Enhancing Domestic Catastrophic Incident Sealift

15 May 2020

A paper submitted to the FY19-20 Naval War College Writing Awards Committee for consideration in the J. William Middendorf II Award competition.

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this 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 Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE *(DD-MM-YYYY)*	**2. REPORT TYPE**	**3. DATES COVERED** *(From - To)*
12-05-2020	FINAL	N/A

4. TITLE AND SUBTITLE

Enhancing Domestic Catastrophic Incident Sealift

5a. CONTRACT NUMBER
N/A

5b. GRANT NUMBER
N/A

5c. PROGRAM ELEMENT NUMBER
N/A

6. AUTHOR(S)

CDR David Ostwind, USN

5d. PROJECT NUMBER
N/A

5e. TASK NUMBER
N/A

5f. WORK UNIT NUMBER
N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Writing & Teaching Excellence Center
Naval War College
686 Cushing Road
Newport, RI 02841-1207

8. PERFORMING ORGANIZATION REPORT NUMBER
N/A

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

N/A

10. SPONSOR/MONITOR'S ACRONYM(S)
N/A

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
N/A

12. DISTRIBUTION / AVAILABILITY STATEMENT
Distribution Statement A: Approved for public release; Distribution is unlimited.

13. SUPPLEMENTARY NOTES A paper submitted to the faculty of the NWC in partial satisfaction of the requirements of the curriculum. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.

14. ABSTRACT

Catastrophic events such as pandemics, earthquakes, hurricanes, wildfires, and nuclear incidents will threaten the safety of American citizens at home; now, and in the future. The United States Government is capable of transporting citizens by air and land but lacks plans to evacuate large numbers of citizens by sea. Federal agencies and the U.S. military have the authority and capability to execute such a mission, but no formal direction to do so. When state, local, tribal, and territorial (SLTT) governments are overwhelmed, the federal government will be called upon to respond. Now is the time to enhance whole-of-government contributions to domestic catastrophic incident sealift to better prepare the nation for future disasters. Include in this paper are recommendations to achieve domestic catastrophic incident sealift capability using existing resources.

15. SUBJECT TERMS (Key words)
Catastrophic Incident Sealift

16. SECURITY CLASSIFICATION OF: Unclassified			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			Director, Writing Center
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	N/A	27	**19b. TELEPHONE NUMBER** *(include area code)* 401-841-6499

Standard Form 298 (Rev. 8-98)

Contents

If in doubt, "launch"! When lives are at stake, a bias towards action will always be better than grappling with indecision and/or bureaucracy.[1]

Catastrophic events such as pandemics, earthquakes, hurricanes, wildfires, and nuclear incidents will threaten the safety of American citizens at home; now, and in the future. The United States Government is capable of transporting citizens by air and land but lacks plans to evacuate large numbers of citizens by sea. Federal agencies and the U.S. military have the authority and capability to execute such a mission, but no formal direction to do so in the event it is necessary When state, local, tribal, and territorial (SLTT) governments are overwhelmed, the federal government will be called upon to respond. Now is the time to enhance whole-of-government contributions to domestic catastrophic incident sealift to better prepare the nation for future disasters.

In August 2005, the states of Louisiana, Mississippi, and Alabama were severely impacted by Hurricane Katrina. In New Orleans, the resulting loss of services stranded thousands and caused the nation to question whether federal, state, local, tribal, and territorial governments could adequately protect their citizens during future disasters. The House Select Bipartisan report on Hurricane Katrina cited the lack of planning at all levels of government and called the response a failure of initiative.[2] Specifically, the report highlighted the inability of federal, state, and local governments to quickly move impacted citizens from the disaster zone.[3]

Within hours of Hurricane Katrina's landfall, support began to arrive by sea. Aircraft from U.S. Navy vessels quickly initiated search and rescue operations. Cruise ships and

[1] Critical Incident Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue (CISAR) Manual Version 3.0
[2] U.S. House of Representatives, Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina, "A Failure of Initiative." 109th Congress, 2nd Session, Report 000-000, February 15, 2006, www.nrc.gov/docs/ml1209/ml12093a081.pdf, Accessed on October 15, 2019, xi.
[3] Ibid 2-4.

Maritime Academy vessels were dispatched to provide accommodations for displaced first responders and essential services personnel. However, at no point was any vessel directed to onload the 20,000 evacuees stranded at the Morial Convention Center and transport them to a shelter at an unimpacted port. While the pleas of these distressed citizens were broadcast around the world, two U.S. Maritime Administration (MARAD) Ready Response Force (RRF) ships capable of transporting thousands of people short distances, remained pierside in New Orleans.[4]

The evacuation of citizens from New Orleans was one of several mass evacuations that stretched federal, state, and local government capabilities. The 1906 San Francisco earthquake and fire resulted in the evacuation of more than 60,000 people by sea. On September 11th, 2001, approximately 500,000 people were transported from Manhattan, NY by a variety of volunteer vessels. In 2019, a cruise ship transported approximately 1,000 Bahamians to the United States in the wake of Hurricane Dorian. In December 2019, the Australian Navy deployed a vessel to rescue citizens trapped by wildfires in remote coastal towns.

