

Resilience Working Group (RWG) Meeting Notes

August 29, 2019

1:00 pm – 5:00 pm

American Bank Savings Tower, 8th Floor, Training Room 2

Attendees

Name	Organization	In Person	WebEx
Carilyn Shon	Hawai'i State Department of Business, Economic Development and Tourism, Energy Office	X	
Chris Yunker	Hawai'i State Department of Business, Economic Development and Tourism, Energy Office	X	
Dean Nishina	Hawai'i State Department of Commerce and Consumer Affairs, Division of Consumer Advocacy	X	
Samantha Ruiz	State of Hawai'i Public Utilities Commission	X	
Gina Yi	State of Hawai'i Public Utilities Commission	X	
Thomas Travis	Hawai'i State Department of Defense, Hawai'i Emergency Management Agency	X	
David Lopez	Hawai'i State Department of Defense, Hawai'i Emergency Management Agency	X	
Jade Butay	Hawai'i State Department of Transportation	X	
Gary Yokoyama	Hawai'i State Department of Transportation, Airports Division	X	
Peter Pillone	Hawai'i State Department of Transportation, Harbors Division	X	
Judy Kern	Hawai'i State Department of Health, Office of Public Health Preparedness	X	
Jennifer Walter	City and County of Honolulu, Department of Emergency Management	X	
Crystal van Beelen	City and County of Honolulu, Department of Emergency Management	X	
Lori Kahikina	City and County of Honolulu, Department of Environmental Services	X	
Chris Cunningham	City and County of Honolulu, Office of Climate Change, Sustainability and Resiliency	X	
Kevin Ihu	Honolulu Board of Water Supply	X	
Keith Okamoto	County of Hawai'i, Department of Water Supply	X	

Name	Organization	In Person	WebEx
Alex de Roode	County of Maui, Energy Commissioner		X
Eric Nakagawa	County of Maui, Environmental Management	X	
Keith Yamanaka	United States Army	X	
Casey Ann Hiraiwa	United States Army	X	
Shereen Wachi	United States Navy	X	
Peter Yuen	United States Navy	X	
Gary Ting	United States Navy	X	
Sonny Rasay	United States Marine Corps	X	
Glen Yanagi	United States Coast Guard	X	
John Bravender	United States Department of Commerce, National Oceanic and Atmospheric Administration	X	
Leigh Anne Eaton	United States Department of Commerce, National Oceanic and Atmospheric Administration	X	
Janet Yocum	United States Department of Homeland Security, Federal Emergency Management Agency	X	
Jennifer DeCesaro	United States Department of Energy, Office of Electricity		X
Lt. Col. Paul Agena	Hawai'i National Guard	X	
Aaron Lau	Hawai'i National Guard	X	
Wade Ishii	Hawai'i National Guard	X	
Jonathan Choi	Par Hawai'i	X	
Francis Alueta	Hawaiian Telcom	X	
Corey Shaffer	Verizon Wireless	X	
Dan Kouchi	Chamber of Commerce	X	
Eric Au	Sheraton/Marriott	X	
Tony Moiso	Hawai'i Society of Healthcare Engineers	X	
Chris Crabtree	Healthcare Association of Hawai'i	X	
Tom Luiz	Hawai'i Foodbank	X	
Henry Curtis	Life of the Land	X	
Noelani Kalipi	Progression Hawai'i Offshore Wind, LLC	X	
Murray Clay	Ulupono Initiative	X	

Hawaiian Electric Companies Attendees

Karina Abenoja

James Abraham

Ken Aramaki

Hawaiian Electric Companies Attendees

Keith Asato	Collin Au	Colton Ching
Rodney Chong	Stewart Chong	Edine Clemente
Kaanoi Clemente	Ronald Cox	Lisa Dangelmaier
Lisa Giang	Alan Hirayama	Christy Kaneshiro
Christopher Kinoshita	Eric Kunisaki (WebEx)	Christopher Lau
Tracy Lum	Mahina Martin	Todd Mayeshiro
Dave Okamura	Rick Pinkerton	Kevin Saito
Kimberly Seto	Christine Shigetomi	Vladimir Shvets
Justin Somelofsek	Donna Stinefelt	Kurt Tsue
Troy Uyehara	Amanda Yano	Lena Young

