Southern Crossing FRMAC
Full Scale Exercise
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Full Scale Exercise
August 14-18, 2006

Federal Participants

State & Local Participants

Florida

Georgia

Alabama
Agencies Involved

Local and State

- Dothan City
- Houston County
- Blakely County
- AL DPH and EMA
- FL BRC and DEM
- GA EMA, PH, CST, DNR, Dept. of Ag
- Red Cross

Houston County EOC

Incident Command Post
Agencies Involved

Federal

• CDC
• DHS
• FBI
• NRC
• OSHA
• DOE – HQ, NARAC, NSO, LANL, LLNL, RAP Regions 2 & 3, REAC/TS, SNL
• EPA – HQ (including labs in AL & NV), Region 4
Southern Crossing

Exercise Goals

• Demonstrate integration and interactions of Federal, State, and local entities in a nuclear / radiological emergency response

• Exercise Consequence Management functions from initial emergency response through longer term response

• Exercise transition of FRMAC leadership and the Coordinating Agency role between DOE and EPA
## Exercise Timeline

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<td>0530 – 1800</td>
<td>0700 – 2400</td>
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<td>0700 – 1200</td>
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<td>Day one</td>
<td>Day two</td>
<td>Day six</td>
<td>Day seven</td>
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<td>Start-Ex</td>
<td>24-hour play @ 0700</td>
<td>Time jump @ day shift</td>
<td>End-Ex @ 2000</td>
<td>Working Session</td>
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<td>Simulated shift</td>
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Exercise Scenario Overview

- By van, two unknown individuals transport a 5,000 curie Cs-137 source of an unknown origin (presumably smuggled into the county and intended for an unknown location) and are involved in a traffic accident at the intersection of Route US 84 and County Road 55.

- As a result of the accident, explosives around the source housing detonate. The two individuals transporting the source and the driver of the second vehicle are killed. The second vehicle is destroyed.

- The explosion from the collision of the vehicles severely damages the roadbed and results in a 20 ft crater-like blast.
Exercise Scenario Overview

- A large truck, carrying peanuts but no hazardous material, overturns while trying to avoid the explosion. The road and intersections are impassable and traffic approaching the scene is blocked.

- By the time emergency services arrive, several dozen vehicles were backed up on US 84 in both directions. First responders (county fire) recognized the potential of hazardous materials and requested HazMat support early. HazMat detected high levels of Gamma radiation and begins to manage the scene as a high radiation area.
Intersection where event was notionally staged

Overturned
18 Wheeler Truck

Accident Site Crater
Planning

Lessons Learned

• Exercise schedule was very compressed
• UC needs to be 24 hour operations
• Time jumps should be formally presented
• Pushed Lab Analysis to their limits
• FRMAC Transfer should be a separate X
• More participation from other agencies such as DHS, FEMA, FBI, etc.
• Need more controllers
Team Deployment Impact

- CMRT II arrived before CMRT I (due to transportation issues)
- CMRT II augments CMRT I (some critical positions not represented for set-up due to insufficient contingency plan)
- Advance Party Meeting - held by players and planners
Houston County

Objectives & Lessons Learned

- Unified Command - is it really working? Lessons Learned
- ICS – Unified Command
- Local PIO
- Communications (Local)
State of Alabama

- Invitation to host exercise
- Pre-exercise objectives
- Value of being part of the planning
- Challenges presented by a “three state/federal exercise”
Observations:

- Understanding the role of each agency
- Request for federal assistance. What does that really mean?
  - How is that request communicated, defined, and modified with time?
- Managing the assistance
- Too much? Not enough? Unwanted?
State of Alabama

Assuming that Southern Crossing had been real, what would have happened if:

- Federal assistance had been delayed?
- Federal assistance had not been available?
State of Alabama

- Planning was effortless! (JUST KIDDING!!!!)
- Was it worth the effort?
- Would you ever do it again?
State of Alabama

- Extremely educational and beneficial to our staff (our greatest benefit)
- Provided a lot of confidence to our staff
- Worked side by side with Houston County EMA and support staff (GREAT group of friends!)
- Worked with two neighboring states
- Illustrated that assistance from other states through SMRAP would work
- Worked beside, and made friends with, great, professional, committed representatives from numerous federal agencies
State of Alabama

Summary:

• Great Experience!
• Great Training!
• Confidence Building for Staff!
• Would you do it again? **YES!**
• Would you do it the same way? **NO!**
State of Florida

Exercise Goal #1

- Integrate Florida field team members with other agency field monitoring personnel to form FRMAC field monitoring teams capable of collecting samples and performing radiological measurements.

