USNS MERCY (T-AH 19)

USNS MERCY

Commanding Officer

MERCY CLASS HOSPITAL SHIPS

USNS MERCY T-AH 19
Homeport: San Diego, CA

USNS COMFORT T-AH 20
Homeport: Norfolk, VA

T-AHs only two afloat tertiary care hospital platforms

- **Original cost $550M for both - Includes purchase of Oil Tankers & Conversion**

Service life extensions (Navy Program Guide 2017)

- **MERCY extension to 2035; MERCY assigned to US Pacific Fleet (Navy component of US Pacific Command)**
- **COMFORT extension to 2035; COMFORT assigned to US Fleet Forces Command**

Hospital ship history goes back to Civil War; Navy had 15 and Army had 20 in WWII

T-AHs are used today as multi-purpose platforms with demand signals across the Range of Military Operations– Major Combat; Theater Security Cooperation; and Defense Support of Civil Authorities (DSCA) for Humanitarian Assistance and Disaster Relief (HADR)

MERCY Team

USNS MERCY

- Military Sealift Command (MSC): Civilian crew for ship/hull operations
- MASTER: Captain Brian Mershon
- Responsible for ship operations, navigation, safety of crew, all embarked personnel, cargo, and the ship's operating equipment
- Civilian Mariners:
  - Reduced Operating Status (ROS): 36
  - Full Operating Status (FOS): 90

Medical Treatment Facility (MTF) MERCY

- COMMANDING OFFICER:
  CAPT John Rotruck, MC, USN
- Responsible for MTF daily operations, medical equipment, support services, and MTF personnel including supporting services such as galley, communications, medical oxygen production, laundry, ship's store, flight deck crew, etc.
- MTF Personnel:
  - ROS: 59
  - Critical Core:250 (needed to get underway)
  - FOS: 350-1215

Mission/CONOPS

- Provide health services support at the direction of the Secretary of Defense to meet Combatant Commander requirements and US National Security Strategy
- The Joint Strategic Capabilities Doctrine declares that T-AH 19 Mercy class hospital ships provide strategic value as a flexible deterrent option (FDO)
- Provide rapid, flexible, and scalable support to a specific requirement for a mission as determined by the Combatant Commander
- Provide a military health seabase for stability operations underway from home port within 5 days that is self-sustaining for up to 30 days without replenishment

T-AH Historical Mission Days

MERCY MISSIONS

	START DATE	END DATE	TOTAL DAYS
PHILIPPINES, SOUTH PAC DEPLOYMENT	27 FEB 87	13 JUL 87	136
OPERATION DESERT SHIELD/STORM	15 AUG 90	23 APR 91	251
OPERATION UNIFIED ASSISTANCE TSC/TSUNAMI	5 JAN 05	8 JUL 05	154
THEATER SECURITY COOPERATION 2006	24 APR 06	27 SEP 06	156
PACIFIC PARTNERSHIP 2008	1 MAY 08	19 SEP 08	148
PACIFIC PARTNERSHIP 2010	1 MAY 10	21 SEP 10	150
PACIFIC PARTNERSHIP 2012	1 MAY 12	14 SEP 12	138
RIMPAC 2014	16 JUN 14	09 AUG 14	54
PACIFIC PARTNERSHIP 2015	17 MAY 15	27 SEP 15	133
PACIFIC PARTNERSHIP 2016	11 MAY 16	30 SEP 16	142
PACIFIC PARTNERSHIP 2018	23 FEB 18	21 JUN 18	149
RIMPAC 2018	02 JUN 18	13 JUN 18	12
	MERCY Total Days:		**1623**

COMFORT MISSIONS

	START DATE	END DATE	TOTAL DAYS
OPERATION DESERT SHIELD/STORM	11 AUG 90	15 APR 91	247
OPERATION SEA SIGNAL - JAMAICA	1 JUN 94	10 AUG 94	71
OPERATION UPHOLD DEMOCRACY - HAITI	11 SEP 94	14 OCT 94	33
BALTIC CHALLENGE 98	15 JUN 98	12 AUG 98	58
OPERATION NOBLE EAGLE, 9-11	12 SEP 01	1 OCT 01	19
RESCUER/MEDCEUR 2002	7 JUN 02	16 AUG 02	70
OPERATION IRAQI FREEDOM	6 JAN 03	12 JUN 03	157
HURRICANES KATARINA/RITA	5 SEP 05	13 OCT 05	38
CONTINUING PROMISE 2007	15 JUN 07	22 OCT 07	129
CONTINUING PROMISE 2009	1 APR 09	31 JUL 09	120
OPERATION UNIFIED RESPONSE – HAITI 2010	16 JAN 10	19 MAR 10	61
CONTINUING PROMISE 2011	8 APR 11	4 SEP 11	150
CONTINUING PROMISE 2015	1 APR 15	30 SEP 15	183
PUERTO RICO 2017	29 SEP 17	20 NOV 18	53
	COMFORT Total Days:		**1389**

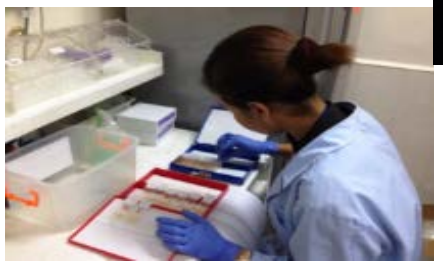
T-AH Characteristics/Capabilities

T-AH 19 USNS MERCY
T-AH 20 USNS COMFORT

- **Length:** 894 feet / 272 meters
- **Beam:** 106 feet/ 32 meters
- **Draft:** 33 feet/ 10 meters
- **Displacement (full):** 69,360 long tons
- **Speed:** 17.5 knots
- **Endurance:** 13,420 nautical miles
- **Ship's Fuel**: DFM/F76 42,000 Barrels
- **Helo Fuel**: JP-5/F44 90,000 Gallons
- **Shafts:** 1
- **Main Engines:** 2 GE turbines, 2 GE boilers
- **Patient Transfer:** Helo, Small Boat, and Pier side
- **Potable Water**: 300,000 gal/day
- **Chapel**
- **Elevators:** 9
- **Galley –** aft CIVMAR galley & forward Hospital galley
- **Laundry** – hospital laundry, & self-serve laundries
- **Incinerators** – 2 (ship waste & medical waste)
- **VERTREP** (Helo replenishment) & Landing
- **CONREP** (Connected Replenishment & Fueling)
  RAS- replenishment at sea.
  FAS- fueling at sea.
- **INREP** (In port Replenishment)
- **Patient Transfer Boats**: 2 Tenders/Lifeboats
- **Mission gear transport boats**: 2 10M Navy Utility

