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**NAVAL
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MONTEREY, CALIFORNIA

THESIS

**EVALUATING THE FLORIDA URBAN SEARCH AND
RESCUE SYSTEM: ITS FUTURE STRUCTURE AND
DIRECTION**

by

John J. DeIorio, II

December 2009

Thesis Advisor:
Second Reader:

Ellen Gordon
Christ Bellavita

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REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2009	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE Evaluating the Florida Urban Search and Rescue System: Its Future Structure and Direction			5. FUNDING NUMBERS	
6. AUTHOR(S) John J. DeLorio, II				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) <p>Since September 12, 2001, The Florida Urban Search and Rescue System (FLUSAR) in Florida has grown from a nascent system to a full-fledged, multi-tiered, statewide search and rescue system. Through an urgent need for Urban Search and Rescue (US&R) capabilities, good planning and a unity of purpose after September 11, 2001, Florida was able to establish a system that is emulated by other states. However, due to a lack of state control, sustainable funding, a strategic plan and policies to protect integral members from professional liability, the system is in jeopardy of ceasing to exist. If this were to occur, Florida could not adequately protect its citizens during emergencies that cause structural collapse.</p> <p>By examining the qualitative information gleaned from the literature review, a survey of state US&R systems, interviews with personnel who were involved with the establishment of FLUSAR, or have a role in other state's US&R systems, and the author's experience with the FLUSAR system with state and local governments, this thesis will also evaluate the present capability of the US&R system within the state of Florida and provide a description of where FLUSAR has been, where it is today and to recommend changes for the future. In order to ensure the highest degree of performance and accountability to the citizens of Florida, including recognizing the real strength of a US&R system is one that is based on the rapid, local and regional response of specially trained US&R teams and task forces from within a state, the author will recommend that the Florida Division of State Fire Marshal establish a US&R advisory board and US&R program coordinator and dedicate sufficient funding to support an Advisory Board and US&R program coordinator and that the Florida Division of State Fire Marshal should be the agency in charge of the state US&R system, or FLUSAR.</p>				
14. SUBJECT TERMS urban search and rescue (US&R), urban search and rescue systems, Florida Urban Search and Rescue (FLUSAR), search and rescue, US&R task force, technical rescue teams, state emergency response, States Urban Search and Rescue Alliance (SUSAR), Florida State Fire Marshall, Marion County, FL Fire Rescue			15. NUMBER OF PAGES 79	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

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**EVALUATING FLORIDA'S URBAN SEARCH AND RESCUE SYSTEM:
ITS CURRENT STRUCTURE AND FUTURE DIRECTION**

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

Since September 12, 2001, The Florida Urban Search and Rescue System (FLUSAR) in Florida has grown from a nascent system to a full-fledged, multi-tiered, statewide search and rescue system. Through an urgent need for Urban Search and Rescue (US&R) capabilities, good planning and a unity of purpose after September 11, 2001, Florida was able to establish a system that is emulated by other states. However, due to a lack of state control, sustainable funding, a strategic plan and policies to protect integral members from professional liability, the system is in jeopardy of ceasing to exist. If this were to occur, Florida could not adequately protect its citizens during emergencies that cause structural collapse.

By examining the qualitative information gleaned from the literature review, a survey of state US&R systems, interviews with personnel who were involved with the establishment of FLUSAR, or have a role in other state's US&R systems, and the author's experience with the FLUSAR system with state and local governments, this thesis will also evaluate the present capability of the US&R system within the state of Florida and provide a description of where FLUSAR has been, where it is today and to recommend changes for the future. In order to ensure the highest degree of performance and accountability to the citizens of Florida, including recognizing the real strength of a US&R system is one that is based on the rapid, local and regional response of specially trained US&R teams and task forces from within a state, the author will recommend that the Florida Division of State Fire Marshal establish a US&R advisory board and US&R program coordinator and dedicate sufficient funding to support an Advisory Board and US&R program coordinator and that the Florida Division of State Fire Marshal should be the agency in charge of the state US&R system, or FLUSAR.

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LIST OF ACRONYMS AND ABBREVIATIONS

CEMP Comprehensive Emergency Management Plan
CRS Congressional Research Service
DEM Florida Division of Emergency Management
DEP Department of Environmental Protection
DHS Department of Homeland Security
DSOC Domestic Security Oversight Council
DSW Disaster Service Worker
ECO Emergency Coordinating Officer
EMAC Emergency Management Assistance Compact
ESF Emergency Support Function
FASAR Florida Association of Search and Rescue
FFCA Florida Fire Chief's Association
FEMA Federal Emergency Management Agency
FL-TF 1 Florida Task Force 1
FL-TF 2 Florida Task Force 2
FLAHR Florida Association of Hazardous Materials Responders
FLUSAR Florida Urban Search and Rescue System
HSGR Homeland Security Grant Program
HSPD Homeland Security Preparedness Directive
IMS Incident Management System
IST Incident Support Team
MOU memoranda of understanding
MTM Medical Team Manager
NEHRP National Earthquake Hazards Reduction Program
NGA National Governor's Association
NIMS National Incident Management System
OFDA Office of Foreign Disaster Assistance
OIG Office of Inspector General
ORE Operational Readiness Evaluation

SERP State Emergency Response Plan
SEOC State Emergency Operations Center
SFM State Fire Marshal
SHSGP State Homeland Security Grant Program
SME Subject matter expert
StS Structural specialists
SUSAR States Urban Search and Rescue Alliance
TRT Technical Rescue Teams
UASI Urban Area Security Initiative
USAID United States Agency for International Development
VPA Volunteer Protection Act
VA-TF 1 Virginia Task Force 1

ACKNOWLEDGMENTS

I would first like to thank my beautiful wife of 25 years, Elaine. Her love, patience and fortitude kept me focused during those times of conflict, confusion and frustration that were encountered during the course, being a husband, father, chief fire officer and student. I would also like to thank my children, Elaine, Lillian, John, Patricia, Rosemary and Marilyn who endured 18 months of scant fatherly participation in their lives while I read, studied, posted, researched and wrote papers. Their patience, understanding and unconditional love was greatly appreciated and will not be forgotten.

I would also like to honor the passengers of hijacked American Airlines Flight 93 who, in the early hours of September 11, 2001, made the supreme sacrifice in ensuring those that would seek to do harm to Americans did not accomplish their mission. In addition, I wish to honor the FDNY firefighters, NYPD and Port Authority Police Officers involved in that tragedy. Their selfless desire to protect America must never go unnoticed or forgotten. I pray that I am worth the sacrifice they made and can meet the forthcoming challenges to keep Americans safe.

Lastly, I would like to thank the Center for Homeland Defense and Security for giving me the opportunity to network and learn with other outstanding homeland security professionals in preparing ourselves to protect America from an uncertain future ahead.

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I. INTRODUCTION

Along with the events of September 11, 2001; August 29, 2005; and the subsequent days after Hurricane Katrina struck the Gulf Coast, disaster events of the past decade have shaken the American public's confidence in the government's ability to protect the homeland from various forms of disaster. It is important that Florida's government leaders take steps to ensure that the state is safe and is prepared to respond to events of significant consequence. One discipline of response to incidents of significant consequence is urban search and rescue (US&R).

Urban search and rescue is considered an "all hazards" discipline, as it may be needed for a variety of emergencies or disasters, including earthquakes, hurricanes, storms and tornadoes, floods, dam failures, technological accidents, terrorist activities, and hazardous materials releases. The events may be slow in developing, as in the case of hurricanes, or sudden, as in the case of tornadoes and building collapse.

Since September 12, 2008, the Urban Search and Rescue System in Florida (FLUSAR) has grown from a nascent system to a full-fledged statewide search and rescue system. Through planning and visioning, collaboration and negotiations with other disciplines, Florida was able to establish a system that is emulated by other states. However, due to a lack of state control, a strategic plan, state funding and policies to protect non-fire service members of the task forces that provide important services, the system is at risk of ceasing to exist. This is especially important because Florida's economic prosperity depends on travel and tourism, and its citizens and visitors have the right to feel and be safe. Additionally, there already has been a significant investment of resources and time in developing the US&R system in Florida.

A recent Operational Readiness Evaluation of the US&R system in Florida, published documents on the federal US&R system, and the author's experience of working with the existing Florida system since 2001, has shown that the state of Florida has a very good US&R system, but it needs to prepare for the future. The author believes the enactment of state control of FLUSAR by the Division of State Fire Marshal will

solve the identified problems, ensure system accountability, reduce liability for mission critical civilian positions, and allow for a more effective use of resources to fund the operations.

It is recognized with this suggestion comes a requisite increase in state funding; however, an incremental phase-in approach to funding is recommended. This phased-in funding process can be part of the strategic planning process. As benchmarks in the planning process are met, commensurate funding can be put in place. The benefit of this process would be a “forward thinking” planning process that would give legislators the ability to plan for funding increases. The increased cost to the state will be offset by the new system and the added benefits of consistency, accountability and effectiveness in responding to the aftermath of man-made or natural disasters.

Additionally, the author concedes there are political considerations related to resource allocation for any initiative during difficult economic times, even a homeland security initiative. However, it is not the author’s intent to examine these considerations as part of this thesis. The author will save that topic for further scholarly inquiry. This thesis focuses solely on the US&R system in Florida and suggests future direction based on the research and the author’s experience working within the system.

A. BACKGROUND

It has been stated in recent federal government documents, while policy and strategic planning for international terrorism and natural disasters are principally a federal responsibility, in light of Department of Homeland Security (DHS) and presidential directives, states must do more to plan for these types of incidents (Bea, 2006).

After September 11, 2001, Governor Jeb Bush formally directed state agencies to immediately complete a comprehensive strategic assessment of Florida’s capability to prevent, mitigate, and respond to these types of incidents. Governor Bush further directed that the assessment examine the state’s capabilities regarding training programs, equipment, and execution protocols, with particular focus on preventing an event and mitigating the aftermath related to an event of significant consequence occurring in the state (Caruson & MacManus, 2008).

The governor requested a report be completed within ten working days. Using the existing networks of law enforcement, firefighters, emergency medical services, emergency management, and selected private sector partners, these workgroups collected information about Florida's existing capabilities and capacities. The compiled information provided valuable insight into the status of Florida's domestic security preparedness and exposed a significant weakness in the state's ability to respond to an incident that required urban search and rescue (R. Napoli, personal communication, September 1, 2009).

In Florida's Comprehensive Emergency Management Plan, the Director of State Fire Marshal (SFM) Emergency Coordinating Officer (ECO) is responsible for Emergency Support Function (ESF) 9, Search and Rescue (Florida Department of Emergency Management, 2004). This includes urban search and rescue, which involves the location, rescue (extrication), and initial medical stabilization of victims trapped in confined spaces where technical expertise and equipment are required beyond the normal fire service response.

Structural collapse is most often the cause of victims being trapped, but victims may also be trapped in transportation accidents, collapsed trenches and severe flooding. US&R is considered a "multi-hazard" discipline, as it may be needed for a variety of emergencies or disasters, including earthquakes, hurricanes, storms and tornadoes, floods, dam failures, technological accidents, or terrorist activities. US&R task forces are categorized or "typed" according to operational capability (minimum training, staffing and equipment required, and the initial operating period).

Subject matter experts (SMEs) reviewed and analyzed the information and develop recommendations for strengthening Florida's safety and security framework. These subject matter experts included sheriff, police, fire, and emergency services professionals, as well as private sector partners critical in maintaining public and government services. The SMEs' recommendations were reviewed, validated and approved by the chief executives of state, county, and municipal agencies with emergency responsibilities in Florida.

