



**FEMA**

August 8, 2012

Mr. Elmo E. Collins, Jr.  
Regional Administrator, U.S. NRC, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

Dear Mr. Collins:

Enclosed is a copy of the radiological emergency preparedness final report for the South Texas Project Electric Generating Station exercise evaluated on May 9, 2012. FEMA Region 6 staff evaluated the plume exposure pathway emergency planning zone (EPZ) around the South Texas Project (STP) located near Wadsworth, Matagorda County, Texas. There were no Deficiencies, one Area Requiring Corrective Action (ARCA) corrected during the exercise, and one Plan Issue identified during this exercise.

Based on the results of the exercise, the planning and preparedness for the State of Texas and affected local jurisdictions provide reasonable assurance that appropriate measures can be taken to protect public health and safety in the event of a radiological release. Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Texas - specific to the South Texas Project Electric Generating Station will remain in effect.

Sincerely,

George A. Robinson  
Acting Regional Administrator

Enclosure

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TX 49



South Texas Project

# After Action Report/ Improvement Plan

Exercise Date - May 09, 2012

Radiological Emergency Preparedness (REP) Program



**FEMA**

*Published July 27, 2012*

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# South Texas Project After Action Report/Improvement Plan

*Published July 27, 2012*

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## EXECUTIVE SUMMARY

On May 9, 2012, a biennial Radiological Emergency Preparedness (REP) exercise was conducted in the plume exposure pathway emergency planning zone (EPZ) around the South Texas Project (STP) located near Wadsworth, Matagorda County, Texas. The U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA), Region VI, evaluated the exercise. The purpose was to assess the level of preparedness of state and local responders to react to a simulated radiological emergency at STP. This exercise was held in accordance with FEMA's policies and guidance concerning the implementation of state and local radiological emergency preparedness plans and procedures.

The previous exercise at this site was conducted on October 27, 2010. The qualifying emergency preparedness exercise to satisfy FEMA rule 44 Code of Federal Regulations 350 requirements for U.S. Nuclear Regulatory Commission licensing to operate the facility was conducted on April 8, 1987. There have been fourteen evaluated exercises, including the exercise on October 27, 2010, plus several drills conducted since 1987.

FEMA, Region VI wishes to acknowledge the efforts of the many individuals in the State of Texas, Matagorda County, Bay City, the City of Palacios and surrounding jurisdictions who participated in this exercise. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants was evident during this exercise.

This report contains the final written evaluation of the biennial exercise. All state and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies; one Area Requiring Corrective Action (ARCA) corrected during the exercise, and one Plan Issue identified during this exercise.

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## **SECTION 1: EXERCISE OVERVIEW**

### **1.1 Exercise Details**

**Exercise Name**

South Texas Project

**Type of Exercise**

Plume

**Exercise Date**

May 09, 2012

**Program**

Department of Homeland Security/FEMA Radiological Emergency Preparedness  
Program

**Scenario Type**

Radiological Emergency

### **1.2 Exercise Planning Team Leadership**

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### 1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the South Texas Project exercise:

State Jurisdictions

Texas Department of State Health Services  
Texas Division of Emergency Management  
Texas Department of Public Safety

Risk Jurisdictions

Matagorda County Emergency Management  
Matagorda County Sheriff's Office

Matagorda County Commissioner's Office

City of Palacios

City of Bay City

Bay City Police Department

Bay City Independent School District

Matagorda School District

Matagorda Regional Medical Center

Support Jurisdictions

KMKS

Private Organizations

South Texas Project

Federal Jurisdictions

American Red Cross

United States Coast Guard

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## **SECTION 2: EXERCISE DESIGN SUMMARY**

### **2.1 Exercise Purpose and Design**

The DHS/FEMA Region VI Office evaluated the exercise on May 9, 2012 to assess the capabilities of the local emergency preparedness organizations in implementing their Radiological Emergency Response Plans and Procedures to protect the public health and safety during a radiological emergency involving South Texas Project (STP). The purpose of this report is to represent the results of the findings on the performance of the offsite response organizations during a simulated radiological emergency.

### **2.2 Exercise Objectives, Capabilities and Activities**

Exercise objectives and Capabilities/REP Criteria selected to be exercise are discussed in the Exercise Plan (EXPLAN), Appendix E.

### **2.3 Scenario Summary**

The exercise scenario was developed to evaluate the response of the exercise participants to an incident requiring evacuation of the public from the 10-mile Emergency Planning Zone (EPZ) surrounding the South Texas Project (STP). The exercise scenario provided for the evaluation of the Texas Division of Emergency Management (TDEM), Texas Department of State Health Services- Radiation Control Program (DSHS-RCP), and Matagorda County to conduct evacuations of the public.

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## **SECTION 3: ANALYSIS OF CAPABILITIES**

### **3.1 Exercise Evaluation and Results**

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the May 9, 2012 exercise to test the offsite emergency response capabilities of state and local governments in the 10-mile Emergency Planning Zone (EPZ) surrounding the South Texas Project (STP).

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in the exercise evaluation areas as outlined in the Federal Register, Vol. 67, No. 80, "Radiological Emergency Preparedness: Exercise Evaluation Methodology" (April 25, 2002). Detailed information on the exercise evaluation area criteria and the extent of play agreement used in this exercise are found in Appendix E of this report.

