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BW000016

U. S. Nuclear Regulatory Commission
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Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457


Subject: Submittal of Changes to Emergency Plan Implementing Procedures

In accordance with 10 CFR 50, Appendix E, Section V, "Implementing Procedures," we are reporting to the NRC several changes made to the Braidwood Station Emergency Plan Implementing Procedures (i.e., BwZPs). These changes were implemented on February 24, 2000. This submittal is required to be submitted within 30 days. Therefore, this submittal is due by March 27, 2000. The changes to these procedures do not decrease the effectiveness of the Braidwood Emergency Plan and continue to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E.

Attachment 1, "Summary of Changes," contains a brief summary of the changes made to each of the BwZPs. Attachment 2, "Implementing Procedures," contains the revised BwZPs. Changes are indicated in the attached procedures by revision bars.

If you have any questions about this letter, please contact Mr. T. W. Simpkin at (815) 458-2801, extension 2980.

Respectfully,


Timothy J. Tulon
Vice President
Braidwood Station

TJT/SB/daj

Attachments: Attachment 1 – Summary of Changes
Attachment 2 – Implementing Procedures

cc: Regional Administrator – NRC Region III (two copies)
NRC Senior Resident Inspector – Braidwood Station

Attachment 1

Summary of Changes

1. BwZP 2000-1A1, "Assistant Station Director Checklist"

The tie line number (293) was deleted in step 1.b for activation of the pagers. In step 3.i, the Environs Director was changed to the Radiation Protection (RP) Director to clarify reporting requirements for the Health Physics Network (HPN) communicator.

2. BwZP 2000-4A3, "Appendix C – RCS Mass Determination"

In step 2, the data sheet reference was changed to correct a typographical error.

3. BwZP 2000-10, "Assembly and Accountability of Personnel"

Reference number 3 was deleted since the referenced procedure no longer exists.

4. BwZP 2000-11, "Evacuation of Personnel"

Reference number 3 was deleted since the referenced procedure no longer exists.

5. BwZP 3000-2A2, "OSC Team Briefing Form"

The reference to BwZP 5300-2 was changed to BwRP 5300-2 to reflect the correct procedure.

Attachment 2

Implementing Procedures

Attachment 2

Implementing Procedures

ASSISTANT STATION DIRECTOR CHECKLIST

This checklist is provided solely for the convenience of the Assistant Station Director. It is not necessary to follow the checklist step-by-step. Its completion is not required and its use is determined by the Assistant Station Director.

1. ACTIVATE the Emergency Offsite Facility (EOF) pagers.
 - a. Dial (630) 603-7007
 - b. After 3 beeps, enter "11111#"
 - c. Wait for a series of beeps or a recorded voice to acknowledge the page.
2. ENSURE all clocks in the TSC and OSC are synchronized to the Control Room time.
3. VERIFY the following positions are filled:
 - a. One State/NARS Communicator, assign to the Assistant Station Director.
 - b. One ENS Communicator, assign to the Technical Director.
 - c. One Command and Control Communicator for the Control Room, assign to the Shift Manager.
 - d. One Datalink Communicator for the Control Room, assign to the Shift Manager.
 - e. One Command and Control Communicator for the TSC.
 - f. One Datalink Communicator for the TSC.
 - g. One Command and Control Communicator for the OSC, assign to the OSC Director.
 - h. One Datalink Communicator for the OSC, assign to the OSC Director.
 - i. One HPN Communicator, assign to the RP Director.
 - j. One Technical Communicator, assign to the Technical Director.
 - k. Two status board recorders for the TSC.
 - l. One Status board recorder for the OSC.

4. With Command and Control transferred to the TSC, ENSURE all notifications have been made to appropriate agencies.
5. As necessary, DIRECT the activities of the ENS Communicator.
 - a. ENSURE approved information is provided to the NRC using the ENS Worksheet.
 - b. ENSURE follow-up notifications are provided to the NRC in accordance with BwZP 2000-19.
 - c. ENSURE the Emergency Response Data System (ERDS) program for the NRC has been activated by the Control Room. If it has not been started, activate in accordance with BwZP 1000-2.
6. ASSIST in preparation of the NARS form in accordance with BwZP 1000-2.
7. VERIFY that the EOF will be completing State agency updates.
8. SUPERVISE all NARS calls from the TSC.
9. ENSURE communicators perform the following:
 - a. TRANSMIT information that has been approved by the Emergency Director.
 - b. Transmittals contain both date and time.
 - c. Inquiries and their responses are documented.
10. ENSURE records of all transmittals are maintained:
 - a. NARS forms.
 - b. Plant Status forms.
 - c. ENS Worksheets.
 - d. GSEP Message Forms.
 - e. Others, as appropriate.
11. REVIEW TSC status boards to ensure current and adequate information is depicted.

