Emergency Operations

9-1-1

Multi Agency Communications Center

For
Washington Parish

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Section 1.0   Project Description

Emergency response, humanitarian relief, and related governmental activities in Washington Parish during the aftermath of Hurricane Katrina have been severely hampered by the lack of a modern Emergency Operations / 9-1-1 / Multi-Agency Communications Center.   The statement, often heard, "Without effective communications, all else fails", has been proven correct.

Therefore, Washington Parish requests funding to build a state-of-the-art combined Emergency Operations / 9-1-1 / Multi-Agency Communications Center. This facility will provide an effective means for local emergency response and government officials to coordinate, monitor, and direct emergency response and related activities during an emergency.

The combined facility will also provide the ability to direct and control resources, automate processes and methodologies, assign and track tasks, and efficiently communicate real-time emergency management information. In addition, the facility will be designed and constructed to protect communication and data with needed redundancy, security and flexibility.

In order to provide emergency communication services in the event of natural or man made disasters, terrorism, bio-terrorism, hazardous materials, and other emergencies within Washington Parish and those which affect the greater New Orleans area, Louisiana Emergency Response Region 9 - Office of Public Health Region 9, and adjacent Mississippi counties; it is proposed to construct and equip a new, centrally located facility. It will provide coordinated electronic, telephone, satellite and radio communications to, from, and between all law enforcement, fire, emergency medical services, hospitals, and emergency management agencies within Washington Parish and the surrounding parishes and counties.

The proposed site is remotely located, thus providing a secure location for command and control support of regional emergencies, while being away from heavily traveled interstate highways and metropolitan population centers. The proposed facility will become the primary Emergency Operations Center for Washington Parish and will have the capability of supporting multiple parishes, if needed. The present Washington Parish primary operations center on Bill Booty Road will become the alternate site.

During times of normal operations, parish wide agencies including law enforcement, fire, and EMS will utilize the facilities for their dispatch functions. All incoming 9-1-1 calls from the parish will be answered at this facility. The facility will be available for planning and training functions for all agencies and volunteer groups including ARES, RACES, and the Citizen Corps.

Congressional hearings have established that given the present threats to homeland security, certain communication related projects, which establish and enhance inter-state, cross jurisdictional and cross agency communications, should be supported by the federal government.

With your support, we will be capable of effectively and efficiently responding to a broad range of natural and manmade hazards and threats, thus minimizing the loss of life, injuries, and damage to property, while continuing essential government functions without interruption.

The appropriations request for this project is $ 7,633,811.

Section 1.1   Statement of Need

Washington Parish, a rural parish (County) in Southeast Louisiana (Location: 30.85202 N, 90.04154 W) encompassing 669.6 square miles with a population of 43,185 (1990 Census), serves as the coordinating parish for a four parish emergency response region, as well as, an evacuation destination for metropolitan New Orleans and Jefferson, Orleans, Plaquemine, and St. Bernard parishes.

In a recent consulting report concerning the Parish's emergency response system, Paul D. Linnee, ENP, of GeoComm Corporation, and Past President of the Minnesota Chapter of NENA (National Emergency Number Association) stated, "In our rather wide experience base in jurisdictions of a population and situation similar to Washington Parish, we must say we were somewhat surprised with the relative lack of shared infrastructure improvements".

Mr. Linnee went on to state, "When we reference shared infrastructure we speak of shared computer-aided dispatch (CAD) systems, shared records system platforms, shared radio systems, GIS mapping systems and closely coordinated (electronically) E911 telephone systems and networks. At present, these systems in Washington Parish are either totally lacking or relatively isolated with little operational commonality between the various agencies.   Operational and some technical deficiencies in the radio infrastructure threaten the safety of public safety responders, especially Fire and EMS.

He also said, "With all three PSAP's (Public Service Answering Points) involved in EMS (Emergency Medical Service) response assignments without any coordination between PSAP's, there is apparently a current inability to effectively coordinate their response in the present system and process. This is a liability risk and may occasionally delay the response of ambulances to emergencies. There is also a serious deficiency during times of major emergencies involving multi-agency response during times of severe weather, which is characteristic of the area. This will place citizen safety at risk." Unfortunately for the citizens of Washington Parish, this conclusion has been proven correct by recent events precipitated by Hurricane Katrina.

The parish is currently unable to provide adequate command and control, and emergency communication services in the event of natural or man made disasters, as well as regional or localized emergencies. Our emergency operations center is now located in a metal building, which also serves as a fire station. This construction makes it extremely vulnerable to many risks including our annual threat from hurricanes. The roof of the present building was breached during hurricane Katrina causing an interruption of services during the storm.

The location of the current Emergency Operations Center facility places it at risk from multiple fixed facilities within three miles which handle hazardous materials. Our location on a small piece of property leaves the building susceptible to the dangers of falling trees from our neighbors' property. The operations room is hard to secure as it has two means of egress which open directly to the exterior of the building. The very nature of the existing structure, also serving as the headquarters of a combination paid/volunteer fire department, makes it difficult to control the types and numbers of persons who are present during times of activation. Lastly, present LAN and WAN systems have no firewall security and are inappropriately sized for parish wide communications needs. While basic generation capacity is available at the current facility, automatic switching capabilities are not present to preserve communications, data and LAN/WAN capabilities.

In the event of natural or man made disasters in the greater New Orleans area, Washington Parish would be required to furnish emergency services for many of the 250,000 expected evacuees as they move through the parish seeking safety and shelter. In order to provide such services, communications (between the emergency agencies, the general public and elected officials; between the individual emergency agencies; and between the individual agencies and their personnel) require improvements to existing equipment and personnel capabilities.

This project has been submitted multiple times to several agencies for funding approval which has not yet been made available.