- **Crew:** (Reduced & Full Operating Status)
  Civilian Mariners: ROS: 36 FOS: 90
  MTF Personnel: ROS 59 FOS: 1,215
- **Total Hospital Beds**: 1,000
- **Intensive Care Beds (ICU):** 88
- **Isolation Ward Beds:** 11
- **Intermediate Care Beds**: 400
- **Minimal Care Beds**: 500
- **Casualty Receiving Stations**: 50
- **Operating Rooms**: 12
- **Blood Bank (Largest in DoD):** 5,000
- **CT Scan:** 01
- **Angiography Suite**: 01
- **Services:**
  - Surgical (General/Ortho/GYN, etc.)
  - Full Laboratory
  - Plain X-ray: 4 Rooms / 5 Portables
  - Optical
  - Dental
  - Pharmacy
  - Telemedicine/Electronic Health Record
  - 0_2 N_2 Plants (2) w/TRIM System
  - Morgue capacity (22)
  - Burn Center/Physical Therapy
- **Hospital Logistics** (78,485 cubic feet)
- **Berthing to support MTF, Hull and DESRON**

Medical Treatment Facility



Surgical Capabilities

General	Orthopedic
Dental	Oral Maxillofacial
Ear/Nose/Throat	Plastics
Obstetric and Gynecology	Urology
Neurosurgery	Pediatric
Ophthalmology	Cardiothoracic (-)

Medical Capabilities

Internal Medicine	Pediatrics
Dermatology	Behavioral Health
Nephrology/Dialysis	Cardiology
Critical Care	Respiratory Therapy
Interventional Radiology	

Ancillary and Support Services Capabilities

Dental Prosthetics	Radiology
Blood Bank	Laboratory
Pharmacy	Medical Equipment Repair
Optometry	Lens Fabrication
Physical Therapy	Occupational Therapy
Dieticians	Medical Supply

Support Capabilities

Patient Movement - Air & Sea

Vertical Patient Transport

- Flight deck currently optimized for H-60
- MERCY flight deck scheduled for expansion in FY20 for the MV-22
- Increase in patients per aircraft and distance allowable from shore

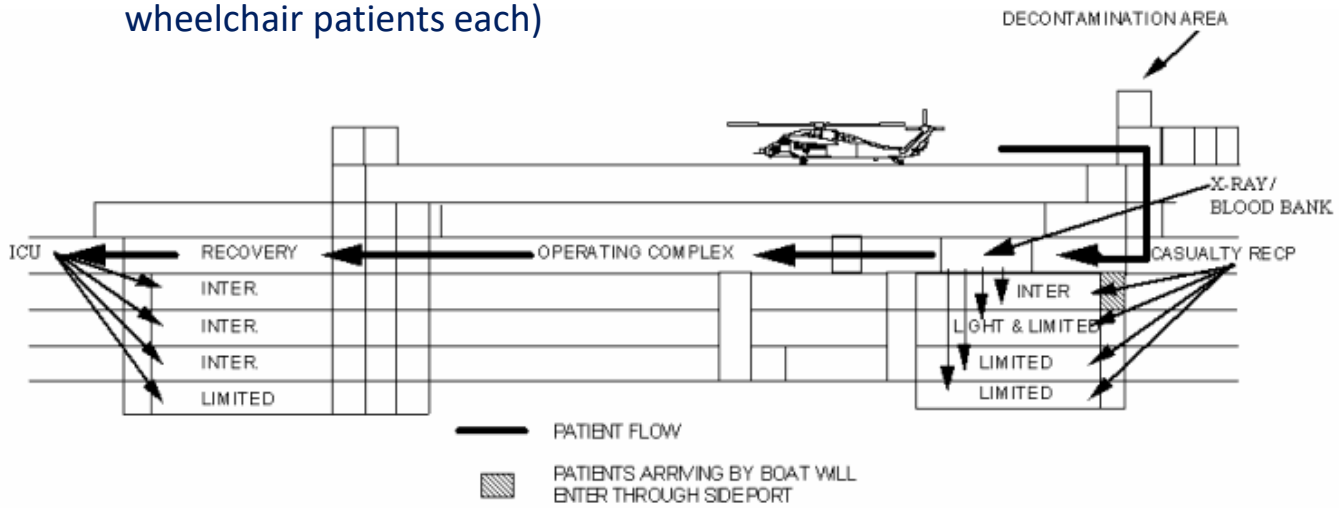
Boat

- Entrance via small boat ramp on starboard side

Patient Throughput

Throughput Capability

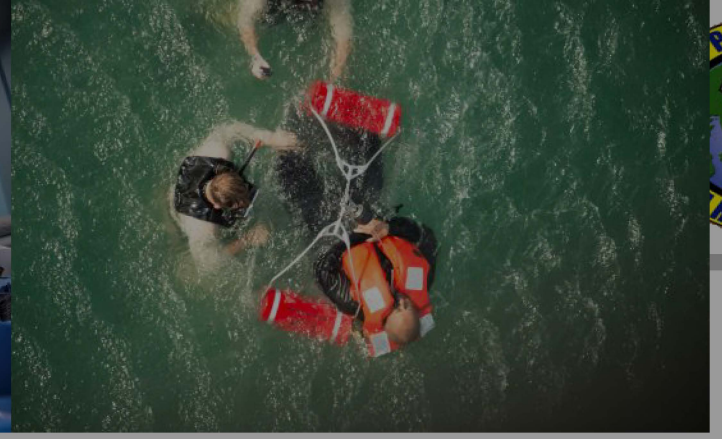
- Flight deck capable of landing H-60 helicopters (8 ambulatory or 3 litter)
  Temporary helo shelter – 2 aircraft
- Side ports to take on patients by sea
  - 2 tender boats (50 ambulatory, 6 litter, and 4 wheelchair patients each)

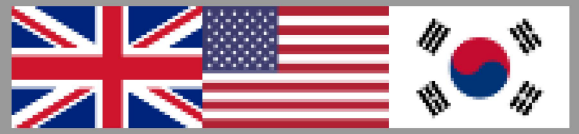


Summary

- MERCY class hospital ships provide an unequaled, Role 3, world-class medical capability that is afloat and expeditionary. They are not quick response vessels, but their large capacity and advanced specialty care bring US healthcare system standards and outcomes far forward.

- The ships:
  - maximize chances of survival in combat and disaster scenarios.
  - provide an unparalleled platform for training, collaborative health exchange, mutual learning, and relationship building.
  - maintain readiness to support combat operations and all hazards events by providing patient care aboard during planned missions.

