



March 11, 2016

10 CFR 50.4
10 CFR 72.44(f)
Docket No. 50-443
Docket No. 72-63
SBK-L-16037

United States Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station

Procedure ER 5.4, Revision 35

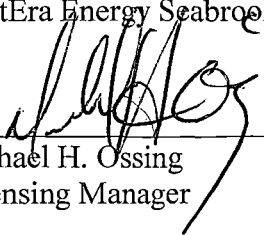
In accordance with the requirements of 10 CFR 50, Appendix E; 10 CFR 50.4, and 10 CFR 72.44(f), enclosed is procedure ER 5.4, Protective Action Recommendations, Revision 35. The procedure is used in the implementation of the Seabrook Station Radiological Emergency Plan (SSREP). The procedure, as changed, does not reduce the effectiveness of the SSREP, and the SSREP continues to meet the standards of 10 CFR 50.47(b) and 10 CFR 50, Appendix E. The Resident Inspector copy is provided directly through the NextEra Energy Seabrook, LLC records management system

Enclosure 1 provides a summary of changes to the procedure and Enclosure 2 provides a summary of the change analysis required by 10 CFR 50.54(q)(5). Enclosure 3 provides a copy of the revised procedure.

Should you have any questions regarding the enclosed revisions, please contact me at (603) 773-7512.

Sincerely,

NextEra Energy Seabrook, LLC



Michael H. Ossing
Licensing Manager

AX45
NRR

United States Nuclear Regulatory Commission
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cc (with enclosures):

S. T. Barr, Region I, Division of Reactor Safety (two copies)

J. Lamb, NRC Project Manager, Project Directorate I-2

cc (without Enclosure 3):

ATTN: Document Control Desk

Director, Spent Fuel Storage and Transportation,
Office of Nuclear Material Safety and Safeguards

Nuclear Regulatory Commission

Washington, DC 20555-0001

cc (without enclosures):

D. H. Dorman, NRC Region I Administrator

P. Cataldo, NRC Senior Resident Inspector

Enclosure 1 to SBK-L-16037
Summary of Changes

ER 5.4, Protective Action Recommendations, Revision 35

- Corrected page numbering references on Form ER5.4A.

Enclosure 2 to SBK-L-16037
Change Analysis Summary

ER 5.4, Protective Action Recommendations, Revision 35

The change to ER 5.4 was administrative, therefore evaluation was not required.

Enclosure 3 to SBK-L-16037

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**SEABROOK STATION
ADMINISTRATIVE PROCEDURE**

Protective Action Recommendations

ER 5.4

Rev. 35

Procedure Owner:
D. Currier

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1.0 OBJECTIVES

This procedure provides guidance for determining Protective Action Recommendations (PARs) to be made to offsite authorities for the plume exposure pathway.

2.0 RESPONSIBILITIES

2.1 Response Manager

Authorizes PARs from the Emergency Operations Facility (EOF).

2.2 Site Emergency Director

Authorizes PARs prior to activation of the Emergency Operations Facility (EOF).

2.3 EOF Coordinator

Implements this procedure for the evaluation of radiological and plant data, determines PARs and provides recommendations to the Response Manager at the EOF.

2.4 Health Physics Coordinator

Implements this procedure for the evaluation of radiological and plant data, determines PARs and provides recommendations to the Site Emergency Director prior to activation of the EOF.

3.0 PRECAUTIONS

1. The following time critical tasks apply to this procedure:

TASK	TIME
Notification to offsite authorities of a PAR made pursuant to an emergency classification or re-classification	No later than 15 minutes after the time of declaration of the emergency classification or re-classification.
Authorization of a revised PAR not associated with the re-classification of an emergency	No later than 15 minutes after indications of conditions that changes a PAR become available.
Notification to offsite authorities of a revised PAR not associated with the re-classification of an emergency	No later than 15 minutes after authorization of the revised PAR per time authorized on form ER 2.0B

2. Protective Action Recommendations should be reviewed against protective actions actually implemented prior to re-issuing an updated recommendation.