Date	Agency or Sponsor
Dec. 9, 2002	Appropriations Request, Senator Landrieu, Project 111502
April 29, 2003	Appropriations Request, Representative Vitter
May 28, 2003	Louisiana Office of Emergency Preparedness
June 11, 2003	FEMA (Communications Center)
Sept 14,2005	FEMA (Interoperable Radios Only)
Sept 14, 2005	Appropriations Request, Senator Landrieu, Bill S1765
Sept 15, 2005	Appropriations Request, Representative Jindal

A small amount of funding was acquired as follows :

Date	Agency or Sponsor
July 9,2003	APCO for $ 50,000 Project LA-103-0207

Section 1.2   Project Description

We intend to build a 20,032 sq. ft. state-of-the-art combined Emergency Operations / 9-1-1 / Multi-Agency Communications Center on an 9 acre site. This site, which is in the geographic center of Washington Parish, is an ideal remote location that allows for the construction of a secure facility. Its location is a minimum of 10 miles away from the threat of all fixed facilities handling hazardous materials. The size of the new site will allow for the clearing of all lay down hazards, the establishment of security barriers, adequate parking, equipment staging, and a helicopter landing zone.

The structure will house offices for the Office of Emergency Preparedness and the Communications District, as well as, a large emergency operations room, and dispatch facilities for all emergency services in the parish. There will be space provided for conference rooms, media areas, kitchen, sleeping quarters, and showers.

Incident command capabilities will be provided to improve both single and multi-agency response to emergencies. This emergency operations center will be equipped with the latest in virtual technology to provide the following capabilities:

- Communication and intelligence — to effectively receive and transmit information via uhf and vhf radio, vhf and hf amateur radio, telephone, cell phone, satellite phone, or data links with all components of the parish and state systems. All agency contact information will be electronically available to all incident personnel.

- Command and control — to provide the functions necessary to put multiple response and recovery plans into action throughout the parish utilizing accurate, real-time response information, which, if desired, can be accessed by remote web based computers, on a need to know basis.

- Mapping software will allow emergency management personnel to electronically plot the location of responders and resources at or around an incident scene on a GPS (global positioning satellite) correct map via real time AVL (automatic vehicle location) data being received by the center.

- Data links will allow for real time computer aided dispatch (CAD) data to be maintained on all responding units. Tracking of equipment availability and assignments of fire, law enforcement, and emergency medical services will be instantly available to incident command personnel.

- Coordination and documentation — to organize all of the steps taken to respond to an event and create a electronic data base, including time stamped records of those actions.

- Automated checklists — to ensure that response and recovery is complete for all emergency response functions by the use of real time electronic information

combined with electronic pre-plans, which are specific to emergencies on both a micro (specific location) level and a macro (wide area) level. Electronic status information includes: (a) Significant Events, (b) Task Assignments, (c) Response Forces, (d) Personnel, (e) Logistics, (f) Media, (g) Meteorological, (h) Incident Staff, (i) Media Inquiry, and (J) Press Release.

- Alert notifications — to electronically sort and distribute messages so emergency response managers can track and log multiple and varied notifications with accurate time stamps.

- Media management — to inform the media, with the use of accurate data, about the progress of an emergency and to coordinate the distribution of information to the citizens of the area by the use of the telephone, radio, television, and / or the internet.

Presently, the parish has three emergency public service answering and dispatch points: Washington Parish Sheriff's Office, Franklinton Police Department, and Bogalusa Police Department. Each answering point is staffed by the respective agency's personnel. All three agencies are widely dispersed within the parish. In addition, twelve fire departments and two EMS providers depend on dispatch information from these agencies.

The proposed project will combine all emergency and 9-1-1 answering and dispatch points in the new, centrally located facility, to provide coordinated communications to and from all law enforcement, fire, emergency medical services, and emergency management agencies within Washington Parish and surrounding parishes and counties during times of emergencies.

All emergency calls will be received at the proposed communications center, from which all fire, law enforcement, and emergency medical service radio dispatches will emanate. Special equipment will allow for intra-agency communications on all levels of response, local, state, and federal.

Section 1.3   Budget

Building (20,032 sq ft)	**$ 3,702,759**	
Additional Site Related Line Items	**$ 650,000**	
Total (Building and Site)		**$ 4,352,759**
Equipment	**$ 2,460,500**	
Contingencies	**$ 435,276**	
Professional Services - Architectural, Engineering, Legal, and Project Management	**$ 435,276**	
Land	**$75,000**	
Total (Equip., Conting., Services, Land)		**$ 3,406,052**
Total Project		**$7,758,811**

Less Local Funds, Land	**($75,000)**	
Less Local Funds, National Guard Site Work	**($50,000)**	
Total Local Funds		**$ 125,000**
Total Funding Requested		**$ 7,633,811**

Section 1.4   Project Benefits

The benefits of the proposed state-of-the-art emergency operations command center and consolidated communications center include the ability to establish and maintain seamless electronic, telephone, and radio communications to, from, and between all law enforcement, fire, emergency medical services, and emergency management agencies within Washington Parish and surrounding parishes and Mississippi counties in both localized and wide spread natural or man made disasters and localized emergencies.

The new center will have the following benefits to the citizens of the area:

• Faster and better coordinated emergency responses by all agencies.

• Ability of dispatchers to locate where the emergency is, and whether it is called in by land telephone or wireless cell phone by the use of digital mapping.

• Emergency Medical Dispatch system to guide the caller in performing life-saving first aid prior to ambulance arrival.

• Information concerning residence or business layout and special medical needs of residents stored on computer for fire department or EMS use if requested by owner.

• Ability to utilize state of the art communications and dispatch equipment and be able to communicate with "anybody, anywhere" in the parish.

• Ability to know what resources are responding to what emergencies throughout the parish and on a real-time GIS basis where those resources are.

• Ability to exert command and control over the entire parish wide emergency response system.