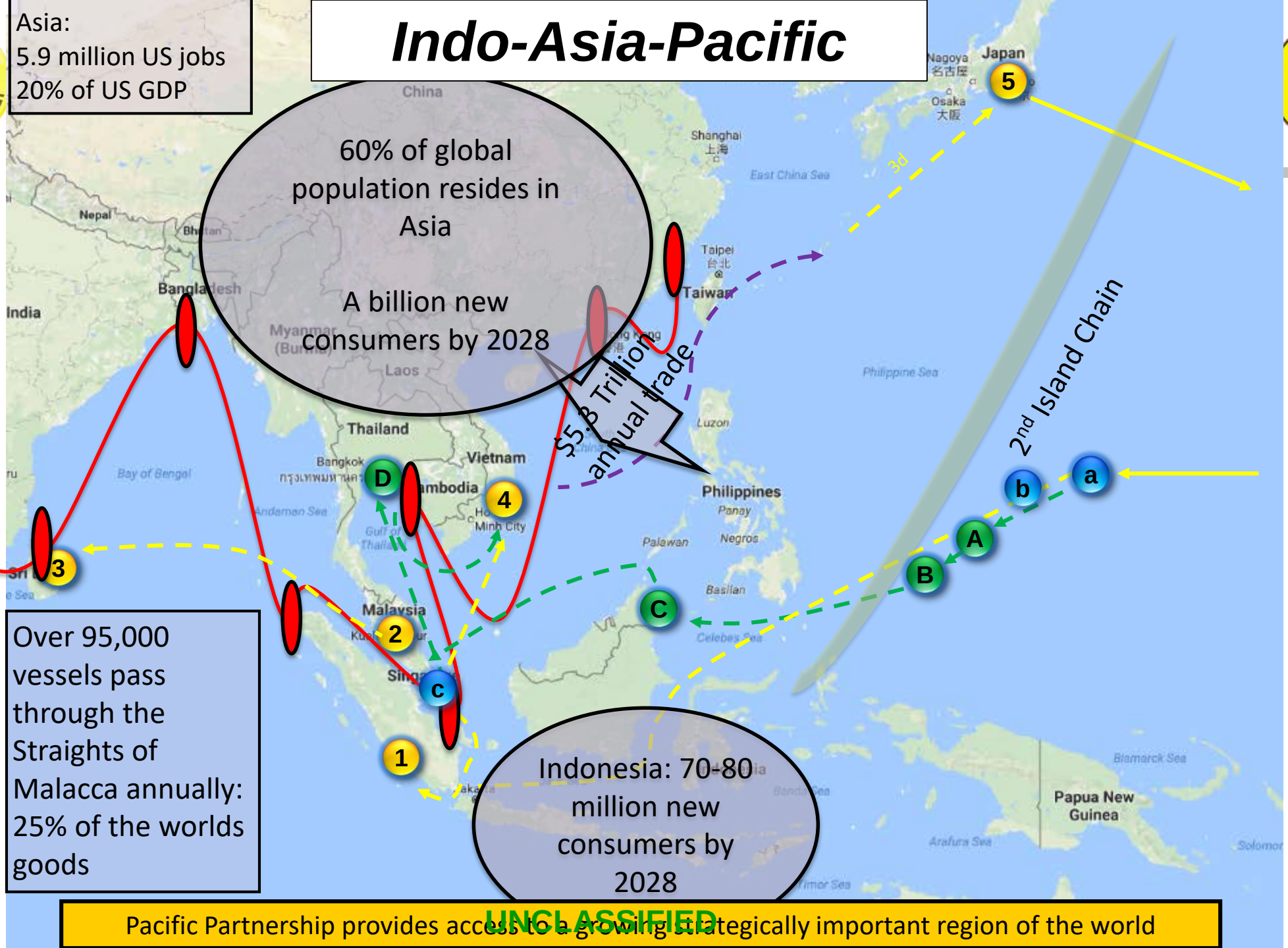




UNCLASSIFIED

Indo-Asia-Pacific

Asia:
5.9 million US jobs
20% of US GDP

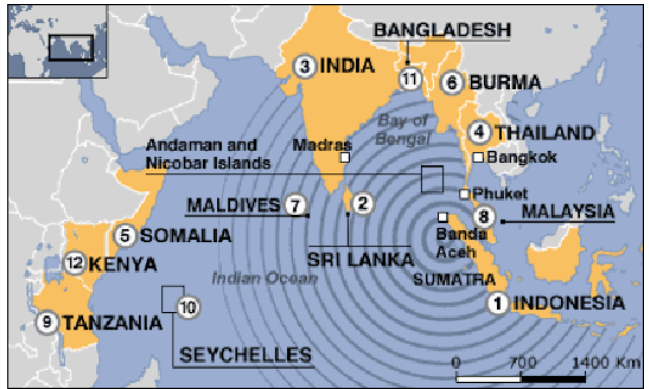


Pacific Partnership provides access to a growing strategically important region of the world

UNCLASSIFIED

Pacific Partnership Origin
"Operation Unified Assistance"

- **Unprecedented multinational relief efforts from the sea following 2004 Indian Ocean tsunami**
- **LINCOLN CSG "First Responder"**
  - **Water & food**
  - **Emergency medical care**
- **BONHOMME RICHARD ESG provided relief**
- **Turnover with USNS MERCY**
  - **Longer term medical care to rebuild capacity in affected areas**



UNCLASSIFIED

Pacific Partnership Evolution

Pacific Partnership History

2006:
USNS MERCY
Philippines
Bangladesh
Indonesia
Timor Leste

2007:
USS PELELIU
Philippines
Vietnam
PNG
Solomon Islands
Marshall Islands

2008:
USNS MERCY
Philippines
Vietnam
Timor Leste
PNG
Micronesia

2009:
USNS MERCY
HMAS WEWAK
HMAS BETANO
Samoa
Tonga
Solomon Islands
Kiribati
Marshall Islands

2010:
USNS MERCY
JS KUNISAKI
HMAS LABUAN
HMAS TARAKAN
HMAS TOBRUK
KRI DR. SHARSO
Vietnam
Cambodia
Indonesia
Timor Leste
PNG

2011:
USS CLEVELAND
HMZS CANTERBURY
HMAS BETANO
HMAS BALIKPAPAN
Tonga
Vanuatu
PNG
Timor Leste
Micronesia

2012:
USNS MERCY
JS OOSUMI
Indonesia
Philippines
Vietnam
Cambodia

2013:
USS PEARL HARBOR
HMAS TOBRUK
HMZS CANTERBURY
HMZS MANAWANUI
JS YAMAGIRI
W. Samoa
Tonga
Marshall Islands
Kiribati
Solomon Islands
PNG

2014:
JS KUNISAKI
Cambodia
Philippines
Vietnam
FLY IN ECHELON
Indonesia
Timor Leste

2015:
USNS MERCY
USNS MILINOCKETT
JS MASHU
Fiji
PNG
Solomon Islands
Kiribati
Philippines
Vietnam

2016:
USNS MERCY
JS SHIMOKITA
KRI DR. SHARSO
Timor Leste
Philippines
Vietnam
Indonesia
Malaysia

2017:
USNS FALLRIVER
Sri Lanka
Myanmar
Malaysia
Vietnam

2018:
USNS MERCY
USNS BRUNSWICK
Indonesia
Japan
Malaysia
Sri Lanka
FSM
Palau
Vietnam
Thailand

UNCLASSIFIED

Pacific Partnership Today

- **Pacific Partnership is an annual mission sponsored by United States Pacific Command (PACOM) and executed by *Pacific Fleet (PACFLT)* in coordination with partner nations (PN).**

- **The Pacific Partnership mission has evolved over time from one focused on direct assistance to disadvantaged populations to one that looks to further regional resiliency, interoperability, and security through subject matter expert exchanges, multilateral engineering and health engagements, and cooperation over a broad spectrum of tailorable objectives specific to the desires of each partner.**

