

**Simulation Supported Exercise Environment to Support Foreign Animal and Zoonotic Disease Strategic Planning and Training Needs**

DHS Priority Areas Addressed	<input checked="" type="checkbox"/> Prevention <input type="checkbox"/> Detection <input checked="" type="checkbox"/> Response <input type="checkbox"/> Recovery <input type="checkbox"/> Education/Risk Communication			
Proposal Section Addressed	Sections 5.1.2 and 5.3.2			
Investigators	TEES: Jim Wall TAMU: John Hoffman USC: Mike Orosz			
Objectives	Deliverables	Progress Toward Deliverables	Percent Complete	
To develop a simulation support exercise environment that is capable of supporting strategic planning needs for animal biosecurity and incident management training	Simulator systems analysis			
	Complete needs assessment with experts	Project start date: 1 Aug 2007. Currently arranging meetings with stakeholders to discuss needs and requirements – September/October time frame	5%	
	Complete report on assessment			
	Integrative middleware/non-computer training media			
	Middleware for coupling system			
	1 <sup>st</sup> order training media tested with experts			
	First-Generation Exercise Simulator			
	Completed system design	Preliminary system design completed – part of Plan-of-Work specification	10%	
	Complete 1 <sup>st</sup> order functional system			
	Test system with domain experts			
	Test system with outside reviewers after modification			
	Prepare report on final design requirement of system			

## Highlight for Research Briefs

Preliminary system requirements, high-level design, and a proposed Concept of Operations (ConOps) specification have been developed and are part of the plan-of-work submitted to the FAZD Center (July 2007). The following are the preliminary overall system requirements:

- The overall system will support the training of personnel on how to plan, monitor, and react to a terrorist or naturally induced event in the agriculture community
- The tools/resources within the training system will be available/used outside the training environment:
  - Enable real-time situational awareness of the environment (day-to-day and during an emergency event)
  - Support emergency personnel during an actual outbreak
  - Support emergency management planning and updating current FAD plans
- Integrate legacy systems (i.e., build upon and take advantage of available resources) as appropriate
- Simulates actual outbreaks and responses
- Scales from county, regional, to national level operations
- Train personnel on how to use FAZD resources
- Support real-time performance – system reacts immediately to trainee input
- Support “what-if” analysis
- Support national training program

The project team is arranging meetings with various government agencies to discuss the project, collect information, and refine the system requirements. In parallel to this effort, a detailed system design is currently underway.

## Interpretive Summary

The primary objective of this phase of the project is to develop a demonstration prototype of the training component of the FAZD/DPS and use this prototype to solicit feedback and collaborative opportunities for developing the second phase (i.e., a software-based demonstration prototype). Specifically, the demonstration prototype will satisfy the following system requirements:

- Knowledge of the domain/sector and problems it faces
- Access to tools that address real-world problems
  - Common Operational Picture (Situational Awareness): Showcase tools that can be used to monitor current environment [NIPP]
  - Implementation of the Plan: Showcase tools that can be used during an actual event [HSP #5]
  - Identify gaps: Demonstrate tools that can be used to identify gaps in an agency’s emergency response plan
- Access to tools that simulate an actual event
  - Showcase tools that can be used in a training environment
- Knowledge about the use of simulation in support of emergency management training
  - TEES experience
- Use to gather, collect, and refine requirements for future phase 2 development
- Introduce emergency response concepts in the classroom environment (i.e., the intention is to make available to the classroom environment, the phase 1 demonstration to help introduce emergency response concepts to students)

We propose to develop a prototype training system that demonstrates the capabilities of the FAZD/DPS and how these capabilities can be used to train emergency management personnel. This prototype will consist of a Flash or animated PowerPoint presentation that demonstrates the look, feel, and behavior of a fully functioning training system. The demonstration scenario will be centered on training for a FMD outbreak in the US cattle industry.

### **Results and Interpretations**

Based on initial discussions with stakeholders (e.g., DHS/USDA Joint Modeling Operations Center Meeting, etc.), there is clearly a need for Ag-based emergency management training and response tools

### **Technology Transition**

A major goal of the effort is to transition the technology to various agencies (local, state, regional, and federal) involved with Ag-based emergency management training and response.

### **Status of Funding**

Project start date was 1 Aug 2007. The NCE has been requested