### **3.2 Summary Results of Exercise Evaluation**

The matrix presented in Table 3.1, on the following page, presents the status of all exercise evaluation area criteria that were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status is indicated by the use of the following letters:

M - Met (No Deficiency or Areas Requiring Corrective Actions [ARCA] assessed and no unresolved ARCAs from prior exercises)

D - Deficiency assessed

A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)

N - Not Demonstrated (Reason explained)

P - Plan Issue

Table 3.1 - Summary of Exercise Evaluation

| DATE: 2012-05-09<br>SITE: South Texas Project, TX<br><br>M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated |     | TDEM-SOC | DD Sub-2C Pierce | DSHS-HQ | DSHS-EOF | TX FMT 1 | TX FMT 2 | JIC | Mat. Co. EOC & T/ACP | Mat. ISD | EAS-KMKS |
|---|-----|----------|------------------|---------|----------|----------|----------|-----|----------------------|----------|----------|
| <b>Emergency Operations Management</b>  |     |          |                  |         |          |          |          |     |                      |          |          |
| Mobilization  | 1a1 | M        | M                | M       | M        |          |          | M   | M                    |          |          |
| Facilities  | 1b1 |          |                  |         |          |          |          | M   |                      |          |          |
| Direction and Control   | 1c1 | M        | M                | M       | M        |          |          |     | M                    |          |          |
| Communications Equipment  | 1d1 | M        | M                | M       | M        | M        | M        | M   | M                    |          |          |
| Equipment and Supplies  | 1e1 | M        | M                | M       | M        | M        | M        | M   | M                    |          |          |
| <b>Protective Action Decision Making</b>  |     |          |                  |         |          |          |          |     |                      |          |          |
| EW Exp. Control Decisions   | 2a1 |          |                  |         | M        |          |          |     | M                    |          |          |
| PARs  | 2b1 |          |                  | M       | M        |          |          |     |                      |          |          |
| PADs  | 2b2 |          |                  |         |          |          |          |     | M                    |          |          |
| PADs for Disabled/Functional Needs  | 2c1 |          |                  |         |          |          |          |     | M                    |          |          |
| Ingestion PADs  | 2d1 |          |                  |         |          |          |          |     |                      |          |          |
| RRR Decisions   | 2e1 |          |                  |         |          |          |          |     |                      |          |          |
| <b>Protective Action Implementation</b>   |     |          |                  |         |          |          |          |     |                      |          |          |
| EW Exp. Control Implementation  | 3a1 |          |                  |         | M        | M        | M        |     | M                    | M        |          |
| KI Public/Institutionalized   | 3b1 |          |                  |         |          |          |          |     |                      |          |          |
| PAD Imp. Disabled/Functional Needs  | 3c1 |          |                  |         |          |          |          |     |                      |          |          |
| PAD Imp. Schools  | 3c2 |          |                  |         |          |          |          |     |                      | M        |          |
| TACP Establishment  | 3d1 |          |                  |         |          |          |          |     | M                    |          |          |
| Impediments to Evacuation   | 3d2 |          |                  |         |          |          |          |     | M                    |          |          |
| Implementation of Ingestion PADs  | 3e1 |          |                  |         |          |          |          |     |                      |          |          |
| Ingestion Strategies and Information  | 3e2 |          |                  |         |          |          |          |     |                      |          |          |
| Imp. of RRR Decisions   | 3f1 |          |                  |         |          |          |          |     |                      |          |          |
| <b>Field Measurement and Analysis</b>   |     |          |                  |         |          |          |          |     |                      |          |          |
| RESERVED  | 4a1 |          |                  |         |          |          |          |     |                      |          |          |
| Field Team Management   | 4a2 |          |                  |         | P        |          |          |     |                      |          |          |
| Field Team Operations   | 4a3 |          |                  |         |          | M        | M        |     |                      |          |          |
| Field Team Sampling   | 4b1 |          |                  |         |          |          |          |     |                      |          |          |
| Laboratory Operations   | 4c1 |          |                  |         |          |          |          |     |                      |          |          |
| <b>Emergency Notification and Public Info</b>   |     |          |                  |         |          |          |          |     |                      |          |          |
| Initial Alert & Notification  | 5a1 |          |                  |         |          |          |          |     | M                    | M        |          |
| Backup Alert & Notification   | 5a3 |          |                  |         |          |          |          |     |                      |          |          |
| Exception Area Alerting   | 5a4 |          |                  |         |          |          |          |     |                      |          |          |
| Subsequent Public Information   | 5b1 |          |                  |         |          |          |          | M   | M                    |          |          |
| Reception Center Operations   | 6a1 |          |                  |         |          |          |          |     |                      |          |          |
| EW Monitoring & Decon   | 6b1 |          |                  |         |          |          |          |     |                      |          |          |
| Congregate Care   | 6c1 |          |                  |         |          |          |          |     |                      |          |          |
| Contaminated Injured Transport & Care   | 6d1 |          |                  |         |          |          |          |     |                      |          |          |

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## 3.3 Criteria Evaluation Summaries

### 3.3.1 Texas Jurisdictions

#### 3.3.1.1 Texas Division of Emergency Management-State Operations Center

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### 3.3.1.2 Department of Public Safety, Disaster District Sub-2C Pierce

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### 3.3.1.3 Department of State Health Services, Radiation Control Program - Headquarters

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None

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- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.4 Department of State Health Services - Radiation Control Program at the Emergency Operations Facility**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: 4.a.2.

ISSUE NO.: 60-12-4a2-P-01

CRITERION: Field teams (two or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure.

CONDITION: Field Team Members were told that Potassium Iodide (KI) was recommended for emergency workers in the Emergency Planning Zone (EPZ). Following the notification to field teams that KI was recommended, the Field Team Leader asked each Field Monitoring Team (FMT) to confirm that they received the notification to take KI. Field Monitoring Teams were not asked to notify the Field Team Leader as to whether or not they elected to take KI. If a Field Team Member elects not to take KI, the Field Team Leader may need to re-assign that team member to another location in order to minimize thyroid exposure. If the Field Team Leader is not informed that a member of the Field Monitoring Team has elected not to take KI, he cannot take additional measures in protecting the health and safety of his field team members.

POSSIBLE CAUSE: Texas Department of State Health Services Procedure 9, Radioprotective Drugs, does not require Field Monitoring Team Members to report to the Field Team Leader that they either did or did not take KI. Consumption of KI is recorded on the Record of Potassium Iodide form found in Procedure 9, Attachment 2. This form is turned into the Staging Area Coordinator at the conclusion of the Emergency Worker's shift.

REFERENCE: Department of State Health Services, Procedure 9, Radioprotective

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Drugs; REP Program Manual Page II-80 and II-81, NUREG 0654 Criterion J.10.f

EFFECT: If the Field Team Leader is not informed that a member of the Field Monitoring Team member has elected not to take KI, he cannot take additional measures in properly protecting the health and safety of his field team members.