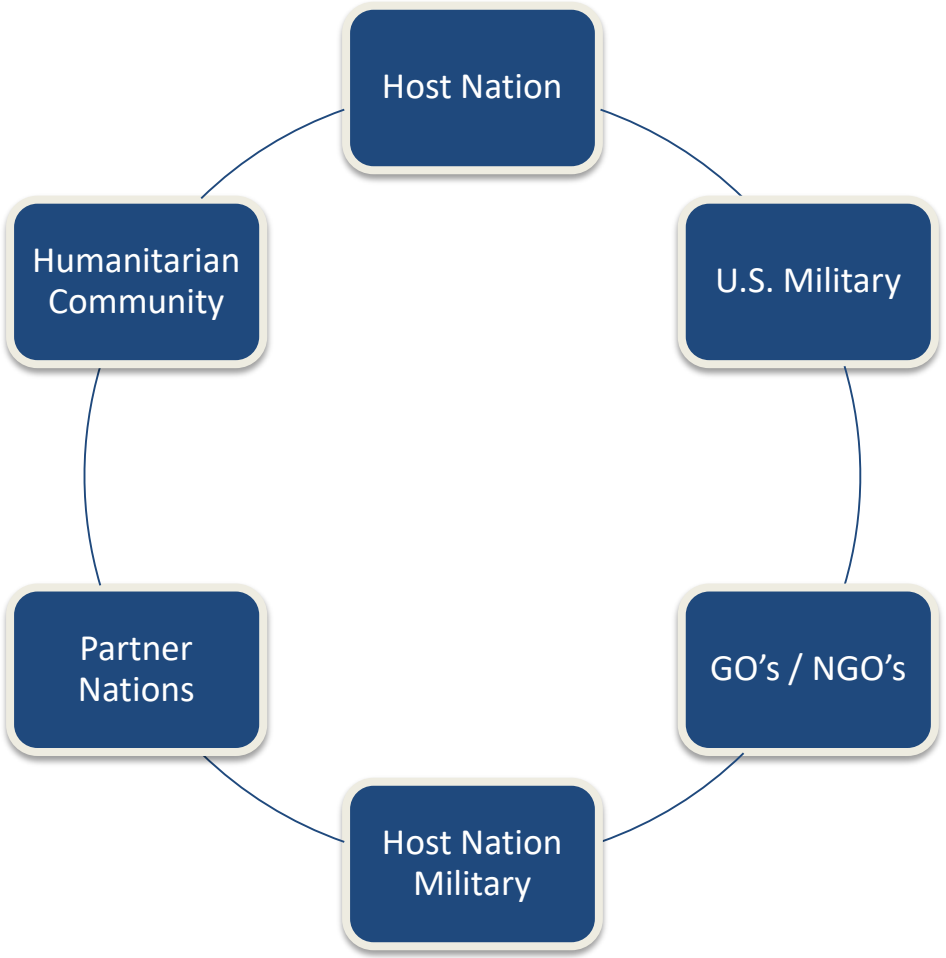
Pacific Partnership Focus of Effort

- ***By*** **invitation of the Host Nation**

- ***With*** **Host Nation personnel**
  - **Military**
  - **Civilian**
    - **Government**
    - **Humanitarian Community**
    - **Private Sector**

- ***Through*** **the Host Nation Government**
  - **National Level**
  - **Regional Level**
  - **Local Level**

The Pacific Partnership Team



Scope of a Pacific Partnership: HADR

- **Humanitarian Assistance and Disaster Recovery**
  - Disaster response/recovery planning & exercises
  - Search and Rescue (SAR) and Airborne Post-Disaster Damage Assessment engagements. Potential topics include (but are not limited to):
  - Interagency Symposium on SAR coordination
  - Symposium discussing employment of airborne platforms to conduct post-disaster damage assessment.
  - Further topics to be determined by a Combined planning team
- **HADR: Maritime Security and Maritime Interagency Coordination**
  - Oil spill response
  - Maritime law enforcement
  - Illegal Unreported and Unregulated fishing
  - Fisheries management and aquaculture best practices
- **HADR: Environmental Security**
  - Oil spill response
  - Climate variability and change
  - Coastal resiliency (to natural disasters)
  - Ecosystem awareness and best management practices

Scope of a Pacific Partnership: Engineering& Community Relations

- **Engineering Subject Matter Expert Exchanges – Potential topic include (but are not limited to)**
  - Disaster resistant structural design & construction practices
  - Post event building damage assessment
  - Coastal protection and erosion control
- **Engineering Civic Action Program projects - Execution with HN and PN engineers is possible with a project focused on humanitarian assistance and disaster preparedness and/or response. Projects could include maritime, health and/or education facility renovation.**
- **Community Relations**
  - Band Engagements
  - Sports Activities
  - Beach Clean Ups

Scope of a Pacific Partnership: Medical

Medical

- Facial Reconstruction (ENT, OMFS, Plastics)
- Interventional Cardiology featuring 3-D Echocardiography
- High Level Surgical Simulations, USNS MERCY
- Complex Ortho Joint Cases
- Restorative Burn Care (Plastics, Dermatology)
- Mental Health Evaluation and Treatment
- Neurosurgery, Thoracic, OB/GYN Surgery
- Anesthesia in complex medical patients
- Underwater Medicine/Hyperbaric Medicine
- NCD Management and Care
- Cancer/Oncology Care
- Radiology (CT/MRI/Plain Film)

Nursing/Hospital Corpsmen

- Advanced Cardiac Life Support
- Pediatric Life Support
- Helping Babies Breath
- Tactical Combat Casualty Care
- Basic First Responder Course
- Biomedical Repair Programs
- Newborn Resuscitation Program
- Critical Care Nursing Ventilator Management
- Medical / Surgical Nursing on Fundamentals
- Complex and Simple Wound Care Management
- Palliative Care in the Hospice Setting
- Behavioral De-escalation Training for First Responders

Allied Health

- Mass Transfusion Protocols, Implementation
- Physical Therapy for the Trauma Patients
- Prosthetics Management
- Walking Blood Bank Programs
- Social Work for Disaster and Emergency Victims
- Clinical Nutrition for NCD’s
- Clinical and Shipboard Pharmacology
- Traditional Medicine Utilization and Guidelines
- Disaster Management Protocols and Implementation
- Addiction Medicine
- Hospital Quality Management Programs

Veterinarian/Prev Med

- Small Farm Management
- Farmer Education for the Bovine Herd
- Mobilizing Farmer Societies for Improved Production
- Small Animal Population Control
- Food and Water Testing Safety
- Vector Control in Ports and Urban Settings
- Assessment of Work Place Occupational Hazards
- Laboratory Assessment of Infectious Diseases
- Public Health Screening during Outbreaks
- Environmental Threat Assessments during HA/DR’s
- Hearing Conservation Programs

Pacific Partnership 2018
Mission Statement

On order, COMPACFLT, in cooperation with Allies, Partners, USPACOM Service Components, and the Interagency conducts combined and joint

All Hazards Operations

in Indo-Asia-Pacific in order to *support internal capability and resiliency* to the effects of All Hazards events; *enhance regional interoperability* and response capabilities; *build and strengthen alliances*, partnerships, and relationships, and *communicate United States Commitment* and resolve *to the security and stability of the region*

