Hurricane Michael

After Action Report and Improvement Plan
January 2019

This After-Action Report and Improvement Plan (AAR/IP) comprehensively examines the Florida State Emergency Response Team's (SERT) response to Hurricane Michael in order to validate strengths and identify areas of improvement. Feedback was requested from every State of Florida Agency, Emergency Support Function, and other SERT Partners. This AAR/IP includes strengths, areas for improvement and recommended corrective actions for the sections, branches, and emergency support functions within the SERT. The recommended corrective actions are discussed in this document, and are further organized in the Improvement Plan found in Appendix A.

ADMINISTRATIVE HANDLING INSTRUCTIONS

1. The title of this document is Hurricane Michael After-Action Report/Improvement Plan (AAR/IP)
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Hurricane Michael is the most powerful hurricane ever to impact the Florida Panhandle. Making landfall near Mexico Beach in Bay County, the hurricane brought catastrophic damage to the region; destroying local communications, power, and transportation infrastructure in certain areas. Despite indications that the storm would be less powerful, the SERT fully activated the SEOC and prepared resources for rapid deployment post-landfall to include task forces to establish access to remote areas, commodities to push to counties, and shelters to provide the necessary mass care operations. This preparation proved vital, as at its peak, the hurricane caused over 400,000 power outages, damaged three state roads, required 44,750 shelter stays, and downed over 40,000 communication lines.

Identified Strengths

Despite the catastrophic nature of Hurricane Michael, the SERT provided a strong response throughout the entirety of the operation. With that said, there are areas where the SERT performed particularly strong, made improvements utilizing previous lessons learned, or performed innovatively beyond the normal operating procedures. These practices have been documented for further development as potential best practices. The strengths are described more thoroughly in the observations, but are listed below.

1 - Operational Communication and Coordination

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8.3: Increased Training for SEOC Staff

8.4: Improved Integrated Information Technology

Identified Areas of Improvement

As with any response, certain areas have been identified that can benefit from additional coordination and development. It is important to note that the items below did not prevent the SERT from accomplishing its mission, as all response objectives were met. Rather, the SERT has self-identified areas that if improved, would increase the team's effectiveness or efficiency. These areas of improvement are discussed in the observations section, but a summary can be found below.

1 - Operational Communication and Coordination

1.1: Additional Training on Mission Management Procedures

1.2: Ensure Mission Requests have Accurate On-Scene Point-of-Contact

1.3: Additional Private Sector Partnerships at the SEOC

1.4: Development of Volunteer and Donation Management Resources

1.5: Coordinating with FEMA on development of FIDA Report Request

1.6: Enhanced Standardization of Roles and Responsibilities of SERT Liaisons

2 - Public Information and Warning

2.1: Transition Power Outage Reporting to Online

3 - Public Safety and Health

3.1: Enhanced Statewide Special Needs / Patient Tracking

3.2: Additional Coordination with USCG Flight Surgeon for New Capabilities

3.3: Additional Communication Resources for USAR

4 - Infrastructure Systems and Critical Transportation

4.1: Ensure Recognition of Communication Workers as Responders

4.2: Improved Power Restoration Prioritization Process

5 - Mass Care Services

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5.4: Development of Shelter Support Packages

5.5: Enhanced Messaging to Private Sector on Transitional Sheltering Assistance

6 - Logistics and Supply Chain Management

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8.3: Improvements to Network and Server Capabilities

8.4: Continuity Staffing During SEOC Landfall Events

Overall, the SERT responded to Hurricane Michael in innovative ways; testing new systems and procedures, while adapting the standard operating procedures to meet the unique demands of the storm. Despite receiving more mission requests than Hurricane Irma, Matthew, or Hermine, the SERT was able to successfully complete all objectives. The areas of improvement that have been identified are opportunities to continue to build on the successes of this and previous storms, and to improve the effectiveness of the SERT. The identified areas are already priorities for the SERT, and will be evaluated and tested during future exercises and future events.

EVENT SUMMARY

On October 10, 2018, catastrophic Hurricane Michael made landfall as an unprecedented high-end Category 4 Hurricane in the Florida Panhandle region with a maximum sustained wind speed of 155 mph and a minimum pressure 919 mb. The storm caused extensive wind and storm surge damage, particularly in the Panama City Beach to Mexico Beach areas. The widespread catastrophic damage spread well inland as Hurricane Michael remained at hurricane strength into southwest Georgia. The storm was the most powerful ever to impact the Florida Panhandle region and the third most intense to make landfall in the mainland United States in recorded history.

Catastrophic storm surge devastated coastal communities and high winds caused downed trees and power lines, resulting in damage to homes and cars. The Panama City area reported a maximum wind gust of 139 mph at Tyndall Air Force Base before the observation systems stopped reporting around 12:24PM EDT. Widespread power outages affected up to 400,666 accounts at peak, and leveled communication infrastructure throughout the worst impacted counties.

Just as unprecedented as Hurricane Michael's power was the speed with which it developed and bore down on the State of Florida. Forming as an unremarkable low-pressure area in the southwestern Caribbean Sea on October 2, the disturbance became a tropical depression on Sunday, October 7. It intensified into a hurricane on Monday, October 8, reached Major Hurricane status on Tuesday, October 9, and maintained full power and speed as it made landfall in the Panhandle on Wednesday, October 10.

The SEOC activated to a Level 2 on October 7, and remained activated for a month before transitioning operations to the Area Field Office on November 8. During the thirty-two day activation, fourteen days saw 24 hour staffing of all Sections, Branches, and Emergency Support Functions.

In the two days leading up to landfall, the State Emergency Response Team (SERT) worked around the clock to ensure residents evacuated from areas of projected impact and to ensure that county emergency managers were ready to cope with a catastrophic Hurricane with less than 48 hours of preparation. While initial models from the National Hurricane Center projected a Category 3 landfall, the State Coordinating Officer insisted the state prepare for a level-higher Category 4 landfall. Ultimately, the SERT estimates that 375,000 Floridians were ordered to evacuate with over 6500 individuals seeking shelter in 44 shelters that were brought online in the hours before landfall.

Following landfall, the SEOC utilized its incident planning process to develop operational objectives to meet the specific needs of the counties and residents of Florida. The priorities are standardized in the SERT's Standing Orders that are followed during every Response. These are;

1. Establish Communication with Areas Impacted
2. Search and Rescue / Security
3. Meet Basic Human Needs
4. Restore Critical Infrastructure
5. Open Schools / Local Businesses
6. Begin the Recovery

Establishing Communication with Areas Impacted

The SEOC maintains multiple forms of redundant communications with each county emergency management office that are tested weekly. These include traditional landline and mobile phones, email, satellite phones, as well as two emergency communications systems; EMNet and the Florida National Warning System. On top of these redundant systems, SERT Liaisons were deployed to county emergency operation centers to provide an additional SEOC contact. There was no extended period of time during which the SEOC did not have communications with a county emergency management office.

Search and Rescue / Security

In the immediate aftermath of the storm, the SEOC focused operations on Searching, Securing, and Stabilizing the area of operations. Urban Search and Rescue (USAR) operations were conducted across the region, with tens of thousands of structures searched. In addition, nearly 2,000 additional law enforcement and 437 additional ambulances deployed to the Panhandle to assist with emergency lifesaving missions.

Meet Basic Human Needs

The SEOC supported forty-four shelters that opened throughout the area of operations. Shelters included a special needs capability to ensure that evacuees with access and functional needs received the help they required. At its peak, there were 420 special needs clients in shelters. To help meet this demand, over 330 health and medical responders were deployed via state assistance, mutual aid, and direct support.

In addition to medical needs, the SEOC supported 23 Points of Distribution (PODs) to provide survivors with critical supplies including food and water. POD sites in critical areas also contained a shower trailer and other comforts to assist clients with their needs.