RECOMMENDATION: Update procedures to require that Field Monitoring Team members report to the Field Team Leader whether or not they elect to take KI. Provide a method for the Field Team Leader to document each Field Monitoring Team member's decision to take KI.

- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.5 Department of State Health Services - Radiation Control Program Field Monitoring Team One**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

#### **3.3.1.6 Department of State Health Services - Radiation Control Program Field Monitoring Team Two**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: 1.e.1.

ISSUE NO.: 60-12-1e1-A-03



**CRITERION:** Equipment, maps, displays, dosimetry, KI, and other supplies are sufficient to support emergency operations.

**CONDITION:** Field Monitoring Team Two (FMT-2) was issued a Mini-Radiac electronic dosimeter with a sticker indicating a calibration due date of 9/30/2011.

**POSSIBLE CAUSE:** The Mini-Radiac was inside a carrying case; the calibration due date was not readily observable. The FMT-2 team member assumed that the calibration date was checked by the individual issuing the electronic dosimeter and did not remove the carry case to check the calibration date.

**REFERENCE:** NUREG 0654, K.3.a

**EFFECT:** If an electronic dosimeter is out of calibration, it may not accurately record the emergency worker's radiation exposure.

**CORRECTIVE ACTION DEMONSTRATED:** The Mini-Radiac electronic dosimeter with an expired calibration sticker was brought to the attention of the controller, who inspected available Mini-Radiac electronic dosimeters at the dosimetry issue station. Two other electronic dosimeters had stickers with questionable calibration dates. Texas Department of State Health Services personnel checked all issued Mini-Radiacs to ensure they had valid calibration stickers. Three electronic dosimeters with questionable calibration dates were taken out of service.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

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### **3.3.1.7 Joint Information Center, Bay City**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.b.1, 1.d.1, 1.e.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.1.8 Matagorda Independent School District**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.a.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

## **3.3.2 Risk Jurisdictions**

### **3.3.2.1 Matagorda County Emergency Operations Center and Traffic/Access Control Point**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

### **3.3.3 Private Organizations**

#### **3.3.3.1 EAS Radio Station KMKS**

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 5.a.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

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## SECTION 4: CONCLUSION

Based on the results of the exercise, the offsite radiological emergency response plans and preparedness for the State of Texas and the affected local jurisdiction are deemed adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency. Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Texas site-specific to the South Texas Project will remain in effect.

## APPENDIX A: IMPROVEMENT PLAN

|   |                                    |                       |
|---|------------------------------------|-----------------------|
| <b>Issue Number: 60-12-4a2-P-01</b>   |                                    | <b>Criterion: 4a2</b> |
| <p><b>ISSUE:</b> Field Team Members were told that Potassium Iodide (KI) was recommended for emergency workers in the Emergency Planning Zone (EPZ). Following the notification to field teams that KI was recommended, the Field Team Leader asked each Field Monitoring Team (FMT) to confirm that they received the notification to take KI. Field Monitoring Teams were not asked to notify the Field Team Leader as to whether or not they elected to take KI. If a Field Team Member elects not to take KI, the Field Team Leader may need to re-assign that team member to another location in order to minimize thyroid exposure. If the Field Team Leader is not informed that a member of the Field Monitoring Team has elected not to take KI, he cannot take additional measures in protecting the health and safety of his field team members.</p> |                                    |                       |
| <p><b>RECOMMENDATION:</b> Update procedures to require that Field Monitoring Team members report to the Field Team Leader whether or not they elect to take KI. Provide a method for the Field Team Leader to document each Field Monitoring Team member's decision to take KI.</p>   |                                    |                       |
| <p><b>CORRECTIVE ACTION DESCRIPTION:</b></p>  |                                    |                       |
| <b>CAPABILITY:</b>  | <b>PRIMARY RESPONSIBLE AGENCY:</b> |                       |
| <b>CAPABILITY ELEMENT:</b>  | <b>START DATE:</b>                 |                       |
| <b>AGENCY POC:</b>  | <b>ESTIMATED COMPLETION DATE:</b>  |                       |

## APPENDIX B: EXERCISE TIMELINE

Table 1, on the following page, presents the time at which key events and activities occurred during the South Texas Project exercise on May 9, 2012.

Table 1 - Exercise Timeline  
DATE: 2012-05-09, SITE: South Texas Project, TX

| Emergency Classification Level or Event | Time Utility Declared | IDEM-SOC | DD Sub-2C Pierce | DSHS-HQ | DSHS-EOP | JIC  | Mat. Co. EOC & T/AGP |
|---|-----------------------|----------|------------------|---------|----------|------|----------------------|
| Unusual Event                           |                       | N/A      |                  | N/A     |          |      |                      |
| Alert                                   | 0718                  | 0746     | 0718             | 0741    | 0752     |      | 0727                 |
| Site Area Emergency                     | 0945                  | 1011     | 0945             | 1011    | 0954     | 0947 | 0952                 |
| General Emergency                       | 1109                  | 1136     | 1108             | 1136    | 1109     | 1109 | 1120                 |
| Simulated Rad. Release Started          | 1100                  | 1100     |                  | 1100    | 1104     | 1109 | 1120                 |
| Simulated Rad. Release Terminated       |                       |          |                  |         |          |      |                      |
| Facility Declared Operational           |                       | 0801     | 0820             | N/A     | 1025     | 0829 | 0801                 |
| Declaration of State of Emergency       |                       | 0845     |                  |         |          |      | 0845                 |
| Exercise Terminated                     |                       | 1345     | 1344             |         | 1350     | 1350 | 1345                 |
| Early Precautionary Actions:            |                       | 1002     |                  |         |          |      | 1002                 |
| 1st Protective Action Decision:         |                       | 1150     |                  |         |          |      | 1150                 |
| 1st Siren Activation                    |                       | 1006     |                  |         |          |      | 1006                 |
| 1st EAS or EBS Message                  |                       | 1012     |                  |         |          |      | 1012                 |
| 2nd Protective Action Decision:         |                       | 1230     |                  |         |          |      | 1230                 |
| 2nd Siren Activation                    |                       | 1151     |                  |         |          |      | 1151                 |
| 2nd EAS or EBS Message                  |                       | 1154     |                  |         |          |      | 1154                 |
| 3rd Siren Activation                    |                       | 1234     |                  |         |          |      | 1234                 |
| 3rd EAS or EBS Message                  |                       | 1236     |                  |         |          |      | 1236                 |
| KI Administration Decision:             |                       |          |                  |         | 1348     |      | 1348                 |