The primary recommendations for strengthening Florida's ability to respond to an incident of significant consequence that required US&R was to enhance the existing response capability of the two Federal Emergency Management Agency (FEMA) affiliated US&R task forces, Florida Task Force 1 (FL-TF 1—Miami-Dade Fire Rescue) and Florida Task Force 2 (FL-TF 2—City of Miami Fire Rescue and other supporting agencies). This was a priority because during this period, both of these US&R task forces were deployed to New York City to assist with the rescue operations occurring at the World Trade Center site. This left Florida without formalized US&R capability if another event of significant consequence occurred.

According to Casey (personal communication, June 20, 2009), by virtue of its ESF 9 responsibility, Governor Bush directed the SFM to ensure the state is not left void of US&R capabilities if FL-TF 1 and TF 2 are deployed out of state. To ensure this, a statewide US&R system, known as the Florida Urban Search and Rescue System (FLUSAR) was developed. From 2001 to 2004, seven urban search and rescue task forces comprised of over 750 members were organized in addition to the two aforementioned FEMA task forces (D.A. Casey, personal communication, June 20, 2009). These US&R task forces are available for local response, regional response, statewide response, and, as in the case of Hurricane Katrina, an interstate response.

The FLUSAR response system provides a coordinated response to disasters in urbanized environments. Special emphasis is placed on the capability to locate and extricate victims trapped in collapsed buildings, from light residential construction to heavily reinforced concrete structures. A unique component to the Florida system is the Type II Technical Rescue Teams (TRT). Fifty-three teams consisting of local fire department personnel are available for immediate local, regional and statewide response. These teams utilize the regular fire department staffing, but with specially trained members have a higher search and rescue training level and are equipped with a light-duty US&R equipment package provided through the above process. .

The state of Florida is the only state that has TRTs as part of its US&R system available as a state resource for statewide deployment to initially deploy before the nine US&R task forces. According to Mayers (personal communication, August 18, 2009),

other states have wanted to emulate this component of the state US&R system. Since its inception, FLUSAR has proven its value repeatedly, with numerous responses to the hurricanes of 2004 and 2005 (including interstate response to Mississippi after Hurricane Katrina), and to the Central Florida tornadoes of 2007.

The SFM, Florida Association of Search and Rescue (FASAR), Florida Fire Chief's Association (FFCA), the Domestic Security Oversight Council (DSOC) and the State Working Group on Domestic Security all have been instrumental in the process of developing this comprehensive statewide US&R system, as well as standardized training programs and equipment lists. The SFM has acted as the "pass-through" agency ensuring appropriate use of over \$50 million of federal Homeland Security Grant Program funds to establish, equip and train the FLUSAR system, including the construction of a state-of-the-art US&R training prop on the grounds of the Florida State Fire College in Ocala.

The present composition of FLUSAR is made up entirely of local fire department resources. Several of the task forces and TRTs are actually comprised of multiple local departments. These local entities use a combination of local funds and federal funds that are reimbursed to the SFM after completion of approved equipment purchases and/or training. Presently, state funds are not appropriated by the state legislature for the FLUSAR system. This will be shown later to be a contributing factor to the tenuous nature of FLUSAR's future existence.

The participating agencies maintain the capability of rapidly deploying resources based on the reported magnitude of the incident. The system is based on a tiered response that ensures the proper response of the closest appropriate resources for the incident, and is managed through the State Emergency Response Plan. This plan is a document that has been developed by the Florida Fire Chief's Association (2008) and is operated in conjunction between SFM at ESF 9 at the State Emergency Operations Center, FFCA, which provides the logistical support and resources for enactment of the plan, and FASAR, which provides the US&R specific technical experts..

The present FLUSAR system is very comprehensive, which is a credit to the personnel involved in the vision of FLUSAR and the present members. However, the

present decentralized structure requires a high degree of collaboration between these three agencies, and, according to Quinn (personal communication, May 30, 2009) and Casey (personal communication, June 20, 2009), this decentralization can lead to communication and leadership issues. Determining who is in charge of the “system” may be dependent on whether it is activated for an emergency or not. This can cause conflict and confusion and lead to an ineffective and inefficient way to use resources in an emergency setting.

In August 2008, the state of Florida Urban Search and Rescue System underwent its first Operational Readiness Evaluation (ORE). The ORE was conducted by an outside evaluator who used subject matter experts from within FLUSAR. The evaluator has conducted OREs on the FEMA task forces and the FLUSAR OREs were conducted in the similar fashion using the same criteria. The purpose of the ORE was twofold: 1) To evaluate the Operational Capabilities of the FLUSAR system, and, 2) To ensure fiscal accountability for the reimbursed Department of Homeland Security Homeland Security Grant Program (HSGP) funds distributed to Florida’s nine urban search and rescue task forces and the 53 light technical rescue teams.

Conducting an Operational Readiness Evaluation was a requirement of the sub-grant agreement the Division of State Fire Marshal had with the Florida Division of Emergency Management who acted as the State Administrative Agency for use of the State Homeland Security Grant funding and Urban Area Security Initiative grant funding. The SFM acts as the “pass through” agency for State Homeland Security Grant funding for Florida’s US&R system.

More specifically, the ORE looked at the following areas:

- **Operational Readiness**—availability of a complement of deployable, trained, exercised, qualified personnel and disaster search canines.
- **Logistic Readiness**—availability of a complete equipment cache and other logistic resources to support immediate deployment.
- **Management Readiness**—in-place systems, records, plans, agreements,

processes, and procedures to support immediate deployments, and meet requirements of Funding Agreements and other audit requirements. (Florida State Fire, 2008)

Florida was the first state in the United States to undergo this critical self-analysis of capabilities and financial stewardship relating to use of State Homeland Security Grant Program funds for US&R purposes. This was a benefit to the state and FLUSAR because as Quinn (personal communication, May 30, 2009) indicated no other state had participated in a validation process such as this. This process was transparent that showed federal grant funding was used appropriately and a state US&R system was created and maintained with this funding.

As indicated by the high overall scores, the FLUSAR system exhibited many strengths. Among them were good financial recording keeping, good training record keeping and a sufficient equipment cache to maintain the mission. However, as expected, the ORE also outlined several weaknesses.

The main weaknesses identified were:

- lack of a central control over FLUSAR
- the lack of a strategic plan that outlines the future of FLUSAR
- lack of liability protection for key task force positions that are non-fire service based
- lack of dedicated funding to maintain the equipment cache and training requirements of FLUSAR.

These weaknesses threaten the viability and sustainability of FLUSAR. With the recent passage of legislation in Florida to reduce property taxes, it is doubtful in today's economic climate that FLUSAR task forces will be able to sustain solely on local funding. If the FLUSAR cannot be sustained, the agencies that comprise the task forces of FLUSAR will no longer be able to provide the resources and the system will cease to exist. This will leave the state of Florida without US&R coverage in the event the two FEMA US&R task forces are deployed out of the state.

Additionally, if FLUSAR were to cease to exist, the removal of the TRT resource removes light technical rescue and US&R capability from the local communities that possess these teams. Without these resources, Florida will lack the ability to provide US&R.

B. RESEARCH QUESTIONS

Due to the use of specialized rescue tools, training and techniques that comprise Urban Search and Rescue (US&R) in response to man-made and natural disasters, US&R is an integral part of a homeland security system, whether at the national, state or local level. Prior to September 11, 2001, US&R had primarily been the responsibility of the Federal Emergency Management Agency's 28 team national US&R program (personal interviews, 2009). Responses to incidents that required US&R in Florida, throughout the southeast United States and much of the world has previously been handled by FEMA's two Type I Task Forces located in Miami-Dade County, Florida Task Force 1 (FL-TF1 Miami-Dade Fire Rescue) and Florida Task Force 2 (FL-TF2 City of Miami Fire Rescue).

According to Campbell (2004) the aftermath of September 11, 2001, and the US&R response to both the World Trade Center and the Pentagon, caused many states to re-evaluate their role in US&R. This was through the perception of limitations of the federal US&R system, and the sudden appearance of federal homeland security grant funding made available by the federal government to the states through the State Homeland Security Grant Program (SHSGP), and the Urban Area Security Initiative (UASI) grant program. Because of these grant programs, many states took it upon themselves to either initiate a new state US&R program, or support their existing fledgling state US&R program. With the creation of FLUSAR program in 2002, Florida was one of those states.

The problem is that FLUSAR has no strategic plan, no dedicated funding source to continue its mission, no central controlling authority. In addition, it lacks a policy to

address professionals, such as structural engineers and emergency physicians, who are not employees but are mission critical US&R task force members. This thesis seeks to answer the following questions:

- Is FLUSAR an unnecessary duplication of services between the federal and state government?
- If research indicates that FLUSAR is not a duplication of services between federal and state governments, how should it be structured for the future?
- Which state agency should take the lead role in management and control of FLUSAR?
- What weaknesses need to be addressed immediately to ensure the viability of FLUSAR for the future?

C. RESEARCH METHODOLOGY

This thesis will evaluate the need of Florida to maintain its US&R system within the context of the principle of federalism, an evaluation of the present FEMA US&R system by the Department of Homeland Security's Office of Inspector General, Congressional testimony on the status of the FEMA US&R system, the need to create a state US&R system in Florida after September 11, 2001, and the 2008 Operational and Readiness Evaluation of the FLUSAR system.

The type of research is formative with a focus on the qualitative information gleaned from a extensive literature review, a survey of state USAR systems, interviews with personnel who were involved with the establishment of FLUSAR, or have a role in other state's USAR systems, and the author's experience with the FLUSAR system with state and local governments. It is the intent of this thesis is to evaluate the present capability of the US&R system within the state of Florida and to provide a description of where FLUSAR has been, where it is today and to recommend changes for the future in order to ensure the highest degree of performance and accountability to the citizens of Florida.

The thesis will make recommendations for Florida regarding its responsibilities to its citizens for protection from man-made and natural disasters regarding US&R

response, including what critical areas need to be addressed immediately in order to sustain viability of the seven year-old system. The limitations on this research include a lack of previous research on the subject and a survey process that did not achieve any useful results due to lack of response from a state urban search and rescue Internet exchange.

D. LITERATURE REVIEW

An extensive literature review focused primarily on scholarly and industry-related literature relating to US&R, federalism, the status of the federal US&R system, the movement toward more state and local involvement in homeland security issues, regionalization, and critical issues that are affecting the viability and sustainability of FLUSAR. The literature was also surveyed for information regarding the suggested structure of the FLUSAR system (state vs. local control), strategic planning, and private sector/volunteer liability protection. Though there was not an abundance of information on many of the topics, signifying the need for additional research, enough literature was found to assist the author in developing conclusions.

The analysis examined three primary issues. The first involved the strategic planning literature and sought to determine if strategic planning should be undertaken by FLUSAR to provide and outline a way forward. Additionally, due to the liability issues related to the use of professional engineers and medical physicians as an integral part of the US&R task forces, literature describing other disciplines that encounter the topic of volunteer liability was reviewed. Finally, because dwindling funds during tight economic times are causing a sustainability problem for FLUSAR, literature dealing with other forms of funding sources was reviewed.

During the course of conducting the literature review, very little information specific to the strategic planning of a state's US&R system was found. However, limited information on emergency service-related and homeland security strategic planning was available. Up until September 11, 2001, the primary provider of US&R in both Florida and the United States was the national US&R program administered by the Federal Emergency Management Agency. Before discussing the evolution of state US&R

programs and the need for Florida to take steps to improve its own US&R program, it is important to have an understanding of what US&R is and why it is important to a state's homeland security strategy.