Forty percent of Americans, approximately 132 million people, live within 100 miles of the coast. As climate change raises sea levels and intensifies storms, another catastrophe awaits. In 2012, Superstorm Sandy caused fires and flooding that significantly disrupted life in New York City. Without comprehensive sealift planning that integrates whole of government capabilities, a powerful hurricane, pandemic, nuclear detonation, earthquake, or tsunami could devastate one or more metropolitan areas and overwhelm the nation's ability to transport survivors to safety.[5]

[4] MARAD Website, "The RRF Response to Hurricane Katrina." March 25, 2019, https://www.maritime.dot.gov/history/historical-documents-and-resources/rrf-response-hurricane-katrina Accessed October 12, 2019.

[5] Why U.S. Catastrophic Incident Sealift capability remains undeveloped is a subject for future research. Subject matter expert interviews and document reviews point to unfamiliarity with sea evacuation, a preference for land and air evacuation based on experience, and few recent catastrophic events requiring large capacity sea transport. Additionally, complications arising from Americans with Disabilities Act requirements serve to deter CES planning.

The Role of State, Local, Tribal and Territorial Governments and the Private Sector

Emergency management in the United States operates on the principle that response occurs at the lowest possible level with mutual aid and state/federal support requested when local resources are insufficient. As such, SLTT governments are responsible for the planning and execution of mass evacuations of their citizens. Mass evacuation planning includes contraflow plans for vehicle traffic, railcars for sick and elderly evacuees, and military airlift. When existing SLTT evacuation resources are unavailable or overwhelmed, citizens may need to be evacuated by sea. Catastrophic Incident Sealift (CIS) is a valuable planning tool that should be included in the toolkit of every applicable SLTT community.

Some jurisdictions have robust plans for mass evacuation over water. A notable example is the August 2011 California Emergency Management Agency, Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan Annex to the San Francisco Bay Area Regional Emergency Coordination Plan. The annex anticipates a magnitude 7.9 earthquake that would cause extensive damage and require the evacuation of more than one million people.[6] The plan acknowledges that "a catastrophic earthquake in the Bay Area immediately overwhelms local, regional, and State emergency response capabilities. The region needs massive, rapid support from the Federal Government, other local governments in California, other states, and nonprofit and private-sector organizations… An effective response is possible only if comprehensive planning has taken place."[7] The plan notes that the U.S. Coast Guard may activate a mutual assistance plan in which ferry operators respond by transporting evacuees out of the disaster area and bring in first responders.[8] The plan anticipates that 80% of the

[6] California Emergency Management Agency, Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan Annex to the San Francisco Bay Area Regional Emergency Coordination Plan, August 2011. Page 20.
[7] Ibid, Page 7
[8] Ibid, Page 22

population will self-evacuate.[9] Of those requiring mass transportation assistance, "80% are able to travel on conventional transit vehicles, and 20 percent need to be transported in demand response and accessible vehicles capable of transporting people with access and functional needs or durable medical equipment."[10] Critical to the San Francisco Bay area plan is the Water Emergency Transportation Authority (WETA). WETA is a regional agency that operates most of the Bay Area ferry system and implements the Emergency Water Transportation System Management Plan after a disaster occurs.[11] The plan states, "After the earthquake, bridges and tunnels serving transbay corridors are closed because of damage or for assessment of damage. Ferries and other maritime assets may play a vital role in the response and also by providing basic transportation services."[12]

Other jurisdictions have robust land and air evacuation plans but no plans for evacuating citizens over water. These areas would benefit from a federally sponsored initiative to develop CIS capability nationwide by applying best practices and lessons learned from the San Francisco Bay Area and other cities that have conducted extensive planning for waterborne evacuation. Such an initiative would enhance organic capability to transport citizens short distances over water following a catastrophic incident.

A robust SLTT CIS capability would require extensive plans and organization. To effectively organize and coordinate response and recovery efforts, Federal, state, and local emergency managers group response and recovery activities under 15 Emergency Support Functions (ESF). CIS planning would build on existing rescue and mass shelter plans conducted by ESF 6 (Mass Care) and ESF 9 (Search and Rescue) and would complement ground and air

[9] Ibid, Page 46
[10] Ibid, Page 46
[11] Ibid, Page 61
[12] Ibid, Page 61

evacuations coordinated by ESF 1 (Transportation). CIS would require plans for evacuee staging areas both at established embarkation points such as cruise ship terminals and at secondary locations should the primary locations be inaccessible.[13] In all cases, evacuee staging areas must be organized and secure, requiring portable shelters and security personnel.

