



# HASTILY FORMED NETWORKS FOR COMPLEX HUMANITARIAN DISASTERS



## AFTER ACTION REPORT AND LESSONS LEARNED FROM THE NAVAL POSTGRADUATE SCHOOL'S RESPONSE TO HURRICANE KATRINA

1 - 30 September 2005

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## **PURPOSE OF DOCUMENT/AUTHORS' CAVEATS**

This document is intended to provide a step-by-step, day-by-day historical synopsis of the Naval Postgraduate School's (NPS) deployment of a Hastily Formed Network (HFN) in the Gulf Coast of Mississippi (MS) in the days immediately after Hurricane Katrina devastated the region. There are myriad Lessons Learned (LLs) from the experience of deploying the HFN, and we attempt to document the LLs as well as make recommendations on ways to mitigate them in the event of communications infrastructure deployment during future disasters. The document, which reads much like the 9/11 Report, is built around a collection of daily Situation Reports (SITREPS) by the NPS/Vendor Team on the ground, a series of personal observations and reports by team members, and a description of the technologies we implemented and integrated. There are a number of subjective analyses of vendor products/equipment, processes, events, relationships, etc., and therefore it is important to point out that the views outlined in this document are the opinions and observations of the authors and other contributors—and are NOT the views of the U.S. Navy or U.S. Government (USG). The intent of the document is NOT to endorse or recommend (or recommend against) future Department of Defense (DoD) or USG acquisition or deployment of specific goods/services.

## **EXECUTIVE SUMMARY**

On the morning of August 29, 2005, Hurricane Katrina came ashore along the Gulf Coast of MS and Louisiana (LA). The damage has still not been fully assessed. If the first six weeks after Katrina is any indication of how communications were inadequate, some may criticize the way various local, state, and federal agencies responded to this event for years to come.

A few days after Hurricane Katrina devastated the U.S. Gulf Coast, NPS in Monterey, California (CA) received a request from Fleet Numerical Meteorology and Oceanography Command (FNMOC) and the Naval Oceanography Center (NAVO) to leverage prior NPS experience in setting up HFNs during the Southeast Asian tsunami by deploying NPS faculty and students and NPS's Nemesis Mobile Research Facility (a 33-foot recreational vehicle (RV) converted into a wireless networks research platform) down to Stennis Space Station, MS to bring NAVO back online with satellite communications (SATCOM)-based Internet access. The NPS Team received DoD guidance/orders as Administrative Control (ADCON) to NPS, Tactical Control (TACON) to Joint Forces Maritime Component Command (JFMCC), and Operational Control (OPCON) to Joint Task Force Katrina (JTF Katrina) to immediately deploy to Mississippi for that mission. Upon deploying to NAVO on 3 September 2005, NPS learned that NAVO was well on their way to reconstituting their broadband connectivity and the NPS Team was redeployed by JFMCC to the Hancock County, MS, Emergency Operations Center (EOC) to assist them with providing SATCOM-enabled broadband wireless Internet connectivity to the county hospital, local government offices, police/fire stations, temporary emergency services locations, and the general public in the towns of Bay St. Louis and Waveland, MS, which were ground zero for Hurricane Katrina.

NPS teamed with the Office of the Assistant Secretary of Defense/Networks and Information Integration (OASD-NII) office and several vendors (Cisco, Microsoft, Redline, and Mercury Data Systems) to create the first and only official and publicly accessible set of broadband wireless hotspot clouds in an area that suffered virtually 100% disruption of all communications capabilities caused by up to 20 feet of storm surge and severe wind damage. The NPS-led team of industry and DoD entities

successfully integrated key wireless technologies (802.11, 802.16, SATCOM, Voice Over Internet Protocol (VoIP)) in a disaster zone, bringing the first Internet connectivity and dial-tone telephony to the entire region. First responders, many local hurricane victims, relief agencies, city/county government, hundreds of volunteers, and local victims/survivors were able to communicate with the outside world for the first time as a result of the HFN this team set up.

Within five hours of NPS's equipment reaching the first site that the EOC requested help with (Hancock County Memorial Hospital), the NPS/Vendor Team had satellite broadband Internet, email, VoIP, and Web access available for myriad agencies that had set up for emergency operations in the hospital parking lot (including the Federal Emergency Management Agency (FEMA), the Federal Protective Service, Florida's Disaster Medical Assistance Teams (DMAT), National Guard Emergency Medical Units, National Guard security units, a Disaster Mortuary Operational Response Team (DMORT), regional ambulance service providers, and the hospital staff). The team then began systematically connecting other local sites (e.g., K-Mart, Wal-Mart, and Fred's Department Store parking lot, among others, which operated as distribution points, emergency operations facilities, and public shelters), via 802.16 WiMAX technology, to the networks. The networks were maintained until the end of September, when FEMA contracted for an outside vendor to first maintain and then replace NPS's HFN.

NPS's ongoing research in HFNs for Humanitarian Assistance/Disaster Relief (HA/DR), particularly their work for the Southeast Asian tsunami and Hurricane Katrina, is being leveraged by OASD-NII as a model for using inexpensive, commercial-off-the-shelf (COTS), integrated wireless technologies to rapidly provide basic, urgently needed communications to disaster zones—both domestic and international. The LLs from these activities will help drive new policy, generate HFN and HA/DR Concepts of Operations (CONOPS), facilitate possible updates to the National Disaster Plan, and help DoD and the USG solve some of the nontechnical, social, and civil-military boundary issues that have become more acute in the spate of recent large-scale disasters.

This After Action Report (AAR)/LLs provide a detailed, day-by-day summary of the response by NPS's team of faculty and students in deploying an HFN in Hancock County, MS. This report captures the observations and recommendations of not

only the NPS participants, but also some of the other participants—nongovernmental organizations (NGO) and commercial companies who participated directly in this effort. Additional information from this NPS-led HFN effort can be found at <http://www.nps.navy.mil/disasterrelief>.

The structure of this report provides an introduction to the event; a timeline with details of team involvement, deployment, network setup and maintenance, transition, and eventual return of NPS personnel to Monterey; details of the network architecture; some overall observations and recommendations; future areas for research; appendices with a list of participants; specific observations and recommendations from individuals and organizations; and references such as the National Response Plan Annex (Emergency Support Function (ESF) -2) covering communications support to disasters.

# TABLE OF CONTENTS

PURPOSE OF DOCUMENT/AUTHORS' CAVEATS .....	i
EXECUTIVE SUMMARY .....	ii
TABLE OF CONTENTS .....	v
LIST OF FIGURES.....	vi
LIST OF ACRONYMS AND ABBREVIATIONS .....	vi
CHAPTER 1 – BACKGROUND.....	1
Introduction .....	1
Timeline .....	2
CHAPTER 2 – NETWORK ARCHITECTURE.....	27
CHAPTER 3 – OVERALL LESSONS LEARNED.....	38
The Nine Pieces of the Puzzle – Integrated/Coordinated .....	38
Power and Tools .....	39
Lifecycle, Network Management, and Decision Issues.....	41
Nontechnical Issues and Challenges.....	48
CHAPTER 4 – FUTURE CHALLENGES AND RESEARCH OPPORTUNITIES .....	51
Disaster Response Planning.....	51
Civil-Military Boundary.....	51
Security of HFN .....	51
Expansion of HFN Capabilities.....	51
APPENDIX A – AUTHOR BIOGRAPHIES.....	A-1
APPENDIX B – LESSONS LEARNED (INDIVIDUAL INPUTS).....	B-1
Submitted by Donald Mullin, Redline Communications.....	B-8
Submitted by LTJG Nate Seaman, USN (NPS Student) .....	B-9
Submitted by Mike Clement (NPS Staff).....	B-13
Submitted by LT Pat Lancaster, USN (NPS Student) .....	B-19
Submitted by 1stLt Rob Lounsbury, USAF (NPS Student) .....	B-30
Submitted by LT Richard Clement, USN (NPS Student).....	B-32
Submitted by Maj Bryan Bradford, USAF (NPS Student).....	B-39
Submitted by Brian Steckler (NPS Faculty).....	B-42
Submitted by CTN1 Mark Mollere, USNR.....	B-45
APPENDIX C – NPS DET KATRINA POINT PAPER.....	C-1
APPENDIX D – NPS DET KATRINA SITREPS .....	D-1

## LIST OF FIGURES

Figure 1. Timeline of NPS Student Involvement .....	2
Figure 2. NPS Team Setting Up NOC in Hancock County Hospital .....	7
Figure 3. Hancock County Hospital Lounge Before Conversion to NPS's NOC .....	8
Figure 4. Hancock County Hospital Lounge After Conversion to NPS's NOC .....	9
Figure 5. 2 <sup>nd</sup> Street Elementary School Internet Cafe.....	10
Figure 6. NPS Student on Power Company Bucket Truck Installing 802.16 Gear in Bay St. Louis on Surviving Antenna Tower .....	13
Figure 7. Waveland PD Satellite Terminal (2 <sup>nd</sup> Satellite Dish in the Infrastructure).....	14
Figure 8. Actual Network Node Locations (as of 20 September 2005).....	28
Figure 9. Logical Network Node Locations (as of 15 September 2005) .....	29
Figure 10. Hancock Medical Center Equipment Locations.....	30
Figure 11. Hancock Medical Center Rack Locations (as of 19 September 2005).....	30
Figure 12. Hancock Medical Center Rack Detail (as of 19 September 2005).....	31
Figure 13. Bay St. Louis Fire Station Equipment Rack.....	31
Figure 14. Bay St. Louis Fire Station 802.16 Antenna Location.....	32
Figure 15. 223 <sup>rd</sup> Engineering Battalion Equipment (as of 19 September 2005).....	33
Figure 16. 2 <sup>nd</sup> Street Elementary School Shelter Antennas (as of 19 September 2005).....	34
Figure 17. 2 <sup>nd</sup> Street Elementary School Shelter Equipment and Users .....	35
Figure 18. Waveland PD Tachyon Dish.....	35
Figure 19. Waveland PD Equipment.....	36
Figure 20. Fred's POD Equipment Location.....	36
Figure 21. Fred's POD User Equipment (inside the blue tent).....	37
Figure 22. The Nine Pieces of the Successful HFN Puzzle.....	39



## LIST OF ACRONYMS AND ABBREVIATIONS

AAR/LL	After Action Report/Lessons Learned
AC	Alternating Current
ADCON	Administrative Control
ADVON	Advance Team
AOIC	Assistant Officer in Charge
AOR	Area of Responsibility
AP	Access Point
ARES	Amateur Radio Disaster Services
AT&T	American Telephone and Telegraph
AUP	Acceptable Use Policy
AZ	Arizona
BLUF	Bottom Line Up Front
BSL	Bay St. Louis
BZ	Bravo Zulu
C2	Command and Control
CA	California
CAPT	Captain (Navy and Marine Corps)
CAT-5	Category 5 (cable)
CCI	COMSEC Controlled Inventory
CDR	Commander (Navy)
CEO	Chief Executive Officer
CERT	Community Emergency Response Team
CHD	Complex Humanitarian Disaster
CMS	Communication Material Security
CO	Commanding Officer
COASTS	Coalition Operating Area Surveillance and Targeting Systems
COC	Command Operation Center
COG	Cognizance
Comms	Communications
COMSEC	Communication Security
CONOPS	Concept of Operations
CONUS	Continental United States
COTS	Commercial-Off-The-Shelf
CSUMB	California State University Monterey Bay
CTN	Cryptologic Technician – Networks
DC	Direct Current
DCE	Defense Coordination Element
DCO	Defense Coordination Office
Dept	Department
Det	Detachment
DHCP	Dynamic Host Configuration Protocol
DHS	Department of Homeland Security
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operational Response Team

DNS	Domain Name System
DoD	Department of Defense
DOT	Department of Transportation
ECTAR	Emergency Communications through Amateur Radio
EMEDS	Expeditionary Medical Support
EOC	Emergency Operations Center
ESF	Emergency Support Function
FCC	Federal Communications Commission
FEDEX	Federal Express
FEMA	Federal Emergency Management Agency
FL	Florida
FLAK	Flyaway Kit
FNMOC	Fleet Numerical Oceanography and Meteorology Command
FPS	Federal Protective Service
FRS	Family Radio System
GETS	Government Emergency Telecommunications Service
GHz	Gigahertz
Govt	Government
GPS	Global Positioning System
GSA	General Services Agency
GSM	Global System for Mobile Communications
GVO	Groove Virtual Office
HA/DR	Humanitarian Assistance/Disaster Relief
HAZMAT	Hazardous Materials
HF	High Frequency
HFN	Hastily Formed Network
HMC	Hancock Medical Center
HP	Horse Power
HQ	Headquarters
iDEN	Integrated Digital Enhanced Network
IDS	Intrusion Detection System
IP	Internet Protocol
ISP	Internet Service Provider
IT	Information Technology
JFMCC	Joint Forces Maritime Component Command
JTF	Joint Task Force
KB	Kilobytes
Kw	Kilowatts
LA	Louisiana
LAN/WAN	Local Area Network/Wide Area Network
LCDR	Lieutenant Commander (Navy)
LL	Lessons Learned
LOS	Line of Sight
LTC	Lieutenant Colonel (Army, Air Force, and Marine Corps)
MB	Megabytes
MEMA	Mississippi Emergency Management Agency

Meth	Methamphetamine
METOC	Meteorological and Oceanography Center
MO	Missouri
MRE	Meals Ready to Eat
MS	Mississippi
NAVO	Naval Oceanography Center
NC	North Carolina
NETWARVAN	Network Warfare Van
NGO	Non Government Organization
NiCad	Nickel Cadmium
NIMS	National Incident Management System
NLOS	Near Line of Sight
NOC	Network Operation Center
NORTHCOM	U.S. Northern Command
NPS	Naval Postgraduate School
NRP	National Response Plan
NTR	Nothing to Report
O&M	Operations and Maintenance
OASD-NII	Office of Assistant Secretary of Defense for Networks and Information Integration
OIC	Officer in Charge
OPAREA	Operating Area
OPCON	Operational Control
OPLAN	Operations Plan
PA	Pennsylvania
PC	Personal Computer
PD	Police Department
PDA	Personal Digital Assistant
POC	Point of Contact
POD	Point of Distribution
POSIT	Position
POV	Personally Owned Vehicle
QOS	Quality of Service
RFID	Radio Frequency Identification
RV	Recreational Vehicle
SATCOM	Satellite Communications
Satphone	Satellite Phone
SEP	September
SITREP	Situation Report
SOP	Standard Operating Procedures
SSID	Service Set Identifier
SUV	Sport Utility Vehicle
TACON	Tactical Control
TDMA	Time Division Multiple Access
TOPO	Topographic
TS/SCI	Top Secret/Sensitive Compartmented Information

TV	Television
TX	Texas
UAV	Unmanned Aerial Vehicle
UHF	Ultra High Frequency
UMV	Unmanned Motorized Vehicle
USAF	U.S. Air Force
USG	U.S. Government
USN	U.S. Navy
USNR	U.S. Navy Reserves
USPACOM	U.S. Pacific Command
UUV	Unmanned Underwater Vehicle
VDC	Volts Direct Current
VHF	Very High Frequency
VIP	Very Important Person
VoIP	Voice over Internet Protocol
VTC	Video Teleconference
WAP	Wireless Application Protocol
WD	Wheel Drive
WiFi	Wireless Fidelity (802.11)
WiMAX	802.16
WPS	Wireless Priority Service
WWT	Worldwide Technologies
XO	Executive Officer

## CHAPTER 1 – BACKGROUND

### Introduction

On August 29, 2005, Hurricane Katrina came ashore along the Gulf Coast of LA and MS. The following is an excerpt from the Wikipedia Website ([http://en.wikipedia.org/wiki/Hurricane\\_Katrina](http://en.wikipedia.org/wiki/Hurricane_Katrina)) describing the hurricane:

Hurricane Katrina was the eleventh named tropical storm, fourth hurricane, third major hurricane, and first Category 5 hurricane of the 2005 Atlantic hurricane season. It was the third most powerful storm of the season, behind Hurricane Wilma and Hurricane Rita, and the sixth-strongest storm ever recorded in the Atlantic basin. It first made landfall as a Category 1 hurricane just north of Miami, Florida on August 25, 2005, then again on August 29 along the Central Gulf Coast near Buras-Triumph, Louisiana as a Category 4 storm. Its storm surge soon breached the levee system that protected New Orleans from Lake Pontchartrain and the Mississippi River. Most of the city was subsequently flooded, mainly by water from the lake. Heavy damage was also inflicted onto the coasts of Mississippi and Alabama, causing Katrina to become the most destructive and costliest natural disaster in the history of the United States.

[As of December 2, 2005] The official death toll now stands at 1,325, the third highest in U.S. history (behind the Galveston Hurricane of 1900 and the Okeechobee Hurricane of 1928). The damage is estimated to be from \$80 to \$130 billion [<http://www.srh.noaa.gov/data/NHC/TWSAT>], at least double from [the] previously most expensive Hurricane Andrew making Katrina the most expensive natural disaster in U.S. history. Over a million people were displaced—a humanitarian crisis on a scale unseen in the U.S. since the Great Depression.

The television and print media gave a lot of attention to New Orleans. The photos on the cover page (upper left courtesy of <http://www.pbase.com/flemingw/katrina>; others taken by NPS Team members) show some of the devastation wrought by the hurricane in Bay St. Louis and Waveland, MS, where the NPS-led team eventually ended up installing the HFN.

NPS involvement began with a request for communications support via the JFMCC from the NAVO, whose facilities at the Stennis Space Center in MS (along with its phone and broadband data services) were rendered 100% inoperable by the storm surge and wind. The timeline in the following section details the story.

## Timeline

The following timeline is useful in that it identifies various LLs “on the fly” as it provides a chronological sequence of events, beginning with the first request for NPS assistance and ending with the return of the last NPS student/faculty members from MS. Figure 1 shows the calendar of events and associated details.

SUN	MON	TUE	WED	THU	FRI	SAT
8/28/05	8/29/05	8/30/05	8/31/05	9/1/05	9/2/05	9/3/05
	Katrina makes landfall				NPS Team Forms	ADVON Dep Team Departs
9/4/05	9/5/05	9/6/05	9/7/05	9/8/05	9/9/05	9/10/05
ADVON Arr JFMCC /Stennis	Retasked to Hancock Co EOC	Hancock Medical Center (HMC) Mission		2 RVs & Ryder Arr HMC 1700 2400 HMC Comms Hot	NOC Online (HMC)	Nemesis Arr HMC 2 <sup>nd</sup> St Elem. up BSL Fire Up
9/11/05	9/12/05	9/13/05	9/14/05	9/15/05	9/16/05	9/17/05
	Waveland PD .16 Shot Installation					Waveland PD Tachyon Installation
9/18/05	9/19/05	9/20/05	9/21/05	9/22/05	9/23/05	9/24/05
Waveland PD Tachyon Up (.16 removed) Personnel Swapout		2 Naval Reservists & final NPS Student arrive (Det PAX=10)				Steckler Dep (Det PAX=9)
9/25/05	9/26/05	9/27/05	9/28/05	9/29/05	9/30/05	10/1/05
1 Nav Res Arr 4 NPS Stu Dep (Det PAX=6)			WWT Rep	3 Nav Res, 1 NPS Stu Dep (Det PAX=2)	1 Nav Res, Dep (Det PAX=1)	

**Figure 1. Timeline of NPS Student Involvement**

**August 31, 2005** – NPS Professor Brian Steckler received a request from FNMOC, Monterey, CA, to assist FNMOC’s sister organization, NAVO, at Stennis Space Station, MS, to get NAVO back online as the two military commands had had only occasional satellite phone communications for the past two days. FNMOC was

familiar with NPS's previous HFN work in Thailand after the December 26, 2004 Southeast Asian tsunami (NPS deployed a similar suite of HFN equipment in the Phuket coast area of Thailand in the days after the tsunami) and knew about NPS's Nemesis Network Warfare Van (NETWARVAN's) deployable wireless terrestrial and satellite communications (SATCOM) capabilities. Professor Steckler was also approached by two NPS students, LCDR Bill Bruce and Capt Steve Urrea,<sup>1</sup> who inquired into the possibility of deploying NPS's HFN to the Gulf as was done for the tsunami and volunteered to deploy in support of the operation. NPS and FNMOCC then began intensive coordination with Joint Task Force Katrina's (JTF Katrina) suborganization, the JFMCC, in order to obtain official tasking/orders to deploy NPS's SATCOM/802.11 WiFi/802.16 WiMAX equipment suite to the Gulf Coast.

**September 1, 2005 (Thursday)** – Received an email (a formal request for support) from JFMCC about 1600 hours stating there was a need to deploy NPS's HFN equipment to assist with hurricane relief in a manner similar to that done in Thailand for tsunami relief.

**September 2, 2005 (Friday)** – After obtaining NPS leadership authorization to send a team to the Gulf Coast, initial planning began under the direction of Professor Steckler and a request for additional volunteers was sent out to other NPS students. The NPS Katrina Team was formed and equipment was inventoried and staged. The team lost some time planning for possible air lift to get them to MS, but ended up driving most of the personnel and the majority of equipment from CA. Airlift opportunities kept surfacing, but in the end we were bumped by medicine, food, and very important person (VIP) tours such that the team decided to just drive down rather than continuously get bumped on airlift requests. *LL: Communications capability should not be second fiddle to medicine, food, and especially VIP tours.* How can any of these be coordinated without communications on the ground first!?

**September 3, 2005 (Saturday)** – The team continued to collect needed materials and prepared to embark equipment. An Advance Team (ADVON) consisting of Professor Steckler, LCDR Bill Bruce, Capt Steve Urrea, and LT Pat Lancaster departed

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<sup>1</sup> Author biographies are in Appendix A of this report.

Monterey, CA for the Gulf Coast via Pensacola, Florida (FL) at 1920 hours, via commercial air.

**September 4, 2005 (Sunday)** – The ADVON arrived at JFMCC Headquarters in Pensacola, FL to brief CDR James Mills, JFMCC J6, on the communications capabilities NPS was bringing and to discuss logistics requirements, chain of command, operational issues, etc. The team was formally given the primary mission to assist the NAVO at Stennis Space Center, MS with restoring data and voice communications. The team arrived at NAVO about 1700 hours and met with the Commanding Officer, CAPT Cousins. They conducted a quick briefing and site survey and agreed to return the next morning. The convoy, consisting of the Nemesis NETWARVAN, a Ryder rental truck, and a personally owned vehicle (POV) for communications, departed NPS around 2000 hours.

**September 5, 2005 (Monday, Labor Day)** – Upon arriving at NAVO, the ADVON noticed commercial telephone company employees and a private SATCOM service provider already working to restore the voice and data communications. Confident the NAVO would soon be fully mission capable, and with CAPT Cousins' concurrence, the JFMCC reassigned the NPS Detachment to provide direct support for the Hancock County, MS, Emergency Operations Center (EOC). The new JFMCC designated mission was to “assist disaster relief efforts along the Gulf of Mexico by installing, operating and maintaining a mobile communications network in areas most devastated by Hurricane Katrina, while maintaining the capability of deploying fly away communication kits to other remote locations.” (NPS Daily SITREP, 06 0400Z SEP05). The JFMCC instructed the team to drive to the Hancock County EOC, find the EOC Commander, and offer our services. The ADVON Officer in Charge (OIC), LCDR Bruce, also reported there were numerous areas with very weak, constantly jammed, or no cell phone/satellite phone coverage. Voice communications in and out of the affected area were difficult due to saturation of limited available circuits.

ADVON was notified by the team driving from CA that the transmission in the Nemesis NETWARVAN broke down in Kingsman, Arizona (AZ) and that it may take several days for repairs. The rest of the convoy continued their drive and made it to Amarillo, Texas (TX). There were now 4 team members in MS, 7 in TX, and 4 in AZ.



**September 6, 2005 (Tuesday)** – The ADVON met with Mr. Randy Pierce, the acting Communications Director (ESF-2) at the Hancock County EOC, and briefed him on their capabilities. Team members collected information from the EOC on the status of regional communications, where communications and emergency services assets were currently deployed in Hancock County, as well as where the assistance centers and shelters (Points of Distribution (PODs)) were located. Once Mr. Pierce understood the team's capabilities, he tasked them first to provide communications to the Hancock Medical Center (HMC) in Bay St. Louis, MS, which is the largest (and only operational) medical facility in area, and then to return to the EOC for further guidance.

LCDR Bruce reported in the 07 1900Z SEP05 SITREP:

All personnel are quite healthy despite long stressful days. Force protection will be an issue in outer areas due to tensions building among victims w/out water, phones, food, etc. Methamphetamine and other drug infested isolated coastal areas are particularly dangerous as addicts are starting to go through withdrawals and targeting others for money, etc.

He went on to suggest the need for the team to have access to classified military networks to obtain and report force protection intelligence information. The team began to investigate this possibility.

**September 7, 2005 (Wednesday)** – En route to conduct the site survey at HMC, the ADVON noticed that the Hancock County Sheriff's Department had established an ad hoc EOC in the parking lot of the Waveland, MS Wal-Mart on Interstate 90. They stopped to survey what communications equipment this EOC had and agreed to attempt to augment communications capabilities once the mission at the hospital was accomplished. The sheriff already had a low bandwidth satellite link that was being provided by a team of first responders from Polk County, FL, but this link was only for first responders, not the general public, NGOs, or other agencies in the Wal-Mart parking lot. The Communications Team lead from Polk County was Mr. Ben Holycross, who agreed to allow the connection of a wireless access point (Rajant Breadcrumb temporarily until Cisco Sky Captain gear became available) to his satellite feed, which, in turn, provided a public (wide open access) wireless hotspot.

The ADVON arrived at HMC and conducted a hasty site survey. The first floor of the hospital was completely destroyed and its entire information technology (IT)

infrastructure was absolutely devastated. A nearby sewage treatment plant and separate chemical treatment plant were inundated by the storm surge, resulting in significant contamination of the hospital's ground floor and rendering it almost completely off limits. However, commercial power (via generators) was slowly being restored. Several entities were already operating out of the parking lot of this hospital site including (but not limited to): FEMA, the Federal Protective Service (FPS), a Disaster Medical Assistance Team (DMAT) (Missouri (MO)), FEMA DMAT (FL), an Air National Guard Expeditionary Medical Support (EMEDS) field hospital, a Disaster Mortuary Operational Response Team (DMORT) (mortuary services), the Gulf Coast Ambulance Service, the American Medical Response, and MS National Guard security units. After some initial difficulties repeatedly having to convince the FEMA Operations Commander on scene of our legitimacy, that we were deployed under the JTF/JFMCC to support/augment communications in the area, and that we would not be charging fees for our services, NPS ADVON personnel began intensive coordination to integrate their personnel and equipment into the operation.

ADVON also identified a multitude of communications requirements they would not be able to satisfy, even after all their equipment arrived from CA. Professor Steckler held a conference call with OASD-NII and others to report on the situation and shortfalls. Professor Steckler also heard that the City of Monterey was considering "adopting" Bay St. Louis and Waveland due to the close ties between FNMOC and NAVO.

**September 8, 2005 (Thursday)** – ADVON completed the site survey at HMC and conducted a driving survey of the locations of some of the shelters and emergency support centers in Bay St. Louis and Waveland. The team members stranded in AZ reported that Nemesis had been repaired and was on the road again. About 1630 hours, the 7-member team arrived at HMC from TX with two rental RVs for lodging and the Ryder truck full of equipment. They immediately began installation of the Tachyon satellite dish and receiver equipment as well as wireless access points. Within five hours of the equipment arriving, the team had the network up and operating at HMC, providing 512KB uplink and 2MB downlink and a wireless cloud that serviced all agencies in and around HMC. Initial capabilities brought to bear to support all agencies

operating out of the hospital parking lot included Internet connectivity, email, and VoIP phone capability with dial capability anywhere in the Continental United States (CONUS), courtesy of a Cisco provided tie-in to their Raleigh, North Carolina (NC) Call Manager system that was set up specifically for Katrina. Immediate users included HMC's leadership, FEMA, DMAT, the Air National Guard, FPS, the American Medical Response Ambulance Service, and miscellaneous emergency responders operating out of the parking lot, as well as the NPS Team and an occasional hospital patient. The first electronic SITREP was transmitted on 08 1900Z SEP05.



**Figure 2. NPS Team Setting Up Network Operations Center (NOC) in Hancock County Hospital**

The team members did a great job getting the network up as quickly as possible. The team also reported success in building relationships with FEMA and the local city authorities. Professor Steckler provided an update to OSD, who subsequently indicated that they planned to send CDR Eric Rasmussen to MS as an observer in the next few days. Professor Steckler reported in the first SITREP there was still a need for access to classified networks—primarily to obtain critical force protection intelligence information as his teams were deploying out in the community to create network WiFi hotspots/clouds without escort and without weapons. In addition, the team had hazardous material (HAZMAT) concerns since the HMC experienced significant chemical spillage

and moreover, raw sewage from a nearby sewage treatment plant that had been forced into the hospital by the storm surge.

**September 9, 2005 (Friday)** – The network installation phase began in earnest when the team split duties and began site surveys at prioritized locations outside HMC. Meanwhile, a portion of the team established the NOC in an old lounge on the first floor of the HMC, clearing away debris, broken glass, etc. Additionally, Nemesis arrived at HMC. All NPS personnel and equipment were now on-site.



**Figure 3. Hancock County Hospital Lounge Before Conversion to NPS's NOC**



**Figure 4. Hancock County Hospital Lounge After Conversion to NPS's NOC**

Civil-military boundary challenges continued due to a lack of coordination between the EOC at Stennis, FEMA, and FPS, which was providing security at HMC. LCDR Bruce reported in the daily SITREP:

Force protection of site on hospital campus is becoming an issue. FEMA security officials only have enough temporary fencing to contain FEMA site and Air National Guard field hospital on [HMC] campus, leaving us exposed to open access on campus. Working with JFMCC Pensacola to determine requisition route, JFMCC or local EOC/FEMA, to obtain more fencing to enclose our site.

The team was then informed that an ad hoc volunteer networking group from San Jose, CA was beginning to arrive, providing over 100 personnel and additional communications equipment to assist in the recovery of communications capabilities.

**September 10, 2005 (Saturday)** – Two additional sites were brought online: the Bay St. Louis 2<sup>nd</sup> Street Elementary School (a hastily formed shelter) and the Bay St. Louis Fire Station. Both locations were connected with Redline 802.16 links from HMC and provided VoIP phones and laptops for Internet access so local citizens

could finally make their very first call to loved ones and attempt to file the necessary nine-page online claims with FEMA. The plan was then to configure Nemesis as a mobile network node.



**Figure 5. 2<sup>nd</sup> Street Elementary School Internet Cafe**

The team was able to overcome force protection concerns by arranging with the FEMA Operations Commander on-site to relocate from its initial location outside of the security perimeter established by FEMA to an area within the security perimeter vacated by a departing DMAT unit. Civil-military coordination became easier as all players started to get on the same page. This day's SITREP stated "many agencies and commands have great intentions but C2 is a must in this environment." The Air National Guard medical unit graciously offered use of their mess facility to NPS personnel.

Commercial vendor representatives began arriving to help support the NPS-led HFN installation operations and maintenance. Ryan Hale and John Taylor from Mercury Data Systems (network technician and CEO), Jim Washington and Barry McElroy from Rajant Corporation (wireless 802.11 Breadcrumb mesh technicians), and Don Mullen and Dave Rumore from Redline Communications (802.16 technicians) arrived.

We quickly realized that the communications requirements were quickly exceeding the capabilities being provided by the NPS HFN. The team expected the current 2Mbps/512Kbps single pipe to quickly become saturated and reported that there was still a dire need for more SATCOM service. Professor Steckler asked OASD-NII for possible assistance with more SATCOM pipes and began to consider implementing Acceptable Use Policies (AUPs) to try to control users sending large videos or pictures out to relatives or colleagues from the network.

**September 11, 2005 (Sunday)** – The Wal-Mart POD was converted into a wireless hotspot by connecting a Breadcrumb wireless mesh access point to the satellite feed already on-site being provided by Polk County first responders.

From the daily SITREP, user demand greatly outnumbered available end-user equipment (e.g., laptops and VoIP phones). A limited number of assets (20 laptops and 4 VoIP phones) couldn't support the "approximately 100+ AIR/ARMY National Guard members, 50 FEMA personnel and over 3,000+ (to date) civilians affected by Katrina, the mayor and numerous other local emergency personnel."

A second Tachyon satellite dish, which had been shipped at the beginning of the evolution, was finally received, but it was missing some parts, thereby causing a delay in installation (expect missing parts in a few days).

**September 12, 2005 (Monday)** – The HFN was further expanded by extending a WiMAX 802.16 link to the Waveland Police Department (PD). The NPS Team also received shipment of additional Redline 802.16 link and Cisco Sky Captain prototype wireless mesh equipment. A Cisco Technical Support Team was to arrive early on Tuesday, 13 September, to assist with installation.

Hurricane survivors began to really benefit from the HFN as the lines of callers grew at the 2<sup>nd</sup> Street Shelter to use the VoIP phones to call loved ones and at the laptops to register for aid from FEMA. At other locations, NGO personnel began accessing the HFN with their own organic WiFi-enabled equipment.

CDR Pete Griffiths (OASD-NII) observer sent from Pentagon arrived. See Appendix B for CDR Griffiths' SITREPs submitted to the Pentagon.

**September 13, 2005 (Tuesday)** – The HFN covered approximately 4 square miles. The team began to experience some technical performance issues with

the HFN equipment. The Breadcrumbs needed Dynamic Host Configuration Protocol (DHCP) disabled if routers on the network had DHCP enabled.

Civil-military boundary issues continued to improve as we coordinated with many NGOs to provide wireless connectivity with as few incompatibilities between communications gear as possible, while enabling the greatest possible volume of traffic over each entity's bandwidth. However, network installation time increased as we awaited lift truck availability to install 802.16 links above the tree line.

Two contractors departed for New Orleans and Dave Rumore, Redline contractor, departed today. Two Cisco technicians arrived late today to assist with installing the new prototype Cisco Sky Captain wireless mesh equipment.

**September 14-16, 2005** – Long-awaited Tachyon parts arrived, but we still didn't have everything we needed (only received one of the two boxes of parts). The team continued to try to bring up the 802.16 link to Waveland PD; they experienced difficulty due to lack of elevation and dense foliage preventing a clear line of sight (LOS) link. The team was able to coordinate use of a satellite link in the Wal-Mart parking lot (provided by Polk County, FL first responders) as the source of the 802.16 link for Waveland PD (far fewer blockages in LOS path). We had reached our limit on available equipment at this point, but were continuing to work with other communications providers to expand the network and its capabilities. This illustrates how critical the sharing of resources was in this environment. Equally vital was the need to have someone collect and prioritize requirements and assign assets.





**Figure 6. NPS Student on Power Company Bucket Truck Installing 802.16 Gear in Bay St. Louis on Surviving Antenna Tower**

The footprint of units at HMC was shrinking. All DMAT and FEMA/FPS personnel began pulling out, along with their shower/sink capability that the NPS Team was using. This complicated the logistics/hygiene issue for the team in the midst of personnel transition and network operations and maintenance (O&M). Luckily, FEMA agreed to allow the NPS Team to use the two travel trailers they left behind. This helped the shower/sink and berthing issue greatly.

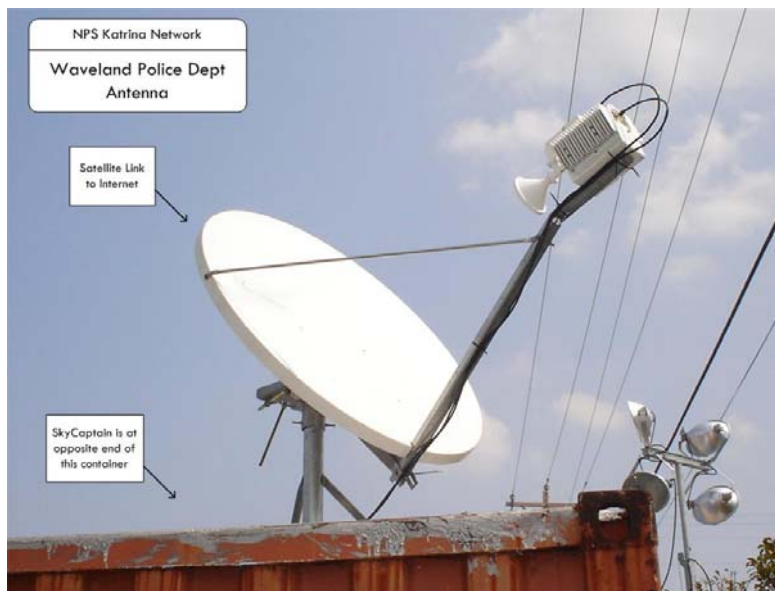
The Bay St. Louis 2<sup>nd</sup> Street Elementary School Shelter is operational despite missing one Breadcrumbs. The Red Cross inadvertently took down a Very High Frequency (VHF) radio mast to which the Breadcrumbs was attached. The NPS Team was able to retrieve the equipment on 15 September.

Local NGOs expressed an interest in not only the capability to communicate via HFNs, but also in a software package or application that would facilitate a common operational picture.

The initial team of NPS students prepared to return to Monterey, to be replaced by a much smaller contingent of students, as well as some Naval Reservists, in the next few days. LCDR Bruce and Professor Steckler began working with NPS leadership and the JFMCC on an exit strategy to ensure that the network would remain operational through

at least the end of September. The outgoing team began preparing pass-down information.

**September 17-18, 2005** – The missing box of Tachyon parts finally arrived and the team began the second suite of SATCOM gear installation at the Waveland PD location. They had to improvise by locally procuring some hardware to complete the assembly and mounting and had some difficulty finding a suitable location for the antenna. Eventually, the team found a good location and brought the equipment online, freeing up a set of 802.16 antennas to be used for the next priority awaiting fulfillment.



**Figure 7. Waveland PD Satellite Terminal (2<sup>nd</sup> Satellite Dish in the Infrastructure)**

Cisco technicians succeeded in installing their new proprietary 802.11a/b/g “Sky Captain” wireless mesh technology at the POD across from the Waveland PD. The team also added another node to support the 223<sup>rd</sup> Engineering Battalion Detachment (about 450 National Guard personnel) working in Bay St. Louis. The team began looking at creative ways to improve and expand the wireless network as well as to add network security and monitoring/management capabilities.

Two engineers (Karen Easterbrook and Adam Sepak) from Microsoft arrived unannounced/unexpected, but were very welcome to discuss their new Wireless Mesh Incubation technology (Venice) with Professor Steckler and CDR Griffiths. Discussions continued as to how Microsoft might best support the relief efforts.

JFMCC J6 informed the team that all support functions would be turned over to civil authorities by 27-30 September, including the network support that the NPS Team was providing to Bay St. Louis and Waveland users. A great deal of coordination would be required for this to happen without adversely affecting services and to ensure proper turnover and accounting if equipment were to be left in place.

The team helped the local community in many other ways beyond the technology provided. The following is an extract from the daily SITREP dated 19 0200Z SEP05:

WHEN THE DET PROVIDED SERVICE TO THE SECOND STREET ELEMENTARY SCHOOL, RELATIONSHIPS WERE FORMED WITH THE FOUNDERS OF THE UNOFFICIAL, TURNED OFFICIAL, POINT OF DISTRIBUTION (POD). ONE IN PARTICULAR WANTED TO RELOCATE TO WEST PALM BEACH, FL, BUT DID NOT HAVE THE FUNDS TO MAKE SUCH TRAVEL, NOR DID HER FRIEND WHO SHE WANTED TO VISIT IN WEST PALM BEACH. ONE OF THE DET MEMBERS THEN MADE A COUPLE OF PHONE CALLS TO THE AIRLINES AND WAS ABLE TO ARRANGE FOR A FREE FLIGHT. THE CEO OF ANGEL FLIGHT GOT WIND OF THIS AND DECIDED TO REALLY CHANGE HER LIFE. THE CEO CONTACTED A DET MEMBER AND TOLD THE DET MEMBER TO TAKE HER TO STENNIS AIRPORT AT A PARTICULAR TIME TO MEET HIM ON HIS PRIVATE PLANE FOR A ONE WAY TRIP TO WEST PALM BEACH. WE ARE HAPPY TO REPORT THAT SHE MADE THAT FLIGHT AND WILL BEGIN WORK AT THE WEST PALM BEACH AIRPORT AND THUS LIVE MORE COMFORTABLY THAN WHEN SHE WAS SLEEPING IN THE OPEN FIELD ACROSS THE STREET FROM SECOND STREET ELEMENTARY SCHOOL IN BAY ST LOUIS. THIS ALL HAPPENED BECAUSE THE DET CARED ABOUT ITS MISSION TO HELP THE CITIZENS AFFECTED BY HURRICANE KATRINA.

**September 19, 2005 (Monday)** – The team continued to operate and maintain the network with nodes established at HMC (NOC), Bay St. Louis Fire Department, 2<sup>nd</sup> Street Elementary School, and the 223<sup>rd</sup> Engineer Battalion in Bay St. Louis, as well as the Waveland PD and Fred's Department Store POD in Waveland. They also established a video-teleconference (VTC) connection with the Wireless Warfare Lab at NPS and a backup VTC (via VSee Internet-based videoconferencing technology) using a Web camera. Both VTCs were working in the NOC at HMC.

Preparations began to weatherize all gear due to Tropical Storm Rita brewing in the Gulf of Mexico. Team members also worked to document the equipment locations to further prepare for eventual turnover to a contractor or civil authorities.

Civil-military relations were good, with much coordination between the EOC, the JFMCC, and the NPS Team following the order for departure NLT 30 September. The SITREP dated 20 0230Z SEP05 read:

EOC LEADERSHIP VOICED THE CONCERN TO MS STATE FEMA/MEMA LEADERSHIP THAT CRITICAL C2 COMMS WOULD BE TAKEN AWAY TOO SOON. THE ORDER TO DEPART WAS RESCINDED (APPARENTLY BY THE GOVERNOR'S OFFICE), AND NPS DET HAS NOW BEEN AUTHORIZED TO STAY UNTIL OUTSIDE SERVICES ARE BROUGHT IN TO PROVIDE THE SAME COMMS THAT DET IS PROVIDING, OR UNTIL THE STATE DEEMS THE SUPPORT IS NO LONGER WARRANTED. JFMCC GUIDANCE IS THAT THIS MUST HAPPEN BY 27 SEP.

**September 20, 2005 (Tuesday)** – Detachment OIC (LCDR Bruce) and the remaining original group of NPS students departed this morning. The NPS-led team's focus was now to maintain services at all locations and prepare for eventual turnover of the network to civil authorities. LCDR Chris Gaucher (USNR) arrived this evening to take over as OIC.

Rita was upgraded from a tropical storm to a hurricane and we began to watch it very closely. The team has weatherized all vehicles and as much equipment as possible and began awaiting guidance from JFMCC J6 on when or if evacuation order will be given.

Civil-military boundary: Transition planning continues. The Hancock County EOC Commander voiced concern to MS state leadership that the NPS network provides critical C2 capability and must remain in place, or be replaced in kind before being removed. The team provided recently completed network documentation to JFMCC J6 and the EOC to assist in identifying resources to take over infrastructure. SITREP dated 21 0530Z SEP 05 read:

DOCUMENTATION WILL BE USED TO ASSIST THE MISSISSIPPI EMERGENCY MANAGEMENT AUTHORITY (MEMA) IN APPLYING FOR STATE FUNDED INFRASTRUCTURE SUPPORT IN THE FUTURE WHEN THE NPS DET DEPARTS FROM THE AREA.

**September 21, 2005 (Wednesday)** – Long days and lots of work as we continued to shrink the size of the team and prepare for possible evacuation due to Hurricane Rita. Our main effort was to maintain the network services and prepare an exit strategy to meet the JFMCC-mandated 30 September 2005 departure date. The team had to be careful at this point to avoid mission creep, as we were constantly being bombarded with requests from nearby communities that were still dark to set up similar infrastructure in their communities. As time permitted, the team continued to improve services in Bay St. Louis and Waveland. Skype Technologies donated 100 vouchers for 250 minutes (each) of free international calling. A team member began investigating the process to configure and load it on a test platform to determine procedure for widespread distribution of donated vouchers.

As reported in the early days of this effort, cell phone coverage continues to be spotty and all circuits are routinely overloaded. Professor Steckler stumbled onto a previously unknown capability to address this issue as reported in the SITREP dated 22 0630Z SEP05:

UPON CALLING ATT'S 611 NUMBER TO ASK IF THERE WAS ANY WAY TO IMPROVE THE CONSTANT BUSY SIGNALS FOR CALLS AND VOICE MAIL ACCESS, HE WAS GIVEN THE PHONE NUMBER OF THE DEPT OF HOMELAND SECURITY GOV'T EMERGENCY TELEPHONE SERVICE [GETS] SYSTEM AND THE WIRELESS PRIORITY SERVICE [WPS]. LONG PROCESS BUT IT ALLOWS CERTAIN GOV'T PERSONNEL TO HAVE PRIORITY SERVICE FOR LAND LINE AND CELL PHONE ACCESS INCLUDING VX MAIL ACCESS. HE WAS UNABLE TO ACCESS VX MAIL ALL DAY, WITH 17 VOICE MAILS PENDING. FACULTY LEAD WAS GIVEN AN ACCT AND THE PROGRAM OFFERED MORE ACCOUNTS IF NECESSARY.

This is referring to the Government Emergency Telephone System (GETS) and the Wireless Priority Service (WPS). Information on these two DHS-run programs will be provided to appropriate personnel upon request. The GETS and WPS programs allow qualified emergency early responders to obtain priority service for plain old telephone service (POTS) and cell phone service.

The team continued to help in ways beyond just technical assistance. One team member noted a bio-hazard situation (rotten meat at the Pearlington, MS POD) and

reported it to the FEMA/Mississippi Emergency Management Agency (MEMA) safety officers for further action.

**September 22, 2005 (Thursday)** – Main effort continued to be maintaining the network services and preparing for Hurricane Rita's effects. The team removed equipment from the Fred's POD location in anticipation of inclement weather. The Waveland PD was still up and users could access the wireless cloud from the area just across the street.

An Associated Press reporter and photographer arrived and captured an action shot of the team moving an antenna atop HMC. Both the OIC and faculty lead were unavailable, so the reporter documented the names and hometowns of those in the photo.

The new Assistant OIC (AOIC) (NPS student Maj Bryan Bradford, USAF) continued to work on the transition strategy. Current issue was maintaining network services as long as possible, while preparing to hand over the network to contractors and/or civil authorities. We provided a point paper (see Appendix C) via JFMCC J6 to the JTF Katrina Defense Coordinating Element (DCE) Officer explaining our mission and current network architecture. Apparently, there was a slight disconnect between the JFMCC and JFT Katrina regarding the JTF's knowledge of the NPS Teams' presence and the services being provided by them.

**September 23, 2005 (Friday)** – Hurricane Rita had us pinned down all day. While we were not in the direct path of the storm, the constant tornado watches and warnings and high winds she was generating kept our movements to a minimum. The team was unable to make their daily rounds due to tornado warnings in lower Hancock County, so the operational status of network nodes could not be determined. Remote network monitoring had not yet been installed on the network.

Transition planning was still progressing. One additional Naval Reservist, standing by in FL, was told to delay his arrival until the storm passed. All NPS students were to return to Monterey, CA NLT 25 September 2005. However, Maj Bradford volunteered to stay and received approval from the NPS Chief of Staff and his Department Chair to remain until 30 September 2005. Inclement weather cost us valuable time in preparing for turn over.

The Team OIC received an important medical advisory from the DCE outlining mandatory actions for all personnel deployed in support of this effort. A medical post-deployment form was provided to the team and forwarded to all personnel who had already departed the area. *LL: Medical post-deployment forms are another of several items that team members need to know ahead of time when possible.* Recommend future event planning include weather as well as medical information as several members of the team had never been in areas subject to tornados and were unfamiliar with tornado evasion, weatherizing equipment, etc.

The faculty lead received an email today as detailed in the 24 0430Z SEP05 SITREP:

Hi Brian,

I am a member of PA3 DMAT. We met during our short stay at Hancock Memorial in Bay St. Louis. I wanted to thank you for the invaluable services you provided the team in the way of Internet and phone connectivity. I know that as much as we appreciated it, the service you provided the community there was appreciated much more as they cannot expect those services restored for some weeks yet. With teams such as yours able to quickly provide connectivity in areas such as we were in where so much infrastructure was destroyed with no hope of quick restoration, communities and governments can quickly re-establish communications so vital to recovery.

I hope your program continues to flourish and is given serious consideration as being part of a formal first response to stricken areas of any disaster.

I'm home now and enjoying those things we all take for granted. I hope you guys solved the shower/sanitation problems created when we were ordered out. Maybe someday the mechanisms will be in place where different agencies can work more closely together without all the red tape. Good luck and stay safe,

George Klinzing, PA3 DMAT Erie, PA

This is another example of how the team touched the lives of many people, not just those who survived Hurricane Katrina, but also those who came to help. This contact has led to further discussions (ongoing) with the PA3 Detachment about future HA/DR collaboration with NPS.

**September 24, 2005 (Saturday)** – Hurricane Rita spared us a direct hit, but we could not return to normal operations yet. Other than high winds, weather was not an

issue, but we were awaiting a location (out of the weather) to reinstall the equipment for Fred's POD.

Civil-military boundary: Terry Knight, the contracting officer from FEMA, called Professor Steckler to discuss necessary items and personnel to take over the network. He wanted to discuss the transfer of equipment and skill sets needed to keep the network running.

Cisco technicians called to see what help we needed. We suggested an additional router, power supplies for VoIP phones, extended life VoIP phone batteries and additional CAT-5 cable to help improve connectivity for additional VoIP phones at the 223<sup>rd</sup> Engineer Battalion location. *LL: Stock/included batteries for the Cisco 7920 VoIP phones last only an hour at most—versus three-hour optional long life batteries.*

Faculty lead departed tonight, and all NPS students but one are to leave the next day. That brought the Detachment personnel count down to only 6 (2 officers and 4 enlisted technicians). The OIC stated in the SITREP dated 25 0430Z SEP05:

CONCERN THAT THIS SMALL TEAM WILL HAVE DIFFICULTY CONTINUING TO MAINTAIN THIS FRAGILE HFN UNTIL EXPECTED TURNOVER TO CIVIL AUTHORITIES OR FEMA CONTRACTED VENDOR/S.

To further complicate things, personnel replacements at the Defense Coordination Office (DCO) in Jackson, MS forced us to brief our situation again to a new group of DCO personnel. CAPT Dave Picou, USN, replaced CAPT Lawing and we provided him with all the relevant information to bring him up to speed. LCDR Gaucher told him the local authorities were vitally interested in, and virtually dependent on, someone maintaining the current network as well as increasing capability to areas throughout northern Hancock County. We were told to expect a contract award “this weekend” for replacement personnel to take over operations before the end of the coming week (SITREP 25 0430Z SEP05).

**September 25, 2005 (Sunday)** – Our main effort was focused on maintaining the network and continuing to plan for transition—we had officially transitioned from “create” to “sustain” mode with respect to the network. Our team was at its smallest size (6 personnel) and we were working to continue daily rounds to all the sites as well as preparing to transition the network to whoever wins the FEMA contract. In addition, we



began to have errors with some of the Breadcrumbs (traced to battery problems) and started replacing them with Cisco Sky Captain (or similar) wireless access points (APs). On a positive note, the team received some welcomed help in the form of a Cisco technician (Chris Verges). Chris quickly jumped in and during the daily rounds began helping look for ways to improve the current network. Chris and all the technicians from Cisco have been a great help.

In the absence of firm information, we planned numerous options for redeployment of personnel and vehicles. All of these options assumed the network equipment currently in place would remain behind. We coordinated with local military authorities at Stennis Space Station to park the Nemesis vehicle and Ryder truck there for an undetermined amount of time until NPS faculty or staff can retrieve them. Four personnel (Maj Bradford and three Reservists) planned to drive the two RVs back to Dallas, unless the Contractor Team wanted to take them over.

We received word from the DCO's office (LTC Wyrick) that contractor relief would be expected on Tuesday or Wednesday of this week. Details of the contract were being worked out for the relief to be in place and ready to operate the network before our scheduled 30 September departure.

The Air Guard EMEDS Team returned from the voluntary evacuation due to Hurricane Rita with the full security detachment. This was good news for the NPS Team that decided to weather out Rita at the Hospital/NOC with little to no force protection.

**September 26, 2005 (Monday)** – Our main effort was focused on continuing to maintain the network and planning for transition. We learned the hard lesson that HFNs that are hastily maintained need to have some of the equipment replaced after a period of approximately 14 days. In this vein, Breadcrumbs seem to be a good short-term solution, but did not meet the test for long deployment in an HFN.

Our transition plan was firming up; the plan was:

1. Tuesday: replace more equipment in the network.
2. Wednesday: park Nemesis and the Ryder truck at NAVO Stennis and begin turnover with the Contractor Team.
3. Thursday: two team members remain to continue turn over and four members begin driving two RVs back to Dallas to return to RV leasing company.

4. Friday: turnover between NPS Team and contractor personnel would be complete and all team members return to home station.
5. Return rental cars.

This still assumed the contractors would take over existing network equipment.

Civil-military boundary: The OIC received a call from an Associated Press reporter asking about people our services have helped. He passed on to the reporter the phone numbers for the Waveland PD and Mayor, and the Bay St. Louis Fire Chief and Mayor. He also notified the Deputy DCO. Another good news story also occurred today. As reported by LCDR Gaucher in the SITREP dated 27 0430Z SEP05:

AFTER FINDING OUT LAST WEEK THAT THE BAY ST. LOUIS MAYOR HAD BOTH OF HIS PERSONAL AND OFFICE COMPUTERS DAMAGED BY FLOODING DURING THE HURRICANE, THE TEAM CONFIGURED TWO LAPTOPS FOR CITY MANAGEMENT USE AND PRESENTED THEM TO HIM TODAY....HE WAS QUITE OVERWHELMED AND THANKFUL FOR OUR GENEROSITY. A VERY EMOTIONAL EXPERIENCE... TWO TEAM MEMBERS FROM CISCO PRESENTED HIM A CISCO HAT AND A COUPLE OF CISCO GOLF SHIRTS WHICH WERE ALSO WELL RECEIVED SINCE THE MAYOR HAD LITTLE MORE THAN THE CLOTHES ON HIS BACK WHEN THE HURRICANE HIT. I ALSO HAD THE OPPORTUNITY TO WALK AROUND THE FIRE HOUSE AND MEET WITH THE FIRE CHIEF AND A NUMBER OF VOLUNTEER FIREFIGHTERS FROM OTHER PARTS OF THE STATE AND COUNTRY. IMPRESSIVE TO SEE THE DEDICATION FIREFIGHTERS HAVE TO ONE ANOTHER EVEN FROM DIFFERENT PARTS OF THE COUNTRY. THEY HAD COME TO RELIEVE THEIR COLLEAGUES FROM DUTY, MANY OF WHOM HAD LOST THEIR OWN HOMES. I MET SOME FROM SAN DIEGO, CALIFORNIA; FAIRFAX, VIRGINIA; COLUMBIA, SOUTH CAROLINA; AND VICKSBURG, MS. OVERALL A GOOD DAY....WONDERFUL PEOPLE HERE WHO ARE ALL WELL DESERVING AND EQUALLY GRATEFUL FOR EVERYTHING WE ARE DOING FOR THEM....GREAT FEELING TO BE HELPING AMERICANS ON AMERICAN SOIL.

These are further examples of how everyone has pitched in to help their fellow citizens in this time of need.

**September 27, 2005 (Tuesday)** – Our main effort was focused on preparing for transition, while also maintaining the network. We found out a contract was awarded and

the replacement personnel should begin arriving on Wednesday, 28 September. Therefore, we decided to execute the plan reported the previous day and began making preparations to do so with one modification. CTN1 Mollere (USNR), one of the Navy Reserve team members who had relatives in Waveland, decided to extend his reserve time. If the details could be worked out with his command, he would depart as planned on 30 September and return on 1 October to begin his reserve drill time. We also encountered a small hurdle in preparing for the return of the RVs. The Reservists required amended orders to permit them to drive to Dallas and fly home from there. We began working this issue vigorously.

In accordance with our transition plan, the team returned two rental cars to Gulfport and enjoyed a well-earned meal in a “sit down” restaurant for the first time since arriving.

Civil-military boundary: Maj Bradford contacted FEMA regarding the disposition of the two travel trailers the team had been using since FEMA departed the area. FEMA granted an extension of at least two weeks and agreed to allow HMC personnel to use the trailers as living quarters for doctors who will be opening the Emergency Room soon.

The team continued to help the community in many ways beyond the network services we provided. As reported in the SITREP dated 28 0430Z SEP05:

PRIOR TO ARRIVING ON STATION, CTN1 MOLLERE (FROM THE PENSACOLA NSGR UNIT) VOLUNTEERED FOR THIS DUTY AS HIS FAMILY HAD BEEN AFFECTED BY HURRICANE KATRINA. HE NOTED TO ME THAT HIS AUNT HAD PERISHED DURING THE STORM, BUT OTHERS HAD SURVIVED. UNFORTUNATELY, THEIR HOUSES WERE DESTROYED. HIS COUSIN BRIAN RODE OUT THE WAVES OF THE STORM ABOVE THE TREETOPS WITH HIS DOG “ROCKY” BY HIS SIDE. BOTH MIRACULOUSLY SURVIVED. IF ANY OF YOU HAVE HAD THE OPPORTUNITY TO SEE THE TV COVERAGE, THIS IS THE GENTLEMEN WHO LIVES ACROSS THE STREET FROM WHAT WAS ONCE WAVELAND CITY HALL AND HAS BEEN INTERVIEWED BY CNN, ABC, AND OTHERS....SO....DURING THE RV PREPARATION AND CLEANING, WE TOOK ALL OF OUR SPARE SLEEPING BAGS, CANNED GOODS, AND OTHER SUPPLIES THAT WE KNEW WE COULD NOT USE OR SAVE AND CTN1 MOLLERE TOOK THEM TO HIS FAMILY. THEY WERE VERY GRATEFUL AND PROBABLY OUR MOST DESERVING OF RECIPIENTS. GIVEN THAT MOST OF

OUR CAMPING EQUIPMENT WAS DONATED BY A LOCAL MONTEREY BUSINESSMAN, HE CAN BE ASSURED THAT THE EQUIPMENT WENT TO A MOST DESERVING FAMILY OF ONE OF OUR OWN.