12. The Assistant Station Director shall assign the following liaison responsibilities upon the NRC arrival in the TSC.
 - a. Security Director to the NRC Safeguards representative.
 - b. Technical and/or Operations Director to the NRC Reactor Safety representative.
 - c. Radiation Protection Director to the NRC Health Physics representative.
13. MAINTAIN a log of all Assistant Station Director GSEP activities.

APPENDIX C

RCS MASS DETERMINATION

1. Determine the volume of all Reactor Coolant System (RCS) additions made during the emergency and prior to the collection of RCS samples on the Post Accident Sampling System (PASS). From the Control Room tank level indications prior to and following Safety Injection, estimate the volume of each addition and record on the attached data sheet, "Post Accident RCS Mass Determination", Data Sheet 1.
2. Total the estimated volumes and record on Data Sheet 1.
3. Convert the RCS addition volume from gallons to grams by multiplying by the conversion factor on line 2 of the data sheet. Record the result in the space provided.
4. Determine the RCS temperature (TAVG) just prior to Safety Injection and mark on the bar graph, "Specific Gravity of Water vs. Temperature" Determine the specific gravity of the coolant at TAVG and record on line 3 of the data sheet.
5. Multiply the reactor coolant cold mass by the specific gravity at TAVG and record on line 3 of the data sheet. This calculation provides an estimate of the RCS Mass prior to Safety Injection.
6. Add the pre-Safety Injection Reactor Coolant mass from line 2 to the estimated mass from Safety Injection sources on line 3. Record the sum on line 4 of the data sheet.
7. Transmit the completed data sheets to the Technical Support Center or proceed to Appendix D as directed by the Technical Director.

DATA SHEET 1

POST ACCIDENT RCS MASS DETERMINATION

Date: _____ Time: _____ Performed By: _____

1.	Gallons Added	Source Of Addition	Maximum Volume
		RWST	450,000
		Boric Acid Tk	48,000
		Accumulator A	7,000
		Accumulator B	7,000
		Accumulator C	7,000
		Accumulator D	7,000
		RHR System	5,000
		Others	

TOTAL _____

2. Total _____ Gallons X 3,785 Grams/Gallon = _____ Grams

3. 2.48E8 Grams X _____ (Specific Gravity of RCS at TAVG) = _____ Grams

4. Total Post Accident Reactor Coolant System Mass = _____ Grams

(Prior to Safety Injection)
Specific Gravity of Water Vs Temperature

(Final)

ASSEMBLY AND ACCOUNTABILITY OF PERSONNEL

A. PURPOSE

The purpose of an assembly is to account for all personnel inside the security "Protected Area", and to assemble emergency personnel at prearranged locations. This procedure describes the methods used by security personnel for assembly and accountability.

B. REFERENCES

1. Generating Station Emergency Plan (GSEP).
2. Braidwood Station Emergency Plan Annex, Section 6.4.
3. BwZP 2000-11, "Evacuation of Personnel".
4. BwAP 1100-16, "Fire Hazardous Materials Spill and/or Injury Response".

C. PREREQUISITES

None.

D. PRECAUTIONS

1. Personnel in the Make-Up Demineralizer Area (MUDS) may not hear the siren. If it is suspected that individuals are in the area, then ensure steps are taken to notify them of the assembly.
2. The assembly siren should not be used for airborne conditions unless they are accompanied by a condition that would produce a direct radiation hazard.
3. An assembly and evacuation of non-essential personnel should be initiated whenever:
 - a. It is determined that projected dose could be avoided by personnel relocation; or
 - b. A Site or General Emergency is declared; or
 - c. Conditions exist that present a significant threat to the safety of onsite personnel as determined by the Emergency Director.

E. LIMITATIONS AND ACTIONS

1. Notify local law enforcement agencies prior to or as soon as practical when using the plant siren.
2. In the event that the security computer has failed, or is otherwise inoperable, manual accountability shall be performed.
3. Every effort should be made to perform all personnel accounting within 30 minutes of the initial assembly announcement.
4. The Training Department should be notified to inform personnel in the Owner Controlled Area of the situation and any actions which may be required.
5. Assembly areas are unfit for use and people shall be relocated if radiological conditions result in the assembly area being a High Radiation Area or airborne concentrations areas such that respiratory protection is required.
6. In the event of fire in an assembly area, determine an alternate location. Repeated public address announcements should be made advising onsite personnel of the alternate location.

F. PROCEDURE

1. Pre-Assembly

- a. A printer is available in the Technical Support Center (TSC) to produce the list of those individuals within the protected area. Verify the printer is functional prior to the initiation of assembly. Should the printer be unavailable, a hard copy list may be obtained from the Main Security Control Center (MSCC).
- b. Contact the Security Shift Supervisor to inform to start the assembly computer program. The Security Shift Supervisor will establish direct communications with the Security Director in the TSC, and ensure communications between the guards and himself. If the TSC is not staffed, the Security Shift Supervisor will communicate with the Emergency Director in the Control Room.
- c. As appropriate, dispatch security officers to assist personnel to the designated assembly areas.
- d. As appropriate, the Radiation Protection Director should obtain information on assembly area habitability prior to sending people into the area.