In addition, the command center will bring the following micro level capabilities to bear on any emergency for which it is activated:

> • Incident tracking, logging and reporting
> • Automated SOP checklists and plans
> • Resource management (with full database functionality)
> • Central command and control

- Messaging and communications function with tracking
- Documentation of response actions
- Contact lists
- Internet, intranet, and wireless capabilities
- Radio, cellular and satellite capabilities
- Participation by all agencies even from remote locations if necessary
- Automated journaling
- Access to plans and data
- Mapping
- Linking capability to access Internet sources for weather and event intelligence
- Hand-held compatibility and capability to access the center from all locations in the Parish
- System which is fully configurable and scalable to the incident size
- Compatible with existing infrastructure, databases, software and e-mail

Section 1.5   Organizational Information

The Washington Parish Office Homeland Security and Emergency Preparedness formed by Washington Parish government in 1993, is responsible for the management of all area emergencies including those related to weather, hazardous materials and terrorism. It is run under the supervision of the parish president, with direct control in the hands of an appointed Director. The Washington Parish organization is affiliated with the Louisiana Office of Homeland Security and Emergency Preparedness.

The Washington Parish Communications District was created by the Washington Parish Government on May 17, 1988, under the provisions authorized by Louisiana Revised Statue 33:9101-9106, and is a component unit of the Washington Parish Government. The purpose of the district is to establish and manage operations of an emergency communications system in Washington Parish. The district is governed by a seven member board appointed by the parish government.

Section 1.6   Conclusion

Recent events, which include both natural or man made disasters and localized emergencies, have vividly shown the need for seamless electronic, telephone, and radio communications to, from, and between all law enforcement, fire, emergency medical services, and emergency management agencies, the public, and elected officials to minimize loss of life and property and maximize public safety. Approval of this appropriations request will help insure that such is the case for the citizens of Washington Parish, Louisiana Emergency Response Region 9, and surrounding Mississippi counties.

Section 2   **Radio Communications In Washington Parish**

Section 2.1   **The State of Public Safety Communications in Washington Parish**

The following section will provide narrative details with commentary on the radio communications equipment and facilities for the PSAP's in Washington Parish.

Before we get into the detail on each PSAP, however, this is an appropriate place to offer some general commentary on the *"State of general public safety communications in Washington Parish today"*.

- The status of two way radio technologies in the PSAP operations in Washington Parish represents the general "state of the art" in two way radio development over 40 years ago. Some of the PSAP's and/or field units may have newer desk top control station radio equipment, but the base station equipment is generally obsolete and in need of replacement.

- In some instances the radio repeater/base station equipment at the radio tower is not owned by the Parish, but rather it is "rented" from a radio service shop. While this is not an entirely bad way to do business the station equipment used in this instance is not up to Public Safety standards.

- The police radio systems in use operate on the Very High Frequency (VHF) radio band (around 150 Megahertz or MHz). However, none of the individual base transmitter sites can adequately cover the total Washington Parish jurisdiction area presently served by the three parish police agencies . Normally this would not be an issue to any one of the local agencies, but is a present communications deficiency for the Sheriffs office.

When considering times of parish wide emergencies, one must think about whether a radio system located at any 1 PSAP using present technology could cover the entire service area of today's three PSAPS. It appears as if it would be difficult to accomplish this task, partly due to the varied terrain present in a Parish with some river valleys and cuts and bluffs.

Having set forth our generalized observations of the "state of the art" in the Parish, we will now explore each of the operating PSAP entities.

Section 2.2   PSAP: Washington Parish Sheriff's Office (WPSO)

Location: 1002 Main Street Franklinton LA 70438
Radio dispatcher workstations: 1
PSAP call taking workstations: 1

PSAP Radio System inventory and commentary:

Washington Parish Sheriff: VHF Repeater Tx-155.9250/Rx-154.9350 This VHF channel is the primary or "main" law enforcement channel for Washington Parish Sheriff's law enforcement communications. A repeater station is used for this channel, which allows the transmissions of field units to be rebroadcast to other field units (increased range) as well as being heard by dispatch. This repeater is a General Electric Master II model station. It is estimated to be 25 years old. The repeater antenna is located on the top of the Sheriff's guyed tower on Dollar road. There is a lot of room for improvement. Control and access to this repeater station by the Sheriff's Dispatch office is by use of a control station.

For back up to the primary Sheriff's repeater there is located in the radio building at Dollar road, a set of radio equipment that can be activated by a technician. This equipment can also be activated in the event of a power failure at the Dollar radio site as this back up station has a set of lead acid batteries to support its operation. There is no back up generator at the radio tower site.

Washington Parish Sheriff Talk Around. VHF 155.9250 T/R This VHF channel is a SIMPLEX (non-repeated) radio channel which serves primarily as a "talk around" the repeater station or a direct field radio unit to other field radio unit. It can also serve as the backup alternative for the main channel for Washington Parish's law enforcement communications. This channel both transmits and receives on the main Sheriff repeater base station's output frequency of 155.9250 MHz. It works as a back up/alternate communications path to the field units, providing reduced range for both "dispatch talk-out" as well as "talk in to dispatch" as this radio's antenna is only located on the Sheriff's building, and therefore not nearly as high (high = better coverage) as the main tower referenced above. This means that this particular base radio can only transmit on one channel at any one instant.

Radio Station Authorizations:

Washington Parish currently has authorization to operate radios on the following frequencies:

CALL SIGN OF RADIO STATION LICENSE   **KNIK276**

155.9250 MHZ   FB2 (repeater station)   LAT: 30-52-12N
                                                  LONG: 089-59-26W
155.92500 MHZ   MO (mobile)
This is the frequency used by the mobiles and portables in the "talk around" mode. It can also be used by the PSAP control station in the event of the repeater failure.