**September 28, 2005 (Wednesday)** – The network continued to perform well since the replacement of some of the HFN equipment originally deployed. Our main focus remained on transition preparation and maintaining the network services. The team was finally able to get Skype voucher issues worked out and we provided 100 vouchers, totaling 2,500 minutes of “free” calls, to relief workers and local victims/survivors at the “Internet Cafés” we had set up at Fred’s and other PODs. The relief workers, several of whom happened to be tech savvy, helped the local survivors load and begin using the vouchers and provided feedback to the team. Once they ran out of these vouchers, the team provided them with more.

Robert Kirkpatrick from Microsoft’s Groove Virtual Office (GVO) support office returned today to assist the Air Guard EMEDS personnel with installing and using Groove in their facilities in the Hancock County Hospital parking lot. They were very excited.

In accordance with our transition plan, the team parked Nemesis and the Ryder truck at NAVO Stennis today. All equipment not currently installed on the active network was stored in the Ryder for later return to Monterey, CA. Tomorrow morning, four team members will drive the two RVs back to Dallas.

James McCullough of World Wide Technologies (WWT)—the FEMA/General Services Agency (GSA) contracted vendor assigned to assume, and eventually replace, our infrastructure—arrived late today (almost 2000 hours) and we began our turnover to him. Additional WWT personnel are expected to arrive beginning on 29 September. During our initial meeting, we found out that WWT had not arranged for berthing and therefore needed accommodations for their team, but could not work the logistics of letting them “keep” the two RVs from Dallas in time. Unfortunately, due to the order modifications we just finished processing and the commitment to already return the RVs, WWT had to rent their own RVs (St. Louis, MO was the closest RV rental location they could find) and drove them to MS.

**September 29, 2005 (Thursday)** – Our main effort was to continue transitioning the network to WWT. Two team members (both Naval Security Group Reservists) remained to continue turn over with WWT personnel. Cisco was involved as a subcontractor and Jaime MacLain and Chris Verges, who had been with the team for the last several days, were already up to speed on equipment locations and services. James McCullough of WWT made initial rounds with the NPS Team to meet local POCs (and to conduct face-to-face turnover of network personnel with the end users) and learn where the nodes were. In addition to maintaining the network and providing turn over, the team was able to expand the network to reach the Bay St. Louis Senior Center across from the Fire Station. We were now providing VoIP service to a location that previously had only a cell phone with a broken ringer. There were now seven nodes on the network.

Skype had been well received and continued to be provided to local users—who now enjoyed the capability to make absolutely free global long distance phone calls with just a laptop and a microphone/headset combo, many of which were provided by the NPS Team in the “Internet Cafés.” The team was awaiting feedback from local relief workers and standing by with more vouchers.

CTN1 Mollere received approval to return on 1 October and continued to assist with the transition.

The two RVs were safely delivered to Dallas after a very long drive and the four team members spent the night there before returning to Monterey, CA the following day.

Professor Steckler volunteered to bring the storm-damaged laptop and computer hard drives of the Bay St. Louis Mayor (Eddie Favre) back to San Jose, CA, in an attempt to recover the data on the drives.

**September 30, 2005 (Friday)** – Our main effort was focused on completing the transition to WWT/Cisco and getting all members of the NPS Team safely back home. CTN1 Mollere was to return 1-8 October as an independent reservist conducting remote weekend drill. His duties were to include providing the NPS Team with continual daily SITREPS of the transition, etc. Two more WWT contractors arrived on-site.

As required by the MS governor, all NPS Detachment Katrina personnel exited the Area of Responsibility (AOR) today. As reported by LCDR Gaucher in the final SITREP dated 30 1830Z SEP05:

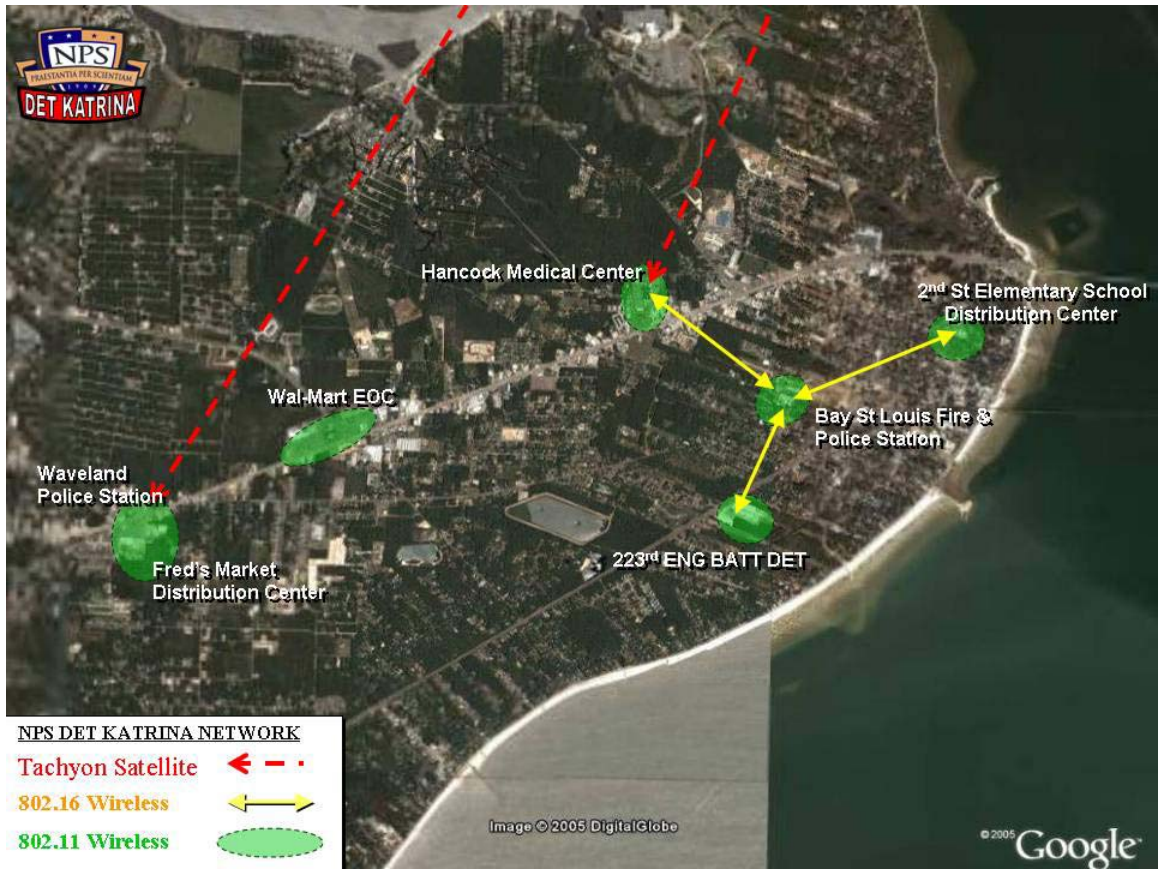
TEAM IS RETURNING HOME WITH THE SATISFACTION THAT WE “DID GOOD THINGS” ON THE GROUND THERE IN WAVELAND AND BAY ST. LOUIS, MISSISSIPPI. OUR HOPE, AND INTENTION, IS THAT THE LESSONS LEARNED FROM THIS ENDEAVOR WILL IMPROVE THE MANNER IN WHICH VITAL COMMUNICATIONS LINKS AMONG CIVIL AUTHORITIES AND FIRST RESPONDERS AND BETWEEN SURVIVORS AND DISTANT FAMILY MEMBERS ARE DELIVERED IN FUTURE DISASTERS...I AM SURE ALL TEAM MEMBERS, PAST AND PRESENT, WILL JOIN ME IN SAYING THANK YOU FOR THE OPPORTUNITY TO BE A PART OF THIS FANTASTIC JOURNEY AND ALLOWING US THE CHANCE TO MAKE A SMALL DIFFERENCE IN THE LIVES OF THE PEOPLE OF THE COUNTY OF HANCOCK IN THE GREAT STATE OF MISSISSIPPI.... MISSION COMPLETE...

Indeed, the team performed a job well done, but the story is not quite complete.

**October 1-8, 2005** – CTN1 Mollere returned to Bay St. Louis to continue assisting the WWT/Cisco Team in maintaining the network. He departed on 8 October.

## CHAPTER 2 – NETWORK ARCHITECTURE

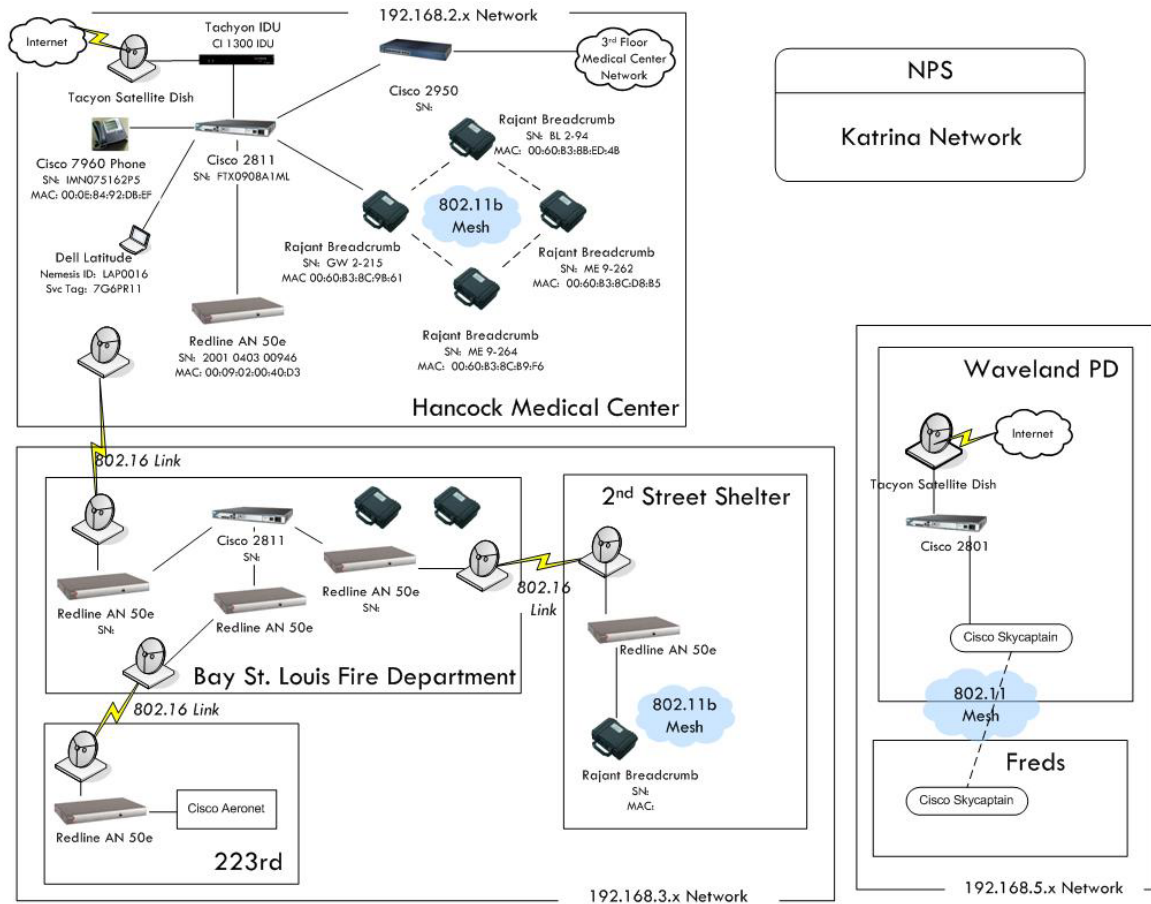
The NPS HFN supporting Hancock County, MS evolved from one node providing voice and data connectivity to first responder organizations located in the parking lot of HMC to seven nodes with hundreds of users at the county hospital, local government offices, police/fire stations, temporary emergency services locations, and department store parking lots turned into PODs and victim shelters. Figure 8 shows the overlay map of where the NPS network nodes were located as of 20 September 2005. By this time, there were two Tachyon satellite feeds; one located at HMC and one at the Waveland PD. Tachyon (a San Diego SATCOM service provider), through NPS liaison, was commendably providing free broadband Internet access for both of the terminals for the duration of the deployment. Each provided a 2MB downlink and 512KB uplink. The Waveland satellite link provided access to the “cloud” for both the Waveland PD and Fred’s POD. The HMC satellite link provided connectivity to the “cloud” for HMC and three additional locations in Bay St. Louis: the fire/police station, the 2<sup>nd</sup> Street Elementary School Shelter, and the 223<sup>rd</sup> Engineering Battalion Detachment. The NPS Team supplied a limited number of laptops and VoIP phones at the various locations, which provided Internet and voice connectivity.



**Figure 8. Actual Network Node Locations (as of 20 September 2005)**

Figure 9 shows the logical network layout as of 15 September 2005 (Visio drawing provided by Karen Easterbrook of Microsoft, who was on the ground with the Katrina Team for several days, offering help wherever needed). This better illustrates the equipment and services provided at each end user location. All sites provided Web, email, and VoIP services.





**Figure 9. Logical Network Node Locations (as of 15 September 2005)**

HMC was the site of the NOC and the Command Operations Center (COC), as well as the home base for the team’s lodging. In addition to the common services, the NOC at HMC also had video-teleconferencing capability. Although the team ran out of time to bring it online, they also had network monitoring tools ready to implement that would have allowed for remote administration/monitoring/maintenance of the outlying sites. The photos on the following pages were developed as part of the private contractor turnover package to ensure a smooth transition. The photos also show some of the equipment installed and users at the various locations.

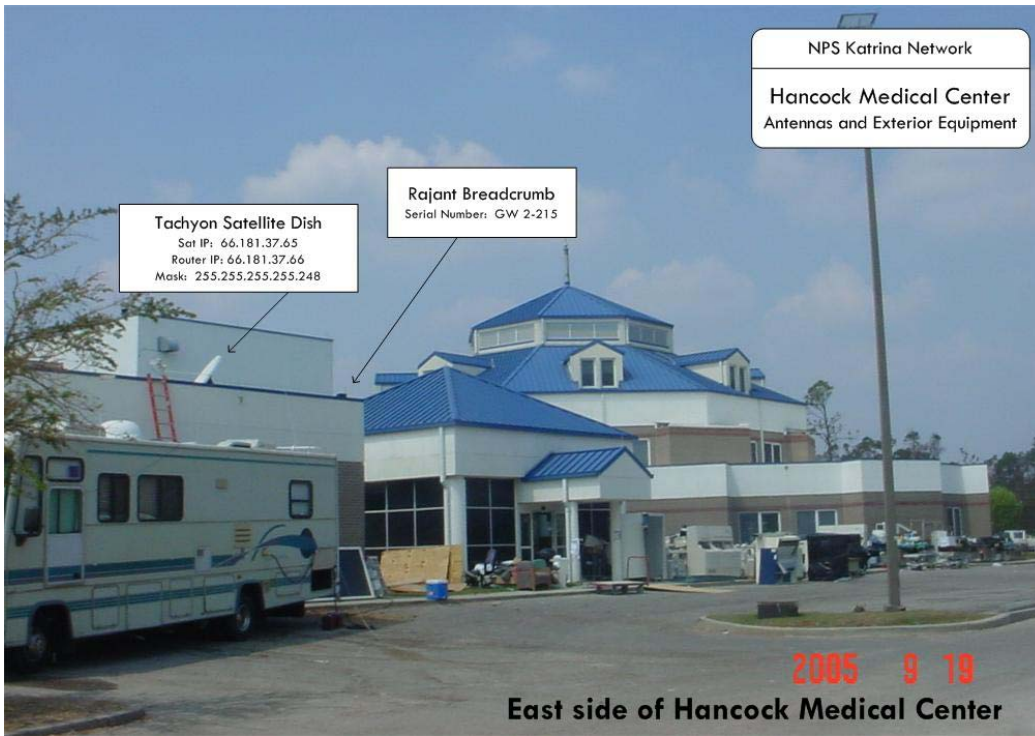


Figure 10. Hancock Medical Center Equipment Locations

To find the Hancock Medical Center rack:

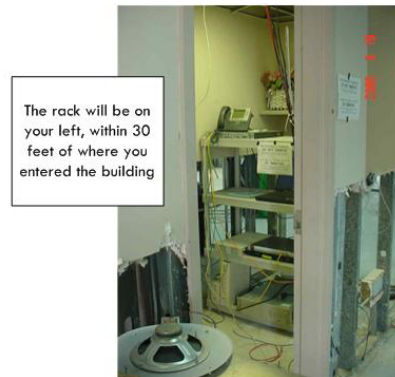
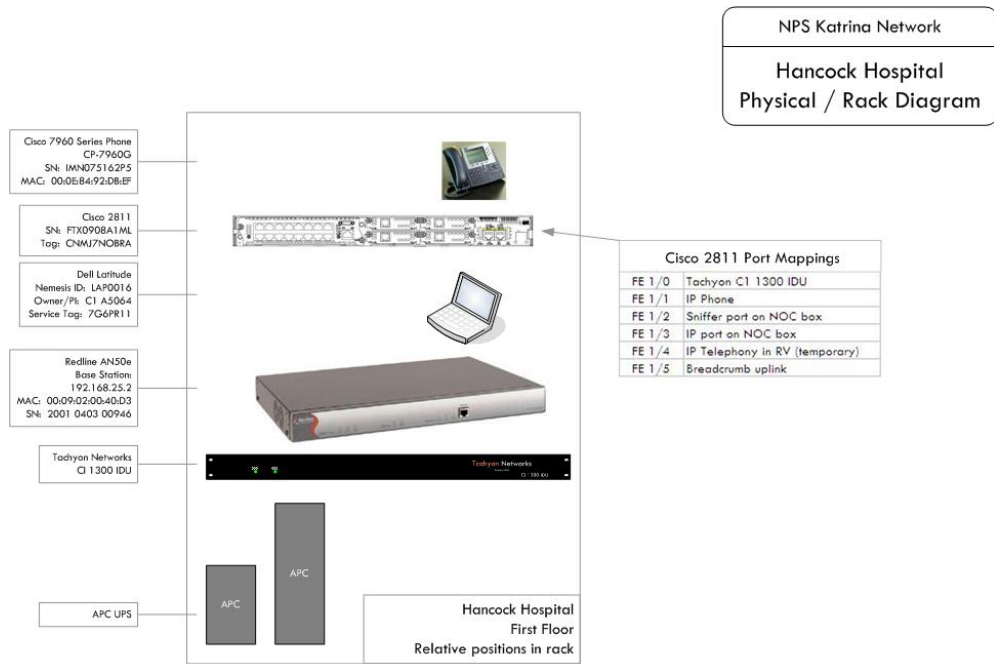
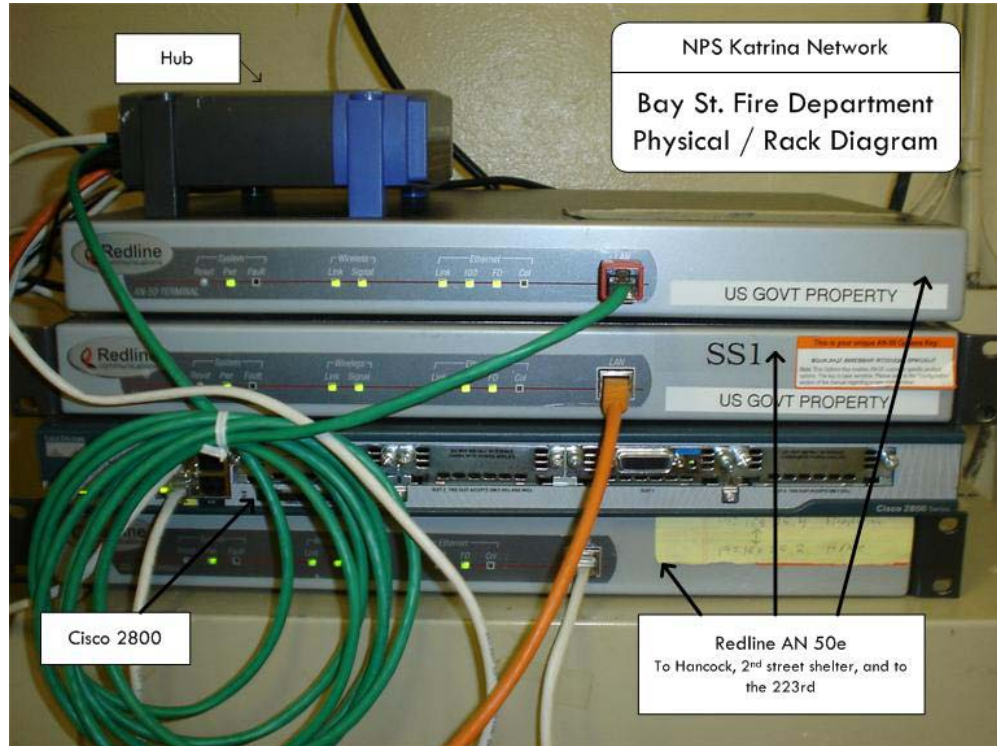


Figure 11. Hancock Medical Center Rack Locations (as of 19 September 2005)

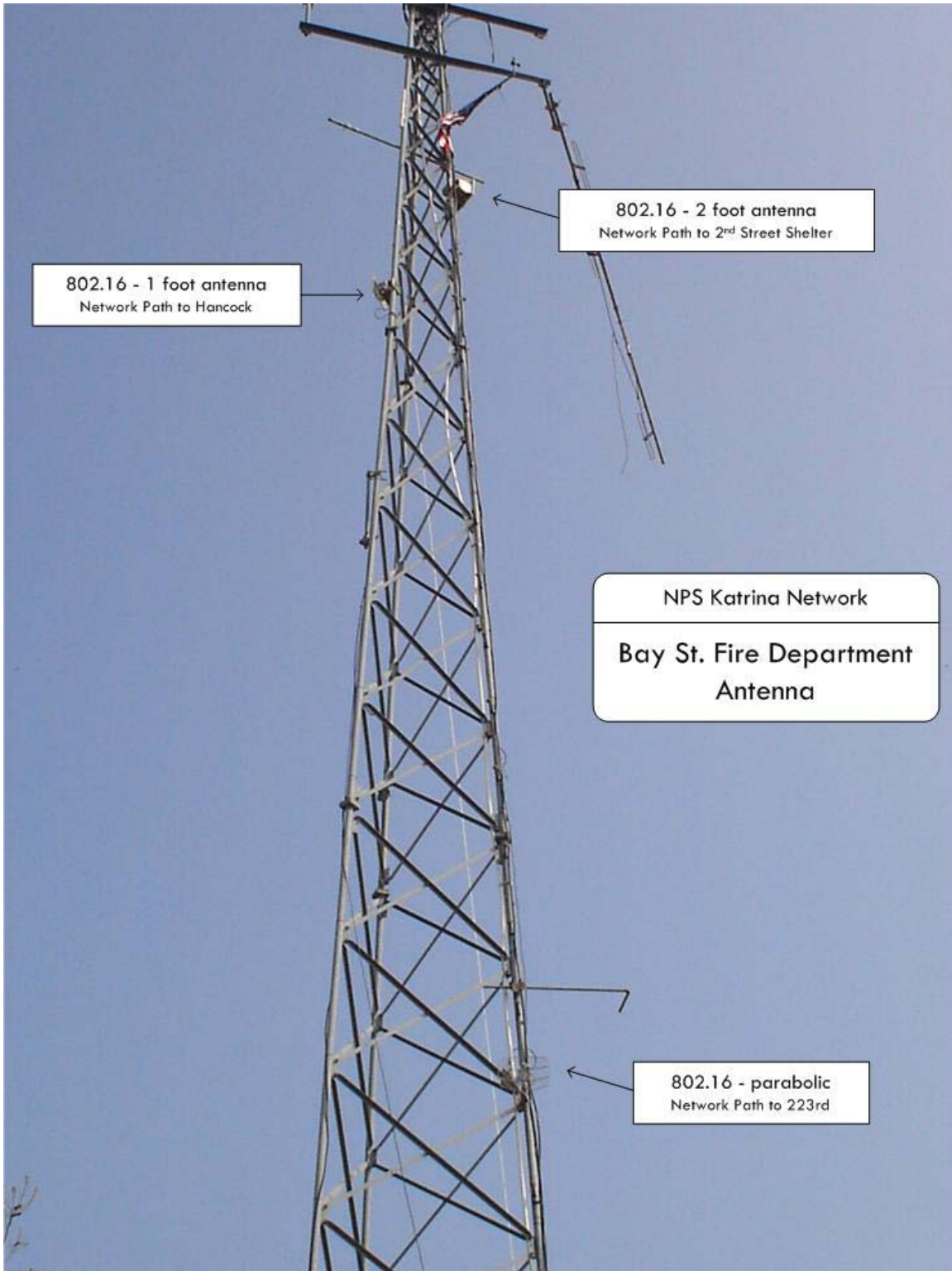


Last Update Sept 19, 2005

**Figure 12. Hancock Medical Center Rack Detail (as of 19 September 2005)**



**Figure 13. Bay St. Louis Fire Station Equipment Rack**



**Figure 14. Bay St. Louis Fire Station 802.16 Antenna Location**

Note the three 802.16 antennas. This damaged, but usable, antenna tower was the hub for long-haul connectivity from HMC to all other nodes in Bay St. Louis.

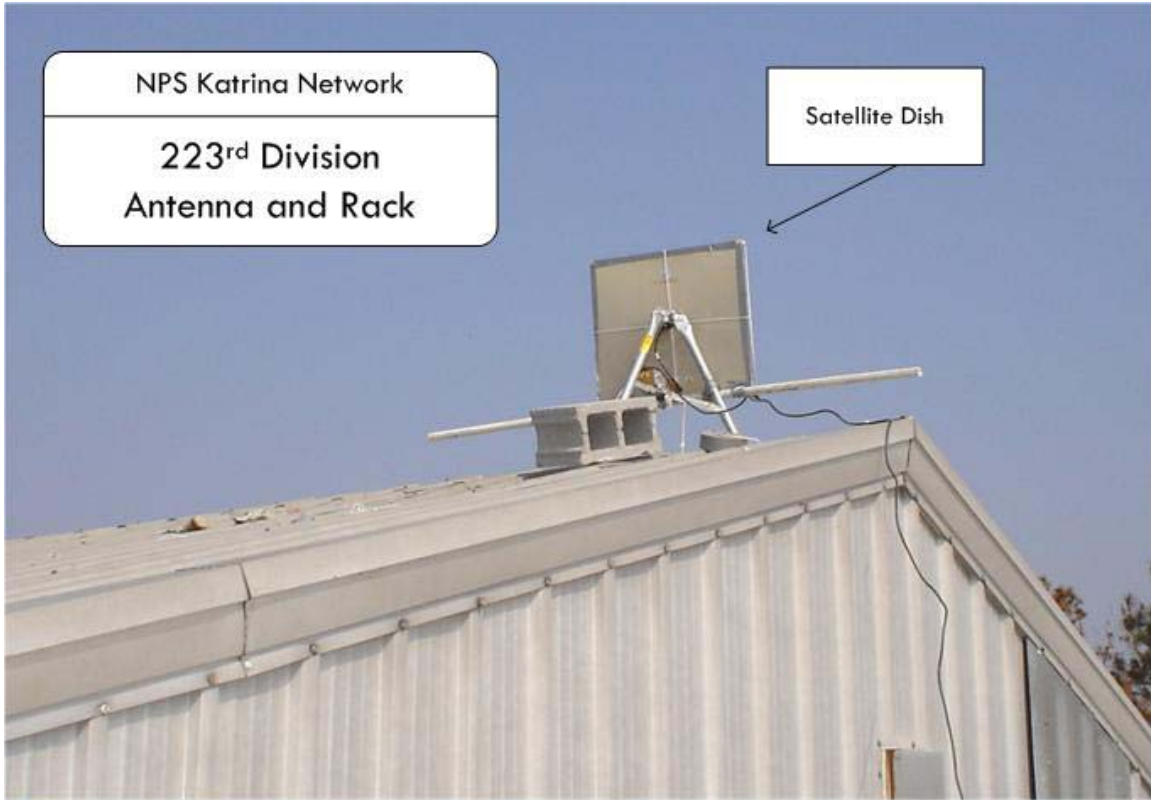


Figure 15. 223<sup>rd</sup> Engineering Battalion Equipment (as of 19 September 2005)



Figure 16. 2<sup>nd</sup> Street Elementary School Shelter Antennas (as of 19 September 2005)

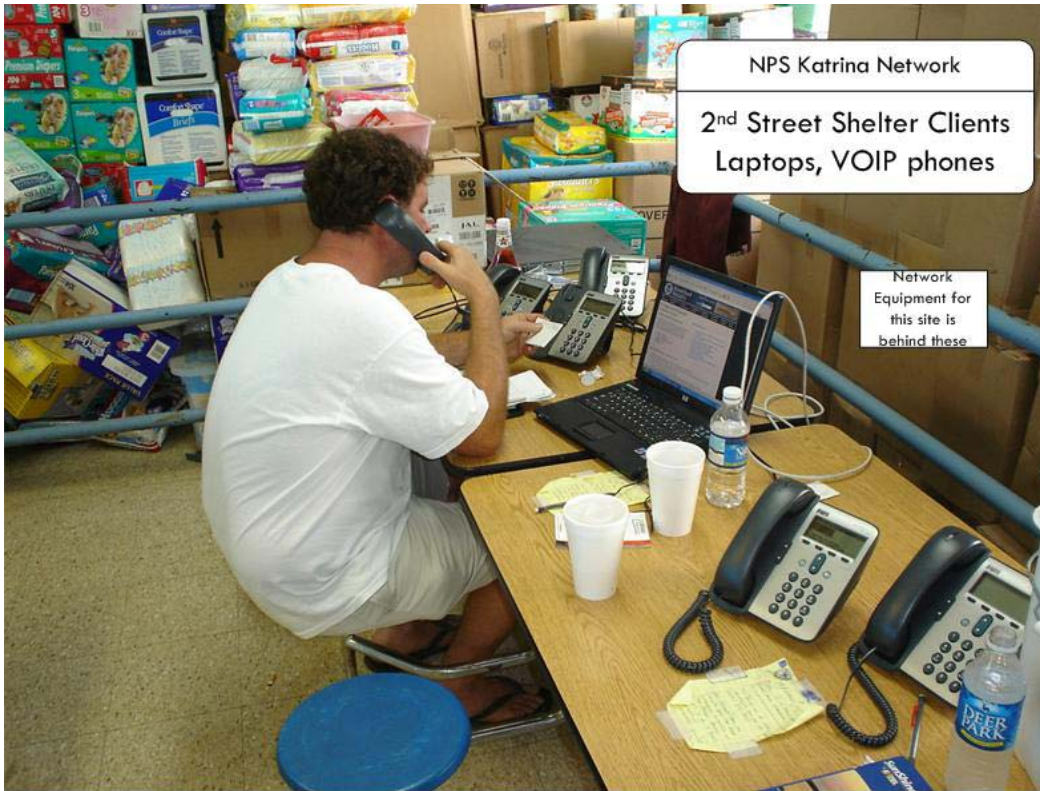


Figure 17. 2<sup>nd</sup> Street Elementary School Shelter Equipment and Users

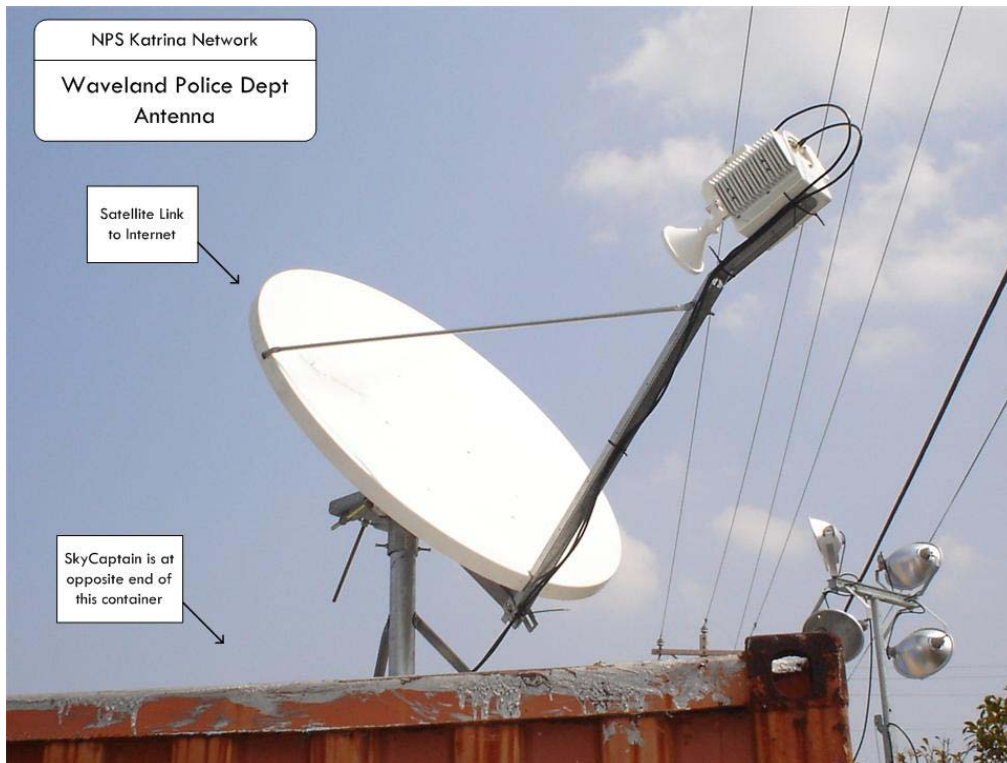
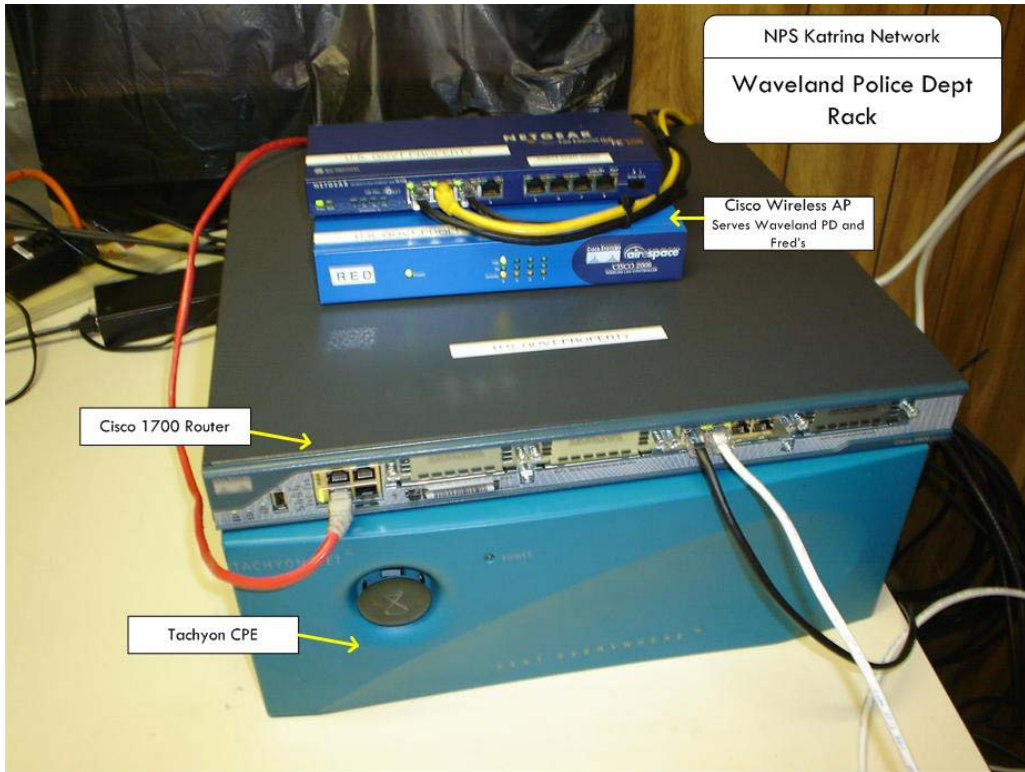
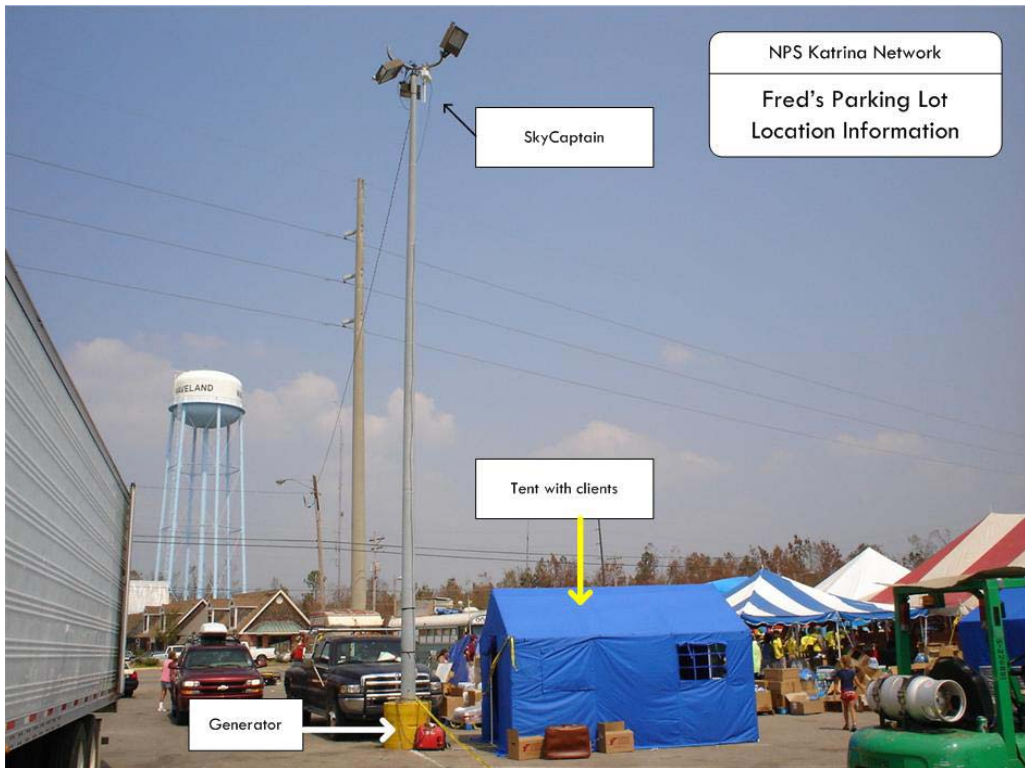


Figure 18. Waveland PD Tachyon Dish



**Figure 19. Waveland PD Equipment**



**Figure 20. Fred's POD Equipment Location**





**Figure 21. Fred's POD User Equipment (inside the blue tent)**

## CHAPTER 3 – OVERALL LESSONS LEARNED

### The Nine Pieces of the Puzzle – Integrated/Coordinated

1. The big picture set of typical challenges to bring in temporary/emergency, HFN-like communications during a major disaster of the size and scope of Hurricane Katrina is summarized with the graphic in Figure 22. On a daily basis, the team had to deal with each and every one of these aspects of the operation—often in new ways that required everyone to adapt on the fly. Each of these general needs, as well as Maslow’s human needs hierarchy elements (e.g., wireless networking topology and technologies, various types of voice communications, personnel with specific skill sets, and equipment required to set up and maintain the network) must be coordinated. These nine elements must then be considered in relation to the significant challenge of working within the civil-military boundary—interoperating between personnel on the ground and remotely from DoD, DHS, FEMA, NGOs, local/city/state governments, the public (victims/volunteers), etc. In many ways, we found that deploying the various communications technologies is not the most difficult part of setting up and maintaining an HFN—the soft science and operating around the civil-military boundary is really the biggest challenge. Finally, the very nature of an HFN is such that it is a temporary solution that requires an extreme amount of adaptation to the environment—what we call improvisation. Improvisation can be (and was) about using duct tape and jury-rigged connections, to flagging down power company bucket trucks to get antennas installed on towers, to creating personal relationships enabling the swapping of favors to obtain things such as food, water, cable, radios, miscellaneous parts, fuel, generators, etc., in return for enabling others to communicate.

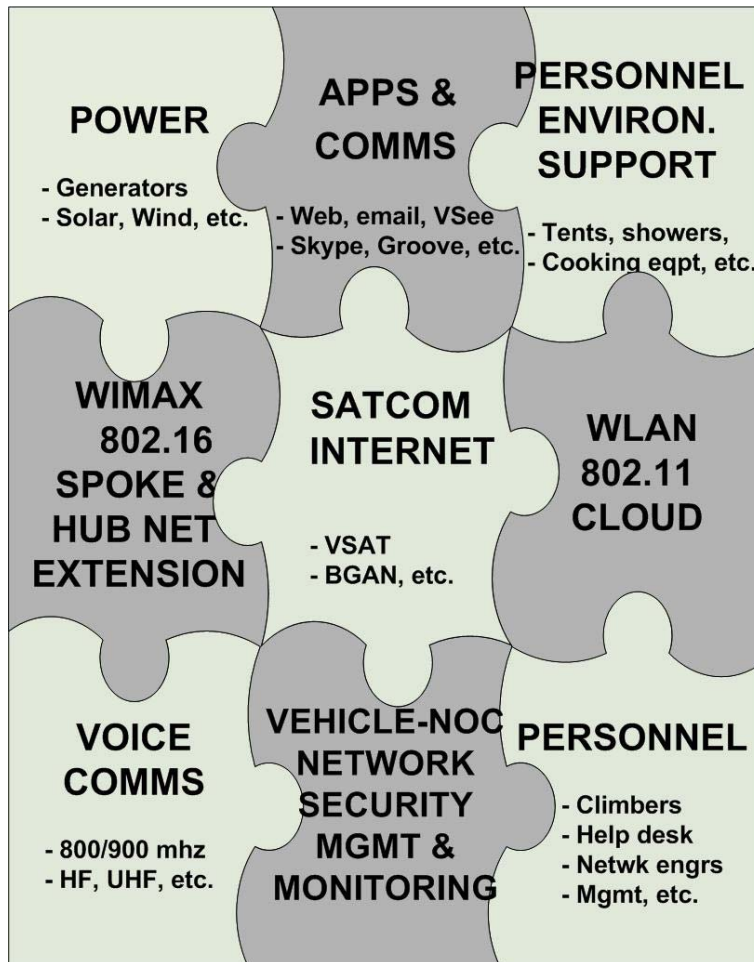


Figure 22. The Nine Puzzle Pieces Necessary for a Successful HFN

### Power and Tools

1. Commercial power was not stable for quite some time. Reliable, high-capacity generators were a must for keeping the equipment at the NOC running. Consider purchasing or renting a trailer mounted 100Kw diesel generator to pull behind the Nemesis. Better yet, have a six-passenger, 4 x 4 sport utility vehicle (SUV) dually equipped with a camper or at least a bed cap as a second vehicle to carry the team and pull the generator. Alternatively, you could add an additional diesel fuel tank in the bed so you would have a few days' worth of fuel for the generator and truck. Should also consider fossil fuel alternatives versus generators. Solar, wind, and crank are all viable alternatives. (Lounsbury)

2. Need to have a soldering kit, including solder removal tools such as solder sucker and wicking as well as flux and other essential items, to affect repairs. (Lancaster)
3. Deployment kits for key management/coordination personnel conducting mobile coordination activities should include a global system for mobile communications (GSM) cell phone; satellite phones (sat phone); global positioning system (GPS) receiver; digital camera; leatherman or other multipurpose tool; and foul weather gear.
4. Weatherizing kit for equipment mounting to include proper electrical tape, vulcanizing tape, tie wraps, and wood/plastic antenna mounts required for initial installation will reduce the need for multiple trips to antenna locations. (Lancaster)
5. RV power cables should have multiple preconfigured ends for maximum compatibility with both shore power supply and generator outlets.
6. Network installation was significantly eased with the restoration of shore power. Not only was there a personnel shortfall, but the limited amount of vehicles would have significantly delayed the installation and growth of the HFN if the only power available was that provided by generators, thus requiring a refueling schedule. There should be at least one vehicle for every two individuals for maximum mobility and flexibility.
7. A command vehicle is required (4WD SUV worked well in MS) for overall program management and task coordination with the following list of ideal components/capabilities (Steckler):
  - MS Street/Trips with GPS receiver
  - Garmin 2710 (3-D, dash mount with sandbag holder)
  - Each type of cell phone with service
  - Each type of sat phone with service
  - Each type of Quad Band GSM/GPRS/EDGE PCMCIA card for laptop broadband
  - Each type of push-to-talk radio possible in a given area (UHF, VHF, HF, SATCOM)
  - Both AC and DC chargers for each of the communication devices above
  - Car inverter with multiple plugs tri or quad cigarette lighter adaptor (I had four things plugged in at once on many occasions)

- External mount adaptor for the sat phones (each type) as the antennas on the phone units can't protrude through the roof of the car when driving
- High power automobile spotlight
- Standard car emergency first aid kit (flares, MREs, etc.)
- Hand-held GPS/FRS radio (Garmin Rhino 110 worked well for us in U.S. and Thailand)
- Digital video camera
- Digital still camera
- Disposable still camera (backup)
- Binoculars
- Head-mount flashlight
- Gun or similar weapon (this one is controversial, but the team would sure have felt better if they had one in Pearlington, MS, a methamphetamine-infested area with addicts coming down, getting desperate)—maybe a Taser would be more politically correct?
- Foul weather gear (e.g., rain coat, pants, boots, hat, etc.)
- Laptop and backup laptop loaded with all the standard applications (Google Earth Pro (GEP), VSee, Skype, etc.)
- Headset for Skype personal digital assistant (PDA)

## **Lifecycle, Network Management, and Decision Issues**

### **1. Dynamic and Emerging Requirements.**

In any situation where an HFN is installed, operated, and maintained, one must expect a very dynamic environment with continuously emerging requirements. There will never be enough equipment to satisfy all requirements. Therefore, customer requirement prioritization and the prevention of mission “creep” are paramount for mission success. Local citizens, as well as local authorities, are already under an unimaginable amount of stress and *expectation management* is critical to ensure that no further stress is added to the situation. Capabilities not “on-hand” and not ready to be installed and supported should not be offered to the “customers” and a clear explanation as to the estimated time required for installation should be provided. In MS, the ESF-2 (Communications Director) for Hancock County should have had the lead for identifying and prioritizing communications requirements in our area of operations. He was very busy and did not have a good understanding of the requirements nor the people available to fulfill them. In future disasters, it would be beneficial to have someone appropriately placed to manage both needs and assets to ensure the correct priorities get done first. This should be spelled out in the local disaster recovery plan. The NPS Detachment

should have had a liaison officer at the County EOC who would have updated ESF-2 as to the status of the HFN, as required. This would have provided the State of Mississippi, and more specifically the Governor, with the ability to plan for either the complete or phased relief of support for the critical HFN that was installed and being maintained by NPS in Hancock County.

There should be one central Internet authority in the area, to coordinate all the ad hoc installations, with knowledge of who is up, who can share, and who is in need. This structure should be included in the National Incident Management Systems (NIMS) system (if not already), with a manager that reports to the Communications Director. All providers should check into the EOC, and coordinate with the Internet Manager. (Ricky Clement)

## **2. Communications within the Team.**

Many NPS Team members arrived in MS with their own personal cell phones as their only means of communications. As pointed out earlier, some cell phones worked better than others. Verizon seemed to work most of the time, while Cingular was very sporadic. Moreover, using personal cell phones had several drawbacks, i.e., the use of personal minutes for government business (and the accompanying issue of getting reimbursed). A better means of intra-team communications is required. A temporary cellular system would have been very valuable in the region, something like the Pico-Cell solution. Integration of such a quick-deploy cellular infrastructure requires further investigation and experimentation/demonstration in disaster regions.

## **3. Ad Hoc Management and Leadership at Sites – Who Makes Decisions.**

Some sites we provided support to had an ad hoc organizational structure. First responders, local government, and military organizations had somewhat consistent POCs, although personnel rotations did exist, which created some turnover issues. However, shelters and PODs were often hastily formed and run by volunteers who changed out on an unpredictable basis. Further complicating the issue was the lack of leadership or decision-making authority at these ad hoc sites.

## **4. Unity of Command.**

The team of faculty and staff from NPS had at least four “bosses” at various times during the operation, partially due to the chaotic nature of the first days of the disaster,

partially due to the very rapid deployment of the team, and partially due to confusion within the military organization as to who is in charge in a CONUS disaster. As military members we are used to Operational Control (OPCON), Tactical Control (TACON), and Administrative Control (ADCON) relationships. The NPS Team was ADCON to NPS—specifically the NPS President; TACON to JFMCC J6—specifically to CDR (sel) James Mills, and OPCON to JTF Katrina—no primary OPCON POC. Additionally, we took tasking from the Hancock County EOC and the Defense Coordination Office/Element (DCE/DCO) at various times throughout the operation. There were many times when conflicting guidance and conflicting intent was being disseminated by NPS, the Detachment OIC, Professor Steckler, and supported/external agencies. It was especially inefficient during transition planning, as the OIC and AOIC were awaiting guidance on when and how to redeploy. At one point, the team was getting conflicting “orders” for ending the operation from ADCON, TACON, and OPCON. This was partly due, we believe, to the OPCON (JTF Katrina) initially not being aware of our existence, as we are not sure if the JFMCC’s daily SITREPs included information on the NPS Team deployed to Bay St. Louis and Waveland, MS and, once again, the lack of personnel within the Detachment for it to provide a liaison within the County EOC. *LL: A deployable communications group should have an embedded point of contact (liaison) within the EOC structure.*

##### **5. Network Security/Information Assurance.**

We quickly learned that an acceptable use policy is a must in this environment. The focus is to communicate emergent and relevant information, not to send photos and movie files. (LCDR Bruce via SITREP 09 1900Z SEP05)

Network scalability was the priority not network security. That being said, the Detachment did brief security concerns when requests were made to merge “legacy” networks onto the HFN. For example, the Bay St. Louis Police Chief wanted his National Crime Information Center (NCIC) network machines to now use the HFN for command and control purposes. The team recommended against this because of the sensitive nature of some information that may have resided on some of the hard drives of those clients. The Police Chief subsequently agreed to just have his administrative personnel’s computers added to the HFN.

## 6. Equipment Issue.

### a. Donated equipment ownership.

Many commercial vendors provided “donated” equipment for the relief effort and, in the case of the satellite broadband Internet access, one vendor donated the actual service (Tachyon). At first, there was no single person placed in charge of accountability of this equipment, which complicated transition planning. Eventually, an NPS student/officer was designated in charge of equipment status, location, and disposition (i.e., whether or not it was owned by NPS, donated by vendors, or loaned by vendors).

### b. Tachyon.

(1) Router – Ensure the router is preconfigured with IPs, including Network Address, Default Gateway, Primary and Secondary DNS, etc.

(2) Power Meter – The Pico-Sat meter is not the correct type. Also, the Pico-Sat meter battery was dead; the battery should have been charged while en route or prior to load out.

(3) Antenna – If possible, document which satellite you are connecting to and record/load all presets, including initial bearing and azimuth settings.

(4) Antenna Calibration Software – Software was downloaded, which was good, but in order to run the program, the software “logon and password” are needed. Therefore, technicians had to contact the vendor and wait for a callback in order to run the program. When running the program, technicians will need to enter the position (POSIT), including height, and will be prompted to enter the model numbers off both of the band pass filters on the dish. Also, the feed horn on the antenna needs a 20-degree offset, counterclockwise as you face the dish; the feed horn was adjusted in the wrong direction which also caused some delay. There is a collar securing the feed horn that can be loosened with one bolt.

### c. Acquiring Satellites.

While looking for a satellite you are concerned with the Eb/No signal strength, which lets you know you are acquiring the correct satellite. However, while searching via pan/tilt method down your perspective bearing and elevation, watch your Receive signal strength and use that to lock in on satellites around the one you are trying to



acquire so you can eliminate those signals to narrow your search. Some satellite dish bases have markings to show your elevation and bearing, but older bases do not. We had one of each and it is much easier to acquire the bird using a base with markings.

d. Tachyon NOC.

If you have any issues acquiring the satellite or issues with assembling the unit you can contact the Tachyon NOC for 24/7 support. In addition, you must contact the Tachyon NOC, once you have acquired the satellite, so they can provide any software upgrades; they will also fine tune the connection to maximize bandwidth. We used this procedure for both Tachyon dishes and were able to almost double our bandwidth on both of them.

**7. Rajant 802.11 Gear Issues.**

- a. Breadcrumbs must have the same version of firmware loaded on them to be interoperable.
- b. Breadcrumb DHCP must be disabled if routers on the network have DHCP enabled.
- c. Breadcrumbs began to fail o/a 25 September. After researching the issue, we found that if the batteries are not fresh within the devices, network availability can be spotty and intermittent. We replaced existing Rajant Breadcrumbs with Cisco or Linksys wireless access points, where feasible, after about 14 days of operation, and the wireless networks became more stable.

**8. Redline 802.16 WiMAX Gear Issues (Don Mullin, Redline Communications).**

- a. Frequency management of unlicensed band is essential at the EOC level. This would maintain control of the limited resources of both the frequency band itself and hardware being deployed. During this deployment, both time and resources were wasted managing the network frequencies as additional systems were brought on line by other users. Critical communications links to fire, police, and military services were threatened due to the deployment of noncritical networks within the 5.8 GHz band.

- b. Whenever possible, deployed hardware should be staged to confirm operability and physical content. The lack of two essential pieces of antenna mounting hardware almost cost us the ability to deploy an entire link.
- c. While a mixture of one-foot and two-foot antennas is acceptable, having all two-foot antennas would be easier to manage and could be utilized on any link. Also, I would suggest that all intermediate frequency (IF) cables supplied should be 400-foot RG11. With the extra long cables and higher gain, the antenna's flexibility would be greatly improved.

#### **9. Cisco VoIP Gear Issues.**

- a. When the network dropped due to heavy rain and wind (tornados watch in the area), the VoIP phones lost synchronization. When network connection was reestablished, the VoIP phones did not automatically resynchronize. (SITREP 24 0430Z SEP05)
- b. The 911 system interface and geolocation issue. (SITREP 24 0430Z SEP05)
- c. Batteries in the Cisco 7920 VoIP phones would not last very long under normal use (about one hour), requiring users to constantly search for charger cords and plug the units into 110V power sources. We subsequently learned that Cisco offers an optional higher capacity internal 7920 battery. A good quantity of these higher capacity batteries should be included in any future deployments of these units.

#### **10. Cisco Sky Captain Issues.**

We used final precommercial versions of this equipment, but by and large, it worked quite well. Issues we encountered were quickly mitigated by Cisco personnel, who were on-station with us and were experts with this new equipment. The primary difference between this Cisco AP gear and the Rajant gear was that the Cisco gear was 802.11b and g, while the Rajant gear was only 802.11b. Therefore, the Cisco gear provided much more robustness and much higher internal wireless cloud throughput. Cisco had a graphical user interface software solution to show coverage areas, based on

locations of available Sky Captain units, and we had just started to install/use this GUI when our mission was prematurely ended by the Governor of MS.

**11. Balloons and helium are not really needed in a post-hurricane environment, where high, unpredictable winds are the norm.** (SITREP 27 0430Z SEP05)

**12. Vulnerability assessment and Intrusion Detection System (IDS) tools.**

- a. Need to ensure IDS and vulnerability assessment tools are part of the HFN equipment load out.
- b. Once on-site, the IDS should be installed and configured for maximum security.
- c. Vulnerability assessment should be conducted as soon as practical. We believe, at one point in the deployment, that our wireless network was under attack by unknown assailants and just before getting orders to “pull out” we began to install IDS tools in the NOC at the HMC facility. We departed the area before finishing the IDS suite configuration.

**13. Quality of Service package for Cisco infrastructure?**

We had just started working with Cisco to install some QOS tools when the mission ended. In the future, the NOC should have a complete suite of IDSs and network monitoring/management tools.

**14. There is currently no standard operating procedure (SOP) on how NPS should track or account for gear, both at the university and while deployed in support of research.**

Accountability and collection of all the parts and pieces of the equipment for embark and transportation to the AOR proved challenging; the short-fused orders issued to the Detachment notwithstanding. Once in the AOR, there was no SOP on how the equipment was to be marked, tracked, and accounted for in order to turn it over to another agency for accountability.