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II. URBAN SEARCH AND RESCUE IN THE UNITED STATES: ITS PURPOSE, EVOLUTION AND CHALLENGES FOR FEMA

Urban search and rescue involves the location, rescue (extrication), and initial medical stabilization of victims trapped in confined spaces. Structural collapse is most often the cause of victims being trapped, but victims may also be trapped in transportation accidents, mines, and collapsed trenches. Urban search-and-rescue is considered a “multi-hazard” discipline, as it may be needed for a variety of emergencies or disasters, including earthquakes, hurricanes, typhoons, storms and tornadoes, floods, dam failures, technological accidents, terrorist activities, and hazardous materials releases. The events may be slow in developing, as in the case of hurricanes, or sudden, as in the case of earthquakes (Federal Emergency Management Agency [FEMA], 2009, p. 1). The history of US&R can be said to go back to the days prior to the industrial revolution, when buildings began to reach multiple stories. When building collapses from various forms of disaster occurred, citizens and emergency responders had to dig through rubble by hand (Chiles, 2009).

Today, US&R programs are loosely based on the collapsed structure rescue training developed in the United Kingdom during the blitz of World War II, and documented in the Home Office rescue manuals of that time (Chiles, 2009). According to Chiles, the first Luftwaffe raiders began attacking English air bases soon after the evacuation of Dunkirk. Attacks on London began in full force in early September 1940. An average of 200 bombers passed over England’s largest city every night through November 2, their bombs killing nearly 10,000 people. One night generated 150 collapse emergencies (Chiles).

The Blitz delivered 25,000 tons of high explosives and innumerable small incendiaries onto London’s roofs and streets (Chiles, 2009). At the peak of the bombings, 127,000 civil defense workers in London were toiling through the night, encountering and fixing so many new kinds of problems that an entire set of textbooks could have been

written about the physics of destruction, the repair of broken pipes and electric lines, and managing panic (Chiles). Out of such chaos came timeless lessons in crisis management.

Though not exposed to the same battlefield tests as the U.K. in WWII, the development of US&R in the United States has progressed slowly over the past three decades. Through the 1970s, southern California emergency responders trained for earthquakes, and to this end, the further development of US&R can be traced to congressional enactment of the Earthquake Hazards Reduction Act of 1977 (later designated the National Earthquake Hazards Reduction Program [NEHRP]).

According to Bea (2006) the primary mandate given by President Carter was for the designation of responsible agencies to establish and maintain a coordinated earthquake hazard reduction program, one primarily oriented toward earthquake prediction and mitigation and included organizing emergency services.

In 1979, the Federal Emergency Management Agency was established. Congress then amended the formerly mentioned 1977 legislation to require FEMA to serve as lead agency for US&R. In 1980, another significant change in the FEMA US&R program relevant to the history of US&R occurred; the requirement that the director of FEMA submit an “interagency coordination plan for earthquake hazard mitigation and response to Congress (Bea, 2006).

In the early 1980s, the United States Agency for International Development (USAID) Office of Foreign Disaster Assistance (OFDA) organized the first US&R teams in recognition of the unmet federal need for heavy rescue capability during the 1985 Mexico City earthquake. Two teams were selected: one from Miami-Dade, Florida, which had experience with light rescue and firefighter training in Latin America, and the other, Fairfax, Virginia, which, after a building collapse within Fairfax’s jurisdiction, had developed a collapsed-building response capability. The teams were selected for participation in this international response system (Trainor et al., 2007).

In response to this mission, Fairfax County Fire & Rescue and Metro-Dade (today, Miami-Dade) County Fire Department created elite search-and-rescue (US&R) teams trained for rescue operations in collapsed buildings. Working with the USAID,

these teams provided vital search-and-rescue support for catastrophic earthquakes in Mexico City, the Philippines, and Armenia. These teams would eventually become the first members of the federal US&R system, In Miami, Florida Task Force 1 and in Fairfax, Virginia Task Force 1 (VA-TF 1), respectively.

On a national level, the Loma Prieta earthquake and the devastation wrought by Hurricane Hugo earlier the same year brought about the movement within FEMA to begin a national US&R system. As a consequence of the Loma Prieta earthquake, Congress and FEMA revisited the scope of NEHRP. In doing so, the amendments to the original legislation expanded the role of federal response authority to include: develop and coordinate the execution of federal interagency plans to respond to an earthquake, with specific plans for each high-risk area that ensure the availability of adequate emergency medical resources, search and rescue personnel and equipment (Congressional Research Service, 2005).

The plan to organize such rapid-response cadres on a national scale through the Federal Emergency Management Agency dates to 1990, spurred by frustration over poor responses to hurricanes in the southeastern United States and earthquakes in California, Armenia, and Mexico City. It was thought FEMA was simply an agency that sent someone with a checkbook to disasters to help pay for things that needed to be done. In light of the criticism and the recognized need for mobile teams of rescuers, engineers, hazardous materials specialists, canines and handlers, technical search specialists, and medical personnel, FEMA decided to start organizing the teams.

In 1990, FEMA established the National Urban Search and Rescue Response System to have a capability that would provide lifesaving resources to victims entrapped in collapsed reinforced concrete structures across the nation. FEMA achieved the goal of a national US&R capability by cooperating with other federal, state, and local agencies, by integrating already established US&R teams from local agencies.

However, according to the DHS Office of Inspector General (2006) FEMA never intended to have an in-house rescue capability of its own, and recognized that the best sources for urban search and rescue knowledge and skills resided at state and local

government. The Federal Emergency Management Agency established the National Urban Search and Rescue Response System as a framework for structuring local emergency services personnel into integrated disaster response task forces as a federal, state and local partnership.

In 1991, the FEMA incorporated this concept into the Federal Response Plan (subsequently the National Response Plan, now National Response Framework), sponsoring 25 national urban search-and-rescue task forces (Greenberg, 2008). Events such as the 1995 bombing of the Alfred P. Murrah building in Oklahoma City, the Northridge earthquake, the Kansas grain elevator explosion in 1998, and earthquakes in Turkey and Greece in 1999 underscored the need for highly skilled teams to rescue trapped victims. The terrorist attacks on the World Trade Center and the Pentagon on September 11, 2001, thrust FEMA's urban search and rescue teams into the spotlight. Their important work captured the attention of the world, including the emergency services discipline, and brought with it accolades and thanks for the efforts of the highly trained responders.

Today, there are 28 national task forces staffed and equipped to conduct round-the-clock search-and-rescue operations following earthquakes, tornadoes, floods, hurricanes, aircraft accidents, hazardous materials spills and catastrophic structure collapses (Greenberg, 2008). These task forces, complete with the necessary tools and equipment, and required skills and techniques, can be deployed by the Department of Homeland Security, through FEMA, for the rescue of victims of structural collapse.

III. PROBLEMS WITH FEMA US&R SYSTEM FROM A STATE'S PERSPECTIVE

There are problems with the FEMA system from a state perspective. As was addressed earlier, the federal US&R system is currently a component of DHS and administered by FEMA. There are currently 28 task forces in the federal US&R system throughout the United States. These task forces are relied on by local and state governments to provide the resource of urban search and rescue in the event of a man-made or natural disaster such as the Oklahoma City bombing, terrorist attacks on the World Trade Center, or the aftermath of tornadoes and hurricanes.

According to Trainor et al. (2008), the creation of DHS after September 2001 brings up conflict with whether the focus of emergency management would give priority to the adoption of a network approach focused on building connections between local, regional and state agencies, or the further strengthening and centralization of the federal system. Centralization usually attempts to adopt stronger federal policies and procedures in hopes of more uniform responses by the local, regional and state agencies (Trainor et al., p. 3).

It has been suggested by Trainor et al. (2006) that the network approach is what reinvigorated FEMA under the direction of James Lee Witt in the 1980s. The network form emphasizes interaction among interdependent actors through which information and resources are exchanged and goals are formulated, with the formulation of collective goals being the key indicator of success of the system (Trainor et al., p. 1). Whether or not the federal US&R system remains sustainable, or is able to respond quickly enough to a Request for Assistance from a state, may play a major role in the decision making process of a state whether it will retain its existing US&R program or start its own.

To this point, an audit conducted by the DHS Office of Inspector General (OIG) pointed out some troubling information for these states that rely on the federal US&R task forces. According to OIG, Congress provided substantial increases to US&R funding with a system high allocation of \$65 million in 2004 (Office of Inspector General [OIG],

2006, p. 1). This amount represented an increase of 500 percent over 2001; however, it fell to \$30 million in 2005 (OIG, 2006). Furthermore, according to the 2006 OIG report, due to funding and staffing constraints, FEMA did not monitor the task forces' compliance with grant agreements or their achievement of US&R system objectives and standards for optimal task force response preparedness, and awarded equal grant amounts to each task force irrespective of individual task force readiness and financial needs, and did not clearly define program goals (OIG, 2006).

Additionally, after a 2006 Operational Readiness Evaluation, of the seven task forces evaluated, six of the seven task forces fell below 50 percent of the FEMA established US&R system standards for operational readiness, or the ability to roster a full complement of completely trained, exercised and qualified personnel and disaster search canines, immediately ready to deploy (OIG, 2006, p. 3). During the course of the evaluations, the following deficiencies were documented:

- Failure to complete FEMA required, full-scale operational readiness exercises.
- Failure to complete FEMA required training, especially weapons of mass destruction (WMD) training
- Failure to complete medical and immunization requirements
- Failure to complete update of task force member availability information
- Failure to have the necessary complement of rostered canines, or the canines did not meet the required training, have necessary medical certifications or records of deployability, and were not available for exclusive task force use

For Logistical Readiness of these seven task forces, five rated themselves below 70 percent (OIG, 2006). FEMA designates Logistical Readiness as the availability of a complete equipment cache as well as other logistical resources needed to support immediate deployment.

According to the DHS OIG report (2006), none of the task forces performed comprehensive physical inventories or maintained inventory records of cache equipment. All but one of the task forces were "significantly deficient in their historical record

keeping to show that required maintenance of major equipment items was performed on a regular basis, ensuring an ongoing state of readiness” (OIG, 2006, p. 5). Additionally, in investigating the disaster response to Hurricane Katrina, including FEMA’s US&R response, FEMA does have a well-designed system of response teams to respond to disaster events, including US&R. The problem lies in that these teams are under-funded, under-manned, under-equipped, under-trained, or non-existent.

According to Congressional testimony given by Endrikat (2007) annual funding amounts to build and sustain the FEMA US&R program have varied widely since the program’s inception. The current annual cost to maintain a task force in a state of readiness has been estimated by FEMA to be approximately \$1.7 million (Endrikat). At the current level of funding, each task force is faced with an approximate \$1 million deficit (Endrikat). Because of this deficit, a significant portion of this deficit is usually made up by sponsoring agencies and participating agencies who absorb both “hard” costs (such as the payment of vehicle insurance, maintenance, and operating costs), and “soft” costs (such as the payment of salaries for members to maintain specialized rescue skills during training exercises) related to task force expenses.

According to Endrikat (2007), there are additional issues with the FEMA US&R system. The system has been functioning for many years without an advisory committee (historically comprised of members representing FEMA, Sponsoring Agency Chiefs, technical experts, labor officials, and emergency response professionals). In the past, the Advisory Committee has brought the diverse views of all stakeholders together and provided important guidance and a balanced viewpoint to FEMA with regard to the operation and administration of the US&R National Response System.