154.9350 MHZ   MO (mobile)

This is the frequency used by the mobiles and portables to access the Sheriff's repeater (155.9250) 75 units authorized.

| **154.9350 MHZ** | FX1 (control station) | LAT: | 30-47-08 |
| | | LONG: | 89-51-42 |

This is the frequency used by the Sheriff's Control Station in Franklinton. 1 unit authorized.

| **154.9350 MHZ** | FX1 (control station) | LAT: | 30-50-38 |
| | | LONG: | 90-09-21 |

This is the frequency used by the Sheriff's Control Station at the Bogalusa remote Sheriff's office - 1 unit authorized.

| **155.9250 MHZ** | FBS (back up split freq.) | LAT: | 30-47-08N |
| | | LONG: | 089-51-42W |

This authorization allows for the use of a station that could be a back up repeater or a "split frequency" station. It would be used to take the place of a failed repeater in the area of Bogalusa.

| **155.9250 MHZ** | FBS (back up split freq.) | LAT: | 30-50-38N |
| | | LONG: | 090-09-21W |

This authorization allows for the use of a station that could be a back up repeater or a "split frequency" station. It would be used to take the place of a failed repeater in the area of Franklinton, at the Sheriff's building.

Washington Parish Sheriff Radio Communications Summary:

The radio system infrastructure equipment (repeater station and control station) at the Washington Parish operation is generally poor (repeater equipment) condition. When implemented in the current communications system many years ago, they were a good and economical choice. The current situation calls for a replacement of the system.

Radio Propagation Study

Note The following stud(ies) was created using information off the FCC license for location and antenna height. Transmit power and antenna variables were used that were derived from information gleaned during site visits and discussions held with individuals involved in this system. Land formation, land use, and a 95% reliability factor in the Longley-Rice computer model program all worked together to create the following results.

Repeater Location- Sheridan on Dollar Road

Mobile radio repeater talk out to mobiles

| County Borders | State Borders | Lat/Lon Grid |

Washington Parish Sheriff's Office Repeater Talk OUT

RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing that where red and orange occur, the radio signal OUT from the transmitter tower is very strong. The yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.

Repeater Location- Sheridan on Dollar Road
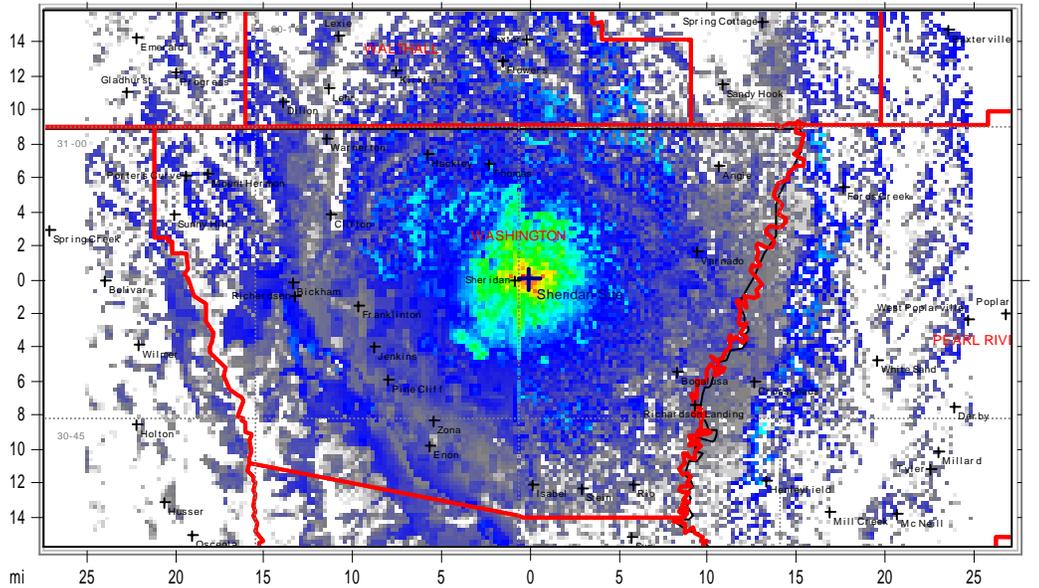
Mobile radio talk back to repeater 45 watt mobiles, unity antenna

-246.76	-113.76	-108.76	-88.76	-78.76	-68.76	-58.76	-48.76	-18.76 dBm

━━ County Borders   ━━ State Borders   ━━ Lat/Lon Grid

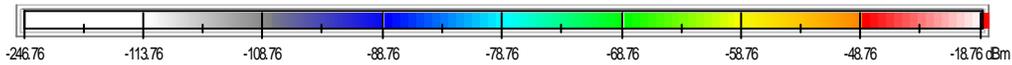**Washington Parish Sheriff's Office Repeater <mark>Talk IN</mark>**

RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing areas from which a typical mobile radio signal INBOUND to the main receiver tower is very strong. The yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.

Section 2.3   **PSAP: Franklinton PD**

Location: 409 11th Ave, Franklinton, LA 70438
Dispatcher workstations: 1
E911 PSAP workstations:

PSAP Radio System inventory and commentary:

Franklinton Police Repeater 154.8150/Rx-159.1500 This VHF channel is the primary or "main" police channel for Franklinton PD's law enforcement communications. The repeater antenna is located on a water tank in the City of Franklinton. This station provides good radio communications coverage for field units in the jurisdiction area of the Franklinton PD but not outside that area. Control and access to this repeater station by the Police Department Dispatch office is by use of a control station in the PD dispatch office. This control station is a Motorola GM 300.

Franklinton Police Talk Around. VHF 154.8150 T/R This VHF channel is a SIMPLEX (non-repeated) radio channel which serves primarily as a "talk around" the repeater station or a direct field radio unit to other field radio unit. It can also serve as the backup alternative for the main police channel for Franklinton PD's law enforcement communications. This channel both transmits and receives on the Main Police repeater base station's output frequency of 154.8150 MHz. It works as a back up/alternate communications path to the field units, providing reduced range for both "dispatch talk-out" as well as "talk in to dispatch" as this radio's antenna is only located on the PD building, and therefore not nearly as high (high = better coverage) as the main tower referenced above. It generally provides good radio communications coverage for field units, considering the purpose of the channel. This channel is operated on a multi frequency base station transmitter (also it is the same radio that is used in the PSAP to access the repeater). This means that this particular base radio can only transmit on one channel at any one instant.