## **Nontechnical Issues and Challenges**

### **15. Political Agendas and Working with Local, State, and Federal Agencies, and Volunteer Groups (Radio Response).**

An ad hoc group of “geeks” showed up after the first week and started laying down a network on top of ours even though we suggested they go to another nearby community to help bring emergency communications back up. The group did not move to another area for unknown reasons, and thus created RF interference issues, began to put their gear on our networks in the “Internet Cafés” and, at one point, had a confrontation with the Police Chief and his wife in Waveland. The Police Chief ended up denying this ad hoc group access to the nearby water tower to deploy their gear. This ad hoc group also caused us to alter channels on our 802.11 gear and to make adjustments to our 802.16 gear due to RF contention issues.

### **16. Transition of HFN when team departs.**

This is an area that requires further research (see Chapter 4). There are numerous options for transitioning from the HFN to local government or contracted personnel that need to be carefully thought through.

### **17. Logistics.**

- a. Equipment needs to be better marked (perhaps with bar codes or radio frequency identification (RFID)) to permit faster staging, loading, unloading, and set up.
- b. Maps: need to ensure you have access to detailed maps of the area into which you are about to deploy.
- c. Movement of the RVs and generator across the parking lot due to the tornado warnings provided a number of LLs (extract from SITREP dated 24 0430Z SEP05):
  - Torrential rain made for hazardous conditions, so extra precautions and additional time was taken to execute the move.
  - Mud required plywood placement to minimize the chance of the vehicles getting stuck. Additionally, old crates work well to limit tracking of mud around the camp and in the vehicles.

- The generator providing electricity to the entire camp should not be parked on grass. A team such as this should consider a mobile generator on a trailer that can be moved easily with the vehicles it is supporting. We had to find a forklift several times to move the 150kw generator loaned to us from the hospital/FEMA.
- Bring plenty of electrical cables for the generator and “crawl-overs” to protect chafing from trucks driving over them.
- Eliminate hardwiring between the NOC and the COC. Perhaps a direct 802.11 link between access points is more appropriate.
- Place the RVs in such a way that the liquid waste discharge, the potable water tanks, and the power input are accessible, while still presenting less sail area in high winds.
- Start each of the vehicles’ engines on a daily basis. Had to jump/charge the batteries in two vehicles.
- Nemesis should have a separate maintenance trailer vice a Ryder truck. Items were difficult to find and access when we were moving the vehicles.

**18. Accurate local weather information is critical in any deployed environment, especially when another hurricane is looming and tornado activity occurs.**

A persistent relationship needs to exist with a tactical weather provider and needs to be included in any operations plan (OPLAN). Also, an inclement weather checklist should be included that details personnel actions in tornados, etc.

**19. Because we were hastily deployed and in research/development mode vice true operational mode, the NPS Detachment did not have a coherent objective of what it wanted to accomplish during the operation in relief of Hurricane Katrina, other than to gain experience deploying HFNs.**

For instance, the failure to have a liaison officer in the EOC to brief NPS’s limited ability to sustain operations past 30 days, and the fact that the primary benefactors of the HFN were local governments, emergency responders, and displaced citizens, led to the last minute confusion when all Title 10 personnel were directed to cease operations and

leave the AOR. If this critical piece of information would have been known at the onset of operations, appropriate action/planning could have taken place to support the Governor's intent.

**20. The network itself was the only communications between the end users and the NOC.**

Consequently, if there were technical support requirements at the network endpoints, these were not known until a team did its rounds and surveyed the sites. This is unacceptable. Future planning for deployment of the HFN should include personnel that would permanently man all locations where end user equipment is being provided. There will always be end user technical issues and many people may have never used the technology before. The learning curve is much greater considering the stress most of the individuals are already under.

**21. There was a lack of understanding of who had the ultimate cognizance (COG) for HA/DR operations in the AOR.**

Who was driving the train? Which agency led the main effort? Who was there to support and who was being supported? This lack of knowledge led to much infighting and unnecessary "empire building" just within the HMC. Each agency claimed its own 50-foot x 50-foot area of parking lot and operated in isolation of each other.

**22. A comprehensive concept of operations (CONOPS) and exit strategy cannot be overemphasized.**

The failure of the Detachment to have one in place led to many last minute, hasty decisions because no time was taken to develop it. This begs the need for a comprehensive, prewritten CONOPS for any disaster communications deployment. The question remains, though on who should write this CONOPS in a CONUS scenario (DHS/FEMA is assumed to be the right agency). It also begs the need to update the National Response Plan Communications Chapter to be able to handle disasters of the scope of Katrina.

## **CHAPTER 4 – FUTURE CHALLENGES AND RESEARCH OPPORTUNITIES**

### **Disaster Response Planning**

1. Develop a plan to preinstall 802.16 WiMax infrastructure. (Lancaster LL)
2. Disaster Response Plans need to be cross-checked from local to state to federal levels.
3. Organizations in the business of responding to disasters need to integrate their planning with the Disaster Response Plans in #2 above.
4. Research various-sized response kits to provide initial communications.
  - a. Flyaway kit (FLAK) (airline luggage <100 lbs).
  - b. SUV/RV-sized solution (e.g., NPS Katrina response with Nemesis).
  - c. Semitrailer-sized solution (e.g., White House Communications Agency).

### **Civil-Military Boundary**

1. Where is/should the line be between active, Guard, Reserve, and civilian responders in Complex Humanitarian Disasters (CHD)?
2. Civil-Military Boundary – to include DoD interaction with other USG entities, NGOs and IOs, and the victims (JTF-K, JFMCC, NPS, National Guard, FEMA, DMAT, DMORT, EMEDS, and Red Cross).

### **Security of HFN**

1. Research ways to provide information assurance in an HFN without preventing the users that need the access the most (victims) from being able to use the network.
2. Integrate network security, medical, forensics, logistics, common operational picture, and other applications into FLAKs.

### **Expansion of HFN Capabilities**

1. 802.11/802.16/SATCOM/VoIP/Skype/Groove integration.
2. CENTRIX for HFNs and FLAKs to enable coalition (DoD/other) interoperability.
3. Compare and contrast HFNs, FLAKs, as well as WiFi, WiMAX, and related technologies used by NPS and others for the Southeast Asian tsunami and Katrina/Rita response. Dr. Miguel Tirado from California State University at

Monterey Bay (CSUMB) went to Tulane University in November 2005, for one quarter, to work with their faculty and post-docs on a formal tsunami/Katrina comparison/contrast for communications and civil-military boundary issues. A similar study is starting up at the University of Colorado.

4. HA/DR Solution Sets for Disasters versus Solution Sets for CONUS and overseas Surveillance and Targeting. This is drawing on similarities between NPS's Southeast Asian tsunami and Katrina response with almost exactly the same COTS technology solution set as the NPS Coalition Operating Area Surveillance and Targeting System (COASTS) program with Thailand in Fiscal Year 2006. Both tsunami/Katrina and COASTS are using 802.11, 802.16, Satcom, VoIP, Groove, Skype, Situational Awareness Laptop/PDA applications, GPS Denied Navigation (tsunami/Katrina prepared to use, but did not have time), Ultra Wideband for search/rescue, unmanned aerial vehicles (UAVs)/unmanned motorized vehicles (UMVs)/unmanned underwater vehicles (UUVs)/balloons, WLAN/WiMAX Information Assurance, and IDS tools (we suspect the NPS Katrina network was under attack, but did not have time/tools to confirm/protect the network), etc. As COASTS 06 has a significant littorals and waterways component in this year's live experiment/demo scenario (the OPAREA includes a large reservoir near the Thailand/Myanmar border, with SATCOM reach back to Monterey, CA and Bangkok), and our own DHS is increasing its focus on our U.S./Canada border waterways (lakes/rivers on the border and recent news reports that DHS is handing out business cards to fishermen and citizens living near those waterways and land borders), we assume DHS will be interested in "talking" about collaboration. No contact yet made in this regard with DHS.



## APPENDIX A – AUTHOR BIOGRAPHIES



**Brian D. Steckler**

**Associate Chair for Special Programs  
Naval Postgraduate School  
Monterey, CA**

Mr. Brian Steckler specializes in telecommunications, information technology, information operations, information warfare, computer network attack/defense, e-commerce, Internet technologies, computer networking and related fields. He is currently the Associate Chair for Special Programs at the Naval Postgraduate School in Monterey, CA, providing business development expertise to NPS's Research Department, and is an occasional lecturer. His areas of teaching and research include: basic networking (LAN/WAN), Information Operations to include Computer Network Defense, Attack, and Exploitation, Psychological Operations, Military Deception, Electronic Warfare, Operations Security, and Information Warfare.

He also is conducting research for the U.S. Department of Defense in mobile wireless network security, hastily formed networks, information technology applications for Humanitarian Assistance/Disaster Relief, mobile network operation centers, voice verification and recognition technologies, and various broadband Internet access device technologies including fixed broadband wireless, ultra wideband, free space optics broadband, and broadband over power lines. He has led major NPS research efforts including deployments of Hastily Formed Networks (HFN's) in Thailand after the December 2004 Southeast Asian tsunami as well as in the U.S. Gulf Coast after Hurricane Katrina.

Brian also represents the Naval Postgraduate School with HQ USPACOM as the NPS/HQ USPACOM Liaison Desk. His overseas experience includes designing and teaching Information Operations courses at the National University of Singapore.

His last assignment in the corporate world was as the founder and CEO of a California business-class Internet Service Provider (ISP) and software engineering firm. He operated that business for seven years until selling it in the summer of 2001. Prior to that Brian had a successful 20-year career in the U.S. Navy, ten years as an enlisted Cryptologic Technician and ten years as a Commissioned Officer. During his Navy career, he qualified as a Surface Warfare Officer, Supply Officer, Communications Officer, Operations Officer, Weapons Officer, CMS Custodian, Mine Countermeasures Officer, and Officer of the Deck (underway).

He received his undergraduate degree in Business Administration from the University of Washington in 1987. He received a Masters of Science in Information Technology Management from the Naval Postgraduate School in 1994.

Holds TS/SCI Security Clearance with DoD.

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## **Major Bryan L. Bradford**

Major Bryan L. Bradford enlisted in the U.S. Air Force and was commissioned in November 1991 through Officer Training School. He is currently a student in the Information Systems and Operations curriculum of the Graduate School of Operational and Information Sciences at the Naval Postgraduate School and will graduate with a Master of Science in September 2006. He deployed in support of Hurricane Katrina as the Assistant Officer in Charge during the transition and redeployment phases of the operation. His thesis work is Information Assurance within Hastily Formed Networks. Upon graduation, he will serve as Assistant Director of Operations at the 33<sup>rd</sup> Information Operations Squadron, Lackland AFB, TX.

Previous assignments include: Theater Joint C4 Operations and Contingency Planner, Joint Communications Directorate, J6, U.S. Pacific Command; Deployed Joint C4 Liaison Officer and Multinational Planning Augmentation Team C4 Subject Matter Expert, Operation UNIFIED ASSISTANCE, Joint and Combined Support Force 536 Headquarters, Utapao, Thailand; Senior Duty Officer and Presidential Communications Officer, White House Communications Agency, Washington, D.C.; Chief of Communications Operations, 1<sup>st</sup> Airborne Command and Control Squadron and Airborne Communications Flight Commander aboard the National Airborne Operations Center, Offutt AFB, NE; Staff Officer, Communications Directorate, HQ, United States Air Forces Europe (USAFE) and Systems Engineer, USAFE Computer Systems Squadron, Ramstein AB, Germany; Deployed Intelligence Systems Engineer, U.S. National Intelligence Cell, Combined Air Operations Center, Operation DECISIVE ENDEAVOUR, Vicenza AFB, Italy; and Instructor, Basic Communications Officer Training, Keesler AFB, MS. He also served five years as an enlisted computer programmer and Airman Education and Commissioning Program student.

Major Bradford has a Bachelor of Science in Computer Science from Texas A&M University and a Master of Arts in Leadership from Bellevue University. In addition, he has attended numerous military schools including the Air Force Institute of Technology, Squadron Officer School (Distinguished Graduate), Advanced Communications Officer Training (Top Graduate), and the Joint Forces Staff College.

Major Bradford has been awarded the Defense Meritorious Service Medal (1OLC), Aerial Achievement Medal (1OLC), Joint Service Commendation Medal, Air Force Commendation Medal (2OLC), Joint Service Achievement Medal, Air Force Achievement Medal, Combat Readiness Medal, Air Force Good Conduct Medal, National Defense Service Medal with Service Star, Global War on Terrorism Service Medal, Armed Forces Service Medal, Humanitarian Service Medal (1OLC), and NATO Medal.

He is married and has one daughter.



### **Captain Steve Urrea**

Capt Steve Urrea was born on 16 August 1974, in Warwick, NY. He enlisted in the Marine Corps after high school in 1993, and attended recruit training at Parris Island, SC. He subsequently served as an administrative clerk at G-1, Marine Corps Recruit Depot/Western Recruiting Region, San Diego, CA.

In 1996, then Sgt Urrea was selected for the Marine Enlisted Commissioning Education Program and attended Villanova University. He graduated in May 2000 and was commissioned a Second Lieutenant.

Upon completing The Basic School with honors in December 2000, he was assigned to G-6, Training and Education Command as the Navy and Marine Corps Intranet Project Officer. He was then assigned to Command and Control Systems School for training as a Communications and Information System Officer. After graduating with honors in October 2001, 2ndLt Urrea was assigned to Marine Corps Combat Service Support Schools Camp Lejeune, NC, where he served as the Deputy Director, Information Systems Management Office. In November 2003, 1stLt Urrea was then assigned to the 26th Marine Expeditionary Unit, II Marine Expeditionary Force, where he served as Assistant Communications Officer.

In June 2004, 1stLt Urrea reported for duty to the U.S. Naval Postgraduate School, Monterey, CA, where he is currently enrolled in the Information Warfare curriculum, Graduate School of Operations and Information Sciences. Here he has researched and deployed Hastily Formed Networks (HFNs) twice in support of the Coalition Operating Area Surveillance and Targeting System (COASTS) in Thailand and once in support of Humanitarian Assistance/Disaster Relief (HA/DR) operations supporting Joint Task Force Katrina. After graduation in September 2006, Capt Urrea will report for duty to U.S. Strategic Command, Offutt AFB, NE.

Capt Urrea holds a Bachelor's degree in Computer Engineering from Villanova University and a Master of Science in Computer Information Systems from Boston University. His current thesis is Covert Channels in IPv6/ICMPv6.

Capt Urrea's personal awards include the Navy and Marine Corps Commendation Medal, Joint Service Achievement Medal, the Navy and Marine Corps Achievement Medal, the Good Conduct Medal with bronze star in lieu of second award, and the Humanitarian Service Medal.

Capt Urrea is married and has two daughters.

## TABLE OF ALL PERSONNEL ON THE NPS/DoD/CONTRACTOR TEAM

Name	Organization	Deployed Position	Primary Phone	Email	Deployment Start Date	Deployment End Date
Prof. Brian Steckler	NPS Faculty	Faculty Lead	(831) 402-1584	<a href="mailto:steckler@nps.edu">steckler@nps.edu</a>	3-Sep	23-Sep
LCDR Bill Bruce	NPS Student	OIC #1		<a href="mailto:cwbruce@nps.edu">cwbruce@nps.edu</a>	3-Sep	20-Sep
Maj Paul Rayfield	NPS Student	Asst OIC		<a href="mailto:wprayfie@nps.edu">wprayfie@nps.edu</a>	3-Sep	15-Sep
LT Ira Lambeth	NPS Student	Operator		<a href="mailto:idlambet@nps.edu">idlambet@nps.edu</a>	3-Sep	22-Sep
LT Pat Lancaster	NPS Student	OpsO #2		<a href="mailto:pelancas@nps.edu">pelancas@nps.edu</a>	3-Sep	20-Sep
LT Robert Moore	NPS Student	NOC Lead		<a href="mailto:rwmoore@nps.edu">rwmoore@nps.edu</a>	3-Sep	20-Sep
LT Robert Patto	NPS Student	Operator		<a href="mailto:rpatto@nps.edu">rpatto@nps.edu</a>	3-Sep	20-Sep
LTJG Nathan Seaman	NPS Student	LogO/SupO		<a href="mailto:nseaman@nps.edu">nseaman@nps.edu</a>	3-Sep	20-Sep
Capt Steve Urrea	NPS Student	OpsO #1		<a href="mailto:surrea@nps.edu">surrea@nps.edu</a>	3-Sep	15-Sep
LT Scott Cone	NPS Student	AdminO		<a href="mailto:skcone@nps.edu">skcone@nps.edu</a>	3-Sep	15-Sep
LT Josh O'Sullivan	NPS Student	WIMAX Lead		<a href="mailto:jdosulli@nps.edu">jdosulli@nps.edu</a>	3-Sep	15-Sep
LT Chris Lee	NPS Student	Operator			3-Sep	15-Sep
LT Bill Wren	NPS Student	CommO		<a href="mailto:wewren@nps.edu">wewren@nps.edu</a>	3-Sep	15-Sep
Capt Gary Thomason	NPS Student	WIFI Lead		<a href="mailto:gthomaso@nps.edu">gthomaso@nps.edu</a>	3-Sep	11-Sep
LT Richard Clement	NPS Student	HAM Radio		<a href="mailto:rwclermen@nps.edu">rwclermen@nps.edu</a>	3-Sep	17-Sep
Mr. Mike Clement	NPS Staff	Advisor	(831) 656-1804	<a href="mailto:mrclemen@nps.edu">mrclemen@nps.edu</a>	14-Sep	20-Sep
IstLt Ceaser Nader	NPS Student	LogO/SupO		<a href="mailto:cenader@nps.edu">cenader@nps.edu</a>	17-Sep	19-Sep
LT Michael Sanders	NPS Student			<a href="mailto:msanders@nps.edu">msanders@nps.edu</a>	17-Sep	25-Sep
IstLt Robert Lounsbury	NPS Student			<a href="mailto:rlounsb@nps.edu">rlounsb@nps.edu</a>	18-Sep	25-Sep
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LT Andrew Dittmer	NPS Student			<a href="mailto:ardittme@nps.edu">ardittme@nps.edu</a>	19-Sep	25-Sep
Maj Bryan Bradford	NPS Student	Asst OIC		<a href="mailto:blbradfo@nps.edu">blbradfo@nps.edu</a>	20-Sep	30-Sep
Maj Dave Wallis	NPS Student			<a href="mailto:dcwallis@nps.edu">dcwallis@nps.edu</a>	-	-
LCDR Reese Zomar	NPS Staff		(831) 917-8045	<a href="mailto:rkzomar@nps.edu">rkzomar@nps.edu</a>	-	-
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Maj Carl Oros	NPS Faculty		(831) 656-2995	<a href="mailto:cloros@nps.edu">cloros@nps.edu</a>	-	-
LCDR Gaucher	NAVRES	OIC #2		<a href="mailto:christopher.gaucher@navy.mil">christopher.gaucher@navy.mil</a>	20-Sep	30-Sep
CTMC Enger	NAVRES			<a href="mailto:maustew@aol.com">maustew@aol.com</a>	24-Sep	30-Sep
CTN1 Mollere	NAVRES			<a href="mailto:mark.mollere@navy.mil">mark.mollere@navy.mil</a>	20-Sep	8-Oct
CTR1 Meeks	NAVRES				22-Sep	30-Sep
CTR2 Plienis	NAVRES			<a href="mailto:jeffplienis@hotmail.com">jeffplienis@hotmail.com</a>	21-Sep	30-Sep
CDR Pete Griffith	OASD/NII		(703) 819-7822	<a href="mailto:griffisn@gmail.com">griffisn@gmail.com</a>	13-Sep	19-Sep
Mr. Ryan Hale	Mercury Data Systems					
Mr. John Taylor	Mercury Data Systems					
Mr. Jim Washington	RAJANT				10-Sep	13-Sep
Mr. Barry McElroy	RAJANT				10-Sep	13-Sep
Mr. Don Mullin	Redline Communications		(416) 303-7014	<a href="mailto:dmullin@redlinecommunications.com">dmullin@redlinecommunications.com</a>	10-Sep	17-Sep
Mr. Dave Rumore	Redline Communications				10-Sep	13-Sep
Mr. Terry Schmidt	Cisco		(646) 670-6203	<a href="mailto:schmitt@cisco.com">schmitt@cisco.com</a>	13-Sep	22-Sep
Mr. Dustin Goodwin	Cisco		(917) 848-4113	<a href="mailto:dustin@cisco.com">dustin@cisco.com</a>	19-Sep	22-Sep
Mr. Glen Berndt	Cisco		(408) 605-0029	<a href="mailto:gberndt@cisco.com">gberndt@cisco.com</a>	13-Sep	17-Sep
Mr. Jaime MacLain	Cisco					
Mr. Chris Verges	Cisco			<a href="mailto:chverges@cisco.com">chverges@cisco.com</a>		
Mr. Bob Browning	Cisco		(919) 392-1348	<a href="mailto:bbrowning@cisco.com">bbrowning@cisco.com</a>		
Ms. Karen Easterbrook	Microsoft		(425) 705-9164	<a href="mailto:keaster@microsoft.com">keaster@microsoft.com</a>	18-Sep	20-Sep
Mr. Adam Sapek	Microsoft		(425) 707-6216	<a href="mailto:adamsap@microsoft.com">adamsap@microsoft.com</a>		
Mr. Robert Kirkpatrick	Microsoft					
Ms. Shelley Farnham	Microsoft					
CDR Eric Rasmussen	OSD		(360) 621-3592	<a href="mailto:rasmussene@gmail.com">rasmussene@gmail.com</a>	-	27-Sep

## **APPENDIX B – LESSONS LEARNED (INDIVIDUAL INPUTS)**

SUBMITTED BY CDR PETE GRIFFITHS, OASD-NII (EMBEDDED PENTAGON OBSERVER)

From: CDR Pete Griffiths, USN  
Date: Sep 17, 2005 12:18 AM

Subject: Griff SITREP #1

Greetings from the hot & messy southern MS coast. The following is a bit of a lengthy SITREP. I've been taking my first days here to get familiar with the people, the terrain and the environment and want to give you an idea of what is going on here in Hancock County, MS.

As you know I am established here at the Hancock Memorial Hospital grounds with Brian Steckler from the Naval Post Grad School Detachment with a team of 15 folks (10 military & 5 contractors -- the contractors are here from Redline Communications, Mercury Data Systems and Cisco) and 2 rented RVs. Brian and his talented/motivated team have been able to single-handedly provide connectivity via WiFi, WiMax, and satellite terminals to the Hancock county emergency response. Beyond normal 2-way radio comms that the 1st responders normally operate, there was no, repeat no other communications here. Bell South did set up a few phone banks around the area of Bay St. Louis & Waveland, but they are too few, unreliable & many residents simply don't have the means to get to the phones.

The NPS Team arrived soon after the storm & within five hours of pulling in to the hospital parking lot (filled with all sorts of early responder agencies in tents/RVs/trailers) set up a sat term & provided a WiFi cloud to the Hancock hospital and all agencies in the parking lot. Present at the time included: FEMA, Force Protection Svc, ANG medical unit with full surgery capability, DMAT Disaster Medical Assistance Teams, Hancock medical (setup in outside in tents since the hospital has been, and remains off-limits due to HAZMAT from flooding), and a few cats & dogs. The NPS network provided typical Internet connectivity but also added VoIP phones donated by Cisco - possibly the most significant capability brought to the fight as virtually nobody in the entire county had basic dialtone. Cisco is providing the VoIP phones and most importantly the tie-in to their PBX system set up for the Red Cross in Raleigh NC. Phone service as I mentioned is virtually non-existent so the ability to use VoIP phones for coordination & C2 functions has been invaluable.

The NPS Team has also provided service to several remote sites with the same WiFi/VoIP phone capability via 802.16 shots from the hospital Network Ops Ctr is a "hub/spoke" laydown. The sites are critical nodes in the area for food distribution & fwd stationed emerg personnel and include: Bay St. Louis Police, Fire, City Council, and the Mayor's office (who happens to be Brett Favre's cousin but (as he says) only when Brett is having a good year); the Waveland Police & Fire; the 2<sup>nd</sup> Street Elementary School - food dist & shelter; Fred's Market parking lot on the main Rte-90 hwy which has turned into a major food distribution site feeding nearly 3,000 people each day; and lastly the Pearlinton distribution ctr & shelter. The Pearlinton ctr was the most recently set up and was made possible (range is 15 miles from here and out of WiMAX reach due to lack of tall tower in the area) by Cisco who showed up with a Satellite dish, 40 foot RV/truck & engineers who are also providing additional 2-way radio comms for the NPS Team that, given the terrible cell phone coverage here, was critically needed. The team had great difficulty operating simultaneously deploying assets/capability with no mobile comms of any kind in the first week.

Cell phones are very limited in the area compounding the C2 of the NPS Team as well as the entire contingent of early responders. Verizon is very sporadic & unreliable, AT&T/Cingular is worse with very limited access, T-Mobile is available in some areas & Nextel appears to be the only semi-reliable cell service throughout the area.

There has been some remarkable corporate support here that is worth mentioning. Cisco has clearly bent over backwards to help with the effort here. They currently have 7x engineers on-site working closely with the NPS Team, they provided an RV with Satellite Internet connectivity (mentioned above), they provided some of the wireless infrastructure, routers & switches, and 35 VoIP phones (with more coming). They also have deployed a brand new 802.11 a/b/g product called Sky Captain that far outperforms the Rajant Breadcrumbs in every category (Breadcrumbs are only 802.11b so we now go from "b" at 11 mbps to 54 mbps with "g"). Cisco's effort is remarkable since it is all being done gratis. Cisco has indicated that they plan to donate much of their gear to NPS (thru the NPS Foundation as it's a 501(c)(3) when the mission is completed. This allows NPS to continue research and collaboration already underway with Cisco before Katrina. Also, Redline Communications has support on station as well with 1-2 engineers on-site with more coming to help deploy their rock solid 802.16 WiMAX hardware.

Also, I had a conf call today with Mr. Bob Browning, Cisco Sr. Mgr, Tactical Operations Support who has been supporting the effort here. He expressed interest in continuing to support the connectivity here with VoIP phones, sat connectivity and other hardware previously mentioned. Of interest he suggested a conference/meeting (that he offered to host) with interested players (both govt & civ) to discuss a requirements based approach to this business of humanitarian and/or disaster relief. The idea would be to support the creation of pre-configured, pre-packaged (and most importantly) pre-paid connectivity so that in short order a group of folks would be able to provide wide-spread connectivity in response to a disaster like Katrina. Mr. Browning suggested that the focus be less on hunting down what technologies are available now & in the near-term, but what requirements exist at a fundamental level. For example, all of the copper & fiber throughout the entire coastal region of 3 states has been destroyed by the wide-spread flooding. Most of the folks I have talked to here have suggested that the assumption was always made that SOME of the phone/cell infrastructure would survive. The plans called for 2-way radios to provide critical comms until the cell/PBX phones could get back up. Nobody planned on weeks/months of repairs. Clearly what we've seen here is the need for a completely wireless, and rapidly configurable/deployable network system that could cover an entire disaster region like the Gulf Coast here. Mr. Browning's suggested conf call would undoubtedly be very productive.

There are two efforts ongoing that I should mention to you here. First, Bell Canada is in the process of setting up a demonstration of some of their equipment & network connectivity. They are currently planning on sending down a 2.4m dish, routers, switch, etc. and (at least) a 2Mbps symmetrical pipe for 30 days gratis (we're pushing for and may get 6/6 mbps). They hope, as a follow-on, to hook into the county relief effort for future commercial and DoD HA/DR hastily formed networks ventures as the relief effort winds down & rebuilding begins. This was all done via the "know-a-guy-who" network from one of the NPS teams commercial contacts who was here with one of his engineers the first week (John Taylor, CEO of Mercury Data Systems - another NPS HFN CRADA partner). A few phone calls & a dire need was all it took to get the Bell Canada folks willing to demonstrate/donate critical comms to the region.

Secondly, inbound to the region within the next day or two is rumored to be a "City Team" of folks made up of a loose conglomeration from several non-profit organizations. In prior coordination they are bringing a DS3 pipe (45Mbps or the equiv of 23 x T-1 network pipes) into the area. They are currently going to work with the NPS Team to shoot this 35 mile connection from the Gulfport water tower to the local Waveland water tower via 802.16 WiMAX using Redline gear, and then we will pull from the water tower to here at the Hospital. This will (a) free up a number of dishes & pipes to push out to other area critical unserved and communications starved nodes (we are looking at Diamond Head right now) and (b) provide a h-u-g-e pipe for us here locally. It is unknown who is paying for this pipe and how long it will be available. The "City Team" group is



not well structured and not well managed so we are not sure how they will integrate into the overall NPS Countywide lay down.

A team of reserve NSG personnel are inbound to help augment the NPS Team and provide some personnel relief. Naturally there is a concern & focus on the end-game here & now that connectivity has been provided - nobody wants to pull the plug when the NPS folks have to return home (not funded beyond 30 Sep). Brian Steckler hopes to use the NSG reserve personnel to run the gear & maintain the networks to maintain DoD/Navy positive control of the infrastructure and the network quality of service. There is a concern that if the network management suffers after NPS pulls up chocks they (and by extension DoD) will be perceived as the reason for degradation of performance and customer relations. The first group of 5 reserve cripplies is due to arrive on the 20th and will remain through the 30th. So the problem is that come October 1.....there are NO Navy or other DoD personnel planned to continue the effort here. Given the extensive damage to the local utility copper/fiber virtually everyone involved in the stabilization effort feels it will be a long-time-coming before anyone sees connectivity here, so satellite is the only solution. RDML William Masters, Deputy CNSG, has via email initially expressed interest in CNSG/CRNSG providing support for future reserve augmentation beyond 1 October. However, there is no funding currently identified for this -- and no funding yet identified for NPS to continue it's research mission beyond EOFY - something they strongly desire to have as an option as they would benefit from cradle-to-grave involvement in the effort ISO their HA/DR and CHE/CHD research program. We are continuing to work with NSG as they are willing, and we hope to be able to find the TAD funds to support this critical capability. Same with NPS.

There are a few issues that we continue to work diligently through via the local leadership but still present us with some challenges:

1) The NPS folks have done all this with 15 people and 2 RVs and a 30 foot Ryder truck. Some of them (myself included) are sleeping/living in 95+ temp and 95+ humidity out of the back of SUVs since there's little room at the inn. We have been trying to get support from ANG/USAF for tents with A/C but have come up short. Additionally, all the NOC/C2/network monitoring/mgmt work being done is from within the RVs and there is not enough room to really get a handle on the macro coordination necessary. We are working on obtaining enough tent spaces to support sleeping for 30 people (we have NSG reserve personnel inbound as well), and a command & control tent. The tents we have access to are not air conditioned however. We were able to find 30x cots but they are going unused since we don't have the adequate tent space. We seem to have exhausted all POCs here in the area for this.

2) FEMA had 2x rented RVs (smaller hitched RVs) that they were using for the Federal Protective Service staff on-site. The FPS folks departed today and the trailers were due to be moved elsewhere. After 2 days of phone conversations and personal pleadings, FEMA has agreed to allow the NPS folks to retain the 2x trailers for use here. MANY thanks to Mr. Robert King (Hancock Cty EOC lead), Bob Vanover (FEMA Gulfport), Terry Knight (FEMA Logistics in Jackson), and many more I don't know about, who made this happen. This victory is a massive morale builder for the NPS personnel. We will use the RVs to provide sleeping arrangements for those without, and provide some room for moving network equipment to a more efficient configuration. However, this doesn't remove the need for an A/C'd tent that we will continue to scrounge for.

3) Related: the FEMA folks also provided a temporary shower & sink facility that they are also taking back. We will use the new trailers for add'l showers so this is not a huge problem.

4) The Bell Canada effort previously mentioned has one hoop that we'd need to coordinate in advance very soon. They are bringing a grunch of equipment across the border for the 30 day demo at EOC (proposed) and they have asked for us to work the Customs piece so that there are no show-stoppers for the equipment & people. We're not sure how to do this, none of us here are Customs experts & don't know how to get approval for something like this. We will work through

JFMCC & JTF Katrina and see if this is an easy thing or a hard thing. Would appreciate any advice.

I realize that this is a tad long-winded, but I wanted to give you an idea of where things stand here and how things have been working. The cooperation among several (sadly not all) agencies has been nothing short of inspiring. I am so very impressed with how everyone here is willing to turn-to for the common effort. Lastly, I am simply awed by what the NPS folks, under Brian's leadership have accomplished with a few dollars and a boat-load of energy and several very smart people. It is a thing to behold and seeing the impact here on the local govt & population. it is truly remarkable.

I will be happy to expand as you wish/need and I will follow-up with add'l SITREPs in the near future.

Best,  
Pete

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CDR Pete Griffiths, USN  
Navy NOC: (919) 595-8545 x20040  
Cell: (703) 380-3303

From: Pete Griffiths  
Date: Sep 19, 2005 8:25 AM

Subject: Griff SITREP #2 -- and perhaps the last

The Navy PG school folks have been diligently working on connectivity throughout the area. As of today these 15 folks including military and civilian reps from industry have provided wireless Internet and VoIP/dial-tone service to (a brief laundry list of beneficiaries):

- 1) the Hancock Memorial Hospital supporting hospital staff, FEMA, Force Prot Svc, USAF Nat'l Guard MASH Unit, Army NG security forces, and several others
- 2) Bay St. Louis Mayor's office & City Council
- 3) Bay St. Louis Police, Fire, Red Cross, DMORT (Med Examiner), Red Cross, all law enforcement augmentees
- 4) Waveland Police, Fire Depts, local govt, Red Cross, FL Emerg Relief Society, & surrounding areas
- 5) Waveland Walmart POD (Point of Distro for clothing, food, FEMA) Red Cross, FL Emerg Relief Society, services several hundred citizens a day
- 6) Fred's Market Distro Ctr (services for relief supplies ~1k+ citizens a day). Feeds 700+ people daily, and is major distro ctr for Waveland. Small Internet café style tent setup with 3x laptops & 2x VoIP Cisco donated phones
- 7) 2<sup>nd</sup> Street Elementary School Bay St. Louis shelters 100+ people & provides relief aid for over 400 and provides data & voice connectivity for 300+ people per day. FL Army Nat'l Guard utilizes connectivity for admin reporting and reach-back daily.
- 8) 223<sup>rd</sup> Engineering Battalion with 500+ soldiers working out of factory building in Bay St. Louis. Utilizes network for low-level command and control (i.e., asset disbursement within the county, daily reporting requirements).
- 9) Pearlington Elementary School. 100+ families living, 300 people feeding a day and all law enforcement, NY Fire Dept. Cisco provides connectivity & NPS det assists with configuration monitoring & coordination.

The impact has been significant here and is evidenced by the rapidity of trouble calls when the network has a glitch & the phones/Internet are not available to the local populace. We see people daily who offer thanks and a hand-shake for doing what we have been doing here.

Cell phones remain to be a weak means of communication and cell service is still non-existent for large chunks of the coastal impact area.

And after working for two weeks to provide this service we received word late yesterday via JFMCC in New Orleans that the MS Governor's office has directed that all Title 10 military assets providing any service in the state disengage and depart within the next 24 hours.

<mouth agape>

There has been no discussion or identification of any relief organization to take control of the infrastructure (although NPS will probably be willing to leave the hardware behind). Since there is no one to do this, it will probably be necessary to place the switch to "off" and pull the equipment. The MS state has indicated that they don't have a preference over whether the hardware stays or not.

I am concerned about the significant negative impact of this. I am NOT requesting any action on your part, this is information to my bosses about what's happening. It looks like it is pretty well cut & dried at this point. We are attempting to see if the county FEMA will engage with state, but it remains to be seen if we will be able to identify an organization that will step in to maintain the network.

The team here has no idea what to tell the local population regarding this. They have worked to build relationships with the leadership in the area. It will be hard to explain why we are pulling the plug on all this. This is a truly unfortunate decision. NPS is working now to figure out what to do at this point.

Thought you should know.

v/r,  
Pete

From: Pete Griffiths  
Sent: Tuesday, September 20, 2005 3:01 PM

Subject: Griff SITREP - Last – 2005-09-20

Late last night we received word that the MS gov office approved the NPS Detachment remaining in place until a turnover can be made with a yet unidentified organization/unit.

We worked the issue (with JFMCC concurrence) via the Hancock County EOC Director (and all around great American) Mr. Robert King from Kissimmee, FL and Mr. Randy Pierce who is the IT/Comm director for the EOC (former Navy Chief...and still treats Navy officers as if he was one!) Both of these gents were invaluable to the continuation of NPS network connectivity in Hancock county. I expect (although I don't know for sure) that the MS state Governor himself weighed in on this decision. I am glad it was the right choice considering the benefits provided at zero cost to anyone.

At this point Rita has influenced the decision machine and military units of all flavors are departing the MS coastal region. The NPS det will probably move north to the EOC or Camp Shelby to ride out the storm as the Hancock Memorial Hospital will be void of any military presence today/tonight. Because of this, force protection is the #1 priority necessitating the temporary move. Once Rita decides what she will do, NPS will regroup and reposition to return service to the lower Hancock County region.

From my perspective, NPS has done a miraculous thing in this research project that has turned into a critical link in the relief effort.

Although the primary goal of the NPS det is to learn, they are getting a different education all together. One Navy Lieutenant told me: "You know, it's not so easy to just leave these people. To me these people are not 'The Mayor,' 'The Fire Chief,' or the 'Police Chief,' these people are 'Bob,' 'Jim,' and 'Dave...'"

I saw one man walk in to the small Internet café that NPS erected in the lot of Fred's Market in Waveland. He had a beaten Day Timer in his hand, a worn hat, and a "Katrina Relief" t-shirt on. I don't know if he was a victim or a relief worker, but I have the sense that he was both. As he sat down I thought to myself about the simple ability to place a phone call, and how (as of this moment) had NPS not come here, along with CISCO, Redline, Microsoft, and Rajant, there would be no phone here for this man. I guess the simple things are motivation enough.

I am returning to DC. Brian has accused me of being a quitter, but I hope to be able to come back and provide you all with a sense of what worked here, what didn't, and (most importantly) how we can build a strategy & plan to create something sustainable and significant enough so that we don't have to relearn the lessons that the tsunami and Trina have taught. It really shouldn't be like this (IMHO).

I received Rick's request for briefing information on how VoIP & Skype have impacted Katrina relief & (with Eric's help from the N.O. perspective) I will work this and get you something very soon. Plan on also providing a snapshot of my Trina-week in MS. Will work your calendar appropriately when I return. Helpful to know (as in VoIP/Skype) what your interests are so I can tailor, otherwise I will just do my best to be clairvoyant.

v/r,  
Pete

SUBMITTED BY DONALD MULLIN, REDLINE COMMUNICATIONS

**Donald Mullin** ([dmullin@redlinecommunications.com](mailto:dmullin@redlinecommunications.com))

Frequency management of unlicensed band is essential at the EOC level. This would maintain control of the limited resources of both the frequency band itself and the hardware being deployed. During this deployment, both time and resources were wasted managing the network frequencies as additional systems were brought on line by other users. Critical communications links to fire, police, and military services were threatened due to the deployment of noncritical networks within the 5.8 GHz band.

Hardware deployed should be, whenever possible, staged to confirm operability and physical content. The lack of two essential pieces of antenna mounting hardware almost cost us the ability to deploy an entire link.

While a mixture of one-foot and two-foot antennas is acceptable, having all two-foot would be easier to manage and could be utilized on any link. Also, I would suggest that all IF cables supplied should be 400-foot RG11. With the extra-long cables and higher gain antennas, the operational flexibility would be greatly improved.

SUBMITTED BY LTJG NATE SEAMAN, USN (NPS STUDENT)

### **Summary of Operations**

The initial coverage area was limited to the base of operations on the premises of HMC. Several entities were located on this site including, but not limited to: FEMA DMART (MO), FEMA DMART (FL), Air National Guard EMEDS (field hospital), DMORT (mortuary services), Gulf Coast Ambulance Service, American Medical Response, MS National Guard, and ourselves. The first floor of the hospital was completely destroyed and its entire IT infrastructure was absolutely devastated. While most of the units at the HMC were able to communicate within their unit, they could not talk to each other on their radios. Each unit had to physically locate someone if they wanted to speak to another unit.

Once the HFN was up and running, all units at the HMC had Internet access and were able to use email to communicate across agencies. Within 48 hours, we had established VoIP and distributed phones to the Air National Guard (1) and FEMA (2), and kept one for ourselves.

At the 48-hour mark, we had also established an 802.16 link at the firehouse, which was relayed to the shelter on 2<sup>nd</sup> Street. Two laptops and a VoIP phone were placed at the shelter to aid the displaced victims in a many ways. They were able to track down loved ones, contact insurance companies, read email, and get some much needed exposure to the outside world. Unfortunately, some of the areas who had coverage under the 802.11b umbrella did not know how to utilize the Internet to help them in their mission. This was due largely to the population's unfamiliarity with how to utilize the Internet for much more than entertainment. With some "collective teaching" many of them caught on quickly and the service became an invaluable tool at their disposal.

### **End User Feedback**

#### **FEMA**

I spoke with several members from FEMA's command suite to gather their assessment of the HFN we deployed. They were able to use our hardware and network infrastructure to accomplish many things including a very large amount of online training for their teams, something they said would really help their operations. It also gave them a link to their families and friends, which helped them cope with the difficulties they

faced here and improved their morale. They used their patient-tracking software (developed by a FEMA member) in real time. As patients were seen in the treatment area, their information was sent to the central patient tracking database in close to real time versus having to come back at the end of the shift and upload all of it. This gave a much clearer picture of what was going on in their operation. Most members of the team are similar to Reservists in that they have a “real” job and they do the FEMA job on demand. Having Internet connectivity allowed them to keep up with their businesses and minimized the negative impact of being deployed. It also allowed the team members a way to pay their bills and keep up with their normal household responsibilities. They were VERY happy to have the service we provided to them and they hope to integrate a similar FLAK/HFN into their own system.

### **DMORT**

DMORT operated in the base camp from 0900 hours to 1700 hours. The staff members were very pleased with the HFN. They had their own WiFi-enabled laptops and had no problem accessing our network. Normally, when a surviving family member or friend came to them to find out information or to leave information, they would fill out a form and the staff would give them the contact information (phone/Web) for the Red Cross. There was no power or hardwire phone service on Day 21 after the disaster, so the contact information handed out did little good. With our HFN, they were able to give the family access to the Internet and allow them to search all of the available information. They could also come back and get follow-up email or provide additional details. The DMORT Team that was here usually responds to transportation accidents where there are manifests and contact information for families is readily available. Having Internet access on-site greatly enhanced their ability to locate families or friends of those who were deceased.

### **Air National Guard EMEDS**

Prior to our HFN being established, the EMEDS (field hospital) had to relay large reports via voice conversation over the phone, which was time consuming and led to frustration and error. Once we provided them with two laptops and an Internet connection, they were able to send the reports electronically, which made it easier for all involved. They had a network running throughout their camp, but it did not have Internet



access. Internet access also helped out the morale of the troops involved in this effort for reasons similar to those stated above for FEMA. The Internet connectivity also allowed them much greater access to logistic and supply support.

### **Air National Guard Military Police (MP)**

The National Guard is tasked with the mission of force protection. They manage the entry and exit points to the camp. They are on a 3-day rotation, working 12-hour shifts each day. We provided them with a laptop and they have been using it primarily for email and keeping up with their family finances. It is a morale tool that is providing them with a little relief from the stress of the region.

### **2<sup>nd</sup> Street Elementary School**

The local civilian population has taken advantage of the Internet and VoIP phones on-site and has been using them for many different reasons. It has given them contact to the outside world and allowed them to file claims, gather information from FEMA's Website and other aid agencies, and also provided them some of the daily comforts they were used to prior to the disaster. They are advertising the service with a large, professionally made sign (versus spray paint on plywood) in front of the shelter. While the population at the shelter is shrinking, many people come to that site solely for the services we are provided.

### **Supply/Log Specific Issues**

1. Support from private companies (CISCO, Microsoft, Redline, Rajant, etc.) was absolutely indispensable. The individuals sent down from each company were of a caliber I would not expect in the civilian sector. I was proud to serve with all of them. They had the most "can do" attitude I have seen outside of the military and there were no "proprietary" barriers—they were willing and able to accomplish any task, no matter what.
2. Every case of equipment should have a current and accurate inventory list. Adding a photograph of the gear and a general topological diagram would also help.
3. If any equipment moves after being deployed, it must be reported with all identifying information to the Logistics Officer by the person who moved it.
4. Must have someone with purchase card authority involved from the start.

5. Fleet fuel cards would have been great.
6. Several thousand dollars were put on personal (not travel) credit cards due to problems with government cards. This was necessary to ensure the mission even got going; however, this is NEVER a good practice.
7. When traveling to an area that has been destroyed, government purchased food (MREs) should not be so hard to procure.
8. Keep a spreadsheet with all the MAC and IP addresses for each device.
9. Establish a designated smoking area, preferably by the porta-johns.

SUBMITTED BY MIKE CLEMENT (NPS STAFF)

### **After Action Report for Operation Hurricane Katrina Support Mission**

This After Action Report is based on observations made during my visit to the post-Hurricane Katrina affected region, roughly two weeks after the hurricane had hit. I have divided the report into four sections, covering technical issues, team logistics, team interaction with the community, and finally, some general observations about the post-hurricane environment and communities.

The report emphasizes areas of improvement, so aspects of the project that went without flaw are briefly mentioned or left out entirely. However, it should be noted that the team as a whole did an outstanding job in providing service, and in the mission of providing voice and data services to local first responders and residents, I would say whole-heartedly that they achieved a success.

#### **Technical Observations**

1. It is an absolute requirement to create and maintain an accurate view of the network. This includes, but is not limited to, IP addresses, computer and router configurations, administrative passwords, and network topology. This requirement solves both the problem of having human situational awareness of the network, and being able to recreate portions of the network in the event of lost or damaged equipment.
  - a. Example: There was a problem with one of the Cisco wireless LAN manager devices, wherein it stopped working. We were unable to recall the administrative password that was set the day before and had to hard reset the device, losing all configuration information. Luckily, a Cisco engineer was able to quickly rebuild the configuration. We should have exported and saved both the administrative password and the current configuration, to ensure that even if the device required a hard reset, we would be able to quickly restore the configuration regardless of having expertise present.
  - b. Example: During the course of network deployment, there were several times when we negotiated with other relief workers for integration of

network resources. In doing so, there were ongoing requests for topological information to facilitate this potential integration.

2. It is also an absolute requirement to weatherproof all equipment against rain, wind, lightning, heat, and sun at the time of deployment. Much of the equipment we were using was sensitive to heat or direct sunlight; antenna alignment was sensitive to strong winds; and nearly all equipment was susceptible to rain and lightning, depending on placement.
  - a. Example: There was a lightning storm one evening, but none of the radios or antennas were equipped with lightning arrestors. Previous experience in southern Thailand indicates that lightning strikes can easily destroy equipment both by striking antennas and by striking the power supply (public power lines, in the case of Thailand). Both lightning arrestors and surge suppressors should be required for exposed equipment.
  - b. Recommendation: The standard supplies for gear deployment teams should include plastic sheets or tarps, duct tape, zip ties, lightning arrestors for antennas, and power strips with surge suppression.
3. We quickly encountered instances of computer users changing the computers in ways that were not compatible with a reasonable AUP. There is a need to lock down community computers and post an AUP near all community workspaces where we deploy.
  - a. Example: Laptops at the Waveland POD (a distribution point servicing over 2,000 residents) had their Web browser homepage changed to maddox.xmission.com, a site featuring generally inappropriate content not compatible with the image that NPS would want to portray as an institution.
  - b. Recommendation: There needs to be a guest account with no password and an administrative account with a strong password. Up-to-date antivirus and firewall software, as well as operating system patches, were installed and should be continued. Unfortunately, most PCs cannot easily be guarded against tampering by those physically present, but measures

such as removing CD and floppy drives and using a locked-down configuration can mitigate this issue.

4. Each deployment or site visit team should be equipped with a standard kit for various networking, radio, and general needs. A standard-sized toolbox should be able to hold all the required tools and supplies. The kit should include cable crimpers, connectors, adaptors, and testers for both Ethernet and RF cables (e.g., satellite and Redline). It should also include notepads, pens, heavy markers, and large paper for sign-making. A basic tool kit including hammer, nails, screws and screwdrivers, sockets, a knife, tape, and zip ties is also necessary. This kit might also include standard weatherproofing items.

### **NPS Team Logistic Observations**

1. The NPS base camp was in use by up to roughly 20 people at any given time, with personnel coming and going at random. This generated a good deal of garbage and gear, most of which was disposed of or put away, but enough was still left on tables and around the camp to leave it in a cluttered state. A duty roster for base camp tasks should be made for each day. This would include cleanup tasks, errand-running, and also identify a main POC at the base camp for each day, so that there is always someone on standby to take calls and coordinate teams. By having a rotating roster, students are given the opportunity to experience each of the facets of the operation, from the base camp activity to the deployment of equipment, thus maximizing the experiential value for all personnel.
2. In addition to general camp cleanliness, some measures should be taken to ensure that any work and living spaces are kept clean and sanitary to the highest degree possible. The later addition of hand sanitizer bottles to the doorways of each RV was a good start on this. In addition, some effort should be made to keep the RV interiors clean. This may take the form of removing shoes and boots before entering the RV, though this proves to be an added nuisance for military personnel. Rugs, cardboard, or plastic sheeting may be used to keep underlying floors clean, and may be removed at night to provide a cleaner sleeping space when at full capacity.

3. It is also important to rotate personnel through the task of errand running, when errands must be run to a neighboring town. This is not only for the sake of spreading the inconvenience of having personnel offsite across the entire team, but also serves as an important Morale, Welfare, and Recreation (MWR) aspect, especially when dealing with stressful situations and long days in an austere environment. If each team member was able to leave to go into a neighboring, functioning town to go to the store and get a meal, that should have positive effects on the morale of the camp as a whole.

A corollary to this is that a central board should exist for listing needed supplies, from administrative or technical needs to personal needs such as toiletries. If a cutoff time was applied, this would prevent the need for secondary runs into town for supplies.

4. Regularly scheduled site visits are very important for maintaining the usefulness of the deployed networks. We found that gear would break or require adjustment on a recurring basis, and sometimes the locals at the remote site would be unable to call the NOC, or would not think or know to call the NOC for assistance. Daily trips to each site were a routine element of the mission, and should be reinforced as an important measure for evaluating the utility of the deployment and correcting problems proactively as they arise.
5. Each site has its own nuances and issues, so there should be a notebook for each site, taken during gear deployment and site visits to record settings and historical issues. A computerized system for recording these notes and observations (e.g., a Wiki) is too cumbersome and not sufficiently real-time, as it may be unavailable at the site. A standard pen-and-paper solution provides a quick and easy way to sketch the network, copy down routes, draw the mounting solution for an antenna, or write a brief description of the day's work.

### **Support Community Logistic Observations**

1. Users at remote sites need a reliable means to contact the NOC in the event of network issues. The main problem we encountered with this was people who

could only contact the NOC via VoIP phones, so when the network went down, so did their only way to contact the NOC. In addition to VoIP contact information, some combination of cell phone numbers, satellite phone numbers, landline numbers (if available), and radio frequencies should be distributed to each site. This also falls in with the regular site visits, providing the end-user with every reasonable opportunity to contact the NOC or technical teams able to assist them.

2. Along with contact information, detailed “quick-fix” documentation should be provided at each site. This would include easy fixes like “reboot the computer” or “unplug and replug the power on the switch,” as well as general information on how to use the network equipment. For instance, if a generator is on-site, some instructions would include how often the generator should be refilled, if it needs oil added regularly, and what type of fuel and oil it uses.
3. Finally, when planning the deployment of equipment, the team should establish a primary and secondary POC for each site, preferably someone with another communication device (e.g., cell phone, sat phone); so that there’s always someone to call first if equipment goes missing or the network goes down.

### **General Observations**

1. Support camps and communities need organizational leads for tasks such as shipment receiving, technical details, public relations and interaction with other camps, and so on. One example was at the Waveland (a.k.a. Fred’s) distribution point, where shipments destined for one camp were intercepted and taken to another. A lookout and shipping POC could have solved this by properly tracking such shipments. In another instance, news reporters drove into the camp and parked in loading zones, then freely walked about, interviewing people at random. Although this is not necessarily a bad thing, the camp organizers may have wanted to coordinate some level of public relations internally so they could accurately present what they were doing in their own words.

2. Community coordination through personal Websites is fairly effective. Major relief providers such as the Red Cross, were overwhelmed between providing relief and taking phone calls from would-be donators and supporters. This led to a standard response to the public of “just send stuff to our distribution center,” and similar answers. On the other hand, local folks could coordinate with each other face-to-face, and one with some form of communication to the rest of the world could coordinate supplies to be sent in for everyone. We saw a number of small groups, no larger than 30 each, who coordinated with a central person who could either post updates to a Weblog or make regular phone calls. These camps turned out to be very capable of fending for themselves.
3. Part of the problem with the public donating en masse to large organizations was that much of the clothing was not appropriate to the situation (winter clothing or an old dress cleaned out of the attic), and there was nobody to sort through everything. The result was huge piles of unused clothing lying out in the open, eventually being rained on or otherwise destroyed, without ever seeing use by hurricane victims. Some mechanism for sorting through donations, and better informing the public about what is needed, would go a long way toward getting the right supplies to the right people.



SUBMITTED BY LT PAT LANCASTER, USN (NPS STUDENT)

### **Bottom Line Up Front (BLUF)**

#### **Water Tower 802.16 WAN Infrastructure Method**

Use water towers to lay a permanent 802.16 infrastructure for emergency communications. Recommendation is to install 802.16 antennas on water towers in areas prone to hurricanes and earthquakes in order to establish a command and control communications backbone within hours after the disaster. The equipment required and configuration is as follows: Install one or more 802.16 antennas on top of a water tower in a hardened steel case with a pedestal/foundation that can swivel and lock in preset positions in order to link that water tower to another water tower in the affected area. All power and control cables would be housed in watertight conduit and bonded to the support structure of the tower. Cables would include RF cables from the antenna to the antenna controller (AN-50E), power cables, and possibly control cables, to remotely control the antenna position without the need for climbers or riggers. The conduit would terminate at the base of the tower into a water tight steal enclosure elevated on a 12-foot x 12-foot block of steel reinforced concrete, which would be anchored with pilings sufficient to ensure it could withstand tidal surges such as those experienced at Katrina ground zero and with consideration for tsunami-force waves at coastal locations where that risk exists. The watertight enclosure would contain a generator and a two week supply of fuel in an underground hardened tank. The watertight enclosure would have two separate compartments: one for the generator and one suitable to house electronic equipment with appropriate environmental controls (air conditioning and humidifiers) to support the AN-50E or other like terminal equipment. Some key locations on the fringe of the disaster location could be preconfigured to become NOCs. In the event of a disaster, the water tower 802.16 WAN links would be activated at the affected cities and locations as soon as the tidal surge receded and communications teams would be able to deploy 802.11 WiFi equipment and establish wireless LAN communications to support VoIP technology and Collaboration tools such as Groove to enable FEMA, Red Cross, EOCs, and other local key command and control locations such as fire stations, police stations, shelters, and PODs to communicate within a few hours after a disaster. *LL: Obtaining bucket trucks for the installation of LOS 802.16*

*links is almost impossible.* Our initial links were very limited because we could not get above the tree line and most 802.16 shots required 48-72 hours to set up, and multiple links were needed to connect the affected cities due to a lack of infrastructure above the tree line. The 802.11 equipment can be implemented in under an hour if the 802.16 links are available.

### **Highway 802.16 WAN Infrastructure Method**

For locations where water towers or hardened radio towers are unavailable, I recommend using highways and power lines to establish 802.16 infrastructures. My recommendation is to fabricate self-contained 802.16 WAN deployment units in pelican cases. Pelican case units would be white to deflect heat and have exterior lighting since they would be used along highways or access roads. Units would be approximately 3-foot x 3-foot x 2-foot with folding/locking legs and a 20- to 40-foot telescope mast to support the 802.16 antennas. Pelican case would also contain large Nicad or Lithium batteries in the bottom of the case to support at least two weeks of operations and a solar panel could also be included to trickle charge the battery during the day for extended use beyond two weeks. Units would be deployed to establish the WAN infrastructure around or along the affected area and could be up and running within a few hours after the disaster.

### **Time Line and LLs**

#### **01SEP05 – Notification**

NPS students received an email notification around 1600 hours that the COAST Team was deploying to provide communications for the Hurricane Katrina relief effort.

#### **02SEP05 – Initial Planning**

Notification was sent out for those interested to meet at 1400 hours in the Wireless Warfare Lab, where the COAST Team reviewed the skill sets of the volunteers and Team Katrina was formed. Deployment strategy and preparation plans were very fluid and maximum flexibility was required by all team members as the initial plan was

being formed. The energy was very high and everyone wanted to get moving as fast as possible with deployment preparations.

### **Load Out Planning**

We should have worked late and inventoried all the equipment, then developed a load out and lay down plan. I recommend developing a plan for palletizing the Pelican gear cases based on function and providing an inventory sheet for each pallet by case, listing what is in each case. A lot of time was wasted looking for items and trying to verify that they were loaded. Items were loaded, unloaded, and shifted inside the truck over and over, since we were not sure everything made it on the truck. This evolution was repeated during arrival of the truck at Bay St. Louis Medical Center, where about half the truck was unloaded, reloaded, unloaded, etc. It was a huge waste of manpower, caused by not having a clear load plan and inventory on the outside of each case or pallet to clearly identify what was inside.

### **Ryder Truck**

We should have picked up the Ryder truck one day earlier than we did in order to facilitate gathering all the materials for Team Katrina. Doing so would have assisted in developing a clear load plan.