3. If a wind direction shift causes a PAR to change per form ER 5.4A, an ERPA previously recommended to evacuate must not be changed to shelter in a revised PAR. For example, if ERPA B had previously been included in an evacuation PAR, the evacuation PAR shall continue to be recommended for the ERPA B even though the appropriate column on form ER 5.4A based on wind direction indicates shelter for ERPA B.
4. Core Cooling and Containment CSFSTs per steps 1 and 2 under the General Emergency section of form ER 5.4A shall be verified with the Emergency Operations Manager or Operations Technician (if PAR is formulated in the TSC) or the Technical Assistant (if PAR is formulated in the EOF) in accordance with the following CAUTION:

CAUTION

Due to the time required for plant equipment to change states following a reactor trip or containment isolation signal, a Critical Safety Function Status Tree (CSFST) may briefly proceed along one path before changing to another. For example, if containment pressure exceeds 18 psig, the containment (Z) CSFST will briefly indicate a red path while the containment isolation valves are closing and then indicate an orange path after all valves have closed. Exercise appropriate judgment when using the CSFSTs for protective action decision-making.

5. Solicitation of information regarding impediments (i.e., adverse weather, lack of resources, road impediments, etc.) for safe evacuation is not the responsibility of the Seabrook Station ERO when determining the appropriate initial PAR.
6. If any of the decision-making conditions identified on Figure 2 for a rapidly progressing severe accident cannot be immediately determined, then assume they are not taking place.
7. The Site Emergency Director should transfer his responsibility under this procedure to the Response Manager as soon as the EOF activation is complete.
8. The Health Physics Coordinator should ensure that all actions taken in accordance with this procedure are reported to the EOF Coordinator upon EOF activation.

4.0 PREREQUISITES

1. A Site Area Emergency or General Emergency has been declared.
2. The Technical Support Center (TSC) or Alternative TSC and EOF are activated.

5.0 ACTIONS

Actions are specified in appropriate position checklists contained in Procedure ER 3.1, Technical Support Center Operations, and Procedure ER 3.3, Emergency Operations Facility Operations.

6.0 REFERENCES

1. NUREG/BR-0150, Response Technical Manual
2. EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
3. ER 2.0, Emergency Notification Documentation Forms
4. ER 3.1, Technical Support Center Operations
5. ER 3.3, Emergency Operations Facility Operations
6. ER 5.3, Operation of the Raddose-V
7. ER 5.7, Initial Offsite Dose Projection
8. Evacuation Time Estimate for the Seabrook Station Emergency Planning Zone
9. NUREG-0654, FEMA-REP-1, Rev. 1, Supplement 3
10. NRC EP FAQ 2013-004
11. NEI 12-10, Guidelines for Developing a Licensee PAR Procedure, Revision 2