Franklinton Fire Operations: VHF 154.370TX/153.7700-Repeater 154.3700 TX/RX Simplex Mode

This Franklinton Fire VHF channel is generally operated as a SIMPLEX (non-repeated) radio channel which serves primarily as a "talk around" the repeater station or a direct field radio unit to other field radio unit. It can also serve as the backup alternative for the main fire repeater channel for Franklinton FD's communications.

Franklinton does its own fire call dispatch. The encoding of the radio signal to alert the fire fighters originates from the Franklinton PD PSAP. The signal is generated by an encoder (Communication Specialists PE 1000) tied to a remote control desk set console (SSC Encoder).

The base station transmit commands are sent over leased control circuits to the city water tank. At the water tank the "real" base station is located with the antenna on top of the tank. The fire base station operates in the "simplex" mode, again meaning that it is NOT a repeater. It transmits and receives on the single radio frequency of 154.3700 MHZ. This is the same frequency as the Washington Parish Fire repeater output.

The mobiles in the Franklinton fire fighting apparatus and portables have both the Parish Fire channel (repeater frequency pair) and the simplex mode of operation.

This set up of simplex operation generally provides adequate radio communications coverage for field units, considering the purpose of the channel. The purpose here is to cover the general area of Franklinton. Communication with the Parish EOC is difficult.

Radio Station Authorizations:

Franklinton PD currently has authorization to operate radios on the following frequencies:

CALL SIGN OF RADIO STATION LICENSE   **WNPC332**

154.8150 MHZ	FB2 (repeater station)	LAT:	30-50-43N
		LONG:	090-08-41W
159.15500 MHZ	MO (mobile)		

154.8150 MHZ   MO (mobile)
This is the frequency used by the mobiles and portables to access the Police repeater 20 units authorized.

Radio Propagation Study

No information was available at the time of the site visits for the new tower location that the radio equipment is moving to, so no meaningful propagation analysis could be performed.

Section 2.4   PSAP: Bogalusa Police Department

Location: 202 Arkansas Avenue
Bogalusa, LA 70427
Dispatcher workstations: 2
E911 PSAP workstations: 2

PSAP Radio System inventory and commentary:

Police Main: VHF Repeater 154.8600TX/155.6400 RX This VHF channel is the primary or "main" police channel for Bogalusa law enforcement communications. A repeater station is used for this channel, which allows the transmissions of field units to be rebroadcast to other field units (for increased range) as will as being heard at dispatch. The main repeater station for this channel is a Motorola MSF 5000 unit, built in March of 1996 it is about 6 years old, and is located at Pinnacle Tower on West Hickory in Bogalusa. Dispatchers control this repeater via use of a Radio Dispatch control station(s) instead of a leased phone lines or microwave transmitters.

> Remotely located base station
>
> Pictured to the left is the antenna for the remotely located police base repeater a couple of blocks away (Pinnacle tower) from the PSAP. The repeater itself is located in the radio building "shack" at the base of the tower (not visible in this photo). The telecommunicator "controls" this base repeater by reaching it using radio waves from an "RF control station".

Radio Tower in Bogalusa used by PD

Bogalusa Police Talk Around.   VHF 154.8600 T/R This VHF channel is a SIMPLEX (non-repeated) radio channel which serves primarily as a "talk around" the repeater station or a direct field radio unit to other field radio unit. It can also serve as the backup alternative for the main police channel for Bogalusa PD's law enforcement communications. This channel both transmits and receives on the Main Police repeater base station's output frequency of 154.8600 MHz. It works as a back up/alternate communications path to the field units, providing reduced range for both "dispatch talk-out" as well as "talk in to dispatch" as this

radio's antenna is only located on the PD building, and therefore not nearly as high (high = better coverage) as the main tower referenced above. It generally provides good radio communications coverage for field units, considering the purpose of the channel. This channel is operated on a multi frequency base station transmitter (also it is the same radio that is used in the PSAP to access the repeater). This means that this particular base radio can only transmit on one channel at any one instant.

Secondary Police Channel: VHF 158.8950 TX/RX This non repeated channel is used to communicate between the Bogalusa Police Department radios without interruption to or by the separate Bogalusa Police repeater. It is located in the Bogalusa Police car radios and portables.

Alternative Repeater Channel VHF 154.7250TX/158.8950RX:
This channel is a secondary repeater channel for use by the Police department. The location of this repeater was not established.

Siren Control Radio Channel. OEP VHF 155.0400TX/153.7400RX This RF control station is used to communicate into the siren controls in the City. This radio is a desk top configured Motorola GM 300. It controls 5 sirens. This authorization is listed under the Fire district PSAP description.
FIRE SIREN LOCATIONS:

1.   Temple Inland
2.   Columbia Street
3.   West 14th
4.   School Board
5.   Entergy Rio Grande

Radio Station Authorizations:

The City of Bogalusa currently has authorization to operate radios on the following frequencies:

CALL SIGN OF RADIO STATION LICENSE   **KNGQ580**

154.72500 MHZ   FB2 (repeater station)   LAT: 30-46-06N
                                              LONG: 089-51-53W
This would be a repeater output frequency. Unable to determine the exact use or location of this station at time of site inspections.

154.8500 MHZ   FB2 (repeater station)   Same as above
This is the PD's repeater station

155.6400 MHZ   MO (mobiles)
This is the frequency used by the mobiles to talk into the "mystery" repeater station.

(154.8500 MHZ). 20 units authorized.

158.8950 MHZ   MO (mobiles)
This is the frequency that we understand to be mated with the 154.8500 MHZ frequency above.

155/6400 MHZ   FX1 (control station)
This is the frequency used by the mobiles, and the CONTROL STATION at the Bogalusa PD PSAP. IT is specified in the license per FCC requirements. If there are more control stations in use, or there would be ore in the future, then license modifications should be made to this license.