### **Airlift**

A lot of time was wasted after Team Katrina was notified we were going to be air lifted vice driving. Our initial plan was to deploy fully self-contained, but if we were going to airlift we would not be permitted to on load any of the fuel, gasses, etc. that we needed to sustain operations. Therefore, the airlift was a good idea if we had all the equipment ready and if we had assurance we could get lodging, food, and fuel once on location. However, our guidance was to deploy with everything, which made flying a nonstarter. There was about eight hours of disruption in the planning process based on the proposal to fly Team Katrina. The team's leadership should have made the call early that flying was not an option and focused on the task at hand of planning the load out and travel plans.

### **03SEP05 – Deployment**

Most of the day was spent on logistics and collecting all the materials needed for the trip and loading the Ryder truck. The Advanced Team, comprised of Professor Brian Steckler, LCDR Bill Bruce, CAPT Steve Urrea, and LT Pat Lancaster, departed Monterey, CA at 1920 hours via commercial air. The convoy, consisting of Nemesis, the Ryder truck, and a POV communications vehicle, departed around 2000 hours.

### **04SEP05 – Advanced Team Report to JFMCC and Stennis METOC**

The Advanced Team arrived at 0640 hours at Pensacola International Airport and loaded into a Ford Explorer. The team then looked for a location to shower and change into uniform, which ended up being the Pensacola Bachelor Officer Quarters (BOQ). The team reported into the JFMCC around 0900 hours and met with CDR Mills, the J6, and briefed him on our capabilities. Our mission was to assist the Stennis Space Center METOC with restoring communications. The team reported to Stennis around 1700 hours and met with the METOC Executive Officer (XO), CAPT Cousins, and took a tour of the METC operations management area and conducted a site survey of the roof and surrounding areas for possible lay down of equipment. Our site survey and meeting with the XO revealed that the METOC was running on generator power and all phones on the base were down. We departed around 1900 hours to find lodging for the evening and returned to Stennis around 1000 hours the next morning.

### **Topographical (TOPO) Maps**

By luck, I ran into the METOC Librarian who said he could provide us with TOPO maps of the area we were surveying. However, he could not get the maps until the following day. Therefore, we went over the Special Boat Unit to inquire about TOPO maps and they referred us to their Intelligence Officer who had the maps, but was unavailable. So, again, we met the METOC Librarian the next day and he provided us with the TOPO maps we needed.

### **Phone Restoration Activities**

While exiting the gate in Stennis we noticed there were several telephone trucks with satellite dishes behind the main security checkpoint in the building. The next morning, we stopped and talked to the technician and it turned out he had installed 12 phones, a PC with Internet access, and a fax machine.

### **05SEP05 – Reported Back to Stennis METOC**

Upon arriving at the METOC we noticed a NGO had set up an RV with a satellite dish. We spoke with the team leader for the NGO and he informed us they had successfully installed a 20M up/down satellite shot and were in the process of installing a DS3 (45M) connection within the next 72 hours. Also, phone service and power was being rapidly restored throughout the Stennis Space Center. Confident that the METOC would soon be fully mission capable, the JFMCC released Team Katrina and retasked us to report to the Hancock County EOC for tasking.

### **06SEP05 – Hancock County, MS EOC**

Met with Mr. Randy Pierce, the acting N6 for the EOC, and briefed him on our capabilities. While waiting for the meeting, team members fanned out and collected information on where assets were being deployed in Hancock County, as well as where the assistance centers and shelters were located. Once Mr. Pierce was up to speed on our capabilities, our new mission was to provide communications to the HMC in Bay St. Louis, MS, which is the largest medical facility in area.

### **The 25-Man Tent**

While at the Stennis EOC, we met with the supply officer and had her set aside a 25-man tent, which is a little larger than a general purpose (GP) tent. We then asked the Air Force Emergency Medical Assistance Team (EMAT) for assistance with picking up the tent and coordinated with them for a laydown location for our equipment. The EMAT personnel did assist with picking up the tent, but did not follow through on a subsequent offer to set up the tent, and with only four NPS personnel here there was no way we could assemble the tent ourselves because it takes at least eight personnel.

### **07SEP05 – HMC and Waveland Wal-Mart Survey**

Departed from the Hancock County EOC, Stennis Airport, at around 1700 hours to HMC and conducted a site survey. However, on the way, we noticed the Hancock County Sheriff's Department had established an EOC in the parking lot of the Waveland Wal-Mart on Interstate 90. Upon a recommendation from a team member, we stopped and surveyed what equipment was on-site and what operations were being run from the site. Further, we met with Major Hart, OIC of the Hancock County Sheriff's Department EOC. During our meeting, he briefed us on his operation and, in turn, we briefed him on our capabilities. Major Hart seemed very excited about what we could bring to the operation and made it clear he wanted our capability at his location soonest. We informed him of our current tasking at the HMC and told him we would see what we could do. Major Hart then introduced us to Mr. Ben Holycross, the acting N6 for the Wal-Mart operation, and he was also very excited about our capability. Mr. Holycross was from Polk County, FL, and specializes in communications during hurricane relief efforts. Mr. Holycross was also very excited about our capability and informed us that Harris Corp. was installing a satellite dish within the next 48 hours at his location. We surveyed the area for future deployment of Breadcrumbs and Mr. Holycross gave his permission to connect Breadcrumbs to his satellite shot, saving us a 801.16 shot to that location. LT Lancaster remained at the HMC, while the rest of the team toured up and down the coast to survey the area. The team grouped back together at HMC at around 2030 hours.

### **08SEP05 – Caravan Arrives With Equipment**

We continued working with FEMA, EOC, Red Cross, and the Air Force EMAT to find a laydown area for Team Katrina. We were eventually permitted to laydown in an inconvenient area nearby, but it was enough space for what we needed. The two RVs and the Ryder truck arrived at 1700 hours, with the Tachyon satellite and 802.11b Breadcrumb equipment, and the LAN was up and operating at HMC within five hours. When the network was deployed in Thailand it took 120 hours to have the LAN up and operational. We could have accomplished the task within approximately two hours if the preconfiguration information for the Tachyon satellite dish was known in

advance and if the Tachyon calibration software had been fully installed and not just downloaded. Technicians had to contact Tachyon to find out what satellite we were connecting to, get the preconfiguration information, and ask for the user logon and password to in order to run the Tachyon calibration software.

### **Tachyon Antenna Setup**

**Router** – Ensure the router is preconfigured with Internet Protocol (IP) addresses including: network address, default gateway, primary and secondary Domain Name Systems (DNS), etc.

**Power Meter** – The Pico-Sat meter is not the correct type. Also, the Pico-Sat meter battery was dead; the battery should have been charged while en route or prior to load out.

**Antenna** – If possible, document which satellite you are connecting to and record/load all presets, including initial bearing and azimuth settings.

**Antenna Calibration Software** – Software was downloaded, which was good, but in order to run the program, the user needs the software “logon and password,” which were unknown. Therefore, technicians had to contact the vendor and wait for a callback in order to run the program. When running the program, technicians will need to enter the position, including height, and will be prompted to enter the model numbers of both of the band pass filters on the dish. Also, the feed horn on the antenna needs a 20-degree offset, counter-clockwise as you face the dish; the feed horn was adjusted in the wrong direction, which also caused some delay. There is a collar securing the feed horn that can be loosened with one bolt.

### **Wireless Antenna Setup**

Technicians did not have proper electrical tape, vulcanizing tape, tie wraps, and wood/plastic antenna mounts required for initial installation. Over the next couple of days, antenna connectors will have to be properly weatherproofed and antenna’s properly secured, requiring rework.

### **09SEP05 Established HMC NOC**

Used the old hospital staff lounge as a temporary NOC until a better space with adequate A/C and power within cable length could be identified. The original plan was to install NOC in Nemesis, but Nemesis was two days out and the NOC needed to be established. In addition, a third mobile MotoSat satellite dish is being shipped and the intent is to use Nemesis as a remote, self-contained unit. Technicians continued to weatherproof all antenna connections at HMC and organize the base camp.

### **10SEP05 Still Getting Settled at HMC**

There was a lack of coordination between the Stennis EOC, FEMA, and the FPS personnel providing security to the HMC. Therefore, we often met resistance from FEMA and the FPS when trying to carry out the task of setting up communications at the HMC, although we had awesome support from the HMC's administrator and facilities director.

### **11SEP05 Settled at HMC**

Personnel were working on several key projects and those not involved with expanding the network relocated our base camp inside the perimeter fence surrounding HMC. Three personnel were dispatched to the 2<sup>nd</sup> Street Elementary School at Bay St. Louis, MS, where they finished off fine-tuning the 802.16 WAN connection, which was relayed back to the HMC via the Bay St. Louis Fire Station. Personnel reloaded the Ryder truck and RVs and moved all vehicles and equipment to our new site. Another team was working on grooming the router configurations and also relocated the 802.16 and added a 802.11b Breadcrumb (cupcake antenna) to improve the mesh at the fire station.

### **12SEP05 Waveland PD 802.16 to HMC**

Reinstalled SE Breadcrumb at the 2<sup>nd</sup> Street Elementary School after Regent technicians flashed the bios to the new version (newer version was eight generations ahead). Upon energizing the upgraded Breadcrumb it took down the network because DHCP was not disabled, even though we specifically requested that it be disabled. This error caused about a one hour delay in restoring 802.11b coverage at the



2<sup>nd</sup> Street Elementary School. The team then deployed with Redline technicians to establish an 802.16 shot from the HMC to the Waveland PD, which is a major distribution and coordination center along Highway 90. Installed a two-foot redline antenna on a 100-foot radio tower approximately 70 feet up using a bucket truck. We could not complete the installation due to darkness and safety concerns about working around the existing antenna field and guide wires in the dark with the bucket truck.

### **13SEP05**

Awaiting FEDEX delivery of the missing Tachyon satellite dish feed horn components. Also, awaiting arrival of Cisco technicians and 25 VoIP phones, as well as additional equipment such as routers and switches. Representatives from another independent ad hoc wireless communications organization, City Team, also arrived and met with LT Rob Moore to brief us on what equipment they were bringing and where they intended setting up their base of operations. Personnel continued to work on setting up the 802.16 shot from the HMC to the Waveland PD, while others planned for the deployment of Breadcrumbs to the largest distribution point in the area, which is located across the street from the Waveland PD in the parking lot of Fred's Department Store. The Fred's distribution point is serving 2,100 meals per day and has a drive-through pick-up system, where residents can pull through with their POVs and load up on bulk goods such as water, food, cleaning supplies, pet food, etc.

### **2M Repairs**

Successfully performed 2M repairs on an XL Breadcrumb motherboard, which involved replacing a damaged RFI connector. 2M repairs included removing a good connector from the motherboard that was not used and replacing the damaged one with the good one. During the process, two foil runs were damaged due to lack of proper tools. However, the foil runs and connector were successfully repaired. Strongly recommend future HFN teams be equipped with a basic soldering set including solder removal tools such as solder sucker and wicking, as well as flux and other essential items to affect repairs. The cost of outfitting a simple soldering kit is around \$200, which is nothing compared to recovering an asset such as an XL Breadcrumb, which I believe costs between \$7,000 and \$10,000.

### **14-16SEP05 Activities**

NTR.

### **17SEP05 Activities**

Started the day locating the hardware and O rings to assemble the second Tachyon satellite dish. LCDR Bill Bruce and I had to canvas the marine supply, auto supply, and hardware stores in Gulfport, MS to find the required hardware to assemble the satellite dish. LT Rob Moore, Mike Clement, and I started mounting the dish and working to acquire the satellite around 1700 hours, but were not able to get a clean shot. The antenna was moved to the roof of the Waveland PD Mobile Communications trailer, but we were still unable to acquire the satellite. The goal was to get the Tachyon dish up so we could disconnect the link supporting the Waveland PD and the POD across the street, which supports over 2,100 victims each day. The connection we were trying to replace was a 802.16 shot in the tree line to the Waveland Wal-Mart and connected to a Harris satellite dish supporting the Hancock County Sheriffs Department EOC. The link was our most unstable connection, but we did not have enough cable to access the Waveland water tower in order to get a clean 802.16 shot back to the HMC. If we could have made that connection we would have collocated the two Tachyon dishes and load balanced them to double our bandwidth. LT Rob Moore, Mike Clement, and I decided the frustration level was maxed out at 2100 to 2200 hours and headed back to base camp for evening wrap up.

### **18SEP05 Activities**

BINGO – After a few hours of trying to acquire the satellite, LT Rob Moore and I decided to relocate the antenna with the help of LT Bobby Patto, 1<sup>st</sup>LT Caesar Nader, and LT Michael Sanders. Once the dish was relocated to the top the of the CONEX box in front of the Waveland PD we were able to successfully acquire the satellite. We then disconnected the 802.16 link to the Harris dish and directly connected Waveland PD and the POD to the Tachyon dish using the Cisco 802.11 AP units.

## **Tachyon NOC**

If you have any issues acquiring the satellite or issues with assembling the unit you can contact the Tachyon NOC for 24/7 support. In addition, you must contact the Tachyon NOC once you have acquired the satellite so they can provide any software upgrades; they will also fine tune the connection to maximize bandwidth. We used this procedure for both Tachyon dishes and were able to almost double our bandwidth on both dishes.

## **Acquiring Satellites**

While looking for a satellite you are concerned with the Eb/No signal strength, which lets you know you are acquiring the correct satellite. However, while searching via the pan/tilt method down your perspective bearing and elevation, watch your Receive signal strength and use that to lock in on satellites around the one you are trying to acquire so you can eliminate those signals and narrow your search. Some satellite dish bases have markings to show your elevation and bearing, but older bases do not. We had one of each and it is much easier to acquire the bird using a base with markings.

## **19SEP05 Activities**

Turned over my duties to the new Operations Officer, LT Tom Haines, and then spent the rest of the morning capturing these LLs and packing. Scheduled departure from base camp to Gulfport airport is 1300 hours and both Mike Clement and I are departing today.

## SUBMITTED BY 1STLT ROB LOUNSBURY, USAF (NPS STUDENT)

I was with the effort the first two days as it was pulled together. I then joined the group at Waveland on 18 September 2005.

During the team's prep, I helped gather equipment and set up all of the laptops (initial software install and latest antivirus (AV) definitions and patches) that were deployed at the sites in MS. The software loading probably took longer than it should have. I attempted to use Norton Ghost, but that was taking longer than just setting up each system by manually installing/downloading/updating everything on each one. I was not an experienced Ghost user, but an experienced user set it up so I'm not sure what happened there; however, this didn't slow the team down. Bottom line—if you need to baseline a group of laptops, ensure you have the latest/quickest disk-imaging product available and an experienced operator.

Arriving as the second wave, we were mainly focused on maintaining the equipment, sorting the supplies, and preparing for possible departure. The thing that rings out the most in my mind about my experience on-site is that everyone had the mind set that they were there to work on the equipment and/or assist the locals. It appeared that no one considered that there was a camp that had to be run. Recommendations—establish positions and details in the planning process. Find your team members' strengths and exploit them. Some people like to cook, others like to tidy up. Work up a schedule and ensure it is adhered to, or bring on folks just for those positions.

### **Odds and Ends**

1. Use a barcode scanning system or, better yet, radio frequency identification to inventory the equipment (with a dedicated equipment manager)—utilize an inventory management system so that everything that goes out/comes in is recorded in real-time, not when we get to it.
2. There was a lot of cutting and splicing of power cables. Consider a group of various prefabricated adapters or a roll of heavy gauge four wire power cable and a variety of ends. We spent a lot of time playing with tripped breakers because the extension cords couldn't carry the load.

3. Consider a water purifier installed on Nemesis or equipping the team with personal ones. We had plenty of drinking water, but you might be somewhere that you don't.
4. Consider purchasing or renting a trailer mounted 100Kw diesel generator to pull behind Nemesis—better yet, have a six-passenger, 4 x 4 SUV with a camper or at least a bed cap as a second vehicle to carry the team and pull the generator. Alternatively, you could add an additional diesel fuel tank in the bed so you would have a few days' worth of fuel for the generator and truck. A rental could carry the gear.
5. Add weather instruments to Nemesis. It would make for good data collection when evaluating how the network equipment performed.
6. Add a TV dish to Nemesis—always need to know what the weather is doing. Yes, we can check the Website, but it isn't talking to you without input from you.

SUBMITTED BY LT RICHARD CLEMENT, USN (NPS STUDENT)

1. EOC: Establish liaison with the Communications Director early. Check into available ARES nets early and often, and tell them what you are doing. Meeting amateur operators is a great networking tool, as information often passes through them or by them.
2. Communications: We just do not have enough gear. Complicated radios like the PRC-117 and PRC-150 are not the answers when interacting with state, county, city, and NGO officials due to their large size, low power, and Comsec Controlled Inventory (CCI) issues. COTS two-way gear, like public safety personnel have, is the way to go, as it is sturdy and flexible. A communications request for frequencies must be done first thing to ensure we can do what we want (Bradford—need to precoordinate frequencies at all levels: local, state, and federal disaster recovery plans). Making friends with the local served agencies will potentially enable us to operate under their license and use their established infrastructure, like we are doing now with the Bay St. Louis Fire Department using existing infrastructure frees time to perform the mission instead of worrying about preliminary setup.
3. While there are many Amateurs that know the laws and just try to help, others are looking for fame and glory, and are willing to break Federal Communications Commission (FCC) regulations in order to receive any sort of recognition. As a result, communications gear requests should never be routed to amateur radio operators working as volunteers.
4. NGOs and command and control (C2) are mutually exclusive. Many NGOs are volunteers coming together to help, and have no knowledge about how to work with the military. Even if there is a manager of a NGO, he or she will often not know what anyone is doing.
5. CCI: Any CCI gear should be thought about thoroughly before deploying it with the team. CCI complicates the turnover process (Bradford—and daily operations).

6. Cell phones: All team members should be equipped with Integrated Digital Enhanced network (iDEN) or Global System for Mobile Communications (GSM) phones, as those systems were the first deployed.
7. Gear: Installed gear should be independent of other agencies' equipment. Do not use another agency's temporary masts.
8. 2<sup>nd</sup> Street: Those fine ladies and gentlemen that survived the hurricane and the future headache of NGO and government red tape will remember that when all else failed, the Navy came through time and again. Never before have I been prouder to be a naval officer than I have been participating and seeing all of you doing everything you can to help that shelter, above and beyond the call of duty. Nate and Bobby deserve a big BZ!!!!!!!!!!!!!!
9. As emergency agencies realize the power of networking, potential future mission will enable Community Emergency Response Teams (CERT) to have ongoing PDA connectivity when doing community sweeps. This will require a lightweight vehicle provider point, so that CERT can update databases on damage and ensure complete, yet unduplicated, searches are conducted. Coverage will need to be a minimum of a residential block. This would be a good thesis topic, I think.
10. There was not enough communication to the residents about where to go. On our side, a cycling RSS Stream would be good at every terminal. On a larger note though, the Department of Transportation (DOT) information signs should be utilized to point out PODs and shelters.
11. There should be one central Internet authority in the area to coordinate all the ad hoc installations, and with knowledge of who is up, who can share, and who is in need. This structure should be included in the National Incident Management System (NIMS) (if it's not already), with a manager who reports to the Communications Director. All providers should check into the EOC, and coordinate with the Internet Manager.

## IP WiKi BLOG SUBMITTED BY RICHARD CLEMENT

Since I really don't have a turnover person per se, here is the general information:

1. Ham Radio: The ARES organization is still alive and providing secondary communications to PODs and shelters. Hancock County EOC is alive during POD hours. The frequency is 146.7 MHz, negative offset and 136.5 Hz CTCSS tone. This repeater is good from Pearlington to 2<sup>nd</sup> Street and, of course, the Stennis International Airport EOC. An EOC to EOC frequency appears to be on 146.730 MHz, negative offset and 136.5 Hz CTCSS tone. Any hams attached to our unit are authorized to use these frequencies to talk to shelters and the EOC. Both are directed nets, so all traffic should go to Hancock EOC unless otherwise specified.
2. Bay St. Louis City Fire Department: They have been nice enough to allow us to use their radios for routine operations. Their repeater is good in Waveland and Bay St. Louis. We have three of their HT750s portables with chargers in the Chevy RV and the repeater is on their Channel 2. The frequency is 154.295 MHz, offset -3.49 MHz, CTCSS 203.5. Our call signs are NAVY (Location), Bay Fire is BAY FIRE.
3. Cellular Service – Numbers are based on usefulness (successful calls), not phone signal strength. Congestion causes high signal to noise (S/N) ratios (the following are the percentage of dropped calls by service provider):
  - Cingular TDMA: < 10%
  - Cingular GSM: > 75%
  - Verizon: ~ 50%
  - Nextel: > 75%
  - Globalstar Sat Phones: ~ 35%
  - T-Mobile: > 75% (not as many observations made)
  - Alltel: unknown
  - Sprint: unknown
4. EOC: Located on 603, two streets after I-10, at the Stennis International Airport compound, at an elementary school. This is the nerve center for relief operations for both civilian agencies and the military.



5. Other frequencies in use:
  - a. Hospital Tactical: 155.34 MHz
  - b. Hancock FD: RX TX CTCSS
  - c. Dispatch: 154.415 159.015 186.2 MHz
  - d. Fireground: 155.835 186.2 MHz
  - e. Florida NG: using Florida Department of Agriculture @ 159.315 MHz
6. Showers: STAY OUT OF THE HOSPITAL: The showers are offered, but the building still contains raw sewage, causing bacteria and mold, which presents respiratory and coetaneous health risks. The Air National Guard Hospital on the south end of the compound offers showers, if we authorize them to include us on their cleaning duty roster. We are trying to figure out how to use the pallets of bulk water to fill the RVs though.
7. Inventory Control: The following equipment is on loan to us, under my signature or responsibility:
  - a. Task Force Buckeye:
    - (1) 2 water pods
    - (2) 2 GP Medium tents
    - (3) 31 cots
  - b. Bay St. Louis Fire Department:
    - (1) 2 Motorola HT 750s with charging cradles and AC/DC converters.
  - c. Amateur Radio "Friends and Family":
    - (1) 10 KW generator, to be returned to me in Monterey:
    - (2) 10 KW propane 16HP generator
    - (3) Propane changeover including supply and two cylinder hoses
    - (4) 4 Each 40-pound propane cylinders
    - (5) Adapter cable, L14-30 twist lock to four plug strips
    - (6) 1 Each sealed lead-acid battery with Ham Standard Amode and large generator Amode connectors
    - (7) Reflector light with 12VDC fluorescent bulb

In COAST box 5 I have a mobile seating kit for the PRC-117 or PRC-150, a 20A power supply, and a soldering kit. In one of the CONEX containers there is a Near Vertical Incident Skywave (NVIS) antenna, and cables and manuals for the above radios. Also in the Ryder truck is a VHF/UHF base station antenna. In the RV, I have the handsets for the radios, the satellite “spider” Yagi antenna, and any Rino Family Radio System/Global Positioning System (FRS/GPS) radios that are not in use.

PAO: If we are ever asked if anyone helped us out, please mention Tom T. Tengin of Castroville, CA, for the generator, Robert Spencer of Salinas for batteries and an antenna, and ECTAR, Inc. (short for “Emergency Communications Through Amateur Radio”) for the use of their propane cylinders, extension cable, and batteries.

## NPS DET RADIO RECOMMENDATION SUBMITTED BY RICHARD CLEMENT

From: LT Richard W. Clement, Radio Officer, NPS Katrina Detachment  
To: CDR James Mills, JFMCC J6, JTF Katrina

Via: (1) Brian Steckler, Academic Detachment Lead  
(2) LCDR Bill Bruce, OIC NPS Katrina Det.  
(3) Lt Patrick Lancaster, OPS NPS Katrina Det.

Subj: Radio Communications SITREP and Recommendations.

1. Upon NPS entry into the affected area, local police and fire departments were communicating on their primary repeaters, and needed little support from NPS or anyone else. GSM and iDEN technology cellular phone devices were functional with much congestion on the temporary systems. TDMA cellular phone systems were and are extremely congested with greater than 90% unavailability. No data is known for CDMA devices.
2. While PCS to PCS communications were available over 50% of the time, congestion and lack of coverage in many areas precluded cellular communication from 100% reliability. As a stop-gap measure, the NPS Detachment was given permission to use the Bay St. Louis Fire Department Dispatch repeater (30 kHz FM, 154.295 MHz out/150.805 MHz in, PL 203.5 Hz), and was loaned three Motorola HT 750s from the fire department. This provided excellent service throughout Bay St. Louis, acceptable communications in much of Waveland, and minimal communications at the Stennis International Airport Emergency Operations Center. Transmission to the repeater with a 5-watt mobile radio becomes impossible as one travels towards Pearlinton or outside the area. This became unacceptable as the Detachment extended its operations into Gulfport and Biloxi for errands, Stennis for meetings, and into Pearlinton for service installation.
3. HF communications throughout the area were challenged severely from active solar flares interfering with ionospheric propagation, making it an unreasonable solution.
4. Solutions: Due to the nature of radio, there is no clear solution to provide 100% communications for 100% of deployment possibilities. An open mind with robust equipment availability is required to provide flexibility.
  - a. Current Solution: Continue using Bay St. Louis Fire Department frequencies and radios for local operations, and ensure a Nextel subscriber is deployed for all operations in Pearlinton.
  - b. Katrina specific solution #1: Provide all team members with Nextel phones with direct connect capability.
  - c. Katrina specific solution #2: At the Waveland water tower, set up a repeater on allocated military frequencies in the 140-150 or 160-170 MHz range. This would mirror established communications systems in the community, and provide the potential for individual radios to be programmed for ARES frequencies at FM 30 kHz 146.700 MHz out/146.100 MHz in/PL 136.5 Hz, the Medical HEAR Frequency at FM 30 kHz 155.34 MHz, National Law Enforcement Mutual Aid frequencies at FM 30 kHz 155.475 MHz and FM 11.25 kHz frequencies of (all in MHz) 155.7525, 151.1375, 154.4525, 158.7375, 159.4725, and other city/county frequencies.
  - d. General Solution: Have 10 portable, 4 mobile, and 2 base VHF radio systems, with 1 deployable repeater. All radios should be field programmable, able to transmit in the 136-174 MHz range, and not be CCI controlled. This would greatly expand this Detachment's communications capabilities, both allowing team members accessible communications and giving the Detachment the ability to potentially bring up local public safety communications should they be disrupted. The repeater should be enclosed in a weatherproof enclosure in order to be deployable on a mountaintop or other high area. Mobile equipment should have magnetic mount antennas and cigarette lighter adapters or alligator clips to facilitate rapid installation into available vehicles. Portable equipment must be able to accept charge from 120 VAC or 12 VDC.
  - e. Elegant, radical solution: Within a vehicle trailer, establish a communications system. This system would have a deployable satellite dish and deployable boom of a minimum

of 50 feet with a repeater/base station antenna along with WIMAX and 802.11 antennas, and a hookup for an HF dipole wire antenna. Inside, it should have a network section with a laptop, satellite transceiver, a router, WIMAX bridge, a wireless access point, a VoIP phones, and a VoIP facsimile machine. A “watch officer” section should have a VoIP phone and a laptop. A radio section should have a 0-30 MHz all mode transceiver, a base station/repeater radio, 10 portables in gang rapid chargers, 4 mobile radio kits in sealed boxes, a laptop, and a VoIP phone. An integrated generator, battery system with deployable solar panels, and external AC hookups should also be available.

Very respectfully,

Richard W. Clement  
LT                      USN

SUBMITTED BY MAJ BRYAN BRADFORD, USAF (NPS STUDENT)

## **Deployment/Execution**

### **Arrival**

I arrived on 20 September 2005, via commercial air to Gulfport, MS, and linked up with LCDR Chris Gaucher and CTN1 Mark Mollere. We convoyed to HMC via rental vehicles. My purpose for going was to begin researching possible thesis areas of interest in how to secure HFN. Chris was deploying to take over the Detachment until end of mission or 30 September 2005, whichever came first.

Conferred with Chris on the drive...we both understood our respective roles, but I told him I would help out wherever I could. He would be the Detachment OIC and I would be the AOIC until my departure on 25 September with the other NPS students. I agreed to help him with transition planning and an exit strategy.

### **Mission Creep/Expansion**

This hurt the effort to plan an exit strategy. The team's mission was fairly undefined when they arrived in Bay St. Louis. They did the right thing and pitched in where they could. They did a fantastic job creating the network that served hundreds of people daily and provided the only means of telephone and Internet connectivity for them in the early days of recovery. It was difficult to say no to any reasonable request for additional assistance, so more laptops and VoIP phones were handed out as needed. There was no real requirements driven process for support.

In fact, when Bay St. Louis Mayor Eddie Favre told us of the loss of both his personal and work computers, Brian Steckler said we would help him out by loaning him a couple of laptops, while Brian took the flooded hard drives back to Monterey for data recovery attempts.

Even with an ever expanding set of requirements, Chris and I still had to plan for an exit. Our planning efforts were further complicated when Hurricane Rita came near and we had to dodge tornados and prepare for possible evacuation ourselves. In the end, we looked at several options for gracefully terminating the mission.

1. Option 1: Pack everything up and go home. This was a nonstarter since we were providing the only means of communications for several key users: HMC, Bay St. Louis Fire Department and Mayor, and Waveland PD were all

getting their Internet connections via our equipment. Therefore, we could not pull out wholesale.

2. Option 2: Get a replacement unit in with their own equipment. This option was also a non-starter since the Mississippi governor had ordered all active duty units out of state by 27 September 2005. Therefore, we aggressively pursued Option 3.
3. Option 3: Have FEMA hire contractors to take over our network and buy us out. The actual solution fell short of a total buy out. FEMA did hire a contractor, Worldwide Technologies, to come in and take over the network with the intention of installing a parallel network with their own equipment and once stable, removing the NPS gear to be returned to Monterey, CA.

Once we knew this contract was awarded, we were able to plan our exit strategy.

### **Transition**

Who will take over—no preplanning because the team ended up with a mission they had not planned for. We had to do transition planning on-the-fly.

We found out on 26 September 2005 that FEMA was in the process of awarding the contract for a Transition Team to take over for us, but they would be using their own equipment. We then had to plan for the return of our installed equipment, plus the two rented RVs, the Nemesis RV, and the Ryder truck. This gave us just three days, since the Naval Reservists all had to be back at home station by midnight 30 September 2005, when their orders “expired” due to the end of the fiscal year.

WWT’s lead, James McCullough, was scheduled to arrive early on 28 September 2005, but didn’t arrive until almost 1900 hours due to delays. This gave Chris and me only a few hours to do turnover because we had to leave early the next morning to return the two rented RVs to Dallas, TX. Much to our disappointment, James told us he would have liked to keep the RVs for his team’s use (that’s another story for another time). This left only CTN1 Mollere and one other Naval reservist to do turnover with James and his team and they had only the 29th and 30th to do it.

When: The lesson here is to plan for transition at the beginning and allow sufficient time (3-7 days depending on the type and extent of transition) for its completion.

## **Redeploy**

### **Getting Equipment Back**

With the selfless help of three Naval Reservists, we ended up driving two RVs back to Dallas for turn in. We had to leave Nemesis and the Ryder truck parked at NAVO Stennis for later retrieval by NPS personnel. The logistics of this evolution were complicated because there were only six personnel left (five Reservists and me).

### **Paying the Bills**

The way this operation was financed was totally unsatisfactory. Students were required to use their personal and government travel cards to charge items and rent vehicles including RVs and Ryder trucks. In the future, if NPS does an event like this, they need someone with a corporate travel card to take care of such charges.

### **Miscellaneous**

1. Need a digital camera for documenting site survey, setup of equipment, etc.
2. Don't use personal cell phone (need an issued one).

### **Things to Make it Work Better in the Future**

1. Predefine mission needs (what services, number of customers, and priority of service).
2. Size response kits to handle small, medium, large events.
  - a. Need to specify the personnel requirements to support small, medium, and large kits.
3. Transition planning: Work out a budget to have your gear prepurchased, as this will smooth transition.
4. Disaster recovery plans need to be coordinated among all levels of government (local, state, federal) from the bottom up or from the top down.
5. Security needs to be integrated into HFNs.
  - a. We didn't know about any incidents this time (partly because we weren't monitoring).
  - b. Need the ability to protect official use data, while allowing the maximum number of users on the network
6. SITREP format should be predefined and daily LLs should be done by all participants.

## SUBMITTED BY BRIAN STECKLER (NPS FACULTY)

Here is my brainstorm for the ideal “command vehicle” based on what I had and what I wished I had:

- Garmin 2710 (3-D, dash-mount with sandbag holder)
- Each type of cell phone with service
- Each type of sat phone with service
- Each type of Quad Band GSM/GPRS/EDGE pcmcia card for laptop broadband
- Each type of push-to-talk radio possible in a given area (UHF, VHF, HF, satcom)
- Both AC and DC chargers for EACH of the communication devices above
- Car inverter with multiple plugs tri or quad cigarette lighter adaptor (I had four things plugged in at once on many occasions)
- External mount adaptor for the sat phones (each type), as when driving with the antennas on the phone units you can't see through roof of the car
- Head mount flashlight
- Automobile high power spotlight
- Standard car emergency first aid and emergency kit (flares, etc.)
- MREs/food
- Hand-held GPS/FRS radio (Garmin Rhino 110 worked well for us in U.S. and Thailand)
- Digital video camera
- Digital still camera
- Disposable still camera (backup)
- Binoculars
- Gun or similar weapon (this one is controversial, but I'd sure have felt better if I had one in Pearlington, MS (a meth-infested area with addicts coming down)—maybe a taser to be more politically correct?
- Four-wheel drive vehicle with winch
- Foul weather gear
- Laptop and backup laptop loaded with all the standard applications (GEP, VSee, Skype, MS Street/Trips, etc.)
- Headset for Skype PDA

We did experience some BIG LLs on sat phones, cell phones, radio communications, and the Ham system in Hancock County, MS from Katrina.

1. GlobalStar was terrible—by far the worst sat phone carrier in the entire region (heard the same things from New Orleans, etc.). Constant busy signals, could hardly ever get access to the bird (jammed), couldn't access voice mail, etc.



Iridium and others were marginally better, but should not be considered dependable for large-scale disasters.

2. Had similar, but even more acute, issues with the various cellular service carriers. I had AT&T/Cingular, which was the very worst. Sometimes I'd get up to 8-10 calls an hour I didn't know I was getting, then hours later, when the voice mail symbol would show up on my phone, it took 24-36 hours of busy signals to access the voice mails.

What we will recommend to OASD-NII, DISA, NORTHCOM, FEMA, and anyone else who's interested in our analysis for future HA/DR and HFNs and Flyaway Kits, is to have a few of each type of communication AND service prepurchased and maintained with a kit of handheld phones and radios. So, a few Iridium phones, a few GlobalStars, a few Nextel's, a few AT&T/Cingular's, Bell South cell phones, etc. This way, depending on the area of the country and the speed at which the providers rebuild cell sites or improve bird access channels, etc., we'd have all bases as covered as we could. I suspect that if this disaster was in CA, a different combination of devices and services would have performed better—hence needing a few of each flavor at the ready.

There is another important service I literally stumbled on while down there. After two weeks of complete frustration with my cell service (AT&T), on a whim while standing in the Wal-Mart parking lot, I called the AT&T/Cingular 611 number asking if they could do ANYTHING about the terrible service I had—explaining who I was and why the terrible service was killing me and screwing up C2 for a large group of us in MS in support of Katrina communications for DoD (and others). She hemmed/hawed, then mentioned a “government only” service called the Government Emergency Telecommunications Service (GETS), which gives priority phone network and voice mail access for landline users who were/are government early responders to disasters. This program came out after the 9/11 telecom difficulties...and another brand new program called Wireless Priority Service (WPS) with a similar system for government cellular callers. The 611 operator connected me with the GETS/WPS program manager (this service is only available for AT&T, MCI, and Sprint customers), who I then chatted with for over an hour, while learning about the program. He immediately set me up on the system, emailed me info on the program, sent me a Frequently Asked Questions (FAQ)

document, and sent me a code to get ten more people in my group on the system. We were recalled (asked to leave, along with all other active duty military personnel) a couple of days later so I didn't disseminate the GETS/WPS cards. For more information, go to <http://gets.ncs.gov> or call Tom Pinnell, GETS/WPA Coordinator, at (703) 676-2372 or WPS cell (240) 423-0688. Basically, if you ever think you'll need this capability you set it up PRIOR to an emergency and have it at the ready. Oh, Tom Pinnell promised he'd send a blurb on both programs, and to express his frustration that hardly anyone knows about the program (i.e., it's way underutilized). If the hundreds of law enforcement, emergency medical responders, DoD, National Guard, mayors/fire chiefs/etc. had known about this service in our operational area, there's no telling how much better C2 and emergency services would have been done.

## SUBMITTED BY CTN1 MARK MOLLERE, USNR

Bay St. Louis Consolidated Status Reporting  
Dates: 01-08 OCT 05  
CTN1 Mark Mollere

- 1) Contractors
  - a) 01 OCT 05
    - (1) Two (2) additional contractors arrived on 30 SEP 05.
    - (2) Additional contractors arrived with rental RV.
    - (3) RV parked in location Bounder RV was last parked.
    - (4) Total number of contractors supporting networks is five (5).
    - (5) Contractors will be picking up an additional person this afternoon/evening.
    - (6) FEMA Mortuary
      - (a) FEMA contacted World Wide Technology (WWT) to establish network connectivity for body recovery/funeral section in Hancock County.
      - (b) Establishing connectivity for FEMA funeral section not in WWT contract resulting in scope creep.
      - (c) I advised WWT that since connectivity in this regard is outside current scope, the only thing that can be done is advise those requesting network connectivity that a separate contract or a contract amendment will have to be requested.
      - (d) Many groups outside of current contract are approaching WWT for network connectivity. This is contributing to a large scope creep. Please advise how to proceed.
  - b) 02 OCT 05
    - i) Three (3) contractors on-site
    - ii) Three (3) contractors departed.
      - (a) Two (2) contractors departed to retrieve gear/equipment.
      - (b) The same two (2) contractors scheduled to return on Tuesday, 04 OCT.
      - (c) One (1) contractor expected back later in week.
    - iii) Contractors suspect 10+ requests/day in order to provide connectivity.
  - c) 03 OCT 05
    - i) Three (3) contractors on-site
  - d) 04 OCT 05
    - i) Three (3) contractors on-site
    - ii) Waiting for information from WWT on satellite feed cost.
  - e) 05 OCT 05
    - i) Three (3) contractors on-site.
    - ii) Unsure if an additional asset arrived today.
    - iii) Contractors waiting on equipment to service area.
    - iv) Requested satellite feed cost from WWT.
  - f) 06 OCT 05
    - i) Several contractors arrived late last night or early this morning.
    - ii) Contractors arrived with travel trailer parked along side generator.
    - iii) Contractor(s) with RV departed in the morning.
      - (a) Plan was to trade RV for larger RV.
      - (b) Problem with AC.
      - (c) Not arrived as of 1900 LT.
    - iv) Several Cisco personnel passing through area.
    - v) Contractors waiting on equipment to service area.
    - vi) Requested satellite feed cost again from WWT.
    - vii) WWT unresponsive.
  - g) 07 OCT 05
    - i) Four (4) contractors on-site.
    - ii) Contractors still awaiting equipment.
    - iii) Larger RV acquired from Panama City.

- iv) No response from WWT on satellite feed costs.
- v) Satellite dishes being installed in local area that will eventually replace Tachyon feeds.
- h) 08 OCT 05
  - i) Four (4) contractors on-site.
  - ii) Motorola Two-Way Radios
    - (1) The following five (5) radios have been turned over to the contractors:
      - (a) S/N: 326AZA2102
      - (b) S/N: 326AZA2200
      - (c) S/N: 326AZA2275
      - (d) S/N: 326AZA2281
      - (e) S/N: 326AZA2329
    - (2) The following radios are unaccounted for and possibly on Nemesis/Ryder
      - (a) S/N: 326AZA2151
      - (b) S/N: 326AZA2322
- 2) Remote Sites
  - a) 01 OCT 05
    - i) 223<sup>rd</sup>
      - (1) Reported network down.
      - (2) Report received on NOC VoIP phone.
      - (3) WWT received call and requested that I troubleshoot.
      - (4) I advised WWT that the networks are now their responsibility and that they need to troubleshoot.
      - (5) I advised that I would be happy to assist. However, WWT has ownership of the networks.
      - (6) Three (3) contractors and myself departed for 223<sup>rd</sup>.
      - (7) Link light on Redline box was not solid.
      - (8) Pizza box aimed at Firehouse could be out of alignment. Line of sight between 223<sup>rd</sup> and Firehouse partially obscured by trees which is likely contributing to non-solid link.
      - (9) Noted solid link on Redline box for approximately 15 seconds, with fluctuation.
      - (10) Proceeded to check network/Internet connectivity.
      - (11) Connectivity good; however, slow. This would be consistent with dropped packets and TCP error-checking.
      - (12) Advised 223<sup>rd</sup> that antenna may need realignment.
      - (13) WWT will pursue further.
    - ii) 2<sup>nd</sup> Street Elementary School
      - (1) Support facilities at 2<sup>nd</sup> Street Elementary School relocating to softball/baseball field in immediate area.
      - (2) Pizza box antenna taken out of alignment by rogue network group.
      - (3) An ad hoc independent network volunteer group was performing maintenance on their network.
      - (4) Unsure of details on why yahoos were touching WWT (formerly NPS) equipment.
      - (5) WWT mentioned that yahoos were kicked out of 2<sup>nd</sup> Street. Unconfirmed ATT.
    - iii) Hancock County Medical Center
      - (1) Network modified to include one (1) additional WAP located in contractor's RV.
      - (2) Opening extended services on Monday, 03 OCT 05.
      - (3) Very large file transfers expected.
      - (4) Current satellite link may prove to be extremely slow for file transfers which could error out.
      - (5) WWT mentioned that current satellite link costs \$30,000.00/week.
      - (6) Physicians may not be happy with network performance.
      - (7) I have worked with physicians in the past and they usually get what they want.
      - (8) Physicians may ask for faster links.
      - (9) I advised WWT to continue with current coverage and monitor customer feedback.
      - (10) If feedback requests dictate faster links, address issue when it occurs.

- b) 02 OCT 05
  - i) 223<sup>rd</sup>
    - (1) NTR
  - ii) 2<sup>nd</sup> Street Elementary School
    - (1) From day previous
    - (2) Rogue network group disturbed antenna mast in order to mount their antenna.
    - (3) An ad hoc independent network volunteer group moved pizza box antenna down, resulting in misalignment of antenna to firehouse.
    - (4) Contractors resolved issue.
      - i. BSL Firehouse
      - ii. NTR
  - iii) Fred's
    - (a) Radio Response
      - 1. <http://www.radioresponse.org/wordpress/>
      - 2. Making false claims.
      - 3. Please reference statements on Website.
      - 4. Web page saved locally in case information changed.
      - 5. Accepting responsibility for lighting up area.
  - iv) HMC
    - (a) Hank Wheeler, Facilities Services Director, and wife residing in trailer adjacent to former NPS site.
  - v) Waveland PD
    - (a) Radio Response
      - 1. <http://www.radioresponse.org/wordpress/>
      - 2. Providing false information to local law enforcement, specifically WPD.
      - 3. Radio Response claims they have authorization to place equipment on water tower adjacent to WPD.
      - 4. WPD never granted authorization.
      - 5. WPD states that the U.S. Navy and Cisco Networks, Inc. are the only organizations responsible for providing communications and access to water tower to facilitate communications.
      - 6. Water tower access secured by WPD.
      - 7. WPD informs WWT that since the U.S. Navy and Cisco are the only authorized agents to access tower, WWT, working on behalf of Cisco, may assume equipment place on tower.
      - 8. Equipment on tower estimated at \$15,000.00.
      - 9. Radio Response placed WAP on cargo container adjacent to street housing Tachyon dish and Sky Captain.
        - i. Rogue WAP stealing bandwidth from Sky Captain.
        - ii. Rogue WAP degrading Sky Captain performance.
        - iii. Rogue WAP taken offline.
        - iv. False statements from Radio Response indicate that they were lighting up Fred's across the street from WPD.
        - v. Sky Captain is providing signal to Fred's
        - vi. No indications that Radio Response contacted NPS to validate statements on their Website.
- c) 03 OCT 05
  - i) 223<sup>rd</sup>
    - (a) NTR
  - ii) 2<sup>nd</sup> Street Elementary School
    - (a) NTR
  - iii) BSL Firehouse
    - (a) NTR
  - iv) Fred's
    - (a) Sky Captain not active.
    - (b) NPS-GUEST SSID weak, but receivable.

- (c) Radio Response (RR)
  1. <http://www.radioresponse.org/wordpress/>
  2. Recently placed antenna mast and rig directly under Sky Captain.
  3. Sky Captain at Fred's not operational ATT.
  4. RR has two wired computer stations at Fred's.
  5. I believe RR computers placed either Saturday or Sunday due to information received from hippies.
  6. RR computers can not access Internet ATT due to feed termination by WWT terminating feed from Waveland PD.
  7. Hippies at Fred's requesting hardware to connect to Internet and make phone calls.
  8. Hippies think that NPS and RR are the same.
  9. I mentioned that there is no relation between NPS and RR.
  10. I mentioned to lead hippie that he can associate to wireless signal for Internet connectivity from NPS. Lead hippie unaware of that. Lead hippie connected to "NPS-GUEST"; could surf, and was very happy.
- v) HMC
  - (a) I asked Hank Wheeler, Facilities Services Director, if he could receive a wireless signal in his trailer in the medical center parking lot. Hank unaware of signal push to parking lot. I mentioned to Hank that it was part of our goal to radiate the parking lot. Hank was happy to hear that and will check.
  - (b) I interfaced with the director of IT as to state of Internet connectivity and that contractors assumed control of networks. Director unaware of situation. I mentioned to director that I will introduce the contractors to her.
  - (c) Naval Oceanographic Office Tour
    1. CAPT Andy Brown, USN, Commanding Officer of Naval Oceanographic Office (NOO), Bill Currie, and Mark Boston, all from NOO, stopped by looking for NPS personnel. I gave POC information to party and gave tour of Communications Operation Center (COC). Group was impressed. Noticed my last name and asked if I was from the local area.
- vi) Waveland PD
  - (a) Radio Response
    1. <http://www.radioresponse.org/wordpress/>
    2. Police chief's wife interacted with RR.
    3. RR very rude to police chief's wife.
    4. WPD secured access to water tower housing RR equipment.
    5. WWT locked RR network box, retained key from day previous.
    6. RR requested access to their equipment.
    7. WPD mentioned to RR that the only groups who have access to the water tower are U.S. Navy, Cisco, and their contractors.
    8. WWT mentioned that WPD received information from RR that RR was misrepresenting themselves as either U.S. Navy or Cisco. It is possible that this information was misinterpreted.
    9. At the time I mentioned to WPD that if they allow RR to retrieve their gear from the water tower that WPD could be liable for any injuries sustained by RR since they are not equipped, trained, or insured for such activity. Retrieval of RR equipment could be problematic. I will not interject myself in this area any more due to potential legal problems.
    10. WWT mentioned that they will purchase RR equipment on water tower if RR provides them with a purchase order (PO).
- d) 04 OCT 05
  - i) 223<sup>rd</sup>
    - (1) NTR
  - ii) 2<sup>nd</sup> Street Elementary School
    - (1) NTR
  - iii) BSL Firehouse

- (1) NTR
- iv) Fred's
  - (1) NTR
- v) HMC
  - (1) No reports of lost signal from users.
  - (2) Generator
    - (a) Generator died following refueling.
    - (b) Person refueling made gallant effort to restart generator; however, unsuccessful.
    - (c) Maintenance personnel dispatched.
    - (d) Relocated position into hospital for AC.
    - (e) Ensured food was on ice.
    - (f) Maintenance personnel arrive later in PM.
    - (g) Problem related to clogged fuel filter.
    - (h) Generator back online.
    - (i) BZ to maintenance personnel!
  - (3) Humanitarian
    - (a) Assisted local with retrieval of deceased mother.
    - (b) No physical assistance required.
    - (c) Local needed help in acquiring information to identify body for retrieval.
- vi) Waveland PD
  - (a) NTR
- e) 05 OCT 05
  - i) 223<sup>rd</sup>
    - (a) NTR
  - ii) 2<sup>nd</sup> Street Elementary School
    - (a) NTR
  - iii) BSL Firehouse
    - (a) NTR
  - iv) Fred's
    - (a) NTR
  - v) HMC
    - (a) Generator
      1. Maintenance personnel replaced inline filter which is different from fuel filter.
      2. Inline filter severely clogged.
      3. Inline filter replaced.
      4. Generator refueling until today would shut down generator due to history of generator dying during refueling.
      5. Due to replacement of inline filter I asked fueling attendant if generator could be left running while fueling.
      6. Refueler advised that generator should continue to run while refueling. Problems with past refueling resulted in generator shutdown.
      7. Generator left running during today's refueling.
      8. No problems experienced.
      9. Suspect inline filter replacement solved previous generator problems.
      10. Will continue to monitor.
    - (b) Facilities
      1. Drywall being restored.
      2. Restoration crew observed monitoring moisture content of gutted walls.
    - (c) USO
      1. USO provided dinner consisting of pizza, chicken wings, and miscellaneous items.
      2. USO distributed letters of gratitude from school children.
      3. USO distributed goodie-bags, consisting of toiletry items and food, to service members.
      4. USO provided significant impact to morale.

- vi) Waveland PD
  - (a) NTR
- f) 06 OCT 05
  - i) 223<sup>rd</sup>
  - ii) POC
    - (a) Capt Bradle
    - (b) Phone: (601) 238-923
    - (c) Email: [kenneth.p.bradley@us.army.mil](mailto:kenneth.p.bradley@us.army.mil)
  - iii) 2<sup>nd</sup> Street Elementary School
    - (1) Relocated to ball field in immediate area.
    - (2) Site no longer active.
    - (3) 2<sup>nd</sup> Street Elementary School needed to prepare to resume school.
    - (4) Further reference to the former 2nd Street Elementary School location will be as “Ball Field” unless otherwise directed.
  - iv) Ball Field (formerly 2<sup>nd</sup> Street Elementary School)
    - (1) Connectivity not established ATT.
    - (2) Site ready to receive connectivity.
    - (3) T1 advised site they should be up within 48 hours.
    - (4) POCs
      - (i) Sherry-Lea Bloodworth  
Phone: (251) 802-3424  
Email: [bloodworthLA@aol.com](mailto:bloodworthLA@aol.com)
      - (ii) Bob Thurman  
Mobile: (408) 499-2674
  - v) BSL Firehouse
    - (1) POC
      - (i) Robert L. Gavagnie, Fire Chief  
Mobile: (228) 493-2033  
Email: [bslchief@yahoo.com](mailto:bslchief@yahoo.com)
  - vi) Fred’s
    - (1) Do not know where equipment for this site is.
    - (2) Head hippie, Arjay, mentioned that he offered to store equipment while Hurricane Rita blew through.
    - (3) Arjay mentioned that Navy personnel at time declined offer.
    - (4) Equipment unaccounted for.
    - (5) Please advise who to contact to search for equipment.
    - (6) POC
      - (i) Arjay Sutton  
Phone: (828) 280-6338  
Email: [newwavelandcafe@yahoo.com](mailto:newwavelandcafe@yahoo.com)  
Blog: [www.newwavelandcafe.blogspot.com](http://www.newwavelandcafe.blogspot.com)
  - vii) HMC
    - (1) Solar outage
      - (i) Experienced from 1332 - 1341 CDT.
    - (2) POC
      - (i) Ezell Butler  
Phone: (228) 323-7589  
Email: [hmcis@bellsouth.net](mailto:hmcis@bellsouth.net)
    - (3) Generator
      - a. No problems with generator downtime since inline filter replaced day previous.
  - viii) Waveland PD
    - (1) See reference to “Inventory” above.
    - (2) POCs
      - (i) James Varnell, Police Chief  
Phone: (228) 216-2810



Phone: (228) 518-1358  
Email: [jvarnell@wavelandpolice.com](mailto:jvarnell@wavelandpolice.com)

(ii) Michelle Varnell, Wife  
Phone: (228) 216-753

g) 07 OCT 05

i) 223<sup>rd</sup>

(a) NTR

(b) POC

1. Capt Bradle

Phone: (601) 238-923

Email: [kenneth.p.bradley@us.army.mil](mailto:kenneth.p.bradley@us.army.mil)

ii) Ball Field (formerly 2<sup>nd</sup> Street Elementary School)

(a) T1 mentioned that the ball field could be light this weekend; however, awaiting equipment.

(b) POCs

1. Sherry-Lea Bloodworth

Phone: (251) 802-3424

Email: [bloodworthLA@aol.com](mailto:bloodworthLA@aol.com)

2. Bob Thurman

Mobile: (408) 499-2674

iii) BSL Firehouse

(a) NTR

(b) POC

1. Robert L. Gavagnie, Fire Chief

Mobile: (228) 493-2033

Email: [bslchief@yahoo.com](mailto:bslchief@yahoo.com)

iv) Fred's

(a) NTR

(b) POC

1. Arjay Sutton

Phone: (828) 280-6338

Email: [newwavelandcafe@yahoo.com](mailto:newwavelandcafe@yahoo.com)

Blog: [www.newwavelandcafe.blogspot.com](http://www.newwavelandcafe.blogspot.com)

v) HMC

(a) Solar outage

1. Less pronounced.

2. Expected to fade this weekend.

3. Bob with MCom mentioned that his satellite feeds experience solar outage with much frequency.

4. Suspect MCom feeds using "cheap" satellites due to information on solar outages.

(b) POC

1. Ezell Butler

Phone: (228) 323-7589

Email: [hmcis@bellsouth.net](mailto:hmcis@bellsouth.net)

(c) Generator

1. No problems with generator downtime since inline filter replaced day previous.

(d) Satellite Feed

(i) Feed very slow yesterday afternoon and this morning.

(ii) Troubleshooting shows no problem on local networks.

(iii) Conveyed problem to Tachyon yesterday and this morning.

(iv) Unresponsive yesterday, late in day.

(v) Response this morning said all A-OK.

(vi) Later in morning, Tachyon advised that a device responsible for http proxy requests low on memory and corrections made.

- (vii) Not convinced that an http proxy device would contribute to network latency via satellite link.
- (viii) Suspect something else that Tachyon did not want to disclose.
- (ix) Once Tachyon made corrections, network responsiveness back to normal.
- vi) Waveland PD
  - (a) NTR
  - (b) POCs
    1. James Varnell, Police Chief  
Phone: (228) 216-2810  
Phone: (228) 518-1358  
Email: [jvarnell@wavelandpolice.com](mailto:jvarnell@wavelandpolice.com)
    2. Michelle Varnell, Wife  
Phone: (228) 216-753
- h) 08 OCT 05
  - i) 223<sup>rd</sup>
    - (1) NTR
  - ii) Ball Field
    - (1) NTR
  - iii) BSL Firehouse
    - (1) NTR
  - iv) Fred's
    - (1) NTR
  - v) HMC
    - (1) Handed keys to FEMA trailer to hospital staff.
    - (2) Preparing database design for integration into Nemesis.
    - (3) Departing local area.
  - vi) Waveland PD
    - (1) NTR
- 3) Network Thermal Vistas
  - a) 01 OCT 05
    - i) Reestablished contact with Secure Cognition, Inc. regarding deployment of Network Thermal Vistas.
    - ii) Network Thermal Vistas fell off radar screen following Hurricane Rita.
  - b) 02 OCT 05
    - i) Taking donated equipment from HMC to use as test bed for deployment.
  - c) 03 OCT 05
    - i) Requested further information for Secure Cognition.
  - d) 04 OCT 05
    - i) NTR
  - e) 05 OCT 05
    - i) Awaiting information from Secure Cognition.
  - f) 06 OCT 05
    - i) NTR
  - g) 07 OCT 05
    - i) Not overly impressed with intrusion detection system (IDS).
    - ii) Open source and commercial IDSs may prove more beneficial.
    - iii) More testing with Network Thermal Vistas needed to give conclusive input.
  - h) 08 OCT 05
    - i) NTR
- 4) Nemesis/Ryder
  - a) 01 OCT 05
    - i) Assisting Maj Oros with vehicle recovery.
    - ii) LCDR Gaucher gave go-ahead to assist.
    - iii) Attempting to locate duty vehicle to pick up Recovery Team at Gulfport airport.
    - iv) Arrival date/time unknown ATT.
  - b) 02 OCT 05

- i) NTR
- c) 03 OCT 05
  - i) Vehicle recovery set for Wednesday, 05 OCT 05.
- d) 04 OCT 05
  - i) Vehicle recovery set for Wednesday, 05 OCT 05.
  - ii) Asked Maj Oros if team can retrieve miscellaneous items from COC to return to NPS.
  - iii) Maj Oros hasn't replied yet.
  - iv) Believe miscellaneous items will be picked up for return to NPS.
- e) 05 OCT 05
  - i) Vehicles recovered by Recovery Team.
- f) Provided miscellaneous equipment to Recovery Team to include:
  - (1) One notebook computer
    - (i) Make: HP
    - (ii) S/N: CNU5340035
    - (iii) P/N: PT603AA#ABA
- 5) 06 OCT 05
  - a) NTR
- 6) 07 OCT 05
  - a) NTR
- 7) 08 OCT 05
  - a) NTR
- 8) Solar outage
 

Sun in position to provide signal loss.

