	R2 08-10-95
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FC-EPP-31	$\Delta T$ - Stability Class - $\chi\mu/Q$	R1 07-25-95
FC-EPP-32	Area Monitor Trending	R0 06-10-93
FC-EPP-33*	Emergency Response Facility Computer System (ERFCS)	R1 07-02-96
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FC-EPP-42	Emergency Action Levels	R0 07-16-99

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ADMINISTRATION OF POTASSIUM IODIDE TABLETS

The Command and Control Position has authorized the use of Potassium Iodide on

\_\_\_\_\_ at \_\_\_\_\_ by: \_\_\_\_\_  
date time name of Command and Control person authorizing KI

By signing below you acknowledge that you have read the information about Potassium Iodide on the back of this form and you understand the benefits and possible side effects of Potassium Iodide.

I \_\_\_\_\_  accept  decline Potassium Iodide Tablets.  
printed name

\_\_\_\_\_  
signature date time

Potassium Iodide Issued by: \_\_\_\_\_  
Name Title

**Daily Journal**

Take one tablet of Potassium Iodide (KI) at approximately the same time for ten days, record in proper section below. Record in the comments sections any side effects. Discuss any side effects with a protective measures position to determine if you should discontinue usage of KI. Upon completion insure that this form is returned to the Protective Measures Coordinator in the TSC or the Protective Measures Manager at the EOF.

Day	Date	Time	Comments/Side Effects
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 10			

NOTE: KI is most effective if administered within 1 hour of expected exposure or shortly after exposure begins but it may be taken up to four (4) hours after an exposure and still result in up to 50% reduction in thyroid dose.

NOTE: Personnel having known allergic reactions to iodine shall not be administered KI. If an individual who has taken KI show signs of side effects, have them transported to the nearest hospital.

NOTE: The taking of KI tablets is STRICTLY VOLUNTARY for each person.

ONCE TAKEN AND THE RADIOIODINE CONCENTRATION IS VERIFIED OR THE CALCULATED DOSE DETERMINED, THE TABLETS SHOULD BE CONTINUED FOR TEN (10) DAYS, ONE TABLET PER DAY. A PHYSICIAN MUST APPROVE ANY FURTHER DOSAGE.

#### INFORMATION ABOUT KI:

##### How KI Works

Certain forms of iodine help your thyroid gland function properly. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can store or hold only a certain amount of iodine.

In a radiological emergency, radioactive iodine may be released into the air. This material may be breathed or swallowed. It may be absorbed in the thyroid gland and damage it through radioactive decay. The damage would probably not show itself for many years. Children are most susceptible to thyroid damage.

If you take KI, it will saturate your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

KI acts as a thyroid blocking agent in five different ways: (1) as substrate; (2) by suppression of the release of organic iodine from the gland; (3) by inhibition of organic iodide formation; (4) by saturation of the iodine transport system which effectively abolishes entry of iodine (except by diffusion); (5) by the formation of an organic iodine compound that inhibits the further uptake of iodine.

#### WHO SHOULD NOT TAKE KI

The only people who should not take KI are people who know they are allergic to iodide. If you are allergic to seafood, it's a high probability that you are allergic to iodine. You may take KI even if you are taking medicine for a thyroid problem (for example, a thyroid hormone or antithyroid drug). Pregnant and nursing women and babies and children may also take this drug.

#### SIDE EFFECTS

Usually, side effects of KI happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.

Possible side effects include skin rashes, swelling of the salivary glands, and iodism (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes an upset stomach and diarrhea).

A few people have an allergic reaction with more serious symptoms. These could be fever, joint pains, swelling of the face and body and, at times, severe shortness of breath requiring immediate medical attention.

Taking iodide may rarely cause over activity, under activity or enlargement of the thyroid gland.

#### WHAT TO DO IF SIDE EFFECTS OCCUR

If the side effects are severe or you have an allergic reaction, stop taking the KI. Inform your supervisor or Emergency Response Facility Director if you are at work, or if you are at home, contact a physician as soon as possible.

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SECTION A  
Using Portable Instrumentation

Date:      /      /     

1. Iodine Activity

Direct a RP or Field Team Technician to determine the iodine activity in  $\mu\text{Ci/cc}$  from the vicinity of the exposed personnel.