CALL SIGN OF RADIO STATION LICENSE   **KIG674**

Radio Propagation Study

Bogalusa repeater talk out to mobiles

RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing that where red and orange occur, the radio signal OUT from the transmitter tower is very strong. The yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.

| ComStudy | Bogalusa Study 8-8-2002.rs2 | Thursday, August 08, 2002 |

Repeater Locatin - Cell Tower in Bogalusa

Mobile repeater talk in from mobiles

| -246.76 | -118.76 | -108.76 | -88.76 | -78.76 | -68.76 | -58.76 | -48.76 | -18.76 dBm |

— County Borders   — State Borders   — Lat/Lon Grid
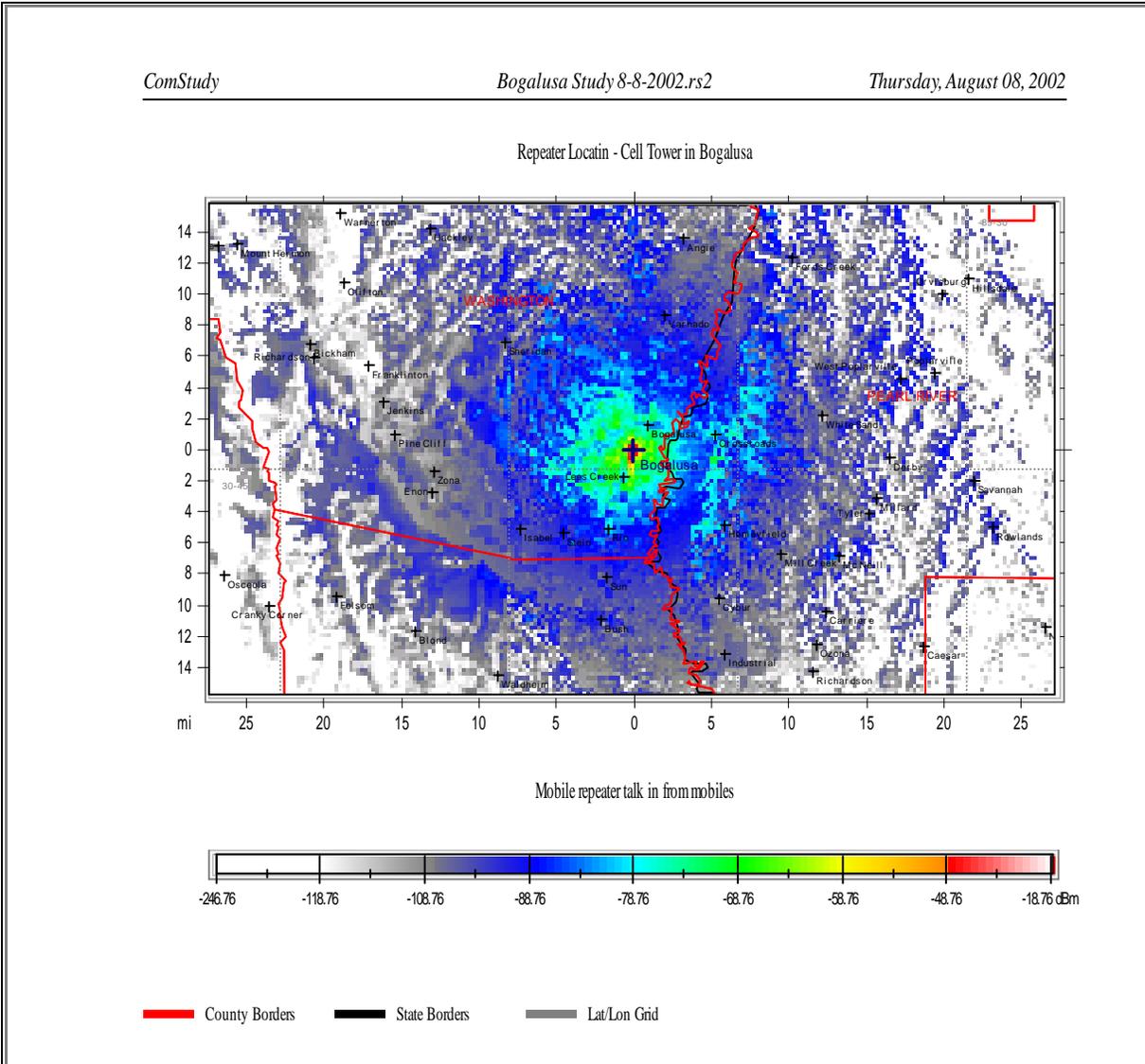
Bogalusa repeater talk back from mobiles
RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing areas from which a typical mobile radio signal INBOUND to the main receiver tower is very

strong. The yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.

Section 2.5   **Washington Parish Office of Homeland Security and Emergency Preparedness**

Mailing Address   **EOC Location**
803 Pearl Street   17380 Bill Booty Road
Franklinton, LA 70438   Bogalusa, LA 70429
                                                       Dispatcher workstations: 1

Radio System inventory and commentary:

Washington Parish Fire Operations: VHF 154.370TX/153.7700-Repeater

This Fire VHF channel is a repeated radio channel which serves as the primary voice and paging channel for the Parish.

This repeater is located at the Carlon Wascom radio tower on Thomas Melvin road just South West of the city of Pine. This structure is a newer 480 foot tower about five years old. The repeater itself is a "made up" station from several Kenwood mobile radios. The tower registration for this tower is 1021836.

The station operates at about 50 watts. The receive antenna is located at the top of the tower, and the transmit antenna is located at about the 420 foot level, South side.

For back up purposes a back up repeater is located on an old rather short "stubby" "AT&T" tower in the city of Pine. The back up tower is about 180 feet tall. This station is a Motorola MSF 5000.

Washington Parish Emergency Preparedness Channel: VHF 155.4000TX/153.7400-Repeater

This VHF channel is a repeated radio channel which serves as the emergency government needs of the Parish. It is controlled from the District 7 Office of Emergency Government facility on Bill Booty road.