**Table 1 - Exercise Timeline**  
**DATE: 2012-05-09, SITE: South Texas Project,**  
**TX**

| Emergency Classification Level or Event | Time Utility Declared | EAS/KMKS |
|---|-----------------------|----------|
| Unusual Event                           |                       |          |
| Alert                                   | 0718                  |          |
| Site Area Emergency                     | 0945                  |          |
| General Emergency                       | 1109                  |          |
| Simulated Rad. Release Started          | 1100                  |          |
| Simulated Rad. Release Terminated       |                       |          |
| Facility Declared Operational           |                       |          |
| Declaration of State of Emergency       |                       |          |
| Exercise Terminated                     |                       |          |
| Early Precautionary Actions:            |                       |          |
| 1st Protective Action Decision:         |                       |          |
| 1st Siren Activation                    |                       |          |
| 1st EAS or EBS Message                  |                       | 1008     |
| 2nd Protective Action Decision:         |                       |          |
| 2nd Siren Activation                    |                       |          |
| 2nd EAS or EBS Message                  |                       | 1158     |
| 3rd Siren Activation                    |                       |          |
| 3rd EAS or EBS Message                  |                       | 1237     |
| KI Administration Decision:             |                       |          |

## APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2012-05-09, SITE: South Texas Project, TX

| LOCATION   | EVALUATOR                                      | AGENCY                          |
|--|--|---------------------------------|
| Texas Division of Emergency Management-State Operations Center                                       | *Chad Johnston                                 | FEMA RVI                        |
| Department of Public Safety, Disaster District Sub-2C Pierce   | *David Jeremy                                  | FEMA HQ                         |
| Department of State Health Services, Radiation Control Program - Headquarters                        | *Scott Flowerday                               | FEMA RVI                        |
| Department of State Health Services - Radiation Control Program at the Emergency Operations Facility | Johanna Berkey<br>*Nan Calhoun                 | FEMA RX<br>FEMA RVI             |
| Department of State Health Services - Radiation Control Program Field Monitoring Team One            | *George Brozowski                              | EPA-R6                          |
| Department of State Health Services - Radiation Control Program Field Monitoring Team Two            | *Marcy Campbell                                | ICFI                            |
| Joint Information Center, Bay City   | *Bill Bischof<br>Elsa Lopez<br>Rosemary Samsel | FEMA RVI<br>FEMA RVI<br>ICFI    |
| Matagorda Independent School District  | *Bill Webb                                     | FEMA RX                         |
| Matagorda County Emergency Operations Center and Traffic/Access Control Point                        | *Linda Gee<br>Timothy Pflieger<br>Bill Webb    | FEMA RVI<br>FEMA RVI<br>FEMA RX |
| EAS Radio Station KMKS   | *Daniel Kanakares                              | FEMA RV                         |
| Team Leader  |  |                                 |



## APPENDIX D: ACRONYMS AND ABBREVIATIONS

| Acronym | Meaning                                      |
|---------|--|
| ARCA    | Area Requiring Corrective Action             |
| CDE     | Committed Dose Equivalent                    |
| CP      | Control Points                               |
| DC      | District Coordinator                         |
| DRD     | Direct Reading Dosimeter                     |
| EAS     | Emergency Alert System                       |
| ECL     | Emergency Classification Level               |
| EMD     | Emergency Management Director                |
| EOC     | Emergency Operations Center                  |
| EOF     | Emergency Operations Facility                |
| EPA     | Environmental Protection Agency              |
| EPD     | Electronic Personal Dosimeters               |
| EPZ     | Emergency Planning Zone                      |
| EW      | Emergency Worker                             |
| FMT     | Field Monitoring Team                        |
| FMTL    | Field Monitoring Team Leader                 |
| GE      | General Emergency                            |
| ISD     | Independant School District                  |
| JIC     | Joint Information Center                     |
| MCEOC   | Matagorda County Emergency Operations Center |
| ORO     | Outside Response Organization                |
| PAD     | Protective Action Decision                   |
| PAG     | Protective Action Guide                      |
| PHIN    | Public Health Information Network            |
| PPM     | Portable Personnel Monitor                   |
| REP     | Radiological Emergency Preparedness          |
| RLO     | Regional Liaison Officer                     |
| SAE     | Site Area Emergency                          |
| SEOC    | State Emergency Operations Center            |
| SOC     | State Operations Center                      |
| STP     | South Texas Project                          |
| TEDE    | Total Effective Dose Equivalent              |

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## **APPENDIX E: EXERCISE PLAN**

## **Introduction**

The South Texas Project (STP) conducts Emergency Preparedness Exercises for the purpose of demonstrating that the STP Emergency Response Organization can effectively meet their responsibilities in protecting the health and safety of the residents of the Plume Exposure Pathway Emergency Planning Zone in the event of a radiological incident at the station. Exercises simulate accident conditions and radiological hazards that require the emergency response plan and procedures to be implemented.

This scenario is designed to demonstrate that designated individuals are adequately trained and supported by procedures and equipment to respond effectively to a radiological emergency at STP. Exercises are self critiqued by the Emergency Response Organization (ERO) participants and also evaluated and critiqued by the Emergency Response staff and selected evaluators.

The on-site emergency response activities will be conducted by selected ERO participants and evaluated by controllers. Upon termination of the exercise, the participants will critique the effectiveness of the response; an exercise report will be compiled for distribution to management and ensure appropriate actions are taken to resolve any areas for improvement.

This scenario manual provides all information required supporting successful conduct and evaluation of the exercise. Participants will not have prior knowledge of the scenario. It is to be used by the controllers to ensure that consistent and accurate data is provided to participants during the course of their response to the sequence of events.

