



UNIVERSITY OF NEBRASKA AT OMAHA

NEBRASKA APPLIED RESEARCH INSTITUTE (NARI)

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# **New Directions in ARFF Simulation Training**

*ARFF Chiefs & Leadership School  
14 February 2017*



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## What is NARI and why are you here?

**NARI's Mission: Deliver value-added solutions to industry partners with *high consequence* challenges through research and development**

- Leverage our Place
- Conduct Customer-Focused Research
- Tech Transfer
- Vendor Neutral
- Systems Integrator



MAVERICK TRIANGLE



## Simulation Training - Examples of what's happening...

### Live:

- Tabletop – role play
- Physical – props, hot/live fire, equipment

### Virtual:

- Driver/Vehicle
- Equipment Handling
- Physics-based Fires
- Tactical Response



**Is there a need for virtual simulation training for *decision-making* at the incident command level?**

**What about for communications between command and responders on the ground?**

- For example, key decision points

**As chiefs and leaders, are there specific scenarios that need coverage?**



## Example: EMST, a scenario-based training tool

images courtesy of ECS, Inc.


EOC Commander, Facilitator (Mc Carran Intl, Carson City, Nevada)

08:01  
MON JUL 02

Clock is running

**BREAKING NEWS** ERROR PLOT IN NEVADA -- SEASON PREMIER OF THE REHASHES TONIGHT AT 9! -- EARTHQUAKE ROCKS SOUTHERN CHILE -- FBI FOILS TERROR PLOT IN NEVADA -- SEASON PREMIER OF THE REHASHES TONIGHT AT 9! -- EARTHQUAKE ROCKS SOUTHERN CHILE -- FBI FOILS TERROR PLOT II




Important Information



**Purpose of this exercise**

The following scenario will expose you to the issues that may occur in the event of a fuel farm fire. The intention is to allow you to experience the problems and time frames of the situation and to give you the opportunity to develop responses to issues. This experience will enhance your ability to plan for just such an eventuality in your airport.

**Tips**

-  Audio is recommended for this scenario.
-  When you are ready, click the green VCR PLAY arrow in the top left corner of your screen to begin the exercise.
-  [Email](#)

**Radio**

CH 1	CH 2	CH 3	CH 4	CH 5	CH 6
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**Call From:** Communications Center  
**Call Message:** Crash 1, Engine 1, Rescue 1, District 1, Mobile Command post: Report of heavy smoke coming from fuel farm.

**TO:**

Template: Fuel Line Shutdown

On-scene ops have shut down half of the fuel service lines to the airside fuel hydrants.

**SEND MESSAGE**

New Tasks (1) Urgent (0) Late (0) Expired (0) Completed (0)

Ensure you know who should report to the EOC by checking the assignments in the Incident Command chart posted on the Incident Command Board. [How](#)



Example:

The screenshot displays a mobile application interface with the following components:

- Header:** A status bar at the top shows the time 09:44, the date MON JUL 02, and the location "EOC Commander, Facilitator (Mc Carran Intl, Carson City, Nevada)". A "Clock is running" indicator is visible.
- News Ticker:** A red banner at the top contains "BREAKING NEWS" and a scrolling headline: "LE -- FBI FOILS TERROR PLOT IN NEVADA -- SEASON PREMIER OF THE REHASHES TONIGHT AT 9! -- FIRE AT MC CARRAN INTL AIRPORT FUEL FARM: CAUSE UNKNOWN -- EARTHQUAKE ROCKS SOUTHERN CHILE -- FBI FOILS TERROR PLOT IN NEVADA -- SEASON PREMIER OF THE REHASHES".
- Navigation:** A top menu includes "Meeting Slides", "Office Door", and "Website".
- Left Sidebar:** A vertical list of icons for "Chirper", "Email", "Feedback", "Forms", "ICB", "Log", "Map", "Meeting", "Visitor", and "Website".
- Task List:** A list of tasks on the left side:
  - Fuel farm burning in Mc C... (Mon Jul 02 08:11)
  - Fire in Mc Carran Intl (NO PHOTO) (Mon Jul 02 08:05)
  - Hot Weather Continues (Mon Jul 02 08:01) - **Selected**
  - Student Europe Trip (Mon Jul 02 08:01)
- Main Content:** An article titled "More Hot Weather on the Way" by WECSNewsNow meteorologist Dave Crosby. The text discusses the weather forecast for Nevada, mentioning high temperatures in the upper 90s and a chance of rain on Saturday. A small image of a person in a field is visible at the bottom of the article.
- Task Summary:** A bar at the bottom of the task list shows: "New Tasks (0)", "Urgent (0)", "Late (5)", "Expired (1)", and "Completed (3)". Below it, a message states "You have no new tasking." with a "How" button.
- Right Panel:** A video player titled "Breaking News - Fire at Airport" in 320p resolution. The video shows a news anchor and a scene of an explosion at an airport.
- System Icons:** On the far right, there are icons for "Exit", "Wi-Fi", "Settings", "Help", "Chat", "Phone", "SMS", and "TV".



## Example: After Action Report

**EMST**  
EMERGENCY MANAGEMENT STAFF TRAINER

- TUTORIALS AND TOOLS
- INDIVIDUAL TRAINING
- STAFF TRAINING
- RECORDS ROOM**
- INFORMATION
- EXERCISE RECORDS
- MY ACCOUNT SETTINGS
- LOGOUT

### EXERCISE RECORDS

View After Action Reports. Reports are available for two years after exercise date.

**FAO**

Capability: Intelligence/Information Sharing and Dissemination

- Activity 3: Conduct Horizontal Flow of Information
  - 3.1 Horizontal coordination across jurisdictions among law enforcement and other appropriate agencies is achieved at all levels through effective ...
    - Acquire situational awareness.
    - Attend the Shift Change Briefing.

Capability: Emergency Operations Center Management

- Activity 3: Gather and Provide Information
  - 3.1 Verify that all participating public safety-related Communication Centers, serving the EOC/MACC/IOF directly or indirectly, have established co...
    - (Mr. Ben Bryan) Staff vacancies for one shift can be covered by another shift while the missing people are located. Your answer was Yes
  - 3.4 Coordinate with non-governmental agencies and/or private sector to collect/share data on incident situation.
    - Press release on phone comms down.
- Activity 5: Prioritize and Provide Resources

**Key:**

- Executed to standard
- Executed minimally to standard
- Not executed to standard
- Pending
- Not used / reached
- Self Assessed

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 All Live Roles  
 Communications (ESF 2) ▼

[Email to myself](#)  
[Email to all participants](#)

[ONLINE GUIDE](#)



## **Is virtual simulation training available to you?**

- Your HQ
- Training facility
- Online

## **If so, is it sufficiently accessible?**

- Location
- Cost
- Time





## **COST is a key factor in training development and participation**

- **Are there specific ways that airport fire departments could collaborate together to address this challenge?**
- **Some ideas:**
  - Small group(s) of airports with focused needs
  - Consortium approach for broader needs
  - Role of ARFFWG in professional development



**Could virtual simulation tools/technologies help address or overcome:**

- **Specific training gaps?**
- **Barriers to training?**



## **What is the place of virtual and/or augmented reality (VR/AR) training in the ARFF community?**

- VR -- it's getting more immersive (those goggles you keep seeing around)
- AR -- informative overlays on your field of vision

**Are there specific training applications for these technologies that you're not seeing yet?**



## Contact Information

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