Figure 1
Site Area Emergency Protective Action Flowchart

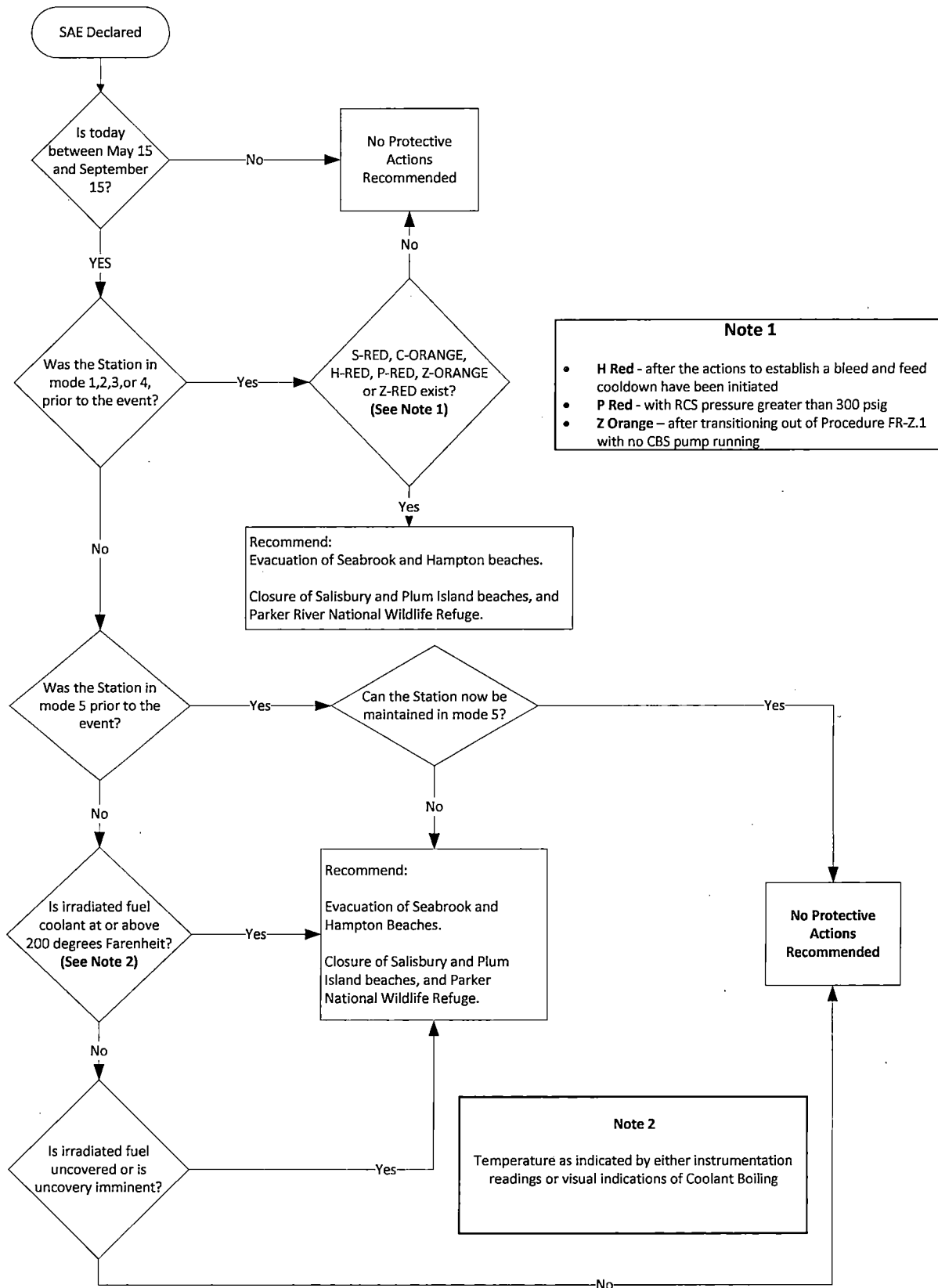


Figure 2
General Emergency Protective Action Flowchart

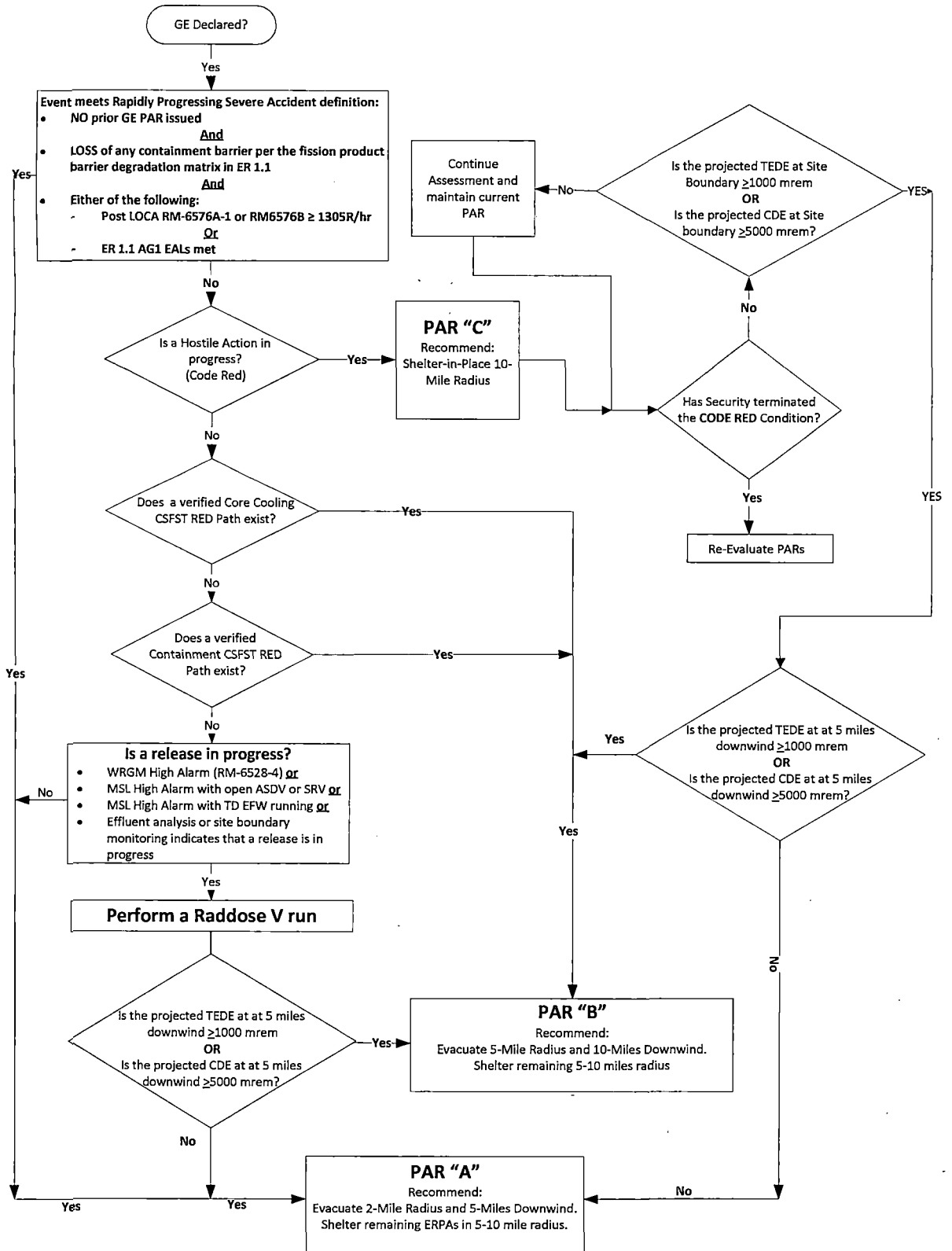


Figure 3 Summary of Changes

Rev. 35 (PCR 2092547 -- February 2016)

ER5.4A – Corrected page numbering references.

Rev. 34 (PCR 2009039):

In §3.0, Precautions, added Precaution 3.5 stating it is not the responsibility of the Seabrook Station ERO to solicit offsite impediment status when making the initial PAR.

In §3.0, added Precaution 3.6 stating that if any of the decision-making conditions identified on Figure 2 for a rapidly progressing severe accident cannot be immediately determined, then assume they are not taking place.

Consolidated Figure 1, Site Area Emergency Protective Action Flowchart into one page.

Added a new Figure 2, General Emergency Protective Action Flowchart to reflect NUREG-0654 Supplement 3 PAR Strategy guidance.

Revised form ER 5.4A to incorporate guidance based on NUREG-0654, Supplement 3.