## **Scope**

The South Texas Project (STP) Emergency Preparedness Exercise shall demonstrate the key skills of South Texas Project, State of Texas, and Matagorda County response organizations to adequately respond to an incident scenario such that the major elements of the plans and preparedness organizations are tested within an eight-year exercise cycle. The exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. Exercises are conducted as set forth in NRC and FEMA rules and policy.

The exercise will include full activation and participation of the STP Control Room Simulator, Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF) to be evaluated by the Nuclear Regulatory Commission (NRC). The State of Texas, Matagorda County, and Joint Information Center emergency facilities and objectives will be demonstrated and evaluated by the Federal Emergency Management Agency (FEMA) in accordance with the objectives and extent of play in Off-site Objectives.

The exercise will be used to evaluate the ability of the Emergency Response Organization (ERO) personnel to assess and mitigate the emergency situations at the plant and to take actions to assist state and local government organizations in mitigating the radiological consequences to persons in the vicinity of the plant. In addition, the exercise will provide the STP, State of Texas, and Matagorda County with the opportunity to assess the effectiveness of training improvements and modifications made to the Emergency Plans and Procedures.

The following summary indicates which emergency response facilities will participate in the 2012 STP Emergency Preparedness Exercise:

STP Nuclear Operating Company Facilities

Control Room (CR) Simulator  
STP Technical Support Center (TSC)  
STP Operations Support Center (OSC)  
STP Emergency Operations Facility (EOF)  
Joint Information Center (JIC)

State of Texas/Matagorda County Facilities

State of Texas Operations Center (SOC)  
Disaster District Sub-2C Emergency Operations Center  
Department of State Health Services Operations (DSHS)  
Matagorda County Emergency Operations  
Department of State Health Services Staging Area  
Department of State Health Services Operations Mobile Laboratory  
Department of State Health Services Operations Field Monitoring Teams  
Emergency Alert System Radio Station

**Objectives**

- The STP radiological emergency preparedness exercise objectives are based on NRC requirements provided in 10 CFR 50.47, Emergency Plans, and 10 CFR 50, Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities. Additional guidance provided in NUREG-0654/FEMA-REP-1, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, was utilized in developing the objectives.
- Risk Significant Planning Standards (RSPS) (i.e., 10 CFR 50.47(b)(4), Emergency Classification; 10 CFR 50.47(b)(5), Notification; 10 CFR 50.47(b)(9), dose assessment; and 10 CFR 50.47(b)(10), Protective Actions) will be evaluated.

- Exercise objectives D-1, E-2, and J-7 will be evaluated for performance indicators, in accordance with NEI 99-02, Regulatory Assessment Performance Indicator Guidelines.
- Key ERO member credit will be evaluated for the following positions - **Control Room:** Shift Manager, State/County Communicator; **Technical Support Center:** TSC Manager, Chemical/Radiochemical Manager, Assistant Operations Manager, Technical Manager, Radiological Manager; **Operations Support Center:** OSC Coordinator; **Emergency Operations Facility:** EOF Director, Engineering Assistant, Radiological Director.
- This scenario meets the requirements to demonstrate the capability to prepare a scenario that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. Drills/Exercises shall be conducted as set forth in NRC and FEMA rules and policy. Reference NUREG-0654, N.1.a.
- This scenario meets the requirements to demonstrate the capability to conduct drill/exercise including mobilization of State and local personnel and resources adequate to verify the capability to respond to an accident scenario requiring response. Provide for a critique of the biannual exercise by Federal and State evaluators. The scenario should be varied from year to year such that all major elements of the plans and preparedness organizations are tested within the committed time period. NUREG-0654, N.1.b.
- This scenario meets the requirements to demonstrate the capability to conduct a communications drill/ exercise between STP, State and local emergency operations centers, and field assessment teams. Communication drills shall also include the aspect of understanding the content of messages. NUREG-0654, N.2.a.
- This scenario meets the requirements to demonstrate the capability to evaluate, and critique a drill/exercise. A critique shall be scheduled at the conclusion of the exercise to evaluate the ability of organizations to respond as called for in the plan. The critique shall be conducted as soon as practicable after the exercise, and a formal report should result from the critique. NUREG-0654, N.4.
- This scenario meets the requirements to demonstrate the capability to evaluate controller and participant comments on areas needing improvement, including emergency plan procedural changes, and for assigning responsibility for implementing corrective actions. Issues will be documented in the Corrective Action Program. NUREG-0654, N.5.

### Narrative Summary

Initial Conditions - Unit 2 is and has been at 100% Power for 258 days. Unit 1 is and has been at 100% Power for 270 days. Core burn up is 10,500 MWD/MTU. Spent Fuel Pool (SFP) time to 200° F upon loss of all cooling and both pumps is 62 hours.

Train D work week in progress, planned maintenance activities include Technical Support Center (TSC) D/G for PM, Positive Displacement Pump (PDP) for outer bearing replacement. Emergent work identified the previous shift includes SFP Pump 1A tripped; next shift to investigate & repair.

Meteorological Tower indicates the following: Winds out of the southeast (152°) at 9 mph and ambient temperature is 75°F.

SFP Pump 1B trip, CAS Operator contacts the Control Room to report a loud explosion on the 60' EAB. Control Room dispatches Plant Operator, and musters the Fire Brigade. Security Force Supervisor (SFS) also dispatches a Security Officer to investigate.

Plant Operator reports the SFP Pump 1B Breaker has exploded damaging its cubical and spraying the room with metal and plastic fragments however no flames are visible. Security Officer reports no evidence of tampering or accelerants.

The Shift Manager enters procedures 0ERP01-ZV-SH01, Shift Manager and 0ERP01-ZV-IN01, Emergency Classification, and declares an **ALERT** based on Initiating Condition, **HA2**, Explosion in a Vital Area Potentially Affecting Safe Shutdown or Decay Heat Removal; **EAL-1**, Explosion in the Electrical Auxiliary Building tripping SFPCCS 1B and a report of visible damage to the Breaker, housing, and room; **OR EAL-2**, explosion in the Electrical Auxiliary Building which impacts ability to maintain cooling for spent fuel.

Upon Public Address Announcement, Plant Protection activates the Emergency Notification and Response System (ENRS) in accordance with 0ERP01-ZV-IN03. ERO begins staffing their facilities.