Restore Critical Infrastructure

With over 400,000 losing power, utility restoration was a top priority following landfall. The SEOC spearheaded a multi-county operation linking utility crews, emergency road clearance teams, and USAR team that together paved a path to coastal communities, making emergency repairs as possible, and providing life safety actions as possible. Following this push, ESF 1/3 was able to quickly determine where emergency repairs were needed. The SEOC also coordinated with private sector and ESF-2 partners to ensure that telephone, internet, and other communication partners had access to the impact area so they could make repairs to their infrastructure systems. Finally, ESF-10 deployed hazardous materials assessment teams to inspect impacts to drinking water and wastewater facilities, and to provide emergency generation capabilities where needed.

Open Schools and Businesses

Return to normalcy cannot occur until children can return to school and adults can go back to their places of employment. For this reason, the SERT worked with its partners to find temporary education solutions for displaced residents. In addition, ESF-18 worked with the Small Business Administration to provide emergency services including small business bridge loans to impacted individuals and businesses to get the resources they need to move towards recovery.

Begin the Recovery

Federal Individual Assistance (IA) declarations were sought by the state and ultimately received for 12 counties, providing survivors with access to numerous federal programs including Operation Blue Roof, IA Payments for damage to property, Disaster Supplemental Nutrition Assistance Program (DNSAP) benefits, and, in qualifying counties, Transitional Sheltering Assistance and Direct Housing. To aid residents in applying for IA, Mobile Registration Intake Centers (MRICs) were deployed to impacted areas. These were followed by the establishment of fixed Disaster Recovery Centers (DRCs) where survivors may go for information about IA programs or other disaster assistance programs, and to seek guidance or file appeals regarding IA cases.

Eighteen counties have also been qualified to receive federal Public Assistance (PA). The PA program funds the debris removal, emergency protective measures, repair, restoration, reconstruction or replacement of a facility or infrastructure that is damaged or destroyed by disaster. The PA program also encourages protection of these damaged facilities and infrastructure from future events by providing assistance for hazard mitigation measures during the recovery process.

SERT staff are already working with counties to apply for PA and will continue to support them throughout the application process.

On October 30, 2018, the SERT began the transition to the Area Field Office to provide additional support to counties and residents on their path toward recovery. From this office, State and Federal SERT Partners will continue to assist local emergency management in the long-term reconstruction.

EVENT TIMELINE

Date	Action
10/04/2018	SERT issues situational awareness update to all Florida counties and Emergency Support Functions on Caribbean low that will become Hurricane Michael
10/07/2018	SEOC Moves to a Level II in response to then Tropical Storm Michael.
10/07/2018	Twice Daily Conference Calls with all Florida Counties begin.
10/07/2018	State of Emergency Declared via EO 18-276.
10/08/2018	SEOC Moves to a Level I, establishing 24-hour operations.
10/08/2018	State of Emergency amended via EO 18-277.
10/08/2018	State IMT deployed to Orlando Office to provide redundant communications.
10/09/2018	Pre-Landfall Presidential Declaration granted to Florida EM-3405 for debris removal and emergency protective measures (Categories A and B), including direct federal assistance under the Public Assistance Program for the following Florida counties: Bay, Calhoun, Franklin, Gadsden, Gulf, Hamilton, Jackson, Jefferson, Leon, Liberty, Madison, Suwannee, Taylor, and Wakulla.
10/10/2018	Hurricane Michael Makes Landfall as a Category 4 Hurricane with maximum sustained wind speeds of 155 mph in Mexico Beach area. All-Hazard Incident Management Teams, Urban Search and Rescue Teams, and other state resources start entering affected areas.
10/11/2018	FEMA-4399-DR signed authorizing Individual Assistance for eight (8) counties: Bay, Franklin, Gulf, Hamilton, Jackson, Jefferson, Taylor, Wakulla. This declaration includes direct federal assistance for debris removal and emergency protective measures (Categories A and B) under the Public Assistance and Hazard Mitigation Grant Programs for 19 Florida counties: Bay, Calhoun, Franklin, Gadsden, Gulf, Bay, Calhoun, Franklin, Gadsden, Gulf, Hamilton, Jackson, Jefferson, Leon, Liberty, Madison, Suwannee, Taylor, and Wakulla.
10/12/2018	Amendment #1 to FEMA-DR-4399-FL was issued to authorize Individual Assistance for four (4) counties previously designated for debris removal and emergency protective measures under the Public Assistance Program: Calhoun, Gadsden, Jackson and Liberty.
10/13/2018	Amendment #2 to FEMA-DR-4399-FL was issued to authorize Individual Assistance and Public Assistance (Categories A and B) for Holmes and Washington Counties.
10/14/2018	Amendment #3 was issued to authorize a cost share adjustment for FEMA-DR-4399-FL. The Federal Cost Share Adjustment authorized a 100 percent Federal cost share for debris removal and emergency protective measures, including direct Federal assistance, for a 120-hour (5-day) continuous period of the State of Florida's choosing, and then a 75 percent Federal cost share thereafter

10/16/2018	Amendment #4 to FEMA-DR-4399-FL was issued to authorize Individual Assistance and Public Assistance (Categories A and B) for Leon County (previously designated for debris removal and emergency protective measures under the Public Assistance Program).
10/21/2018	Urban Search and Rescue Teams demobilize following completion of mission. 1665 rescues completed.
10/22/2018	Amendment #5 to FEMA-DR-4399-FL and FEMA-EM-3405-FL was issued as a notice to close the incident period, effective October 19, 2018.
10/22/2018	SEOC returns to a Level II
10/23/2018	Amendment #6 to FEMA-DR-4399-FL was issued authorizing Public Assistance (Categories C-G; already designated for Individual Assistance and assistance for debris removal and emergency protective measures under the Public Assistance program) for six (6) Florida counties: Bay, Calhoun, Gadsden, Gulf, Jackson, and Liberty.
10/30/2018	SERT begins transition to Area Field Office for Recovery operations
11/06/2018	Power restored to all customers without facility damages preventing restoration
11/08/2018	SEOC returns to a Level III with recovery operations continuing at the AFO
11/15/2018	SERT discontinues the SERT/County Conference Calls.
11/15/2018	Amendment #7 to FEMA-DR-4399-FL was issued authorizing Public Assistance (Categories C-G; already designated for debris removal and emergency protective measures under the Public Assistance program) for Okaloosa and Walton Counties and Public Assistance (Categories C-G; already designated for Individual Assistance and assistance for debris removal and emergency protective measures under the Public Assistance program) for six (6) Florida counties: Franklin, Holmes, Leon, Taylor, Wakulla, and Washington.
11/30/2018	Arnold High School Shelter, the last shelter remaining from the response to Hurricane Michael, ends operations. In all, there were 44,750 across the state's 44 shelters.
12/04/2018	Governor extends Executive Order 18-360
12/20/2018	AFO Transitions to the Incident Strategic Plan, setting the long-term priorities for SERT Partners.

OBSERVATIONS

The Florida Division of Emergency Management requested feedback from every State of Florida agency and SERT Partner on the performance of the SERT during Hurricane Michael. Specifically, partners were asked to identify the strengths that were developed during the activation, and how to ensure they are formalized and incorporated into standard operations, as well as to identify areas of improvement and the necessary corrective actions the SERT should take to resolve them.

To provide a comprehensive presentation of how these observations affected the ability of the SERT to carry out its essential mission functions, the observations are analyzed below based on adaptation of FEMA's Core Capabilities for the Response Mission Area.