            $\mu\text{Ci/cc}$

2. DDE Estimate in Rem using either (if reported in mrem convert to Rem):

2.1 
$$\frac{\text{Gamma Dose Rate (Rem/hr)}}{\text{Gamma Dose Rate (Rem/hr)}} \times \frac{\text{Exposure Time (hours)}}{\text{Exposure Time (hours)}}$$

OR

2.2 Dosimeter reading (Rem)

           Rem DDE

3. CDE Thyroid Calculation:

$$\left( \frac{\text{Step 1 } \mu\text{Ci}}{\text{cc}} \right) \times 136^{E8} \left( 1 - e^{-0.0036 \left( \frac{\text{hr}}{\text{exposure time}} \right)} \right)$$

           Rem CDE

4. CEDE Calculation:

$$\left( \frac{\text{Step 3 Rem}}{\text{Step 3}} \right) (0.03)$$

           Rem CEDE

5. TEDE Calculation:

$$\frac{\text{Step 2 Rem}}{\text{Step 2}} + \frac{\text{Step 4 Rem}}{\text{Step 4}}$$

           Rem TEDE

6. Record results on FC-EPF-7.

SECTION B  
Using Dosimetric Model

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

1. Stability Class \_\_\_\_\_
2. Release Rate  $(Q_{NG})$  \_\_\_\_\_ Ci/Sec
3. Release Rate  $(Q_I)$  \_\_\_\_\_ Ci/Sec
4. Windspeed  $(\mu)$  \_\_\_\_\_ mph
5. Wind Direction \_\_\_\_\_ degrees
6. Diffusion Factor (following page)  $(X\mu/Q)$  \_\_\_\_\_
7. Exposure Time \_\_\_\_\_ hours
8. DDE Calculation:

$$\frac{\text{Step 6 (2.24)}}{\text{Step 4}} \times \left[ \frac{\text{Step 2}}{\text{Step 2}} \times 320 + \frac{\text{Step 3}}{\text{Step 3}} \times 220 \right] \times \frac{\text{Step 7}}{\text{Step 7}} = \text{_____rem}$$

$$\text{_____ (2.24)} \times \left[ \text{_____} \times 320 + \text{_____} \times 220 \right] \times \text{_____} = \text{_____rem}$$

9. CEDE (Thyroid) Calculation:

$$\frac{\text{Step 6 (2.24)}}{\text{Step 4}} \frac{\text{Step 3}}{\text{Step 3}} \times 1.36^{E9} \left[ 1 - e^{-0.0036 \left( \frac{\text{Step 7}}{\text{Step 7}} \right)} \right] = \text{_____rem}$$

10. TEDE Calculation:

$$0.03 \times CDE \text{ _____} + \text{_____} DDE = \text{rem}$$

ESTIMATED EXPOSURE WORKSHEET

UPDEPLETED  $\chi_u/Q$  CALCULATIONS

Downwind Distance (meters)	Class A	Class B	Class C	Class D	Class E	Class F	Class G
	$\chi_u/Q$						
10	6.56E-02	1.11E-01	2.04E-01	4.50E-01	8.13E-01	1.50E+00	3.75E+00
20	1.83E-02	3.13E-02	5.84E-02	1.31E-01	2.38E-01	4.48E-01	1.12E+00
40	5.13E-03	8.84E-03	1.67E-02	3.80E-02	6.95E-02	1.34E-01	3.34E-01
60	2.43E-03	4.22E-03	8.01E-03	1.84E-02	3.38E-02	6.59E-02	1.65E-01
80	1.43E-03	2.49E-03	4.76E-03	1.10E-02	2.03E-02	3.99E-02	9.97E-02
100	9.51E-04	1.66E-03	3.18E-03	7.40E-03	1.37E-02	2.70E-02	6.76E-02
120	7.02E-04	1.19E-03	2.29E-03	5.35E-03	9.89E-03	1.97E-02	4.92E-02
140	5.30E-04	8.98E-04	1.73E-03	4.06E-03	7.53E-03	1.50E-02	3.76E-02
160	4.08E-04	7.04E-04	1.36E-03	3.20E-03	5.94E-03	1.19E-02	2.98E-02
180	3.20E-04	5.68E-04	1.10E-03	2.59E-03	4.82E-03	9.70E-03	2.42E-02
200	2.54E-04	4.68E-04	9.08E-04	2.15E-03	4.00E-03	8.07E-03	2.02E-02
220	2.05E-04	3.94E-04	7.64E-04	1.81E-03	3.38E-03	6.83E-03	1.71E-02
240	1.68E-04	3.36E-04	6.53E-04	1.55E-03	2.89E-03	5.87E-03	1.47E-02
260	1.39E-04	2.90E-04	5.65E-04	1.35E-03	2.51E-03	5.11E-03	1.28E-02
280	1.16E-04	2.53E-04	4.94E-04	1.18E-03	2.20E-03	4.49E-03	1.12E-02
300	9.75E-05	2.23E-04	4.36E-04	1.04E-03	1.95E-03	3.98E-03	9.95E-03
320	8.29E-05	1.99E-04	3.88E-04	9.29E-04	1.74E-03	3.55E-03	8.89E-03
340	7.11E-05	1.78E-04	3.48E-04	8.34E-04	1.56E-03	3.20E-03	8.00E-03