F. 2. Assembly of Station Personnel.

- a. The Security Director will contact the Shift Manager in the Control Room to inform him to start the assembly siren.
- b. Whenever the need for a full assembly of personnel within the protected area is identified, the Control Room shall initiate the assembly siren (2 minute continuous blast). The following message shall be read over the public address system. Any precautions (inaccessible elevations, alternate routes, relocation of assembly areas, etc.) should be included in the message designated by the word 'PRECAUTIONS'.

ALL PERSONNEL REPORT IMMEDIATELY TO YOUR ASSIGNED ASSEMBLY AREAS.

-PRECAUTIONS -

REPEATING, ALL PERSONNEL REPORT IMMEDIATELY TO YOUR ASSIGNED ASSEMBLY AREAS.

- PRECAUTIONS -

The announcements may be repeated as necessary.

- c. Station assembly areas are identified as follows:
 - 1) Machine Shop of Service Building (ComEd personnel not assigned emergency duties at other locations, visitors, and NRC personnel not reporting to other locations).
 - 2) Unit 1 and Unit 2 Turbine Trackways - (contractor personnel)
 - 3) Technical Support Center - (GSEP Directors, designated NRC and other personnel as designated by the Emergency Director).
 - 4) Operational Support Center - (operators not assigned to the Control Room, Radiation Protection, Chemistry and designated NRC)
 - 5) Security Gatehouse - (guard force)
 - 6) Control Room - (Control Room personnel and designated NRC)

- F. 2. d. Personnel designated to supervise in assembly areas are:
- 1) Machine Shop - Master Mechanic, Master Electrician, Master I.M., or designated alternate.
 - 2) Unit 1 and Unit 2 Turbine Building Trackways - Security Guards dispatched by the Security Supervisor
 - 3) Technical Support Center (TSC) - Security Director
 - 4) Operational Support Center (OSC) - OSC Director, OSC Supervisor, or individual designated by the Operations Director
 - 5) Security Gatehouse - Security Supervisor
 - 6) Control Room - Shift Supervisor
- e. Accountability of personnel will be performed by the station security force utilizing the security computer system.
- 1) Assembled personnel including visitors will log their location using the card readers provided for that purpose in the assembly areas.
 - 2) The Security Supervisor shall advise the Security Director (or Emergency Director if TSC is not staffed) of all personnel who are known to be within the protected area and have for some reason not assembled in a designated assembly area. The identity of missing individuals should be made within 30 minutes of the initial assembly announcement.
- f. The supervisor of each work group at the designated assembly areas will aid in accounting for his missing personnel. If possible, the Security Supervisor will advise each department/contractor of the last known location of missing individuals as indicated by the security computer, in an attempt to verify the work location.
- g. The plant PA system may be used to call out the names of those individuals listed as unaccounted. Individuals should report to a Security Officer immediately and identify themselves. Security Officers report the individuals to the Security Supervisor as being accounted for.

- F. 2. h. If any personnel remain unaccounted for a search party will be formed with a Security Officer and Radiation Protection personnel. The last known location will be the starting point of the search. The search will continue until the individuals are located or until the search parties are called off by the Emergency Director. Additional guidance is provided in BwZP 4000-1.
- i. Personnel will remain in the assembly area until the "ALL CLEAR" is sounded or personnel are otherwise directed to evacuate the site. At the first opportunity after an "ALL CLEAR", personnel contamination checks should be made and workers may return to their work assignments or as otherwise directed. Personnel wearing protective clothing are responsible for notifying Radiation Protection of the path taken from their work area to the assembly area.
- 3. Assembly of personnel in the Owner Controlled Area.
 - a. When the assembly alarm is sounded, a security vehicle will patrol the Owner Controlled Area and announce over the loud speaker that an assembly is required. The need to dispatch a vehicle to patrol the perimeter of the cooling lake will be determined by the security director.
 - b. Contractor personnel will assemble in their office areas.
 - c. ComEd personnel will assemble in their office areas. Training personnel, trainees, visitors and vendors will assemble in the Training Building.
 - d. The Security Director will contact the Training Department Supervisor's office to verify all personnel have been assembled and to provide information regarding site evacuation or dismissal home.
 - e. All personnel will remain at their assembly points until notified of further actions.
- 4. The station GSEP directors will determine those personnel considered essential for emergency operations. Normally, this includes the Control Room staff, the Operational Support Center (OSC) staff and the Technical Support Center (TSC) staff.
- 5. Proceed with BwZP 2000-11, "Evacuation of Personnel" unless otherwise directed by the Emergency Director.