1. Operational Communication and Coordination

Strengths

Strength 1: All-Hazard Incident Management Team Response Branches

In addition to the routine missions undertaken by the All-Hazard Incident Management Teams (AHIMTs), during Hurricane Michael they were utilized to stand-up the Response Branches, which were geographical groupings of counties. These branches became instrumental in maximizing situational awareness, mission management, and ground truthing. Going forward, the SERT should continue to promote the development of the regional and state AHIMTs through the AHIMT Program. In addition, the SERT should explore the benefits provided by the Response Branches, and consider their use in future events. As new guidance and procedures are developed, they should be shared with SERT partners, to include SERT Liaisons and Regional Liaisons.

Strength 2: Pre-Landfall Coordination and Planning for Push Teams

As the storm intensified, the SERT as a whole initiated a post-landfall initial plan involving push teams made up of resources from several ESFs. This included USAR Teams from ESF 4/9, Law Enforcement from ESF-16, Restoration Crews from ESF-12 and ESF-2, and Emergency Road Clearance Teams from ESF 1/3. While each ESF was already planning their initial operational priorities, the ESFs coordinated their planning and developed a consolidated initial operation. This planning expedited the initial operation, and led to the SERT gaining access to impacted communities immediately after impact. The success of the early SERT operations is thanks to the coordinated planning efforts taken by the ESFs and SERT Sections.

Strength 3: Redundant Communication Systems

Following Hurricane Michael, many counties witnessed outages and disruptions in their communication capabilities. However, due to the redundant systems mandated by FDEM, the SEOC was able to remain in at least limited contact with counties throughout the event. Utilizing mobile devices, Florida's National Alert Warning System phones, which connect State and County EOCs, EMNet, and satellite phones, there were an abundance of redundant communications. In the event that all communications failed, the SERT still had liaisons on-scene with alternate communication methods.

In addition, the Technical Services Branch was able to fully utilize recently procured resources called Cradlepoints to enhance communication in specific areas. These Cradlepoints were deployed to multiple County EOCs to enhance mobile communications within buildings until commercial communications were restored.

Strength 4: Deployment of SERT Command Staff

In an effort to gain additional situational awareness and to clarify conflicting report, multiple Command Staff positions deployed into the impact area to meet directly with the county emergency management directors and other stakeholders. This provided additional clarity on conditions on the ground, allowed Command Staff to directly see where the needs were, and to help set priorities for operations. This also gave counties dedicated times where they were able to discuss issues and concerns with SERT Command.

Strength 5: Increased Coordination within the Air Operations Branch

In addition to the SERT Air Boss, both the Federal Emergency Management Agency and the US Coast Guard staffed the Air Operations Branch with Air Operation Branch Directors, and ESF 1/3 staffed with a FDOT Airport Coordination Liaison. This greatly increased the coordination within the Air Operations Branch. In addition, the addition of subject matter expertise allowed multiple planning priorities to occur simultaneously. Overall, the Air Operations Branch continues to improve its ability to coordinate and operate.

Strength 6: Full Utilization MRICs and DRCs to Provide Residents with Assistance

Following the initial life-safe response, the SERT recognized the need to ensure that residents impacted by Hurricane Michael could register for FEMA Assistance. Since telephonic and internet based registration was not feasible due to communication infrastructure disruptions, the SERT coordinated with FEMA to fully utilize and deploy Mobile Registration Intake Centers (MRICs) to help residents register, followed by the establishment of Disaster Recovery Centers (DRCs). This helped expedite the registration process, and ensured that residents without reliable communications would not have to wait for DRCs to open before registering.

Areas of Improvements

Recommendation 1: Additional Training on Mission Management Procedures

The SERT needs to ensure that the policies and procedures regarding Mission Management at the SEOC are followed and match the structure of the SERT. All missions assigned to ESFs should go through their respective branch. However, multiple ESFs report that they were receiving assignments from other Branches, or were receiving missions that were reassigned by other ESFs. Additional guidance and training should be provide to the SERT on the proper mission management process, and consider restricting how missions are assigned in WebEOC.

Recommendation 2: Ensure Mission Requests have Accurate On-Scene Point-of-Contact

Mission Requests entered into WebEOC contain information for an on-scene point-of-contact who can be contacted for questions on the resources after they are deployed. Points of contact may be asked to answer on the current location or condition of the resource, if support services are needed, or to coordinate the demobilization/return of the equipment. An inaccurate or outdated point of contact slows the entire logistical process down and can result in resources remaining in the field well after they are needed, preventing them from being used elsewhere. Counties need to be provided additional training and guidance on the importance of selecting an accurate on scene point of contact with accurate contact information. In addition, SERT Technical Services will work with the SEOC to determine fields that should be required and standardized for every resource request.

Recommendation 3: Additional Private Sector Partnerships at the SEOC

ESF-18 continues to excel at bringing new partners to the SEOC from the private sector. Private Sector Partners bring resources, expertise, capabilities to the SERT that are not traditionally available among state agencies and non-profit organizations. Past events saw partners such as Airbnb, GasBuddy, Walmart, Delta Airlines, and others offer services and donations to support the operation. However, to further increase the partnerships, ESF-18 will work to bring more private sector partners physically into the SEOC during operations. This will allow both the SERT and private sector to coordinate more closely, and build the relationship between staff.

Recommendation 4: Development of Deployable Human Services Resources

Multiple counties requested assistance with Volunteer and Donations Management and other Human Services positions, as the county emergency management offices were getting overwhelmed with the amount of assistance that was arriving into the impacted area. ESF-15 does not have a large cadre of deployable Volunteer or Donation Management liaisons. To assist impacted counties, Human Services and ESF-15 should work with counties to establish SMAA inventories of potential liaisons, as well as to work with non-profit organizations to train staff as Liaisons who can deploy as a SERT asset.

Recommendation 5: Coordinating with FEMA on development of FIDA Report Request

SERT Human Services and Recovery rely on FEMA Information and Data Analysis (FIDA) reports on registered clients to assist in the identification of needs and gaps in services. It is standard practice for the SERT to request FIDA reports from FEMA early in the operation. Despite the standard practice, there continues to be an extended process that delays the reports from being granted to the SERT in a timely manner. The Human Services Branch and Recovery need to work with FEMA pre-event to discuss a standardized practice to expedite the processing of the FIDA Report request.

Recommendation 6: Enhanced Standardization of Roles and Responsibilities of SERT Liaisons

SERT Liaisons are a critical resource for both the SEOC and County EOCs. In addition to providing a critical line of communication between the State and Counties, SERT Liaisons also carry out certain mission management and information sharing functions. While SERT Liaisons have proven effective and useful in past events, including Hurricane Michael, the SERT can enhance their efficiency by standardizing their roles throughout the counties. While County EOCs and the SERT Liaison Manager should still have flexibility to adapt the Liaisons as needed, standardizing their roles will allow better training, create additional staffing depth, and allow the SERT to more effectively integrate the Liaisons into the SEOC Planning Process.

2. Public Information and Warning

Strengths

Strength 1: Proactive Messaging

The SERT began messaging on Hurricane Michael nearly a week before landfall, and well before it was a Category Four Storm. While forecasts predicted that the storm would remain relatively weak, the SERT continued to stress the uncertainty, and to prepare for a stronger storm. ESF-14, in conjunction with the Governor's Office provided a unified message stressing life-safety concerns and the immediate need to take precautions.

Strength 2: Public Messaging Post-Landfall

Hurricane Michael caused widespread destruction among commercial communication systems, causing disruptions in cellular and internet networks. Traditionally, ESF-14 relies heavily on Social Media, traditional media, and internet based messaging to communicate with citizens. While these methods were fully utilized, ESF-14 adapted to the unique challenges of Hurricane Michael and coordinated with private sector radio stations and Amateur Radio associations to relay urgent information to residents immediately post-landfall.