Presentation Highlights

Opening Remarks

- Non-Disclosure Agreement is not a requirement. It is for members to feel comfortable with sharing data and ensure security of that data.
- Recap of previous meeting
 - Purpose of Working Group
 - Lessons learned from other natural disasters within and outside Hawai'i
 - Members identified 15 critical threats for the islands
 - Members prioritized customer segments

Meeting Objectives

- Get preliminary consensus on:
 - a) resilience definition; and
 - b) threat prioritization
- Review needs and existing capabilities of critical infrastructure/customer segments under a severe hurricane scenario

Defining Grid Resilience

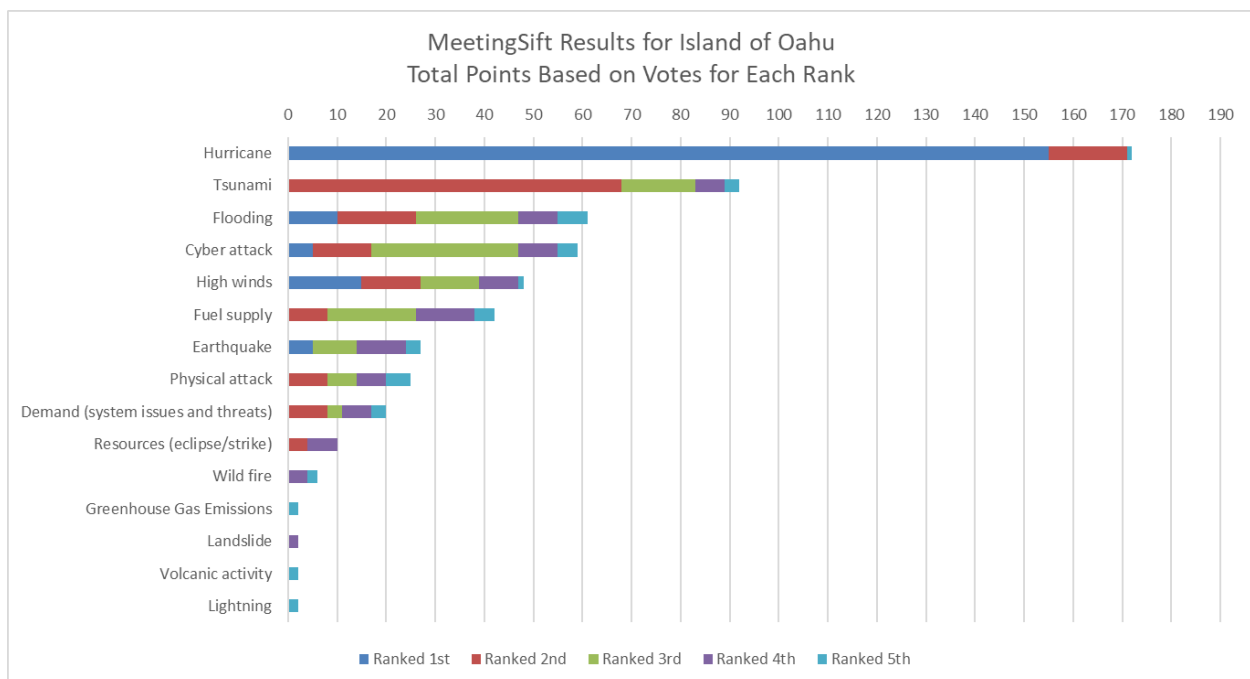
- Stakeholders provided input and considerations:
 - Is resilience and reliability the same thing?
 - Forecasting and predicting events is an important aspect of resiliency.
 - Withstand or adapt? Prevent to reduce impact vs. rapid recovery.
 - May need to define "disruption". For example, is "cyber attack" a disruption?