  - a) Signal loss occurs twice/year, for approximately 7-10 days, due to alignment of sun.
  - b) Please reference <http://www.tachyon.net/solar-outages/> as provided by Tachyon NOC.
  - c) 01 OCT 05
  - d) NTR
  - e) 02 OCT 05
  - f) NTR
  - g) 03 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
  - h) 04 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
  - i) 05 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
  - j) 06 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
  - k) 07 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
  - l) 08 OCT 05
    - i) Tachyon feeds lost connectivity in early afternoon for approximately ten (10) minutes.
- 9) Weather
  - a) 01 OCT 05
    - i) No rain received.
  - b) 02 OCT 05
    - i) Brief rainfall last night at approximately 2102 CDT.
    - ii) Rainfall lasted approximately five (5) minutes.
    - iii) Brief increase in winds.
    - iv) Concerned that equipment connections could receive water due to inadequate seals noted in days previous.
    - v) Received no calls on disruptions due to rain received.
  - c) 03 OCT 05
    - i) No rain received.
  - d) 04 OCT 05
    - i) No rain received.
  - e) 05 OCT 05

- i) No rain received.
- ii) Clear skies
- f) 06 OCT 05
  - i) No rain received.
  - ii) Dark skies in late afternoon.
- g) 07 OCT 05
  - i) No rain received.
  - ii) Cold front entering area late evening.
  - iii) Low temperature reported to be 55 degrees F.
- h) 08 OCT 05
  - i) No rain received.
  - ii) Clear skies

## APPENDIX C – NPS DET KATRINA POINT PAPER

POINT PAPER AS SUBMITTED ON 22 SEPTEMBER 2005 (REQUESTED BY JFMCC/JTF)

**Mission Statement:** The Naval Postgraduate School (NPS) Detachment Katrina, under operational control (OPCON) to Joint Task Force (JTF) Katrina and tactical control to Joint Forces Maritime Component Command (JFMCC). We are conducting a Humanitarian Assistance/Disaster Relief mission in Hancock County, Mississippi (Bay St. Louis and Waveland)...ground zero of Hurricane Katrina...by installing, operating, and maintaining an ad-hoc, hastily formed, mobile communications network.

**Background:** The initial request for communications support came from Naval Oceanography Center (NAVO), whose Stennis, MS facilities and phone and data services were rendered inoperable on 30 August. JFMCC validated the requirement for NPS capabilities agreeing to the deployment of NPS assets to Stennis. Upon arrival by the advance/fly-in element on 5 September, they found that the Stennis facilities were not in critical need of NPS assets, so JTF Katrina and JFMCC staff directed the NPS Det to travel to Hancock County, MS, to assist civil and military responders at that site, where they (and the follow-on elements) have remained, providing wireless networking and Internet support to multiple civil and military organizations and over 1,000 hurricane survivors.

**Current Capability and Network Description:** Infrastructure connectivity to the Internet is provided by two satellite communications (SATCOM) links provided at no cost by Tachyon per NPS arrangement. One SATCOM dish is on the hospital roof. A second operational Tachyon satellite dish is located at the Waveland PD, providing access for the PD and the local POD and victim shelter.

**Site-by-Site Services Provided:** Data and voice communications available for thousands of end-users is provided by a wireless (“WiFi”) mesh local area network using Rajant 802.11b Breadcrumb and Cisco Sky Captain 802.11 a/b/g and redline 802.16 antennae with Internet cafés set up with tables, chairs, laptops, and VoIP telephones at the following locations:

- Hancock Memorial Hospital
- Air National Guard Mobile Hospital
- Bay St. Louis Fire and Police Departments
- 2<sup>nd</sup> Street Elementary School Shelter
- Waveland PD
- Waveland POD
- 223<sup>rd</sup> Engineering Battalion Detachment, Bay St. Louis
- Waveland Wal-Mart POD (wireless hotspot only)

The VoIP phones allow for free dial-up anywhere in the U.S., provided by Cisco Systems.

**Skill Sets Required to Transfer the Infrastructure to Other Civil Authorities or Contractor IT Infrastructure Providers:**

- Satellite communications using Tachyon VSAT terminals;
- WiFi using IEEE 802.11 Rajant Breadcrumbs and Cisco Sky Captain Wireless Access Points;
- Broadband Wireless (“WIMAX”) non line-of-sight 54 Mbps wireless links using Redline AN-50 IEEE 802.16 equipment;
- VoIP Cisco 7960 wired and 7920 wireless telephones and Call Manager;
- PC and laptop use with Windows XP for email and Web services;
- “Skype” for computer-to-computer or computer-to-POTS voice communications; and
- Microsoft “Groove” collaboration tool expertise to set up and train users.

Six people are required to maintain 12 hours of operations per day with the current configuration. This includes 2 people to man the NC and 2 teams of 2 people each to travel to and from each of the locations to troubleshoot issues, as necessary.

**Conclusion/Recommendation:** It is crucial to the local community to maintain continuity of communications at the aforementioned sites. NPS Detachment Katrina recommends immediate identification of resources for a transition to civil authorities to maintain the current configuration with the potential to increase the capability as required.

## APPENDIX D – NPS DET KATRINA SITREPS

Below is the unedited collection of all SITREPS submitted 4-30 September 2005.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 05 0300Z SEP05
- B. LOCATION: NPS MONTEREY, CA
- C. OPCON: JTF KATRINA CAMP SHELBY, MS
- D. TACON: JFMCC JTF KATRINA
- E. ADCON: NPS MONTEREY, CA
- F. CURRENT MISSION:
  - PRI: PROCEED TO NAVO STENNIS, MS AND FACILITATE ESTABLISHING DATA AND VOICE COMMUNICATIONS.
  - SEC: ON ORDER

### 2. CONSUMABLES

- A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27
- B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 15
- C. GASOLINE/DIESEL:
  - NEMESIS: 100%
  - RYDER: 100%/100 GAL
  - STORED FUEL FOR GENERATORS: 0%
- D. PROPANE (NEMESIS): 0%
- E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%
- F. HELIUM (BALLOONS): 0%

### 3. VEHICLES

| DESCRIPTION              | STATUS      |
|--------------------------|-------------|
| NEMESIS                  | OPERATIONAL |
| RYDER 26FT TRUCK         | OPERATIONAL |
| COMM POV                 | OPERATIONAL |
| RENTAL PASSENGER VEHICLE | OPERATIONAL |

### 4. PERSONNEL: TOTAL: 15

#### A. ADVANCE PARTY – FLYING MONTEREY, CA TO PENSACOLA, FL 050400Z SEP05.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |

#### B. CARAVAN – DRIVING MONTEREY, CA TO CAMP SHELBY, MS ON 04SEP05. RENTAL VEHICLE TO BE DROPPED OFF IN DALLAS TX WHEN CONTACT IS MADE WITH LT CHRIS LEE.

| NAME            | RANK | DEPT/CURRIC |      |
|-----------------|------|-------------|------|
| RAYFIELD        | MAJ  | IW          | USMC |
| SCOTT CONE      | LT   | IW          | USN  |
| JOSH OSULLIVAN  | LT   | IW          | USN  |
| GARY THOMSON    | CAPT | IST         | USMC |
| IRA LAMBERTH    | LT   | IW          | USN  |
| BILL WREN       | LT   | IST         | USN  |
| NATHAN SEAMAN   | LTJG | IST         | USN  |
| RICHARD CLEMENT | LT   | IST         | USN  |
| ROBERT MOORE    | LT   | IST         | USN  |
| ROBERT PATTO    | LT   | IST         | USN  |

C. CARAVAN – DRIVING RENTAL RV FROM HOUSTON, TX TO CAMP SHELBY, MS  
ON 05SEP05

CHRIS LEE                      LT                      IW                      USN

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: NOT DEPLOYED.

INOP EQUIPMENT: NONE.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL: SOLIDIFIED COLLABORATION SYSTEM HAS PROVED TO BE INVALUABLE BUT TO MAXIMIZE THE POTENTIAL OF THIS ASSET ALL INDIVIDUALS AND AGENCIES INVOLVED MUST BE ABLE TO MANIPULATE THE SOFTWARE.

B. PERSONNEL:

C. CIVIL-MILITARY BOUNDARY:

D. LOGISTICS: RAPID DEPLOYMENT WOULD BE GREATLY FACILITATED BY OBTAINING AN IMPACT CARD. LARGE COMMERCIAL FACILITIES ARE ESSENTIAL TO THE RAPID PURCHASE OF ESSENTIAL EQUIPMENT AND SUPPLIES.

7. ENCLOSURES:

A. CAPABILITY DESCRIPTION (DRAFT)

B. PERSONNEL ROSTER

8. OIC COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

(FACULTY LEAD PROF BRIAN STECKLER: (831) 402-1584)

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. COMMENTS:

- LONG DAY OF TRAINING, TESTING GEAR, PACKING OUT, LOCAL EQUIPMENT AND FOOD PURCHASES, PROCESSING ORDERS, ARRANGING TRAVEL FUNDING, COORDINATING WITH CHAIN OF COMMAND ON LOGISTICS AND TASKING.

- ONE GROUP DRIVING, DEPARTING AT 05 0200Z SEP05. ETA FOR ARRIVAL AT JTF KATRINA, REAR HEADQUARTERS—CAMP SHELBY/HATTIESBURG, MS, IS THE MORNING OF 07SEP05. ADVANCE PARTY AND SITE SURVEY DEPARTING VIA AIRCRAFT 05 0300Z SEP05.

- 14 STUDENTS DEPLOYING. MAJ DAVE WALLIS, USMC, UNABLE TO MAKE INITIAL DET TRIP. MAJ WALLIS WILL REMAIN ON SUPPORT TEAM.

- H2, HELIUM AND PROPANE HAVE BEEN ARRANGED FOR PURCHASE IN TYLER, TX.

- ESTABLISHED POC WITH JFMCC IS CDR MILLS (J6): (850) 452-3100.



DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 05 2000Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (A): GULFPORT, MS EN ROUTE TO STENNIS SPACE CENTER

NPS DET KATRINA (B): BARSTOW, CA EN ROUTE TO ALBERQUERQUE, NM

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: PROCEED TO NAVO STENNIS, MS AND FACILITATE ESTABLISHING DATA AND VOICE COMMUNICATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 15

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

DET (B) RENTAL CAR: 100%

DET (A) RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 0%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 0%

3. VEHICLES

| DESCRIPTION        | STATUS      |
|--------------------|-------------|
| NEMESIS            | OPERATIONAL |
| RYDER 26FT TRUCK   | OPERATIONAL |
| COMM POV           | OPERATIONAL |
| DET (A) RENTAL CAR | OPERATIONAL |
| DET (B) RENTAL CAR | OPERATIONAL |

4. PERSONNEL: TOTAL: 15

A. DET A – PROCEEDING TO STENNIS TO ESTABLISH INITIAL LIASON WITH NAVO XO CAPT COUSINS AND CONDUCT INTITIAL SITE SURVEY.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |

B. DET B – CURRENTLY IN BARSTOW CA AND PROCEEDING TO TYLER, TX THEN TO STENNIS SPACE CENTER.

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| RAYFIELD        | MAJ  | IW          | USMC   |
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| GARY THOMSON    | CAPT | IST         | USMC   |
| IRA LAMBERTH    | LT   | IW          | USN    |
| BILL WREN       | LT   | IST         | USN    |
| NATHAN SEAMAN   | LTJG | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |

|              |    |     |     |
|--------------|----|-----|-----|
| ROBERT MOORE | LT | IST | USN |
| ROBERT PATTO | LT | IST | USN |

C. CARAVAN – DRIVING RENTAL RV FROM DALLAS, TX TO TYLER TX, TO CONNECT WITH DET (B) AND PROCEED TO STENNIS SPACE CENTER.

|           |    |    |     |
|-----------|----|----|-----|
| CHRIS LEE | LT | IW | USN |
|-----------|----|----|-----|

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: NOT DEPLOYED

INOP EQUIPMENT: NONE

B. ISSUES: NONE

6. LESSONS LEARNED

A. TECHNICAL:

- JFMCC KATRINA HAS ESTABLISHED A COLLABORATION WEBSITE AT <HTTPS://137.247.7.22/ERT/SITE.NSF>. USERNAME: JTFKAT READER, PASSWORD: JTF!WR3T. READ ACCESS ONLY.

B. PERSONNEL:

- FORCE PROTECTION SUPPORT IS TBD.

C. CIVIL-MILITARY BOUNDARY: N/S

D. LOGISTICS:

- NEED TO OBTAIN LETTER FROM METOC AUTHORIZING DISTRIBUTION OF RATIONED FUEL FOR POV'S IN ORDER TO SUPPORT INSTALLATION AND OPERATION OF COMMUNICATION NETWORK.

- HELO SUPPORT IS PROVIDED VIA JFMCC OPERATIONS CENTER.

- MAILING ADDRESS FOR ALL INBOUND SHIPMENTS TO NPS DET KATRINA WILL BE:

NAVY REGION GULF COAST  
ATTN: JFMCC KATRINA (J6 – NEMESIS)  
690 SAN CARLOS ROAD  
BLDG 3581  
NAS PENSACOLA, FL 32508-5517  
SHIPPING POC: (850) 452-2216

- SHIPMENTS RECEIVED BY JFMCC WILL BE LIFTED INTO NPS DET KATRINA AOR.

- SEVERAL PRIVATE CORPORATIONS (I.E., CISCO, TACHYON, RAJANT) HAVE EXPRESSED INTEREST AND INTENT TO SUPPORT NPS DET KATRINA MISSION BY PROVIDING EQUIPMENT.

- W2COG HAS POSITIVE INDICATIONS THEY WILL BE ABLE TO OBTAIN COMMUNICATIONS EQUIPMENT SUPPORT FOR NPS DET KATRINA. MORE INFORMATION TO FOLLOW.

- ALL DONATIONS BEING OFFERED TO NPS IN SUPPORT OF NPS DET KATRINA ARE BEING COORDINATED THROUGH REAR ADMIRAL BILL AND THE NPS FOUNDATION.

7. ENCLOSURES:

A. JFMCC ORGANIZATIONAL PHONE ROSTER

8. OIC COMMENTS

A. NAME OF OIC: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. COMMENTS:

- IN ACCORDANCE WITH ORM, DET (B) STOPPED IN BAKERSFIELD, CA AT 0200 AND RESUMED TRAVEL AT 0900.

- AVERAGE SPEED OF ADVANCE OF DET (B) IS SLOWER THAN PLANNED DUE TO ACQUISITIONS BEING CONDUCTED EN ROUTE.

- INTENT FOR DET (A) ONCE IN STENNIS IS TO BEGIN IDENTIFICATION OF METOC POWER REQUIREMENTS IN ORDER TO PROVIDE SPECS TO ATIRA FOR THE DEVELOPMENT AND DELIVERY OF SOLAR PANELS AND TO CONDUCT SITE SURVEYS AND LINK ANALYSIS FOR OPTIMAL POSITIONING OF NEMESIS NETWORK OPERATIONS CENTER (NOC).

- HELO SUPPORT WILL BE REQUESTED FROM JFMCC POC LCDR MILLS, FOR 6 SEPTEMBER 2005 IN ORDER TO CONDUCT FLY OVER OF BILOXI, GULFPORT AND SHIP POSITIONS OF THE COAST.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 06 0400Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (A): WAVELAND, MS

NPS DET KATRINA (B): EN ROUTE TO AOR

NPS DET KATRINA (C): KINGSMAN, AZ

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 15

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 100%

DET (A) RENTAL CAR: 100%

DET (B) RENTAL CAR: 100%

DET (C) RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 0%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 0%

3. VEHICLES

| DESCRIPTION        | STATUS          |
|--------------------|-----------------|
| NEMESIS            | NON-OPERATIONAL |
| RYDER 26FT TRUCK   | OPERATIONAL     |
| COMM POV           | OPERATIONAL     |
| DET (A) RENTAL CAR | OPERATIONAL     |
| DET (B) RENTAL CAR | OPERATIONAL     |
| DET (C) RENTAL CAR | OPERATIONAL     |

4. PERSONNEL: TOTAL: 15

A. DET A – COORDINATING EFFORTS TO ESTABLISH A MOBILE COMMUNICATIONS NODE  
IN WAVELAND, MS.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |

B. DET B – EN ROUTE TO AMARILLO, TX.

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| GARY THOMSON    | CAPT | IST         | USMC   |
| BILL WREN       | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |

C. DET C – STANDING BY IN KINGSMAN, AZ FOR NEMESIS VAN TO HAVE TRANSMISSION REPAIRED.

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| RAYFIELD      | MAJ  | IW          | USMC   |
| IRA LAMBERTH  | LT   | IW          | USN    |
| NATHAN SEAMAN | LTJG | IST         | USN    |
| ROBERT PATTO  | LT   | IST         | USN    |

D. CARAVAN – DRIVING RENTAL RV FROM DALLAS, TX TO TYLER TX, TO CONNECT WITH DET (B) AND PROCEED TO STENNIS SPACE CENTER.

|           |    |    |     |
|-----------|----|----|-----|
| CHRIS LEE | LT | IW | USN |
|-----------|----|----|-----|

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: NOT DEPLOYED.

INOP EQUIPMENT: NONE.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL:

- METOC CURRENTLY HAS 20MBPS SATELLITE CONNECTION AND WILL BE AUGMENTED WITH AN ADDITIONAL DS-3 LINE (45MBPS) WITHIN 72 HOURS.

- POWER IS CURRENTLY AVAILABLE ON STENNIS BUT IS UNCLEAR.

- SIPRNET, NIPRNET AND DSN PHONES ARE LIMITED BUT AVAILABLE.

- THE HANCOCK COUNTY SHERRIF DEPARTMENT HAS ESTABLISHED AN EOC IN FRONT OF THE WALMART IN WAVELAND, MS. THE EOC IS OPERATING WITH ONE INTERNET TERMINAL AND TWO VoIP PHONES AND CAN ONLY COMMUNICATE WITH MAIN EOC, 6 MILES AWAY, WITH HAND HELD RADIOS. HANCOCK WAS THE HARDEST HIT COUNTY IN MS.

B. PERSONNEL: N/S

C. CIVIL-MILITARY BOUNDARY:

- NO NGOS HAVE BEEN IDENTIFIED AT EOC IN WAVELAND, MS.

D. LOGISTICS:

- PROPANE FUEL IS AVAILABLE ON-SITE.

- ESTIMATED TIME OF RV REPAIR IS WEDNESDAY, 7 SEPTEMBER.

- DET (C) WILL THEN DEPART WITH NEMESIS TO AOR.

7. ENCLOSURES:

8. OIC COMMENTS

A. NAME OF OIC: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. COMMENTS:

- NEMESIS RV SUFFERED CASUALTY TO TRANSMISSION. DET C IN KINGMAN, AZ, UNTIL REPAIRS ARE COMPLETE. ETD NET PM 06 SEP.

- DET B IVO AMARILLO WITH NEMESIS GEAR ESSENTIAL TO MISSION TASKING. ETA NLT PM 07 SEP.

- DET A, IN CONSULTATION WITH CAPT COUSINS, NAVO XO, DETERMINED THAT NPS DET KATRINA ASSETS WOULD BEST SERVE IN ANOTHER AREA WHERE RESOURCES WERE LACKING. DET A DISCUSSED WITH STEPHEN ADAMEC, NAVO N7, POSSIBILITY OF UTILIZING, AT MOST, TWO MBITS OF BANDWIDTH AND PROVIDE IT TO DISASTER RELIEF EFFORTS IN BAY ST. LOUIS, MS. A DECISION WAS NOT MADE, BUT DET A CONDUCTED INITIAL SITE SURVEY ALONG HWY 90 TO DETERMINE THE FEASIBILITY OF SUCH A CONNECTION. WHILE CONDUCTING SURVEY, DET A MET WITH SEVERAL LAW ENFORCEMENT OFFICERS LOCATED IN WAVELAND, MS. THE HANCOCK COUNTY EMERGENCY OPERATIONS CENTER (EOC) CREATED THE HANCOCK COUNTY SHERIFFS' EOC IN WAVELAND WITH VERY LIMITED REACH BACK CAPABILITY. OUR INTENTION IS TO MEET WITH HANCOCK COUNTY EOC COMMUNICATIONS PERSONNEL TO DISCUSS THE COMMUNICATIONS SUPPORT NEMESIS CAN PROVIDE SOUTHERN HANCOCK COUNTY EMERGENCY RESPONDERS AND CIVILIAN PERSONNEL WHO HAVE BEEN DISPALCED AND ARE NOW LIVING IN TENT CITIES. JFMCC N6, CDR MILLS, WAS NOTIFIED OF THIS PLAN AND HE DETERMINED IT TO BE A VALID MISSION AREA GIVEN NO FORSEEABLE TASKING FOR NEMESIS IN SUPPORT OF MILITARY ENTITIES ALONG THE COAST.

- HELO SUPPORT HAS BEEN REQUESTED TO CONDUCT FURTHER SURVEYS OF GULFPORT, BILOXI AND BAY ST. LOUIS ISO NEMESIS.

- IF SENDING EMAIL TO BRIAN STECKLER, PLEASE SEND IT ALSO TO HIS PERSONAL ACCOUNT, BRIAN"AT"STECKLER.COM.

- THERE ARE SEVERAL AREAS WITH VERY WEAK TO NO CELL PHONE AND SAT PHONE COVERAGE, ESPECIALLY SOUTHERN HANCOCK COUNTY. BE ADVISED THAT VOICE MAILS MAY GO UNANSWERED.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 07 1900Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (A): WAVELAND, MS

NPS DET KATRINA (B): EN ROUTE TO AOR

NPS DET KATRINA (C): KINGSMAN, AZ

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 15

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 100%

DET (A) RENTAL CAR: 100%

DET (B) RENTAL CAR: 100%

DET (C) RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 0%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION        | STATUS          |
|--------------------|-----------------|
| NEMESIS            | NON-OPERATIONAL |
| RYDER 26FT TRUCK   | OPERATIONAL     |
| COMM POV           | OPERATIONAL     |
| DET (A) RENTAL CAR | OPERATIONAL     |
| DET (B) RENTAL RV  | OPERATIONAL     |
| DET (B) RENTAL RV  | OPERATIONAL     |

4. PERSONNEL: TOTAL: 15

A. DET A -- COORDINATING EFFORTS TO ESTABLISH A MOBILE COMMUNICATIONS  
NODE IN WAVELAND, MS.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |

B. DET B – EN ROUTE TO AOR

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| GARY THOMSON    | CAPT | IST         | USMC   |
| BILL WREN       | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |
| CHRIS LEE       | LT   | IW          | USN    |

C. DET C – STANDING BY IN KINGSMAN, AZ FOR NEMESIS VAN TO HAVE TRANSMISSION REPAIRED.

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| RAYFIELD      | MAJ  | IW          | USMC   |
| IRA LAMBERTH  | LT   | IW          | USN    |
| NATHAN SEAMAN | LTJG | IST         | USN    |
| ROBERT PATTO  | LT   | IST         | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: NOT DEPLOYED.

INOP EQUIPMENT: NONE.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL:

- HANCOCK COUNTY MEDICAL HOSPITAL HAS NO COMMUNICATIONS ASSETS.

- SATELLITE PHONES AND CELLULAR PHONE NETS ARE OVERLOADED WHERE COVERAGE IS AVAILABLE.

- VOICE MAILS LEFT ON SATELLITE PHONES ARE CURRENTLY NOT ACCESSIBLE.

- SHORE POWER IS COMING UP SLOWLY BUT SURELY THROUGHOUT HANCOCK COUNTY BUT IT IS STILL NOT CLEAN AND STABLE POWER.

- CONDUCTING LIASON, COORDINATION EFFORTS AND SITE SURVEYS IS HINDERED WITH NEED TO STAY WITHIN CELLULAR (AND GPRS/CELLULAR INTERNET ACCESS) COVERAGE AREAS TO COORDINATE LOGISTICS AND CONVOY OPERATIONS.

B. PERSONNEL: ALL PERSONNEL ARE QUITE HEALTHY DESPITE LONG STRESSFUL DAYS. FORCE PROTECTION WILL BE AN ISSUE IN OUTER AREAS DUE TO TENSIONS BUILDING OF VICTIMS W/OUT WATER, PHONES, FOOD, ETC. DRUG INFESTED ISOLATED COASTAL AREAS ARE PARTICULARLY DANGEROUS AS ADDICTS ARE STARTING TO GO THRU WITHDRAWALS AND TARGETING OTHERS FOR MONEY, ETC., ETC.

C. CIVIL-MILITARY BOUNDARY:

- FEMA, STATE, CITY AND LOCAL EMERGENCY UNITS ARE COORDINATING EFFORTS IN THE EMERGENCY OPERATIONS CENTER AT THE STENNIS AIRPORT. NPS TEAM HAS VERY GOOD RELATIONSHIPS BUILDING WITH FEMA, ETC., AS THEY KNOW WE CAN GET THEM CONNECTED WITH OUTSIDE WORLD. NO INTERACTION WITH NGO'S YET BUT EXPECT TO FIND THEM TOMORROW.



D. LOGISTICS:

- HELIUM AND HYDROGEN TANKS FOR BALLOON OPERATIONS AND GENERATOR POWER WILL BE PURCHASED IN TYLER, TX AND WILL BE REFILLED IN AOR.

E. WE HAVE A NEED TO ACCESS CLASSIFIED NETWORKS TO OBTAIN (AND REPORT) FORCE PROTECTION INTEL AS WE DEPLOY IN ISOLATED AREAS. WE WILL HAVE ESCORTS BUT ARE NOT SURE IF THE CITY/STATE LAW ENFORCEMENT PEOPLE HAVE THE LEVEL OF INTEL ON FORCE PROTECTION THAT WOULD BE TYPICAL ON MILITARY CHANNELS. IN OUR SITE SURVEY WE HAVE DISCOVERED A NUMBER OF SERIOUS FP SITUATIONS BUT HAVE NO WAY TO REPORT WHAT WE ARE FINDING. CANNOT REPORT ON SOME INFO WE ARE GATHERING VIA SITREPS OR NIPRNET. IT APPEARS THERE IS MINIMAL ROVING INTEL BY DOD PERSONNEL.

7. ENCLOSURES:

8. OIC COMMENTS

A. NAME OF OIC: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. STECKLER COMMENTS:

- DROVE SEVERAL MILES OF THE MISSISSIPPI COASTAL POPULATED AREA TODAY, STOPPING TO INTERVIEW PEOPLE AND TO COLLECT INFORMATION ABOUT COMMS AND GENERAL SITUATION, AND THE DEVASTATION IS BEYOND WORDS. WAVELAND AND BAY ST. LOUIS WERE THE HEART OF THE DEVASTATION IN THIS AREA AND BOTH CITIES AND SURROUNDING RESIDENCES ARE TOTALLY FLATTENED EXCEPT THE LARGER BUILDINGS IN BAY ST. LOUIS. THE DESTRUCTION FAR OUTDOES THE DESTRUCTION I SAW ON THE ANDAMAN SEA COAST OF THAILAND WHEN SETTING UP OUR NETWORKS THERE IN JANUARY AFTER THE TSUNAMI. THIS DESTRUCTION IS SEVERAL MILES INLAND (MUCH OF IT POPULATED AREAS) VERSUS THAILAND WHERE THE DESTRUCTION WENT INLAND ONLY A MILE OR SO.

- HEARD RUMOR FROM FNMOC THAT MONTEREY IS CONSIDERING "ADOPTING" BAY ST. LOUIS DUE TO THE FNMOC/NAVO CONNECTION AND FAMILY. WE HAVE THE CONTACT INFO FOR THE MOST PROMINENT CITY COUNCIL MEMBER IN BAY ST. LOUIS. IF ANYONE NEEDS THAT INFO PLEASE CONTACT US. BAY ST. LOUIS SHOLD BE AN EASY 802.16 SHOT FROM THE HOSPITAL AS IT'S ABOUT 2 CLICKS. THERE IS ALSO A SAN JOSE CALIFORNIA VOLUNTEER FIRE DEPT GROUP IN BAY ST. LOUIS THAT CAN HELP US GET ANTENNAS IN THE AIR, GET HOOK/LADDER TRUCKS TO GET ON ROOFS, ETC.

- STECKLER BRIEFED VIA CELLPHONE/SPEAKERPHONE A GROUP OF ABOUT 10 PEOPLE WITH DOD IN PENTAGON (?) INCLUDING CDR ERIC RASMUSSEN, BRIAN FILA, AND OTHERS IN OASD-NII AT ABOUT 0900 LOCAL THIS MORNING GIVING A COMPLETE SUMMARY OF THE SITUATION ON THE GROUND AFTER FIRST 1.5 DAYS OF SITE SURVEYS, INTERVIEWS WITH EARLY RESPONDERS, ETC. IDENTIFIED A NUMBER OF "NEEDS" ON IT AND COMMS IN THE REGION, AND REQUESTED OASD-NII SUPPORT TO HELP MEET THE LARGE AND GROWING DEMAND FOR TEMPORARY IT INFRASTRUCTURE.

- HAVE MADE LIAISON WITH FEMA LEADERSHIP ON THE GROUND HERE AT HANCOCK COUNTY MEDICAL CENTER, WITH HANCOCK COUNTY IT LEADERSHIP, WITH STENNIS EOC, AND VARIOUS OTHER AGENCIES. CONCENSUS IS FOR US TO FIRST GET THE MEDICAL CENTER ONLINE AND WORK OUT FROM THERE TO SEVERAL OTHER SITES IN THE VICINITY (WE CAN USE 802.16 TO CONNECT SEVERAL KEY OFFICIAL AND UNOFFICIAL SITES WITHIN A 12 MILE RADIUS. NONE

OF THESE SITES HAS PHONE OR INTERNET ACCESS EXCEPT FOR A FEW INDIVIDUAL SMALL PIPE CONNECTIONS AT A FEW SITES.

- A SERIES OF RELIEF SUPPLY PODS AND SATELLITE PODS ARE BEING SET UP SLOWLY. NONE OF THE MAIN PODS AND SATELLITE PODS HAVE ANY TYPE OF COMMUNICATIONS OTHER THAN A FEW LOW POWER RADIOS, A FEW MILITARY RADIOS, OR SATELLITE PHONES (USUALLY THE CIRCUITS ARE JAMMED). FORCE PROTECTION AND PROTECTING THE GOODS AT THE PODS IS STRETCHED VERY THIN. IF INCIDENTS START TO HAPPEN SOMEONE WILL RADIO THE NEAREST REMOTE SITE AND ASK FOR LAW ENFORCEMENT. THIS CHAIN OF COMMS TAKES TIME AND IS QUITE INEFFICIENT, ENDANGERING THE PERSONNEL (SOME VOLUNTEERS, SOME LEO'S, SOME MILITARY) TASKED WITH MANNING THE SITES. TENSIONS ARE STARTING TO RISE AS PEOPLE ARE HUNGRY, THIRSTY, DEPRESSED, WEAK, ETC., AND ARE UNABLE TO COMMUNICATE WITH INSURANCE COMPANIES, FAMILY, FEMA, LAW ENFORCEMENT, MILITARY, MEDICAL PERSONNEL, ETC. TO OBTAIN ASSISTANCE. MOST VICTIMS HAVE NO TRANSPORTATION TO LEAVE THE AREA. MANY DON'T WANT TO LEAVE THEIR BELONGINGS (WHAT'S LEFT OF THEM). ONE VICTIM SAID HE DIDN'T WANT TO GET A GENERATOR FOR HIS DEMOLISHED HOME AS THAT WOULD MAKE HIM A TARGET FOR SOMEONE ELSE LOOKING FOR MONEY FOR DRUGS, FOOD, TRANSPORTATION OUT, ETC.

- WE ARE PRIORITIZING AND PLANNING AND DEVELOPING A BATTLE RHYTHM FOR CONNECTING 10-15 EARLY RESPONDER/MEDICAL/DISTRIBUTION SITES IN COORDINATION WITH FEMA, IN THE HOPES THAT WE'LL HAVE THE EQUIPMENT AND MANPOWER FOR THE TASK. WE ONLY HAVE SATCOM GEAR FOR TWO SITES THAT ARE BEYOND REACH OF OUR 802.16 EQUIPMENT. THIS JOB IN JUST HANCOCK COUNTY ALONE IS BEYOND THE SCOPE OF OUR CAPACITY IN BOTH MANPOWER AND EQUIPMENT. SOMEONE SHOULD BE WORKING ON BRINGING MUCH MORE CAPABILITY TO THE AREA AS THIS APPEARS TO BE A FAIRLY LONG TERM REQUIREMENT (VoIP, PHONES, INTERNET ACCESS). WE ARE A DROP IN THE BUCKET DOING WHAT WE CAN AS FAST AS WE CAN AND WILL MAKE A DIFFERENCE BUT THERE IS MUCH MORE WORK THAN WE CAN HANDLE. HOPEFULLY RESERVE UNITS OR PRIVATE SECTOR ARE BEING SPUN UP TO START BRINGING IN COMMS ALONG THE COAST.

- AT OUR NEW BASE OF OPERATIONS AT HANCOCK COUNTY MEDICAL CENTER IS A NAT'L GUARD UNIT THAT ALSO HAS NO PHONES OR INTERNET. WE OBTAINED A 25 PERSON TENT FOR OUR PERSONNEL. NAT'L GUARD UNIT AT HOSPITAL IS SETTING THAT UP AND THINKS THEY CAN PROVIDE OUR MEALS.

- WE ARE IN PROCESS AT THIS TIME OF VISITING EACH OF THE SITES IN NEED OF INTERNET AND PHONE SERVICE TO GET LINE OF SIGHT INFO FOR THE .16 CONNECTIONS.

- MEDICAL CENTER IS JUST GETTING ALL EMERGENCY MEDICAL UNITS SETTING UP IN TENTS OUTSIDE HOSPITAL (HOSPITAL HAD SEVERAL FEET OF WATER ON GROUND FLOOR). WE ARE SETTING UP AMONGST THE NAT'L GUARD AND MEDICAL TEAMS (VARIOUS). PLENTY OF FORCE PROTECTION WITH BARB WIRE FENCING (LOOTERS WERE A PROBLEM GETTING DRUGS FROM HOSPITAL EARLIER). HAVE FP IF WE NEED TO GO TO DANGEROUS AREAS.

- THERE IS AN IMMENSE NEED FOR SATCOM (20 MEGS AT A MINIMUM) INITIALLY FOR THE HOSPITAL OPERATIONS AS IT'S TO BE THE HUB FOR CONNECTING VARIOUS OTHER SITES IN AREA AND FOR THE MANY MANY PERSONNEL AT HOSPITAL. WE HAVE ONLY TWO 2MBPS/512KBPS SATCOM DISHES COMING IN NEXT TWO DAYS. NO OTHER SATCOM IN THE QUEUE AS FAR AS WE KNOW.

- TALKED TO FEMA REPS AT HOSPITAL ABOUT FUNDING AND TOLD THEM OUR CAPABILITIES ARE LIMITED TO WHAT WE HAVE NOW (IN EARLIER SITREPS) AND THAT WE (OR SOMEONE) NEED LIAISON WITH EOC FEMA REP TO SEE ABOUT FUNDING OTHER NEEDED ITEMS, ESPECIALLY MORE SATCOM TERMINALS. THERE IS A DEMAND FOR EASILY A THOUSAND (OR MORE) VoIP PHONES AND A COUPLE HUNDRED LAPTOPS AT THIS SITE ALONE. MANY MORE NEEDED THROUGHOUT THIS COUNTY AS MOST EARLY RESPONDERS DON'T HAVE THEIR OWN LAPTOPS, AND THE LOCAL VOLUNTEERS LOST THEIRS IN THE HURRICANE.

- WE HOPE TO HAVE OUR NOC AT HOSPITAL UP AND RUNNING IN NEXT 24 HOURS. WE WILL HAVE VOICE CALLING CAPABILITY THEN AND WILL DISTRIBUTE ALL NUMBERS FOR OUR TEAM BROKEN DOWN BY RESPONSIBILITY AREA (IT, LOGISTICS, FINANCE, HELPDESK, ETC.).

- MY SATELLITE PHONE IS SPOTTY AT BEST SO THOSE LEAVING MSGS FOR ME BE ADVISED I AM UNABLE TO PICK THEM UP SO FAR. MY CELL PHONE IS DOING A BIT BETTER WHEN I POP OUT TO COVERED AREA OCCASSIONALLY. NO CONSISTENT ATT/CINGULAR CELL AT HOSPITAL YET. EMAIL SHOULD BE SENT TO BOTH MY PERSONAL ACCT ([BRIA@STECKLER.COM](mailto:BRIA@STECKLER.COM)) AND NPS ACCT ([STECKLER@NPS.EDU](mailto:STECKLER@NPS.EDU)).

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 08 1900Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (A): WAVELAND, MS

NPS DET KATRINA (C): KINGSMAN, AZ

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 15

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 100%

DET (A) RENTAL CAR: 100%

DET (C) RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 0%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION        | STATUS      |
|--------------------|-------------|
| NEMESIS            | OPERATIONAL |
| RYDER 26FT TRUCK   | OPERATIONAL |
| COMM POV           | OPERATIONAL |
| DET (A) RENTAL CAR | OPERATIONAL |
| DET (B) RENTAL RV  | OPERATIONAL |
| DET (B) RENTAL RV  | OPERATIONAL |
| DET (C) RENTAL CAR | OPERATIONAL |

4. PERSONNEL: TOTAL: 15

A. DET A – PROVIDING BROADBAND INTERNET ACCESS AS OF 2130 LOCAL (5 HR SETUP  
TIME FROM WHEN CARAVAN PULLED INTO PARKING LOT) VIA A WiFi LOCAL AREA  
NETWORK WITH SATCOM REACHBACK FOR HANCOCK COUNTY HOSPITAL, FEMA,  
DMAT, AIR NATIONAL GUARD, FEDERAL PROTECTIVE SERVICE, AMERICAN MEDICAL  
RESPONSE AMBULANCE SERVICE AND MISCELLANEOUS EMERGENCY RESPONDERS  
OPERATING OUT OF THE PARKING LOT.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |
| SCOTT CONE     | LT   | IW          | USN    |

|                 |      |     |      |
|-----------------|------|-----|------|
| JOSH OSULLIVAN  | LT   | IW  | USN  |
| GARY THOMSON    | CAPT | IST | USMC |
| BILL WREN       | LT   | IST | USN  |
| RICHARD CLEMENT | LT   | IST | USN  |
| ROBERT MOORE    | LT   | IST | USN  |
| CHRIS LEE       | LT   | IW  | USN  |

B. DET C – EN ROUTE TO AOR.

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| RAYFIELD      | MAJ  | IW          | USMC   |
| IRA LAMBERTH  | LT   | IW          | USN    |
| NATHAN SEAMAN | LTJG | IST         | USN    |
| ROBERT PATTO  | LT   | IST         | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: HOSPITAL OPERATIONAL.

- WiFi LOCAL AREA NETWORK USING RAJANT 802.11B WIRELESS BREADCRUMB MESH PLUS 512KBPS UPLINK AND 2MBPS DOWNLINK SATELLITE SHOT USING TACHYON EQPT.

- ROUTING DONE BY CISCO 2811 ROUTER.

INOP EQUIPMENT: NONE.

B. ISSUES: NO SIGNIFICANT.

6. LESSONS LEARNED

A. TECHNICAL: NTR AT THIS TIME. CONSOLIDATING THE DAY'S LL'S AND WILL REPORT IN NEXT FEW DAYS. NEED TO CATCH UP ON SLEEP.

B. PERSONNEL: ALL PERSONNEL VERY HUNGRY AND TIRED BUT IN GOOD SPIRITS AFTER GETTING THE SITE ONLINE TODAY.

C. CIVIL-MILITARY BOUNDARY:

- CONTINUING TO BUILD RELATIONSHIPS WITH VARIOUS GOV'T AGENCIES - EVERYONE'S RELIEVED THAT COMMS ARE HERE AT FIRST SITE (HOSPITAL) AND THAT WE'RE TACKLING IN CONCENTRIC LAYDOWN OTHER SITES ACCORDING TO AGREED UPON PRIORITIZATION (STILL IN PROGRESS). LOTS OF LESSONS LEARNED AT THE BOUNDARY TODAY. LL'S ON THIS FRONT WILL BE FORTHCOMING AS WE GET TIME TO TRANSCRIBE HAND WRITTEN NOTES, ETC.

D. LOGISTICS:

- TACHYON 2<sup>ND</sup> SATCOM SYSTEM HAS BEEN LOCATED AT NAS PCLA AND BEING FEDEX'D TO HOSPITAL FRIDAY.

- 8 MORE 802.11 BREADCRUMBS ARRIVING FRIDAY.

- STATUS OF INCOMING CISCO GEAR INCLUDING KEY VoIP PHONES STILL UNKNOWN. REQUEST CISCO UPDATE ASAP AS DIAL TONE IS STILL NUMBER ONE PRIORITY EVEN OVER EMAIL/WEB.

- STILL DIRE NEED FOR MORE SATCOM SERVICE. WE EXPECT OUR 2MBPS/512KBPS PIPE AT HOSPITAL TO BE SATURATED QUICKLY AS IT'S THE SOLE PIPE FOR HOSPITAL ENTITIES PLUS OUTER ENTITIES WE START TO GET ONLINE VIA WIMAX FRIDAY. NOT SURE YET WHAT BANDWIDTH'LL BE NEEDED BUT HOPE TO GET AT LEAST 6/6 MBPS ASAP. HAVE ASKED ERIC RASMUSSEN, BRIAN FILA, ETC., TO HELP WITH MORE SATCOM PIPES.

E. STILL HAVE A NEED TO ACCESS CLASSIFIED NETWORKS TO OBTAIN (AND REPORT) FORCE PROTECTION INTEL AS WE DEPLOY IN ISOLATED AREAS.... WHICH IS STARTING FRIDAY, TO INCLUDE LOOKING AT RADIO REPEATER SITES, ETC., AS WE'RE TRYING TO HELP GET RADIO COMMS BACK UP SIMULTANEOUSLY WITH NETWORK DATA/COMMS. WE HAVE ONE RADIO/HAM VERY EXPERIENCED STUDENT LEADING THAT RADIO STRIKE TEAM. WE BELIEVE WE WILL HAVE EITHER FPS OR NAT'L GUARD OR OTHER LEO ESCORTS BUT WILL CROSS THAT BRIDGE ON THE FLY. STU-III OR STE OR OTHER SECURED NETS WOULD BE VERY USEFUL. WE ARE UNABLE TO MAKE THIS HAPPEN INTERNALLY AT HOSPITAL.

7. ENCLOSURES: N/A.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

(FACULTY LEAD: PROF BRIAN STECKLER)

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. STECKLER/BRUCE COMMENTS:

- LONG DAY FOR ADVANCE TEAM PREP'ING FOR CARAVAN TO ARRIVE IN AFTERNOON. ONCE CARAVAN ARRIVED ALL 11 ON SITE WORKED UNTIL MIDNIGHT GETTING SITE ONLINE.

- HEARD THAT CITY OF MONTEREY COUNCIL VOTED LAST NIGHT TO ADOPT BAY ST LOUIS AND WAVELAND. WE ARE TRYING TO GET THE TWO MAYORS TALKING. STECKLER HOPES TO FIND BSL MAYOR AND COUNCIL FRIDAY TO SEE IF THEY ARE IN COMMS. IF NOT WE WILL MAKE THAT HAPPEN VIA SATELLITE PHONE OR CELL OR EMAIL DEPENDING ON CONDITIONS. WE DO NOT YET KNOW WHAT "ADOPTING" MEANS BUT HEARD THAT IT INCLUDES MONTEREY IT/COMMS SUPPORT. WE LOOK FWD TO LIAISON OURSELVES WITH MONTEREY IT/COMMS FOLKS TO LEARN WHAT THEY WILL BRING TO THE FIGHT AND WHEN.

- STECKLER PROVIDED SEVERAL STATUS UPDATES VIA CELL OR SATPHONE TO CDR RASMUSSEN. ASSUME THOSE UPDATES ARE BEING FED TO OASD-NII AND OTHERS BUT DO NOT HAVE CONFIRMATION YET THAT THIS IS HAPPENING. CDR RASMUSSEN IS EXPECTED TO BE ON SITE AT HOSPITAL FRIDAY AFTERNOON OR EVENING (WITH THE PROMISED THICK STEAKS AND HAMBURGERS TO AUGMENT OUR MRE'S). REPEAT, PROMISED STEAKS AND HAMBURGERS.

- PLAN TO START BRINGING THE RELIEF SUPPLY POINTS OF DISTRIBUTION (PODS) AND SATELLITE PODS AND OTHER EMERGENCY SITES, ETC., ONLINE STARTING FRIDAY. BATTLE RHYTHM BEING DEVELOPED BASED ON FEMA AND EOC GUIDANCE.

- HOSPITAL NPS LEADERSHIP (PROF STECKLER, LCDR BRUCE, CAPT URREA, LT LANCASTER) SATELLITE AND CELL PHONE QUALITY IS SPOTTY AT BEST. EXPECT THIS ISSUE TO BE RESOLVED FRIDAY WHEN WE SET UP FIRST VoIP PHONE SERVICE AT OUR NOC (CALLING OUR NOC THE "COMMUNICATIONS TRIAGE COMMAND CENTER" UNTIL GIVEN OTHER GUIDANCE FROM ABOVE). NO CONSISTENT ATT/CINGULAR CELL AT HOSPITAL YET. VERIZON STILL INOP. NEXTEL OK IF AROUND FEMA TRAILER. OTHER SMALLER CELL COMPANIES SERVICE INOP. STILL HAVING BUSY SIGNALS FOR SATCOM AND ALL CELL COMPANIES.

- WE WILL BE SETTING UP A PHONE/ORGANIZATION ROSTER FOR ALL SITES WE DEPLOY OUR VoIP PHONES TO AND HAVE THAT PHONE/ORGANIZATION ROSTER AVAILABLE TO ALL PARTIES SO THEY CAN START MAKING/RECEIVING CALLS. NEED MANY MORE VoIP PHONES AS WE ARE NOT SURE WHEN LOCAL TELCO WILL

HAVE ADEQUATE SERVICE. WE HEAR IT MAY BE MONTHS AS THEIR MAIN TRUNKS ARE DESTROYED AND WILL TAKE SOME REBUILDING ALL THE WAY FROM THE CENTRAL OFFICES TO THE RELAY SITES TO THE ACTUAL END USER. ONCE PHONES DO START COMING UP WE'RE NOT SURE HOW GOOD THEY'LL BE SO WE ARE PLANNING ON LEAVING THE VoIP PHONES IN ALL OVER THE AREA UNTIL SOMEONE DETERMINES THAT TELCO DIALTONE IS DEPENDABLE.

- THERE IS A SIGNIFICANT HAZMAT CONCERN BY ALL OPERATING IN AND AROUND HOSPITAL AS THE STORM SURGE PUSHED RAW SEWAGE, NEARBY CHEMICAL PLANT MATERIALS, HOSPITAL BIO-MED MATERIALS, ETC., INTO AND AROUND THE HOSPITAL WHICH HAD THREE FEET OF WATER INSIDE. TEAM GETTING REGULAR BRIEFS ON CAUTIONARY MEASURES AND WE ASSUME OSHA OR OTHERS ARE GOING TO GET A HANDLE ON THIS ISSUE SOON. ALL PARTIES COMING IN, WHETHER VOLUNTEERS / CONTRACTORS / MILITARY AND OTHERS SHOULD IMMEDIATELY FIND OUT ABOUT BOTH HAZMAT ISSUES AND FORCE PROTECTION ISSUES. WE'LL TRY TO GET A CONCISE SUMMARY OF BOTH OUT TO OUR PERSONNEL UNLESS/UNTIL FEMA, OSHA OR OTHER AGENCY SENDS OUT THAT INFO. THIS INFORMATION SHOULD BE HANDED OUT AT THE FRONT SECURITY PERIMETER—SOMETHING THAT IS NOT HAPPENING YET.

- THIS SITREP IS THE VERY FIRST EMAIL OUT FROM OUR NEWLY ESTABLISHED NETWORK DESPITE TEMPTATION TO EMAIL FAMILY/FRIENDS THAT WE'RE HERE SAFE AND HAPPY. THE NPS KATRINA TEAM HAS DONE AN EXTRAORDINARY JOB IN THE DAYS LEADING UP TO THIS FIRST CONNECTION AND LOOK FORWARD TO BRINGING MORE SITES ONLINE IN NEXT FEW DAYS. MANY THANKS AND A JOB WELL DONE TO THE ENTIRE TEAM FROM FWD TEAM LEADERSHIP—TO THE REAR DET IN MONTEREY AND FORWARD DET IN BAY ST LOUIS, AND ALSO TO ALL NPS STAFF SUPPORTING US FROM BEHIND THE SCENE. WE LOOK FWD TO CONTINUED SUPPORT FROM THE REAR. IT IS WORTHY TO NOTE THAT IT TOOK US FIVE DAYS TO GET THE FIRST EMAIL OUT AFTER WE ARRIVED IN THAILAND AFTER THE SE ASIAN TSUNAMI DURING OUR JANUARY HASTILY FORMED NETWORK MISSION ON THE ANDAMAN SEA COAST OF THAILAND. THIS MISSION TOOK FIVE HOURS TO GET ONLINE ONCE WE WERE ON STATION WITH GEAR. THE LESSONS LEARNED FROM THAILAND PAID OFF IN SPADES THIS WEEK.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 09 1900Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (A): BAY ST. LOUIS, MS

NPS DET KATRINA (C): LONGVIEW, TX

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 93 OPERATIONAL DAYS: 14

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 100%

DET (A) RENTAL CAR: 75%

DET (C) RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 15%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION        | STATUS      |
|--------------------|-------------|
| NEMESIS            | OPERATIONAL |
| RYDER 26FT TRUCK   | OPERATIONAL |
| COMM POV           | OPERATIONAL |
| DET (A) RENTAL CAR | OPERATIONAL |
| DET (B) RENTAL RV  | OPERATIONAL |
| DET (B) RENTAL RV  | OPERATIONAL |
| DET (C) RENTAL CAR | OPERATIONAL |

4. PERSONNEL: TOTAL: 15

A. DET A – CONDUCTED OFFLOAD OF PERSONAL GEAR AND HEALTH AND COMFORT  
ITEMS. PREPARING COMMUNICATIONS LINKS BETWEEN HANCOCK MEMORIAL  
HOSPITAL AND SECOND STREET ELEMENTARY SCHOOL AND NORTH CAROLINA MED-1  
FULLY FUNCTIONAL MOBILE HOSPITAL UNIT ESTABLISHED IN A KMART PARKING LOT  
APPROX THREE MILES FROM OUR LOC.

| NAME           | RANK | DEPT/CURRIC | BRANCH |
|----------------|------|-------------|--------|
| BRIAN STECKLER | PROF | GSOIS       |        |
| BILL BRUCE     | LCDR | IW          | USN    |
| STEVE URREA    | CAPT | IW          | USMC   |
| PAT LANCASTER  | LT   | IST         | USN    |
| SCOTT CONE     | LT   | IW          | USN    |
| JOSH OSULLIVAN | LT   | IW          | USN    |



|                 |      |     |      |
|-----------------|------|-----|------|
| GARY THOMSON    | CAPT | IST | USMC |
| BILL WREN       | LT   | IST | USN  |
| RICHARD CLEMENT | LT   | IST | USN  |
| ROBERT MOORE    | LT   | IST | USN  |
| CHRIS LEE       | LT   | IW  | USN  |

C. DET C – EN ROUTE TO AOR.

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| RAYFIELD      | MAJ  | IW          | USMC   |
| IRA LAMBERTH  | LT   | IW          | USN    |
| NATHAN SEAMAN | LTJG | IST         | USN    |
| ROBERT PATTO  | LT   | IST         | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: HOSPITAL OPERATIONAL.

- WiFi LOCAL AREA NETWORK USING RAJANT 802.11B WIRELESS BREADCRUMB MESH PLUS 512KBPS UPLINK AND 2MBPS DOWNLINK SATELLITE SHOT USING TACHYON EQPT.

- ROUTING DONE BY CISCO 2811 ROUTER.

INOP EQUIPMENT: NONE

B. ISSUES: FORCE PROTECTION OF SITE ON HOSPITAL CAMPUS IS BECOMING AN ISSUE. FEMA SECURITY OFFICIALS ONLY HAVE ENOUGH TEMPORARY FENCING TO CONTAIN FEMA SITE AND AIR NATIONAL GUARD FIELD HOSPITAL ON CAMPUS, LEAVING US EXPOSED TO OPEN ACCESS ON CAMPUS. WORKING WITH JFMCC PENSACOLA TO DETERMINE REQUISITION ROUTE, JFMCC OR LOCAL EOC/FEMA, TO OBTAIN MORE FENCING TO ENCLOSE OUR SITE.

6. LESSONS LEARNED

A. TECHNICAL: AN ACCEPTABLE USE POLICY IS A MUST IN THIS ENVIRONMENT. THE FOCUS IS TO COMMUNICATE EMERGENT AND RELEVANT INFORMATION, NOT TO SEND PHOTOS AND MOVIE FILES. ONCE THE CAMPUS WAS ONLINE, THE NETWORK BEGAN TO OPERATE NOTICABLY SLOWER. OVER 300 PERSONNEL AT THIS SITE ALONE. AS POPULATION BECOMES AWARE OF THE NETWORK, USE EXPECTED TO INCREASE. WHEN 802.16 LINKS BECOME FUNCTIONAL, MORE USERS WILL BE INVOLVED REQUIRING THE NEED OF MORE BANDWIDTH.

B. PERSONNEL: ALL PERSONNEL HITTING THE GROUND RUNNING AND EAGER TO PROVIDE COMMUNICATIONS AS QUICKLY AS POSSIBLE.

C. CIVIL-MILITARY BOUNDARY:

- THE CITY OF SAN JOSE IS PROVIDING OVER 100 PERSONNEL AND COMMUNICATIONS EQUIPMENT TO ASSIST IN BRINGING COMMUNICATIONS BACK TO THE AREA. ATTEMPTING TO COORDINATE CAPABILITIES BETWEEN OURSELVES AND THEIR IT PERSONNEL.

- THE SECOND STREET SHELTER IS BEING MOVED TO A CHURCH WITHIN ONE HALF MILE OF OUR LOC. BEGINNING FEASIBILITY DETERMINATION OF PROVIDING WIRELESS SERVICE TO THE LOCATION.

- STILL ATTEMPTING TO GAIN PERSONAL CONTACT WITH THE MAYOR OF BAY ST. LOUIS IN ORDER TO DETERMINE HIS COMMUNICATION REQUIREMENTS.

D. LOGISTICS:

- AS OF SITREP, SECOND TACHYON SATCOM SYSTEM NOT RECEIVED. PACKAGES BEING SHIPPED VIA FEDEX FROM PCLA TO HOSPITAL.

- CONTRACTORS EXPECTED THIS AFTERNOON/EVENING. AS OF SITREP, NONE HAVE ARRIVED.

- STATUS OF INCOMING CISCO GEAR INCLUDING KEY VoIP PHONES STILL UNKNOWN. REQUEST CISCO UPDATE ASAP AS DIAL TONE IS STILL NUMBER ONE PRIORITY EVEN OVER EMAIL/WEB.

- STILL DIRE NEED FOR MORE SATCOM SERVICE. WE EXPECT OUR 2MBPS/512KBPS PIPE AT HOSPITAL TO BE SATURATED QUICKLY AS IT'S THE SOLE PIPE FOR HOSPITAL ENTITIES PLUS OUTER ENTITIES WE START TO GET ONLINE VIA WIMAX FRIDAY. NOT SURE YET WHAT BANDWIDTH'LL BE NEEDED BUT HOPE TO GET AT LEAST 6/6 MBPS ASAP. HAVE ASKED ERIC RASMUSSEN, BRIAN FILA, ETC., TO HELP WITH MORE SATCOM PIPES.

E. STILL HAVE A NEED TO ACCESS CLASSIFIED NETWORKS TO OBTAIN (AND REPORT) FORCE PROTECTION INTEL AS WE DEPLOY IN ISOLATED AREAS....WHICH IS STARTING FRIDAY, TO INCLUDE LOOKING AT RADIO REPEATER SITES, ETC., AS WE'RE TRYING TO HELP GET RADIO COMMS BACK UP SIMULTANEOUSLY WITH NETWORK DATA/COMMS. WE HAVE ONE RADIO/HAM VERY EXPERIENCED STUDENT LEADING THAT RADIO STRIKE TEAM. WE BELIEVE WE WILL HAVE EITHER FPS OR NAT'L GUARD OR OTHER LEO ESCORTS BUT WILL CROSS THAT BRIDGE ON THE FLY. STU-III OR STE OR OTHER SECURED NETS WOULD BE VERY USEFUL. WE ARE UNABLE TO MAKE THIS HAPPEN INTERNALLY AT HOSPITAL.

7. ENCLOSURES: N/A.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. OIC/FACULTY COMMENTS: MUCH NEEDED REST HAD BY ALL UPON COMPLETING INITIAL PHASE OF NETWORK SETUP. MUCH WORK LEFT TO BE DONE BUT A GREAT DEAL OF GROUNDWORK HAS BEEN COMPLETED TO PROVIDE SOUND BASE FOR OPERATIONS.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 10 1700Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 100 OPERATIONAL DAYS: 27

B. FOOD: % AVAILABLE: 87 OPERATIONAL DAYS: 13

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 75%

COMM POV: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 15%

D. PROPANE (NEMESIS): 0%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 0%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 15

A. DET (FWD) – ALL PERSONNEL ONSTA LAST EVENING. PROF STECKLER DEPARTED EARLY AM THIS MORNING TO ATTEND TO FAMILY EMERGENCY. EXPECTED BACK ONSTA LATE EVENING 11 SEP.