Strength 3: Full Utilization of Emergency Alert System and Wireless Emergency Alert Systems

In the hours leading up to Hurricane Michael, the SERT took full advantage of the various public warning systems. AlertFlorida was utilized to send messages, including WEA messages to residents of counties expected to be impacted by Hurricane Michael. These messages augmented existing messaging initiatives through the media, and the messaging taking place at the local level. Messaging included specific evacuation recommendations to residents in certain evacuation zones. The approach for Hurricane Michael was much more proactive than in previous storms.

Strength 4: Public Information on floridisaster.org

As in previous disasters, the SERT utilized the floridadisaster.org/info page to provide important information and updates to the public. For this event, SERT Technical Services was able to provide enhanced integration with the public site and information in WebEOC. This meant that as updates were made to certain emergency sites, such as Points of Distributions, the website was quickly updated. Technical Services will continue to explore ways to utilize this enhancement.

Areas of Improvements

Recommendation 1: Transition Power Outage Reporting to Online

The current process for reporting power outage information involves ESF-12 issuing a "spot-report" utilizing the latest information entered by utility companies. ESF-14 then provides updates to the public utilizing this information. The SERT should explore transitioning the reports fully online. This would allow ESF-14 pull the information as needed, while also provide real-time data to the public.

3. Public Safety and Health

Strengths

Strength 1: Initial Urban Search and Rescue Push via Critical Roadways

Prior to landfall, the SERT initiated a planning group of sections, branches, and ESFs to consolidate the initial priorities immediately after landfall. While this planning was already occurring across multiple ESFs, the joint planning allowed a common operating picture whereby the Urban Search and Rescue Teams, FDOT Emergency Road Clearance, Utility Crews, and other stakeholders could discuss specific consideration. This coordination expedited the ability for USAR teams to reach the critically impacted areas and begin life-safety missions.

Strength 2: Activation of the National Ambulance Contract

Based on best practice established during recent disasters, the SERT further tested the use of the National Ambulance Contract to augment ambulance resources. As in past storms, this contract proved very beneficial in bringing ambulance strike teams that can be used for patient movement, augmentation of life-safety missions, and augmentation of standard operations. This resource continues to be a best practice when rapid augmentation of ambulances is needed.

Strength 3: Utilization of Non-Traditional Response Partners

Following the previous storms and based on needs identified, multiple ESFs explored innovated methods and partnership to bring additional capabilities to the SERT. Specifically, ESF-8 made a concerted effort to identify private sector and volunteer based medical resources that could act as force multipliers and bring more resources to the mission. These non-traditional partners improved the ability of ESF-8 to meet the local needs, reduced costs, and expedited the fulfillment of missions.

Strength 4: Resident Request Processing System

During Hurricane Michael, the SERT was notified of a number of requests from residents. To assist with the intake of these requests, Emergency Services, Human Services, and the Planning Section coordinated to establish a system where requests were able to be catalogued at a central point, cross-referenced with other information databases, and relayed to the appropriate agency or county. This helped prevent redundancy among the multiple ESFs that routinely get requests for assistance. While this system was ad-hoc, it was identified as a good practice and will be further developed.

Strength 5: Coordination with Healthcare Facilities at Corporate Level

Following previous storms, ESF-8 increased coordination capabilities with healthcare facilities at the corporate level, rather than just with each individual facility. Not only did this provide an additional channel of communication, it allowed ESF-8 to discuss prioritization, mission information, and address needs in a more direct manner.

Strength 6: Air Operations Integration with Urban Search and Rescue

Following previous lessons learned, the Air Operations Branch coordinated with ESF 4/9 in the months prior to Hurricane Michael to develop joint procedures and foster integration. This preplanning and integration proved vital during the Hurricane Michael response, as it allowed Air Operations to provide rapid mission coordination and execution in providing USAR assets with aviation support. Following this success, Air Operations and ESF 4/9 will take the identified best practices and continue to enhance their integration.

Areas of Improvements

Recommendation 1: Enhanced Statewide Special Needs / Patient Tracking

The SERT ESF-8, in coordination with the Florida Department of Health, needs to explore additional ways to improve the tracking of Special Needs and Medical Patients across county lines as they move from healthcare facilities to shelters and back to facilities. Currently, this tracking is handled at the county and/or provider level, resulting in no consistent system. In order to better provide accountability and ensure services are being delivered, ESF-8, the SERT, and other stakeholders should work to develop a statewide solution.

Recommendation 2: Additional Coordination with USCG Flight Surgeon for New Capabilities

The United States Coast Guard (USCG) is a valuable member of the SERT embedded in multiple emergency support functions. During Hurricane Michael, the USCG explored additional ways to match their capabilities with the needs of the SERT. One such capability is the potential to place critical medical evacuation missions onto the USCG Coast Guard Search and Rescue. The SERT and the USCG should coordinate to determine how to incorporate this capability into the operational planning process for future exercises and events.

Recommendation 3: Additional Communication Capabilities for USAR

Urban Search and Rescue Teams deployed for Hurricane Michael relied on emergency communication systems to coordinate their response. One of the primary systems is the Mutual Aid Radio Communications System. While this system proves essential to successful operations, teams have suggested that the system could be improved with additional capabilities including adding federal USAR channel support, adding satellite capabilities, and adding network data capabilities. These additional capabilities would provide for better coordination between partners, enhance the ability of teams to share Recon Reports back to EOCs, and ensure reliable communications.

4. Infrastructure Systems and Critical Transportation

Strengths

Strength 1: Infrastructure Monitoring Systems / Common Operating Picture

Previous After-Action Reports have stated the need for better awareness on outage information for communications, power, and other infrastructure. During Hurricane Michael, ESF-1/3, ESF-2, and ESF-12 all made use of the Common Operating Picture to provide real-time situational awareness on outages. This proved critical to gauging progress and prioritizing operations. While some documentation and guidance can still be developed for future operations, the use of the systems during Hurricane Michael exceeded previous events.

In addition, FDOT GIS Personnel provided valuable situational awareness to ESF 1/3 and the SERT through the use of GIS analysis. Pre-landfall, the analysis identified areas that would potentially sustain damage, and post landfall shifted to show which areas actually did. The GIS maps were updated in near real-time throughout the event to show restoration progress.

Strength 2: Strengthened Partner Relationship with Telecommunication Providers

ESF-2 has made a concerted effort over previous years to build relationships with the telecommunication partners in Florida, and integrate them into the SEOC. This effort has led to an expedited restoration, regular and complete status reports and updates, and the availability to deploy emergency communication equipment. While these things were available previously, the efforts by ESF-2 and Telecommunication Partners led to an increase of coordination and effectiveness during Hurricane Michael.

Strength 3: Rapid Restoration of Critical Roadways

Prior to the storm, ESF 1/3 activated disaster contracts for repair and restoration teams. Immediately following impacts from Hurricane Michael, ESF 1/3 deployed the teams to assess the conditions of the roadways and make emergency repairs. In addition, Emergency Road Clearance Teams were attached to Urban Search and Rescue Teams making the initial push to the coast; ensuring access to critical life-safety responders. With this proactive push over a wide area, I-10 was completely reopened within two days. While US-98 sustained major damage, ESF 1/3 was able to make critical repairs and monitor throughout the event.

Areas of Improvements

Recommendation 1: Ensure Recognition of Communication Workers as Responders

There were several reports throughout the operation of communication workers being denied access to the disaster area. While these issues were resolved at the SEOC via ESF-16, there continued to be sporadic reports. The SERT needs to work with law enforcement and other partners to ensure that there is a common operating picture of who is allowed access back into the disaster zone, to include communication workers and other restoration personnel.