Ranking Critical Threats

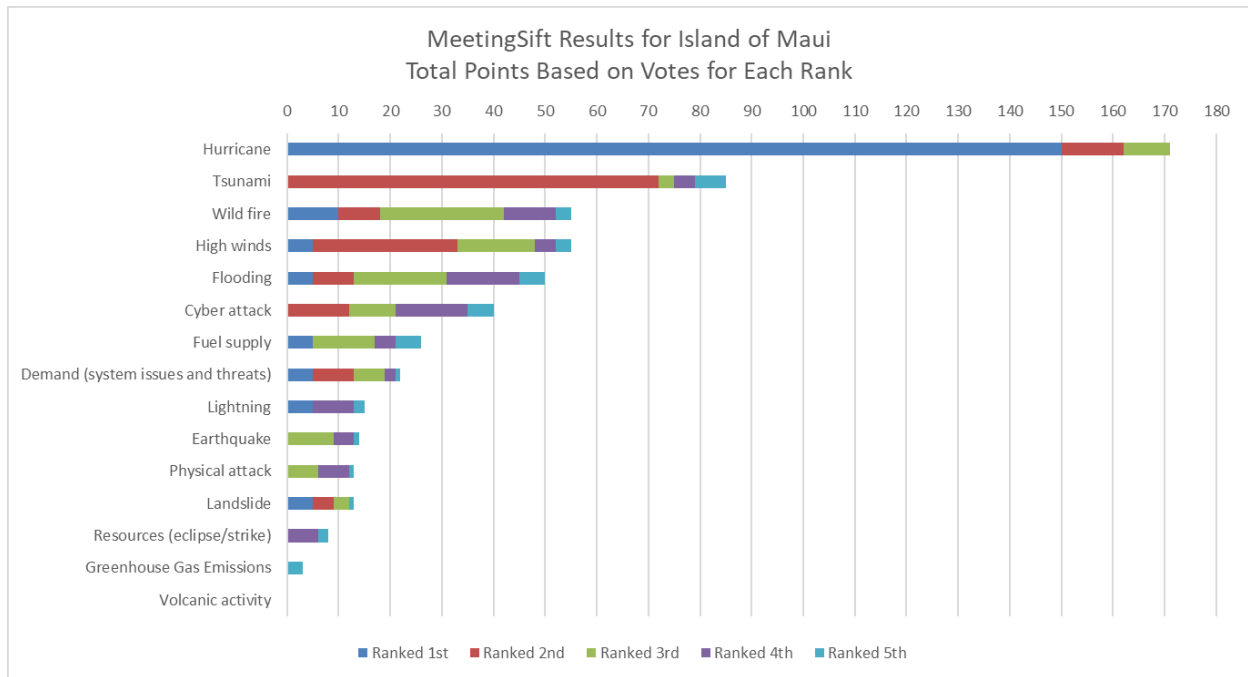
Stakeholders used the MeetingSift tool to vote on the top 5 critical threats for each island with the 1st threat being the highest priority. This will narrow down the focus of the threats to be discussed in more detail in the coming meetings. Votes were assigned points based on ranking as follows: 1st threat = 5 points, 2nd threat= 4 points, 3rd threat = 3 points, 2nd threat = 2 points, and 5th threat = 1 point.