A variety of watercraft may be employed to transport citizens. These may include small private boats, contracted commercial vessels, or U.S. military and government ships. A list of vessels that are likely to respond should be identified in advance and maintained in a database that identifies occupancy, draft, and point of contact information. Safety is paramount as evacuation of citizens across bodies of water could result in collision, foundering, injuries and death. For this reason, SLTT plans must include the purchase and maintenance of lifejackets and rafts. For longer transits, food, water, toilets, and cots may be required. SLTT planners must also consider evacuee tracking, security, medical treatment, and public communications. Finally, evacuees should not board a vessel without plans in place for their arrival at a safe location. Mutual aid agreements between jurisdictions should establish disembarkation locations, transportation to shelters, and long-term shelter plans.

Establishing robust CIS capability nationwide can best be accomplished by leveraging the Federal Emergency Management Agency's (FEMA) capability development infrastructure; notably the FEMA grant programs. Beginning with the Nunn Luger Domenici Program in 1996, the federal government incentivized state and local disaster planning efforts via grant programs. This effort took on new urgency with a significant increase in funding after September 11th, 2001. Originally the Post 9/11 funds were intended to counter the threat posed by terrorism.

[13] Following 9/11, the NY/NJ Port Authority placed rubber bumpers along the seawall in lower Manhattan to establish secondary embarkation locations for future incidents requiring citizen evacuation by sea. Phone interview conducted with Chris Dowhie, founder of PlanBMarine on 25 Feb 2020.

However, the funding model changed in 2005 following Hurricane Katrina. Under the Post Katrina Emergency Management Reform Act (PKEMRA), many government funds were reoriented to address all hazards, including earthquakes, hurricanes, and floods.

Similar to the doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF) model applied by DOD, FEMA employs the plans, organization, equipment, training, and exercises (POETE) model to develop capability at the SLTT level. CIS capability should be developed by applying all of the POETE resources available from FEMA. As the federal government cannot direct state and local entities to develop specific capabilities, FEMA encourages capability development in specific areas through the establishment of grant programs, approved equipment lists, the development of technical assistance, training courses, and exercise support.

Federal agencies cannot lobby Congress for funding or apply undue pressure on FEMA to revise grant funding priorities. However, vocal SLTT leaders can affect change. One such CIS advocate is Col Terry Ebbert, USMC (ret). Col Ebbert served as the Director of the New Orleans Office of Homeland Security and Emergency Preparedness during Hurricane Katrina and has recently returned to the position. During the Hurricane Katrina response, Col Ebbert stated, "This is a national disgrace. FEMA has been here for three days, yet there is no command and control. We can send massive amounts of aid to tsunami victims but we can't bail out the city of New Orleans."[14] Following the storm, Col Ebbert used his testimony before Congress to initiate policy changes, planning, and funding to transport sick and elderly patients via rail transportation. As the inspiration for whole-of-government CIS capability development,

[14] Seattle Times Staff. Seattle Times. This is a National Disgrace. September 2, 2005. Accessed on 4 March 2020. https://www.seattletimes.com/nation-world/this-is-a-national-disgrace/.

Col Ebbert supports the initiative as a means to save lives and "create a culture of mission over compliance."[15] Advocates such as Col Ebbert may initiate change within Congress and FEMA through congressional testimony, public appearances, and working groups such as the Governors' Homeland Security Advisors Council. Their efforts could culminate in the addition of CIS capability development as a future FEMA grant priority.

CIS preparedness is not only the responsibility of government entities. Just as the American Red Cross fulfills essential emergency support function activities, so to may private corporations, non-governmental organizations, and private citizens. The 9/11 boatlift and the "Cajun Navy" response to Hurricane Katrina demonstrated the willingness of private citizens to help conduct CIS. FEMA sponsors citizen preparedness efforts through the Citizens Corps program that "includes a national network of over 1,200 state, local, and tribal Citizen Corps Councils which bring together local government, business and community leaders who work to prepare their communities for disaster and to make them more resilient."[16] Citizens Corps partners include the Community Emergency Response Teams (CERT), Fire Corps, USA on Watch, Medical Reserve Corps, and Volunteers in Police Service.[17] Communicating CIS preparation efforts through the Citizens Corps network will enhance awareness and may result in volunteer contributions to CIS response. Other community groups to include in CIS planning and response are the U.S. Coast Guard Auxiliary, the Scouts, yacht clubs, and numerous maritime centric community service organizations.