Recommendation 2: Improved Power Restoration Prioritization Process

ESF-12 received multiple requests citing the need for power prioritization for facilities such as schools and healthcare facilities. These requests often came ad-hoc and with no standardized process. As part of existing and improved resource request guidance, the SERT should develop a process whereby requests for prioritization are included in WebEOC as a Mission Request; including information such as confirmation that the facility is without power, the address of the facility, and the name of the utility provider. This will expedite prioritization requests

5. Mass Care Services

Strengths

Strength 1: Support for Warp-Around Services at PODs and Shelters

During Hurricane Michael, per the request of counties, the SERT established a substantial wrap-around service presence at certain emergency sites such as points of distribution. This is not a standard practice, but due to the catastrophic nature of the event, it was determined to be a need for the residents who did not have electricity or running water. The SERT provided shower trailers, hot meals, and other comfort to assist the most impacted residents.

Strength 2: Deployment of State IMT to Arnold High School Shelter

The Arnold High School shelter was the final shelter during Hurricane Michael. Located in Panama City, it served some of the hardest hit areas of the storm, including Mexico Beach. To assist the county with staffing and management, the SERT deployed an Incident Management Team made up of state personnel. This team oversaw the instituting of a Multi-Agency Resource Center that linked shelter clients with the critical help they needed to transition out of the shelter.

Strength 3: Establishment of the Arnold High School Shelter MARC

To assist shelter clients at the Arnold High school Shelter, Bay County established the Mutli-Agency Resource Center (MARC) at the shelter. Florida had previously established MARCs in response to Hurricane Maria to assist the residents evacuating from Puerto Rico. Using lessons learned, minor adjustments were made to the Arnold Shelter MARC to improve service delivery. This included each family having a case file that tracked the agencies and organizations the clients met with, and what assistance, if any, the organizations were able to provide.

Strength 4: Multi-Agency Donations Warehouse

Utilizing best practices developed during prior events, ESF-15 assisted in the establishment of the Multi-Agency Donations Warehouse. This warehouse provides a location for the storage and inventory of unsolicited donations, which can then be utilized based off unmet needs identified by the SERT, county emergency management, or volunteer organization partners. While the exact process of activating the warehouse can be simplified, it is a best-practice that should be further developed for future events.

Strength 5: Volunteer Portal

As in previous events, the Volunteer Portal was heavily utilized to help register unaffiliated volunteers looking to provide assistance to the impacted area. This allows volunteers to be matched to greatest need, and reduce the intake process. In all, the volunteers that are on board with the Volunteer Portal provide a way to quickly increase the available volunteer workforce during an event.

Areas of Improvements

Recommendation 1: Development of County Mass Care Profiles

Every county has unique circumstances as it relates to mass care capabilities. Currently, the SERT utilizes the county CEMPs, the State Shelter Plan, forecasts, and other broad sources of information to predict needs. ESF-6 and the SERT should work to develop County Mass Care Profiles that provide details on county capabilities as it pertains to sheltering and feeding. Much of this information already exists in county plans, but is not in a single unified format or profile.

Recommendation 2: Develop additional guidance on Multi-Agency Shelter Transition Teams

The SERT deployed Multi-Agency Shelter Transition Teams (MASTT) to shelters to assist the population find alternative housing options. While the MASTT was overwhelmingly successful, the operation showed a need for additional guidance, training, and standard practices. Since each circumstance is unique, the teams have to remain flexible, but standard awareness on documentation, available tools, best practices for casework, and other standardization will allow them to better complete their mission and better assist the sheltered population. Suggestions to explore are standardized team composition, standardized training, standard deployment briefings, and regular training throughout the year.

Recommendation 3: Improve Awareness on Shelter Population

County Emergency Management is responsible for updating the shelter count in WebEOC, as this allows ESF-6 and other SERT partners to adequately assess the situation and needs. Best practice is that counties update the shelter count daily around midnight. During the activation, some shelter counts were not being updated, despite repeated inquires by ESF-6. The SERT should provide additional guidance to counties, and stress the need for accurate information regarding shelters.

Recommendation 4: Development of Shelter Support Packages

While shelters in Florida are county managed, the SERT often supports operations, especially after initial impact. Recognizing this, rather than creating ad-hoc packages specific to each shelter as requested, the SERT can expedite assistance by developing pre-typed packages based on shelter size, feeding/preparation capabilities, restroom, and other amenities. These typed packages would correlate to shelters in Florida, and assist counties in requesting assistance, and the SERT in fulfilling.

Recommendation 5: Enhanced Messaging to Private Sector on Transitional Sheltering Assistance

The FEMA Transitional Sheltering Assistance Program (TSA) is an Individual Assistance program used to transition residents from shelters into temporary lodging at hotels. The TSA program is vital in helping counties close shelters, but the success of the program hinges on local hotels voluntarily registering. During Hurricane Michael, ESF-18 and the SERT messaged to hotels regarding the program and encouraged additional participation. To help expedite, the SERT should develop language to be messaged throughout the year and especially immediately after landfall so that hotels can begin the process and increase the availability of lodging.

6. Logistics and Supply Chain Management

Strengths

Strength 1: Utilization of EMAC and Mutual Aid Support

The SERT fully utilized EMAC and Mutual Aid during Hurricane Michael. EMAC provides the SERT the ability to augment SEOC staff with specific subject matter experts and specialty teams. The SERT utilized EMAC to gain additional support with Incident Management Teams, Search & Rescue Teams, Shelter Management, Human Services and Mass Care Specialists, and other critical functions. The SERT also utilized Statewide Mutual Aid to request assistance from non-impacted counties in the form of Incident Management Teams and other resources.

Strength 2: Base Camp Availability for Volunteers

Due to the extensive impacts of Hurricane Michael, Volunteer Organizations Active in Disasters partners were unable to adequately house their responding volunteers, as is the normal procedure. Due to this, Human Services worked with the Logistics Section to provide Base Camp support to volunteers. This allowed volunteers to lodge in the area of impact, instead of having to commute multiple hours daily to provide assistance. These volunteers were a valuable resource to the SERT and county emergency management.

Strength 3: Efficient Logistical Staging Area Locations

Following feedback from previous SEOC activations, the Logistics Section developed capabilities over the past year to identify updated potential Logistical Staging Area Locations (LSAs) that can be used during a hurricane scenario. The Logistics Section utilized this preplanning, along with post-impact reconnaissance and partnerships with the Florida National Guard and Florida Forest Service to identify the most effective location.

Strength 4: Utilization of “Turn-Key” Base Camps

A major priority following Hurricane Irma for the Logistics Section was to identify “turn-key” Base Camps; sites that would require little mobilization of additional resources in order to start operations. The planning process that Logistics undertook enabled the identifications of a number of base camp locations that increased efficiency of start-up. While the planning process will continue, it proved beneficial during Hurricane Michael.

Areas of Improvements

Recommendation 1: Development of a Robust Resource and Asset Tracking System

Hurricane Michael saw extensive resource procurement and service contracting in a short amount of time. While the SERT was able to successfully meet the requests, it is apparent that procedures and documentation needs to be enhanced. To meet new challenges, the SERT needs to redevelop the processes and systems involved in the tracking of resources and services; beginning with procurement all the way to demobilization and payment. SERT Logistics, SERT Finance, and

ESF-7 need to coordinate on the development of new and innovative processes for the SERT based on best practices and lessons learned. This will need to involve exploring the planning process of all phases; including reviewing agency and vendor capabilities pre-event, the operational planning and documentation during an event, and the demobilization and payment process after the event.

Recommendation 2: Better Utilization of "Supporting Mission" Feature in WebEOC

Certain mission requests, such as base camps, points of distributions, and shelters often require additional resources to mobilize, upkeep, and demobilize. Best practice dictates that these separate resources be entered as additional missions, as each resource may be assigned to a different ESF in the SERT. However, with over 7000 missions for Hurricane Michael, it is imperative that the Supporting Mission feature in WebEOC is used. The Supporting Mission Feature allows a user to enter a mission that is tied to a Primary Mission. This connection allows the SEOC and counties to easily view all missions that are related to each other. This added situational awareness helps reduce redundancy, and expedites the processes such as demobilization. The SEOC needs to provide additional training and guidance on the use of this feature.