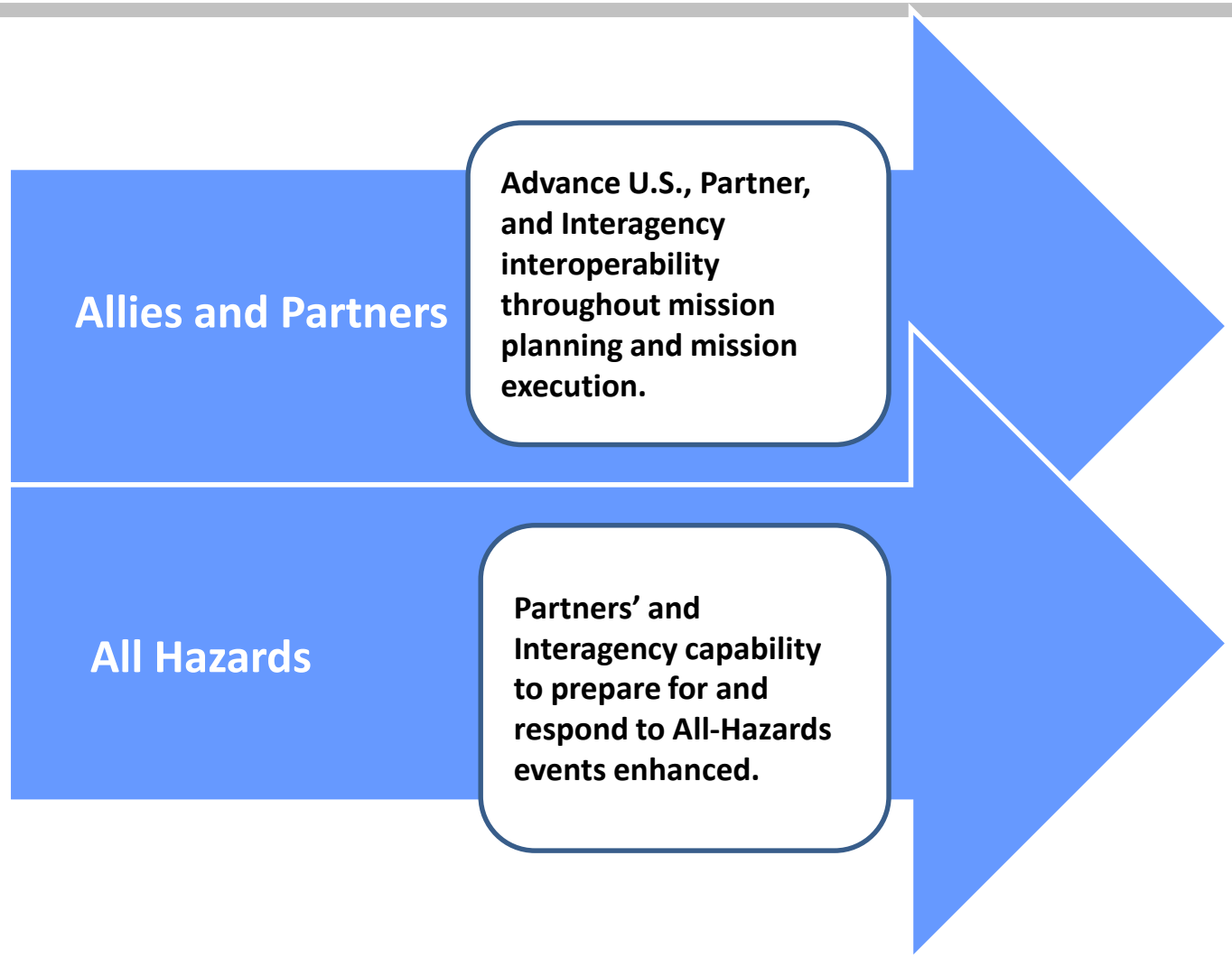
UNCLASSIFIED

What is "All Hazards"?

…as well as non-traditional security threats such as scarcity of critical resources and environmental degradation.

"All Hazards" includes goals for the mitigation of, resiliency from and preparedness to respond to traditional natural and man-made disaster events….

PP18 Objectives and End States



Global Health Engagement

A Paradigm Shift in Pacific Partnership Missions

Pacific Partnership 2018 Medical Line of Effort:

- Requirement for USNS MERCY Role 3 capability (250 beds, 4 ORs)
- Requirement to work side-by-side with Host Nation (HN) civilian and military to accomplish country-specific medical and HA/DR objectives (no longer supporting MEDCAPS or DENCAPS)
- Requirement to focus on capacity building rather than direct patient care
- Requirement for Two Ships, One Crew, One Mission

Planning Pacific Partnership: Milestones
"Occurs over 9 Month Period"

CDC
- **Concept Development Conference**
- 3-5 days in each host nation

IPC
- **Initial Planning Conference**
- 5 day combined planning conference
- *Not Mandatory* – only if time permits

PDSS
- **Pre-Deployment Site Survey**
- 14 day window in each host nation
- Complete prior to MPC

MPC
- **Main Planning Conference**
- 5 day combined planning conference

FPC
- **Final Planning Conference**
- 4-5 day combined conference

Mission Execution
- 7-16 days in each host nation
- 5 months overall

Pacific Partnership Planning:
A Team Effort

Host Nations
USNS MERCY
- Indonesia
- Malaysia
- Sri Lanka
- Vietnam
- Japan

Host Nations
USNS BRUNSWICK
- Yap (FSM)
- Palau
- Malaysia
- Thailand
- Vietnam

Allies / Partners
- Australia
- United Kingdom
- Canada
- Chile
- France
- Japan
- Philippines
- Peru
- Republic of Korea
- Sri Lanka
- Singapore
- Thailand

PACOM
USAID
USDOS
USCG

MSC
- TYCOM SURGEON
- USNS MERCY
- USNS BRUNSWICK

USN
- BUMED
- NMW/NME
- COMPACFLT
- COMTHIRDFLT
- COMSEVENTHFLT
- CTF 73
- CDS 31
- HSC 23 Det 3

USMC
- III MEF

USA
- 83rd CA BN
- AMEDD

USAF
- AFMOA

BUILDING BRIDGES SIDE BY SIDE WITH 12 PARTNER NATIONS IN 8 COUNTRIES

NGOs
- Project Hope
- International Emergency Medicine and Health Support, Japan (IEMS-Japan)

PP18 Medical Manning: USNS MERCY & BRUNSWICK
- Medical Corps
  - 42
- Dental Corps
  - 5
- Nurse Corps
  - 51
- MSC
  - 27
- Corpsman
  - 246