- Integrate Florida staff members into the FRMAC decision making process.

- Utilize the Florida Mobile Radiological laboratory to count and analyze samples for inclusion into the FRMAC database and for comparison with other Labs.
State of Florida

Exercise Goal #2

- Demonstrate the ability of the field teams and mobile lab to quantify the radiological data and recommend PAGs for Florida locations in the early phase of response.

- Effectively combine equipment and personnel with other states and federal agencies to determine and implement long term clean up requirements in a multi state radiological incident.
Lessons Learned

- Send data to FRMAC home team electronically rather than by phone; if FRMAC had a desired data format for us to use that might help them to post it faster.

- Home team concept worked well for the first try.

- Faster to download maps straight from NARAC than FRMAC
  - Need to get shared access to maps in real situation.

- We need better GIS capability to overlay projections on various maps. Our DEM folks may be able to help
  - Need to explore this more
State of Florida
Lessons Learned Cont’d

- Unified Command needs to be practiced at a county level for this type of event
  - It is not clear how to set one up and manage it
  - It is very challenging for county governments
- Night sampling work may not be worth the effort
  - Need to explore this more
- Should have brought our Sample Prep Van for the experience
State of Florida

Lessons Learned Cont’d

- Our concept of being prepared to “go it pretty much alone” for at least 48 hours is a good concept. Feds may arrive in 24 - 48 hours but it takes time for anyone to get organized.

- Need access to the internet while traveling.

- 24 hour ops – never practiced – how do we get a place to stay, food, supplies, etc. We have a rough idea, but we have never exercised it. We have a staffing plan but what can we do to make up for short staffing (no shows)

  - Perhaps recruit from county health departments outside impact area for admin support so we can move technical people to more productive work.
State of Florida

Lessons Learned Cont’d

• Lab geometries need to at least have recommended federal solutions so those who would like to be uniform have something to strive towards. Those geometries need to be discussed by all in the game so that the best solutions are recommended.
State of Georgia

Objectives

- Integrate EPD staff and members of the 4th WMD / CST with DOE-FRMAC field monitoring personnel to collect samples and perform radiological measurements.

- Utilize the Georgia Department of Natural Resources (DNR) Mobile Radiation Laboratory (MRL) to analyze samples and provide results to the FRMAC for incorporation into its database.

- Integrate radiological technical staff and other agency managers from GEMA; Early County EMA Director; Dept. of Agriculture; UGA. County Extension Service; National Guard (4th WMD / CST) into FRMAC as active participants in the decision making and the radiological monitoring sampling planning process alongside DOE management and technical staff.
State of Georgia

Objectives Cont’d

- Integrate radiological technical staff and other agency managers from GEMA; Early County EMA Director; Dept. of Agriculture; UGA. County Extension Service; National Guard 4th-Civil Support Unit into the FRMAC as active participants in the decision making and the radiological monitoring sampling planning process with DOE management and technical staff at the Assessment Center
State of Georgia

Lessons Learned

- State / local must “handle it” for 48 – 72 hours prior to a fully-functional FRMAC
- Contamination monitoring for members of the public will be problematic
- Radiation program personnel need to be fully engaged with FRMAC
- Mission plans need more clarity when dealing with multiple jurisdictions
- Sampling locations not available for mapping until after results are available
State of Georgia

Lessons Learned Cont’d

• Confusion about “current” data products
• Confusion between NARAC web and FRMAC web
• USCG personnel are excellent IC/UC “coaches”
State of Georgia

Recommendations

- Enhanced use of Consequence Management Home Team (CMHT)
- Move from “pushing paper” to electronic delivery of data products
- Integrate sample receipt logs into FRMAC database and GIS
- Data products should be date/time stamped and serial numbered
- Consolidate NARAC and FRMAC data products
NUC/RAD Annex planning assumption:

- Radiological Incidents of National Significance (INS) will likely trigger implementation of the NRP Catastrophic Incident Annex (CIA) and Catastrophic Incident Supplement (CIS).
The Coordinating Agency

- Secretary, DHS can invoke the CIA and/or the CIS.
- DOE assets may be deployed at the direction of the Secretary, DHS during a radiological INS.
- FRMAC has incorporated NIMS components and ICS into its command structure.
- Assets may be deployed during an incident without a local request to the Federal government.
The Coordinating Agency

Cont’d

- The Coordinating Agency ensures that technical data, including outputs from the FRMAC, the Advisory Team, and the IMAAC, is shared with all appropriate response organizations.