As the vast majority of ferries and passenger carrying vessels are privately owned, it is essential for private industry to be engaged in SLTT CIS preparation efforts. One model for

[15] Phone interview with Col Terry Ebbert by the author on 17 Feb 2020. Newport, RI.
[16] FEMA Ready.gov Website. https://www.ready.gov/citizen-corps. Accessed on 5 March 2020.
[17] Ibid

engaging private industry is the San Francisco Vessel Mutual Assistance Plan (SF-VMAP). The SF-VMAP includes the names, occupancies, and contact information for San Francisco passenger watercraft that can come to the aid of a vessel in distress.[18] The plan also includes a quick response sheet and a pier/dock compatibility matrix complete with water depth.[19]

When resources are overwhelmed, SLTT agencies next call on support from neighboring jurisdictions via emergency management assistance compact (EMAC) mutual aid agreements. Ratified into law by congress, the All Hazards National Mutual Aid System is applicable in all 50 states.[20] "Through EMAC states can share resources from all disciplines, protect personnel who deploy, and be reimbursed for mission related costs."[21] The SF evacuation plan incorporates mutual aid by stating,

> "approximately 30 mass transportation agencies in the 12-county region provide mass public transportation services via bus, rail, ferry, or some combination of those modes…During a disaster, these agencies are essential to the regional transportation response because they provide emergency transportation and restore basic transportation services… The ten largest Bay Area mass transportation agencies have entered into a mutual aid agreement to streamline the provision of voluntary mutual assistance among those agencies to help ensure that public transportation services continue to the maximum practical extent in a disaster."[22]

Once developed, CIS capability may be tested through exercises conducted by the SLTT entities and FEMA's National Exercise Division. The National Exercise Division leads numerous annual exercises and conducts the National Level Exercise (NLE) every two years. According to the National Exercise Division's website, "NLE 2018 brought together more than 12,000 individuals across the whole community to examine the ability of all levels of

[18] U.S. Coast Guard Sector San Francisco Bay. San Francisco Vessel Mutual Assistance Plan, 30 November 2012. Pages 32-35.
[19] Ibid
[20] EMAC website. www.emacweb.org. Accessed on 7 March 2020.
[21] Ibid
[22] California Emergency Management Agency, Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan Annex to the San Francisco Bay Area Regional Emergency Coordination Plan, August 2011. Page 55.

government, private industry, and nongovernmental organizations to protect against, respond to, and recover from a major Mid-Atlantic hurricane."[23] NLE 2018 included 5 States and the District of Columbia, more than 91 federal agencies and departments, 67 local jurisdictions, and active and reserve DOD components.[24]

Through these efforts, SLTT jurisdictions will prepare to execute sealift capability on their own while also developing the ability to integrate with whole-of-government response resources. Ideally SLTT CIS capability would be sufficient to safely evacuate all U.S. citizens from a disaster zone. However, when SLTT CIS capabilities are overwhelmed, the U.S. government will be called upon to save lives with federal resources.

The Role of Federal Agencies

The United States Government has conducted extensive planning in preparation for disasters. Homeland Security Presidential Directive (HSPD) 5 states:

> "To prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies, the United States Government shall establish a single, comprehensive approach to domestic incident management. The objective of the United States Government is to ensure that all levels of government across the Nation have the capability to work efficiently and effectively together, using a national approach to domestic incident management."[25]

FEMA leads the nation's response to disasters with a primary mission "to reduce the loss of life and property and protect the Nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting the Nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery,

[23] National Level Exercise 2018 Executive Summary. https://www.fema.gov/media-library-data/1531489062928-c7d82e3b92be153719688d9c6d71e1fb/NLE_EXEC_SUMM2018_20180620_508PASS.PDF Accessed on 5 March 2020.
[24] Ibid
[25] HSPD 5, https://www.dhs.gov/sites/default/files/publications/Homeland%20Security%20Presidential%20Directive%205.pdf Accessed on 18 November 2019.

and mitigation."[26] When SLTT resources are overwhelmed, the governor of a state will make a formal request to the President via FEMA for a major disaster declaration or an emergency declaration. Under the Stafford Act, the President will issue the declaration which provides federal resources and funds to "supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship or suffering caused thereby."[27] Once a presidential declaration has been made, the FEMA Administrator will activate the National Response Framework (NRF) and coordinate the federal response via the DHS National Operations Center (NOC).

FEMA has a critical role to play in domestic evacuations by sea as whole-of-government CIS development and incorporation will likely be FEMA's responsibility. FEMA may form the interagency working group necessary to plan and organize national CIS efforts. It may also assign planning responsibility to another entity such as the U.S. Coast Guard or the Council on Maritime Transportation Security (CMTS). Once roles and responsibilities have been agreed upon, FEMA would incorporate CIS into the NRF and other national level planning documents.