MeetingSift Results

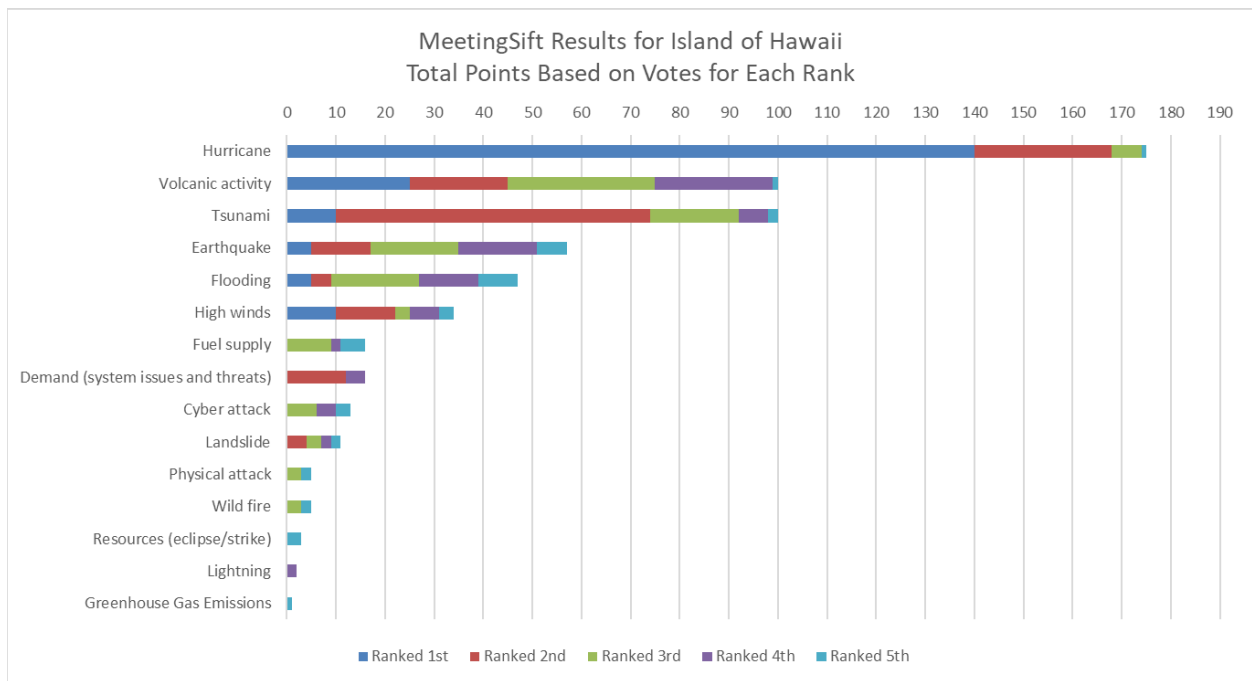
MeetingSift Results for island of O'ahu						
Critical Threat	# of votes for each rank					Total points based on ranking
	1st	2nd	3rd	4th	5th	
Hurricane	31	4	0	0	1	172
Tsunami	0	17	5	3	3	92
Flooding	2	4	7	4	6	61
Cyber attack	1	3	10	4	4	59
High winds	3	3	4	4	1	48
Fuel supply	0	2	6	6	4	42
Earthquake	1	0	3	5	3	27
Physical attack	0	2	2	3	5	25
Demand (system issues and threats)	0	2	1	3	3	20
Resources (eclipse/strike)	0	1	0	3	0	10
Wild fire	0	0	0	2	2	6
Greenhouse Gas Emissions	0	0	0	0	2	2
Landslide	0	0	0	1	0	2
Volcanic activity	0	0	0	0	2	2
Lightning	0	0	0	0	2	2
Total # of votes =	38					



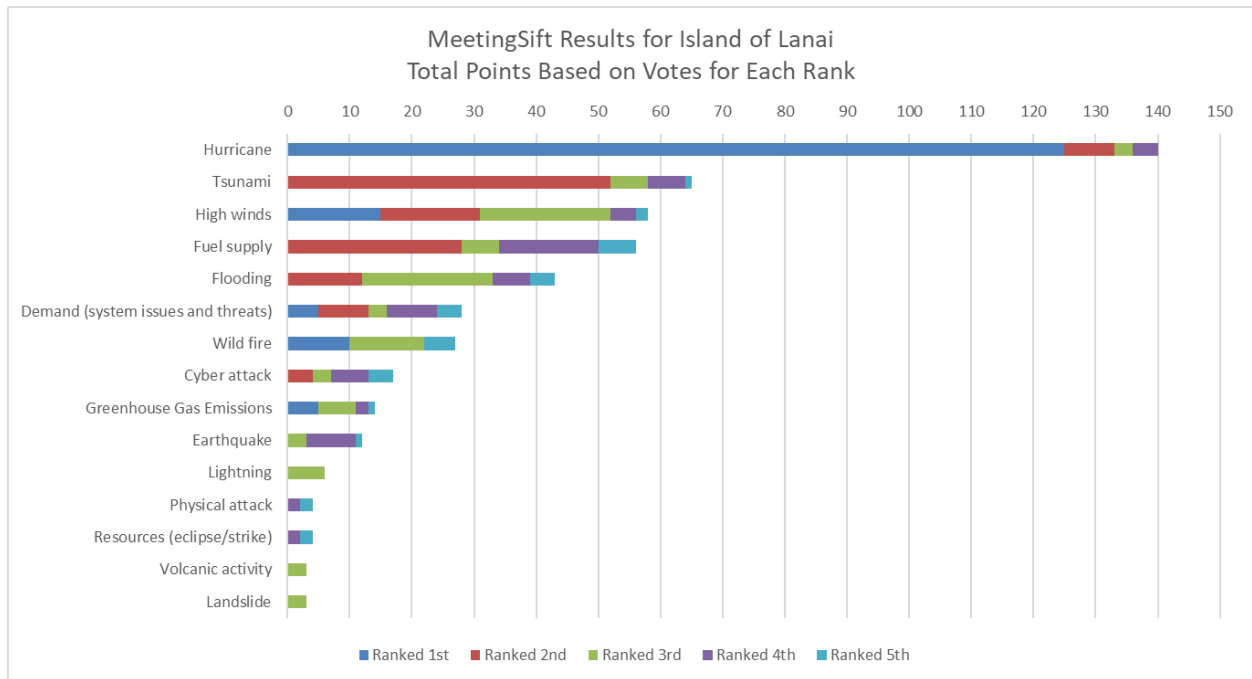
MeetingSift Results for island of Maui						
Critical Threat	# of votes for each rank					Total points based on ranking
	1st	2nd	3rd	4th	5th	
Hurricane	30	3	3	0	0	171
Tsunami	0	18	1	2	6	85
Wild fire	2	2	8	5	3	55
High winds	1	7	5	2	3	55
Flooding	1	2	6	7	5	50
Cyber attack	0	3	3	7	5	40
Fuel supply	1	0	4	2	5	26
Demand (system issues and threats)	1	2	2	1	1	22
Lightning	1	0	0	4	2	15
Earthquake	0	0	3	2	1	14
Physical attack	0	0	2	3	1	13
Landslide	1	1	1	0	1	13
Resources (eclipse/strike)	0	0	0	3	2	8
Greenhouse Gas Emissions	0	0	0	0	3	3
Volcanic activity	0	0	0	0	0	0
Total # of votes =		38				