The State and County authorities are notified of the Alert declaration using procedure 0ERP01-ZV-IN02.

Gap activity begins migrating from the fuel rods into the Reactor Coolant System due to machining errors made during fabrication. RCS activity begins to trend up causing Failed Fuel Monitor 8039 to alarm, Crew transitions to 0POP04-RA-0001, Radiation Monitoring System Alarm Response and 0POP04-RC-0001, High Reactor Coolant System Activity.

When chemistry attempts to obtain a RCS Sample there is no flow.

Emergency Director Responsibilities transferred to the TSC and will remain there until after the Site Area Emergency (SAE) state & county notification.

Valve CV-0472 suffers a packing failure and begins leaking approximately 100 gpm. The 10' MAB Room 50 (1A Letdown Heat Exchanger) goes airborne alarming the nearby Area Radiation Monitors 8059, 8060, 8061, 8062 and Ventilation Radiation Monitors 8014, 8015, and 8016. Operators isolate letdown to stop the leak, Crew transitions to 0POP04-RC-0003, Excessive RCS Leakage, and 0POP04-CV-0004, Loss of Normal Letdown.

Unit Vent Radiation Monitor 8010B alarms indicating a small radiological release into the environment.

NRC Health Physics Network (HPN) communications begin via the phone cell using the simulated HPN Line.

TSC dose assessment calculations project no elevated radiation levels north of Unit 1, which is confirmed by OSC Protected Area radiological survey. No elevated radiation readings are found in the Owner Controlled Area (OCA).

ECW Pump 1B Trips due to breaker failure. SDG 12 is placed in pull to stop.

Loss of Stby Bus – 13.8 Swgr Bus 1G Cubicle #1 Breaker trips with the 50G relay flagged and 86X/E1B Lock out. Computer point BD3061 and Annunciator window 6D (10M1) indicate “FDR BKR TRIPPED” ESF Bus E1B has lost off-site power, Crew transitions to 0POP04-AE-0001, First Response To Loss Of Any Or All 13.8 KV Or 4.16 KV Bus.

Reactor Trip and Safety Injection due to 1C RCS Cold Leg weld failure initiating ~3,000 gpm LOCA inside containment. Crew transitions to 0POP05-EO-EO00, Reactor Trip or Safety Injection.

Engineering Safety Feature (ESF) Bus E1A de-energizes upon the trip signal to Supply Breaker in Cubicle #1, indication is actuation of 50/51 Relay and the Control Room also receives “4.16 Bus E1A Supply Bkr/Over Current” and the 86B Lock out indication to the Stand By DG Bkr Lockout Circuit. Also the Annunciation indication of “4.16KV Bus E1A Load Feeder Ground Fault”, Crew transitions to 0POP04-AE-0003, Loss Of Power To One Or More 13.8 KV Standby Bus.

TSC develops a strategy to reestablish SFP Cooling.

Reactor Plenum level 0%. (Site Area Emergency Initiating Condition)

The Emergency Director (located in TSC) enters procedure 0ERP01-ZV-IN01, Emergency Classification, and declares a **SITE AREA EMERGENCY** based on Initiating Condition FS1, Loss of RCS and Potential Loss of Fuel Clad.

RCS Loss (4 points) due to a leak rate greater than CVCS's ability to maintain RCS inventory as indicated by loss of RCS Subcooling AND Fuel Clad Potential Loss (3 points) Reactor Vessel Water Level Plenum level less than 20%.

Containment pressure 9.5 psig, spray initiated. Crew transitions to 0POP05-EO-EO10, Loss Of Reactor Or Secondary Coolant.

SI Accumulators discharge into the RCS; core temperature drops from 1100°F to 950°F but soon begins trending up, Crew transitions to 0POP05-EO-FRC1, Response To Inadequate Core Cooling.

OSC reports success in repairing ECW Pump 1B. Standby Diesel Generator (SDG) 12 is started and loads ESF E1B allowing its SI pumps to be lined up. Crew transitions to 0POP05-EO-FRP1, Response To Imminent Pressurized Thermal Shock Condition.

FHB Emergency Exhaust 1B inlet damper FV-9549 fails to open when ESF E1B is reenergized. The State and County authorities are notified of the Site Area Emergency declaration. The Technical Support Center (TSC) implements procedure 0ERP01-ZV-IN04 Assembly & Accountability.

Emergency Director Responsibilities transferred to the EOF.  
Refueling Water Storage Tank (RWST) LO-LO level alarm, crew swaps over to containment emergency sumps IAW 0POP05-EO-ES13, Transfer To Cold Leg Recirculation.

Inject out of sequence chemistry data to the TSC Nuclear Engineer for core damage assessment demonstration.

The Emergency Operations Facility (EOF) implements procedure 0ERP01-ZV-IN05 Site Evacuation.

1-SI-MOV-0016C located on -29' FHB Room 009 begins leaking ~500 gpm as indicated by FHB SI/CS Pump Sump Level Alarm and significantly increasing dose rates and airborne levels. Control Room transitions to 0POP05-EO-EC12, LOCA Outside Containment. All attempts to close 1-SI-MOV-0016C fail.

Unit Vent Radiation Monitor 8010B alarms indicating a radiological release into the environment. (General Emergency Initiating Condition)

Off-site Dose Projection (STAMPEDE) calculates the PAR using Unit Vent Radiological data: wind speed 7.76 mph, wind direction 186°, Delta T -1.82, Release Duration 4 Hours, Gap



Inventory, 8010B  $2.5E^{+9}$   $\mu\text{Ci/sec}$ . The Protective Action Recommendation to Evacuate Zones 1, 2; Shelter In Place Zones 6, 11; Affected Downwind Sectors are R, A, B, C.

The Emergency Director enters procedure 0ERP01-ZV-IN01, Emergency Classification, and declares a **GENERAL EMERGENCY** based on Initiating Condition, **RG1, EAL-2**, Dose Assessment indicates site boundary dose > PAGs.

The State and County authorities are notified of the General Emergency declaration using procedure 0ERP01-ZV-IN02.

Off-site Field Team reports survey information to the EOF indicating a greater amount of I-131 than anticipated.