FEMA is uniquely positioned to prepare the nation for CIS as it leads some Sector Coordinating Councils within DHS, creates the annual preparedness grant guidance, and works closely with SLTT emergency management agencies and the private sector. FEMA has previously conducted national land evacuation planning and has evaluated SLTT evacuation plans following Hurricanes Katrina and Rita. The FEMA National Response Coordination Center (NRCC) also plays a critical role in responding to disasters. The NRCC works with the military via U.S. Northern Command (USNORTHCOM) and U.S. Transportation Command

[26] Federal Emergency Management Agency, Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, 42 U.S.C. 5121 et seq., and Related Authorities. FEMA P-592, May 2019, 96.
[27] Ibid

(USTRANSCOM), and the U.S. Department of Transportation via MARAD to generate vessel support requirements for execution. In some prior cases, the NRCC leased vessels directly to speed delivery of emergency services and goods.[28] Best practices from previous NRCC vessel leases and FEMA's National Ambulance Contract could inform the development of future CIS vessel contracts. Development of a CIS standard operating procedure (SOP), vessel resource guide, and CIS checklist would further aid the NRCC in responding to disasters requiring evacuation by sea.[29]

FEMA is also the lead agency for the development and implementation of the Incident Command System (ICS) and the National Incident Management System (NIMS). Incorporation of CIS into ICS/NIMS guidance, training, and FEMA exercises will ensure all responders are aware of CIS resources and are better prepared for their employment. Additionally, FEMA funds and contributes to annual emergency management conferences including the National Homeland Security Conference. These conferences offer an opportunity to showcase emerging threats and solutions. Including CIS as a seminar track at these events will improve awareness and development of CIS capability at all levels of government.

The U.S. Maritime Administration (MARAD) under the U.S. Department of Transportation seeks to "project American power and influence on a global scale, assist our allies and countries in need, respond to a crisis anywhere in the world, receive reliable access to our carriers' global logistics and distribution networks, and sustain a dedicated, loyal, U.S.-flag fleet of modern ships and highly-trained mariners."[30] MARAD maintains the National Defense Reserve Force (NDRF). Included in the NDRF is the Ready Reserve Force (RRF) consisting of

[28] Matthew Allen, FEMA. Interview by author. Newport, RI. February 5, 2020.
[29] Ibid
[30] U.S. Maritime Administration Website, "National Security." https://www.maritime.dot.gov/national-security. Accessed 23 March 2020.

46 vessels to transport U.S. military equipment overseas in times of war. At its core is a Memorandum of Agreement (MOA) between the Department of Defense (DOD) and Department of Transportation (DOT). Since its inception in 1976, the RRF has conducted hundreds of vessel activations, with "dozens per year supporting a variety of humanitarian, natural disaster, and military operations."[31] Recognizing that RRF vessels provide a safe location for emergency response vehicles during a natural hazard, MARAD developed the SafeStor program. Under this program, SLTT vehicles are driven aboard roll-on/roll-off (RORO) vessels prior to a hurricane. This operation has been conducted several times with great success, protecting vehicles, vessels, and aircraft.[32]

RRF ships are important assets to be incorporated into future CIS plans.[33] Currently, the vessels require a five-day activation period prior to sailing to bring boilers online, onload fuel and supplies, correct material discrepancies, and hire crew which limits the utility of RRF vessels for CIS. However, many of these delays could be resolved if activation occurred prior to a disaster; as in the case of a hurricane. Additionally, for no-notice events such as an earthquake or nuclear detonation, standby RRF ships on each coast could be designated in advance and prepared to sail on short notice. In 2008, MARAD prepared for such an event:

> "As Hurricane Gustav approached the US East and Gulf Coast, NDRF/RRF ships and school training ships remained on alert. The Maritime Administration activated the Maritime Command Center in Washington and their regional counterparts. The Maritime Administration reviewed plans to assist the Department of Homeland Security (DHS) and the Federal Emergency Management Agency (FEMA) and prepared to activate vessels for relief operations and for chartering commercial vessels if necessary."[34]

[31] U.S. Maritime Administration Website, "Ready Reserve Force." https://www.maritime.dot.gov/national-defense-reserve-fleet/ndrf/maritime-administration's-ready-reserve-force. Accessed 23 March 2020.
[32] U.S. Maritime Administration, "National Defense Reserve Fleet (NDRF) Disaster Relief Capabilities." Page 1.
[33] RRF CIS value was demonstrated in 2010 when the High Speed Vessel, HSV HUAKAI, transported personnel and equipment between Florida, Guantanamo Bay, Cuba, and Port-au-Prince in response to an earthquake in Haiti. Ibid, Page 3.
[34] Ibid, Page 2.

Future short notice RRF ships could include the new class of National Security Maritime Vessels (NSMV). The NSMVs were funded to replace existing vessels at five maritime schools around the nation. The 524ft long ships will serve as floating classrooms but were also designed to be emergency response vessels with a range of 11,000nm.[35] "The vessel will have state-of-the-art hospital facilities, a helicopter landing pad and the ability to berth up to 1,000 people in times of humanitarian need. In addition to its ability to house personnel, the NSMV has a roll-on/roll-off ramp and container storage for easy loading and unloading.[36]

In the event RRF vessels cannot meet the demand for CIS, MARAD could also contract commercial vessels to carry citizens to safety. The Voluntary Intermodal Sealift Agreement (VISA) program is a partnership between the U.S. Government and private industry to provide commercial sealift when the U.S. Department of Defense deploys military forces overseas.[37] A VISA-like program could be created to ensure access to commercial vessels on short notice should a catastrophic incident occur.