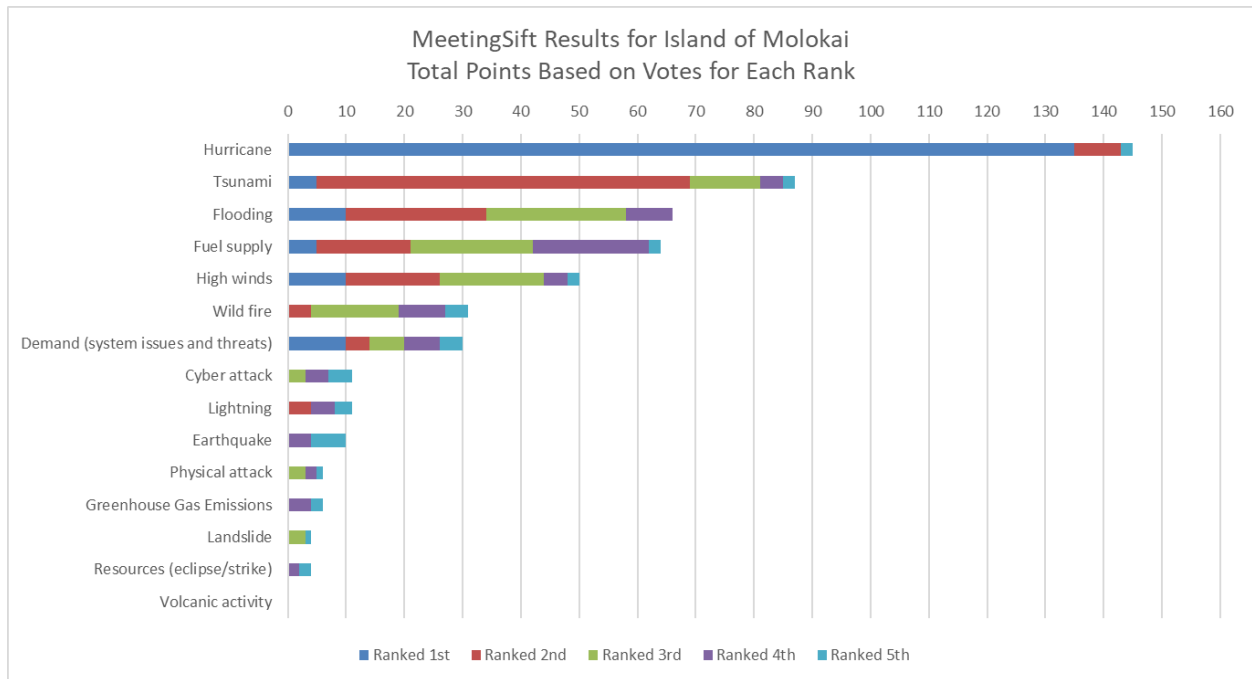
MeetingSift Results for island of Hawai'i						
Critical Threat	# of votes for each rank					Total points based on ranking
	1st	2nd	3rd	4th	5th	
Hurricane	28	7	2	0	1	175
Volcanic activity	5	5	10	12	1	100
Tsunami	2	16	6	3	2	100
Earthquake	1	3	6	8	6	57
Flooding	1	1	6	6	8	47
High winds	2	3	1	3	3	34
Fuel supply	0	0	3	1	5	16
Demand (system issues and threats)	0	3	0	2	0	16
Cyber attack	0	0	2	2	3	13
Landslide	0	1	1	1	2	11
Physical attack	0	0	1	0	2	5
Wild fire	0	0	1	0	2	5
Resources (eclipse/strike)	0	0	0	0	3	3
Lightning	0	0	0	1	0	2
Greenhouse Gas Emissions	0	0	0	0	1	1
Total # of votes =	39					