Time and funding to develop working relationships with other federal agencies and the private sector to advance operational capabilities with the introduction of new technology is needed as is the maintenance and new technology upgrades of the original weapons of mass destruction equipment cache that was issued to each task force after the September 11, 2001 attacks. This equipment cache requires significant and stable funding that is currently not identified in the FEMA US&R budget.

In discussions with personnel that comprise some of the FEMA US&R task forces, Trainor et al. (2007) found a myriad of problems ranging from politics, to an apparent lack of long term support from FEMA including funding and logistics, lack of program staff to adequately run the system, outdated procedures that cannot keep up with changing technology, and a general lack of oversight. They also cite sources that advocate a stand-alone federal US&R system is no longer needed, but what is needed is a national capability. This can be accomplished through the regional, or, Emergency Management Assistance Compact (EMAC) concept, especially in light of all the US&R capabilities that have been developed. Instead of having just 28 elite task forces, there would literally be hundreds of well-trained, well-qualified teams that can be used interchangeably anywhere.

IV. FEDERALISM AND THE ROLE OF THE STATE IN HOMELAND SECURITY—WHY FLORIDA NEEDS TO MAINTAIN ITS OWN US&R SYSTEM

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people. *Tenth Amendment, U.S. Constitution*

The notion of federalism is based on striking a covenant to be so ruled. The covenant may manifest itself in many ways. The American experience, after suffering a confederal arrangement that failed under the Articles of Confederation, sought to find a balance that became the foundation of the American federal experience, arranged through the covenant found in the Constitution that arranged for a shared governance of the same people in the same territory. According to Dalrymple (2003), the founding fathers employed the phrase “federalism” for a system of government that divides power and responsibility among a central authority, states and a collection of more or less self-governing local units.

As noted in a speech made by then Homeland Security Secretary Tom Ridge to the National Association of Counties in 2004—also stated in Homeland Security Presidential Directive-5, and the National Homeland Security Strategy—the concept of federalism is noted as the guiding principle in meeting the national demand for preparedness or the need for extensive coordination with state and local governments to arrive at the best possible levels of preparedness for the nation (Clovis, 2006, p. 2).

Within the realm of federalism, the government structure of the United States is a unique one. According to Wright (2003), the history of federalism in the United States has been one of shifting patterns and of fluctuating balances between two contrasting themes. On one side of the relationship ledger are, “patterns of conflict, contentiousness and cleavages” (p. 11). Additionally, according to Clovis (2006), it can be said that there are two levels of government that have sovereignty over the same people (p. 3), in the case of this thesis there is the federal government, represented by the FEMA US&R

system, and state governments, represented by the state of Florida and FLUSAR, and it is the author's belief the state needs to take a more active role in running the state US&R system.

The attacks of 9/11 represented another event of potentially cataclysmic consequences for the nation. Such events typically tend to move the power-wielding pendulum more toward the federal government (Clovis, 2006). For instance, days after the event, Congress passed the controversial USA Patriot Act. In 2002, the Department of Homeland Security was formed through passage of the Homeland Security Act. Emergency funding was appropriated and allocated to all levels of government (p. 9).

However, according to Kettl (2003), the September 11 attacks brought to light the important role local and state governments play in homeland security. It is the local emergency responders, along with state resources, that initially respond to emergencies. It is true that with the institution of the Department of Homeland Security, there is a large federal government footprint within the realm of emergency response to incidents of significant magnitude, and for the development of a homeland defense strategy, but the emergencies, no matter how large, are initially handled by local and, at times, state resources.

State and local governments are a strong and effective part of this strategy. Kettl (2003) continues by saying in order to solve the problems existing in the federal/state/local homeland security system, the states' role must be enhanced (p. 14). Ultimately, the nation's homeland defense will be only as strong as the links between the national strategy and the ability of state and local governments to support it. Caurson et al. (2005) stated the events of September 11, 2001, created one of the most important public policy issues that federal, state, and local officials must address. The urgency of the homeland security mission demands that officials at all levels of government must work together like never before, as disasters do not confine themselves to jurisdictional boundaries (p. 291).

Additionally, a National Governor's Association (NGA) issue brief published in 2005 called for a "comprehensive state-based strategy to prepare for, prevent, *respond to*

[emphasis added] and recover from terrorist attacks within their borders” (p. 147). The NGA brief further stated that the states see themselves as playing a key coordinating role between the federal government and their local governments. All federal resources, programs, and activities involving state and local governments must be coordinated through the nation’s governors and their appropriate agencies (Caruson & McManus, 2007). In the case of US&R, it would be the state’s responsibility to coordinate the resources used for this function, using a state US&R system and supplementing it with a federal system.

Scavo, Kearney and Kilroy (2008) stated there appears to be a resurgence in American federalism. State governments were at the forefront of domestic policy-making in 2007 and 2008. State officials were successful in securing relief from many burdensome federal regulations, some having to do with homeland security, and the National Guard. States, by virtue of being the main innovators in policy areas where the public was especially desirous of governmental action, were also more influential than in recent years in gaining flexibility in federal legislation.

A strong system of intergovernmental relations is necessary for the implementation of a comprehensive homeland security policy. Due to the apparent lack of coordination, communication, responsiveness, and preparedness of government at all levels, a policy of state involvement and collaboration through regionalism offers a powerful tool for encouraging intergovernmental cooperation and for fulfilling the extensive mandates associated with homeland security. These points support the author’s belief that the state of Florida needs to take a more active role in the protection of its citizens and control FLUSAR.

Eisinger (2006) stated even though national security is a fundamental responsibility of the national government, given the highly localized phenomenon of terrorism, there needs to be very close intergovernmental relations between all layers of government. Continuing, Congress often seems to be more interested in political considerations rather than security considerations, and the local governments in particular are made to bear heavy fiscal, administrative, and decision-making burdens that stretched and often exceeded their capabilities. In this definition, the author maintains elected

officials are more concerned with being re-elected than with enacting effective legislation that secures the homeland. It is because of this political consideration, as opposed to security considerations, that the state needs to be the homeland security bulwark for the local entities within its borders.

Throughout the history of the United States, the theories of federalism that have evolved are dependent on patterns of conflict, contentiousness and cleavages. The ebb and flow of the differing categories of federalism started with the Civil War, the passage of the federal income tax law, the great depression, the post-World War II boom and the development of the Great Society. The sovereignty of the states seems to be dependent on the threat to the states or country at that time. In times of low threat, state sovereignty is strong. In times of crisis, the focus shifts to a stronger central government. A recent example is terrorist attacks of 9/11 and the subsequent Patriot Act of 2001, which constituted the opening chapter of an intense, extensive shift in the role and responsibilities of national government agencies (Clovis, 2006).

Clovis (2008) also stated there is growing literature addressing the difficulties imposed on American federalism and intergovernmental relations related to homeland security national preparedness. Perhaps the most obvious consequence of the terrorist attack for state and local governments is the overall increase in their responsibilities, portending an emerging federalist revival. The federal government is now taking the position that all levels of government work cooperatively to shoulder the cost of homeland security. These attacks will likely accelerate the shift in fiscal federalism.

Homeland security is a policy area in which national, state, and local governments have common goals such as preventing terrorism and reducing life loss and damage caused by natural disasters. US&R's mission is to reduce life loss by effecting rescues in structures and elements that have been negatively influenced by either man-made or natural disasters. According to Roberts (2008), achieving these goals, however, requires rethinking how to coordinate action among the levels of government.

Two watershed events seem to bookend the homeland debate regarding federalism. First was the tragic events of September 11, 2001, and Hurricane Katrina in

2005. Roberts (2008) also stated both events seem to point toward a need, or at least a movement towards, centralization, as many people believed the emergency management system was too decentralized to be effective in a catastrophe. Centralization, such as the federalization of homeland security, has its virtues. The centralized power and division of labor found in a bureaucratized organization exhibits division of labor, standardized hierarchy and the use of technical competence in employment. The most basic concepts of centralized organizations show their effectiveness in areas where the work process is routine, repetitive and is a high degree of stability.

According to (Scavo, Kearney & Kilroy, 2008), the intergovernmental dynamics of emergency and disaster response can be described as one of three different patterns: 1) A top-down approach whereby the national government takes control of the entire effort; 2) A confusion approach where there is little or no coordination to the efforts of various governments to address a crisis; and 3) A shared-governance approach where the system works from the bottom up. The response bubbles up from the locals to the state and, ultimately, the national government.

The first two are the antithesis of the dynamics of homeland security. A common criticism of a federalized response is the lack of adaptability to a rapidly changing situation. Routine tasks are programmable, but fluid events are unpredictable and demand adaptation and flexibility. Roberts (2008) found the problems faced in the individual states are not routine, in fact, they are diverse, not routine and do not conform to the idea of centralization. The disasters faced by one state are different from those that may affect another state. The local political climates also play into the equation. Additionally, there is the “principal agent” effect whereby a hierarchical form of government dictates the agent’s behavior through legislative mandates, contracts, performance measures, and reporting requirements.

The argument to decentralize homeland security components from the federal government to the states is not a new concept. The old civil defense system advanced the “liberty argument” theory in that the state and local autonomy could not accommodate a purely national emergency management system (Roberts, 2008). However, the arguers

for decentralization point to the state as being a “laboratory of democracy” inasmuch as competition among the states improves performance and satisfies the diverse preferences of its constituents.

Findings of Scavo et al. (2008) from a 2005 International City Managers Association survey showed the depiction of a top-down model where state and local governments are unable or unwilling to deal with a serious crisis, is not accurate. Additionally, the attempt in the 1990s to replace the local and state all-hazards response with a more centrally controlled federal response has serious drawbacks in both its use of the United States military and resistance from state and local officials. This was evident during the response to the post-Katrina Hurricane Wilma in Florida. A power struggle ensued between DHS and Florida Governor Jeb Bush. Governor Bush did not want a federalized response, while the military made plans to send the Fifth Army into Florida to assist with recovery operations. Florida’s National Guard balked at this approach and Governor Bush ultimately was named incident commander rather than a federal official.

Based on the concept of federalism outlined above, it is the author’s belief that it is the state’s responsibility to provide the necessary coordination and management of resources to respond to an incident that exceeds local capacity. This would include US&R. The next section will outline the status, growth and advantages of state US&R programs.

V. STATE AND REGIONAL SYSTEMS—ANALYSIS OF STATE URBAN SEARCH AND RESCUE

Next, this thesis will look at the present state of state US&R systems across the United States. Over the past decade, accelerated after September 11, 2001, there has been a push by many states to have their own US&R systems to supplement the federal system.

Twelve years ago, when the national US&R system was created, the threats were straightforward. The primary scenarios were centered on structural collapses from either a catastrophic earthquake on the west coast or hurricanes in the southeast. However, according to Cohen (2003), the national US&R response system has grown and adapted since its inception in 1989, but in the post-September 11, 2001, world, it faces even greater challenges. It is hard to imagine a time when virtually all of the teams were deployed to a single incident as they were to New York City on September 11, 2001, sans the few teams that were deployed to the Pentagon.

Long before watershed, US&R events, such as the collapse of the World Trade Center Twin Towers on September 11, 2001, and the 1995 bombing of the Murrah building in Oklahoma City, there were local multidisciplinary response teams of volunteers and career responders that were training for mass-casualty incidents in urban environments. California had a nascent US&R program in the late 1970s in the larger, urban fire departments such as Los Angeles. According to Trainor et al. (2007), three important events facilitated the development of California's US&R capability and ultimately provided much of the technology that drove the federal system. These were the establishment of the California Earthquake Task Force, Subcommittee on Search and Rescue, the passage of the Urban Heavy Rescue Act of 1988, and the Loma Prieta Earthquake in 1989.