In all cases, MARAD is limited by existing "blue sky" regulations that restrict the transport of passengers.[38] CIS planning requires the issuance of USCG emergency activation waivers for RRF and contracted vessels as well as USCG excursion permits and waivers for short sea shipping. Additionally, the nation is limited by a shortage of U.S. flagged vessels and licensed U.S. merchant mariners. The Navy's Strategic Sealift Officer (SSO) program could be

[35] U.S. Maritime Administration Website, "National Security Maritime Vessel Fact Sheet." https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/national-security/12026/nsmv-fact-sheet.pdf. Accessed 23 March 2020.
[36] Ibid
[37] U.S. Maritime Administration Website, "Voluntary Intermodal Sealift Agreement Program." https://www.maritime.dot.gov/national-security/strategic-sealift/voluntary-intermodal-sealift-agreement-visa. Accessed 23 March 2020.
[38] Dr. Flynn describes "blue sky regulations" as regulations enacted for normal operations as opposed to emergency situations. Not to be confused with "blue sky regulations" pertaining to the financial industry. Dr. Steven Flynn, Northeastern University. Phone interview by author. Newport, RI. January 3, 2020.

prioritized as it develops and employs merchant mariners for national security purposes. These mariners could be designated to participate in CIS missions with proper advanced training.

The Role of the U.S. Military

The U.S. military plays a vital role in disaster response when conducting Defense Support of Civil Authorities (DSCA). Joint Publication (JP) 3-28, Defense Support of Civil Authorities (DSCA) states, "The US Armed Forces have a historic precedent and enduring role in supporting civil authorities during times of emergency, and this role is codified in national defense strategy as a primary mission of the Department of Defense."[39] Regarding the U.S. military, HSPD-5 states:

> "The Secretary of Defense shall provide military support to civil authorities for domestic incidents as directed by the President or when consistent with military readiness and appropriate under the circumstances and the law. The Secretary of Defense shall retain command of military forces providing civil support. The Secretary of Defense and the Secretary [of Homeland Security] shall establish appropriate relationships and mechanisms for cooperation and coordination between their two departments.[40]

Anticipating the need for military capabilities, the NRF, the Catastrophic Incident Annex (CIA) to the NRF, and the Mass Evacuation Annex to the CIA all incorporate the U.S. military into catastrophic disaster response.[41] For example, the NRF-CIA plans for the advanced identification and rapid deployment of key resources to include federal medical teams, mortuary teams, search and rescue teams, and equipment caches that will be required to save lives and protect property.[42]

[39] Joint Chiefs of Staff, Noncombatant Evacuation Operations, JP 3-68 (Washington, DC: Joint Chiefs of Staff, 2015), vii.
[40] Ibid
[41] Federal Emergency Management Agency. National Response Framework Catastrophic Incident Annex. Washington, D.C. https://www.fema.gov/media-library/assets/documents/25546. Accessed 18 November 2019. CAT-7.
[42] Ibid.

Some critics have argued that Defense Support to Civil Authorities (DSCA) and Humanitarian Assistance Disaster Response (HADR) represent a slippery slope that erodes the military's ability to defend U.S. national security. As demonstrated by the Covid-19 response, when lives and property are threatened, the American people have, and will again, demand a U.S. military response when state, local, and other federal resources are overwhelmed.[43] As a result, U.S. Northern Command, U.S. Transportation Command, and the National Guard Bureau have developed capabilities and plans to conduct land and air evacuation of citizens. However, an extensive review of U.S. military planning documents has identified a lack of doctrine, planning, and responsibility for the domestic evacuation of citizens by sea; depriving the U.S. military of an important tool in its ability to respond to future catastrophes.

The DOD interface with DHS for all domestic incidents is USNORTHCOM which has developed robust and enduring relationships with all state National Guard forces. USNORTHCOM also conducts annual VIGILANT GUARD exercises and assigns Defense Coordinating Officers (DCO) to each of the FEMA Regions. However, according to a USNORTHCOM representative, "The Department of Defense does not man, train, or equip for DSCA missions. All responses are a pick-up game."[44] The command has minimal forces assigned to it on a day-to-day basis.[45] When called upon by DHS for emergency transportation support, USNORTHCOM develops a requirement which is then passed to USTRANSCOM or

[43] U.S. Department of Homeland Security. Critical Incident Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual Version 3.0. 2012 Washington, D.C. https://www.dco.uscg.mil/Portals/9/CG-5R/nsarc/CISAR%20Addendum%20-%20Version%203-0%20(062112)%20Final.pdf. Accessed 2 December 2019, 1-34.
[44] USNORTHCOM Representative. Phone interview by author. Newport, RI. January 3, 2020.
[45] Ibid.