Recommendation 3: Enhance Efficiency of Mobilizing Logistical Staging Areas

Logistical Staging Areas (LSAs) are critical points in the supply chain, and during a large operation such as Hurricane Michael, it is not uncommon for supplies to begin arriving at an LSA before the site is operational, resulting in relief supplies being delayed. To counter this, Logistics should explore the creation of forward teams, or the utilization of ESF-13 Advanced Echelon teams, to deploy as the LSAs are mobilizing to handle the early arrivals. In addition, Logistics should seek to expedite the mobilization of LSAs by developing packages with equipment necessary for LSAs, as well as to deploy heavy equipment earlier in the process to prioritize essential functions.

Recommendation 4: Improve Point of Distribution Identification and Awareness

All counties are required to identify potential point of distribution (POD) sites. However, Hurricane Michael showed that some additional planning is required in ensuring that these sites are suitable and the most efficient for the operation. In addition, during the operation, increased awareness on PODs are required. Logistics needs to work with liaisons to ensure that POD openings by counties are communicated to the SERT, and that a formalized reporting process is utilized by all sites; to include reporting burn rates for supplies.

Recommendation 5: Additional Training and Guidance on Mutual Aid Documentation

As has been made clear by Hurricane Michael and other events, EMAC and Mutual Aid is a force multiplier for capabilities and staff augmentation. As additional sections, branches, and ESFs turn to mutual aid as a source of resources, the SERT should provide additional training and guidance on the proper procedures in requesting resources. There was confusion by ESFs over what was required to initiate the process, and what the responsibilities of the requestor was versus the Mutual Aid Coordinator. While Logistics has recently offered training on this, it is clear that additional guidance is required.

Recommendation 6: Formalize Land Use Agreements for Base Camps and Other Sites

Utilizing best practices developed by wildland fire partners, the SERT should review its Land Use Agreements and ensure that they are effective. During Hurricane Michael, a staging area and base camp had to relocate due to alternate commitments by the landowner. The SERT needs to ensure that land use agreements for emergency sites include provisions that allow critical functions to have precedence, as to prevent a delay in services.

7. Planning and Situational Assessment

Strengths

Strength 1: Continued Improvements and Training for WebEOC

As the common operating picture for the SERT, WebEOC is the primary system used through an event. Since its implementation during the Annual Hurricane Exercise, FDEM's Information Technology and Management Bureau has continued to invest in improving capabilities and functionality of the system. ESFs and other responders have noted that the training and guidance on WebEOC greatly improved the ability for the ESFs to operate.

Strength 2: Utilization of Critical Lifelines

For Hurricane Michael, the SERT and the Planning Section adopted FEMA's Critical Lifelines as a reporting structure for information in the SEOC. The Critical Lifelines focus on the SERTs ability to restore essential functions, and collecting information is this way more effectively tracks the SERT's progress in meeting its mission. In addition, the Critical Lifelines are broad, and gathering information on each Lifeline requires information from the entire SERT. While the Planning Section needs to work on solidifying reporting processes and increasing awareness on the Lifeline, the SERT and partners have supported the adoption.

Strength 3: GIS Resources and Availability

The GIS Unit greatly enhanced their presence and capabilities during Hurricane Michael. Utilizing in-state mutual aid resources from counties allowed for the staffing of ten extra GIS specialist to meet the demand of map requests. In addition, full utilization of the map and app gallery known as SERT GATOR, and GIS integration into WebEOC, made it easy to access and use all GIS products. The GIS Unit will continue to develop integration with other SERT systems to improve functionality. Additionally, the GIS Unit will continue working with the State Geographic Information Officer to maintain relationships with in-state resources that can be utilized during disasters.

Strength 4: Utilization of Integrated Planners within Branches

To assist with information flow within the SEOC, ESF-5 integrated planners into operational branches to help coordinate updates and reporting. While there is still room to improve the processes, overall the increased planning presence in the SEOC has reduced redundant information requests to the Branches.

Strength 5: Improved Damage Assessment Collection Process

Technical Services transitioned the Damage Assessment collection system to a FEMA support system known as Survey123. This process allows for more streamlined uploading of Damage Assessment reports into the mapping portal and other reports. Hurricane Michael was the first event where the process was utilized, and it was successful overall. Technical Services will continue to develop and integrate the new process.

Strength 6: ESF Specific Situation Reports

Throughout the event, multiple Emergency Support Functions, such as ESF 1/3, generated situation reports and uploaded them into WebEOC. These situation reports contain a large amount of useful information. As the Planning Section continues to enhance planning products, the ESF Situation Reports will be utilized more fully as a primary source of information.

Areas of Improvements

Recommendation 1: Transition Reporting / Planning Requirements to WebEOC

As the Common Operating Picture, WebEOC should be the primary system used to gain situational awareness during the event. However, at this time the Situation Report is the only formal report that utilizes WebEOC to coordinate information flow. The Planning Section and others should work to determine if additional reports can be transitioned to WebEOC. This would provide more streamlined reporting, and increase situational awareness on products.

Recommendation 2: Reassess and Realign Planning Products

During Hurricane Michael, the SEOC utilized FEMA's Critical Lifelines, and the Planning Section worked to integrate them into the SERT's planning process. The adoption of the Lifelines proved beneficial, but the Planning Section should revisit existing products and formalize the Lifeline collection process to help streamline the information flow. Specifically, the Planning Section should coordinate the Lifeline Reports with the Daily Situation Reports, as there is substantial overlap, but the products have separate collection processes. In addition, the Planning Section should work with ESF-14 and other information collection units to ensure that redundant information collection is minimized.

Recommendation 3: Development of County Situational Awareness Products

The SEOC relies on the Essential Elements of Information (EEI) Board in WebEOC as the primary common operating picture on the current conditions in the counties. However, due to the urgency of operations, and the dynamic nature of responses, these EEI fields are often not routinely updated. Due to this, the best source of information is often the County Situation Reports that are uploaded to WebEOC and the feedback from counties as reported on the County Conference Calls. With no central common operating picture being utilized, the Planning Section was creating ad-hoc reports on county situational awareness. The Planning Section should coordinate with the SERT Liaison Team on the development of standard information and reporting guidelines, and the Planning Section should explore the potential of a standardized product centered on county situational awareness.

Recommendation 4: Additional Training for WebEOC

The SERT adopted WebEOC as the Common Operating Picture earlier in 2018. While the system was practiced during the Annual Hurricane Exercise, and multiple training opportunities were provided, there is still a need for additional training. Specifically, additional training is needed for both Emergency Support Functions and counties in crafting useful resource requests, providing

meaningful and timely updates, and keeping various boards updated. The Planning Section, Operations Section, and the Technical Services Branch have already started coordinating in the development of job aids and other training documentation to assist the SERT and partners, but additional hands on training needs to be developed.

Recommendation 5: Further development of Future Planning Capability

Within the SEOC, ESFs conduct future planning and projection analysis to predict the resources and priorities for upcoming operational periods. During Hurricane Michael, it became apparent that these decentralized planning initiatives need to be coordinated to better assess the future resource needs. The Logistics Section, Planning Section, and Operations Section need to coordinate and develop a process for better utilizing the future planning already occurring, and to promote a common operating approach. One possible solution that should be explored is the adoption of ICS 204 Forms or similar mission tracking amongst ESFs to be consolidated within the Planning Section.

Recommendation 6: Review of SERT Reconnaissance Procedures

Hurricane Michael provided a number of challenges for reconnaissance capabilities. First, emergency responders, while able to record pictures and video, were unable to reliably send the Recon Reports back to the SEOC due to downed communication towers, delaying the availability of situational awareness. Second, aerial Recon shifted to Air Operations, and there needs to be some additional discussion with the Civil Air Patrol, Air Operations Branch, and others on clarifying the process of mission authorization and the identification of mission priorities.