G. APPENDICES

BwZP 2000-10A1, "Assembly Area Supervisor Checklist".

EVACUATION OF PERSONNEL

A. PURPOSE

This procedure describes the methods used for assembly and evacuation of onsite personnel.

B. REFERENCES

1. Generating Station Emergency Plan (GSEP), Section 6.4
2. Braidwood Station Emergency Plan Annex, Section 6.4
3. BwAP 1100-16, "Fire/Hazardous Materials Spill and/or Injury Response".
4. BwZP 2000-10, "Assembly and Accountability of Personnel".

C. PREREQUISITES

None.

D. PRECAUTIONS

1. An assembly and evacuation of non-essential personnel should be initiated whenever:
 - a. It is determined that projected doses could be avoided by personnel relocation; or
 - b. A Site or General Emergency is declared; or
 - c. Conditions exist that present a significant threat to the safety of onsite personnel as determined by the Emergency Director.

- D. 2. Consideration should be given to sheltering in place if any of the following conditions exist:
- a. Severe weather conditions threaten safe transport;
 - b. A significant radiological hazard would be encountered;
 - c. A security event in progress which would have an adverse impact on personnel leaving the site;
 - d. Any condition of similar magnitude as determined by the Emergency Director would adversely affect personnel.
3. If evacuation is determined necessary, the Security Director should consider dispatching security personnel to the chosen relocation center to prevent individuals from leaving that location without Radiation Protection and station clearance.

E. LIMITATIONS AND ACTIONS

None

F. PROCEDURE

1. Evacuation of local areas within the plant.
- a. Evacuation of specific areas within or around the plant may be ordered by the Shift Manager or the Emergency Director whenever existing conditions or developing conditions may result in a potential hazard to the health or safety of individuals in the area. These conditions include but are not limited to:
 - 1) sudden increase in dose rate or airborne radioactivity;
 - 2) fires, explosions or releases of toxic chemicals that endanger personnel health or safety;
 - 3) high radiation alarms in Unit 1 or Unit 2 containments or the Fuel Handling Building.
 - b. Once evacuation of the specific area is determined, notify the affected individuals via the public address system, local alarm or dispatching an individual to remove personnel. The assembly siren is NOT used for this purpose.

- F. 1. c. Initiate steps for corrective action. This may include but is not limited to dispatching the fire brigade, isolating equipment from service or coordinating with Radiation Protection to remove the radiation source.
- 2. Evacuation of Station Personnel.
 - a. Upon completion of assembly and accountability, the Emergency Director has the authority to order an evacuation. The Operations, Technical, Security and Radiation Protection Directors should be consulted before the evacuation order is given. If there is no potential for personnel to become contaminated, consideration should be given for non-essential people to proceed home, immediately.
 - b. The station GSEP directors will decide what personnel are to be considered essential for emergency operations. Normally this would include those personnel assigned to the Control Room, the Technical Support Center, and the Operational Support Center. The plant PA may be used to identify essential personnel, and where they should report.
 - c. If evacuation is due to radiological hazards, personnel should be directed to a relocation center for monitoring. Guidance for the selection of a relocation center is found in BwZP 2000-11A2.

Offsite relocation centers are designated as follows:

- 1) Dresden Nuclear Station
 - 2) LaSalle Nuclear Station
- d. Determine the lowest dose pathway for the evacuation. This can be done by anticipating the direction of any existing plume and then dispatching radiation protection personnel to verify the lowest dose pathway. There are two main pathways available:
 - 1) South - via main entrance.
 - 2) North - via the U-1 Turbine Building trackway.

- F. 2. e. Four pre-determined routes to relocation centers are provided in BwZP 2000-11A1. It is at the discretion of the Security Director and Radiation Protection Director, based on the current situation, to determine if any of the routes are applicable for use. If a pre-determined route is chosen, ensure the Assembly Area is aware of the route. The Supervisor has copies of each map available for distribution to personnel at the exit turnstiles.
- f. The Assembly Supervisor in the Maintenance Shop has been designated the Relocation Supervisor to lead the site evacuation and coordinate activities at the relocation center. Additional guidance on evacuation is detailed in BwZP 2000-11A2 of this procedure.
- g. Notify the Will County Sheriff and Illinois State Police of the evacuation. If evacuation is to a Relocation Center, inform the agencies of the route taken.
- h. All information regarding site evacuation should be documented and passed to the NRC and State of Illinois, as soon as possible.

G. APPENDICES

- 1. BwZP 2000-11A1, "Evacuation Routes".
- 2. BwZP 2000-11A2, "Guidance for Evacuation to a Relocation Center".
- 3. BwZP 2000-11A3, "Relocation Center Checklist".