During the 1980s, several California fire departments trained specialty teams to respond to major floods and earthquake that occur within their state. This concept spread to other states that wanted to prepare for similar events. The idea was that these self-

contained US&R teams would operate in collapsed buildings, locate and extricate victims, provide emergency medical care to the victims, assess and control utilities and hazardous materials at the site, and evaluate and stabilize damaged structures.

According to Campbell (2004), though US&R is a vital resource for terrorism-related scenarios and other types of disaster response, FEMA has no plans to add any more US&R task forces to its current system. The purpose of the FEMA US&R system is to assist state and local governments who are overwhelmed by a structural collapse incident. The Department of Homeland Security has provided funding to state and local governments since 2001 to develop regional task forces patterned after the federal task forces.

As Jim Reilly, New Jersey's US&R State Director stated, ultimately, the state's governor is responsible for the protection of its citizens (Reilly, 2009). In true federalism form, states, regions and metropolitan areas are overcoming jurisdictional problems, funding obstacles and equipment shortages to develop their own US&R resources. In the realm of US&R, these resources may or may not be patterned after the FEMA US&R task forces.

Some states, as found in Florida and Illinois, are developing a multi-tiered system with both technical rescue teams and US&R task forces of different typing networked throughout the state. Most are using federal grant funding to do so, but in some cases, the teams are using state and local resources. In both these state's cases, a regional system was developed to ensure a tiered response based on incident need.

According to Bates (2005), Rhode Island, California, Michigan, and Ohio are all in the process of either adding to the existing state US&R system, or starting one, as are Wisconsin, Georgia, and North and South Carolina. With an existing federal system of 28 teams spread out across the United States, it is a fair question to ask, "Why?" It comes down to speed of response

Events like the Oklahoma City bombing, the first World Trade Center attack, the September 11, 2001, attacks, and the slow response to Hurricane Katrina, brought clarity to the need to respond quickly and effectively to local disasters. It takes awhile to deploy

a FEMA US&R task force. According to testimony given to Congress by Endrikat (2007), FEMA task forces have up to six hours to assemble all members. This does not include the travel time. They also are only deployed to incidents reaching the level of a Stafford Act declaration, which many of the incidents do not. Though an incident may be a large local or state incident, it may not reach the magnitude of a national incident (Cleaveland, 2009).

The local and state resources can put boots on the ground at the scene of a disaster or building collapse much quicker than a FEMA task force because they are either local or regional located. Another reason for the more rapid deployment of the state US&R systems is the deployment method. State and local teams can respond directly to the scene with minimal equipment while the bulk of the heavier equipment comes up behind them. While it may only take less than six hours for a state US&R task force to deploy to a scene, as stated in Bates (2005) the FEMA task forces can take 24–48 hours to get to a site of a “no notice” emergency, and then there is the time necessary to get the managerial component of the team positioned, the resources on-site and operating; all this takes additional time.

Bates (2005) also points out another reason for a state or local government to develop a US&R program is the availability of the federal resources. Similar to what occurred in Florida on September 12, 2001, the state may find itself without US&R capability if the FEMA teams are activated for a disaster elsewhere in the country. In Florida’s case, both FEMA US&R task forces that reside in Florida (FL TF 1, Miami-Dade, and FL TF 2, city of Miami) were deployed. The state had no US&R capability besides the heavy rescue capability of one or two local agencies.

Torres (2006) discussed how the social bonds that emerged due to the localized familiarity helped create a seamless response process for the local and regional US&R resources that responded to the Pentagon on September 11, 2001 (Torres, 2007). They had already established close working relationships, trust and shared many common elements such as terminology, equipment and communication. Many states have organized US&R resources, some new, and others that have been in place for years. New Jersey’s US&R task force was on the scene at ground zero within four hours of the

collapse of the World Trade Center in 2001. State US&R task forces are also part of a regional system that can either be contained within a certain portion of the state, or cross state lines, as part of a regional system with other states. In California, with eight FEMA US&R task forces, already possesses formidable US&R resources,

Marin County, California, will be the first solely “state” team as part of California’s US&R system, which presently is comprised of eight US&R task forces, but are also designated FEMA US&R task forces subject to “federalization” and deployment outside of California by FEMA. With the advent of the Marin County team as a state designated task force, California will now have a state task force to supplement the others and not be subject to this deployment. This will ensure California still has US&R capabilities even if the task forces that are FEMA task forces are deployed to an incident of national significance out of state.

The state teams even have a resource network through the States Urban Search and Rescue Alliance (SUSAR) (Cleaveland, 2009). “Mick” Mayers of South Carolina TF 1 and former director of South Carolina’s US&R Program recalled that SUSAR grew from a small group of concerned local and state representatives from different states who wished to coordinate knowledge, resources and information regarding state US&R teams, funding, training and other related information (personal communication, M. Mayers, August 18, 2009). SUSAR was developed in response to support issues particular to its state’s US&R programs (SUSAR, 2009). The state teams were not able to interface with the FEMA teams due to training, communication and other roadblocks.

To solve the common challenges the state US&R teams were experiencing they decided to form a network in which they exchanged training opportunities, shared protocols and equipment cache lists, and dedicated themselves to working together to solve common challenges. They also sought to create an organization that could identify the gaps found between the FEMA system and the state and local teams and then to develop ways to fill the gaps to make a seamless, tiered system of local, state, and federal response. According to Cleaveland (2009), a main goal of SUSAR is to get every team credentialed to the same level as FEMA US&R task forces and the National Incident Management System (NIMS).

This seamless approach generated by the efforts of the state task forces that are part of SUSAR was evident during the response to the World Trade Center collapse on September 11, 2001. According to Endrikat (2007), state and local US&R assets interfaced into the emergency response. New Jersey TF1 deployed to New York City to the attack and collapse of the World Trade Center on September 11 and Puerto Rico TF-1 deployed on September 13. Both task forces staged alongside FEMA task forces at the Javits Center Base of Operations.

Neither team was, or is, part of the FEMA US&R National Response System, but both teams are modeled in a similar fashion to federal task forces in the areas of personnel rostering, equipment, and training. They technically did not come under the command and control of the FEMA US&R Incident Support Team (IST), but at the request of the Fire Department of New York as a request through the Emergency Management Assistance Compact. The federal IST effectively coordinated their operations.

SUSAR also seeks to be a networking resource for information that is pertinent to state US&R task forces, such as training requirements, funding sources and post-incident action reports. With the rapid deployment, reduced response time and ability to partner with other regions within their state, and region of the United States, and through state mutual-aid agreements such as the states' Emergency Management Assistance Compact, state US&R task forces are an important part of a multi-tiered, rapid response to man-made and natural disasters that may not meet the threshold of a FEMA US&R response (M. Mayers, personal communication, August 18, 2009). This will ensure that states still receive the specialized US&R response in incidents that may not reach a level for activation of the federal US&R system.

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VI. THE URBAN SEARCH AND RESCUE SYSTEM IN FLORIDA

A. BIRTH OF A SYSTEM

Though centered in New York City, Arlington, Virginia (the Pentagon), the events of September 11, 2001, affected every state in the United States, and Florida was no exception. Accordingly, on September 14, 2001, then Governor Jeb Bush formally directed state agencies to immediately complete a comprehensive strategic assessment of Florida's capability to prevent, mitigate, and respond to these types of incidents. Governor Bush further directed that the assessment examine the capabilities regarding training programs, equipment, and execution protocols, focusing particularly on preventing an event and mitigating the aftermath related to an event of significant consequence occurring in the state.

Using the existing networks of law enforcement, firefighters, emergency medical services, emergency management and selected private sector partners, these workgroups collected information about Florida's existing capabilities and capacities. The compiled information provided valuable insight into the status of Florida's domestic security preparedness and exposed a significant weakness in the state's ability to respond to an incident that required urban search and rescue.

According to Quinn (personal communication, May 30, 2009) Governor Jeb Bush was apprised that FL TF-1 and TF-2, both Type I FEMA US&R task forces, were deployed by FEMA to New York City to search the rubble of the World Trade Center. With the exception of an "unofficial" local resource US&R team (what is today FL TF 3—Hillsborough County Fire Rescue) and other local resource heavy rescue capabilities, the entire state of Florida was left without US&R capability. This was compounded because all but three (all located in California) of the 28 FEMA US&R task forces were deployed to either New York City or Arlington, Virginia. According to Napoli (personal communication, September 1, 2009), Governor Bush was very direct in stating this vacancy shall not be allowed to happen again. Thus was the catalyst for the start of FLUSAR.

According to Casey (personal communication, June 20, 2009), Governor Bush made it very clear to all state personnel that in going forward and establishing state homeland security policy and strategy, the state was ultimately responsible for the emergency management function and protection of its citizens, not the federal government. He stated it would be unacceptable for the state to abdicate its responsibility to protect its citizens and rely solely on the federal government in emergency management situations.

It was also the governor's intent to partner with representative state associations such as the Florida Fire Chiefs Association (FFCA), Florida Association of Search and Rescue (FASAR), Florida Association of Hazardous Materials Responders (FLAHR), but that the final authority and responsibility for state and local fire resource use during incidents that affected the state was the responsibility of the State Fire Marshal (personal communications).

Additionally, according to Florida's Comprehensive Emergency Management Plan (2004), the Director of State Fire Marshal (SFM) Emergency Coordinating Officer (ECO) is responsible for Emergency Support Function (ESF) 9, Search and Rescue. This includes urban search and rescue. US&R involves the location, rescue (extrication), and initial medical stabilization of victims trapped in confined spaces where technical expertise and equipment are required beyond the normal fire service response.

B. EVOLUTION

According to the author's interviews with Quinn (personal communication, May 30, 2009), Napoli (personal communication, September 1, 2009), and Casey (personal communication, June 20, 2009), through the course of much interagency collaboration and cooperation, the state of Florida developed a model State Domestic Security Strategy based on a regional concept. The regional concept was based on the Regional Domestic Security Task Forces with the Florida Department of Law Enforcement as the lead, and other disciplines (health, emergency management, law enforcement, fire, and education) involved in each region at the local level, and involved at the state level through the state agencies.

Under the leadership of the Division of State Fire Marshal, and in conjunction with FFCA and FASAR, a comprehensive state US&R program was developed with the responsibility of equipping and training the task forces being assigned to the SFM and FASAR and deployments being assigned to SFM in conjunction with FFCA under the auspices of the renown State Emergency Response Plan (SERP) and FASAR as technical partners. It was a true partnership between state and local entities.

Eventually, nine US&R task forces were equipped and trained, with three being the resource rich Type I Task Forces (210 personnel), three as Type II Task Forces (70 personnel) and three as Type III resources (approximately 33 personnel) (personal communication, D.A Casey, June 20, 2009; R. Napoli, September 1, 2009; T. Quinn, May 30, 2009). These task forces were distributed throughout the state and hosted by either one large metropolitan fire department, or as a conglomeration of smaller local fire departments that pooled resources.

Another component of FLUSAR was the creation of what was originally known as Type IV US&R Teams, but later evolved to Type II Technical Rescue Teams, which better fit their charge as a “first out” local resource that can respond to light building collapses and conduct initial rescue operations and stabilization until the arrival of a US&R task force, if needed. Originally, 53 of these local resources were equipped, trained, and set up throughout various regions of the state (personal communication, D.A Casey, June 20, 2009; R. Napoli, September 1, 2009; T. Quinn, May 30, 2009). This multi-tiered system was the first of its kind and is now copied by many other state systems (personal communication, M. Mayers, August 18, 2009).