8. SEOC Facilities and Staffing

Strengths

Strength 1: Utilization of County Emergency Management Staff to Augment SEOC

During Hurricane Michael, Incident Management Teams and single resources from counties within the State of Florida provided crucial support to the SERT. County emergency management personnel staffed within the Logistics Section, Operations Section, Planning Section, Emergency Services, Human Services, ESF-14, and others. The deployment of county staff to the SEOC proved to be mutually beneficial, as the SEOC gained additional emergency management staff knowledgeable in Florida's unique needs, while the county staff gained experience and cross training in SEOC functions. Going forward, the SERT should continue to look internal to the State of Florida for assistance, in addition to EMAC assets from out-of-state.

Strength 2: Full Utilization of EMAC Personnel

During Hurricane Michael, Sections, Branches, and ESFs were encouraged to utilize the EMAC Request process to request out of state personnel to deploy to Florida. This proved beneficial to a number of mission areas, including the Operations Section, Human Services Branch, and the Infrastructure Branch. The Recovery Section in particular was able to gain needed subject matter experts in Individual Assistance and Public Assistance Programs that greatly improved staffing capabilities. Staff received via EMAC are subject matter experts and are able to help the SEOC manage operations. In addition, Florida often receives teams that have assisted the SEOC in the past, so they are familiar with the state and the SEOC.

Strength 3: Increased Training for SEOC Staff

Since Hurricane Irma, the SERT and individual ESFs have prioritized increased training and cross training for SEOC staff. This proved beneficial, especially considering the number of new systems and processes that were implemented successfully during the event. Going forward, FDEM's Training and Exercise Unit should continue to identify needs in training and work to provide them for SERT Staff.

Strength 4: Integrated Information Technology

With the migration to WebEOC as the Common Operating Picture, the SERT Technical Services Branch has continued to explore ways to integrate the various databases and systems used by the SERT. One such integration was connecting WebEOC with ArcGIS for seamless mapping capabilities. Another is the automated archiving of dynamic data, which better allows staff to identify trends. Technical Services continues to look for additional areas where integration is possible, especially with SharePoint and the public floridadisaster.org website. Further integration will allow for the more efficient analysis of information, as well as improving the ability for the SERT to provide updates to the public in near real-time.

Areas of Improvement

Recommendation 1: Continued Exploration of Additional Staffing

All Sections, Branches, and ESFs recognize the need for additional staff for the SEOC. While EMAC and Mutual Aid has proved to be very beneficial to the SERT for augmentation, it relies on external parties with no prior commitment to provide assistance. For a sustainable solution, the SERT needs to work with State Agencies and existing SERT Partners to identify how to efficiently staff mission critical SERT positions.

Recommendation 2: Improved Use of SEOC and Potential Temporary Space

As coordination increases and the SERT seeks to bring more partners into the SEOC, there needs to be a revisit of the use of SEOC facilities, especially the FDEM Offices in the Sadowski Building, and the alternate facility, the Betty Easley Conference Center. The Planning Section and Operating Section need to explore how the facilities are currently being used, and develop a system that better manages the utilization. In addition, the SERT should explore the potential of utilizing temporary / portable office space to utilize during staffing peaks.

Recommendation 3: Improvements to Network and Server Capabilities

The intense demand placed on the Information Technology infrastructure at the SEOC resulted in issues for some SERT users. While most issues were resolved immediately, there are a number of specific Information Technology upgrades that need to be made to improve the functionality of the SERT that will take an extended period of time. These include upgrading cabling at secondary facilities, upgrading server hardware for SEOC users, increasing network storage, and upgrading code on wireless LAN Controllers. These specific issues have all been catalogued by FDEM Bureau of Information Technology and Management, solutions identified, and target dates established.

Recommendation 4: Continuity Staffing During SEOC Landfall Events

When a storm, such as Hurricane Michael, makes landfall in the SEOC's immediate area without causing an evacuation of the facility, the SEOC maintains operations with staff that shelter in place at the SEOC. While there were no impacts to the SEOC during this event, the SEOC needs to ensure that there is proper Continuity Staffing to include generator staff and maintenance staff in the event there are impacts to the building or generator. Again, while there were not major disruptions at the SEOC during Hurricane Michael, this would help mitigate against minor impacts and help the SEOC maintain full operations.

CONCLUSION

Over the past years, the SERT has prioritized the investment into new systems and procedures, the streamlining of old processes, and enhanced training of personnel. These priorities have helped develop the SERT into a skilled and flexible team of emergency personnel that were able to adapt to the challenges of Hurricane Michael. As the most powerful storm to ever make landfall in the Florida Panhandle, the impacts were devastating for many residents and communities. Commercial communications were severely impacted, utility outages were widespread, and the human needs were high.

With this devastation in mind, the collective strengths and areas of improvement point to a strong initial response. In particular, the pre-event coordination, the establishment of response branches, integration of Air Operations and life-safety rescue teams, and the incredible job done by the restoration crews expedited incident stabilization. In addition, the proactive messaging from SERT Command and ESF-14 ensured that the State personnel never lost sight of the severity the storm could bring. The SERT mobilized for a strong storm early on, and this preparation and strong action helped ensure the strong operations.

These strengths continued throughout the response. All-Hazard Incident Management Teams, EMAC, and Mutual Aid personnel brought augmentation and enhanced capabilities to the SEOC. Human Services via the Multi-Agency Shelter Transition Teams were able to match shelter residents with temporary housing solutions, and the stand-up of Disaster Recovery Centers helped ensure that all impacted residents could receive aid. Innovative approaches at the Arnold High School Shelter with the establishment of the Multi-Agency Resource Center allowed state, county, and non-profit organizations to consolidate efforts and resolve special cases and needs of shelter residents so they could find their next step in the recovery process.

In additions to the strengths, the SERT has self-identified a number of areas that could be improved or enhanced. Many of these recommendations include increased coordination, additional training, and the development of standardized practices. With the adoption of new systems and new planning initiatives, some of these areas are to be expected. Nonetheless, the SERT will prioritize the resolution of these recommendations, and plans on exercising them during future exercises.

The SERT continues to build of previous lessons learned to enhance capabilities. Corrective actions from recent storms have seen the enhancement of multiple response elements. The prioritization of these lessons learned are part of the reason why the SERT was successfully able to respond to Hurricane Michael. Likewise, the lessons learned from Michael will be built upon to ensure that the SERT is ready to respond to the next disaster.

APPENDIX A: IMPROVEMENT PLAN

This Improvement Plan has been developed specifically for the Florida Division of Emergency Management and the State Emergency Response Team as a result of Hurricane Michael. This section combines the previous sections' Areas for Improvement and provides Corrective Actions and corresponding assignments.