MeetingSift Results for island of Lana'i						
Critical Threat	# of votes for each rank					Total points based on ranking
	1st	2nd	3rd	4th	5th	
Hurricane	25	2	1	2	0	140
Tsunami	0	13	2	3	1	65
High winds	3	4	7	2	2	58
Fuel supply	0	7	2	8	6	56
Flooding	0	3	7	3	4	43
Demand (system issues and threats)	1	2	1	4	4	28
Wild fire	2	0	4	0	5	27
Cyber attack	0	1	1	3	4	17
Greenhouse Gas Emissions	1	0	2	1	1	14
Earthquake	0	0	1	4	1	12
Lightning	0	0	2	0	0	6
Physical attack	0	0	0	1	2	4
Resources (eclipse/strike)	0	0	0	1	2	4
Volcanic activity	0	0	1	0	0	3
Landslide	0	0	1	0	0	3
Total # of votes =	32					



MeetingSift Results for island of Moloka'i						
Critical Threat	# of votes for each rank					Total points based on ranking
	1st	2nd	3rd	4th	5th	
Hurricane	27	2	0	0	2	145
Tsunami	1	16	4	2	2	87
Flooding	2	6	8	4	0	66
Fuel supply	1	4	7	10	2	64
High winds	2	4	6	2	2	50
Wild fire	0	1	5	4	4	31
Demand (system issues and threats)	2	1	2	3	4	30
Cyber attack	0	0	1	2	4	11
Lightning	0	1	0	2	3	11
Earthquake	0	0	0	2	6	10
Physical attack	0	0	1	1	1	6
Greenhouse Gas Emissions	0	0	0	2	2	6
Landslide	0	0	1	0	1	4
Resources (eclipse/strike)	0	0	0	1	2	4
Volcanic activity	0	0	0	0	0	0
Total # of votes =	35					



Breakout Sessions

Breakout sessions were conducted, and the groups reported on results as summarized below.

Breakout Session #1 Reports

- The Working Group was broken into eight (8) groups, each representing a specific sector. Each group had a facilitator and a scribe for the discussions.
- The groups were tasked to answer six questions based on the given hurricane scenario described for the exercise on presentation slides 17-24.
- Each group shared highlights from their discussion which are summarized below.

Emergency Management Sector

- Most have backup power supply and can continue on backup power as long as fuel can be resupplied.
- They can do most of their work; though, communication degradation would be a real problem.
- Ports – Big Island ports could close several days before storm hits. They will be short on supplies for longer-term. However, they are the most resilient of the islands. Ports on the other islands are much smaller which will limit their ability to recover and import. O’ahu’s population and critical infrastructure on the south shore poses the greatest risk.

Hospitality, Business, and Foodbank Sectors

- The capabilities of hotels really depend on their size, island, and location.
- Raised a concern: What do they do with mortalities during this period?

Transportation Sector

- All major transportation facilities have backup power.
- Their priority would be damage assessment and debris clearance for critical access and thoroughfares. Lack of roads limits ability to clear and distribute cargo.

Defense Sector 1

- Provides national security as well as protection and consideration of their own communities. They are responsible for the families on their posts. They have medical facilities that treat the entire Pacific’s DOD personnel at Tripler.
- They have onsite generation.

Defense Sector 2

- Similar to Defense 1, they also have to take care of families. They have mutual aid agreements with the state. If Honolulu Harbor were impacted, they could become the backup port for offloading cargo.