Partner Nation
PP18 Participation

- **Australia (12)**
  - 7 Nurses
  - 3 Physicians
  - 1 Pharmacist
  - 1 Medic
- **Canada (10)**
  - 2 Nurses
  - 2 Pharmacist
  - 6 Medics
- **Chile (1)**
  - Dentist
- **France (2)**
  - Physician
  - Nurse
- **Peru (5)**
  - Physician
  - Engineer
  - 3 Surface Naval Officers
- **Japan (43)**
  - 19 Physicians
  - 3 Dentists
  - 8 Medics
  - 7 Nurses
  - 2 Admin Support
  - 2 Pharmacists
  - 2 Press
- **Philippines (1)**
  - Physician
- **South Korea (2)**
  - 2 Physicians
  - 2 Nurses
- **Singapore (4)**
  - 2 Physicians
  - 1 Medic
  - 1 Admin. Officer
- **Sri Lanka (14)**
  - 3 Physicians
  - 1 Dentist
  - 4 Medics
  - 2 Sailors
  - 4 Engineers
- **Thailand (4)**
  - 2 Physicians
  - 2 Surface Naval Officers
- **United Kingdom (5)**
  - 3 Admin Officers
  - 2 Medics

USNS MERCY and USNS BRUNSWICK
PP18 Scheme of Maneuvers

USNS MERCY (T-AH-19)

		Arrive	Depart
	San Diego		23-Feb
	Pearl Harbor	3-Mar	5-Mar
a	Guam	17-Mar	19-Mar
b	Ulithi	20-Mar	20-Mar
1	Bengkulu	29-Mar	11-Apr
c	Singapore	13-Apr	15-Apr
2	Port Kelang	16-Apr	20-Apr
3	Trincomalee	25-Apr	9-May
4	Nha Trang	17-May	2-Jun
d	Okinawa	7-Jun	9-Jun
5	Yokosuka	12-Jun	16-Jun
5	Tokyo	16-Jun	18-Jun
5	Yokosuka	18-Jun	21-Jun
	RIMPAC	1-Jul	15-Jul
	San Diego	23-Jul	

USNS BRUNSWICK (T-EPF)

		Arrive	Depart
a	Guam		19-Mar
A	Yap	20-Mar	2-Apr
B	Palau	3-Apr	16-Apr
C	Tawau	21-Apr	4-May
	Singapore	09-May	14-May
E	Sattihip	19-May	24-May
4	CRIP	26-May	2-Jun

UNCLASSIFIED

Spearhead Class Expeditionary Fast Transport (EPF) Ships

- On Nov. 13, 2008, the Navy awarded Austal USA, Mobile, Alabama, a $185,433,564 fixed-price for detail design and construction (DD&C) of one EPF, (USNS SPEARHEAD, T-EPF 1).
- Presently 8 EPF ships in service, with 4 under construction.
- Shallow draft, all aluminum, catamaran capable of intra theater personnel and cargo lift
- Can transport 600 short tons of cargo 1,200 miles at an average speed of 35 knots.
- Enable the rapid projection, agile maneuver for HADR and troop/cargo transport.

T-EPF Characteristics/Capabilities

- **Builder:** Austal USA
- **Propulsion:** Water Jet
- **Length:** 103 Meters (338 feet)
- **Beam:** 28.5 meters (93.5 feet)
- **Displacement:** 2500 metric tons
- **Draft:** 13 feet (3.92 meters)
- **Speed:** 35-40 knots
- **Range:** 1,200 nautical miles
- **Crew:** 26 Civilian Mariners
- **Fixed additional berthing**: 104
- **Additional airline seats:** 312
- **Medical:** One small sick bay

"No additional med capability"

Pacific Partnership 2018 Successes

Ulithi Atoll-Anchorage South of Mogmog

73 YEARS LATER

20 MARCH 1945
The USS MERCY was present in Ulithi Atoll on prior to her voyage to Okinawa in support of amphibious operations.

20 MARCH 2018
USNS MERCY returns to Ulithi Atoll with US Ambassador to Federated states of Micronesia-Yap/Ulithi, strengthening ties to this strategic nation. USNS MERCY was the largest U.S. Naval ship to enter atoll since World War II.

Pacific Partnership 2018 Successes

"Expanding all levels of Clinical Capacity"

Robotic Surgery in Sri Lanka

Sri Lanka

- First ever shipboard platelet apheresis was performed onboard MERCY 30 April 2018.
- First ever robotic surgery on a mobile platform was performed onboard MERCY 04 MAY 2018.
- 24 Surgeries performed on USNS MERCY with HN Providers.

Vietnam

- Largest Pacific Partnership mission stop and most complex medical line of effort in Vietnam ever.
- First cooperative health engagement in a Vietnamese military hospital and hospital ship, and the first direct hospital ship (Vietnamese) to hospital ship (US) patient consultation.
- 32 Surgeries performed on USNS MERCY, and 79 Surgeries performed at Vietnamese hospitals with HN Providers.

Side-by-Side Surgical CHE in Vietnam

Pacific Partnership 2018 Successes

"Advancing US Strategic Interests at the Highest Levels"

Indonesia

- First ever United Nations Office of Civil and Humanitarian Affairs course conducted on USNS MERCY.
- First time Navy Medicine supported Operation Komodo (36 nations/49 warships) via MERCY/EPF MTF staff ashore.

Malaysia

- High level military medicine engagements in Port Klang and first successful medical mission in Tawau created strong desire for future partnerships by host nation.

Closing Ceremony, Tokyo

Opening Reception Bengkulu, Indonesia

Japan

- First visit by a US Navy hospital ship since the end of WWII.
- First ever joint exercise between USNH Yokosuka, Japan Maritime Self-Defense Force and USNS MERCY.
- High level military engagements including live JMSDF helo exercises on MERCY.
- High level civilian engagement highlighting all aspects of a hospital ship for HA/DR to Government of Japan.

Pacific Partnership 2018 Successes

"Strengthening Security and Stability"

Federated States of Micronesia, Yap

- USNS MERCY focus on expanding basic capability and clinical capacity via HADR, Cooperative Health Exchanges, and Subject Matter Expert Exchanges.

Palau

- Demonstrated US and Partner Nation commitment to another Strategic Freely Associated State in region.

HADR Exercise, Yap

HADR Exercise, Thailand

Thailand

- First participation in Pacific Partnership, initially cautious with involvement, now enthusiastic; will be host nation in PP19.

Pacific Partnership 2018 Challenges

Credentials and Privileging (C&P)

- Countries are becoming increasingly more strict in their requirements for C & P, with lengthy review periods.
- Host Nation military planners may not know their own country's C & P requirements or approval authority.
- Sri Lanka and Indonesia offered significant C&P challenges that required high level US involvement.

Recommendation

- Need to identify HN authority and regulations that approve foreign national credentials, and begin to work with them immediately upon country identification for future Pacific Partnerships. Needs OPR within COCOMs.

Manning

- Resistance from commands in filling mission requirements due to loss of staff resulting in decreased ability to provide the direct care benefit at their MTF.
- Above magnified by two separate AMDs for PP & RIMPAC.
- HM Food Service Attendants on FSA duty for 150 days. Inadequate manning to allow rotation as in grey hull fleet.
- Little synchrony between EMPARTS and MERCY staffing.

Recommendation

- MTFs need to prioritize deployment mission requirements.
- Staff assigned to MERCY in EMPARTS need to participate in MERCEXs and the actual missions.