- This coordination involves close cooperation between the agency with the technical resources (i.e., DOE) and DHS.

- DHS provides overall direction and control while DOE serves as a resource to DHS.
The Coordinating Agency

Cont’d

- Coordinating agencies will use the structure of the NRP to coordinate radiological incident response functions during the INS.
Additional NIMS information:
- NIMS Web site:  [www.fema.gov/emergency/nims](http://www.fema.gov/emergency/nims)
- NIMS Integration Center:
  - NIMS-Integration-Center@dhs.gov
EPA

Objectives (1)

- Demonstrate ability to work with FRMAC in response to a major radiological incident
  - Work with FRMAC under ICS (Unified Command) and NRP
  - Integration of operations of all EPA assets
  - Roles of EPA personnel in the FRMAC management structure during the emergency phase
- Transition FRMAC from DOE to EPA and transition Coordinating Agency role from DOE to EPA
- Explore use of DOE EM resources during cleanup activities
EPA

Objectives (2)

Demonstrate ability of EPA field teams and fixed and mobile laboratories to effectively support a response to a radiological incident

- Demonstrate ability of field teams to:
  - Operate radiation detection equipment
  - Collect samples
  - Complete required documentation
  - Transmit data in real-time mode and report back to the FRMAC
    - Not tested
EPA

Objectives (2) Cont’d

Demonstrate ability of EPA Mobile Laboratories to:

• Receive samples
• Prepare samples
• Analyze and count samples
• Properly track and report results
Lessons Learned: Exercise Planning

- Evaluate previous exercise AARs to ensure sufficient data are available for players
- Ensure key Departments/Agencies participate, or plan to ensure realism
- Media/Joint Information Center play must be a key component of exercise design
  - May drive player actions in the field
- Ensure exercise realism
  - Source term should remain a mystery
  - Controllers should not play
EPA

Lessons Learned: Coordination

- FRMAC remains an important asset
  - Needs to be better integrated into Incident Action Planning process
- Liaisons are not enough
- More training of EPA Superfund responders on FRMAC
- More training of FRMAC management on ICS
EPA
Lessons Learned: Coordination

- RERT rostering for support under both NCP and Nuclear/Radiological Incident Annex
  - RERT Scientific Support Coordinator needed to support the On-Scene Coordinator in Unified Command
- Continue discussions with DOE on integrating DOE and EPA Superfund response assets
EPA

Lessons Learned: EPA/DOE Coordination

- Post-Emergency Working Group meeting needed
  - Provide examples of FRMAC transfer criteria
- Simultaneous DOE roles as Coordinating Agency and FRMAC management created confusion
  - Role of Coordinating Agency in Unified Command vs. FRMAC as important technical asset
Lessons Learned: Laboratory Issues

- Contingency planning for sample control
- Need electronic entry/transfer of sample information and results between EPA assets
- Evaluate FRMAC ability to handle all samples
  - Develop an SOP for where and how to send incident samples off-site
  - Exercise plan for addressing “hot” samples
• First time OSHA has exercised with FRMAC

• Participation
  • OSHA Radiological SRT (4 participants)
  • OSHA Mobile, AL Area Office (1 participant)

• Objective: To exercise OSHA’s Coordination role of Worker Safety and Health Annex of the NRP
• Worked with both the UC Safety Officer and FRMAC H&S Officer

• Facilitated the exchange of worker health and safety information (H&S Plans) between FRMAC and UC Safety Officer

• Coordination of H&S plans will likely be more complex as more agencies respond to an INS
The Advisory Team

for Environment, Food, and Health (A-Team)

The goal of the A-Team is to provide coordinated advice and recommendations to the State, Coordinating Agency, and DHS concerning environmental, food, and health matters.