The FLUSAR system developed through the early 2000’s to its present structure of nine task forces and more than 40 Type II Technical Rescue Teams. These teams and task forces were used extensively through the active hurricane seasons of 2004 and 2005, and other varied incidents (tornadoes, building collapse) that have occurred throughout the state. However, as federal grant sustainment funding has dwindled, attrition has occurred, the newness of the system has worn off, and the economy has soured, it appears the system may be in need of a new direction. There are the three major issues that affect the viability of the FLUSAR system.

C. FUTURE DIRECTION

During August, 2008, the state of Florida Urban Search and Rescue System underwent its first Operational Readiness Evaluation, which was conducted by an evaluator with experience evaluating the FEMA US&R task forces. The purpose of the ORE was two-fold: 1) To evaluate the Operational Capabilities of the FLUSAR system, and; 2) To ensure fiscal accountability for the reimbursed Department of Homeland Security Homeland Security Grant Program (HSGP) funds distributed to Florida's nine urban search and rescue task forces and the 53 light technical rescue teams (personal communication, D.A Casey, June 20, 2009; R. Napoli, September 1, 2009; T. Quinn, May 30, 2009).

Florida was the first state in the United States to undergo this critical self-analysis of capabilities and financial stewardship. As indicated by the high overall scores, the FLUSAR system exhibited many strengths, including a high degree of training for the participants, an extensive equipment cache and good fiscal accountability for the short period of time FLUSAR had been organized. The FLUSAR response system is based upon providing a localized, rapid, coordinated response to disasters in urbanized environments. Special emphasis is placed on the capability to locate and extricate victims trapped in collapsed buildings, from light residential construction to heavily reinforced concrete structures. Since its inception, FLUSAR has proven its value repeatedly, with numerous responses to the hurricanes of 2004 and 2005 (including interstate response to Mississippi after Hurricane Katrina), and to the Central Florida tornadoes of 2007.

However, the ORE also outlined several weaknesses. Among these, FLUSAR has:

- No dedicated funding source to continue its mission,
- No central controlling authority,
- A policy to address professionals such as structural engineers and emergency physicians who, though not employees, are still critical us&r task force members, and
- Lacks a strategic plan for its future.

During the course of the interviews for this thesis, according to (personal communication, D.A Casey, June 20, 2009; R. Napoli, September 1, 2009; T. Quinn, May 30, 2009), these weaknesses can be summarized as problems in coordination and management, future planning and financial stability and are significant because they potentially limit further successes for the FLUSAR system and potentially put citizens of the state at risk.

The State Fire Marshal (SFM), Florida Association of Search and Rescue, Florida Fire Chief's Association, the Domestic Security Oversight Council, and the State Working Group on Domestic Security all have been instrumental in the process of developing this comprehensive statewide US&R system as well as with standardized training programs and equipment lists. The SFM has acted as the "pass-through" agency ensuring appropriate use of over 50 million dollars of federal Homeland Security Grant Program funds to establish, equip and train the FLUSAR system.

The present composition of FLUSAR is made up entirely of local fire department resources. Several of the task forces and TRTs are actually comprised of multiple local departments. These local entities use a combination of local and federal funds that are reimbursed to them by the SFM after completion of approved equipment purchases and/or training. No state funds are appropriated by the state legislature for this purpose.

The participating agencies maintain the capability of rapidly deploying resources based on the reported magnitude of the incident. The system is based on a tiered response that ensures the proper response of the closest appropriate resources for the incident, and is managed through the State Emergency Response Plan, a document that has been developed by the Florida Fire Chief's Association (2008) and is operated in conjunction with ESF 9 and FASAR. The present FLUSAR system is very comprehensive and the present structure requires a high degree of collaboration between SFM, FASAR, and the SERP plan managed by FFCA.

It is a problem that though SFM is responsible for ESF 9, the state has very few assets at its disposal for US&R duties and relies on the local fire departments to provide the resources for the US&R task forces. The state also relies on only one part-time

contract employee for program coordination. Additionally, there is no strategic plan, or long-range plan for the system. Several nominal attempts have been made to complete such a plan with no success due to the voluntary nature of FASAR personnel and lack of dedicated funding mechanism.

FASAR's members are the task force leaders and other integral personnel of the system; however, participation in that organization is purely voluntary. They are employees of the local fire departments that comprise US&R task forces, but they are not employees of the state. The work they do for FASAR is purely voluntary. Between the one part-time program coordinator and the voluntary status of FASAR personnel, work such as strategic planning and other benchmarking languishes. Additionally, because the members of FASAR represent their individual task force instead of the state, there is the potential for "turf" protection and prohibits a "system-wide" view.

Funding is based on either local resources or a portion of the state's Homeland Security Grant Program award; little or no additional state funding is available for the program. The only existing document that remotely holds the local departments accountable for response, or non-response is the current sub-grant agreements SFM uses to allow for the HSGP "pass-through" funds reimbursements.

Other than the Emergency Coordinator Officer for ESF 9, and the few SFM personnel maintaining the records for activations, none of the organizations involved in FLUSAR activations and response (FASAR and FFCA) are state employees and therefore cannot legally be held accountable for their actions to the governor, who is ultimately responsible to the citizens of the state. Lastly, there is no existing legislation to protect civilian members of task forces (physicians, structural engineers) from liability during actions when conducting task force specific functions.

These personnel, who are not employees of the local resources that comprise the US&R task forces, are individual private-sector professionals who volunteer their time and professional expertise in FLUSAR because they understand the importance. However, they are also exposing themselves to tremendous personal and professional

liability without any provision of liability protection from the state. Why it is important to address these weaknesses will now be addressed individually.

1. Strategic Plan

With the signing of the Homeland Security Preparedness Directive (HSPD-8) on December 17, 2003, came the requirement that all federal preparedness assistance be predicated on the adoption of statewide comprehensive all hazards preparedness strategies (White House, 2006). According to Chen (2006), the coordinated homeland security preparedness efforts are guided by comprehensive strategic plans that are developed through enterprise-wide strategic planning. Urban search and rescue is specifically addressed in the Florida Domestic Security Strategy (2007), Goal 4 (Response), Objective 4.14 (Urban Search and Rescue), to respond in an immediate, effective, and coordinated manner focused on the victims of the attack.

Coordinated homeland security preparedness efforts for all hazards, including response to incidents that would require rescue from building collapses, floods and other US&R related tasks are also guided by these comprehensive strategic plans. In 2005, the Department of Homeland Security Office of Domestic Preparedness issued the state and Urban Area Homeland Security Strategy Guidance on Aligning Strategy with the National Preparedness Goal (Chen, 2006). This guidance reaffirmed the specific purpose of homeland security strategies, of which one was to provide a strategic plan for the use of federal, state, local and private resources within the state. However, the Florida Urban Search and Rescue System does not have a strategic plan.

Strategic planning is vital to determine where an organization is going in the next year or more, how it is going to get there and how to know if it got there or not. Strategic planning is a process that helps organizations be responsive and proactive to the instability of the fire departments operating environments, both political and financial.

According to Sturgis (2007), a strategic plan provides direction in decision making and action in order to better shape and guide what an organization is and does (p. 91). Ludwig (2007a) wrote, “Just like a road map, strategic planning allows an organization to mark a starting point for a specific goal and establish a mechanism for

tracking progress (p. 24). Furthermore, Ludwig (2007b) also wrote, “Besides the obvious benefit of clearly defining the purpose of the organization and establish realistic goals and objectives, these goals and objectives are communicated to everyone within the system (p. 26).

Additionally, strategic planning allows an organization to make the best use of resources by focusing them on key priorities, allows a starting point for a specific goal and brings into focus what the organization wants to accomplish. This is a priority in a system such as FLUSAR, which started from scratch and after an infusion of over 30 million dollars since September 11, 2001, is lacking direction of what is wanted for its future.

Wallace (2006a) discussed how strategic plans can be conducted either over a year-to-year process, or multi-year undertakings, and some strategic goals can be an ongoing process. Strategic plans are not based on time horizons, but designed to provide guidance and direction to operational plans (p. 93). These operational plans will outline the methods of operations, staffing, training, funding sources and accountability for the USAR task forces; the mission. According to Sturgis (2007), creating a mission statement in the strategic planning process will highlight organizational purpose and will let everyone know whom the agency is serving. This is vital because currently FLUSAR does not have a mission statement. It is known that FLUSAR serves the citizens of the state, but it is not written anywhere and is subject to many differing opinions and ideas. As reported by Trainor et al. (2007), in the absence of strategic thinking and strategy setting for the program, other groups will influence the development of the US&R system in unexpected ways, creating new versions of what it is supposed to be doing.

It is clear from a review of this literature that the strategic planning process would be a valuable tool for the FLUSAR system in determining its future structure. Though the literature is not specific to US&R teams conducting strategic planning to set a course for their future, the principles discussed in the strategic planning literature that were reviewed outline courses of action that could be applied to US&R task forces to prepare for the future.

2. Volunteer Liability—Structural Specialists and Medical Team Managers

As was mentioned earlier, there are two US&R task force positions that are generally comprised of civilian specialists. These specialists serve in the very specific and important functions of structural specialist (engineer) and medical team manager (emergency physician). Specific literature directly correlating to US&R engineers and physicians could not be found, though there were several items that dealt with volunteer liability in disaster response.

The issue of what to do about volunteer liability, especially regarding these important positions, is of critical importance for the future of Florida's US&R system and a priority issue to be addressed by the State Fire Marshal as no other homeland security or emergency management discipline has the ability to provide this service. The present composition of FLUSAR is primarily made up of local fire department resources and other multi-discipline resources located throughout the state.

These agencies' government employee members are subject to present state law that protects the government entity, and its employees, from legal liability for actions taken within the performance of their duty. Multi-discipline volunteers from the private sector in the capacity of structural specialists (engineers) and medical team manager (emergency physicians) also serve the task forces providing a very important role that without which the task forces would not exist.

The structural specialists (StS) are a private sector based, licensed professional engineer or engineering intern who is not employed by either the state or fire service industry. The typical medical team manager (MTM) is an emergency medical physician specially trained in trauma and crush injuries. These physicians may serve as medical directors for emergency response agencies or emergency room/trauma center physicians. The problem is, because the StS and MTM positions, though both critical for the deployment of US&R task forces, are not government employees, but are private sector volunteer members of the task force, and therefore not afforded any type of immunity when performing task force work.

According to the Center for Law and the Public's Health (2004), one of the most important legal areas for emergency preparedness concerns issues of legal liability for public and private sector agencies and their workers/volunteers regarding emergency responses. These private sector citizen members who fill the important responsibilities of structural specialist and medical team manager are subject to legal liability that may jeopardize their professional licensure. The typical StS is a licensed professional engineer (PE) or engineering Intern (EI) who is not employed by either the state or local fire service. Therefore, the professional serving as an StS is not afforded any type of legal protection when performing those tasks. They are exposed to civil litigation and their licensure is at risk.

The structural engineers are comprised of professional structural engineers who volunteer their time to be a part of a US&R task force. According to Florida Task Force 4's Web site (2009), its main responsibilities are:

- Assessing the immediate structural condition of the affected area of task force operations, which includes identifying structure types and specific damage and structural hazards.
- Recommending the appropriate type and amount of structural hazard mitigation in order to minimize risks on site to task force personnel.
- Monitoring assigned structures for condition changes while rescue and recovery operations are proceeding.
- Assuming an active role in implementing approved structural hazard mitigation as a designer, inspector, and possibly a supervisor.
- Coordinating and communicating the structural related hazard mitigation with the rescue team manager.