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| BRIAN STECKLER  | PROF | GSOIS       |        |
| BILL BRUCE      | LCDR | IW          | USN    |
| RAYFIELD        | MAJ  | IW          | USMC   |
| STEVE URREA     | CAPT | IW          | USMC   |
| PAT LANCASTER   | LT   | IST         | USN    |
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| GARY THOMSON    | CAPT | IST         | USMC   |
| BILL WREN       | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |

|               |      |     |     |
|---------------|------|-----|-----|
| CHRIS LEE     | LT   | IW  | USN |
| IRA LAMBERTH  | LT   | IW  | USN |
| ROBERT PATTO  | LT   | IST | USN |
| NATHAN SEAMAN | LTJG | IST | USN |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: HOSPITAL OPERATIONAL.

- WiFi LOCAL AREA NETWORK USING RAJANT 802.11B WIRELESS BREADCRUMB MESH PLUS 512KBPS UPLINK AND 2MBPS DOWNLINK SATELLITE SHOT USING TACHYON EQPT.

- ROUTING DONE BY CISCO 2811 ROUTER.

- 802.16 LINK ESTABLISHED BETWEEN HOSPITAL AND FIREHOUSE USING REDLINE ANTENNAE.

INOP EQUIPMENT: NONE.

B. ISSUES: FORCE PROTECTION RESOLVING ITSELF. COORDINATED WITH FEMA ON CAMPUS TO ACQUIRE SPACE LEFT VACANT BY DEPARTING DMAT (DISASTER MEDICAL ASSISTANCE TEAM). EXPECT TO BREAK CAMP IN CURRENT LOC 11 SEP AND RE-ASSEMBLE WITHIN FENCED AREA.

6. LESSONS LEARNED

A. TECHNICAL: NONE.

B. PERSONNEL: NONE.

C. CIVIL-MILITARY BOUNDARY: COORDINATION BECOMING EASIER NOW THAT ALL ARE OF THE SAME UNDERSTANDING. MANY AGENCIES AND COMMANDS HAVE GREAT INTENTIONS BUT C2 IS A MUST IN THIS ENVIRONMENT.

D. LOGISTICS:

- AIR NATIONAL GUARD MOBILE HOSPITAL GRACIOUSLY OFFERED DET KATRINA THE USE OF THEIR MESS FACILITIES.

- SECOND TACHYON SATCOM SYSTEM RECEIVED WITH DISCREPANCIES. CRITICAL PARTS OF THE ANTENNA WERE NOT SHIPPED. COORDINATING WITH TACHYON ON MISSING PARTS. EXPECT ARRIVAL OF PARTS VIA FEDEX NLT 13 SEP.

- RYAN HALE AND JOHN TAYLOR FROM MERCURY DATA SYSTEMS (NETWORK TECHNICIANS), JIM WASHINGTON AND JIM MCELROY FROM RAJANT (WIRELESS BREADCRUMB MESH TECHNICIANS) AND DON MULLEN AND DAVE REMORAY (802.16 TECHNICIANS) HAVE ARRIVED. ALL HAVE BEGUN WORKING SIDE BY SIDE WITH STUDENTS TO OFFER SOLUTIONS AND ASSISTANCE WITH CURRENT SITUATION AND MISSION.

- CISCO GEAR INCLUDING KEY VoIP PHONES EN ROUTE. EXPECT FEDEX SHIPMENT NLT 13 SEP.

- STILL DIRE NEED FOR MORE SATCOM SERVICE. WE EXPECT OUR 2MBPS/512KBPS PIPE AT HOSPITAL TO BE SATURATED QUICKLY AS IT'S THE SOLE PIPE FOR HOSPITAL ENTITIES PLUS OUTER ENTITIES WE START TO GET ONLINE VIA WIMAX FRIDAY. NOT SURE YET WHAT BANDWIDTH'LL BE NEEDED BUT HOPE TO GET AT LEAST 6/6 MBPS ASAP. HAVE ASKED ERIC RASMUSSEN, BRIAN FILA, ETC., TO HELP WITH MORE SATCOM PIPES.

E. STILL HAVE A NEED TO ACCESS CLASSIFIED NETWORKS TO OBTAIN (AND REPORT) FORCE PROTECTION INTEL AS WE DEPLOY IN ISOLATED AREAS.... WHICH IS STARTING FRIDAY, TO INCLUDE LOOKING AT RADIO REPEATER SITES, ETC., AS WE'RE TRYING TO HELP GET RADIO COMMS BACK UP SIMULTANEOUSLY WITH NETWORK DATA/COMMS. WE HAVE ONE RADIO/HAM VERY EXPERIENCED STUDENT LEADING THAT RADIO STRIKE TEAM. WE BELIEVE WE WILL HAVE EITHER FPS OR NAT'L GUARD OR OTHER LEO ESCORTS BUT WILL CROSS THAT BRIDGE ON THE FLY. STU-III OR STE OR OTHER SECURED NETS WOULD BE VERY USEFUL. WE ARE UNABLE TO MAKE THIS HAPPEN INTERNALLY AT HOSPITAL.

7. ENCLOSURES: N/A.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. OIC/FACULTY COMMENTS: MANY SMALL VICTORIES OCCURING EVERY HOUR. THERE IS NO DOUBT THAT ALL ARE WORKING HARD AND IT IS EXPECTED THAT WE WILL PROVIDE WIRELESS COMMUNICATIONS TO KEY AREAS OF THIS GREAT COMMUNITY BY DAYS END.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 11 1800Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 89 OPERATIONAL DAYS: 26

B. FOOD: % AVAILABLE: 54 OPERATIONAL DAYS: 13

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 75%

COMM POV: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 45%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 40%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 19

A. DET (FWD) – MAIN EFFORT IS ESTABLISHMENT OF BROADBAND 802.16 LINK WITH 802.11B WIRELESS MESH LAN IN ORDER TO SUPPORT INTERNET ACCESS AND VoIP AT SECOND STREET ELEMENTARY SCHOOL.

STUDENTS:

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| BILL BRUCE      | LCDR | IW          | USN    |
| PAUL RAYFIELD   | MAJ  | IW          | USMC   |
| STEVE URREA     | CAPT | IW          | USMC   |
| PAT LANCASTER   | LT   | IST         | USN    |
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| BILL WREN       | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |
| CHRIS LEE       | LT   | IW          | USN    |

|               |      |     |     |
|---------------|------|-----|-----|
| IRA LAMBERTH  | LT   | IW  | USN |
| ROBERT PATTO  | LT   | IST | USN |
| NATHAN SEAMAN | LTJG | IST | USN |

RESERVISTS:

| NAME      | RANK | BRANCH |
|-----------|------|--------|
| RYAN HALE | IT2  | USNR   |

CONTRACTORS:

| NAME           | COMPANY              |
|----------------|----------------------|
| JIM WASHINGTON | RAJANT               |
| BARRY MCELROY  | RAJANT               |
| DAVE REMORE    | REDLINE              |
| DONALD MULLEN  | REDLINE              |
| JOHN TAYLOR    | MERCURY DATA SYSTEMS |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL, FEMA, DMAT, ARMY NATIONAL GUARD, AND FEDERAL PROTECTIVE SERVICES.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- HANCOCK COUNTY FIRE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK USING TACHYON.

- CISCO IP/PSTN CONVERSION CONFIGURATIONS IN SUPPORT OF KATRINA RELIEF EFFORTS WERE COMPLETED LAST EVENING. MINOR INTERMITTENT ISSUES ARE BEING RESOLVED.

INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL BECAUSE THE TRANSMITTER/RECEIVER FILTERS AND THE WAVEGUIDES WERE NOT SHIPPED. EST DELIVERY NLT 13 SEP.

B. ISSUES:

6. LESSONS LEARNED

A. TECHNICAL: THERE IS NOT NEARLY ENOUGH END USER EQUIPMENT, I.E., LAPTOPS AND VoIP PHONES, CURRENTLY AVAILABLE TO SUPPORT THE TRUE REQUIREMENTS OF THIS AOR. WITH CURRENT ASSETS NPS DET KATRINA CAN ONLY SUPPORT THE DEPLOYMENT OF 20 LAPTOPS AND 4 VoIP PHONES, YET THE DET HAS PROVIDED INTERNET ACCESS, VoIP CAPABILITY AND INTERCONNECTED LOCATIONS THAT SUPPORT APPROX 100+ AIR/ARMY NATIONAL GUARD MEMBERS, 50 FEMA PERSONNEL

AND OVER 3000+ (TO DATE) CIVILIANS AFFECTED BY KATRINA, THE MAYOR AND NUMEROUS OTHER LOCAL EMERGENCY PERSONNEL.

B. PERSONNEL:

- CAPT GARY THOMASON HAS COMPLETED HIS TAD AND HAS DEPARTED TO NPS MONTEREY.

- RAJANT CONTRACTORS WILL BE DEPARTING AREA AND HEADING TO NEW ORLEANS.

C. CIVIL-MILITARY BOUNDARY: COORDINATION HAS BECOME MUCH EASIER. NPS DET KATRINA POS HAS BEEN RELOCATED TO INSIDE THE FENCED IN SECURITY PERIMETER PATROLLED PROVIDED BY FEMA AND PATROLLED BY FEDERAL PROTECTIVE SERVICES. FEMA'S FOOTPRINT IN THEIR CURRENT POS HAS BEEN REDUCED. MISSOURI DMAT UNITS HAVE DEPARTED THE AREA.

D. LOGISTICS: ESTIMATED TIME OF ARRIVAL OF 25 ADDITIONAL CISCO VoIP PHONES IS TUESDAY, 13 SEPTEMBER.

7. ENCLOSURES: (1) NPS DET KATRINA POI MAP.JPG

A. GPS COORDINATES FOR ENCLOSURE (1):

|                               |                               |
|-------------------------------|-------------------------------|
| HANCOCK MEDICAL CENTER:       | 30 19'01.06"N - 89 21'15.95"W |
| CROSSROADS:                   | 30 18'23.01"N - 89 22'58.56"W |
| FIREHOUSE:                    | 30 18'34.95"N - 89 20'35.95"W |
| TRAIN DEPOT:                  | 30 18'30.33"N - 89 20'04.04"W |
| 2ND STREET ELEMENTARY SCHOOL: | 30 18'52.8"N - 89 19'42.53"W  |

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 402-1584

C. OIC/FACULTY COMMENTS: INCREDIBLE WORK ACCOMPLISHED YESTERDAY AFTERNOON AND THIS MORNING IN PROVIDING INTERNET ACCESS TO MUCH MORE OF THE COVERAGE AREA. LOOKING AT OTHER MAJOR EMERGENCY LOCATIONS TO DETERMINE COMMUNICATIONS REQUIREMENTS AND FEASIBILITY OF EXTENDING NETWORK TO THOSE SITES. DET PERSONNEL BECOMING INVOLVED WITH RELIEF EFFORT BY HELPING AT THE SECOND STREET ELEMENTARY SCHOOL SHELTER WHILE GIVING THEM CONNECTIVITY. NPS DET KATRINA TRULY MAKING A DIFFERENCE IN BAY ST. LOUIS.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE VoIP PHONE NUMBER: (919) 595-8545:

|                                     |           |
|-------------------------------------|-----------|
| - NPS DET KATRINA DET COC           | EXT 20042 |
| - AIR NATIONAL GUARD MOBIL HOSPITAL | EXT 20053 |
| - DMAT                              | EXT 20050 |

E. CURRENT TELEPHONE DIRECTORY ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT.



DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 12 1800Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 89 OPERATIONAL DAYS: 26

B. FOOD: % AVAILABLE: 54 OPERATIONAL DAYS: 13

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 75%

COMM POV: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 45%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 40%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 19

A. DET (FWD) – MAIN EFFORT IS ESTABLISHMENT OF BROADBAND 802.16 LINK WITH  
802.11B WIRELESS MESH LAN IN ORDER TO SUPPORT INTERNET ACCESS AND VoIP AT  
WAVELAND POLICE DEPARTMENT.

STUDENTS:

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| BILL BRUCE      | LCDR | IW          | USN    |
| PAUL RAYFIELD   | MAJ  | IW          | USMC   |
| STEVE URREA     | CAPT | IW          | USMC   |
| PAT LANCASTER   | LT   | IST         | USN    |
| SCOTT CONE      | LT   | IW          | USN    |
| JOSH OSULLIVAN  | LT   | IW          | USN    |
| BILL WREN       | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |
| CHRIS LEE       | LT   | IW          | USN    |

|               |      |     |     |
|---------------|------|-----|-----|
| IRA LAMBERTH  | LT   | IW  | USN |
| ROBERT PATTO  | LT   | IST | USN |
| NATHAN SEAMAN | LTJG | IST | USN |

RESERVISTS:

|           |      |        |
|-----------|------|--------|
| NAME      | RANK | BRANCH |
| RYAN HALE | IT2  | USNR   |

CONTRACTORS:

|               |                      |
|---------------|----------------------|
| NAME          | COMPANY              |
| DAVE REMORE   | REDLINE              |
| DONALD MULLEN | REDLINE              |
| JOHN TAYLOR   | MERCURY DATA SYSTEMS |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK SETUP: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCKOCK MEMORIAL HOSPITAL, FEMA, DMAT, ARMY NATIONAL GUARD, AND FEDERAL PROTECTIVE SERVICES.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- HANCOCK COUNTY FIRE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK USING TACHYON.

INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL BECAUSE THE TRANSMITTER/RECEIVER FILTERS AND THE WAVEGUIDES WERE NOT SHIPPED. EST DELIVERY NLT 13 SEP.

B. ISSUES:

6. LESSONS LEARNED

A. TECHNICAL: RAJANT BREADCRUMBS MUST HAVE THE SAME VERSION OF FIRMWARE LOADED ON THEM IN ORDER FOR THEM TO BE INTEROPERABLE.

B. PERSONNEL:

- RAJANT CONTRACTORS DID NOT LEAVE YESTERDAY AS EXPECTED. THEY ARE EXPECTED TO LEAVE THIS AFTERNOON.

C. CIVIL-MILITARY BOUNDARY:

D. LOGISTICS:

- ESTIMATED TIME OF ARRIVAL OF 25 ADDITIONAL CISCO VoIP PHONES IS TUESDAY, 13 SEPTEMBER.

- ONE ADDITIONAL SET OF 802.16 GEAR SUPPORTING AN ADDITIONAL LINK WAS RECEIVED THIS MORNING. DET NOW HAS TWO LINKS AVAILABLE TO SUPPORT OTHER MESHES.

- RCVD CISCO WIRELESS MESH SYSTEM THIS MORNING. AWAITING ARRIVAL OF TECHS TO IMPLEMENT NEW EQUIPMENT NLT AM 13 SEP.

- ETA OF MISSING TACHYON EQUIPMENT IS TOMORROW.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: WITH ALL OF THE GREAT WORK ACCOMPLISHED OVER THE LAST FEW DAYS, DET ABLE TO CATCH UP ON ADMINISTRATIVE MATTERS AS WELL AS HELP IN THE LOCAL COMMUNITY. THE LINES ARE FORMING AT SECOND STREET ELEMENTARY TO USE THE ONE VOICE OVER INTERNET PHONE THAT IS THERE, AS WELL AS THE TWO LAPTOPS TO REGISTER WITH FEMA. OTHER NGO PERSONNEL ARE USING THE WIRELESS MESHES WITH THEIR OWN LAPTOPS TO COORDINATE THEIR ACTIONS WITH HIGHER AUTHORITY. MORE PEOPLE WILL FOLLOW.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE VoIP PHONE NUMBER: (919) 595-8545:

|                                     |           |
|-------------------------------------|-----------|
| - NPS DET KATRINA DET COC           | EXT 20042 |
| - AIR NATIONAL GUARD MOBIL HOSPITAL | EXT 20053 |
| - DMAT                              | EXT 20050 |

E. CURRENT TELEPHONE DIRECTORY ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 13 1800Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 75 OPERATIONAL DAYS: 23

B. FOOD: % AVAILABLE: 43 OPERATIONAL DAYS: 12

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 50%

DET RENTAL CAR: 50%

STORED FUEL FOR GENERATORS: 100%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) – MAIN EFFORT IS ESTABLISHMENT OF BROADBAND 802.16 LINK WITH  
802.11B WIRELESS MESH LAN IN ORDER TO SUPPORT INTERNET ACCESS AND VoIP AT  
WAVELAND POLICE DEPARTMENT.

FACULTY:

| NAME           | RANK  | DEPT  |
|----------------|-------|-------|
| BRIAN STECKLER | GS-15 | GSOIS |

STUDENTS:

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| BILL BRUCE    | LCDR | IW          | USN    |
| PAUL RAYFIELD | MAJ  | IW          | USMC   |
| STEVE URREA   | CAPT | IW          | USMC   |
| PAT LANCASTER | LT   | IST         | USN    |

|                 |      |     |     |
|-----------------|------|-----|-----|
| SCOTT CONE      | LT   | IW  | USN |
| JOSH OSULLIVAN  | LT   | IW  | USN |
| BILL WREN       | LT   | IST | USN |
| RICHARD CLEMENT | LT   | IST | USN |
| ROBERT MOORE    | LT   | IST | USN |
| CHRIS LEE       | LT   | IW  | USN |
| IRA LAMBERTH    | LT   | IW  | USN |
| ROBERT PATTO    | LT   | IST | USN |
| NATHAN SEAMAN   | LTJG | IST | USN |

RESERVISTS:

|      |      |        |
|------|------|--------|
| NAME | RANK | BRANCH |
| NONE |      |        |

CONTRACTORS:

|               |         |
|---------------|---------|
| NAME          | COMPANY |
| DONALD MULLEN | REDLINE |

OBSERVERS:

|                |      |             |        |
|----------------|------|-------------|--------|
| NAME           | RANK | AFFILIATION | BRANCH |
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANKCOCK MEMORIAL HOSPITAL, FEMA, DMAT, ARMY NATIONAL GUARD, AND FEDERAL PROTECTIVE SERVICES.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- HANCOCK COUNTY FIRE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK USING TACHYON.

- PROVIDED ONE HONDA GAS GENERATOR AND ONE FULL GAS CAN TO INDEPENDENT INTERNET SERVICE PROVIDER, JIM GREENE, WORKING IN PEARLINGTON, MS. MR. GREENE SUPPORTED ADVANCE TEAM WHILE CONDUCTING SITE SURVEYS AT HOSPITAL AND IS WORKING WITH US TO PROVIDE THE ISOLATED COMMUNITY OF PEARLINGTON GREATLY NEEDED COMMUNICATIONS.

INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL BECAUSE THE TRANSMITTER/RECEIVER FILTERS AND THE WAVEGUIDES WERE NOT SHIPPED. EST DELIVERY NLT 13 SEP.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL:

- CDR PETE GRIFFITHS, OASD-NII, ARRIVED 12 SEP TO OBSERVE NPS DET KATRINA EFFORTS.

- RAJANT CONTRACTORS DEPLOYED TO NEW ORLEANS ISO IWO JIMA.

- DAVE RUMORE, REDLINE CONTRACTOR, DEPARTED THIS MORNING.

C. CIVIL-MILITARY BOUNDARY: NPS DET COORDINATING WITH MANY NGO'S TO PROVIDE WIRELESS CONNECTIVITY TO THE AREA. INTENT IS TO MAKE SURE THERE ARE AS FEW INCOMPATIBILITIES BETWEEN COMMS GEAR AS POSSIBLE WHILE ENABLING THE GREATEST POSSIBLE VOLUME OF TRAFFIC OVER EACH ENTITY'S BANDWIDTH.

D. LOGISTICS:

- NETWORK INSTALLATION TIME HAS BEEN LENGTHENED WITH THE NEED TO OBTAIN FIRE/POWER COMPANY TRUCKS THAT CAN PROVIDE THE LIFT CAPABILITY NEEDED TO INSTALL 802.16 ANTENNAS ABOVE THE TREE LINE ON PREEXISTING MASTS IN ORDER TO ACHIEVE LOS.

- AWAITING ARRIVAL OF CISCO TECHS TO IMPLEMENT NEW EQUIPMENT NLT PM 13 SEP. TECHS STOPPED IN PCOLA TO OBTAIN OTHER GEAR AND TRANSFER THAT GEAR TO DET LOC.

- TACHYON EQUIPMENT DID NOT ARRIVE AS EXPECTED. TACHYON REPS LOCATING SHIPMENT AND WILL CONTACT DET WITH NEW ETA OF ANTENNA PARTS.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: NPS DET PERSONNEL MAKING INROADS WITH LOCAL COMMUNITIES. DET PROVIDING WIRELESS CONNECTIVITY COVERING FOUR SQUARE MILES OF 802.11B WITH 802.16 SPANNING SIXTEEN SQUARE MILES. MANY LOCAL ENTITIES ARE VERY APPRECIATIVE OF THE WORK NPS PERSONNEL ARE DOING IN THE AREA.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE VoIP PHONE NUMBER: (919) 595-8545:

|                                     |           |
|-------------------------------------|-----------|
| - NPS DET KATRINA DET COC           | EXT 20042 |
| - AIR NATIONAL GUARD MOBIL HOSPITAL | EXT 20053 |
| - DMAT                              | EXT 20050 |

E. CURRENT TELEPHONE DIRECTORY ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 14 1800Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 75 OPERATIONAL DAYS: 23

B. FOOD: % AVAILABLE: 43 OPERATIONAL DAYS: 12

C. GASOLINE/DIESEL

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 25%

DET RENTAL CAR: 50%

STORED FUEL FOR GENERATORS: 100%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) – MAIN EFFORT IS ESTABLISHMENT OF BROADBAND 802.16 LINK WITH 802.11B WIRELESS MESH LAN IN ORDER TO SUPPORT INTERNET ACCESS AND VoIP AT WAVELAND POLICE DEPARTMENT.

FACULTY:

| NAME           | RANK  | DEPT  |
|----------------|-------|-------|
| BRIAN STECKLER | GS-15 | GSOIS |

STUDENTS:

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| BILL BRUCE    | LCDR | IW          | USN    |
| PAUL RAYFIELD | MAJ  | IW          | USMC   |
| STEVE URREA   | CAPT | IW          | USMC   |
| PAT LANCASTER | LT   | IST         | USN    |

|                 |      |     |     |
|-----------------|------|-----|-----|
| SCOTT CONE      | LT   | IW  | USN |
| JOSH OSULLIVAN  | LT   | IW  | USN |
| BILL WREN       | LT   | IST | USN |
| RICHARD CLEMENT | LT   | IST | USN |
| ROBERT MOORE    | LT   | IST | USN |
| CHRIS LEE       | LT   | IW  | USN |
| IRA LAMBERTH    | LT   | IW  | USN |
| ROBERT PATTO    | LT   | IST | USN |
| NATHAN SEAMAN   | LTJG | IST | USN |

RESERVISTS:

|      |      |        |
|------|------|--------|
| NAME | RANK | BRANCH |
| NONE |      |        |

CONTRACTORS:

|               |         |
|---------------|---------|
| NAME          | COMPANY |
| DONALD MULLEN | REDLINE |
| GLEN BERNDT   | CISCO   |
| TERRY SCHMIDT | CISCO   |

OBSERVERS:

|                |      |             |        |
|----------------|------|-------------|--------|
| NAME           | RANK | AFFILIATION | BRANCH |
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCKOCK MEMORIAL HOSPITAL, FEMA, DMAT, ARMY NATIONAL GUARD, AND FEDERAL PROTECTIVE SERVICES.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- HANCOCK COUNTY FIRE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK USING TACHYON.

- FACULTY LEAD WENT TO PEARLINGTON TO DELIVER GENERATOR TO JIM GREENE, THE INDEPENDENT ISP, BUT JIM GREENE WAS NOT THERE. JIM GREENE HAS BEEN CONTACTED AND HE EXPECTS TO RETURN TO AREA PM 14 SEP.

INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL. PARTS WERE RECEIVED THIS MORNING BUT STILL MISSING KEY COMPONENTS. WILL CONTACT TACHYON REP TO RECTIFY PROBLEM. NO EST DELIVERY DATE.



B. ISSUES: SECOND STREET ELEMENTARY IS OPERATIONAL DESPITE MISSING ONE BREADCRUMB. DET CONTACTING LOCAL LAW ENFORCEMENT TO FILE REPORT, BUT BELIEVE A RED CROSS REP MAY HAVE UNKOWINGLY TAKEN IT. IT WAS REPORTED THAT WHEN RED CROSS DEPARTED THE SHELTER, THEY TOOK A VHF RADIO MAST DOWN WHICH WAS ON THE SAME STRUCTURE THE BREADCRUMB WAS ATTACHED. WE WILL CONTACT THE EOC AND RED CROSS TO FIND THE REP THAT TOOK DOWN THE ANTENNA TO DETERMINE IF THAT PERSON ALSO TOOK THE BREADCRUMB.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL: GLEN BERNDT AND TERRY SCHMIDT FROM CISCO ARRIVED PM 13 SEP.

C. CIVIL-MILITARY BOUNDARY: FIVE VOIPS DISTRIBUTED TO SECOND STREET ELEMENTARY SCHOOL AM 14 SEP. AS SOON AS WE CAN PROVIDE CONNECTIVITY TO WAVELAND POLICE AND NEARBY POD, INTENT IS TO DISTRIBUTE MORE PHONES AND LAPTOPS. THIS WILL MAKE IT EASIER FOR DISPALCED CIVILIANS TO CONTACT RELATIVES AND FILE FOR FEMA AND RED CROSS ASSISTANCE.

D. LOGISTICS:

- CISCO TECHS ARRIVED PM 13 SEP AND IMMEDIATELY BEGAN WORKING. INTENT IS TO PROVIDE CONNECTIVITY TO WAVELAND POLICE STATION AND POD DIRECTLY ACROSS THE STREET LOCATED IN A STRIP MALL PARKING LOT USING A PROPRIETARY MESH NETWORK.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: DIFFICULT DAY YESTERDAY IN TRYING TO GET 802.16 BACKBONE BETWEEN HOSPITAL AND WAVELAND POLICE STATION. LOS IS DIFICULT TO ACHIEVE WITH NO REAL HEIGHT TO SPEAK OF AND MANY INTERFERERS INBETWEEN. TEAM CONTINUING TO WORK THROUGH THE ISSUES AND I HAVE NO DOUBT A SOLUTION IS IMMINENT.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE VoIP PHONE NUMBER: (919) 595-8545:

|                                      |           |
|--------------------------------------|-----------|
| - NPS DET KATRINA DET COC            | EXT 20042 |
| - AIR NATIONAL GUARD MOBILE HOSPITAL | EXT 20053 |
| - DMAT                               | EXT 20050 |

E. CURRENT TELEPHONE DIRECTORY ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 15 1800Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER.

2. CONSUMABLES

A. WATER: % AVAILABLE: 170 OPERATIONAL DAYS: 53

B. FOOD: % AVAILABLE: 100 OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 25%

DET RENTAL CAR: 50%

STORED FUEL FOR GENERATORS: 75%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS  
POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK  | DEPT  |
|----------------|-------|-------|
| BRIAN STECKLER | GS-15 | GSOIS |

STUDENTS:

| NAME            | RANK | DEPT/CURRIC | BRANCH |
|-----------------|------|-------------|--------|
| BILL BRUCE      | LCDR | IW          | USN    |
| PAT LANCASTER   | LT   | IST         | USN    |
| RICHARD CLEMENT | LT   | IST         | USN    |
| ROBERT MOORE    | LT   | IST         | USN    |
| IRA LAMBERTH    | LT   | IW          | USN    |

|               |      |     |     |
|---------------|------|-----|-----|
| ROBERT PATTO  | LT   | IST | USN |
| NATHAN SEAMAN | LTJG | IST | USN |

|             |      |  |        |
|-------------|------|--|--------|
| RESERVISTS: |      |  |        |
| NAME        | RANK |  | BRANCH |
| NONE        |      |  |        |

|               |         |
|---------------|---------|
| CONTRACTORS:  |         |
| NAME          | COMPANY |
| DONALD MULLEN | REDLINE |
| GLEN BERNDT   | CISCO   |
| TERRY SCHMIDT | CISCO   |

|                |      |             |        |
|----------------|------|-------------|--------|
| OBSERVERS:     |      |             |        |
| NAME           | RANK | AFFILIATION | BRANCH |
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANKCOCK MEMORIAL HOSPITAL, FEMA, DMAT, ARMY NATIONAL GUARD, AND FEDERAL PROTECTIVE SERVICES.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- HANCOCK COUNTY FIRE DEPARTMENT.

-SECOND STREET ELEMENTARY SCHOOL.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA SEOC BANDWIDTH PROVIDER AND DET 802.16/802.11 GEAR.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK USING TACHYON.

INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL. PARTS WERE SHIPPED IN TWO PACKAGES, ONLY ONE OF WHICH WAS RECEIVED. NO EST DELIVERY DATE.

B. ISSUES: SECOND STREET ELEMENTARY IS OPERATIONAL DESPITE MISSING ONE BREADCRUMB. THE BREADCRUMB WAS MISTAKENLY TAKEN BY HAM RADIO OPERATORS WORKING WITH THE RED CROSS. EXPECT TO HAVE THE ITEM BACK IN CUSTODY PM 15 SEP.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL: CONSIDERABLE DOWNSIZING TODAY. EXPECT FOUR NPS STUDENTS AS RELIEFS ON 17 SEP AND ONE OTHER NPS STUDENT ON 19 SEP.

C. CIVIL-MILITARY BOUNDARY: DET WAS ABLE TO COORDINATE THE SHARING OF BANDWIDTH BEING PROVIDED AT SOUTHERN EOC, WALMART PARKING LOT. BY USING THEIR SERVICE, DET WAS ABLE TO LINK IN WAVELAND POLICE STATION AND WAVELAND POD ON A DIFFERENT BANDWIDTH SOURCE, OTHER THAN OURS. THE SHARING OF RESOURCES IS CRITICAL IN THIS ENVIRONMENT. THE DET IS CURRENTLY ATTEMPTING TO LINK 200 PERSONNEL FROM THE 223 ENGINEERING BATTALION, MS NATL GUARD TO OUR 802.16 BACKBONE. THESE PERSONNEL WILL BE CONTINUING THE RECOVERY PHASE IN THE REGION FOR QUITE SOME TIME AND PROVIDING THEM C2/MWR WILL PROVE CRUCIAL IN THE COMING MONTHS. THE CONGLOMERATION OF VOLUNTEERS FROM SAN JOSE ARE WORKING ON ESTABLISHING A DS-3 (30-45MBPS BANDWITH) MICROWAVE SHOT NEAR OUR LOC. COORDINATING WITH CITY TEAM TO ESTABLISH CONNECTIVITY TO THAT PIPE, ENABLING GREATER SPEED AND QUALITY OF SERVICE TO A GREATER NUMBER OF USERS.

D. LOGISTICS:

- UNDERSTAND THAT JFMCC ASHORE, PCLA, HAS MOVED TO NEW ORLEANS. NEED TO COORDINATE WITH JFMCC ON PACKAGES BEING SHIPPED TO PCLA AND THEIR ABILITY TO REROUTE THOSE PACKAGES TO OUR LOC.

- GASOLINE FOR GENERATORS IS A NON-ISSUE. ALL GOVERNMENT AND EMERGENCY VEHICLES ARE GIVEN FREE FUEL.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE  
FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: THE PHONES ARE BUZZING WITH ACTIVITY AT SECOND STREET ELEMENTARY. EVERYWHERE THERE IS A FOOTPRINT, ALL WHO ARE ACCESSING THE NETWORK ARE EXTREMELY THANKFUL. AND THE NETWORK IS EXPANDING. WITH GEAR ON HAND, THOUGH, WE HAVE REACHED OUR LIMIT. WE ARE, HOWEVER, WORKING WITH OTHER ENTITIES TO INCREASE THE SIZE OF THE NETWORK AND ITS CAPABILITIES.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE VoIP PHONE NUMBER: (919) 595-8545:

|                        |           |
|------------------------|-----------|
| - PROF. BRIAN STECKLER | EST 20040 |
| - NPS DET KATRINA COC  | EXT 20042 |
| - NPS DET KATRINA NOC  | EXT 20053 |
| - DMAT                 | EXT 20050 |

E. CURRENT TELEPHONE DIRECTORY ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT.

F. NPS DET 1 (HANCOCK COUNTY HOSPITAL NOC TEAM) EXIT STRATEGY ISSUES AND ACTIVITIES:

- AN OFFER FROM BELL CANADA TO BRING IN A 6 MEG BY 6 MEG 2.4 METER DISH WITH BROADBAND INTERNET, VoIP, AN INITIAL 10-15 LAPTOPS AND VoIP PHONES, PLUS 802.11 CLOUD PLUS 802.16 GEAR WAS MADE TO CDR GRIFFITHS AND PROF STECKLER YESTERDAY AS A 30 DAY DEMONSTRATION OF A HASTILY DEPLOYED EOC COMM/DATA SUITE. THEY ONLY LACK AN INDOOR FACILITY (NOT

AVAILABLE) OR OUTDOOR AIR CONDITIONED RV WITH RACK SPACE AND ADEQUATE POWER TO ACT AS THEIR NOC AND LIVING FACILITIES. THEY WERE AWARE OF NPS'S NEMESIS MOBILE RESEARCH FACILITY (33 FOOT RV CONVERTED INTO A NOC) AND ASKED IF NEMESIS COULD BE REDEPLOYED FROM HANCOCK COUNTY MEDICAL CENTER (CURRENT NPS DET NOC) TO THE EOC AT STENNIS INT'L AIRPORT (HANCOCK COUNTY EOC) FOR A FEW WEEKS OR LONG ENOUGH FOR THE BELL CANADA TEAM TO OPERATE OUT OF OR UNTIL THEY CAN FIND THEIR OWN RV (RV'S ARE ALMOST IMPOSSIBLE TO FIND ANYWHERE IN A 300-400 MILE RADIUS. CDR GRIFITHS AND PROF STECKLER AGREED TO INVESTIGATE BOTH NEMESIS EXTENSION (WITH THE CRNSG RESERVISTS TAKING OPCON OF THE VEHICLE UNTIL 30 SEPTEMBER WITH PROF STECKLER ON STATION THRU THE 30<sup>TH</sup> OR LONGER IF NECESSARY. ALSO INVESTIGATING OPTION OF MAINTAINING A TRICKLE OF NPS FACULTY/STUDENTS IF WE OBTAIN FY06 FUNDING TO CONTINUE SUPPORT/RESEARCH BEYOND THE MONTH OF SEPTEMBER AND TO HELP WITH THE TRANSITION OF THE INFRASTRUCTURE TO OTHER AGENCIES/ENTITIES OR THE SAN JOSE "CITYTEAM" GROUP OF NON-PROFITS WHOSE MISSION IS IT/COMMS STABILIZATION AND RECONSTRUCTION AFTER DISASTERS. THE AIR GUARD UNIT THAT HAS BEEN PROVIDING ALL INTERNET SERVICES TO THE EOC IS OVERDUE FOR DEPARTURE AND HAS APPROACHED PROF STECKLER ASKING IF NPS OR OUR COLLABORATION PARTNERS (CRNSG RESERVISTS, CISCO/REDLINE ON SITE ENGINEERS/CITYTEAM GROUP) HAVE THE CAPABILITY TO RELIEVE THEM. AFTER SEVERAL DISCUSSIONS ON FEASIBILITY AND MAKING IT CLEAR THAT THE NPS TEAM IS WORKING ON THEIR OWN EXIT STRATEGY WITH 25 SEPTEMBER AS THE HARD RETURN DATE OF THE MAJORITY OF THE TEAM, WE AGREED TO CHECK OUT THE OPTIONS INCLUDING THE BELL CANADA INCOMING INFRASTRUCTURE FOR THE EOC (IF APPROVED) TO HELP FACILITATE SOMEONE BESIDES NPS TO TAKE OVER ICT FOR THE AIR GUARD UNIT AT EOC.

- BOTTOM LINE ON THE BELL CANADA EOC COMMS TAKEOVER IS SUMMARIZED AS FOLLOWS:

- CDR MILLS (OASD-NII PERSON ON THE GROUND HERE) WILL LIASE WITH JFMCC TODAY TO OBTAIN APPROVAL FOR OUR TEAM TO PROVIDE LIAISON BETWEEN THE EOC AND THE BELL CANADA TEAM TO POSSIBLY REPLACE THE EOC'S NAT'L GUARD CIVIL SUPPPORT TEAM THAT IS TRYING TO DEPART. PROF STECKLER WILL INVESTIGATE (WITH NPS) THE FEASIBILITY OF NEMESIS REMAINING AT THE EOC UNTIL SOMEONE GETS A MORE PERMANENT NOC FACILITY AT THE EOC.

- OIC AND PROFESSOR STECKLER ARE WORKING ON AN EXIT STRATEGY PLAN TO INCLUDE OPS AND NPS/CRNSG RESERVE MANNING THROUGH END OF SEPTEMBER, THEN A 30-60 DAY PLAN FOR WHOEVER TAKES OVER LIFECYCLE OPS OF THE INFRASTRUCTURE TO INCLUDE LOCATION, OWNER, NOMENCLATURE, WHETHER LOANS OR GIFTS, LENGTH OF LOAN, WHO ITEMS ARE BEING LOANED TO, ETC. EXIT STRATEGY WILL ALSO INCLUDE THE VARIOUS CANDIDATES FOR INFRASTRUCTURE TAKEOVER, RECEIPT SIGNERS FOR LOANED GEAR, ETC. FIRST DRAFT DUE BY COB TODAY AND MAY BE INCLUDED AS AN ATTACHMENT IN TOMORROWS SITREP.

- TEAM IS WORKING ON GETTING ORG CHARTS AND POC'S FOR THE 15 OR 20 AGENCIES OPERATING IN THE AREA THAT WE ARE WORKING WITH. HAS BEEN VERY DIFFICULT FOR ALL PARTIES TO COMMUNICATE WITHOUT A CENTRAL REPOSITORY FOR THIS STANDARD ITEM. EOC HAS SOME OF IT FOR THEIR FACILITY BUT THERE IS NO OVERALL HANCOCK

COUNTY LOCATION OR ENTITY THAT HAS CREATED AND MAINTAINED. ADDING TO THE CHAOS IS THAT ENTITIES ARE COMING AND GOING ON ALMOST A DAILY BASIS. THIS IMPACTS OUR MISSION, AS WHEN ONE ENTITY LEAVES WE HAVE TO RECOVER OUR GEAR. IF THAT ENTITY IS BEING RELIEVED BY ANOTHER, WE HAVE TO REDEPLOY, TRAIN, ESTABLISH LIAISON WITH OFFICER OR PERSON IN CHARGE PLUS THEIR IT/COMMS CONTACT IF AVAILABLE. THIS IS ADDING ALSO TO THE COMPLEXITY OF THE EXIT STRATEGY.

- ALL DMAT UNITS WILL BE DEMOBILIZED FROM THE HOSPITAL CAMPUS, LEAVING VERY LITTLE FEMA FOOTPRINT. THERE ARE TEMPORARY FACILITIES (SUCH AS SHOWERS, SINKS, POTABLE WATER TANKS) THAT WERE BEING UTILIZED BY ALL FEMA AND NPS RELATED PERSONNEL AND COUNTED ON TO PROVIDE SUPPORT TO THE CITY TEAM PERSONNEL WHO ARE COLOCATING WITH NPS DET ON CAMPUS. THOSE FACILITIES ARE EXPECTED TO BE BROKEN DOWN AND SHIPPED WITH DMAT GEAR TOMORROW. REQUESTS ARE BEING MADE THROUGH DMAT CHAIN TO KEEP FACILITIES IN PLACE UNTIL SUCH TIME AS NPS DET CAN COORDINATE TEMPORARY FACILITIES BE BROUGHT ON CAMPUS. AS WE SIMULTANEOUSLY CONTINUE TO CONNECT MORE REMOTE DEVASTATED COMMUNITIES AND POINTS OF DISTRIBUTION (POD'S)—LOSING THE SHOWERS, SINKS AND POTABLE WATER KITS IS AN ISSUE. THIS LEAVES THE COMBINED TEAM OF APPROXIMATELY 35 PEOPLE WITHOUT FACILITIES TO SHOWER, ETC. WE ARE TRYING TO FIND A SOURCE FOR A REPLACEMENT SANITATION/HYGEINE KIT LOCALLY (223<sup>RD</sup> MISSISSIPPI NAT'L GUARD ENGINEERING GROUP, ETC.). ALSO INVESTIGATING GOING THROUGH OFFICIAL JTF KATRINA OR JFMCC CHANNELS TO REQUEST A SIMILAR KIT FOR THE 20 CITYTEAM MEMBERS AND THE 10-15 ACTIVE DUTY AND RESERVE MILITARY PERSONNEL. THE AIR NAT'L GUARD MEDICAL GROUP HERE IS UNABLE TO SHARE THEIR FACILITIES AS IT'S NOT LARGE ENOUGH FOR THAT MANY MORE PERSONNEL. THE HOSPITAL IS STILL A HAZMAT RESTRICTED SITE SO WE ARE ALL LIVING IN THE PARKING LOT WITH GENERATORS AND PORTABLE POTABLE AND NON-POTABLE WATER IN WATER BUFFALOS.

- PROF STECKLER'S CELLULAR SERVICE, ATT/CINGULAR IS SPOTTY AT BEST IN THIS AREA. IF CALLERS LEAVE MESSAGES HE IS UNABLE TO RETRIEVE THEM FOR 12-14 HOURS AT TIMES AS THE ATT/CINGULAR NETWORK HAS BEEN TOTALLY JAMMED FOR BOTH CALLS AND ACCESS TO VX MAIL. ANOTHER OPTION TO REACH HIM IS VIA THE HOSPITAL NOC'S VoIP PHONES WE INSTALLED. DIAL 919.545.8545 THEN EXTENSION 20040. THE ONLY COMPLETELY RELIABLE CELL PHONE SERVICE IN THE REGION IS NEXTEL. IF WE HAD ONE OR TWO NEXTEL PHONES COMMS WOULD NOT BE AS MUCH OF AN ISSUE.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 17 0100Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: % AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

STORED FUEL FOR GENERATORS: 100%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

STUDENTS:

| NAME          | RANK | DEPT/CURRIC | BRANCH |
|---------------|------|-------------|--------|
| BILL BRUCE    | LCDR | IW          | USN    |
| PAT LANCASTER | LT   | IST         | USN    |

|                 |      |     |     |
|-----------------|------|-----|-----|
| RICHARD CLEMENT | LT   | IST | USN |
| ROBERT MOORE    | LT   | IST | USN |
| IRA LAMBERTH    | LT   | IW  | USN |
| ROBERT PATTO    | LT   | IST | USN |
| NATHAN SEAMAN   | LTJG | IST | USN |

RESERVISTS:

| NAME | RANK | BRANCH |
|------|------|--------|
| NONE |      |        |

CONTRACTORS:

| NAME          | COMPANY |
|---------------|---------|
| DONALD MULLEN | REDLINE |
| GLEN BERNDT   | CISCO   |
| TERRY SCHMIDT | CISCO   |

OBSERVERS:

| NAME           | RANK | AFFILIATION | BRANCH |
|----------------|------|-------------|--------|
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANKCOCK MEMORIAL HOSPITAL, ARMY NATIONAL GUARD.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA SEOC BANDWIDTH PROVIDER AND DET 802.16/802.11 GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- NPS LIASED WITH CISCO AND CISCO PROVIDED A 40 FOOT RV EQUIPPED WITH A SWE-DISH 1 MEG BY 1 MEG SATCOM SUITE AND CISCO SKY CAPTAIN WIRELESS CONNECTIVITY TO THE POD AT PEARLINGTON. THE POD HOUSES APPROX 300 DISPLACED CIVILIANS AND SERVES MEALS AND SUPPLIES TO OVER 500 CIVILIANS DAILY. CISCO IS PROVIDING THIS SERVICE FREE OF CHARGE AND WOULD LIKE TO CONTINUE OUR PARTNERSHIP IN THIS AND FUTURE HA/DR OPERATIONS.

- DET WILL USE CO ARMY/AIR NATL GUARD'S MORE ROBUST VTC CAPABILITY AS PRIMARY MEANS OF CONDUCTING PRESS INTERVIEW. SECONDARY MEANS IS THROUGH NPS OWNED VTC VIA TCP/IP EQUIPMENT.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS.



INOP EQUIPMENT:

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL. ALL PARTS RECEIVED WITH EXCEPTION OF SMALL, YET CRITICAL, BOLTS AND O-RINGS. INVESTIGATING OPTIONS, BUT WILL CONTACT TACHYON TO HAVE THESE MISSING PARTS SHIPPED.

B. ISSUES:

- THE MISSING BREADCRUMB WAS RECOVERED 15 SEP.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL: EXPECT FOUR NPS STUDENTS TO ARRIVE AS RELIEFS ON 17 SEP AND ONE OTHER NPS STUDENT ON 19 SEP. FIVE NAVAL RESERVISTS ARE EXPECTED ON 20 SEP THRU 30 SEP. EXPECT LCDR CHRIS GAUCHER, USNR, TO BECOME THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP. INITIAL COMMUNICATIONS WITH CNSG BEING MADE REGARDING NRSG AND/OR NSG PERSONNEL CONTINUING MISSION AT LEAST THRU OCTOBER. INITIAL COMMUNICATIONS ALSO BEING MADE WITH SPAWAR ON THEIR ABILITY TO AUGMENT DET WITH PERSONNEL AND FUNDING OVER BOTH FISCAL YEARS.

C. CIVIL-MILITARY BOUNDARY: EOC VERY INTERESTED IN BELL CANADA SOLUTION. AWAITING WORD FROM JFMCC J6, ON THE MOVE FROM PCLA TO IWO JMA, TO GIVE GO AHEAD FOR DET TO LIASE BETWEEN ENTITIES.

D. LOGISTICS: CDR GRIFFITHS, OSD NII REP PARTICIPATING ON THE GROUND WITH THE NPS DET, AND PROFESSOR STECKLER MET WITH EOC AND FEMA OFFICIALS REGARDING TWO TRAVEL TRAILERS LEFT BEHIND AFTER FEMA/FPS AGENTS VACATED HOSPITAL CAMPUS. NPS DET AND FOLLOWERS ARE ALLOWED TO UTILIZE TRAILERS FOR THE NEXT 75 DAYS AT NO COST. THIS GREATLY ENHANCES THE HEALTH AND COMFORT ISSUES FACED WHEN PA-DMAT VACATED WITH SHOWER TENTS AND SINKS. EOC ALSO PLACED DET ON ITS POTABLE WATER AND SEWAGE DUMPING ROSTER, ALLOWING GREATER FLEXIBILITY IN SERVICES AT NO COST.

E. PROFESSOR STECKLER HAS OBTAINED SUPPORT FROM THE EOC GIS MAPPING GROUP TO PROVIDE UNLIMITED MAPS (D SIZE) AT NO COST FOR THE NPS DET NOC AND REMOTE MINI-NOC'S (SUCH AS PEARLINGTON CISCO NOC).

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: AT EVERY PHONE, AT EVERY LAPTOP, THERE IS A SMILING FACE THAT SAYS THANK YOU. DISPLACED CIVILIANS, EMERGENCY PERSONNEL, LOCAL GOVERNMENT OFFICIALS, ETC., ARE ABLE TO COMMUNICATE BEYOND THE ABILITIES OF SHORT RANGE RADIO WAVES FOR THE FIRST TIME SINCE KATRINA HIT. WITH THE DAILY THROUGHPUT OF POTENTIAL CUSTOMERS AT THE PODS OVER 3000, THE SERVICE IS MORE THAN WELCOME—IT IS NECESSARY.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                        |           |
|------------------------|-----------|
| - PROF. BRIAN STECKLER | EXT 20040 |
| - NPS DET KATRINA COC  | EXT 20042 |
| - NPS DET KATRINA NOC  | EXT 20053 |

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

F. NPS DET 1 (HANCOCK COUNTY HOSPITAL NOC TEAM) EXIT STRATEGY ISSUES AND ACTIVITIES: BEGAN INITIAL CONVERSATIONS WITH NPS LEADERSHIP, CNSG STAFF, AND SPAWAR OVER LAST TWO DAYS ON POSSIBILITY OF NRSG, CNSG, AND SPAWAR PERSONNEL AUGMENTING NPS PERSONNEL REQUIRED TO MAINTAIN NETWORK ARCHITECTURE AS IS. THIS COULD BE A WIN-WIN IN THAT NPS STUDENTS CAN RETURN TO SCHOOL KNOWING THE LAN/WAN IS IN CAPABLE DOD HANDS AND KNOWING THAT THESE NEW DOD PERSONNEL CAN INTERFACE WITH THE AGENCIES, GEAR AND CONTRACTORS ASSOCIATED WITH THE TECHNOLOGIES BEING IMPLEMENTED.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 18 0130Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: % AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

STORED FUEL FOR GENERATORS: 100%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) -- MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |
| MIKE CLEMENT   | AD-02       | GSOIS |

STUDENTS:

| NAME       | RANK | DEPT/CURRIC | BRANCH |
|------------|------|-------------|--------|
| BILL BRUCE | LCDR | IW          | USN    |

|               |       |     |      |
|---------------|-------|-----|------|
| PAT LANCASTER | LT    | IST | USN  |
| ROBERT MOORE  | LT    | IST | USN  |
| IRA LAMBERTH  | LT    | IW  | USN  |
| ROBERT PATTO  | LT    | IST | USN  |
| MIKE SANDERS  | LT    | SSE | USN  |
| NATHAN SEAMAN | LTJG  | IST | USN  |
| CESAR NADER   | 1STLT | LOG | USMC |

RESERVISTS:

| NAME | RANK | BRANCH |
|------|------|--------|
| NONE |      |        |

CONTRACTORS:

| NAME          | COMPANY |
|---------------|---------|
| DONALD MULLEN | REDLINE |
| GLEN BERNDT   | CISCO   |
| TERRY SCHMIDT | CISCO   |

OBSERVERS:

| NAME           | RANK | AFFILIATION | BRANCH |
|----------------|------|-------------|--------|
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

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- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- DET WILL USE CO ARMY/AIR NATL GUARD'S MORE ROBUST VTC CAPABILITY AS PRIMARY MEANS OF CONDUCTING PRESS INTERVIEW. SECONDARY MEANS IS THROUGH NPS OWNED VTC VIA TCP/IP EQUIPMENT.

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- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS.

INOP EQUIPMENT: NONE.

- SECOND TACHYON SATELLITE DISH IS NOT OPERATIONAL. PARTS REQUIRED WERE PURCHASED IN GULFPORT, BUT AN UPDATED SYSTEM SOFTWARE VERSION

IS REQUIRED TO TUNE ANTENNA ON SATELLITE. EXPECT ANTENNA OPERATIONAL PM 17 SEP.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL:

- LT RICKY CLEMENT DEPARTED 17 SEP, RETURNING TO MONTEREY.

- MIKE CLEMENT, NPS FACULTY ARRIVED 14 SEP.

- TWO NPS STUDENTS ARRIVED 17 SEP. ONE NPS STUDENT MISSED CONNECTION IN PHOENIX AND EXPECTED TO ARRIVE AM 18 SEP. ONE NPS STUDENT MISSED CONNECTION IN ATLANTA AND WILL ARRIVE AM 18 SEP. ONE OTHER NPS STUDENT EXPECTED ON 19 SEP.

- FIVE NAVAL RESERVISTS ARE EXPECTED ON 20 SEP THRU 30 SEP. EXPECT LCDR CHRIS GAUCHER, USNR, TO BECOME THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

- JFMCC J6 INFORMED DET THAT JFMCC EXPECTS TO TURNOVER ALL SUPPORT FUNCTIONS TO CIVIL AUTHORITIES BY 27 SEP, 30 SEP AT THE LATEST. THIS TURNOVER WOULD INCLUDE ANY SUPPORT DET IS PROVIDING TO LOCAL AREA. A GREAT DEAL OF COORDINATION MUST TAKE PLACE FOR DET TO EFFECT THIS CHANGE, INCLUDING DISPOSITION OF EXISTING END USE INFRASTRUCTURE.

C. CIVIL-MILITARY BOUNDARY:

- NO WORD, AS YET, WHETHER NPS DET CAN LIASE BETWEEN BELL CANADA AND HANCOCK COUNTY EOC. BELL CANADA WISHES TO PROVIDE SIX MBPS BANDWIDTH TO THE EOC.

D. LOGISTICS: NONE.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

C. OIC/FACULTY COMMENTS: NOW THAT THE BASIC NETWORK STRUCTURE IS IN PLACE, DET LOOKING AT CREATIVE WAYS TO WIRELESSLY COVER MORE AREA. MANY IDEAS ARE BREWING AND HOPE TO BE IN PLACE SOON.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                        |           |
|------------------------|-----------|
| - PROF. BRIAN STECKLER | EXT 20040 |
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F. NPS DET 1 (HANCOCK COUNTY HOSPITAL NOC TEAM) EXIT STRATEGY ISSUES AND ACTIVITIES: TALKS CONTINUED WITH SPAWAR ON SPAWAR PERSONNEL AUGMENTATION. NO DECISIONS HAVE BEEN MADE.

G. TECHS FROM MICROSOFT ARRIVED IN CAMP TO LIASE WITH BRIAN STECKLER AND CDR GRIFFITHS ON WIRELESS MESH INCUBATION. DISCUSSIONS ONGOING ON HOW MICROSOFT CAN SUPPORT RELIEF EFFORT.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 19 0200Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

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| NAME           | RANK        | DEPT  |
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STUDENTS:

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| BILL BRUCE | LCDR | IW          | USN    |

|                  |       |      |      |
|------------------|-------|------|------|
| PAT LANCASTER    | LT    | IST  | USN  |
| ROBERT MOORE     | LT    | IST  | USN  |
| IRA LAMBERTH     | LT    | IW   | USN  |
| ROBERT PATTO     | LT    | IST  | USN  |
| MIKE SANDERS     | LT    | SSE  | USN  |
| TOM HAINES       | LT    | IST  | USN  |
| NATHAN SEAMAN    | LTJG  | IST  | USN  |
| CESAR NADER      | 1STLT | LOG  | USMC |
| ROBERT LOWNSBURY | 1STLT | JC4I | USAF |

RESERVISTS:

| NAME | RANK | BRANCH |
|------|------|--------|
| NONE |      |        |

CONTRACTORS:

| NAME          | COMPANY |
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| DONALD MULLEN | REDLINE |
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OBSERVERS:

| NAME           | RANK | AFFILIATION | BRANCH |
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| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

5. MATERIAL

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- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA SEOC BANDWIDTH PROVIDER AND DET 802.16/802.11 GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- DET WILL USE CO ARMY/AIR NATL GUARD'S MORE ROBUST VTC CAPABILITY AS PRIMARY MEANS OF CONDUCTING PRESS INTERVIEW. SECONDARY MEANS IS THROUGH NPS OWNED VTC VIA TCP/IP EQUIPMENT.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY A 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND



WAVELAND POD. WILL RETRIEVE 802.16 LINK BETWEEN WALMART AND WAVELAND PD AM 19 SEP.

B. ISSUES: NONE.

6. LESSONS LEARNED

A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP-ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

B. PERSONNEL:

- TWO NPS STUDENTS ARRIVED 18 SEP. ONE OTHER NPS STUDENT EXPECTED ON 19 SEP.

- FIVE NAVAL RESERVISTS ARE EXPECTED ON 20 SEP THRU 30 SEP. EXPECT LCDR CHRIS GAUCHER, USNR, TO BECOME THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

C. CIVIL-MILITARY BOUNDARY: NONE.

D. LOGISTICS: NONE.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865.

C. OIC/FACULTY COMMENTS: GIVEN GUIDANCE BY JFMCC, DET PREPARING FOR RETROGRADE AND RETURN TO HOMEPLATE. VERY CAREFUL COORDINATION IS TAKING PLACE TO ENSURE INFRASTRUCTURE PUT INTO PLACE IS PROPERLY TURNED OVER TO CIVIL AUTHORITIES OF MISSISSIPPI, OR, IF LEFT IN PLACE, WILL BE LEGALLY AND PROPERLY ACCOUNTED.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                        |           |
|------------------------|-----------|
| - PROF. BRIAN STECKLER | EXT 20040 |
| - NPS DET KATRINA COC  | EXT 20042 |
| - NPS DET KATRINA NOC  | EXT 20053 |

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

F. SUCCESS STORY:

- WHEN THE DET PROVIDED SERVICE TO THE SECOND STREET ELEMENTARY SCHOOL, RELATIONSHIPS WERE FORMED WITH THE FOUNDERS OF THE UNOFFICIAL, TURNED OFFICIAL, POINT OF DISTRIBUTION (POD). ONE IN PARTICULAR WANTED TO RELOCATE TO WEST PALM BEACH, FL, BUT DID NOT HAVE THE FUNDS TO MAKE SUCH TRAVEL, NOR DID HER FRIEND WHO SHE WANTED TO VISIT IN WEST PALM BEACH. ONE OF THE DET MEMBERS THEN MADE A COUPLE OF PHONE CALLS TO THE AIRLINES AND WAS ABLE TO ARRANGE FOR A FREE FLIGHT. THE CEO OF ANGEL FLIGHT GOT WIND OF THIS AND

DECIDED TO REALLY CHANGE HER LIFE. THE CEO CONTACTED A DET MEMBER AND TOLD THE DET MEMBER TO TAKE HER TO STENNIS AIRPORT AT A PARTICULAR TIME TO MEET HIM ON HIS PRIVATE PLANE FOR A ONE WAY TRIP TO WEST PALM BEACH. WE ARE HAPPY TO REPORT THAT SHE MADE THAT FLIGHT AND WILL BEGIN WORK AT THE WEST PALM BEACH AIRPORT AND THUS LIVE MORE COMFORTABLY THAN WHEN SHE WAS SLEEPING IN THE OPEN FIELD ACROSS THE STREET FROM SECOND STREET ELEMENTARY SCHOOL IN BAY ST. LOUIS. THIS ALL HAPPENED BECAUSE THE DET CARED ABOUT ITS MISSION TO HELP THE CITIZENS AFFECTED BY HURRICANE KATRINA.