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
1-1: Additional Training on Mission Management Procedures	Development of specific guidance for SERT Staff on Mission Management Principles	Planning Section	Ryan Lock, PSC
	Development of specific training for Section Chiefs, Branch Directors, and ESFs on mission management procedures	Technical Services Branch	Colby Maxwell, WebEOC Lead
1-2: Ensure Mission Requests have Accurate On-Scene Point of Contact	Provide additional training to County Emergency Management on POC Needs	Technical Services Branch	Colby Maxwell, WebEOC Lead
	Add additional POC fields to missions to account for demobilization of POCs and Alternate contacts	Technical Services Branch	Colby Maxwell, WebEOC Lead
	Provide additional guidance to counties on mission information.	Planning Section	Ryan Lock, PSC
1-3: Additional Private Sector Partnerships at the SEOC	Work directly with Private Sector Partners to increase staffing of liaisons at the SEOC.	ESF-18	Beverly Byerts, ESF-18 Lead
1-4: Development of Deployable Human Services Resources	Coordinate with counties on identifying in-state capabilities.	Human Services Branch	Pam Hughes, Human Services Director

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
1-5: Coordinating with FEMA on Development of FIDA Report Request	Formalize the request that is sent from the SERT to FEMA. Coordinate with FEMA prior to use to ensure the request meets needs.	Human Services Branch	Pam Hughes, Human Services Branch Director
1-6: Enhanced Standardization of Roles and Responsibilities of SERT Liaisons	Regional Liaison Manager to coordinate with the Operations Section to further develop roles and responsibilities of the SERT Liaisons, and ensure integration in the SERT Planning Process	Operations Section	Ashley Davis, OSC Jim Roberts, Regional Liaison Manager
2-1: Transition Power Outage Reporting to Online	ESF-12 and SERT Technical Services coordinate on adapting current system to be available publicly.	ESF-12 Technical Services Branch ESF-14	Rick Moses, ESF-12 Lead Colby Maxwell, WebEOC Lead Andrew Wilber, ESF-14 Lead
3-1: Enhanced Statewide Special Needs / Patient Tracking	Develop a process and system to enable tracking of clients to and from facilities during disaster.	ESF-8	Christie Luce, ESF-8 Lead
3-2: Additional Coordination with USCG Flight Surgeon for New Capabilities	Air Operations Branch and US Coast Guard to establish meeting to discuss possible integration.	Air Operations Branch	Caralyn Cain, Air Operations Branch Director

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
3-3: Additional Communications Capabilities for USAR	Look internal to agencies to determine what additional communication capabilities already exist that can be integrated	ESF 4/9	John Kohnke, ESF 4/9 Lead
	Explore possible updates to deployable emergency communications equipment	ESF-2	Danette McBride, ESF-2 Lead Benjamin Bass, SERT Communications Unit Lead
4-2: Improved Power Restoration Prioritization Process	ESF-12 to work with Operations Section and Planning Section to provide appropriate guidance to counties and agencies.	ESF-12 Operations Section Planning Section	Rick Moses, ESF-12 Lead Ashley Davis, OSC Ryan Lock, PSC
5-1: Development of County Mass Care Profiles	ESF-6 to initiate planning initiative to coordinate with the SERT and Counties to develop profiles	ESF-6	Peter Newman, ESF-6 Lead
5-2: Develop Additional Guidance on Multi-Agency Shelter Transition Teams	Human Services and FEMA to establish meetings to develop guidance based on best practices	Human Services	Pam Hughes, Human Services Branch Director
5-3: Improve Awareness on Shelter Population	Planning Section to coordinate with ESF-6 to provide counties with formal guidance on shelter reporting.	Planning Section	Ryan Lock, PSC
5-4: Development of Shelter Support Packages	ESF-6 to coordinate with partners to determine typed packages of resources to support shelter operations	ESF-6	Peter Newman, ESF-6 Lead

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
5-5: Enhanced Messaging to Private Sector on Transitional Sheltering Assistance	Human Services and ESF-18 to coordinate with FEMA on the development of standardized language that can be used to augment messaging on TSA.	Human Services Branch ESF-18	Pam Hughes, Human Services Branch Director Beverly Byerts, ESF-18 Lead
6-1: Development of a Robust Resource and Asset Tracking System	Logistics Section to review contracts to ensure tracking is a requirement, where feasible.	Logistics Section	Laura Beagle, Logistics Specialist
	Technical Services to explore potential for incorporating more tracking abilities into WebEOC.	Technical Services Branch	Colby Maxwell, WebEOC Lead
6-2: Better Utilization of "Supporting Mission" Feature in WebEOC	Planning Section and Operations Section to coordinate on developing guidance for counties and ESFs on mission management practices.	Planning Section	Ryan Lock, PSC
6-3: Enhanced Efficiency of Mobilizing Logistical Staging Areas	Logistics to coordinate with ESF-13 on potential advanced teams that can establish expedited limited LSA capabilities.	Logistics Section	Jeff Swain, Deputy LSC
	Logistics to explore developing mission ready packages of LSA equipment to expedite critical functions.	Logistics Section	Jeff Swain, Deputy LSC

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
6-4: Improve Point of Distribution Identification and Situational Awareness	Coordinate with SERT Liaisons to develop enhanced reporting procedures for PODs	Logistics Section	Jeff Swain, Deputy LSC
	Build additional fields into Emergency Sites Board to increase effectiveness in WebEOC	Technical Services Branch	Colby Maxwell, WebEOC Lead
6-5: Additional Training on Mutual Aid Documentation	Logistics to coordinate with Response Bureau to develop additional training and guidance on mutual aid documentation.	Operations Section / Response Bureau	Ashley Davis, OSC and Response Bureau Chief
6-6: Formalize Land Use Agreements for Base Camps and Other Sites	Logistics to review standard contract and land use agreements and draft template that adequately ensures operational priorities	Logistics Section	Laura Beagle, Logistics
7-1: Transition Reporting / Planning Requirements into WebEOC	Planning Section to coordinate with Technical Services in exploring which products can be adapted into WebEOC	Planning Section	Ryan Lock, PSC
7-2: Reassess and Realign Planning Products	Transition from the Traditional Situation Report to the Lifeline Report as the primary informational report in the SEOC.	Planning Section Technical Services Branch	Ryan Lock, PSC Colby Maxell, WebEOC Lead
	Assess other planning products to determine ways to streamline planning efforts.	Planning Section	Ryan Lock, PSC

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
7-3: Development of County Situational Awareness Products	Develop product that allows SERT Personnel to quickly assess current conditions at the county level.	Planning Section	Ryan Lock, PSC
	Coordinate with the Regional Liaisons and SERT Liaisons to determine standardized information updates	Planning Section Regional Liaison Team	Ryan Lock, PSC Jim Roberts, Regional Liaison Manager
7-4: Additional Training for WebEOC	Establish training sessions prior to the 2019 Hurricane Exercise on WebEOC for ESFs and other SERT Partners	Technical Services Branch	Colby Maxwell, WebEOC Lead
	Develop additional guidance documents on WebEOC prior to the 2019 Hurricane Exercise.	Operations Section Planning Section	Ashley Davis, OSC Ryan Lock, PSC
7-5: Further Development of Future Planning Capabilities	Operations and Plans to assess the planning process in the SEOC to determine areas that could benefit from additional coordination.	Operations Section Planning Section	Ashley Davis, OSC Ryan Lock, OSC
	Explore the use of ICS 204 Forms within SEOC	Planning Section	Ryan Lock, PSC
7-6: Review of SERT Reconnaissance Procedures	Review and clarify the specific mission management of RECON assets with partners.	Situation Unit Operations Section	Grant Harvey, Situation Unit Lead Ashley Davis, OSC

Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC
8-1: Continued Exploration of Additional Staffing	FDEM and other State Agencies explore ways agency staff can be utilized more efficiently during SEOC Activations	SERT	Command Staff
8-2: Improved Use of SEOC and Potential Temporary Space	Assess how space in SEOC is currently being utilized, and if reorganization would be beneficial.	Operations Section Planning Section	Ashley Davis, OSC Ryan Lock, PSC
	Explore use of portable office space to augment SEOC meeting and working space.	Logistics Section	Jeff Swain, Deputy LSC
8-3: Improvements to Network and Server Capabilities	FDEM Bureau of Information Technology and Management to implement its list of improvement projects.	FDEM ITM	Jason Ray, ITM Bureau Chief
8-4: Continuity Staffing During SEOC Landfall Events	Coordinate with Department of Management Services and Vendors to ensure that there is critical staffing support during landfall events.	Logistics Section	Jeff Swain, Deputy LSC