the National Guard Bureau for execution.[46] As previously discussed, in most cases, FEMA will be the supported commander and will establish priorities for DOD transportation.[47]

To assist state and local emergency planners in preparing for a domestic air evacuation of U.S. citizens, USNORTHCOM prepared and released a guidance document titled "General Population Evacuation by Air Planning Guide." The document states, "The General Population Evacuation by Air Planning Guide provides a framework for the state or territory to plan, coordinate, and execute evacuation-by-air operations; it is intended as a tool for any state, territory, and major metropolitan area emergency managers to use. This guide provides a list of questions…, the answers to which provide the information needed by DOD [USNORTHCOM and USTRANSCOM] to effectively support an evacuation using air assets."[48]

While Joint Publication (JP) 3-28, DSCA, contains no references to domestic evacuation by sea, DOD has created planning guidance for the evacuation of citizens and government employees from other countries via Noncombatant Evacuation Operations (NEO) in JP-3-68. In 2006, the U.S. military conducted a NEO in Lebanon, evacuating nearly 14,000 American citizens using a combination of airlift and sealift. In addition to U.S. Navy amphibious vessels, citizens were evacuated by sea onboard civilian vessels contracted for the operation.[49] The NEO was successful because U.S. Marine Corps Marine Expeditionary Units (MEU) trained for and exercised NEO capability as part of their ready-to-deploy certification. MEU NEO exercises included U.S. State Department employee participation to ensure both the Marine Corps and the State Department were prepared to execute a NEO prior to an actual crisis.[50] Like the MEUs,

[46] Ibid.
[47] Ibid.
[48] U.S. Northern Command. Logistics and Engineering Directorate (N-NCJ4). General Population Evacuation by Air Planning Guide Edition 2. Peterson AFB, Colorado. 17 December 2012, iii.
[49] JP 3-68, V-29.
[50] LTC Bryan Hatfield, USMC. Interview by author. Newport, RI. December 19, 2019.

amphibious vessels that support the Marines had standard operating procedures for transporting evacuees. While MEU's remain prepared to conduct NEO overseas, stateside units are unlikely to conduct NEO at home or abroad as these units are often in the process of preparing for deployment and have not yet trained or exercised as a composite unit.[51]

Although located within DHS, the U.S. Coast Guard (USCG) is an important component of the U.S. military, routinely engaging in surface and aerial search and rescue efforts and serving as the Captain of U.S. ports. The USCG also leads Area Maritime Security Committees, which oversees maritime security and preparedness efforts in major port cities. Additionally, the Coast Guard often maintains vessel management systems in high volume ports, controlling all inbound and outbound vessel traffic.

The Mass Evacuation Incident Annex to the NRF assigns mass evacuation over water to the USCG stating, "DHS/USCG, in cooperation with ESF 1, will coordinate planning and executing of evacuations across bodies of water."[52] Despite this significant responsibility, the extent to which the USCG has conducted national-level planning to coordinate and execute mass evacuations over water is unclear.[53]

The USCG has produced an extensive search and rescue planning document titled "Critical Incident Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue (CISAR) Manual Version 3.0." This document delves into the evacuation of citizens over water by describing "Lily Pads" as "an interim stopping point during rescue operations where survivors can be accounted for,

[51] Ibid.
[52] ESF#1 is transportation. Federal Emergency Management Agency. Mass Evacuation Incident Annex. Washington, D.C. https://www.fema.gov/media-library-data/20130726-1825-25045-6500/mass_evacuation_incident_annex_2008.pdf. Accessed 18 November 2019. Evac-7.
[53] To date, the author has been unable to locate policy or planning documents that describe USCG's roles and responsibilities regarding mass evacuation over water.

possibly have some initial basic needs cared for, and from which they can be transported to a place of safety."[54] However, once evacuees are delivered to a lily pad, the CISAR does not describe the means by which evacuees will be transported to a secure environment.[55]

Recommendations

In addition to earlier suggestions, the following recommendations are included to lay a foundation for the development of catastrophic incident sealift within the United States. Currently, the greatest need exists in the areas of doctrine and organization as many vessels capable of conducting CIS already exist. The most comprehensive way to initiate a whole-of-government approach for CIS development is via an executive order or a directive issued by the President. Such an order would establish a working group comprised of relevant federal departments and agencies. Each department or agency would be tasked identifying resources and developing plans for their employment in support of domestic CIS.

FEMA should retain responsibility for CIS planning; leading the broad interagency working group, while incorporating the needs of SLTT stakeholders. FEMA should update NIMS/ICS training and revise national documents such as HSPD-5, the NRF, the NRF-CIA, and the Mass Evacuation Annex to incorporate CIS. With regard to SLTT CIS development, FEMA should bring to bear the full suite of POETE resources and ensure these capabilities integrate with federal CIS response plans. Finally, FEMA should test whole-of-government response capabilities by incorporating CIS into the 2022 National Level Exercise.