DAILY SITREP FORMAT: NPS DET KATRINA

1. A. TIME: 20 0230Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: % AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: % AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 25%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 17

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

| STUDENTS:        |       |             |        |
|------------------|-------|-------------|--------|
| NAME             | RANK  | DEPT/CURRIC | BRANCH |
| BILL BRUCE       | LCDR  | IW          | USN    |
| PAT LANCASTER    | LT    | IST         | USN    |
| ROBERT MOORE     | LT    | IST         | USN    |
| IRA LAMBERTH     | LT    | IW          | USN    |
| ROBERT PATTO     | LT    | IST         | USN    |
| MIKE SANDERS     | LT    | SSE         | USN    |
| TOM HAINES       | LT    | IST         | USN    |
| ANDY DITTMER     | LT    | SSO         | USN    |
| NATHAN SEAMAN    | LTJG  | IST         | USN    |
| CESAR NADER      | 1STLT | LOG         | USMC   |
| ROBERT LOWNSBURY | 1STLT | JC4I        | USAF   |

| RESERVISTS: |      |        |
|-------------|------|--------|
| NAME        | RANK | BRANCH |
| NONE        |      |        |

| CONTRACTORS:       |                           |
|--------------------|---------------------------|
| NAME               | COMPANY                   |
| GLEN BERNDT        | CISCO                     |
| TERRY SCHMIDT      | CISCO                     |
| DUSTIN GOODWIN     | CISCO                     |
| ROBERT KIRKPATRICK | MICROSOFT (GROOVE)        |
| SHELLEY FARNHAM    | MICROSOFT                 |
| KAREN EASTERBROOK  | MICROSOFT (WIRELESS MESH) |
| ADAM SAPEK         | MICROSOFT (WIRELESS MESH) |

| OBSERVERS:     |      |             |        |
|----------------|------|-------------|--------|
| NAME           | RANK | AFFILIATION | BRANCH |
| PETE GRIFFITHS | CDR  | OASD-NII    | USN    |

## 5. MATERIAL

### A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL, ARMY NATIONAL GUARD.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- THE DET HAS ESTABLISHED A TCP/IP BASED VTC CONNECTION TO THE WIRELESS WARFARE LAB AND IT IS WORKING RATHER WELL. WE HAVE ESTABLISHED A BACKUP VT CAPABILITY VIA GROOVE AND WEB CAMERA. BOTH ARE WORKING IN THE NOC ON HOSPITAL CAMPUS.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMAR 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF BUT IS BEING WEATHERIZED FOR THE POSSIBLE INCOMING HURRICANE RITA.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET. THE 802.16 LINK BETWEEN WALMART AND WAVELAND PD RECOVERED PM 19 SEP AND IS THE LAST SET OF 802.16 GEAR AVAILABLE FOR FUTURE DEPLOYMENT.

#### B. ISSUES:

- MANY EYES ARE ON TROPICAL STORM RITA. PLANS ARE BEING MADE IAW JFMCC AND EOC GUIDANCE. DET HAS WEATHERIZED THE NOC, THE TWO RENTAL RV'S, THE NEMESIS NETWARVAN, AND THE TWO FEMA PROVIDED TRAILERS. THE COC (INSIDE FIRST FLOOR OF HOSPITAL) WILL BE RELOCATED TO THE THIRD FLOOR NEAR THE HOSPITAL ADMINISTRATOR IN CASE RITA TURNS OUR WAY AND THE AREA FLOODS AGAIN. IT IS POSSIBLE THAT HURRICANE RITA WILL FORCE EVACUATION IN THE AREA. THE DET HAS PREPARED TO PULL OUT AT A MOMENTS NOTICE, LEAVING THE NETWORK IN PLACE AND OPERATIONAL. WE ARE STANDING BY FOR GUIDANCE FROM JFMCC ON THIS ISSUE.

#### 6. LESSONS LEARNED

##### A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

##### B. PERSONNEL:

- ONE NPS STUDENT ARRIVED 19 SEP. ONE OTHER NPS STUDENT EXPECTED ON 20 SEP.

- THREE NAVAL RESERVISTS ARE EXPECTED ON 20 SEP THRU 30 SEP. TWO ADD'L NAVAL RESERVISTS ARE EXPECTED ON 21 SEP THRU 30 SEP. EXPECT LCDR CHRIS GAUCHER, USNR, TO BECOME THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

C. CIVIL-MILITARY BOUNDARY: MUCH COORDINATION TOOK PLACE TODAY WITH JFMCC AND EOC LEADERSHIP WITH ALCON VOICING CONCERN ABOUT ORDER FOR NPS DET AND OUR INFRASTRUCTURE DEPARTING AREA. EOC LEADERSHIP VOICED THE CONCERN TO MS STATE FEMA/MEMA LEADERSHIP THAT CRITICAL C2 COMMS WOULD BE TAKEN AWAY TOO SOON. THE ORDER TO DEPART WAS RESCINDED (APPARENTLY BY THE GOVERNOR'S OFFICE, AND NPS DET HAS NOW BEEN AUTHORIZED TO STAY UNTIL OUTSIDE SERVICES ARE BROUGHT IN TO PROVIDE THE SAME COMMS THAT DET IS PROVIDING, OR UNTIL THE STATE DEEMS THE SUPPORT IS NO LONGER WARRANTED. JFMCC GUIDANCE IS THAT THIS MUST HAPPEN BY 27 SEP.

D. DOCUMENTATION. THE DET DAILY POD INTERFACE TEAM TOOK OUT A STILL DIGITAL CAMERA AND DIGITAL VIDEO CAMERA TODAY, TAKING 360 DEGREE STILL SHOTS FOR PANORAMA SHOTS AND NARRATED 360 DEGREE VIDEO SHOTS— DESCRIBING THE LOCATIONS, THE PURPOSE, THE NETWORK COMPONENT LOCATIONS,

ETC. MEMBERS OF THE TEAM, INCLUDING 4 MICROSOFT EMPLOYEES THAT HAVE ARRIVED THE LAST TWO DAYS, SPENT THE DAY DEVELOPING PPT'S, GRAPHIC SITE MAPS, ETC.

E. LOGISTICS: SUCCESSFULLY ARRANGED THROUGH THE EOC FOR DAILY DELIVERIES OF POTABLE WATER, DIESEL FUEL FOR GENERATORS, CHT DUMPS OF ALL UNITS, AND ICE. WE HAVE ARRANGED WITH FEMA TO BE ABLE TO GET FREE GASOLINE AT THE WAVELAND POD OR THE EOC FOR ALL VEHICLES.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR BILL BRUCE

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 241-8865

OIC/FACULTY COMMENTS: LCDR BRUCE: THIS HAS TRULY BEEN A VERY EDUCATIONAL, AND MORESO, REWARDING EXPERIENCE. IT HAS TRULY BEEN A PLEASURE SERVING THIS GREAT COUNTRY IN THIS ROLE.

C. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                                               |                    |
|---------------------------------------------------------------|--------------------|
| - PROF. BRIAN STECKLER                                        | EXT 20040          |
| - NPS DET KATRINA COC (UNMANNED)                              | EXT 20053          |
| - NPS DET KATRINA NOC<br>(WIRED VoIP PHONE WITH SPEAKERPHONE) | EXT 20042 OR 20165 |

D. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS DET KATRINA

1. A. TIME: 21 0530Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA USS IWO JIMA

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: 100% AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 100%

RYDER: 100%

COMM POV: 75%

DET RENTAL RV: 50%

DET RENTAL RV: 75%

DET RENTAL CAR: 75%

DET RENTAL CAR: 50%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 50%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR  
ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 13

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS  
POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

STUDENTS:

| NAME             | RANK  | DEPT/CURRIC | BRANCH |
|------------------|-------|-------------|--------|
| BRYAN BRADFORD   | MAJ   | ISO         | USAF   |
| MIKE SANDERS     | LT    | SSE         | USN    |
| IRA LAMBERTH     | LT    | IW          | USN    |
| TOM HAINES       | LT    | IST         | USN    |
| ANDY DITTMER     | LT    | SSO         | USN    |
| CESAR NADER      | 1STLT | LOG         | USMC   |
| ROBERT LOWNSBURY | 1STLT | JC4I        | USAF   |

RESERVISTS:

| NAME         | RANK | BRANCH  |
|--------------|------|---------|
| GAUCHER      | LCDR | USN(RC) |
| MARK MOLLERE | CTN1 | USN(RC) |

CONTRACTORS:

| NAME           | COMPANY |
|----------------|---------|
| GLEN BERNDT    | CISCO   |
| TERRY SCHMIDT  | CISCO   |
| DUSTIN GOODWIN | CISCO   |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL, ARMY NATIONAL GUARD.
- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKY CAPTAIN GEAR.

- 223RD ENG BATT DET, BAY ST. LOUIS, MS.

- THE DET HAS ESTABLISHED A TCP/IP BASED VTC CONNECTION TO THE WIRELESS WARFARE LAB AND IT IS WORKING WELL. WE HAVE ESTABLISHED A BACKUP VTC CAPABILITY VIA GROOVE AND WEB CAMERA. BOTH ARE WORKING IN THE NOC ON HOSPITAL CAMPUS.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).



- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMAR 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF BUT IS BEING WEATHERIZED FOR THE POSSIBLE INCOMING HURRICANE RITA.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

#### B. ISSUES:

- MANY EYES ARE ON HURRICANE RITA. PLANS ARE BEING MADE IAW JFMCC AND EOC GUIDANCE. DET HAS WEATHERIZED THE NOC, THE TWO RENTAL RV'S, THE NEMESIS NETWARVAN, AND THE TWO FEMA PROVIDED TRAILERS. THE COC (INSIDE FIRST FLOOR OF HOSPITAL) WILL BE RELOCATED TO THE THIRD FLOOR NEAR THE HOSPITAL ADMINISTRATOR IN CASE RITA TURNS OUR WAY AND THE AREA FLOODS AGAIN. THE DET WILL BE PREPARED TO EVACUATE IF HURRICANE RITA THREATENS THE AREA. A DRY-RUN OF THE PLAN WILL BE EXECUTED TOMORROW ON ONE OF THE RV'S WHEN IT IS REFUELED. WE ARE STANDING BY FOR GUIDANCE FROM JFMCC ON THIS ISSUE. CURRENT FORCE PROTECTION IS PROVIDED BY AIR NATIONAL GUARD ASSETS. IF AIR NATIONAL GUARD EVACUATES, DET OIC WILL REQUEST FP FROM EOC FROM LOCAL AREA. A FORMAL REQUEST AS BEEN SUBMITTED TO EOC TO BE EXECUTED IF OR WHEN THEY DEPART.

- NSG RESERVISTS CURRENTLY EXPERIENCING ORDERS AND FUNDING ISSUES AFFECTING THREE OF THE FIVE MEMBERS FROM ARRIVING ON STATION. THIS IS A CRITICAL MANNING ISSUE AS WE HAD PLANNED ON AND COUNTED ON THESE ASSETS TO MOVE RV'S, NEMESIS, RYDER TRUCK, ETC., EITHER NORTH TO SAFETY OR BACK TO TEXAS (TWO RENTAL RV'S) AND MONTEREY (NEMESIS AND RYDER).

- STILL COORDINATING RETURN OF VEHICLES. LOOKING AT A NUMBER OF OPTIONS INCLUDING USE OF TRANSPORTATION SERVICE PROVIDER TO DRIVE THE NEMESIS VAN AND THE RYDER TRUCK BACK TO MONTEREY. LIMITATION OF 8 HRS OF DRIVING TIME PER DAY WOULD REQUIRE NEMESIS AND RYDER TRUCK TO LEAVE ON 25TH TO BE BACK BY 30TH...AND WE WILL LIKELY NEED THEM FROM 25-27 OR LONGER. MAJOR OROS IS WORKING THIS FROM REAR DET WITH TRAVEL AND COMPTROLLER.

- ISSUES OF MANNING REQUIREMENTS PAST 25 SEP ARE BEING DISCUSSED TO SATISFY CURRENT JFMCC ORDERS TO TRANSITION OPERATIONAL NETWORK TO LOCAL OR STATE CIVIL AUTHORITIES BY 27 SEP.

#### 6. LESSONS LEARNED

##### A. TECHNICAL:

- RAJANT BREADCRUMBS MUST HAVE DHCP DISABLED IF ROUTERS ARE DHCP ENABLED.

- NGO'S HAVE EXPRESSED AN INTEREST IN NOT ONLY THE CAPABILITY TO COMMUNICATE VIA HASTILY FORMED NETWORKS, BUT ALSO IN A SOFTWARE PACKAGE/APPLICATION THAT FACILITATES A COP.

##### B. PERSONNEL:

- ONE NPS STUDENT ARRIVED 20 SEP.

- TWO NAVAL RESERVISTS ARRIVED ON 20 SEP, STAYING TILL 30 SEP. THREE ADDITIONAL NAVAL RESERVISTS ARE EXPECTED ON 21 SEP THRU 30 SEP.

LCDR CHRIS GAUCHER, USNR, HAS ASSUMED RESPONSIBILITIES AS DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

- ONE NPS STUDENT DEPARTS TOMORROW.

- TWO MICROSOFT CONTRACTORS RETURNED TO SEATTLE THIS MORNING. TWO OTHERS DEPARTED THIS MORNING FOR JRB IN NEW ORLEANS, BUT ARE EXPECTED TO RETURN FOR THE REST OF THIS WEEK TO ASSIST WITH GROOVE INSTALLATION/TRAINING FOR NPS DET AND AIR GUARD MEDICAL UNIT (IF DESIRED).

C. CIVIL-MILITARY BOUNDARY: MUCH COORDINATION TOOK PLACE TODAY WITH LOCAL LAW ENFORCEMENT, EMERGENCY SERVICES, POD'S, JFMCC AND EOC LEADERSHIP WITH ALCON VOICING CONCERN ABOUT ORDER FOR NPS DET AND OUR INFRASTRUCTURE DEPARTING AREA WITHOUT PROPER TRANSITION AND HANDOFF. EOC LEADERSHIP VOICED THE CONCERN TO MS STATE FEMA/MEMA LEADERSHIP THAT CRITICAL C2 COMMS WOULD BE TAKEN AWAY. THE ORDER TO DEPART WAS RESCINDED (APPARENTLY BY THE GOVERNOR'S OFFICE), AND NPS DET HAS NOW BEEN AUTHORIZED TO STAY, AS POSSIBLY THE ONLY ACTIVE DUTY (TITLE 10) ENTITY TO REMAIN IN THE STATE UNTIL OUTSIDE SERVICES (CIVIL AUTHORITIES OR FEMA/EOC ARRANGED CONTRACTORS) ARE BROUGHT IN TO PROVIDE THE SAME COMMS THAT DET IS PROVIDING, OR UNTIL THE STATE DEEMS THE SUPPORT IS NO LONGER WARRANTED. JFMCC GUIDANCE IS THAT THIS MUST HAPPEN BY 27 SEP. STILL SEVERAL PODS NORTH OF HWY 90 THAT HAVE LITTLE OR NO COMMS—AS THE NPS DET HAS NO MORE EQUIPMENT TO DEPLOY, AND FURTHER DEPLOYMENT DOES NOT MAKE SENSE IVO THE ORDER TO WIND DOWN AND PREPARE FOR DEPARTURE.

D. DOCUMENTATION: LESSONS LEARNED ARE UPDATED. A PICTURE FILE OF THE WORK BEING DONE WAS COMPILED AND SENT TO THE JC J6 VIA JFMCC AS REQUESTED BY THE J6 FOR THEIR DAILY BRIEF. A VISIO FILE HAS DOCUMENTED THE NETWORK ARCHITECTURE FOR DATA COLLECTION PURPOSES AND TURNOVER TO THE TEAM OF RESERVISTS. REC'D CALL FROM STATE EOC, CAPT LAWLING (USN), AND TONY MARION FROM GSA REQUESTING ANY DOCUMENTATION THAT WOULD AID THEIR IDENTIFYING RESOURCES TO TAKE OVER INFRASTRUCTURE. SENT THIS EVENING AS REQUESTED. DOCUMENTATION WILL BE USED TO ASSIST THE MISSISSIPPI EMERGENCY MANAGEMENT AUTHORITY (MEMA) IN APPLYING FOR STATE FUNDED INFRASTRUCTURE SUPPORT IN THE FUTURE WHEN THE NPS DET DEPARTS FROM THE AREA.

E. LOGISTICS: SUCCESSFULLY ARRANGED FOR DAILY DELIVERIES OF POTABLE WATER, DIESEL FUEL FOR GENERATORS, AND CHT DUMPS OF ALL UNITS. LOGO INGENUITY ARRANGED FOR A WATER TANK TO FILL RV TANKS. THE CAMP IS READY FOR INCLEMENT WX, IS CONFIGURED FOR EFFICIENCY AND MONITORED FOR SAFETY HAZARDS. WE HAVE ARRANGED WITH FEMA TO BE ABLE TO GET FREE GASOLINE AT THE WAVELAND POD OR THE EOC FOR ALL VEHICLES.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR CHRIS GAUCHER

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213

OIC/FACULTY COMMENTS: RECENTLY ASSUMED ROLE AS DET OIC AND LOOKING FORWARD TO SUPPORTING THIS VERY IMPORTANT RELIEF EFFORT. MAJOR CONCERN INCLUDES EVACUATION PLAN FOR POSSIBLE IMPENDING STORM THREAT. SAFETY FIRST!! ADDITIONALLY, FOCUSING ON A STRATEGY TO EITHER CONTINUE OPERATIONS WITH SUPPORT OF OTHER MILITARY UNITS OR TRANSITION TO CIVIL AUTHORITIES.

C. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                                               |                    |
|---------------------------------------------------------------|--------------------|
| - PROF. BRIAN STECKLER                                        | EXT 20040          |
| - NPS DET KATRINA COC (UNMANNED)                              | EXT 20053          |
| - NPS DET KATRINA NOC<br>(WIRED VoIP PHONE WITH SPEAKERPHONE) | EXT 20042 OR 20165 |

D. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS DET KATRINA

1. A. TIME: 22 0630Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: 100% AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 75%

COMM POV: 75%

DET RENTAL RV: 50%

DET RENTAL RV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

DET RENTAL CAR: 50%

DET RENTAL CAR: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 50%

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 12

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

STUDENTS:

| NAME             | RANK  | DEPT/CURRIC | BRANCH |
|------------------|-------|-------------|--------|
| BRYAN BRADFORD   | MAJ   | ISO         | USAF   |
| MIKE SANDERS     | LT    | SSE         | USN    |
| IRA LAMBETH      | LT    | IW          | USN    |
| TOM HAINES       | LT    | IST         | USN    |
| ANDY DITTMER     | LT    | SSO         | USN    |
| ROBERT LOWNSBURY | 1STLT | JC4I        | USAF   |

RESERVISTS:

| NAME          | RANK | BRANCH  |
|---------------|------|---------|
| CHRIS GAUCHER | LCDR | USN(RC) |
| MARK MOLLERE  | CTN1 | USN(RC) |
| JEFF PLIENIS  | CTR2 | USN(RC) |

CONTRACTORS:

| NAME           | COMPANY |
|----------------|---------|
| TERRY SCHMIDT  | CISCO   |
| DUSTIN GOODWIN | CISCO   |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL, ARMY NATIONAL GUARD.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223RD ENG BATT DET, BAY ST. LOUIS, MS.

- THE DET HAS ESTABLISHED A TCP/IP-BASED VTC CONNECTION TO THE WIRELESS WARFARE LAB AND IT IS WORKING WELL. WE HAVE ESTABLISHED A BACKUP VTC CAPABILITY VIA GROOVE AND WEB CAMERA. BOTH ARE WORKING IN THE NOC ON HOSPITAL CAMPUS.

- WIRELESS MESH LAN, SUPPORTED WITH RAJANT 802.11B BREADCRUMBS IS BEING PROVIDED TO WALMART POINT OF DISTRIBUTION (POD).

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 Kbps BY 2Mbps SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF AND IS WEATHERIZED FOR THE POSSIBLE INCOMING HURRICANE RITA.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

- ANOTHER VoIP AND LAPTOP INSTALLED AT WAVELAND PD. THEY ARE BEING USED IN A SECOND COMMAND POST FOR A TOTAL OF 3 LAPTOPS AND 3 VoIP PHONES. ANOTHER PHONE INSTALLED AT FRED'S POD FOR A TOTAL OF 3 PHONES.

- RESPONDED TO ROUTER PROBLEM ON 2ND STREET ELEMENTARY SCHOOL AND DISTRIBUTED A SECOND PUBLIC USE LAPTOP. RESOLVED FREQUENCY SHIFT WITH REDLINE RF MONITOR SOFTWARE.

- RESOLVED WAVELAND PD POWER PROBLEM BETWEEN REDLINE AND CISCO GEAR.

- REPLACED ANTENNA AT 223RD MI COMPANY AND SECURED THE ANTENNA TO ROOF FOR WEATHERIZATION.

- GROOVE INTEGRATION INTO OUR OPERATIONS. A FEW LAPTOPS HAVE GROOVE INSTALLED. WE HAD EXPECTED ASSISTANCE FOR INSTALLATION AND TRAINING ON USE OF GROOVE FROM THE MICROSOFT GROOVE TEAM (MICHAEL KIRKPATRICK) TODAY, BUT WE LEARNED HE WILL LIKELY NOT BE RETURNING TO OUR LOCATION (STAYING AT JFMCC AT JRB NEW ORLEANS). NO CURRENT NPS KATRINA DET MEMBERS ARE FAMILIAR WITH GROOVE. WE WILL DO THE INSTALLATION AND CONDUCT SELF TRAINING AS OPTEMPO ALLOWS.

#### B. ISSUES:

- TRANSITION AND EVACUATION PLANS CONTINUE IAW JFMCC AND EOC GUIDANCE. DET HAS WEATHERIZED THE NOC, THE TWO RENTAL RV'S, THE NEMESIS NETWARVAN, AND THE TWO FEMA-PROVIDED TRAILERS. THE DET HAS PREPARED A DRAFT EVACUATION PLAN IF HURRICANE RITA THREATENS THE AREA. THE DRY-RUN OF THE PLAN WAS NOT EXECUTED ON THE NOC RV TODAY DUE TO CONFLICTING PRIORITIES AND POSSIBLE DISRUPTION TO OPERATIONS. DET PLANS TO RE-FUEL NOC RV TOMORROW USING STORED FUEL. WE ARE STANDING BY FOR GUIDANCE FROM JFMCC ON THIS ISSUE, WITH 24 HOUR STANDBY PLAN.

- NSG RESERVISTS PROBLEMS WITH ORDERS ARE BEING RESOLVED. HAVE ISSUED AN ADDITIONAL REQUEST FOR RESOURCES AND HAVE RECEIVED EXCELLENT SUPPORT FROM CNSG FOR THIS IMPORTANT REQUIREMENT. ONE RESERVIST ARRIVED TODAY WITH AT LEAST TWO MORE EXPECTED BY MONDAY, 26 SEP.

- STILL COORDINATING RETURN OF VEHICLES. NO NEW ARRANGEMENTS OR DECISIONS MADE. WE STILL FEEL BEST OPTION IVO MANNING, FUNDING, CURRENT TASKING, TIMING AND RITA THREAT IS TO HIRE CONTRACTOR DRIVERS FOR THE NEMESIS VAN AND RYDER TRUCK. ADDITIONALLY, WE ARE CONCERNED ABOUT TIMING FOR RETURNING THE TWO RENTAL RV'S AS THEY ARE TO GO TO DALLAS. THE PLANNED DATE OF DEPARTURE OF THE RESERVISTS IS 30 SEP WHICH MAY NOT ALLOW TIME TO RETURN THE RV'S.

- NEMESIS MOTOSAT SATELLITE ANTENNA NOT INSTALLED AS SCHEDULED. THE INSTALLATION ENGINEER WAS DELAYED DUE TO A MOTOR VEHICLE ACCIDENT. HE WAS RELEASED FROM THE HOSPITAL WITH GOOD HEALTH AND INTENDS TO INSTALL THE ANTENNA ON SITE AT HANCOCK COUNTY HOSPITAL ON 22 SEP. AT THAT POINT NEMESIS WILL BE READY AS A FULLY MOBILE COMPLETE COMMUNICATIONS SUITE—802.11, 802.16, VoIP, SKYPE, GROOVE, ETC.

- NPS DET KATRINA'S HANCOCK MEDICAL CENTER COC NETWORK EQUIPMENT WAS RELOCATED FROM THE ORIGINAL HASTILY CHOSEN LOCATION INSIDE FIRST FLOOR CLOSET (AMIDST DESTRUCTION/DEBRIS) IN ACCORDANCE WITH THE KATRINA DET EVACUATION PLAN. THE HOSPITAL STAFF WERE IN FULL SUPPORT. THE NEW LOCATION IS NOW MORE SECURE AND IS NO LONGER SUSCEPTIBLE TO FLOODING (THE HOSPITAL FIRST FLOOR HAD 4-5 FEET OF SURGE WATER FROM KATRINA). THE MOVE WAS ACCOMPLISHED DURING EVENING HOURS TO MINIMIZE THE IMPACT OF THE USERS, HANCOCK MEDICAL CENTER, FIREHOUSE, 223RD MI AND SECOND STREET SHELTER. THE MOVE TOOK 90 MINUTES, WITH MUCH OF THAT SPENT NEATLY SECURING WIRING AND CABLING OF OUR EQUIPMENT.

- SKYPE PEER-TO-PEER VOICE OVER INTERNET PROTOCOL CALLING SYSTEM: PREPARED TO LOAD SKYPE SOFTWARE ONTO DEPLOYED LAPTOPS AT RELIEF SITES. FULL DISTRIBUTION WILL BE EFFECTED UPON RECEIPT OF ENCRYPTED DATA FILE WITH USERNAMES AND PASSWORDS TO UNLOCK REQUIRED LICENSES.

## 6. LESSONS LEARNED

### A. TECHNICAL:

- DIFFICULTY ACCESSING CELL SERVICE AND VOICE MAIL: FACULTY LEAD ACCIDENTALLY STUMBLED UPON A NEW (AT LEAST PREVIOUSLY UNKNOWN BY THE TEAM) CAPABILITY TO ADDRESS THE DIFFICULTY TAKING/MAKING CALLS WITH CELLULAR SERVICE PROVIDER. UPON CALLING ATT'S 611 NUMBER TO ASK IF THERE WAS ANY WAY TO IMPROVE THE CONSTANT BUSY SIGNALS FOR CALLS AND VOICE MAIL ACCESS, HE WAS GIVEN THE PHONE NUMBER OF THE DEPT OF HOMELAND SECURITY GOV'T EMERGENCY TELEPHONE SYSTEM AND THE WIRELESS PRIORITY SERVICE. LONG PROCESS BUT IT ALLOWS CERTAIN GOV'T PERSONNEL TO HAVE PRIORITY SERVICE FOR LAND LINE AND CELL PHONE ACCESS INCLUDING VX MAIL ACCESS. HE WAS UNABLE TO ACCESS VX MAIL ALL DAY, WITH 17 VOICE MAILS PENDING. FACULTY LEAD WAS GIVEN AN ACCT AND THE PROGRAM OFFERED MORE ACCOUNTS IF NECESSARY.

- TEAM SHOULD CONSIDER INCLUDING VHF/UHF RADIOS AS PART OF FLY AWAY PACKAGE IN THE FUTURE. WE ARE CURRENTLY USING RADIOS BORROWED FROM THE LOCAL FIRE DEPARTMENT AND EOC. IT TOOK A FEW DAYS AT BEGINNING OF DEPLOYMENT TO GET DECENT COMMS—BUT THAT WAS ONLY FROM A DEAL WITH LOCAL POLICE/FIRE DEPTS TO USE THEIR NETS...WHICH ALSO TOOK A FEW DAYS TO RESURRECT DUE MOSTLY TO DOWNED REPEATER SITES AND NO POWER FROM THE STORM SURGE AND WINDS. WE HAVE RECENTLY AUGMENTED THEM WITH 12 RADIOS THAT CTN1 MOLLERE BROUGHT WITH HIM FROM PENSACOLA.

- ALTHOUGH THE ENTIRE TEAM OF NPS'ERS AND CONTRACTORS ARE GROOVE CHALLENGED AT THIS TIME, WE SEE A NEED FOR ALL OF US GETTING A GROOVE SPACE FOR THE EFFORT...ESPECIALLY WITH THE MAJORITY OF THE CISCO AND REDLINE ENGINEERS EITHER GONE OR LEAVING TOMORROW. HAVING GROOVE COULD SIGNIFICANTLY HELP WITH TROUBLESHOOTING THIS VERY FRAGILE NETWORK INFRASTRUCTURE, AS WELL AS TO COLLABORATE ON HOW TO DEPLOY HASTILY FORMED NETWORKS IN GENERAL.

B. PERSONNEL:

- TWO NAVAL RESERVISTS ARRIVED ON 20 SEP, STAYING UNTIL 30 SEP. ONE RESERVIST ARRIVED 21 SEP AND WILL REMAIN UNTIL 30 SEP. TWO ADDITIONAL NAVAL RESERVISTS ARE EXPECTED ON OR ABOUT 26 SEP THRU 30 SEP. LCDR CHRIS GAUCHER, USNR, IS THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

- ONE NPS STUDENT DEPARTS TOMORROW.

- BOTH CISCO CONTRACTORS EXPECT TO DEPART TOMORROW WITH ONE POSSIBLE REPLACEMENT. WE MAY NEED TO REACH BACK TO OTHER CISCO ENGINEERS IN THE REGION FOR TROUBLESHOOTING ROUTERS, VoIP PHONES, ETC. THERE HAVE BEEN SEVERAL INSTANCES OF INOP CISCO VoIP PHONES IN PAST FEW DAYS REQUIRING TRAINED CISCO ENGINEERS ON SITE TO FIX.

- UPDATED DET ORG CHART AND UPDATED CONTACT INFO TO IPWIKI.

C. CIVIL-MILITARY BOUNDARY: A PICTURE FILE OF THE WORK BEING DONE WAS COMPILED AND SENT TO MISSISSIPPI STATE EOC, CAPT LAWLING, USN, AND TONY MARION, GSA. ADDITIONAL REQUIRED DETAIL TO BE PROVIDED SEPCOR TOMORROW TO EXPEDITE TRANSITION. DOCUMENTATION WILL BE USED TO ASSIST THE MISSISSIPPI EMERGENCY MANAGEMENT AUTHORITY (MEMA) IN APPLYING FOR STATEFUNDED INFRASTRUCTURE SUPPORT IN THE FUTURE WHEN THE NPS DET DEPARTS FROM THE AREA.

D. DOCUMENTATION: ADMIN FILES AND DET DOCUMENTATION BACKED UP AND PLACED ON CD'S, AND IN NOC SAFE FOR SAFEKEEPING.

E. LOGISTICS: DELIVERY OF POTABLE WATER, DIESEL FUEL FOR GENERATORS, AND CHT DUMPS OF ALL UNITS SEEMS TO BE ROUTINE LATELY. KATRINA DET INTERNET CAFÉ (WITHOUT LATTE MACHINE) SET UP FOR USE BY ALL PERSONNEL ON HOSPITAL GROUNDS AND FOR REGULAR VISITORS FROM OUTSIDE (DMORT, AIR NAT'L GUARD UNITS, ANG SECURITY FORCES, ARMY MEDICAL UNIT STAFF, ETC.). THE CAMP IS READY FOR INCLEMENT WX, IS CONFIGURED FOR EFFICIENCY AND MONITORED FOR SAFETY HAZARDS.

F. HUMANITARIAN SUPPORT: WHILE ASSISTING THE MEMA SAFETY DIRECTOR ON SITE AT THE PEARLINGTON POD THE LAST SEVERAL DAYS, A CONCERN WAS NOTED ABOUT A HAZMAT ISSUE. THE CAFETERIA FREEZERS CONTAIN CONTAMINATED FOOD THAT IS BEFOULING THE AREA. LYE WAS SPREAD AROUND THE AREA AND THE APPLIANCES ARE CLOSED. THE SITUATION WAS REPORTED TO THE LOCAL FEMA COORDINATOR AND TO MEMA. MEMA FURTHER CONTACTED THE EOC HEALTH DEPARTMENT. EOC HEALTH STATED THE AREA WAS TO BE "ROPED OFF" AND PLANNED TO SEND A BIOHAZARD TEAM TO INVESTIGATE. IN THIS SITUATION, NPS DET KATRINA RAISED THE AWARENESS OF THIS HAZARD TO MEMA AND THE EOC.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

OIC/FACULTY COMMENTS: LCDR GAUCHER: THIS WAS MY FIRST OPPORTUNITY TO SEE FIRST HAND THE DEVASTATION CAUSED BY KATRINA. AS WE DROVE TOWARDS THE COAST, THE LITTERING OF CARS, DEBRIS, FALLEN CHURCH STEEPLES, ETC. WAS OVERWHELMING. WE STOPPED AT THE SECOND STREET ELEMENTARY SCHOOL AND MET MANY OF THE PEOPLE WHO WERE USING OUR VoIP PHONES AND INTERNET ACCESSIBLE LAPTOPS. THE LOOK OF GRATITUDE IN THEIR EYES AND THE FIRM



HANDSHAKES AND HUGS JUSTIFY MY FIRST 36 HOURS IN THE AREA AND GIVE ME THE MOTIVATION TO KEEP GOING THESE NEXT 9 DAYS.

C. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                      |                    |
|--------------------------------------|--------------------|
| - PROF. BRIAN STECKLER               | EXT 20040          |
| - NPS DET KATRINA COC (UNMANNED)     | EXT 20053          |
| - NPS DET KATRINA NOC                | EXT 20042 OR 20165 |
| (WIRED VoIP PHONE WITH SPEAKERPHONE) |                    |

D. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS DET KATRINA

1. A. TIME: 23 0530Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 53

B. FOOD: 100% AVAILABLE: 100 - OPERATIONAL DAYS: 19

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 75%

COMM POV: 75%

DET RENTAL RV: 100%

DET RENTAL RV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

DET RENTAL CAR: 50%

DET RENTAL CAR: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 15GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

NOTE THAT WE HAVE ARRANGED WITH THE EOC FOR FREE GASOLINE AND DIESEL FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
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| DET RENTAL CAR   | OPERATIONAL |
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| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 10

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

STUDENTS:

| NAME             | RANK  | DEPT/CURRIC | BRANCH |
|------------------|-------|-------------|--------|
| BRYAN BRADFORD   | MAJ   | ISO         | USAF   |
| MIKE SANDERS     | LT    | SSE         | USN    |
| TOM HAINES       | LT    | IST         | USN    |
| ANDY DITTMER     | LT    | SSO         | USN    |
| ROBERT LOWNSBURY | 1STLT | JC4I        | USAF   |

RESERVISTS:

| NAME          | RANK | BRANCH  |
|---------------|------|---------|
| CHRIS GAUCHER | LCDR | USN(RC) |
| MARK MOLLERE  | CTN1 | USN(RC) |
| RICHARD MEEKS | CTR1 | USN(RC) |
| JEFF PLIENIS  | CTR2 | USN(RC) |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

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- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- THE DET HAS ESTABLISHED A TCP/IP-BASED VTC CONNECTION TO THE WIRELESS WARFARE LAB AND IT IS WORKING WELL. WE HAVE ESTABLISHED A BACKUP VTC CAPABILITY VIA GROOVE AND WEB CAMERA. BOTH ARE WORKING IN THE NOC ON HOSPITAL CAMPUS.

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- ANOTHER VoIP AND LAPTOP INSTALLED AT WAVELAND PD. THEY ARE BEING USED IN A SECOND COMMAND POST FOR A TOTAL OF 3 LAPTOPS AND 3 VoIP PHONES. ANOTHER PHONE INSTALLED AT FRED'S POD FOR A TOTAL OF 3 PHONES.

- FRED'S EQUIPMENT WAS REMOVED DUE TO THE INCLEMENT WEATHER. THE WAVELAND PD IS STILL UP AND OPERATIONAL.

- GROOVE INTEGRATION INTO OUR OPERATIONS. A FEW LAPTOPS HAVE GROOVE INSTALLED. WE HAD EXPECTED ASSISTANCE FOR INSTALLATION AND TRAINING ON USE OF GROOVE FROM THE MICROSOFT GROOVE TEAM (MICHAEL KIRKPATRICK) TODAY BUT WE LEARNED HE WILL LIKELY NOT BE RETURNING TO OUR LOCATION (STAYING AT JFMCC AT JRB NEW ORLEANS). NO CURRENT NPS KATRINA DET MEMBERS ARE FAMILIAR WITH GROOVE. WE WILL DO THE INSTALLATION AND CONDUCT SELF TRAINING AS OPTEMPO ALLOWS.

#### B. ISSUES:

- EVACUATION PLANS CONTINUE IAW JFMCC AND EOC GUIDANCE. DET IS PREPARED TO EVACUATE DUE TO HURRICAN RITA AS REQUIRED. ALL VEHICLES HAVE BEEN OP CHECKED FOR EVACUATION. RE-FUELED THE NOC RV USING STORED FUEL. WE ARE STANDING BY FOR GUIDANCE FROM JFMCC ON THIS ISSUE.

- STILL COORDINATING RETURN OF VEHICLES. NO NEW ARRANGEMENTS OR DECISIONS MADE. WE STILL FEEL BEST OPTION IVO MANNING, FUNDING, CURRENT TASKING, TIMING AND RITA THREAT IS TO HIRE CONTRACTOR DRIVERS FOR THE NEMESIS VAN AND RYDER TRUCK IF THE MISSION IS TERMINATED AND REQUIRES RETURN OF THE VEHICLES.

- NEMESIS MOTOSAT SATELLITE ANTENNA NOT INSTALLED AS SCHEDULED. THE INSTALLATION ENGINEER DID NOT SHOW TODAY. TEAM WILL FOLLOW UP TOMORROW WITH MAJ OROS.

#### 6. LESSONS LEARNED

##### A. TECHNICAL:

- ISSUES WITH CONNECTIVITY TO FIREHOUSE WERE RESOLVED. INITIALLY THOUGHT TO JUST REQUIRE RE-ALIGNING THE ANTENNAE, WE REALIZED A MOMENTARY LOSS OF POWER AT THE HOSPITAL WAS THE ISSUE REQUIRING REBOOT OF THE CISCO ROUTER.

##### B. PERSONNEL:

- ONE NAVAL RESERVISTS ARRIVED TODAY, STAYING UNTIL 30 SEP. TWO ADDITIONAL NAVAL RESERVISTS ARE EXPECTED ON OR ABOUT 26 SEP THRU 30 SEP. LCDR CHRIS GAUCHER, USNR, IS THE DET OIC FOR CONTINUITY OF MISSION SINCE DET DOES NOT EXPECT NPS STUDENTS TO BE IN AREA PAST 25 SEP.

- ONE NPS STUDENT DEPARTED 22 SEP 05.

- BOTH CISCO CONTRACTORS DEPARTED 22 SEP 05. WE MAY NEED TO REACH BACK TO OTHER CISCO ENGINEERS IN THE REGION FOR TROUBLESHOOTING ROUTERS, VoIP PHONES, ETC. THERE HAVE BEEN SEVERAL INSTANCES OF INOP CISCO VoIP PHONES IN PAST FEW DAYS REQUIRING TRAINED CISCO ENGINEERS ON-SITE TO FIX.

- UPDATED DET ORG CHART AND UPDATED CONTACT INFO TO IPWIKI.

C. CIVIL-MILITARY BOUNDARY: A PICTURE FILE OF THE WORK BEING DONE WAS COMPILED AND SENT TO MISSISSIPPI STATE EOC, CAPT LAWLING, USN, AND TONY MARION, GSA. ADDITIONAL REQUIRED DETAIL TO BE PROVIDED SEPCOR TOMORROW TO EXPEDITE TRANSITION. DOCUMENTATION WILL BE USED TO ASSIST THE MISSISSIPPI EMERGENCY MANAGEMENT AUTHORITY (MEMA) IN APPLYING FOR STATE-FUNDED INFRASTRUCTURE SUPPORT IN THE FUTURE WHEN THE NPS DET DEPARTS FROM THE AREA.

D. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS FOR ANY FUTURE RELIEF THAT ARRIVES IN THE NEXT FEW DAYS INCLUDING THE RESERVIST CONTINGENCY.

E. LOGISTICS: DELIVERY OF POTABLE WATER, DIESEL FUEL FOR GENERATORS, AND CHT DUMPS OF ALL UNITS SEEMS TO BE ROUTINE LATELY EVENTHOUGH THE THREAT OF HURRICANE RITA LOOMS. FORCE PROTECTION, REGARDLESS OF THE WEATHER, PLANS TO STAY IN THE AREA AND RIDE OUT THE STORM. KATRINA DET INTERNET CAFÉ (WITHOUT LATTE MACHINE) SET UP FOR USE BY ALL PERSONNEL ON HOSPITAL GROUNDS AND FOR REGULAR VISITORS FROM OUTSIDE (DMORT, AIR NAT'L GUARD UNITS, ANG SECURITY FORCES, ARMY MEDICAL UNIT STAFF, ETC.). THE CAMP IS READY FOR INCLEMENT WX, IS CONFIGURED FOR EFFICIENCY AND MONITORED FOR SAFETY HAZARDS.

F. MEDIA AND PUBLIC RELATIONS: AN AP REPORTER AND PHOTOGRAPHER CAPTURED AN ACTION SHOT OF THE TEAM MOVING AN EXISTING ANTENNA TO A MORE SECURE AND HIGHER LOCATION AT THE HOSPITAL. REFERRED TO MAJOR BRADFORD, AOIC, WHO INDICATED THAT THE OIC AND PROF BRIAN STECKLER WERE AT THE EOC AND UNAVAILABLE FOR COMMENT. THE REPORTER TOOK NAMES AND HOME TOWNS OF THOSE IN THE PHOTO. REPORTER MAY RETURN TOMORROW.

G. TRANSITION STRATEGY: RECEIVED RFI FROM NORTHCOM, DISA, JTF KATRINA, DEFENSE COORDINATION ELEMENT OFFICER (DCO) AND RESPONDED IN KIND WITH PT PAPER ROUTED THRU TACON JFMCC (VIA CDR MILLS) TO EACH OF THE ORGANIZATIONS SENIOR LEADERSHIP. FINAL VERSION ALSO SUBMITTED TO OSD, DISA, AND THE JOINT STAFF J6. PT PAPER SENT SEPCOR.

7. ENCLOSURES: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

OIC/FACULTY COMMENTS: LCDR GAUCHER: MADE ROUNDS OF THE WAVELAND PD, FRED'S POD, THE SECOND STREET ELEMENTARY SCHOOL, AND THE EOC TODAY MEETING WITH LEADERSHIP AT EACH OF THE LOCATIONS. AT THE POD, I WAS APPROACHED BY A VOLUNTEER RELIEF WORKER WHO WAS WALKING AROUND WITH OPEN TOED SANDALS IN A CLEARLY UNSANITARY AREA. HE ASKED IF WE KNEW HOW TO ACQUIRE BOOTS AND SOCKS FOR HIMSELF AND HIS FELLOW RELIEF WORKERS. I MENTIONED THIS TO BRIAN STECKLER WHO OFFERED A PAIR THAT HE BROUGHT JUST FOR THIS PURPOSE. AS LUCK WOULD HAVE IT, THEY FIT THE WORKER PERFECTLY. A VERY MOVING MOMENT CAPTURED ON FILM. HE WAS SO HAPPY, YOU THOUGHT THE GUY HAD JUST WON THE LOTTERY. PRETTY SATISFYING EXPERIENCE. THIS IS

CLEARLY A VERY IMPORTANT NEED HERE THAT HAS NOT BEEN MET BY THE LOCAL PODS.

C. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                      |                    |
|--------------------------------------|--------------------|
| - PROF. BRIAN STECKLER               | EXT 20040          |
| - NPS DET KATRINA COC (UNMANNED)     | EXT 20053          |
| - NPS DET KATRINA NOC                | EXT 20042 OR 20165 |
| (WIRED VoIP PHONE WITH SPEAKERPHONE) |                    |

D. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS DET KATRINA

1. A. TIME: 24 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 8

B. FOOD: 100% AVAILABLE: 120 - OPERATIONAL DAYS: 8

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 75%

COMM POV: 75%

DET RENTAL RV: 100%

DET RENTAL RV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

DET RENTAL CAR: 50%

DET RENTAL CAR: 100%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 15 GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING FOR ALL VEHICLES, GENERATORS, ETC. UNSURE IF THESE SERVICES WILL BE AVAILABLE ON SATURDAY AS HURRICANE RITA WX IS INTENSIFYING IN OUR OPAREA.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 10

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME           | RANK        | DEPT  |
|----------------|-------------|-------|
| BRIAN STECKLER | GS-15 EQUIV | GSOIS |

STUDENTS:

| NAME             | RANK  | DEPT/CURRIC | BRANCH      |
|------------------|-------|-------------|-------------|
| BRYAN BRADFORD   | MAJ   | ISO         | USAF (AOIC) |
| MIKE SANDERS     | LT    | SSE         | USN         |
| TOM HAINES       | LT    | IST         | USN         |
| ANDY DITTMER     | LT    | SSO         | USN         |
| ROBERT LOUNSBURY | 1STLT | JC4I        | USAF        |

RESERVISTS:

| NAME          | RANK | BRANCH        |
|---------------|------|---------------|
| CHRIS GAUCHER | LCDR | USN(RC) (OIC) |
| MARK MOLLERE  | CTN1 | USN(RC)       |
| RICHARD MEEKS | CTR1 | USN(RC)       |
| JEFF PLIENIS  | CTR2 | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: DUE TO THE TORNADO WATCH ALL DAY AND THREE TORNADO WARNINGS IN THE AREA THROUGHOUT THE DAY, TEAM MOVEMENT WAS LIMITED TO THE CAMP. TEAM WAS UNABLE TO MAKE DAILY ROUNDS DUE TO TORNADO WARNINGS IN THE LOWER HANCOCK COUNTY AREA. TEAM EVACUATED TO THE HOSPITAL 2<sup>ND</sup> DECK THREE TIMES DURING THE DAY TODAY ALONG WITH APPROXIMATELY 150 OTHER DOD PERSONNEL (EMEDS, AIR GUARD SECURITY FORCE, HOSPITAL DEBRIS CLEANERS, ETC. OPERATIONAL STATUS OF NETWORK REMOTE NODES (BAY ST. LOUIS AND WAVELAND PODS AND OTHER FACILITIES) COULD NOT BE DETERMINED, AS THE TEAM WAS INSTRUCTED TO REMAIN ON THE HOSPITAL COMPLEX GROUNDS.

B. ISSUES:

- DUE TO THE THREATS OF TORNADOS, NEMESIS AND THE TWO RV'S WERE HASTILY MOVED CLOSER TO THE HOSPITAL (EAST SIDE, UP TO AND NEXT TO THE STRUCTURE) TO SHELTER THE TEAM AND ASSETS FROM THE HIGH WINDS (SUSTAINED 25 KNOT WINDS, WITH GUSTS OF UP TO 35 KNOT WINDS).

- STILL COORDINATING RETURN OF TEAM RECREATIONAL VEHICLES, THE RYDER TRUCK, AND THE NEMESIS VAN. NO NEW ARRANGEMENTS OR DECISIONS MADE, BUT WE ARE MAKING NEW CONTACT AND COORDINATION WITH THE DEFENSE COORDINATION OFFICE (OFFICE) AND DEFENCE COORDINATION ELEMENT (DCE) FROM JACKSON, MS.

- DIFFICULTY OBTAINING REAL TIME WX INFORMATION THROUGHOUT THE DAY, PARTICULARLY REGARDING TORNADO WATCH AND THE OCASSIONAL TORNADO WARNINGS. LOCAL TV NEWS WAS AVAILABLE ON THE RV'S TV'S, AND ON LOCAL RADIO, BUT WE NOTED THAT THE REPORTS WERE NOT TIMELY AND CONSISTENT



WITH EACH OTHER. EVEN THE EOC RADIO STATION'S REPORTS SEEMED OFTEN INACCURATE.

## 6. LESSONS LEARNED

### A. TECHNICAL:

- INTERNET CONNECTIVITY WAS SPOTTY MOST OF THE DAY DUE TO THE VERY HEAVY RAIN AND WIND. THESE HEAVY WINDS AND RAIN SQUALLS AFFECTED OUR MAIN INTERNET CONNECTION (SATCOM DISH ON ROOF OF HOSPITAL). EACH TIME THE RAINS WERE HEAVY THE NETWORK WENT DOWN. ALTHOUGH WE HAVE A PORTABLE COMPLETE WEATHER MONITORING KIT IN NEMESIS (WIND DIRECTION/SPEED, TEMPERATURE, PRESSURE, ETC.) WE HAVE NOT HAD A CHANCE TO INSTALL IT. HOPE TO DO SO ON SATURDAY TO RECORD WX INFO AT THIS LOCATION RESULTING FROM HURRICANE RITA (DUE TO HIT COAST ABOUT 0200 SATURDAY).

- ALL NPS NEMESIS DET AND HOSPITAL COMPLEX VoIP PHONES (ABOUT 15) HAD DIFFICULTY MAINTAINING CONNECTIVITY, AND WHEN CONNECTIVITY WAS RESTORED THE VoIP PHONES STILL DID NOT SYNCH UP PROPERLY. WE ARE STILL TROUBLESHOOTING VoIP PHONES WITH CISCO. NOT HAVING CISCO ENGINEERS ON THE GROUND IN OPAREA TO TROUBLESHOOT HERE AND AT THEIR RALEIGH NC NOC, IMPACTED OUR ABILITY TO KEEP THE NETWORK RUNNING AND AFFECTED OUR COMMAND/CONTROL. ONLY OTHER MEANS OF COMMUNICATION WITH OUTSIDE WORLD WAS CELL PHONES, AND DUE TO STORM AND VOLUNTARY EVACUATION ANNOUNCEMENT OF SOUTHERN HANCOCK COUNTY (OUR AREA) WERE JAMMED MOST OF THE DAY. HAVE SUGGESTED TO CISCO THAT THEY SEND IN REPLACEMENT ENGINEERS IF POSSIBLE.

- DURING THIS PERIOD OF INCLEMENT WEATHER, EXPERIENCED SOME CHALLENGES WITH THE BREADCRUMB 802.11 WIRELESS ACCESS POINTS (ONE KEY BREADCRUMB FOR THE HOSPITAL COMPLEX (ON ROOF) HAD A SEAL FAILURE RENDERING IT INOP. BREADCRUMBS ALSO EXHIBITED THE SAME STRANGE DHCP CONFIGURATION PROBLEMS WE EXPERIENCED SEVERAL DAYS AGO. OIC HAS COLLECTED SEVERAL FIELD RECOMMENDATIONS FOR IMPROVING THE BREADCRUMBS' DESIGN/PERFORMANCE THAT WILL BE SHARED SEPARATELY WITH THE FACULTY LEAD.

- LEARNED THAT THERE IS AN ISSUE WITH AN ENTITY PROVIDING TELEPHONE SERVICE (LIKE OUR OPERATION WITH VoIP PHONES) AND THE 911 SYSTEM. EXPECTATION BY THE PUBLIC THAT ANY PHONE CAN ACCESS 911. ALSO THE 911 SYSTEM HELPS GEOLOCATE CALLERS TO AID LAW ENFORCEMENT TO FIND THE CALLER. FLORIDA HAS A LAW THAT MANDATES ANY PROVIDER TO HAVE ACCESS TO THE 911 SYSTEM. TEAM TALKING TO CISCO TO SEE IF THEIR CALL MANAGER SYSTEM IS CAPABLE OF CONFIGURATION FOR 911 CALLING.

### B. PERSONNEL:

- ONE NAVAL RESERVIST WAS TO ARRIVE TODAY, BUT WAS ORDERED BY NPS NEMESIS DET OIC TO DELAY HIS ARRIVAL UNTIL TOMORROW DUE TO THE INCLEMENT WEATHER. HE WILL TRAVEL HERE FROM ATLANTA TOMORROW EVENING. AN ADDITIONAL NAVAL RESERVIST IS EXPECTED ON MONDAY FOR A TOTAL RESERVIST TEAM OF SIX INCLUDING THE OIC. AS THE NPS STUDENT/FACULTY GROUP (5 TOTAL) ARE SCHEDULED TO DEPART ON SUNDAY THIS LEAVES US WITH THE SMALLEST TEAM YET. CONCERN THAT THIS SMALL TEAM WILL HAVE DIFFICULTY CONTINUING TO MAINTAIN THIS FRAGILE HFN UNTIL EXPECTED TURNOVER TO CIVIL AUTHORITIES OR FEMA CONTRACTED VENDOR/S.

- MAJOR BRYAN BRADFORD, AN NPS STUDENT, HAS AGREED TO POSPONE HIS RETURN TO NPS (REC'D APPROVAL FROM ADCON TONIGHT) AND WILL REMAIN AS AOIC DURING THE PERIOD OF THE RESERVISTS' STAY, SCHEDULED FOR 30 SEP.

- AN IMPORTANT MEDICAL ADVISORY WAS RECEIVED BY THE TEAM FROM THE DCO TODAY OUTLINING THREATS AND REQUIRING ACTION BY RETURNING PERSONNEL WITHIN 5 DAYS OF COMPLETION OF MISSION. A MEDICAL POST-DEPLOYMENT FORM WAS PROVIDED TO THE TEAM AND HAS BEEN PUBLISHED ON THE MAIN SECTION OF THE IP.WIKI PORTAL.

D. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS, LESSONS LEARNED, ETC., FOR ANY FUTURE RELIEF THAT ARRIVES IN THE NEXT FEW DAYS INCLUDING THE RESERVIST CONTINGENCY. DUE TO THE INCLEMENT WEATHER, THIS CONTINUES TO BE A CHALLENGE. THE TEAM BELIEVES THE WEATHER HAS ADVERSELY AFFECTED THE TEAM'S TURNOVER BY AT LEAST 36 HOURS.

E. LOGISTICS:

- WHEN PROVIDING HURRICANE DISASTER RELIEF DURING THE HURRICANE SEASON, THERE NEEDS TO BE BRIEFS TO ALL HANDS PRIOR TO ENTERING OPAREA TEAM WAS NOT FAMILIAR WITH CHARACTERISTICS ON THE GROUND IN SUCH CONDITIONS. SPECIAL PROVISIONS SOULD BE MADE FOR EVACUATION PLANS, EMERGENCY SHELTERING IN HARDENED FACILITIES DURING TORNADO WARNINGS, WEATHERIZING OF DEPLOYED EQUIPMENT, TORNADO EVASION PLANS, FLOOD RE-ROUTING, ETC.

- FORCE PROTECTION HAS SHRUNK TO A TOTAL OF TWO AIR GUARD SECURITY STAFF SINCE THE GUARD EMERGENCY MOBILE MEDICAL TEAM DEPARTED IAW THE VOLUNTARY EVACUATION ANNOUNCEMENT FOR HANCOCK COUNTY. THE EMED UNIT INDICATED THAT THEY WOULD BE OUT OF AREA FOR TWO DAYS. THE REMAINDER OF THE AIR GUARD SECURITY TEAM JOINED THEM. THE NEMESIS TEAM IS LOCKING ALL VEHICLES WHILE OCCUPIED AND MAINTAINING THE BUDDY SYSTEM THROUGHOUT THE NIGHT AND DAY. FORCE PROTECTION AUGMENTATION HAS BEEN REQUESTED FROM THE DCO AS INSTRUCTED BY THE DCO REP THAT VISITED THE SITE YESTERDAY.

- MOVEMENT OF THE RV'S ACROSS THE PARKING LOT DUE TO THE TORNADO WARNINGS PROVIDED A NUMBER OF LESSONS LEARNED:

- TORRENTIAL RAIN MADE FOR HAZARDOUS CONDITIONS SO EXTRA PRECAUTIONS AND ADDITIONAL TIME WERE TAKEN TO EXECUTE THE MOVE.

- MUD REQUIRED PLYWOOD PLACEMENT TO MINIMIZE THE CHANCE THAT THE VEHICLES GET STUCK IN THE MUD. ADDITIONALLY, OLD CRATES WORK WELL TO LIMIT TRACKING OF MUD AROUND THE CAMP AND IN THE VEHICLES.

- THE GENERATOR PROVIDING ELECTRICITY TO THE ENTIRE CAMP SHOULD NOT BE PARKED ON GRASS. A TEAM SUCH AS THIS SHOULD CONSIDER A MOBILE GENERATOR ON A TRAILOR THAT CAN BE MOVED EASILY WITH THE VEHICLES IT IS SUPPORTING. WE HAD TO FIND A FORK LIFT SEVERAL TIMES TO MOVE THE 150KW GENERATOR LOANED TO US FROM THE HOSPITAL/FEMA.

- BRING PLENTY OF ELECTRICAL CABLES FOR THE GENERATOR AND "CRAWL-OVERS" TO PROTECT CHAFING FROM TRUCKS DRIVING OVER THEM.

- ELIMINATE HARDWIRING BETWEEN THE NOC AND THE COC. PERHAPS A DIRECT 802.11 LINK BETWEEN ACCESS POINTS IS MORE APPROPRIATE.

- PLACE THE RV'S IN SUCH A WAY THAT THE CHT DISCHARGE, THE POTABLE WATER TANKS, AND THE POWER INPUT ARE ACCESSIBLE, WHILE STILL PRESENTING LESS SAIL AREA IN HIGH WINDS.

- START EACH OF THE VEHICLES ENGINES ON A DAILY BASIS. HAD TO JUMP/CHARGE TWO OF THE VEHICLE'S BATTERIES.