Global Health Engagement

- GHE efforts by BUMED and USUHS may not be synchronized with Pacific Partnership planning objectives as determined by PACOM and PACFLT.
- Planners at all levels for PP and other Pacific AOR missions limited by lack of GHE training and experience.

Recommendation

- Continue to develop GHE leaders within Navy Medicine and employ them broadly at COCOM/fleet HQs and Navy Medicine regions.

Other Challenges/Recommendations

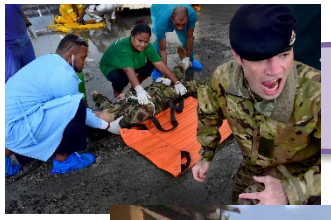
- Higher HQ focus on involving only host nation NGO's resulted in none participating; only one US (Project Hope) and one Japanese NGO (International Emergency Medicine and Health Support, Japan) in PP18.

- Determine funding responsibility early for all personnel requirements above the MERCY's onboard AMD: fly-in echelons, above AMD to include partner nations, Advance Medical Echelon Planning teams, and Pre-Deployment Site Survey teams.

PP18 All Lines of Effort

HADR

18 training events, 6 TTXs and 7 FTXs



Medical

678 engagements, 10,235 HN staff, 13,876 patients, and 62 surgeries on board the Mercy



PAO

Over 5 million individuals reached

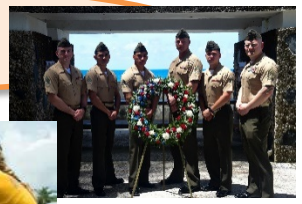
"A sneak peek inside the world's largest hospital ship: USNS Mercy" 3.3 million viewers



>5,000 toured the ships

COMREL

168 events, 63,899 HN participants and audience


Engineer

13 schools, 4 clinics, one hospital and one community hall




PP18 provided a multi-faceted platform that impacted millions of lives throughout the deployment

USNS MERCY Initiatives

SIMULATION
Hyper-realistic trauma training scenarios using state-of-the art trauma simulation manikins and surgical cut-suits. Will increase operational readiness of the medical force in support of the warfighter.

ROBOTIC SURGERY
First time ever in an operational military setting, the da Vinci Xi Robotic Surgical System tested over-the-horizon ship-to-shore clinical interaction technology.

VIRTUAL HEALTH
Virtual health capabilities were tested during PP18 using the CISCO DX80 unit to virtually project imagery from the novice to the expert. Global health and ship to ship/shore assistance concepts were tested.

Operation Komodo, USUHS 4th year student participation, advanced water testing

Water Production on MERCY

Water testing onboard MER

Background

- SMS and NHTP procedures did not allow production of potable water within 12nm from land for crew safety.
- This jeopardized MERCYs participation in PP18.
- MSC allowed a policy amendment contingent upon ability to test water within 12nm of shore for chemical contaminants and mitigate risks.
- FDPMU provided subject matter experts.
- The approved procedure involved testing of water from sea chest for volatile organic compounds (VOC) during ebb and tide using a portable Gas Chromatograph
- Second test point is the discharge from the evaporator. Distilled water is tested for VOCs and microbial life prior to discharging to potable water tanks.
- Results are compared against One Year Military Exposure Guidelines (MEG) for Military Field Standards.

Observations

- Ship was able to produce potable water within 2,000 yards from land on multiple occasions.
- VOC levels were significantly below limits and below what was expected by the lab staff and ship could maintain anchorage close to port.
- On one occasion (Port Klang) ship was able to make water pier side at the cruise terminal.
- Suitability/efficiency of Forward Deployed Preventive Medicine Unit (FDPMU) for Navy ships should be researched until this testing can be automated.
- Addition of the FDPMU could significantly increase the number of ports suitable for visits, and enable continuous operations within 12nm from land.

VOC levels significantly below the MEG

(Example: test results from Sri Lanka 01MAY18)

Quantifiable Analytes Using HAPSITE ER With Headspace Sampling System	Detectable Results FLOOD, 0900 (quantified in ppb)	Detectable Results EBB, 1400 (quantified in ppb)	1 Year Negligible Water MEG (mg/L) (5 L per day)	Within MEG? (Yes/No)
Vinyl Chloride	0.368	0.641	8.4	Yes
Toluene	0.003	0	11.2	Yes
Ethylbenzene	0.002	0	7	Yes
m-xylene/p-xylene	0	0	5.6	Yes
o-xylene	0	0	5.6	Yes
Isopropylbenzene	0.003	0.002	4.2	Yes
1,2,4-Trimethylbenzene	0.002	0	N/A	Yes

Test confirmed all levels below threshold levels

HELICOPTER OPERATIONS STATS

- **Total number of flight deck crew**: HSC-23 – 31 personnel (6 pilots, 16 maintenance, 5 SAR aircrewmen, 1 SAR medical technician); USNS MERCY – 23 personnel (10 ABH, 3 ABF, 2 ABE, 4 BM, 4 HM)
- **Total Flight OPS days**: 48
- **Total Take Off/Landings**: 222 landings, 222 takeoffs on USNS MERCY by HSC-23 aircraft
- **Total # Foreign Aircraft on MERCY**: 1x Sri Lankan Air Force (hoisting), 2x JMSDF
- **Total # US Military Aircraft on MERCY**: 1x USCG, 3x USA, 2 additional USN squadrons (HSC-4, HSC-8)

Aircraft on Mercy Flight Deck 2018

Sri Lankan military members secure a mock patient onto a rescue basket from the flight deck of USNS Mercy (T-AH 19) to prepare for transfer of a patient to a hospital via a Sri Lankan Huey UH-1 helicopter during a humanitarian assistance and disaster response field training exercise in Trincomalee, Sri Lanka. 05/05/18

Sailors assigned to USNS Mercy (T-AH 19), receive a patient from a U.S. Coast Guard MH-65 Dolphin helicopter during a search and rescue and chemical decontamination exercise in support of RIMPAC 2018

Sailors assigned to USNS Mercy (T-AH 19) for Pacific Partnership 2018 (PP18) and Japanese Maritime Self-Defense Force (JMSDF) transfer a mock patient from an SH-60K Sea Hawk helicopter attached to the JMSDF during a bilateral medical training team drill.

Sailors assigned to USNS Mercy (T-AH 19) transfer a mock patient from a Japan Maritime Self-Defense Force destroyer helicopter ship JS Ise (DDH 182) H-60J helicopter during a mass causality drill in support of RIMPAC 2018.

A U.S. Army UH 60M helicopter carrying mock patients lands on the flight deck of USNS Mercy (T AH 19) during a mass causality drill in support of RIMPAC 2018

UNCLASSIFIED

Amateur Radio in HADR

Capability

- MERCY has three (3) full time Amateur Radio Operators.
- The Amateur Radio Shack on MERCY operates on all civilian and military frequency ranges.
- Capabilities are not limited to voice communication (i.e. data, email etc.)
- MERCY can serve as information relay and send radio calls plus data to units around the world.