Off-site Dose Projection (STAMPEDE) recalculates the PAR using field data: wind speed 10.25 mph, wind direction 177°, Delta T -2.04, Release Duration 4 Hours, Gap Inventory, field data: 388 mR/hr, Iodine air sample  $2.1E^{-5}$   $\mu\text{Ci/cc}$ , Particulate air sample  $6.1E^{-9}$   $\mu\text{Ci/cc}$ . The higher than expected Iodine activity requires expanding the Protective Action Recommendation to Evacuate Zones 1, 2, 6, 11; Shelter In Place Zones 3, 5, 7, 10; Affected Downwind Sectors are R, A, B, C.

The State and County authorities are notified of the expanded Protective Action Recommendation using procedure 0ERP01-ZV-IN02.

OSC Emergency Repair teams are successful in closing 1-SI-MOV-0016C, isolating the radiological release from containment.

Exercise terminated.

## **Evaluation Areas and Extent of Play Agreement**

### **EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT**

#### **Sub-element 1.a – Mobilization**

**Criterion 1.a.1: Offsite Response Organizations (OROs) use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3,4; C.1, 4, 6; D. 4; E.1, 2; H.3, 4)**

#### **Locations:**

- State Operations Center at Austin (SOC),
- Department of Public Safety (DPS) Disaster District Sub-2C Emergency Operations Center (EOC) at Pierce (a.k.a. DDC),

- Department of State Health Services (DSHS) Radiation Control Program (RCP) Headquarters at Austin,
- DSHS RCP at South Texas Project (STP) Emergency Operations Facility (EOF),
- Joint Information Center (JIC), and
- Matagorda County Emergency Operations Center (MCEOC)

**Extent of Play:**

- DSHS RCP personnel will pre-stage at the RCP staging area in Bay City.
- Regardless of the scenario, no facilities/activities will relocate during this exercise.
- DSHS State Medical Operations Center (SMOC) may participate in Web EOC, but will not be evaluated at their physical location in Austin.
- DSHS Mobile Lab will be located at the staging area in Bay City but will not be evaluated.
- Non-TDEM players will be pre-staged at the SOC. DSHS will be deployed to SOC at SAE via a message inject.
- At Site Area or General Emergency, the SOC will notify agencies that comprise the Emergency Management Council. These notifications will be logged according to procedure; however, physical notifications will be simulated.
- Four (4) Field Monitoring Teams will be deployed for training purposes. Only (2) teams will be evaluated. Drill evaluators may be required to travel in separate vehicles due to space restrictions in DPS vehicles.
- Disaster District Committee personnel not stationed at DD Sub-2C EOC may be pre-staged.
- To allow for maximum amount of play, DSHS-RCP and JIC staff will pre-stage in the area.
- An extra dispatcher will be placed on duty at the Matagorda County Sheriff's office, in Bay City, to handle the regular workload.
- Non-local TDEM personnel will be pre-staged in the area.
- To facilitate play, the Joint Information Center furnishings may be set up prior to the exercise.

**ARCAs:** None

**Sub-element 1.b - Facilities**

**Criterion 1.b.1:** Facilities are sufficient to support the emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b)

**Locations:**

- STP Joint Information Center (JIC)

**Extent of Play:** None

**ARCAs:** None

**Sub-element 1.c - Direction and Control**

**Criterion 1.c.1:** Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, A.1.d; A. 2.a,b; A.3; C.4, 6)

**Locations:**

- SOC,
- DDC,
- DSHS RCP Headquarters,
- DSHS RCP at STP EOF, and
- MCEOC

**Extent of Play:** None

**ARCAs:** None

**Sub-element 1.d – Communications Equipment**

**Criterion 1.d.1:** At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)

**Locations:**

- SOC,
- DDC,
- DSHS RCP Headquarters,
- DSHS RCP at STP EOF,
- DSHS RCP Field Monitoring Teams (FMTs),
- JIC, and
- MCEOC, including Traffic Access Control Points (T/ACP)

**Extent of Play:**

- A controller phone cell will be established to ensure appropriate communications are accomplished and to ensure fluid exercise play.
- Correction on the spot requested, for local agencies.\*

**ARCAs:** None

**Sub-element 1.e – Equipment and Supplies to Support Operations**

**Criterion 1.e.1: Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J. 10.a,b,e; J.11, 12; K.3.a; K.5.b)**

**Locations:**

- SOC,
- DDC,
- DSHS RCP Headquarters,
- DSHS RCP at STP EOF,
- DSHS RCP Field Monitoring Team (FMTs),
- JIC, and
- MCEOC, including T/ACP

**Extent of Play:**

- Donning and doffing of anti-contamination clothing will be demonstrated out of sequence by one player, and will not be worn during the exercise.
- Activated charcoal filters will be used in lieu of silver zeolite filters for exercise purposes but FMTs will demonstrate availability of silver zeolite filters.
- Equipment not required to demonstrate exercise objectives may be left at the Staging Area to allow for additional space within the vehicles.
- Correction on the spot requested, for purposes of dressing out and for local agencies.\*

**ARCAs:** None

**EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING**

**Sub-element 2.a – Emergency Worker Exposure Control**

**Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654/FEMA-REP-1, C.6; J. 10.e, f; K.4)**

**Locations:**

- DSHS RCP at STP EOF and
- MCEOC

**Extent of Play:** None

**ARCAs:** None

**Sub-element 2.b. – Radiological Assessment and Protective Action Recommendations and Decisions for the plume Phase of the Emergency**

**Criterion 2.b.1:** Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654/FEMA-REP-1, I.10; Supp.3)

**Locations:**

- DSHS RCP Headquarters or
- DSHS RCP at STP EOF

**Extent of Play:**

- If STP EOF has been staffed by DSHS RCP at this time, it will be the only facility evaluated for this criterion.

**ARCAs:** None

**Criterion 2.b.2:** A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m)

**Locations:**

- MCEOC

**Extent of Play:**

- The protective actions that result from this decision-making process will not be implemented. No members of the public will be relocated.