The medical specialists (emergency medical physicians) are comprised of professional emergency medical physicians with special training in traumatic injury treatment who volunteer their time to respond to disasters as a component of a US&R task force. According to Florida Task Force 4's Web site (2009), its main responsibilities are:

- The general health considerations and delivery of medical care to all task force personnel, victims, and search dogs, while under the supervision of the medical team manager, during disaster events.
- Implementing the medical action plans specified by the medical team manager.

Structural collapse is most often the cause of victims being trapped, but victims may also be trapped in transportation accidents, mines, and collapsed trenches. US&R is considered a "multi-hazard" discipline, as it may be needed for a variety of emergencies or disasters, including earthquakes, hurricanes, storms and tornadoes, floods, dam failures, technological accidents, or terrorist activities.

All states offer some degree of qualified immunity from liability to specific persons or entities under certain circumstances. Immunity can arise from several legal sources including (1) judicial or common law; (2) federal and state Tort Claims Act; (3) volunteer protection statutes; and (4) so-called "Good Samaritan" provisions. Additionally, according to Congressional Research Service (CRS), the federal and state governments, through public health statutes, general emergency statutes and mutual-aid agreements, generally enjoy sovereign immunity from suit, and this immunity extends to individual government employees and usually provides some form of immunity for responders (2005, p. 7). While the federal government and many state governments have waived this immunity with the passage of the Federal Tort Claims Act and similar state tort claim acts, these acts generally preclude suits in tort against individual government employees.

State governors generally have the authority under emergency statutes and powers to declare volunteers temporary state employees. Every state has a regimen for declaring a state of emergency, and such a declaration can explicitly trigger liability protections or allow the governor to do so. During Hurricane Katrina, Mississippi's emergency management statute, for example, provided civil liability protection to state government employees and agents during a declared emergency. Alabama protects a much broader group of "emergency management workers," which includes all of those working for an entity responding to Alabama's call for assistance during a declared emergency. The

declaration of such an emergency triggers special protections for medical personnel, often including liability protection for volunteer health professionals.

California, for example, has addressed this issue regarding worker's compensation for non-emergency volunteers who pre-register as a disaster service worker (DSW). The Emergency Services Act provides DSW volunteers with limited immunity from liability while providing disaster service. In California and New Jersey (two other states that have state US&R task forces), when a task force is activated by the state, the structures specialist (StS) becomes a state employee for the term of activation.

According to the (Congressional Research Service [CRS], 2005) nearly every state has enacted some sort of Volunteer Protection Act, the protections of which vary. The federal Volunteer Protection Act (VPA) provides limited protection. Immunity from liability protects the political subdivision or political entity, and the DSW volunteer in any civil litigation resulting from acts of good faith made by the political subdivision or political entity, or the DSW volunteer, while providing disaster service (e.g., damage or destruction of property; injury or death of an individual).

Immunity from liability does not apply in cases of willful intent, unreasonable acts beyond the scope of DSW training, or if a criminal act is committed. It is also unclear from this legislation whether DSW with professional designations (such as engineers and physicians) would be covered. The Disaster Relief Volunteer Protection Act of 2006, a federal law, was to provide liability protection for individuals who volunteer to assist victims of national disasters for any injury (including personal injury, property damage or loss, and death) caused by an act or omission in connection with disaster relief services provided or facilitated by the volunteer (CRS, 2005).

It also would have extended such liability protection to: (1) the volunteer's employer, host, or enabling person, entity, or organization; (2) nonprofit organizations providing or facilitating disaster relief services; or (3) governmental or intergovernmental entity and would prohibit the award of punitive damages in any civil action against a disaster relief volunteer or governmental or intergovernmental entity. This act, however, did not become law.

Without structural technical specialists (engineers) and medical team managers (physicians) there can be no US&R task force. Without US&R task forces, another emergency management or homeland security discipline would have to take up the responsibility for performing this role. None of the other disciplines are prepared, trained or equipped to take on this responsibility. Therefore, it is important that the necessary legislation be drafted, submitted and approved during the next legislative session commencing January 2010. By enacting protective legislation, the state of Florida will ensure keeping intact the outstanding US&R program it has dedicated significant resources to establish. There is no known downside to implementing such legislation other than the potential for other legislation to be tacked onto the original bill.

The FLUSAR response system is based upon providing a coordinated response to disasters in urbanized environments. Special emphasis is placed on the capability to locate and extricate victims trapped in collapsed buildings, from light residential construction to heavy reinforced concrete structures. In order to do this effectively, a US&R task force needs a core group of volunteer professionals in the capacity of structural engineers and medical physicians. The US&R task forces utilize professional engineers as structures specialists to assess the structural conditions including identifying structure types and specific damages and structure hazards. This also includes recommending the appropriate type and amount of structural hazard mitigation in order to minimize risks to task force personnel. The model for this is the federal US&R system incorporated into FEMA.

The US&R task forces utilize the emergency medical physicians for all medical aspects of their team members and victims that may be rescued by the task force. These members are often private sector emergency medical physicians who also are not offered the same protections against liability and risk legal action that can affect their professional designation(s) and licensure. As this becomes more of an issue, the existing personnel who fulfill these very important duties may opt out of belonging and responding with a task force. Addressing this weakness immediately with legislation will help ensure the continued highest degree of US&R performance and accountability to the citizens of Florida.

The area that most closely matched was in the realm of volunteer health professionals. There is a series of federal and state legislation that addresses this topic. The first of which falls under the rubric of “sovereign immunity.” According to the Congressional Research Service (2005), the federal and state governments generally enjoy sovereign immunity from suit and this immunity extends to individual government employees. One of the easiest ways to shield these important task force volunteers from individual civil liability, therefore, is to make them temporary non-paid employees of the federal government or a state government.

State governors generally have the authority under their emergency powers to declare these volunteers to be temporary state employees. Additionally, every state has a regime for declaring a state of emergency, and such a declaration can explicitly trigger liability protections or allow the governor to do so. For example, the Congressional Research Service (2005) also reported during Hurricane Katrina in 2005, Louisiana Governor Kathleen Blanco, pursuant to her public health emergency powers, issued an executive order temporarily suspending all licensure requirements for medical volunteers (so long as they are licensed in other states) and declaring such volunteers to be state employees shielded from civil liability.

Finally, nearly every state has enacted some sort of volunteer protection act, the protections of which vary. According to the Congressional Research Service (2005), the VPA protects from liability government and non-profit volunteers where: (1) the volunteers were acting within the scope of their responsibilities; (2) the volunteers were licensed or certified, if licensure or certification was required; (3) the harm was not the result of willful action, grossly negligent behavior, etc.; and (4) the harm was not caused by a volunteer’s operation of a vehicle. The VPA does not affect the liability of the non-profit or governmental entity for the action of its volunteers, nor does it affect such an entity’s ability to file any action against a volunteer.

The status of these professional volunteers is a very important topic for the FLUSAR system as without professional structural engineers to determine the safety of collapsed structures for entry by US&R personnel, and without physicians for treatment of entrapped victims, or injured rescuers, FLUSAR would not be able to exist. At the

time this literature review was conducted, the only substantive literature was the Congressional Research Service (2005) report. Further research must be conducted to find additional writings on legislation that covers the issue of volunteer liability in the context of US&R task force participation for non-emergency service workers such as structural engineers and medical physicians.

3. Funding

A search of the literature yielded no specific information regarding the status of funding for state US&R systems such as FLUSAR; however, there was some limited literature pertaining to the funding of the federal US&R system that can be used as a guide for state systems such as FLUSAR. In the federal US&R system, funding for task force activities related to disaster response is provided through the Disaster Relief Fund administered by FEMA.

In 2001, prior to the terrorist attacks of 9/11, which thereafter every one of the 28 federal US&R task forces responded to the World Trade Center, the federal US&R system was allocated \$10 million (OIG, 2006). Subsequently, that amount climbed to \$43 million in 2002, \$61 million in 2003, and \$65 million in 2004 (OIG, 2006). However, in 2005, the federal US&R system was only allocated \$30 million (OIG, 2006). According to the Congressional Research Service (2005), the local units of government that comprise the federal task forces serve as the primary source of funds for the task forces, and the federal government provides funding for costs incurred while the task forces are activated for deployment. States provide little, if any, financial support. The federal system uses a cooperative agreement to continue development and maintenance of the federal US&R system. The agreement provides the mechanism to provide federal funding to the local resources that comprise these task forces.

As stated in FEMA (2005), the cooperative agreement is a memorandum of agreement which outlines the funding which local resources that comprise the federal US&R task force will receive, and in return outlines the requirements the task force must meet as it pertains to program management, records management, training, deployment requirements and evaluative standards. However, funding the federal US&R system

proves to be challenging and wrought with inconsistencies and problems. According to the literature, FEMA has not performed financial assessments of costs required to achieve overall federal US&R system goals or detailed analyses of the task forces' funding needs to achieve grant agreement goals. Additionally, according to DHS (2006), it is apparent that FEMA has not made the expectations for goals and costs to achieve the goals within the FEMA US&R task forces.

Also mentioned in DHS (2006), FEMA allocated approximately 40 percent of the federal US&R system's funds to grants and awarded equal amounts to each task force but ignored the needs and readiness of each individual task force by equally distributing these grants to all of the federal US&R task forces without regard to the different size equipment caches of each task force. Additionally, other financial requirements were often placed on the federal US&R task forces without regard to individual task force training needs.

It is an understatement that without adequate funding, the FLUSAR system will not be able to operate. The majority of the costs related to operating a state US&R task force is presently borne by the local entity (entities) that comprise the task forces. Federal grant funding through the State Homeland Security Grant Program assist with some of the sustainment costs and training costs associated with operating a task force. In order for the FLUSAR system to thrive, or even survive, the state of Florida will have to supplement funding the FLUSAR system as well. Without state funding, FLUSAR will cease to exist which will reduce Florida's state and local government's ability to respond to incidents that require US&R.

In the author's experience with FLUSAR, this occurrence came very close to happening. When there was a question of whether the DHS would continue one of its reimbursement policies for the training of task force members causing a potential budget liability for the local agencies that comprise these resources, several of the FLUSAR task force leaders said their individual agencies would no longer be able to be part of the system. Fortunately, the discrepancy was worked out and the task forces were able to

continue receiving training funds reimbursements through the grant program. Without guaranteed state funding to supplement the local funding, the future of the program is in serious doubt.

The recent Operational Readiness Evaluations, published federal documents, and the experience of working with the existing system since 2001, has shown that the state of Florida has a very good US&R system, but needs to prepare for the future by taking the necessary steps to protect the volunteers who respond with the US&R task forces.

In light of the fact hurricane season lasts nearly half of the year and the most frequent use of the US&R task forces in Florida has been hurricane deployments, the political implications are clear. Failure of the state US&R system and the loss of the accompanying funds that have been spent to create the system will result in a political backlash assuring many of those who decide not to take action to be voted out of office during the next election.

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VII. RECOMMENDATIONS/IMPLEMENTATION CHALLENGES

The research included in this thesis sought to answer the following questions:

1. Is FLUSAR an unnecessary duplication of services between the federal and state government?
2. If research indicates that FLUSAR is not a duplication of services between federal and state governments, how should it be structured for the future?
3. Which state agency should take the lead role in management of FLUSAR?
4. What weaknesses need to be addressed immediately to ensure the viability of FLUSAR for the future?