- EACH TEAM MEMBER SHOULD BE PROVIDED FOUL WEATHER GEAR. MOST MEMBERS DID NOT HAVE PROPER BOOTS AND RAIN GEAR.

- NEMESIS SHOULD HAVE A SEPARATE MAINTENANCE TRAILER VICE A RYDER TRUCK. ITEMS WERE DIFFICULT TO FIND AND ACCESS WHEN WE WERE MOVING THE VEHICLES.

F. MEDIA AND PUBLIC RELATIONS: AP REPORTER DID NOT RETURN AS EXPECTED.

7. ENCLOSURE: FILE "GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE (GETS) AND THE WIRELESS PRIORITY SERVICE (WPS). INFORMATION ON THESE TWO DHS RUN PROGRAMS WILL BE PROVIDED SEPARATELY TO APPROPRIATE PERSONNEL UPON REQUEST. THE GETS AND WPS PROGRAMS ALLOW EMERGENCY EARLY RESPONDERS TO OBTAIN PRIORITY SERVICE FOR POTS AND CELL PHONE SERVICE.

#### 8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC/FACULTY COMMENTS: LCDR GAUCHER: TODAY WAS A CHALLENGE. THERE WAS VOLUNTARY EVACUATION OF OUR AREA WITH TORNADO WATCHES AND WARNINGS THROUGHOUT THE DAY. IN PREPARATION FOR RAPIDLY DETERIORATING WEATHER, WE MOVED SOME OF THE HIGHER PROFILE VEHICLES TOWARDS THE HOSPITAL. THE 186<sup>TH</sup> CIVIL ENGINEERING SQUADRON (WHO JUST ARRIVED TODAY) FROM MERIDIAN, MS ASSISTED US IN MOVING THE LARGE GENERATOR CLOSER TO THE RV'S AND WITH REWIRING. IN APPRECIATION FOR THEIR FANTASTIC SUPPORT, WE SET THEM UP WITH A VoIP PHONE TO MAKE LONG DISTANCE PHONE CALLS AND A LAPTOP FOR THE NIGHT TO WATCH MOVIES OR SURF THE INTERNET. THEY WERE VERY GRATEFUL FOR OUR ASSISTANCE SINCE THEIR DVD PLAYER WAS DOWN HARD FOR THE NIGHT. AS THEY HAD PLANNED ON LIVING IN TENTS ON THE PARKING LOT, THEY HAVE MOVED INTO THE SECOND FLOOR OF THE HOSPITAL TO WAIT OUT THE STORM. IT WAS GREAT TO HELP A UNIT THAT HAD BEEN SO GENEROUS WITH THEIR TIME DURING THE DAY.

BRIAN STECKLER: I RECEIVED AN E-MAIL TODAY THAT CLEARLY SHOWS THE VALUE THIS TEAM HAS PROVIDED THE COMMUNITY:

"HI BRIAN,

I AM A MEMBER OF PA3 DMAT. WE MET DURING OUR SHORT STAY AT HANCOCK MEMORIAL IN BAY ST LOUIS. I WANTED TO THANK YOU FOR THE INVALUABLE SERVICES YOU PROVIDED THE TEAM IN THE WAY OF INTERNET AND PHONE CONNECTIVITY. I KNOW THAT AS MUCH AS WE APPRECIATED IT, THE SERVICE YOU PROVIDED THE COMMUNITY THERE WAS APPRECIATED MUCH MORE AS THEY CANNOT EXPECT THOSE SERVICES RESTORED FOR SOME WEEKS YET.

WITH TEAMS SUCH AS YOURS ABLE TO QUICKLY PROVIDE CONNECTIVITY IN AREAS SUCH AS WE WERE IN WHERE SO MUCH INFRASTRUCTURE WAS DESTROYED WITH NO HOPE OF QUICK RESTORATION, COMMUNITIES AND GOVERNMENTS CAN QUICKLY RE-ESTABLISH COMMUNICATIONS SO VITAL TO RECOVERY.

I HOPE YOUR PROGRAM CONTINUES TO FLOURISH AND IS GIVEN SERIOUS CONSIDERATION AS BEING PART OF A FORMAL FIRST RESPONSE TO STRICKEN AREAS OF ANY DISASTER.

I'M HOME NOW AND ENJOYING THOSE THINGS WE ALL TAKE FOR GRANTED. I HOPE YOU GUYS SOLVED THE SHOWER/SANITATION PROBLEMS CREATED WHEN WE WERE ORDERED OUT. MAYBE SOMEDAY THE MECHANISMS WILL BE IN PLACE WHERE DIFFERENT AGENCIES CAN WORK MORE CLOSELY TOGETHER WITHOUT ALL THE RED TAPE.

GOOD LUCK AND STAY SAFE,

GEORGE KLINZING, PA3 DMAT ERIE, PA”

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                  |                    |
|----------------------------------|--------------------|
| - PROF. BRIAN STECKLER           | EXT 20040          |
| - NPS DET KATRINA COC (UNMANNED) | EXT 20053          |
| - NPS DET KATRINA NOC            | EXT 20042 OR 20165 |

(WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS DET KATRINA

1. A. TIME: 25 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 7

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 7

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 75%

COMM POV: 75%

DET RENTAL RV: 100%

DET RENTAL RV: 75%

DET RENTAL CAR: 100%

DET RENTAL CAR: 50%

DET RENTAL CAR: 50%

DET RENTAL CAR: 75%

STORED FUEL FOR GENERATORS: 15 GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| COMM POV         | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 10

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

STUDENTS:

| NAME             | RANK  | DEPT/CURRIC | BRANCH      |
|------------------|-------|-------------|-------------|
| BRYAN BRADFORD   | MAJ   | ISO         | USAF (AOIC) |
| MIKE SANDERS     | LT    | SSE         | USN         |
| TOM HAINES       | LT    | IST         | USN         |
| ANDY DITTMER     | LT    | SSO         | USN         |
| ROBERT LOUNSBURY | 1STLT | JC4I        | USAF        |

RESERVISTS:

| NAME          | RANK | BRANCH        |
|---------------|------|---------------|
| CHRIS GAUCHER | LCDR | USN(RC) (OIC) |
| STEWART EGLER | CTMC | USN(RC)       |
| MARK MOLLERE  | CTN1 | USN(RC)       |
| RICHARD MEEKS | CTR1 | USN(RC)       |
| JEFF PLIENIS  | CTR2 | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKY CAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

- FRED'S EQUIPMENT HAS NOT BEEN RE-INSTALLED AS THE TENTS HAVE NOT YET BEEN REPLACED.

B. ISSUES:

- STILL COORDINATING RETURN OF TEAM RECREATIONAL VEHICLES, THE RYDER TRUCK, AND THE NEMESIS VAN. NO NEW ARRANGEMENTS OR DECISIONS MADE, BUT WE ARE MAKING NEW CONTACT AND COORDINATION WITH THE DEFENSE COORDINATION OFFICE (DCO) AND DEFENCE COORDINATION ELEMENT (DCE) FROM JACKSON, MS. THE RESERVISTS HAVE INDICATED THAT THEY CAN ASSIST AS NECESSARY PENDING TIMING OF TURNOVER.

- ASIDE FROM WINDY CONDITIONS WEATHER WAS NOT A FACTOR TODAY.

- TERRY KNIGHT FROM FEMA CALLED TO DISCUSS ANY NECESSARY ITEMS AND PERSONNEL TO TAKE OVER THE DET. HE WANTED TO DISCUSS THE TRANSFER OF EQUIPMENT AND THE SKILL SET NEEDED TO KEEP THE NETWORK RUNNING. ISSUES WERE DISCUSSED.

- CONFERENCE CALL WITH CISCO RESULTED IN THE ORDERING OF A ROUTER, POWER SUPPLY AND CAT 5 WIRE TO IMPROVE THE CONNECTIVITY WITH THE VoIP PHONES.

6. LESSONS LEARNED

A. TECHNICAL:

- WE TRIED TO INSTALL TWO VoIP PHONES AT THE 223<sup>RD</sup>. DUE TO THE LONG LENGTH OF THE ETHERNET CABLE, THE PHONES WOULD NOT WORK AS THEY ARE POWERED OFF THE ETHERNET. TO BE RUN IN THAT ENVIRONMENT, SEPARATE POWER SUPPLIES FOR THE PHONES WERE REQUESTED OF CISCO SO THIS SERVICE CAN BE INSTALLED FOR THE 223<sup>RD</sup>.

- ALL NPS NEMESIS DET AND HOSPITAL COMPLEX VoIP PHONES (ABOUT 15) HAD DIFFICULTY MAINTAINING CONNECTIVITY, AND WHEN CONNECTIVITY WAS RESTORED THE VoIP PHONES STILL DID NOT SYNCH UP PROPERLY. WE ARE STILL TROUBLESHOOTING VoIP PHONES WITH CISCO. NOT HAVING CISCO ENGINEERS ON THE GROUND IN OPAREA TO TROUBLESHOOT HERE AND AT THEIR RALEIGH NC NOC, IMPACTED OUR ABILITY TO KEEP THE NETWORK RUNNING AND AFFECTED OUR COMMAND/CONTROL. ONLY OTHER MEANS OF COMMUNICATION WITH OUTSIDE WORLD WAS CELL PHONES, AND DUE TO STORM AND VOLUNTARY EVACUATION ANNOUNCEMENT OF SOUTHERN HANCOCK COUNTY (OUR AREA) WERE JAMMED MOST OF THE DAY. HAVE SUGGESTED TO CISCO THAT THEY SEND IN REPLACEMENT ENGINEERS IF POSSIBLE.

B. PERSONNEL:

- ONE NAVAL RESERVIST ARRIVED TODAY. AN ADDITIONAL NAVAL RESERVIST IS EXPECTED ON MONDAY FOR A TOTAL RESERVIST TEAM OF SIX INCLUDING THE OIC. AS THE NPS STUDENT GROUP (4 TOTAL) ARE SCHEDULED TO DEPART ON SUNDAY. THIS LEAVES US WITH THE SMALLEST TEAM YET. CONCERN THAT THIS SMALL TEAM WILL HAVE DIFFICULTY CONTINUING TO MAINTAIN THIS FRAGILE HFN UNTIL EXPECTED TURNOVER TO CIVIL AUTHORITIES OR FEMA CONTRACTED VENDOR/S.

- FACULTY MEMBER, BRIAN STECKLER, DEPARTED AT 2030 EN ROUTE MERIDIAN, MS FOR MORNING DEPARTURE TO MONTEREY.

- RELIEF DISCUSSIONS WITH CAPT LAWING'S (DCO) REPLACEMENT, CAPT DAVE PICOU, WERE STARTED. THE STATE OF MISSISSIPPI IS VITALLY

INTERESTED IN MAINTAINING THE NETWORK WE HAVE ESTABLISHED AS WELL AS INCREASE THE EXISTING CAPABILITY THROUGHOUT NORTHERN HANCOCK COUNTY AND POSSIBLY ADJOINING COUNTIES. EXPECT CONTRACT AWARD THIS WEEKEND FOR REPLACEMENT PERSONNEL TO TAKE OVER OPERATIONS OF HFN BEFORE THE END OF THE WEEK.

D. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

E. LOGISTICS:

- FORCE PROTECTION HAS SHRUNK TO A TOTAL OF TWO AIR NATIONAL GUARD SECURITY STAFF SINCE THE GUARD EMERGENCY MOBILE MEDICAL TEAM DEPARTED IAW THE VOLUNTARY EVACUATION ANNOUNCEMENT FOR HANCOCK COUNTY ON FRIDAY. WE HAVE HEARD THAT THEY EXPECT TO RETURN ON SUNDAY, BUT DO NOT COUNT ON ADDITIONAL FORCE PROTECTION DURING THE EVENING. THIS ISSUE WAS DISCUSSED WITH THE WAVELEND DEPUTY CHIEF OF POLICE WHO DISPATCHED TWO OFFICERS BORROWED FROM POLK COUNTY, FLA TO OUR LOCATION FOR THE EVENING. THE SITUATION WILL BE RE-ASSESSED DURING THE DAY ON SUNDAY TO DETERMINE IF AN ALTERNATIVE FORCE PROTECTION SERVICE IS REQUIRED. THE NEMESIS TEAM WILL CONTINUE TO LOCK ALL VEHICLES WHILE OCCUPIED AND MAINTAIN THE BUDDY SYSTEM THROUGHOUT THE NIGHT AND DAY.

- MOVED ONE OF THE RV'S TO ITS ORIGINAL SITE IN HOPES THAT ALL VEHICLES WOULD BE MOVED TODAY. DUE TO LACK OF CAT3 ETHERNET CABLE, THE TEAM COULD NOT MOVE THE NOC BACK TO THE ORIGINAL LOCATION AND STILL MAINTAIN CONNECTIVITY TO THE COC. MOVEMENT OF THE RV'S WILL CONTINUE ONCE ADDITIONAL CABLING IS ACQUIRED TO CONNECT THE NOC TO THE COC.

7. ENCLOSURE: NONE.

8. ON-SITE OIC/FACULTY LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC/FACULTY COMMENTS: LCDR GAUCHER: WE MADE OUR ROUNDS TO EVERY LOCATION TODAY AND MET WITH THE CHIEFS OF POLICE AND FIRE, AND THE MAYORS OF WAVELAND AND BAY ST. LOUIS. THE LOOK OF EXHAUSTION IN THEIR FACES WAS VERY EVIDENT, YET EVERYONE MAINTAINS AN EXTREMELY PLEASANT DEMEANOR AND ATTITUDE GIVEN THE SITUATION. ADDITIONALLY, THE SENSE OF HUMOR DEMONSTRATED BY THE FOLKS HARDEST HIT BY THIS DEVASTATION IS A NICE DEPARTURE FROM THE LOSS OF LIFE AND PROPERTY THAT I AM SURE EVERYONE LAMENTS ON A DAILY BASIS.

THE NPS STUDENTS DEPART TOMORROW TO RETURN TO CLASS FOR THE START OF THE FALL QUARTER. UNDER AUSTERE CONDITIONS, THEY HAVE EACH DEMONSTRATED A DEDICATION TO THIS MISSION THAT GOES WELL BEYOND MY EXPECTATION. THE TEAM BEFORE THEM AND THE TEAM THAT IS LEAVING HAVE MY UTMOST RESPECT FOR THEIR DEDICATION AND FOCUS ON WHAT IS CLEARLY A VERY IMPORTANT SERVICE TO THIS COMMUNITY AND COUNTRY AND SURELY AN EXPERIENCE THEY WILL NEVER FORGET. I WISH ALL A SAFE TRIP AND LOOK FORWARD TO SEEING AND WORKING WITH ALL OF THESE SHIPMATES AGAIN IN THE NEAR FUTURE.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:



- NPS DET KATRINA COC (UNMANNED)           EXT 20053
  - NPS DET KATRINA NOC                       EXT 20042 OR 20165
- (WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 26 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 7

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 7

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 100%

DET RENTAL RV: 100%

DET RENTAL RV: 90%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 15 GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 6

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

| NPS STUDENTS:  |      |             |             |
|----------------|------|-------------|-------------|
| NAME           | RANK | DEPT/CURRIC | BRANCH      |
| BRYAN BRADFORD | MAJ  | ISO         | USAF (AOIC) |

| RESERVISTS:   |      |           |               |
|---------------|------|-----------|---------------|
| NAME          | RANK | UNIT      | BRANCH        |
| CHRIS GAUCHER | LCDR | CP PARKS  | USN(RC) (OIC) |
| STEWART EGLER | CTMC | KUNIA     | USN(RC)       |
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC)       |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC)       |
| JEFF PLIENIS  | CTR2 | FT LEWIS  | USN(RC)       |

| CONTRACTORS: |         |
|--------------|---------|
| NAME         | COMPANY |
| NONE         |         |

| OBSERVERS: |      |             |        |
|------------|------|-------------|--------|
| NAME       | RANK | AFFILIATION | BRANCH |
| NONE       |      |             |        |

## 5. MATERIAL

### A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

- FRED'S EQUIPMENT HAS NOT BEEN RE-INSTALLED AS THE TENTS HAVE NOT YET BEEN REPLACED.

### B. ISSUES:

- STILL COORDINATING RETURN OF TEAM RECREATIONAL VEHICLES, THE RYDER TRUCK, AND THE NEMESIS VAN. NO NEW ARRANGEMENTS OR DECISIONS MADE, BUT WE ARE COMMUNICATING WITH THE DEFENSE COORDINATION OFFICE (DCO) IN JACKSON, MS ON A NUMBER OF IDEAS:

- FOUR TEAM MEMBERS RIDE THE RV'S BACK TO TEXAS. THIS REQUIRES TURNOVER PRIOR TO THURS IN ORDER FOR US TO GET THE RV'S BACK IN TIME TO RETURN HOME BEFORE EXPIRATION OF OUR ORDERS ON 30 SEP. MEMBERS CAN RETURN TO THEIR UNITS FROM DALLAS.

- CONTRACTORS THAT REPLACE OUR TEAM TAKE OVER THE RV'S.

- NEMESIS AND THE RYDER TRUCK BE PARKED AT A MILITARY INSTALLATION (PERHAPS AT NAVO STENNIS, MS) AND A CONTRACTOR OR NPS STUDENTS DRIVE THE VEHICLES BACK TO MONTEREY.

## 6. LESSONS LEARNED

### A. TECHNICAL:

- WE ARE NOW TRANSITIONING FROM "CREATE" TO "SUSTAIN" MODE. AS AN EXAMPLE, WE HAVE HAD DIFFICULTY MAINTAINING NETWORK CONNECTIVITY FOR THE HOSPITAL ADMINISTRATORS DUE TO, WE BELIEVE, FAULTY RAJANT WIRELESS ACCESS POINTS, I.E., "BREADCRUMBS." AFTER RESEARCHING THE ISSUE, WE FOUND THAT IF THE BATTERIES ARE NOT FRESH WITHIN THE DEVICES, NETWORK AVAILABILITY CAN BE SPOTTY AND INTERMITTENT. WE ARE REPLACING EXISTING RAJANT BREADCRUMBS WITH CISCO/LINKSYS WIRELESS ACCESS POINTS, WHERE FEASIBLE. TROUBLESHOOTING WILL CONTINUE TOMORROW.

- SITE SURVEYS WITH CISCO WILL START TOMORROW TO SEE WHERE WE CAN IMPROVE CAPABILITIES OF EXISTING INFRASTRUCTURE AND POTENTIALLY EXPAND THE SERVICES OFFERED TO THE PEOPLE OF HANCOCK COUNTY.

### B. PERSONNEL:

- LTC WYRICK FROM THE DCO INDICATED CONTRACTOR RELIEF EXPECTED TUES OR WED OF THIS WEEK. THE DETAILS ARE BEING WORKED OUT NOW IN ORDER FOR OUR RELIEF TO BE IN PLACE AND OPERATIONAL WELL BEFORE WE NEED TO LEAVE ON 30 SEP.

### C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

### D. LOGISTICS:

- THE AIR GUARD EMERGENCY MOBILE MEDICAL TEAM RETURNED TODAY WITH THE FULL SECURITY DETACHMENT. SECURITY WILL CONTINUE HERE THRU THE END OF THE MONTH. WE CONTACTED THE WAVELAND POLICE DEPARTMENT AND CANCELLED THE REQUEST FOR CONTINUED SERVICE.

- COMPLETED SUCCESSFUL MOVE OF ALL RV'S. A NUMBER OF HOSPITAL ADMINISTRATORS HAVE MOVED INTO THE AREA WITH THEIR RV'S AND JOINED OUR TRAILER PARK. ALL ARE COORDINATING AND SHARING LOGISTICS RESPONSIBILITIES AND NEEDS.

## 7. ENCLOSURE: NONE.

## 8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER  
NAME OF AOIC: MAJ BRADFORD  
FACULTY LEAD: PROF BRIAN STECKLER

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC COMMENTS: LCDR GAUCHER: THE NEW TEAM IS WORKING WELL TOGETHER. QUICKLY AND EFFICIENTLY THEY WENT ABOUT THEIR ROUNDS DETERMINING AREAS ON THE NETWORK REQUIRING THEIR ATTENTION AS WELL AS LOOKING FOR

OPPORTUNITIES TO IMPROVE THE CURRENT INFRASTRUCTURE. THE PRESENCE OF CISCO HAS BEEN A BLESSING. CHRIS VERGES OF CISCO SYSTEMS COMES WITH A TREMENDOUS "CAN DO" ATTITUDE AND HAS ALREADY, IN THE SHORT AMOUNT OF TIME HE HAS BEEN WITH US, INTEGRATED WELL WITH THE TEAM. THE ENTIRE CISCO TEAM FOR THAT MATTER (JAMIE, GLEN, JUSTIN, TERRY AND OTHERS) HAVE PROVIDED AN OUTSTANDING AMOUNT OF SUPPORT...VERY PROFESSIONAL, TECHNICALLY KNOWLEDGEABLE, AND TREMENDOUSLY LIKEABLE AS FELLOW TEAM MEMBERS. THE ENTIRE CISCO TEAM SHOULD BE COMMENDED ON THEIR INCREDIBLE CONTRIBUTION TO THIS EFFORT.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

- NPS DET KATRINA COC (UNMANNED)                      EXT 20053
  - NPS DET KATRINA NOC                                      EXT 20042 OR 20140
- (WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 27 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 6

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 6

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 100%

DET RENTAL RV: 100%

DET RENTAL RV: 90%

DET RENTAL CAR: 100%

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STORED FUEL FOR GENERATORS: 15 GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING  
FOR ALL VEHICLES, GENERATORS, ETC. EXCEPTIONS NOTED BELOW.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 6

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS  
POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

NAME

RANK

DEPT

NONE

NPS STUDENTS:

| NAME           | RANK | DEPT/CURRIC | BRANCH      |
|----------------|------|-------------|-------------|
| BRYAN BRADFORD | MAJ  | ISO         | USAF (AOIC) |

RESERVISTS:

| NAME          | RANK | UNIT      | BRANCH        |
|---------------|------|-----------|---------------|
| CHRIS GAUCHER | LCDR | CP PARKS  | USN(RC) (OIC) |
| STEWART EGLER | CTMC | KUNIA     | USN(RC)       |
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC)       |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC)       |
| JEFF PLIENIS  | CTR2 | FT LEWIS  | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

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- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

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- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

B. ISSUES:

- COORDINATING RETURN OF THE TEAM BACK HOME. OUR PROPOSED PLAN INCLUDES THE FOLLOWING:

- TUES: REPLACEMENT EQUIPMENT BEGINS ARRIVING.

- WED: THE CONTRACTOR TEAM ARRIVES. TURNOVER STARTS. NEMESIS AND THE RYDER TRUCK WILL BE PARKED AT A MILITARY INSTALLATION (TBD) AWAITING RETURN TO MONTEREY.

- THURS: TWO TEAM MEMBERS REMAIN TO CONTINUE TURNOVER. FOUR TEAM MEMBERS DRIVE THE RV'S BACK TO TEXAS. TEAM MEMBERS WILL RETURN TO THEIR UNITS FROM DALLAS ON FRIDAY.

- FRI: TURNOVER CONTINUES BETWEEN TWO REMAINING TEAM MEMBERS AND THE NEW CONTRACTORS. TEAM MEMBERS RETURN TO HOME STATION. MISSION COMPLETE.

## 6. LESSONS LEARNED

### A. TECHNICAL:

- IN ORDER TO MAINTAIN A WORKABLE NETWORK, ELEMENTS OF A HASTILY FORMED NETWORK MAY REQUIRE REPLACEMENT. WE CONDUCTED SITE SURVEYS WITH CISCO TODAY TO DETERMINE WHAT ELEMENTS OF THE "HFN" NEEDED REPLACEMENT AT EACH OF THE LOCATIONS. RESULTS OF THE SURVEYS INCLUDE A LIST OF EQUIPMENT REQUIRED TO MAINTAIN AND IMPROVE THE FOOTPRINT OF EXISTING HOTSPOTS THROUGHOUT THE COUNTY. EQUIPMENT ORDERS ARE BEING COMPLETED TONIGHT IN HOPES OF DELIVERY BY WED.

- BREADCRUMBS ARE NOT A LONG TERM SOLUTION. DUE TO THEIR INABILITY TO MAINTAIN THEIR EFFECTIVENESS OVER A SUSTAINED PERIOD OF TIME, WE ARE NOW REPLACING EXISTING RAJANT BREADCRUMBS WITH CISCO/LINKSYS WIRELESS ACCESS POINTS THROUGHOUT THE NETWORK.

### B. PERSONNEL:

- EXPECTING COMPLETE TURNOVER OF THE TEAM TO BE ACCOMPLISHED NLT 30 SEP.

- CONTACT WAS MADE WITH THE MICROSOFT CONTINGENY BASED IN STENNIS NEAR THE HANCOCK COUNTY EOC TO ASSIST OUR TEAM THIS WEEK WITH ANY LOGISTICS OR TECHNICAL ISSUES REQUIRED OF THE NEMESIS TEAM.

### C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

### D. LOGISTICS:

- BOTH RECREATIONAL VEHICLES WERE TRANSFERRED INTO MAJ BRYAN BRADFORD'S NAME EFFECTIVE 25 SEP.

- DIESEL GENERATOR RAN OUT OF FUEL REQUIRING A CALL TO FEMA FOR ASSISTANCE.

- CCI MATERIAL FEDEXED TO THE NPS SECURITY MANAGER, ANDY ANDERSEN.

- CONTACT MADE WITH DIRECTOR OF FACILITIES AND PHYSICAL SECURITY AT NAVOS, STENNIS, MS TO DETERMINE FEASIBILITY OF TEMPORARILY STORING NEMESIS AND THE RYDER TRUCK ON MILITARY PROPERTY UPON OUR DEPARTURE FROM THE AREA ON FRI.

- CONTACTED POLK COUNTY POLICE HERE ON LOAN FROM FLORIDA PROVIDING UHF COMMS IN THE AREA REGARDING STATUS OF THE SIX RADIOS THEY LENT US FOR OUR OPERATIONS. THE OFFICERS WILL DEPART THIS WEEK AND TRANSFER UHF OPERATIONS TO MOTOROLA. WE WILL RETURN THE RADIOS ON OUR WAY OUT OF THE AREA.



E. CIVIL/MILITARY BOUNDARY:

- A REPORTER FROM THE AP CONTACTED THE OIC TODAY LOOKING FOR PEOPLE BENEFITTING FROM OUR SERVICES. THE PHONE NUMBERS OF THE WAVELAND POLICE CHIEF AND MAYOR AND THE BAY ST. LOUIS FIRE CHIEF AND MAYOR WERE PROVIDED TO THE REPORTER FOR REFERENCE. DEPUTY DCO WAS NOTIFIED.

7. ENCLOSURE: NONE.

8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

NAME OF AOIC: MAJ BRADFORD

B. PHONE NUMBER FOR OIC: (831) 277.3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC COMMENTS: LCDR GAUCHER: WE HAD A VERY UP AND DOWN DAY TODAY. "DOWN" FIRST....THE TEAM WENT WITH THE CISCO CONTINGENCY TO PEARLINGTON TO VIEW THE DAMAGE FROM KATRINA. THE TEAM RETURNED NOTING THE EXTREME DEVASTATION OF A TOWN WHERE THE ONLY BUILDING LEFT STANDING IS AN ELEMENTARY SCHOOL. A VERY HUMBLING EXPERIENCE...NOW THE "UP"...AFTER FINDING OUT LAST WEEK THAT THE BAY ST. LOUIS MAYOR HAD BOTH OF HIS PERSONAL AND OFFICE COMPUTERS DAMAGED BY FLOODING DURING THE HURRICANE, THE TEAM CONFIGURED TWO LAPTOPS FOR CITY MANAGEMENT USE AND PRESENTED THEM TO HIM TODAY....HE WAS QUITE OVERWHELMED AND THANKFUL FOR OUR GENEROSITY. A VERY EMOTIONAL EXPERIENCE... TWO TEAM MEMBERS FROM CISCO PRESENTED HIM A CISCO HAT AND A COUPLE OF CISCO GOLF SHIRTS WHICH WERE ALSO WELL RECEIVED SINCE THE MAYOR HAD LITTLE MORE THAN THE CLOTHES ON HIS BACK WHEN THE HURRICANE HIT. I ALSO HAD THE OPPORTUNITY TO WALK AROUND THE FIRE HOUSE AND MEET WITH THE FIRE CHIEF AND A NUMBER OF VOLUNTEER FIREFIGHTERS FROM OTHER PARTS OF THE STATE AND COUNTRY. IMPRESSIVE TO SEE THE DEDICATION FIREFIGHTERS HAVE TO ONE ANOTHER EVEN FROM DIFFERENT PARTS OF THE COUNTRY. THEY HAD COME TO RELIEVE THEIR COLLEAGUES FROM DUTY, MANY OF WHOM HAD LOST THEIR OWN HOMES. I MET SOME FROM SAN DIEGO, CALIFORNIA; FAIRFAX, VIRGINIA; COLUMBIA, SOUTH CAROLINA; AND VICKSBURG, MS. OVERALL A GOOD DAY....WONDERFUL PEOPLE HERE WHO ARE ALL WELL DESERVING AND EQUALLY GRATEFUL FOR EVERYTHING WE ARE DOING FOR THEM....GREAT FEELING TO BE HELPING AMERICANS ON AMERICAN SOIL.  
D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                  |                    |
|----------------------------------|--------------------|
| - NPS DET KATRINA COC (UNMANNED) | EXT 20053          |
| - NPS DET KATRINA NOC            | EXT 20042 OR 20140 |

(WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 28 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 6

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 6

C. GASOLINE/DIESEL:

NEMESIS: 75%

RYDER: 100%

DET RENTAL RV: 100%

DET RENTAL RV: 90%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 15 GALLONS

D. PROPANE (NEMESIS): 100%

E. H2 (HYDROGEN FUEL CELL GENERATOR): 100%

F. HELIUM (BALLOONS): 100%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION      | STATUS      |
|------------------|-------------|
| NEMESIS          | OPERATIONAL |
| RYDER 26FT TRUCK | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL CAR   | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |
| DET RENTAL RV    | OPERATIONAL |

4. PERSONNEL: TOTAL: 6

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

NPS STUDENTS:

| NAME           | RANK | DEPT/CURRIC | BRANCH      |
|----------------|------|-------------|-------------|
| BRYAN BRADFORD | MAJ  | ISO         | USAF (AOIC) |

RESERVISTS:

| NAME          | RANK | UNIT      | BRANCH        |
|---------------|------|-----------|---------------|
| CHRIS GAUCHER | LCDR | CP PARKS  | USN(RC) (OIC) |
| STEWART EGLER | CTMC | KUNIA     | USN(RC)       |
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC)       |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC)       |
| JEFF PLIENIS  | CTR2 | FT LEWIS  | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

B. ISSUES:

- OUR "RETURN TO BASE" PLAN HAS BEEN FINALIZED:

- WED: THE CONTRACTOR TEAM ARRIVES. TURNOVER STARTS. NEMESIS AND THE RYDER TRUCK WILL BE PARKED AT THE CNMOC IN STENNIS, MS AWAITING RETURN TO MONTEREY.

- THURS: TWO TEAM MEMBERS REMAIN TO CONTINUE TURNOVER. FOUR TEAM MEMBERS DRIVE THE RV'S BACK TO PLANO, TEXAS. TEAM MEMBERS SPEND THE NITE IN DALLAS AWAITING TRANSPORTATION HOME.

- FRI: TURNOVER CONTINUES BETWEEN TWO REMAINING TEAM MEMBERS AND THE NEW CONTRACTORS. TEAM MEMBERS RETURN TO HOME STATION. MISSION COMPLETE.

## 6. LESSONS LEARNED

### A. TECHNICAL:

- DO NOT BRING BALLOONS AND ACCOMPANYING HELIUM INTO A HURRICANE PRONE AREA DURING HURRICANE SEASON.

### B. PERSONNEL:

- IN ORDER TO ALLOW FOR A SMOOTH TRANSITION, CTN1 MOLLERE IS CONSIDERING COMPLETING HIS ORDERS UNDER JFMCC ON 30 SEP AND CONDUCTING IDT DRILLS STARTING 1 OCT AND ENDING 6 OCT. DETAILS ARE STILL BEING WORKED OUT WITH HIS UNIT.

### C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS AND OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

### D. LOGISTICS:

- ALL FOUR DRIVERS COMPLETED A MOTOR VEHICLE RECORD FORM TO DRIVE THE RECREATIONAL VEHICLES BACK TO TEXAS. WE EXPECT AUTHORIZATION TOMORROW.

- RESERVISTS REQUIRE ORDMODS DUE TO DRIVE TO TEXAS. THIS IS IN PROCESS AND SHOULD BE COMPLETED TOMORROW.

- NEMESIS AND RYDER TRUCK DELIVERY AND STORAGE WERE CONFIRMED WITH JOE PEEK, FACILITIES AND PHYSICAL SECURITY DIRECTOR, AT THE CNMOC IN STENNIS. THEY WILL BE DELIVERED SOMETIME AFTER 1300 TOMORROW. PICTURES WILL BE TAKEN INDICATING LOCATION FOR THE TEAM MEMBERS WHEN THEY COME BACK TO PICK UP THE VEHICLES.

- TEAM RETURNED TWO RENTAL CARS THAT WERE NO LONGER REQUIRED TO THE GULFPORT AIRPORT.

### E. CIVIL/MILITARY BOUNDARY:

- WE CONTACTED FEMA REGARDING THEIR TWO TRAILERS WE HAVE BEEN USING. THEY ARE ALLOWING A TWO WEEK EXTENSION FOR THE TRAILERS TO BE USED BY THE HOSPITAL STAFF AS THE NURSES AND DOCTORS ARE STARTING TO RETURN TO THE HOSPITAL AND COULD USE THE TEMPORARY HOUSING.

## 7. ENCLOSURE: NONE.

## 8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

NAME OF AOIC: MAJ BRADFORD

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC COMMENTS: LCDR GAUCHER: WE SPENT THE MAJORITY OF THE DAY MAKING TWO ROUNDS AROUND THE COUNTY ENSURING THAT THE NETWORK REMAINS OPERATIONAL. WE CONTINUE TO HAVE SUCCESS IN PROVIDING THE SERVICE TO ALL NODES ON THE NETWORK WITH VERY LITTLE DOWN TIME AS WE CAN TELL. EVERYONE SEEMS VERY HAPPY AND WE ARE CONFIDENT THAT WE ARE LEAVING BEHIND A VERY HEALTHY NETWORK FOR OUR CONTRACTOR RELIEFS TO MAINTAIN, IMPROVE, AND EXPAND....ADDITIONALLY, WE PREPPED THE RV'S, NEMESIS, AND THE RYDER TRUCK FOR TRANSFER OUT OF THE AREA....A LITTLE STORY THAT HITS CLOSE TO HOME FROM ONE OF OUR TEAM MEMBERS.... PRIOR TO ARRIVING ON STATION, CTN1 MOLLERE (FROM THE PENSACOLA NSGR UNIT) VOLUNTEERED FOR THIS DUTY AS

HIS FAMILY HAD BEEN AFFECTED BY HURRICANE KATRINA. HE NOTED TO ME THAT HIS AUNT HAD PERISHED DURING THE STORM, BUT OTHERS HAD SURVIVED. UNFORTUNATELY, THEIR HOUSES WERE DESTROYED. HIS COUSIN BRIAN, RODE OUT THE WAVES OF THE STORM ABOVE THE TREETOPS WITH HIS DOG "ROCKY" BY HIS SIDE. BOTH MIRACULOUSLY SURVIVED. IF ANY OF YOU HAVE HAD THE OPPORTUNITY TO SEE THE TV COVERAGE, THIS IS THE GENTLEMAN WHO LIVES ACROSS THE STREET FROM WHAT WAS ONCE WAVELAND CITY HALL AND HAS BEEN INTERVIEWED BY CNN, ABC, AND OTHERS...SO...DURING THE RV PREPARATION AND CLEANING, WE TOOK ALL OF OUR SPARE SLEEPING BAGS, CANNED GOODS, AND OTHER SUPPLIES THAT WE KNEW WE COULD NOT USE OR SAVE AND CTN1 MOLLERE TOOK THEM TO HIS FAMILY. THEY WERE VERY GRATEFUL AND PROBABLY OUR MOST DESERVING OF RECIPIENTS. GIVEN THAT MOST OF OUR CAMPING EQUIPMENT WAS DONATED BY A LOCAL MONTEREY BUSINESSMAN, HE CAN BE ASSURED THAT THE EQUIPMENT WENT TO A MOST DESERVING FAMILY OF ONE OF OUR OWN.

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

- NPS DET KATRINA COC (UNMANNED)                      EXT 20053
  - NPS DET KATRINA NOC                                      EXT 20042 OR 20140
- (WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 29 0430Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 6

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 6

C. GASOLINE/DIESEL:

DET RENTAL RV: 100%

DET RENTAL RV: 90%

DET RENTAL CAR: 100%

DET RENTAL CAR: 100%

STORED FUEL FOR GENERATORS: 15 GALLONS

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION    | STATUS      |
|----------------|-------------|
| DET RENTAL CAR | OPERATIONAL |
| DET RENTAL CAR | OPERATIONAL |
| DET RENTAL RV  | OPERATIONAL |
| DET RENTAL RV  | OPERATIONAL |

4. PERSONNEL: TOTAL: 6

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

NPS STUDENTS:

| NAME           | RANK | DEPT/CURRIC | BRANCH      |
|----------------|------|-------------|-------------|
| BRYAN BRADFORD | MAJ  | ISO         | USAF (AOIC) |

RESERVISTS:

| NAME          | RANK | UNIT      | BRANCH        |
|---------------|------|-----------|---------------|
| CHRIS GAUCHER | LCDR | CP PARKS  | USN(RC) (OIC) |
| STEWART EGLER | CTMC | KUNIA     | USN(RC)       |
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC)       |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC)       |
| JEFF PLIENIS  | CTR2 | FT LEWIS  | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT AND WAVELAND POD VIA TACHYON BANDWIDTH PROVIDER AND CISCO SKYCAPTAIN GEAR.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

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- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

B. ISSUES:

- OUR "RETURN TO BASE" PLAN CONTINUES:

- THURS: TWO TEAM MEMBERS REMAIN TO CONTINUE TURNOVER. FOUR TEAM MEMBERS DRIVE THE RV'S BACK TO PLANO, TEXAS. TEAM MEMBERS SPEND THE NITE IN DALLAS AWAITING TRANSPORTATION HOME.

- FRI: TURNOVER CONTINUES BETWEEN TWO REMAINING TEAM MEMBERS AND THE NEW CONTRACTORS. TEAM MEMBERS RETURN HOME. MISSION COMPLETE.

6. LESSONS LEARNED

A. TECHNICAL:

- JAMES MCCULLOUGH OF WORLD WIDE TECHNOLOGY ("WWT") ARRIVED TODAY AND WE STARTED OUR TURNOVER TO HIM AND HIS TEAM. TURNOVER WILL CONTINUE THRU THE WEEKEND.

- ROBERT KIRKPATRICK FROM MICROSOFT ARRIVED TO INTRODUCE THE VIRTUAL COLLABORATION ENVIRONMENT, "GROOVE" TO THE COLORADO NATIONAL GUARD COMMUNICATIONS ELEMENT AND THE 172<sup>ND</sup> MEDICAL GROUP

OF THE 172<sup>ND</sup> AIR LIFT WING FROM JACKSON, MISSISSIPPI. HE WILL CONTINUE THROUGH THE WEEK CONDUCTING END USER TRAINING.

- THE TEAM GAVE 100 VOUCHERS FOR 2500 MINUTES OF FREE LONG DISTANCE CALLING FOR THE RELIEF WORKERS AT FRED'S POINT-OF-DISTRIBUTION TO PROVIDE TO RELIEF WORKERS AND SURVIVORS TO CALL THEIR LOVED ONES. SKYPE, THE COMPANY THAT DEVELOPED THE VoIP TECHNOLOGY, DONATED 25,000 MINUTES FOR THIS PURPOSE. THE RELIEF WORKERS WILL PROVIDE FEEDBACK TO THE NPS TEAM IN THE FUTURE AT WHICH TIME THE REMAINDER WILL BE PROVIDED TO THE RELIEF WORKERS TO DOLE OUT TO THE PUBLIC.

B. PERSONNEL:

- IN ORDER TO ALLOW FOR A SMOOTH TRANSITION, CTN1 MOLLERE IS CONSIDERING COMPLETING HIS ORDERS UNDER JFMCC ON 30 SEP AND CONDUCTING IDT DRILLS STARTING 1 OCT AND ENDING 6 OCT. DETAILS ARE STILL BEING WORKED OUT WITH HIS UNIT.

C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS, OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

D. LOGISTICS:

- UPON ARRIVAL OF THE WWT TEAM, WE FOUND OUT THAT WWT WAS IN THE PROCESS OF SECURING ACCOMODATIONS BUT WOULD NOT HAVE THEM UNTIL TOMORROW. HAD THE RV'S BEEN INCLUDED IN THE CONTRACT NETOTIATIONS THIS WOULD HAVE BEEN A NON-ISSUE. INSTEAD, FOUR NPS DET TEAM MEMBERS NEED TO DRIVE TWO RV'S ALMOST 12 HOURS TO TEXAS, WHILE WWT DRIVES RV'S DOWN FROM ST. LOUIS. IN ADDITION, THE BELOW ORDMODS WOULD NOT HAVE BEEN NECESSARY AND THE TEAM WOULD HAVE HAD AN EXTRA DAY AND A HALF OF TURNOVER WITH ALL 6 TEAM MEMBERS.

- THE THREE RESERVISTS DRIVING TO TEXAS REQUIRE ORDMODS.ALL THREE WERE RECEIVED TODAY AND TRAVEL REQUIREMENTS WERE COMPLETED.

- NEMESIS AND THE RYDER TRUCK WERE DELIVERED TO THE CNMOC IN STENNIS. PICTURES WERE TAKEN INDICATING LOCATION OF THE VEHICLES FOR NPS WHEN THEY COME BACK TO PICK UP THE VEHICLES.

E. CIVIL/MILITARY BOUNDARY:

- THE DET OIC INTRODUCED A RELIEF ORGANIZATION THAT SUPPLIES TEMPORARY SHELTERS TO DISASTER SURVIVORS TO THE HOSPITAL FACILITIES DIRECTOR, HANK WHEELER. THE ORGANIZATION HAS APPROXIMATELY 40 GEODESIC TENTS AVAILABLE WITH NO CURRENT REQUIREMENTS. THE HANCOCK REGIONAL MEDICAL CENTER DECIDED TO PURSUE THIS OPPORTUNITY AND WILL USE A NUMBER OF TENTS TO SHELTER THEIR MEDICAL EQUIPMENT AS IT IS CLEANED AND BEING PREPARED FOR RE-ENTRY INTO THE FACILITY.

7. ENCLOSURE: NONE.

8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER  
NAME OF AOIC: MAJ BRADFORD

B. PHONE NUMBER FOR OIC: (831) 277-3213 OR NOC MAIN EXTENSION AT 20042.

C. OIC COMMENTS: THE TIME HAS COME TO DEPART. MANY OF US HAVE MIXED FEELINGS ABOUT LEAVING KNOWING THAT SO MANY PEOPLE ARE STILL IN NEED OF SO MUCH ASSISTANCE. WE CAN LEAVE REST ASSURED, HOWEVER, THAT THIS NETWORK IS IN GOOD HANDS. THE TRANSITION PLAN IS SOLID, AND THE TEAM OF CONTRACTORS COMING IN WILL MAINTAIN AND EXPAND THIS COMMUNICATIONS



NETWORK ON WHICH SO MANY RELY. WE HAVE MET SOME WONDERFUL PEOPLE HERE WHICH MADE LIVING IN SOMEWHAT AUSTERE CONDITIONS A LITTLE MORE PALATABLE KNOWING THAT WE WERE HELPING GOOD PEOPLE IN DIRE STRAITS. I THINK WE HAVE ALL LEARNED A LOT FROM THIS EXPERIENCE AND WILL START TO ONCE AGAIN APPRECIATE THE LITTLE THINGS IN LIFE THAT SO MANY OF US TAKE FOR GRANTED...SIGNING OFF FROM BAY ST. LOUIS... WILL REPORT FROM FORT WORTH TOMORROW NITE WITH INPUT ON HOW THE TURNOVER IS GOING FROM CTN1 MOLLERE...

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                      |                    |
|--------------------------------------|--------------------|
| - NPS DET KATRINA COC (UNMANNED)     | EXT 20053          |
| -NPS DET KATRINA NOC                 | EXT 20042 OR 20140 |
| (WIRED VoIP PHONE WITH SPEAKERPHONE) |                    |

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 30 0230Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 6

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 6

C. GASOLINE/DIESEL:

DET RENTAL CAR: 80%

DET RENTAL CAR: 80%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING  
FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION    | STATUS      |
|----------------|-------------|
| DET RENTAL CAR | OPERATIONAL |
| DET RENTAL CAR | OPERATIONAL |

4. PERSONNEL: TOTAL: 6

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS ACCESS  
POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

NPS STUDENTS:

| NAME           | RANK | DEPT/CURRIC | BRANCH      |
|----------------|------|-------------|-------------|
| BRYAN BRADFORD | MAJ  | ISO         | USAF (AOIC) |

RESERVISTS:

| NAME          | RANK | UNIT      | BRANCH        |
|---------------|------|-----------|---------------|
| CHRIS GAUCHER | LCDR | CP PARKS  | USN(RC) (OIC) |
| STEWART EGLER | CTMC | KUNIA     | USN(RC)       |
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC)       |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC)       |
| JEFF PLIENIS  | CTR2 | FT LEWIS  | USN(RC)       |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

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- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT VIA TACHYON BANDWIDTH PROVIDER.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- SENIOR SERVICE CENTER, BAY ST. LOUIS, MS.

- WAVELAND/"FRED'S" POD (WLAN AND SKYPE VoIP).

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

B. ISSUES:

- OUR "RETURN TO BASE" PLAN CONTINUES:

- FRI: TURNOVER CONTINUES BETWEEN TWO REMAINING TEAM MEMBERS AND THE NEW CONTRACTORS. TEAM MEMBERS RETURN HOME. MISSION COMPLETE.

6. LESSONS LEARNED

A. TECHNICAL:

- NETWORK CONTINUES TO OPERATE IN ITS CURRENT STATE. TURNOVER WITH WWT AND CISCO CONTINUES.

- A WIRELESS NIC WAS DELIVERED TO THE 223<sup>RD</sup> TO EXPAND THEIR CONNECTVITY.

- JAMES OF WWT CONTINUED ROUNDS WITH THE TEAM TODAY MEETING THE PRIMARY POINTS OF CONTACT AT EACH OF THE SITES.

- SENIOR CENTER ACROSS FROM BAY ST. LOUIS FIREHOUSE PROVIDED THREE VoIP PHONES. VERY SIGNIFICANT AS THE ONLY PHONE AT THAT LOCATION WAS A CELL PHONE THAT COULD NOT RECEIVE INCOMING CALLS.

- SKYPE "VOICE OVER IP" HAS BEEN WELL RECEIVED BY THE RELIEF WORKERS AT FRED'S POD AND IS EXPANDING DAILY.

B. PERSONNEL:

- IN ORDER TO ALLOW FOR A SMOOTH TRANSITION, CTN1 MOLLERE IS CONSIDERING COMPLETING HIS ORDERS UNDER JFMCC ON 30 SEP AND CONDUCTING IDT DRILLS STARTING 1 OCT AND ENDING 6 OR 8 OCT. DETAILS ARE STILL BEING WORKED OUT WITH HIS UNIT.

C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS, OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

D. LOGISTICS:

- TWO RV'S PREVIOUSLY CONTRACTED TO NPS WERE DELIVERED TO DALLAS TODAY WITHOUT INCIDENT. ALL ARRIVED SAFELY. THE FOUR TEAM MEMBERS ARE AWAITING RETURN TRANSPORTATION HOME TOMORROW.

E. CIVIL/MILITARY BOUNDARY:

- THE PROCESS TO EXTRACT DATA FROM THE BSL MAYOR'S TWO HARD DRIVES THAT WERE DAMAGED BY THE STORM SURGE WAS STARTED TODAY.

7. ENCLOSURE: NONE.

8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

NAME OF AOIC: MAJ BRADFORD

B. PHONE NUMBER FOR OIC: (831) 277-3213

C. OIC COMMENTS: LONG THIRTEEN HOUR TRIP TO THE DALLAS-FORT WORTH AIRPORT TO AWAIT TRANSPORTATION TOMORROW AFTER DROPPING OFF THE RV'S...TWO TEAM MEMBERS REMAIN WITH BOOTS ON GROUND DOING VERY GOOD THINGS—NOT ONLY MAINTAINING THE CURRENT NETWORK, BUT EXPANDING THE NETWORK BY REACHING OUT TO THE SENIOR CENTER IN BSL AND THE RELIEF WORKERS IN WAVELAND. THE SWELL OF PRIVATE ORGANIZATIONS SUPPORTING THE LOCALS IS VERY EVIDENT...PRIVATE AMERICANS WITH NO PERSONAL GAINS OR MOTIVES HELPING OTHER AMERICANS IS TRULY INSPIRING...THE DET IS NOW MADE UP ENTIRELY OF NAVAL SECURITY GROUP RESERVISTS...PROBABLY THE LAST OPERATIONAL DET OF ITS KIND SINCE THE COMMAND IS OFFICIALLY DISSOLVED AS OF 30 SEP...OUR TEAM'S LAST SITREP WILL BE ISSUED TOMORROW...MY FIRST HOT SHOWER IN 10 DAYS IS CALLING...GOOD NITE ALL...

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

- NPS DET KATRINA COC (UNMANNED)

EXT 20053

- NPS DET KATRINA NOC

EXT 20042 OR 20140

(WIRED VoIP PHONE WITH SPEAKERPHONE)

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.

DAILY SITREP: NPS NEMESIS DET KATRINA

1. A. TIME: 30 1830Z SEP05

B. LOCATION:

NPS DET KATRINA (REAR): MONTEREY, CA

NPS DET KATRINA (FWD): BAY ST. LOUIS, MS

C. OPCON: JTF KATRINA CAMP SHELBY, MS

D. TACON: JFMCC JTF KATRINA

E. ADCON: NPS MONTEREY, CA

F. CURRENT MISSION:

PRI: ASSIST DISASTER RELIEF EFFORTS ALONG THE GULF OF MEXICO BY  
INSTALLING, OPERATING AND MAINTAINING A MOBILE COMMUNICATIONS  
NETWORK IN AREAS MOST DEVASTATED BY HURRICANE KATRINA WHILE  
MAINTAINING THE CAPABILITY OF DEPLOYING FLY AWAY COMMUNICATION  
KITS TO OTHER REMOTE LOCATIONS.

SEC: ON ORDER

2. CONSUMABLES

A. WATER: 100% AVAILABLE: 170 - OPERATIONAL DAYS: 6

B. FOOD: 100% AVAILABLE: 110 - OPERATIONAL DAYS: 6

C. GASOLINE/DIESEL:

DET RENTAL CAR: 80%

DET RENTAL CAR: 80%

CONTINUING TO RECEIVE DELIVERIES OF DIESEL, POTABLE WATER, AND CHT PUMPING  
FOR ALL VEHICLES, GENERATORS, ETC.

3. VEHICLES

| DESCRIPTION    | STATUS      |
|----------------|-------------|
| DET RENTAL CAR | OPERATIONAL |
| DET RENTAL CAR | OPERATIONAL |

4. PERSONNEL: TOTAL: 2

A. DET (FWD) – MAIN EFFORT IS PROVIDING END USER SERVICES AT WIRELESS  
ACCESS POINTS AT ALL NODES IN THE NETWORK.

FACULTY:

| NAME | RANK | DEPT |
|------|------|------|
| NONE |      |      |

NPS STUDENTS:

| NAME | RANK | DEPT/CURRIC | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

RESERVISTS:

| NAME          | RANK | UNIT      | BRANCH  |
|---------------|------|-----------|---------|
| MARK MOLLERE  | CTN1 | PENSACOLA | USN(RC) |
| RICHARD MEEKS | CTR1 | PENSACOLA | USN(RC) |

CONTRACTORS:

| NAME | COMPANY |
|------|---------|
| NONE |         |

OBSERVERS:

| NAME | RANK | AFFILIATION | BRANCH |
|------|------|-------------|--------|
| NONE |      |             |        |

5. MATERIAL

A. NETWORK STATUS:

CURRENT NETWORK STATUS: OPERATIONAL.

- INTERNET ACCESS AND VoIP, SUPPORTED WITH WiFi MESH LOCAL AREA NETWORK USING RAJANT 802.11B BREADCRUMBS PLUS CISCO SKY CAPTAIN 802.11 A/B/G AND REDLINE 802.16 BROADBAND BACKBONE, IS BEING PROVIDED TO:

- HANCOCK MEMORIAL HOSPITAL.

- AIR NATIONAL GUARD MOBILE HOSPITAL (COLOCATED WITH COUNTY HOSPITAL).

- BAY ST. LOUIS FIRE/POLICE DEPARTMENT.

- SECOND STREET ELEMENTARY SCHOOL SHELTER.

- WAVELAND POLICE DEPARTMENT VIA TACHYON BANDWIDTH PROVIDER.

- 223<sup>RD</sup> ENG BATT DET, BAY ST. LOUIS, MS.

- SENIOR SERVICE CENTER, BAY ST. LOUIS, MS.

- WAVELAND/"FRED'S" POD (WLAN AND SKYPE VoIP).

- ACCESS TO THE INTERNET IS PROVIDED BY THE PRIMARY 512 KBPS BY 2MBPS SATCOM LINK PROVIDED AT NO COST BY TACHYON PER ARRANGEMENT BY NPS. THIS SATCOM DISH IS ON THE HOSPITAL ROOF.

- SECOND TACHYON SATELLITE DISH IS OPERATIONAL, LOCATED AT THE WAVELAND POLICE DEPARTMENT. THE BANDWIDTH PROVIDED BY SECOND DISH IS BEING UTILIZED BY WAVELAND PD AND WAVELAND POD ACROSS THE STREET.

B. ISSUES: NTR.

6. LESSONS LEARNED

A. TECHNICAL:

- NETWORK CONTINUES TO OPERATE IN ITS CURRENT STATE. TURNOVER WITH WWT AND CISCO CONTINUES.

B. PERSONNEL:

- TWO MORE WWT CONTRACTORS ARRIVED ON SITE TODAY.

- GIVEN THE LIMITED TURNOVER TIME AND IN ORDER TO ALLOW FOR A SMOOTH TRANSITION, CTN1 MOLLERE RECEIVED APPROVAL FROM HIS DILLING RESERVE UNIT COMMANDING OFFICER TODAY TO CONDUCT REMOTE DRILLS AT BSL ISO THE NETWORK FROM 1 TO 8 OCT.

C. DOCUMENTATION: CONTINUING TO DOCUMENT LOGISTICS, OPERATIONAL DETAILS, LESSONS LEARNED, ETC.

D. LOGISTICS:

- ALL RENTAL VEHICLES RETURNED. TEAM RETURNS TO BASE TODAY.

E. CIVIL/MILITARY BOUNDARY: NTR.

7. ENCLOSURE: NONE.

8. ON-SITE OIC LEADERSHIP COMMENTS

A. NAME OF OIC: LCDR GAUCHER

NAME OF AOIC: MAJ BRADFORD

B. PHONE NUMBER FOR OIC: (831) 277-3213

C. OIC COMMENTS: AS REQUIRED BY THE MISSISSIPPI GOVERNOR, WE EXITED THE AOR TODAY, 30 SEP...TEAM IS RETURNING HOME WITH THE SATISFACTION THAT WE "DID GOOD THINGS" ON THE GROUND THERE IN WAVELAND AND BAY ST. LOUIS, MISSISSIPPI. OUR HOPE, AND INTENTION, IS THAT THE LESSONS LEARNED FROM THIS ENDEAVOR WILL IMPROVE THE MANNER IN WHICH VITAL COMMUNICATIONS LINKS AMONG CIVIL AUTHORITIES AND FIRST RESPONDERS AND BETWEEN SURVIVORS AND DISTANT FAMILY MEMBERS ARE DELIVERED IN FUTURE DISASTERS...I AM SURE ALL TEAM MEMBERS, PAST AND PRESENT, WILL JOIN ME IN SAYING THANK YOU FOR THE OPPORTUNITY TO BE A PART OF THIS FANTASTIC JOURNEY AND ALLOWING US THE CHANCE TO MAKE A SMALL DIFFERENCE IN THE LIVES OF THE PEOPLE OF THE COUNTY OF HANCOCK IN THE GREAT STATE OF MISSISSIPPI.... MISSION COMPLETE...

D. THE FOLLOWING EXTENSIONS ARE PROVIDED FOR THE CISCO VoIP/CALL MANAGER ENABLED PHONE NUMBER: (919) 595-8545:

|                                      |                    |
|--------------------------------------|--------------------|
| - NPS DET KATRINA COC (UNMANNED)     | EXT 20053          |
| - NPS DET KATRINA NOC                | EXT 20042 OR 20140 |
| (WIRED VoIP PHONE WITH SPEAKERPHONE) |                    |

E. CURRENT TELEPHONE DIRECTORY AND ALL PAST SITREPS CAN BE OBTAINED BY LOGGING ONTO [HTTP://WWW.IPWIKI.COM](http://www.ipwiki.com) AND OBTAINING AN ACCOUNT BY REGISTERING, THEN RECEIVING AN EMAIL WITH USERNAME/PASSWORD, THEN LOGGING BACK IN.