This repeater is located at the Carlon Wascom radio tower on Thomas Melvin road just South West of the city of Pine. This structure is a newer 480 foot tower about five years old. The repeater itself is a "made up" station from several Kenwood mobile radios. The tower registration for this tower is 1021836.

The station is understood to operate at about 50 watts.

Radio Station Authorizations:

The Police Jury Fire Protection District, Washington Parish currently has authorization to operate radios on the following frequencies:

CALL SIGN OF RADIO STATION LICENSE   **WNMC606**

154.3700 MHZ   FB2 (repeater station)   LAT: 30-55-12.7N
                                               LONG: 090-00-43.3W
This would be the back up repeater. (old TELCO tower)

154.3700 MHZ   FB2 (repeater station)   LAT: 30-53-12.0N
                                               LONG: 090-02-56.0W
This would be the main repeater. (WASCOM tower)

153.7700 MHZ   FX1 (control station)   under the 6.1 meter rule

153.7700 MHZ   MO (mobiles)   Parish Wide Operation

154.2950 MHZ   MO (mobiles)   Parish Wide Operation

CALL SIGN OF RADIO STATION LICENSE   **WPJW770**

155.0400 MHZ   FB2 (repeater station)   LAT: 30-55-12.7N
                                               LONG: 090-00-43.3W
Office of Emergency Preparedness Wascom Tower Site

153.7400 MHZ   FX1 (control station)   under the 6.1 meter rule
This is the OEP control station on Bill Booty road, district 7 location.

153.7400 MHZ   MO (mobiles)   Parish Wide Operations
150 mobiles authorized

155.0400 MHZ   MO (mobiles)   Parish Wide Operations
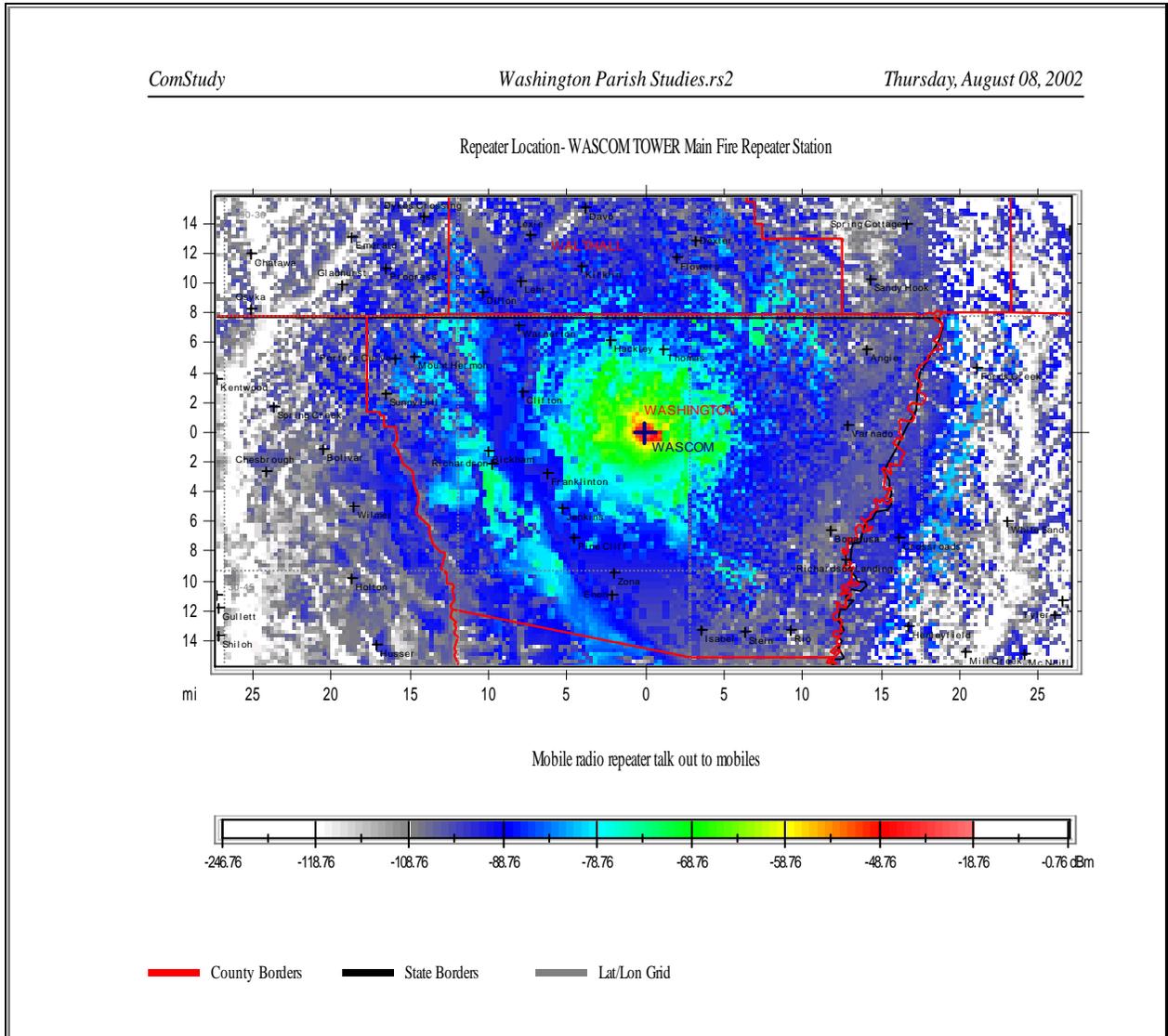150 mobiles authorized

Parish Fire District's Communications Summary

The radio system infrastructure equipment (base and repeater stations, control stations) used for the Parish Fire District dispatch varies greatly in terms of condition. The main repeater is not what you would expect to have in service for critical communications. Stand-alone factory devised and manufactured radio station equipment should be deployed instead of built up stations from mobiles.