- They could also provide secondary support for state as an airport.
- They are also considering onsite generation like Defense 1. A prolonged power outage could pose a threat to national security and mission effectiveness.

Communications Sector

- Cell service may or may not be possible even though they have backup power supply. Their concern is whether the fiber optic cables are intact. If they need to fix a break in the line, they need roads to be clear to get access to the location.
- Radio and satellite could be the only means for communications.
- If communications is operational, but at a reduced capacity, it is best to use SMS (texting), then voice calls for communicating with families and friends. Social media (i.e., Facebook, Twitter, Instagram, YouTube, and video calls should be avoided.

Health Care Sector

- Hospitals have backup power, but dialysis centers do not. If there is a long power outage, the dialysis centers would have to consider evacuations and would lead to increase in morbidity and illness.

Water Sector

- Wastewater has limited local fuel resources to provide their treatment and pumping services. If roads are clear to allow resupplying of fuel, they can continue to operate. If there is no power for treatment and pumping services, then sewage could start backing up into people's homes.
- Water supply has limited backup power generation.
- There will be reduced level of water supply service until power is completely restored.
- There is an interdependency between water and wastewater.
 - If water is not being flushed or going down drains, then wastewater treatment wouldn't be as much of a problem. But if water supply is being provided but wastewater is not operating, then the sewage could back up into homes.

Breakout Session #2 Reports

- The same eight (8) sector groups were tasked to answer five additional questions on the given hurricane scenario described for the exercise on presentation slides 28-29.
- Each group shared highlights from their discussion which are summarized below.

Water Sector

- The situation for clean water supply will still be the same answer as the first breakout session. There will be reduced level of water supply service until power is completely restored.
- They will be focusing on servicing hospitals, care homes, and emergency shelters.
- There won't be fire protection in some places.
- There will be areas where people will have to travel to get water.

Emergency Management Sector

- Without the port at full operation, there will be severe degradation in every system. Backup port to Honolulu Harbor would only be able to take on 1/6th the capacity.
- Every system will be close to flat-lining. If people aren't eating and drinking, there will be a massive workforce shortage that will slow the recovery effort. Every system that is failing will be competing for air power that would be needed to turn a situation like this around.

Health Care Sector

- Acute care levels would be reasonably restored. However, demand and other problems would have spiked. Disasters bring about many public health issues and illnesses. There will be spikes in hygiene-related illnesses and injuries.
- There will be staffing shortages for all the various care facilities and food shortages.
- People who don't actually need care would be trying to get into the hospitals for food, water, shelter, and care.
- Pharmaceuticals will be in short supply. Mental health issues would also spike from general widespread stress and those folks who depend on medicine for their mental stability.

Hospitality, Business, and Foodbank Sectors

- Mental health issues would occur from people seeking shelter.
- As raised in Breakout Session #1, what do they do with mortalities? How do the hotels properly dispose of the bodies?
- Additional concerns: Can the tourism industry ever recover from something like this? What happens to the larger economy without tourism after event recovery?
- Suggest including the Hawai'i Tourism Authority and/or other tourism agencies in these discussions.

Communications Sector

- Backup generators are probably breaking down by this point.
- They will be competing for resources with other sectors.

- As debris removal continue to clear roads, the risk of fiber optic cables being cut increases. This could result in additional communications outages, or outages in different locations, or reduce capacity for service.
- Employee resilience will diminish causing restoration to slow. Bringing people resources from the mainland may not be a solution if there isn't anywhere to house them on-island.

Transportation Sector

- They will be moving from the assessment phase to the recovery phase.
- The longer they operate on a limited basis, the slower they can bring things to the community.
- The sooner power is fully restored, the better the transportation sector can support the community.

Defense Sector 2

- They will be working on damage assessment.
- They will have an infrastructure restoration and recovery plan in place for the bases.

Defense Sector 1

- Unfortunately, active duty cannot support civilian needs. The National Guard is the branch of the armed forces that can do that. In order for active duty to help, the Secretary of Defense has to declare a General capable of commanding active duty troops in a US civilian area. There was dual status command during Katrina and there was a duplication of efforts. Active duty will primarily focus on military personnel.

Next Steps

- Participant were asked to fill out an evaluation form and contact information form.
- Next meeting is scheduled for September 17.