ESTIMATED EXPOSURE WORKSHEET

Downwind Distance (meters)	Class A	Class B	Class C	Class D	Class E	Class F	Class G
	Xu/Q						
360	6.13E-05	1.60E-04	3.14E-04	7.53E-04	1.41E-03	2.89E-03	7.24E-03
380	5.33E-05	1.45E-04	2.84E-04	6.84E-04	1.28E-03	2.63E-03	6.59E-03
400	4.66E-05	1.32E-04	2.59E-04	6.24E-04	1.17E-03	2.41E-03	6.02E-03
420	4.10E-05	1.21E-04	2.37E-04	5.72E-04	1.07E-03	2.21E-03	5.53E-03
440	3.62E-05	1.11E-04	2.18E-04	5.27E-04	9.87E-04	2.04E-03	5.10E-03
460	3.22E-05	1.02E-04	2.01E-04	4.86E-04	9.12E-04	1.89E-03	4.72E-03
480	2.87E-05	9.48E-05	1.86E-04	4.51E-04	8.46E-04	1.75E-03	4.38E-03
500	2.57E-05	8.80E-05	1.73E-04	4.19E-04	7.87E-04	1.63E-03	4.08E-03
520	2.31E-05	8.19E-05	1.61E-04	3.91E-04	7.34E-04	1.52E-03	3.81E-03
540	2.09E-05	7.64E-05	1.51E-04	3.65E-04	6.86E-04	1.43E-03	3.57E-03
560	1.89E-05	7.15E-05	1.41E-04	3.42E-04	6.43E-04	1.34E-03	3.35E-03
580	1.72E-05	6.71E-05	1.32E-04	3.22E-04	6.04E-04	1.26E-03	3.15E-03
600	1.57E-05	6.31E-05	1.25E-04	3.03E-04	5.69E-04	1.19E-03	2.97E-03
620	1.43E-05	5.94E-05	1.17E-04	2.86E-04	5.37E-04	1.12E-03	2.80E-03
640	1.31E-05	5.61E-05	1.11E-04	2.70E-04	5.08E-04	1.06E-03	2.65E-03
660	1.20E-05	5.30E-05	1.05E-04	2.55E-04	4.81E-04	1.01E-03	2.51E-03
680	1.11E-05	5.02E-05	9.93E-05	2.42E-04	4.56E-04	9.55E-04	2.39E-03
700	1.02E-05	4.76E-05	9.42E-05	2.30E-04	4.33E-04	9.08E-04	2.27E-03
720	9.47E-06	4.52E-05	8.96E-05	2.19E-04	4.12E-04	8.64E-04	2.16E-03
740	8.78E-06	4.30E-05	8.52E-05	2.08E-04	3.92E-04	8.24E-04	2.06E-03

ESTIMATED EXPOSURE WORKSHEET

Downwind Distance (meters)	Class A	Class B	Class C	Class D	Class E	Class F	Class G
	Xu/Q						
760	8.15E-06	4.10E-05	8.12E-05	1.99E-04	3.74E-04	7.86E-04	1.97E-03
780	7.59E-06	3.91E-05	7.75E-05	1.90E-04	3.57E-04	7.52E-04	1.88E-03
800	7.07E-06	3.73E-05	7.40E-05	1.81E-04	3.42E-04	7.19E-04	1.80E-03
820	6.60E-06	3.57E-05	7.08E-05	1.73E-04	3.27E-04	6.89E-04	1.72E-03
840	6.17E-06	3.41E-05	6.78E-05	1.66E-04	3.13E-04	6.60E-04	1.65E-03
860	5.78E-06	3.27E-05	6.50E-05	1.59E-04	3.01E-04	6.34E-04	1.58E-03
880	5.42E-06	3.14E-05	6.23E-05	1.53E-04	2.89E-04	6.09E-04	1.52E-03
900	5.09E-06	3.01E-05	5.98E-05	1.47E-04	2.77E-04	5.86E-04	1.46E-03
920	4.79E-06	2.89E-05	5.75E-05	1.41E-04	2.67E-04	5.64E-04	1.41E-03
940	4.51E-06	2.78E-05	5.53E-05	1.36E-04	2.57E-04	5.43E-04	1.36E-03
960	4.25E-06	2.67E-05	5.32E-05	1.31E-04	2.47E-04	5.23E-04	1.31E-03
980	4.01E-06	2.58E-05	5.13E-05	1.26E-04	2.38E-04	5.05E-04	1.26E-03

Example Distances:

Ventilation Stack To:

Security Building - 130 meters

Administration Building - 240 meters

Training Center - 320 meters

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ONSITE/OFFSITE DOSE COMPARISON DATA RECORD (USING EAGLE PROGRAM)

Date/Time	Location	Distance	Iodine Concentration ( $\mu\text{Ci/cc}$ )	Field Team Dose Rate (Rem/hr)	Thyroid (CDE)Dose Rate (Rem/hr)
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
				EAGLE	
				Actual	
NOTE: Actual Thyroid (CDE) Dose Rate (Rem/hr) = Refer to FC-EPF-6					