**ARCAs:** None

**Sub-element 2.c – Protective Action Decisions Consideration for the Protection of Special Populations**

**Criterion 2.c.1:** Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs. (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e)

**Locations:**

- MCEOC

**Extent of Play:**

- Protective actions for access/functional needs individuals will be considered at the MCEOC; however, actual demonstration of protective actions will not be performed.
- MCEOC staff will demonstrate this criterion through discussion and showing the evaluator a roster of access/functional needs individuals in the 10-mile emergency planning zone.

**ARCA's:** None

**EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION**

**Sub-element 3.a – Implementation of Emergency Worker Exposure Control**

**Criterion 3.a.1:** The OROs issue appropriate dosimetry, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)

**Locations:**

- DSHS RCP at STP EOF,
- DSHS RCP Field Monitoring Teams,
- MCEOC, including T/ACP
- Matagorda ISD & Bus Driver

**Extent of Play:**

- Exercise TLDs will be used for the exercise. TLDs for real events are packaged in the Emergency Planner box at the staging area. DSHS Emergency Planners can show evaluator real TLDs at staging area.
- A bus driver demonstration will occur out of sequence of the exercise scenario during a time agreed upon by the EOC controller and FEMA evaluator.
- The bus driver demonstration will be conducted through an interview process where the bus driver, Transportation Coordinator, and Matagorda ISD superintendent can discuss their roles in the evacuation of school

children with the evaluator. The Matagorda ISD Superintendent is not considered an emergency worker, and therefore will not receive dosimetry.

- Expectations of the mission include: understanding the briefings, recording dosimeter readings as required by procedure, communications with the EOC and understanding the emergency assignment.
- Correction on the spot requested.\*

**ARCAs:** None

**Criterion 3.c.2:** OROs/School officials implement protective actions for schools. (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g)

**Locations:**

- Matagorda ISD & Bus Driver

**Extent of Play:**

- A bus driver demonstration will occur out of sequence of the exercise scenario during a time agreed upon by the EOC controller and FEMA evaluator.
- The bus driver demonstration will be conducted through an interview process where the bus driver, Transportation Coordinator, and Matagorda ISD superintendent can discuss their roles in the evacuation of school children with the evaluator.
- Expectations of the mission include: understanding the briefings, recording dosimeter readings as required by procedure, communications with the EOC and understanding the emergency assignment.
- During the interview process, and throughout the exercise, any PAD's communicated to schools will be simulated. No students will be evacuated. No parents will be notified of school PAD's.
- Correction on the spot requested.\*

**ARCAs:** None

**Sub-element 3.d. – Implementation of Traffic and Access Control**

**Criterion 3.d.1:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j)

**Locations:**

- MCEOC, including T/ACP

**Extent of Play:**

- The T/ACP decision-making process will be demonstrated in real-time sequence, however, travel to the T/ACP will be simulated.
- A law enforcement officer (from the Sheriff's Department) assigned to T/ACP will discuss the knowledge of their role and responsibilities by interview with the evaluator.
- This interview can occur out of sequence of the exercise scenario, but during the exercise, at a time agreed upon by the MCEOC controller and FEMA evaluator.
- Correction on the spot requested.\*

ARCA's: None

**Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654/FEMA-REP-1, J.10.k)**

Locations:

- MCEOC

Extent of Play:

- This criterion will be demonstrated by inject.
- No impediment will actually occur, however, the situation and solution will be discussed in the MCEOC.

ARCA's: None

#### **EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS**

##### **Sub-element 4.a – Plume Phase Field Measurement and Analyses**

**Criterion 4.a.2: Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.7, 8, 11; J.10.a)**

Locations:

- DSHS RCP at STP EOF

Extent of Play: None

ARCA's: None

**Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams should move to an appropriate low background location to determine whether any significant (as specified in**



the plan and/or procedures) amount of radioactivity has been collected on the sample media. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.8, 9; J.10.a)

**Locations:**

- DSHS RCP FMTs

**Extent of Play:**

- Activated charcoal filters will be used in lieu of Silver Zeolite filters for exercise purposes.
- Each graded field team will at least once demonstrate proficiency in the use of anti-contamination clothing as required by procedure.
- The ability to don and remove anti-contamination clothing will be demonstrated at an agreed upon time and location prior to or after the exercise.
- Correction on the spot requested.\*

**ARCs:** None

**EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION**

**Sub-element 5.a - Activation of the Prompt Alert and Notification System**

**Criterion 5.a.1:** Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized off-site emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)

**Locations:**

- MCEOC, and
- KMKS

**Extent of Play:**

- Siren and alert radio activation will be simulated by the Matagorda County Sheriff's Office Dispatcher.
- Simulation of the siren and alert radio activation will be in real time sequence with the transmission of the EAS message. The sirens will be sounded at the appropriate time in the exercise in accordance with the decision and the EAS message will follow the siren sounding.
- Emergency Alert System (EAS) message content will be determined by the Emergency Management Director and communicated to the EAS stations by the EOC Administrative Assistant; however, broadcasts will be simulated.

**ARCAs:** None

**Sub-element 5.b – Emergency Information and Instructions for the Public and the Media**

**Criterion 5.b.1: OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a; G.4.a, c)**

**Locations:**

- JIC, and
- MCEOC

**Extent of Play:**

- Information will not be provided to the public and/or the media not participating in the exercise.
- The STP JIC is in the process of implementing the PIER (Public Information Emergency Response) system to push, pull, and track public information. PIER is a private tool used by STP only. This system will not be evaluated by FEMA. Use of this system is not intended to replace FEMA approved methods of notifying the media and the public.

**ARCAs:** None

**GENERAL EXTENT-OF-PLAY:**

1. With regard to last minute additions or changes to any previously approved Extent-of-Play, all suggested changes, including decisions due to inclement weather, must be forwarded to the RAC Chair for approval.
2. As a statement of fact, no ORO will deliberately deviate from its plans and procedures with the intent of avoiding responsibility.
3. The exercise may be suspended or terminated due to a real emergency situation.
4. Draft copies of procedures may be used during the exercise, if the procedure is under revision at the time of the exercise. All draft procedures will be finalized within 30 days of the exercise.

\*Correction-on-the-spot is defined in the FEMA REP Program Manual at III-21.

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