Membership is comprised principally of:

and other Federal agencies as needed
Advisory Team

- Does not make policy decisions
- Does not make protective action decisions for State and local authorities just recommendations
- Provides coordinated technical and scientific advice through the Coordinating Agency
- Bases its recommendations on science and best practices
Advisory Team

Objectives

- Evaluate data flow
- Evaluate response
- Communication between
  - Members of the team
  - Members and their agency EOC
  - Team and the coordinating agency
- Virtual A-Team (not used for this exercise because members agencies were represented)
Advisory Team
Lessons Learned

- CMHT – excellent resource
- Integration with ICS – needs clarification
- Action request process - needs improvement
- Customer
  - “The Advisory Team develops coordinated advice and recommendations for DHS, the JFO Coordination Group, the coordinating agency, and State, local, and tribal governments.“
**FBI**

Objectives

- Ensure proper notification to FBI from local responders
- Ensure immediate response from Mobile Division Special Agents
- Ensure that the FBI's Strategic Information and Operations Center is promptly notified for coordination with DHS
- Integrate with Incident Command
- Determine cause (accidental/intentional)
- Coordinate FBI response and conduct appropriate investigation
FBI

Lessons Learned

- On major Field Training Exercises, representatives from the appropriate FBI Headquarters programs should be involved.

- Better coordination among Federal investigative components
DOE

Objectives

• Deploy Real-time
• CMRT I and II - evaluate
• CMHT - first time used
• UC - first time used with FRMAC
• Lab Analysis - test & evaluate operational capacity
• DOE to EPA Transfer
DOE

Lessons Learned

• Integration with ICS / Unified Command
• Team Deployment
• Improve Delivery of Products (e.g. maps)
• Improve Sample Control
• Improve Outreach
• CMHT Success
• Exercise Design
Team Deployment

- Constrained by DOE aircraft
  - Currently two - soon to be three DC-9
  - On stand by for all NNSA assets
- Exploring options to provide more flexibility in deployment of CMRT I
  - Still provide the necessary support
  - Arrive quicker (commercial vs. contract air)
- CMRT II
- CMRT Augmentation / FRMAC
Improve Delivery of Products

“Paperless FRMAC”

- NARAC / FRMAC Web integration
- Real Time display of AMS flights
- Have CMHT manage the flow of data products on the FRMAC Web
- Default package of maps
- Paperless FRMAC
- Telemetry of field data
- Action Request process
Laboratory Analysis

Sample Control

- Laboratory Analysis Working Group
  - All lab issues will be discussed in the WG
  - A new chair has been assigned to the group
- Proposed Corrective Actions shared with state, locals, and feds
- Better communication between the various working groups
  - Lab Analysis
  - Monitoring & Sampling
  - Assessment
  - Health and Safety
Improve Outreach

- Looking at presenting at venues other than NPP sites
  - Annual state radiological conferences
  - In combination with RAP outreach
- Creating fact sheets
  - Where state responsibilities reside
  - Regulations applicable to emergency response
- Revising the outreach so it better defines how FRMAC operates with the UC and FRMAC resources
- Liaisons and the CM/FRMAC Home Team
CM/ FRMAC Home Team

• First use in an exercise
  • Virtual FRMAC
  • Excellent communication and reach back tool
• Implemented Lessons Learned
  • Watch-billed
  • Increased staffing
CM/ FRMAC Home Team

cont’d

- Future enhancements
  - Manage data products
    - Collect more information that can be passed between state and FRMAC
  - Continue operation concurrent with CMRT I / FRMAC operations
  - Increase scope of work
- Set up multiple bridge lines to support multiple events
Exercise Design

- The initial prediction models did not agree with the actual ground truth by design.
- Having controllers from other states was great.
- Public Affairs / media events should always be a focus in a FSE.
Conclusion

Overall the Southern Crossing Full Scale Exercise (FSE) was a very successful exercise. We met and in some cases exceeded the goals set forth in the exercise plan. Integration with the states provided a wealth of lessons learned especially in the area of the Unified Command and ICS integration. This exercise has far exceeded any previous CM exercise in regards to feedback received and lessons learned to improve from.
Southern Crossing FSE

Questions
for
Panel