It can be argued that from a cost/benefit perspective it is necessary to have state US&R resources in a state that has FEMA US&R resources within its state or regional border, similar to Florida, which houses two FEMA US&R task forces. However, as the research indicated, disasters start as a local event and, if significant enough or if specialized resources are required, will process through state then federal resources. If Florida did not have its own US&R system at the state level, the chances of Florida's two FEMA US&R task forces being deployed out of the state and leaving the state devoid of similar resources may be minimal relative to the cost of maintaining the system. However, as was stated earlier in this paper, Florida's US&R system provides for a tiered response with over 40 Light Technical Rescue Teams spread throughout the state, in conjunction with the nine US&R task forces (personal communication, D.A Casey, June 20, 2009; R. Napoli, September 1, 2009; T. Quinn, May 30, 2009).

The system is designed with the local community as the first level for an immediate response and stabilization of the incident, including the capability to seek further assistance locally, regionally, state level and nationally. As the research indicated, speed in getting specialized resources to the incident location is paramount to a successful rescue operation and saving lives. With Florida's experience of hurricanes

(over 10 state US&R task force deployments during the 2004 and 2005 hurricane seasons alone), tornadoes and floods, the timeliness of delivery of specialized resources from the state system is critical.

All emergencies are local; and if they escalate, they will become the responsibility of the state. The most effective response is the one that starts at the local level and grows with support from the surrounding communities, the state, and then the federal government, if necessary. Research presented indicates that it is both expected and imperative that states take more of a leadership role in homeland security.

In light of this, and the research presented herein about the delay in a FEMA US&R response, the author believes there is not a duplication of services between FEMA and FLUSAR and the concept of collaborative federalism drives the state to assume the requisite leadership role; assuming the responsibility for coordination, management and administration of the program that is comprised of local resources. Since it has been established that FLUSAR does not represent a conflict of interest, the author is also recommending that a dedicated state US&R system administered, coordinated and funded at the state level be instituted which segues into the third question.

The third question dealt with identifying the correct state agency to be responsible for the coordinating and administering the FLUSAR system. Since the overwhelming majority of resources that comprise a US&R task force are fire resources, it is fitting that the Florida Department of Financial Services, Division of State Fire Marshal (SFM) be the state agency responsible for this function. Not only is the SFM's role in this respect outlined in both state statute (F.S. 633) and Florida Administrative Code (F.A.C 69A), but as mentioned earlier, the SFM disaster responsibility is documented in the state of Florida Comprehensive Emergency Management Plan, (Florida Department of Emergency Management, 2004, pp. 35, 70). Emergency Support Function 9, Search and Rescue, and the Florida Domestic Security Strategy Goal 4, Respond, Objective 4.14, Search and Rescue (2004) both indicate the responsibility of SFM for coordination and administration of US&R resources.

Additionally, the State Emergency Response Plan (SERP) (Florida State Firefighter's Association, 2008) the SFM is the lead agency responsible for the management of ESF 4/9 (firefighting and US&R). This is accomplished through the use of an Incident Management System (IMS) structure, with pre-designated positions, established in the State Emergency Operations Center (SEOC). Through an agreement, the Florida Fire Chiefs Association (FFCA) will provide staff to ESF 4/9 at the SEOC, coordinating resource response into the affected region.

The FFCA provides the coordination for logistical support as requested by ESF 4/9, as well as other ESFs. The FFCA and SFM have also entered into memoranda of understanding (MOU) with the Florida Department of Environmental Protection and the Department of Health relating to periods of activations of the SEOC. Under these MOU's, ESF 4/9, ESF 8 (Health/Medical) and ESF 10 (Hazardous Materials) will work together on the deployment of various response resources including the Department of Environmental Protection (DEP) emergency response personnel and the statewide, multi-agency Environmental Response Team. The above-mentioned agreements and responsibilities involve firefighting personnel and vehicles, similar to the US&R, therefore the SFM, by virtue of its experience, is well positioned to coordinate and administer FLUSAR.

Admittedly, for the SFM to take full-time control of FLUSAR, as recommended, either existing personnel would have to take on the responsibilities of the FLUSAR program, or additional personnel would need to be hired. However, for any other state agency to take over this responsibility would necessitate a similar requirement and add a significant discipline specific learning curve to learn the functions and terminology for the fire resources.

The last question dealt with addressing the major weaknesses that were identified through interviews and the author's direct experience in working with FLUSAR between 2004 and 2008. As was mentioned early in this paper, the major weaknesses identified were lack of management of FLUSAR, lack of a strategic plan and lack of volunteer

liability protection for key, non-fire service related positions that are integral members of a US&R task force. These weaknesses need to be addressed immediately to ensure the viability of FLUSAR for the future.

During the course of an interview with Mick Mayers, known authority on fire service US&R issues, Chief Fire Officer, former director of South Carolina's state US&R system, and one of the founding members of SUSAR, the lack of a strategic plan is a common element in many of the state US&R systems. Even though there are over 40 state US&R teams and programs represented within the network of SUSAR, according to Mayers (personal communication, August 18, 2009), many of them are facing the same limitations as FLUSAR; lack of an everyday management or coordinating agency, lack of funding and a lack of a strategic plan.

According to Mayers (2007), "a strategic plan is the 'glue' that holds the whole program together" (p. 52). Besides the planning process being invaluable to determining other strengths and weakness of the system, the implementation of a strategic plan is essential to the effective operations of an organization such as FLUSAR, as it provides the framework and pathway to future success. Simply put, today's government budget and policy-making process are not informed by clearly defined strategies in which "means" are prioritized to achieve operational strategic goals.

As stated earlier, in the case of Florida, US&R is mentioned in the Domestic Security Strategy, and in the CEMP; however, there is no other existing strategic planning document which contains what the strategic goal is or desired outcome is for FLUSAR. According to Quinn (personal communication, May 30, 2009), there is no strategic plan for FLUSAR and no plan outlining what resources will be available for the long term.

Furthermore, according to Quinn (personal communication, May 30, 2009) and Casey (personal communication, June 20, 2009), immediately after September 11, 2001, when Governor Bush called all the directors of state agencies together, he advised then Director Napoli that since ESF 4 and 9 were the responsibility of SFM, and even though SFM will partner with other organizations in the administration of FLUSAR (such as

FASAR and FFCA), the state cannot abdicate its responsibility for the US&R function. Since the state has the responsibility for FLUSAR by direction from the governor, as outlined in the CEMP and as outlined in Domestic Security Strategy, SFM must exert its leadership influence and direct a strategic planning process that will ensure the viability of FLUSAR for the future.

By virtue of its already established ESF 9 responsibility and experience in the development of and continued working relationship with FLUSAR, the author recommends that the Division of State Fire Marshal establish a FLUSAR advisory board of members of the various organizations that presently work within FLUSAR. This advisory board should be an offshoot of the already existing Domestic Security Oversight Council and would include representatives from FFCA, FASAR, state government, and local government. The purpose of the advisory board would be to conduct the strategic planning process when the final structure of FLUSAR is determined. The strategic planning process should include the stakeholders in FLUSAR and should represent local, state, and federal representatives to acknowledge the federalism aspect of homeland security.

Another function of the advisory board would be to recommend a funding level for sustainment of FLUSAR. This can be accomplished in conjunction with the strategic planning process and funding levels can be tied to the accomplishment of periodic benchmarks in the planning process. As goals are met in the structure of the organization over a specific period of time, funding levels can commensurate with the need for sustainment of the system at that time. This also provides for legislators to be able to justify to their constituents a funding level that matches the sustainability of a specific homeland security function; US&R.

Additionally this advisory board would be to develop draft legislation to strengthen the existence and sustainment of FLUSAR. An example would be the legislation necessary to address the last significant weakness, which negatively affects the viability of FLUSAR; the lack of liability protection for critical civilian members of a US&R task force, specifically, StS and MTM.

Both of the positions have a significant role in the work that a US&R task force does; however, they are hesitant to carry out their duties due to not having liability protection for their professional status. These personnel make important decisions regarding the condition of a damaged structure relative to safe entry for US&R personnel for removal of victims, and the medical treatment of victims or team personnel. Since these personnel are professionals licensed in their primary occupations (engineers and medical physicians), they stand to lose a great deal to claims of negligence.

One of the easiest ways to shield these non-government workers from individual civil liability is to make them temporary non-paid employees of the state for purposes of affording sovereign immunity. This immunity will extend to the StS and MTM when performing tasks outlined within the StS and MTM Position Description and when performed at the request of the State Fire Marshal.

The author recommends the advisory board support either state policy or legislation whereby the StS and MTM personnel on the task forces, when activated for response or training by the state, be considered an employee of the state, and hence afforded the liability protection of the state as an employer. Though this solution may not immediately provide the protection of their licensure with their respective boards of licensure, it will at least begin the dialogue at the appropriate levels to accomplish in the longer term the necessary legislative revisions to Chapter 633 Florida Statutes to formalize jurisdiction of the StS and MTM under the State Fire Marshal and differentiate the role of the StS from that of an Engineer as stated in Chapter 471 Florida Statutes and Florida Administrative Code, 61G-15, and applicable Department of Health state statutes and board designations that affect physicians.

Finally, the author recommends the State Fire Marshal create a US&R Program Coordinator position. This position would possess:

- Specific knowledge, skills and abilities in the US&R discipline
- Knowledge of national standards affecting US&R
- Knowledge of the FLUSAR system, knowledge of the State Homeland Security strategy and organization

- Knowledge of the state emergency response plan and emergency management practices, including interface with an Emergency Operations Center
- Knowledge of the FEMA US&R system

The US&R Coordinator would work closely with other state agencies that interact during incidents that require state resources, or integration of federal resources into an existing emergency incident. This position would also be responsible for the day-to-day activities related to FLUSAR including funding, training and coordination issues.

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VIII. CONCLUSION

Since September 12, 2008, the urban search and rescue system in Florida has grown from a nascent system to a full-fledged, multi-tiered, statewide search and rescue system. Through an urgent need for US&R capabilities, good planning and a unity of purpose after September 11, 2001, Florida was able to establish a system that is emulated by other states. However, due to a lack of state control, sustainable funding, a strategic plan and policies to protect integral members from professional liability, the system is in jeopardy of ceasing to exist. If this were to occur, Florida would not adequately be able to protect its citizens during emergencies that cause structural collapse.

This thesis evaluated the need of Florida to maintain its US&R system within the context of the principle of federalism, an evaluation of the present FEMA US&R system by the Department of Homeland Security's Office of Inspector General, Congressional testimony on the status of the FEMA US&R system, the need to create a state US&R system in Florida after September 11, 2001, and the 2008 Operational and Readiness Evaluation of the FLUSAR system.

This thesis focused on the qualitative information gleaned from the literature review, a survey of state USAR systems, interviews with personnel who were involved with the establishment of FLUSAR, or have a role in other state's USAR systems, and the author's experience with the FLUSAR system with state and local governments.

This thesis also evaluated the present capability of the US&R system within the state of Florida and provided a description of where FLUSAR has been, where it is today and to recommend changes for the future in order to ensure the highest degree of performance and accountability to the citizens of Florida, including recognizing the real strength of a US&R system is one that is based on the a rapid, local and regional response of specially trained US&R teams and task forces from within a state.

The author recommends that the Florida Division of State Fire Marshal establish a US&R advisory board and US&R program coordinator and dedicate sufficient funding to support an advisory board and US&R program coordinator. The benefit of being

supported by and also part of a state system ensures familiarity with the geography, demographics, and types of common emergencies for that locality, and emergency response programs and personnel already existing within that state. This provides for a more expeditious, seamless, and coordinated response, which contributes to more effectiveness, efficiency and successful outcomes.

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