The Department of Transportation's Maritime Administration should play a significant role in the planning and deployment of vessels for CIS response. Working with FEMA,

[54] CISAR, 2-37.

MARAD should prepare RRF ships to deploy on short notice for CIS response. Further, MARAD should develop and implement a VISA like program for the contracting of civilian vessels in the event of a catastrophe. Finally, MARAD should seek to retain and enhance the U.S. flagged Merchant Marine fleet and U.S. licensed officers and crew to ensure adequate response vessels exist when needed.

The U.S. Coast Guard should retain responsibility and prepare to execute mass evacuations over water as it alone is vested with national command authority over vessels in assigned areas of responsibility. As in the 9/11 boatlift, the Captain of the Port has the authority to bypass regulatory rules and allow vessels to carry passengers in violation of statutes and policies. This is significant as federal agencies have previously been sued for failure to comply with Americans with Disabilities Act (ADA) requirements.[56] Most notably, there is a difference between ADA requirements for search and rescue operations and short-term sheltering of evacuees.[57] Working with MARAD, USCG must differentiate between extremis situations and "blue sky" scenarios as CIS vessels may be viewed as short-term shelters under current regulations.[58]

Fully preparing for the mass evacuation of thousands of U.S. citizens by sea requires military contributions to the whole-of-government CIS capability development effort. Under such an approach, DOD would prepare to execute CIS following the DOTMLPF model. USNORTHCOM would execute CIS by providing requirements to USTRANSCOM. Prior to an event, USNORTHCOM would be instrumental in revising JP-3-28, DSCA, to include CIS specific guidance, the issuance of a CIS CONPLAN, and the creation of a General Population

[56] Stephanie Supko, MARAD. Phone interview by author. Washington, DC. January 16, 2020.
[57] Ibid.
[58] Dr. Steven Flynn, Northeastern University. Phone interview by author. Newport, RI. January 3, 2020.

Evacuation by Sea guidance document. Additionally, USNORTHCOM has DCOs in each of the ten FEMA regions. The DCO's serve as the DOD representative in the region and coordinate DOD support with Federal Coordinating Officers.[59] The DCOs are further assisted by Emergency Preparedness Liaison Officers (EPLO) that are assigned to each state. An opportunity exists to incorporate catastrophic incident sealift into Navy Emergency Preparedness Liaison Officer (NEPLO) training and responsibilities.

In order to conduct domestic NEO, the Marine Corps should schedule and prepare non-deployed units to conduct NEO at home. Combat Logistics Battalions could be paired with other non-deployed units and designated as domestic NEO response units. These units could be authorized and modeled after the U.S. Marine Corps Task Force Wildfires.[60] Much of the planning for domestic NEOs is already included in JP-3-68 NEO and the USCG SAR document. Both documents could be revised to reflect designated DOD and USCG CIS responsibilities. Additionally, NEO response could be factored into maintenance availabilities and workup schedules to allow amphibious vessels on each coast to be designated as NEO response vessels.

A novel approach would include the pairing of USMC NEO personnel with non-amphibious government or commercial vessels. Crowley Maritime Corporation supports a variety of MSC and MARAD ships with civilian mariners and operates a fleet of commercial vessels contracted to perform government missions.[61] Previously, National Defense Waivers have been issued by DOD to allow U.S. Government vessels to operate outside of their Code of Federal Regulations authorized parameters.[62] This includes using MARAD RRF vessels as

[59] CAPT Marc Lederer, USN. Phone interview by author. Newport, RI. January 3, 2020.
[60] In the late 1990's and early 2000's, USMC infantry troops were designated as wildfire response units and deployed alongside Los Angeles County firefighters to respond to wildfires. LTC Hatfield Interview.
[61] Interview by author with Andrew Rabuse, Crowley Maritime Corporation, 16 January 2020.
[62] Ibid.

hospital ships.[63] In the event of a domestic catastrophic incident, Crowley or another private maritime industry partner could rapidly deploy a vessel and onload Marines enroute to, or at the site of, the disaster. This would require advanced coordination with private industry to fund and certify the vessels as well as the completion of training and exercises with designated Marine units.[64]

In conclusion, the U.S. Government is well positioned to develop catastrophic incident sealift as the third leg of domestic catastrophic incident evacuation of U.S. citizens should it choose to do so. The U.S. has extensive resources in the form of vessels and personnel and many of the necessary authorities are already in place. Lacking is a mandate that directs federal, state, local, tribal and territorial government agencies, including the U.S. military, to plan for domestic catastrophic incident sealift. By revising key DOD, DHS, and DOT instructions, assigning responsibility, and conducting training and exercises, the nation will be better prepared to respond to future disasters requiring evacuation of American citizens by sea.

[63] Ibid.
[64] Ibid.

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