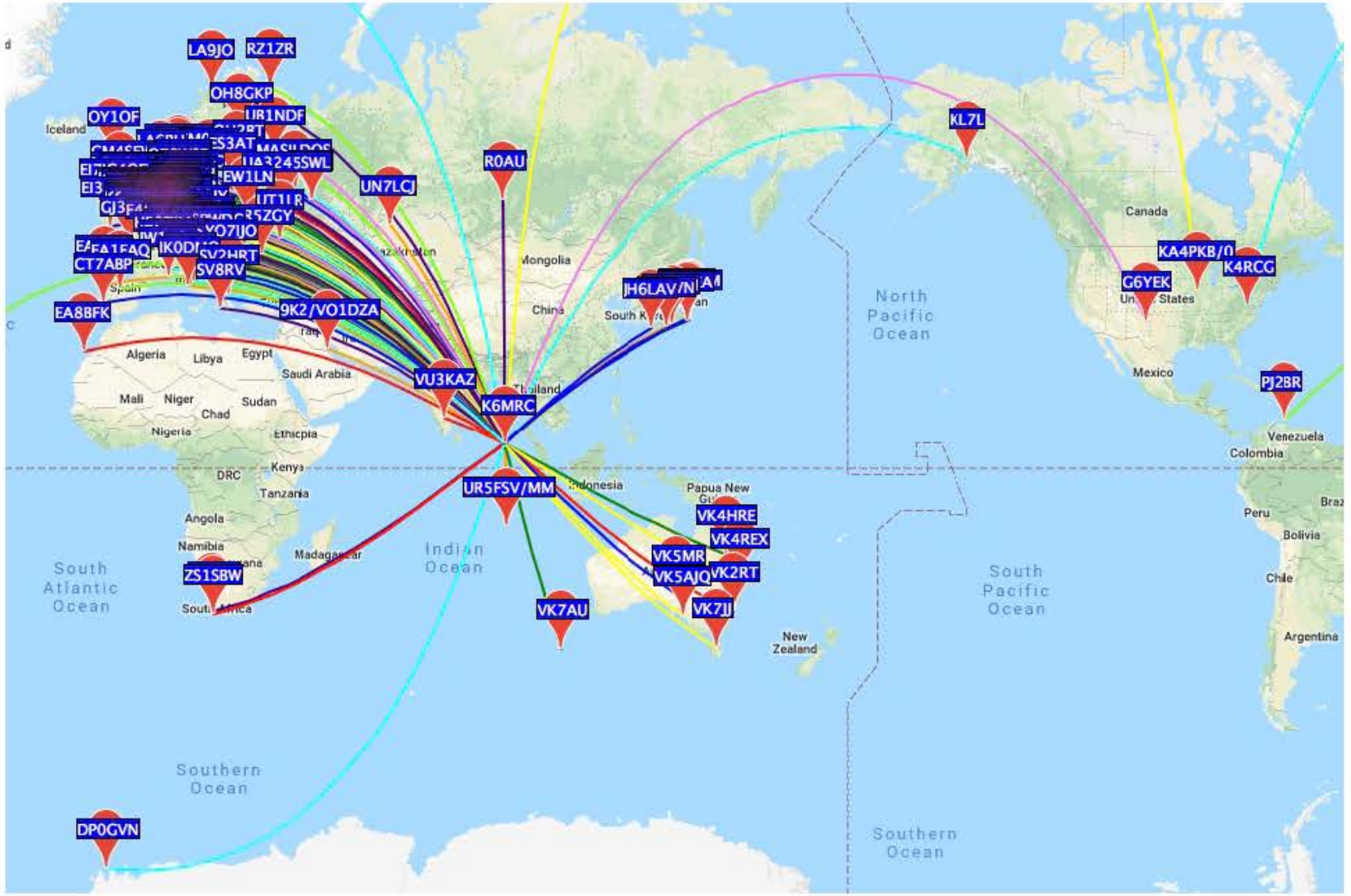
Background

- **RIMPAC 2014**: USNS MERCY HAM radio participates.
- **Pacific Partnership 2015**: MERCY HAM radio operators trained local radio users on Emergency Radio Operations.
- **Pacific Partnership 2018**: MERCY used HF and WSPR (Weak Signal Propagation Reporting), to reach every contient in the world (next slide).
- **RIMPAC 2018**: MERCY was the primary coordination platform for the final HADR event.

- Amateur radio operators can provide a vital communication platform during HADR events.
- MERCY participates in local Southern California Healthcare Network drills, simulating how our Hospital Ship could be used as a coordination platform for MIL/CIV communication partnership.

- "Radio MERCY" has been loaded into the Department of Homeland Security SHARES (Shared Resources) Disaster Response Network.
- Continue local SoCal and regional drill/exercise participation with state and local government.
- Continue to mentor our MERCY Sailors, help them to gain their FCC License, and learn the craft of Amateur Radio!

MERCY HF and WSPR Amateur Radio Signal Reaching Every Continent!



Pacific Partnership 2018
Mission Accomplished!

Overall, the mission was a tremendous success, enhancing United States influence in the region, and paving the way for larger scale engagements in the future.

- Largest Pacific Partnership mission in history.
- Successfully executed mission on two platforms with less manning than in PP 2016.
- Successfully beta-tested a GHE planning tool, WebMAARs, providing key information to enhance planning of future missions.
- Over 5,000 host nation citizens toured the USNS MERCY & BRUNSWICK.
- Trained 132 staff in TCCC: 38 Navy Corpsmen, 74 Non-HM's enlisted/Officers, 20 Vietnamese Providers

Malaysian Trauma Symposium

RIMPAC 2018

RIMPAC WEEK ONE EVENTS

- HADR Senior Leader Symposium
- Medical Symposium hosted by MERCY
- Medical Symposium hosted by Japan Maritime Self Defense Force (JMSDF)
- Ship visits by VADM Alexander (C3F), RDML Tripoli (PACOM Surgeon), RDML Pearigen (Navy Medicine West)
- Open Ship Day Tours for public

RIMPAC WEEK TWO EVENTS

- HADR Exercises and At Sea Phase:
  - Patient movement at sea with MERCY Tender
  - Joint SAR and DECON FTX with USCGC Bertholf and USCG H-60 & H-65
  - Mass casualty exercises with JMSDF Ship Ise and casualties from shore and ship arriving by helo (JMDSF and US Army H-60s)
- Amateur Radio HADR C2 Operational Testing
- Ship visits by LTG Fenton (Deputy PACOM), VADM Faison (Navy Surgeon General), RDML (sel) Fabry / RDML McClelland (PACFLT N4)

Current and Future OPS

- High Visibility and focus from Senior Leadership on MERCY combat support and HADR expertise and capabilities
- Crew training in mass casualty response was enhanced by joint participation with partners and other service components
- USA medevac helos transported patients to MERCY as a flight of three, showcasing team training to receive mass casualties in rapid succession
- Recommend MERCY participate in RIMPAC harbor and at-sea exercises on a yearly basis to maintain hull, CIVMAR and MTF crew training and readiness

MERCY from Ford Island, 4th of July

QUESTIONS?