Rev. 33:

In §3.0, Precautions, added precaution 3.1 that defines criteria for timely notification to offsite authorities of a Protective Action Recommendation (PAR) and for timely authorization and notification of a revised PAR. (AR#1740111)

In §3.0, Precautions, added precaution 3.3 to maintain previously recommended evacuation PARs in effect when issuing a revised PAR. (AR#1710694)

In §3.0, Precautions, added precaution 3.4 that requires verification of Core Cooling and Containment Critical Safety Function Status Trees (CSFSTs) with the Emergency Operations Manager or Operations Technician (TSC) or Technical Assistant (EOF) for General Emergency PAR determination and that provides a caution to be applied to evaluation of the CSFSTs. (AR#1758417).

Plume Exposure Protective Action Recommendation (PAR) Worksheet

PAR Assessment By: _____

Date: ____/____/____

Time: _____ am/pm

UNUSUAL EVENT

1. Recommend no protective actions.
2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

ALERT

1. Recommend no protective actions.
2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

SITE AREA EMERGENCY

1. Determine PARs based on Figure 1, Site Area Emergency Protective Action Flowchart.
2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

GENERAL EMERGENCY (RAPIDLY PROGRESSING SEVERE ACCIDENT AND NO PRIOR GE PAR ISSUED)

Refer to Figure 2 and implement PAR Group A (go to step 11 on page 4 of this form)

GENERAL EMERGENCY (HOSTILE ACTION IN PROGRESS)

Refer to Figure 2 and implement PAR Group C (go to step 17 of page 5 of this form)

GENERAL EMERGENCY (NEITHER OF THE ABOVE CONTINGENCIES)

STARTS ON NEXT PAGE

Plume Exposure Protective Action Recommendation (PAR) Worksheet
(Continued)

GENERAL EMERGENCY

1. Does a verified **Core Cooling** Critical Safety Function Status Tree RED path exist?

- _____ Yes - Go to Step 5 (Page 3 of this form)
- _____ No - Go to Step 2
- _____ Not Known - Go to Step 2

2. Does a verified **Containment** Critical Safety Function Status Tree RED path exist?

- _____ Yes - Go to Step 5 (Page 3 of this form)
- _____ No - Go to Step 3
- _____ Not Known - Go to Step 3

3. Is the projected Total Effective Dose Equivalent (TEDE) at 5 miles downwind greater than or equal to 1,000 mrem (see Note below)?

- _____ Yes - Go to Step 5 (Page 3 of this form)
- _____ No - Go to Step 4
- _____ Not Known - Go to Step 4

4. Is the projected Adult Thyroid Committed Dose Equivalent (CDE) at 5 miles downwind greater than or equal to 5,000 mrem (see Note below)?

- _____ Yes - Go to Step 5 (Page 3 of this form)
- _____ No - Go to Step 11 (Page 4 of this form)
- _____ Not Known - Go to Step 11 (Page 4 of this form)

NOTE

If Raddose-V is being used for dose projections, this question should be answered by reviewing the Summary Forecast report.

Plume Exposure Protective Action Recommendation (PAR) Worksheet

(Continued)

5. If a release is in progress from the plant vent, enter the current upper wind direction. For other release pathways or non-release conditions, enter the current lower wind direction - FROM _____ degrees.
6. Identify the appropriate PAR GROUP B column based on the above wind direction to determine the towns to be evacuated and sheltered, and the beaches to be evacuated and closed.

		PAR GROUP B (Evacuate 5 Mile Radius and 10 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-191.4	191.5-258.9	259-302.9
A	Seabrook Hampton Falls	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate
C	Kensington South Hampton	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate
D	Hampton North Hampton	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate
F	Brentwood East Kingston Exeter Newfields Newton Kingston	Shelter Shelter Shelter Shelter Shelter Shelter	Evacuate Evacuate Evacuate Evacuate Evacuate Evacuate	Evacuate Evacuate Evacuate Evacuate Evacuate Evacuate	Evacuate Evacuate Evacuate Evacuate Evacuate Evacuate	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter
G	Greenland Stratham Rye New Castle Portsmouth	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Evacuate Evacuate Evacuate Evacuate Evacuate	Evacuate Evacuate Evacuate Evacuate Evacuate	Shelter Shelter Shelter Shelter Shelter
B	Amesbury Salisbury	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate
E	Merrimac Newburyport Newbury West Newbury	Evacuate Evacuate Evacuate Evacuate	Evacuate Evacuate Evacuate Evacuate	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

7. Check off the evacuated and sheltered towns on form ER 2.0B, Block 4.
8. Check off New Hampshire and Massachusetts beaches as evacuated and closed, respectively.
9. Check off "Implement KI plans for the general public" on form ER 2.0B, Block 4.

Plume Exposure Protective Action Recommendation (PAR) Worksheet (Continued)

10. **STOP!** - Monitor and reevaluate PARs as conditions change. Return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.
11. If a release is in progress from the plant vent, enter the current upper wind direction. For other release pathways or non-release conditions, enter the current lower wind direction - FROM _____ degrees.
12. Identify the appropriate PAR GROUP A column based on the above wind direction to determine the towns to be evacuated and sheltered, and the beaches to be evacuated and closed.

		PAR GROUP A (Evacuate 2 Mile Radius and 5 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-167.9	168-281.4	281.5-302.9
A	Seabrook Hampton Falls	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate
C	Kensington South Hampton	Shelter Shelter	Evacuate Evacuate	Evacuate Evacuate	Evacuate Evacuate	Shelter Shelter	Shelter Shelter
D	Hampton North Hampton	Shelter Shelter	Shelter Shelter	Shelter Shelter	Evacuate Evacuate	Evacuate Evacuate	Shelter Shelter
F	Brentwood East Kingston Exeter Newfields Newton Kingston	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter Shelter
G	Greenland Stratham Rye New Castle Portsmouth	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter Shelter
B	Amesbury Salisbury	Evacuate Evacuate	Evacuate Evacuate	Shelter Shelter	Shelter Shelter	Shelter Shelter	Shelter Shelter
E	Merrimac Newburyport Newbury West Newbury	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter	Shelter Shelter Shelter Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

13. Check off the evacuated and sheltered towns on form ER 2.0B, Block 4.
14. Check off New Hampshire and Massachusetts beaches as evacuated and closed, respectively.

Plume Exposure Protective Action Recommendation (PAR) Worksheet
(Continued)

- 15. Check off "Implement KI plans for the general public" on form 2.0B, Block 4.
- 16. **STOP!** - Monitor and reevaluate PARs as conditions change. Return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.
- 17. Use PAR Group C for a Hostile Action in progress:

PAR GROUP C		
(Shelter in Place 10 Mile Radius until Code Red is terminated by Seabrook Station Security unless dose assessment requires reevaluation of the PAR)		
ERPA	TOWN	PAR
A	Seabrook Hampton Falls	Shelter Shelter
C	Kensington South Hampton	Shelter Shelter
D	Hampton North Hampton	Shelter Shelter
F	Brentwood East Kingston Exeter Newfields Newton Kingston	Shelter Shelter Shelter Shelter Shelter Shelter
G	Greenland Stratham Rye New Castle Portsmouth	Shelter Shelter Shelter Shelter Shelter
B	Amesbury Salisbury	Shelter Shelter
E	Merrimac Newburyport Newbury West Newbury	Shelter Shelter Shelter Shelter
New Hampshire Beaches		Evacuate
Massachusetts Beaches		Close

- 18. Check off the sheltered towns and evacuated and closed beaches on form 2.0B, Block 4.
- 19. Check off "Implement KI plans for the general public" on form 2.0B, Block 4.
- 20. **STOP!** – Monitor and reevaluate PARs as conditions change. Return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.