Radio Propagation Study

The following study was created using information off the FCC license for location and antenna height. Transmit power and antenna variables were used that were derived from information gleaned during site visits and discussions held with individuals involved in this system.

Land formation, land use, and a 95% reliability factor in the Longley-Rice computer model program all worked together to create the following results.


ComStudy   Washington Parish Studies.rs2   Thursday, August 08, 2002

Repeater Location- WASCOM TOWER Main Fire Repeater Station

Mobile radio repeater talk out to mobiles

-246.76   -118.76   -108.76   -88.76   -78.76   -68.76   -58.76   -48.76   -18.76   -0.76 dBm

County Borders   State Borders   Lat/Lon Grid

Washington Parish Fire Repeater talk out

RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing that where red and orange occur, the radio signal OUT from the transmitter tower is very strong. The

23

yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.
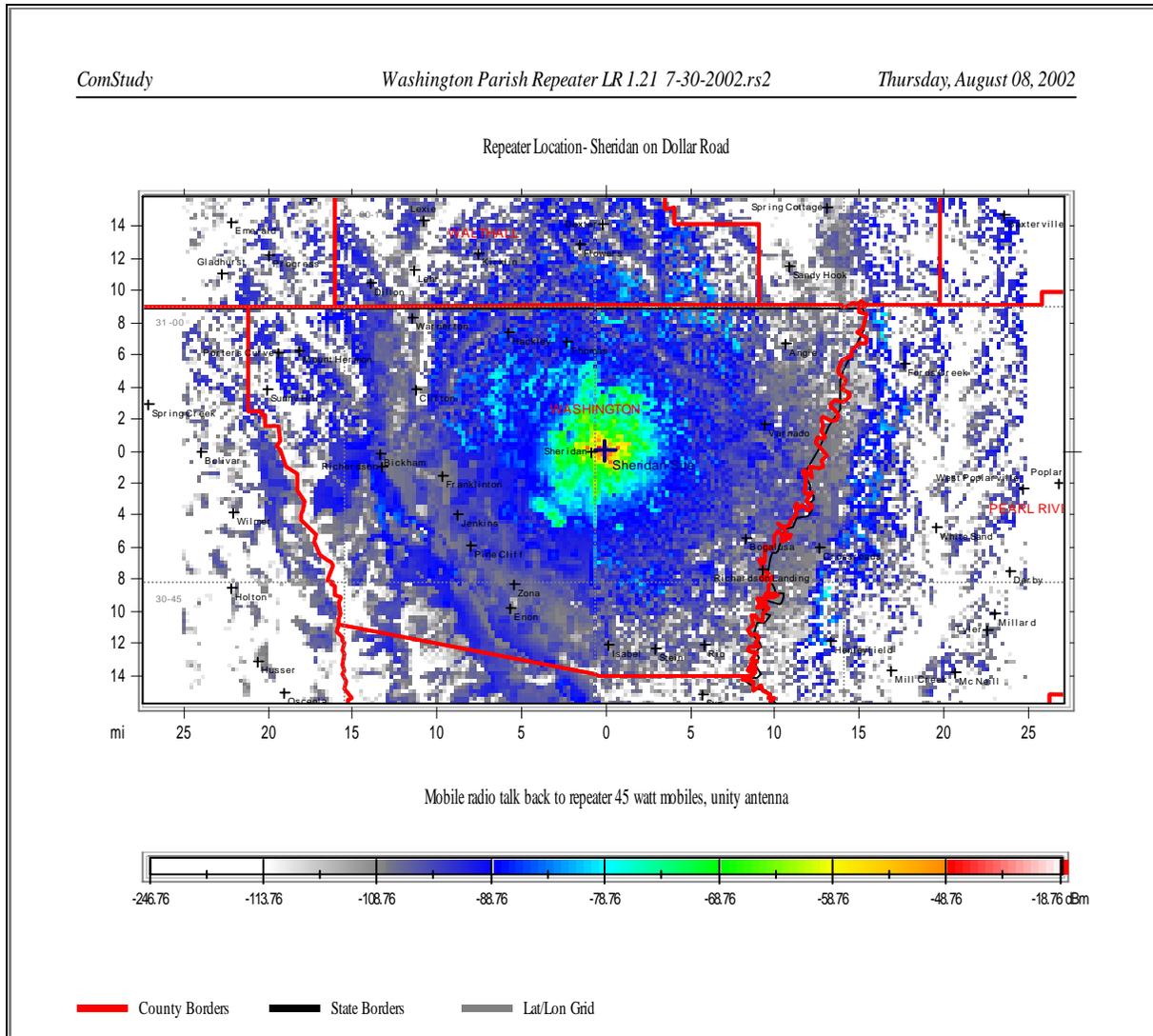
Washington Parish Fire Repeater mobile talk in TO repeater

RED to GREEN are good, BLUE is less good, GRAY is marginal

In the above "picture" the red lines are the Parish boundaries. The solid colors are showing areas from which a typical mobile radio signal INBOUND to the main receiver tower is very strong. The yellowish and green areas (as one gets further away from the tower) are slightly less good, but still quite readable. The darker blue color is getting a little less reliable, and the gray to white is a radio signal that is only marginal and ought not be deemed reliable.

Section 2.6   Uninterrupted Operations

While most of the Parish's PSAPs have limited emergency generator capabilities as well as some "uninterruptible power supply" (UPS) systems for individual "mission critical" PC based applications (like CAD and 911), the overall state of readiness for completely reliable continuous services is lacking. There are several basic issues.

- Providing for an alternate to the commercial AC power to the various buildings. This is usually a diesel or LP gas powered emergency generator <u>with an automatic activation feature that senses when commercial power is down</u> that is tested regularly, has an adequate and inspected fuel supply for several days of operations, and is wired to an adequate number of outlets within the facility to power all essential equipment for several days.

- UPS systems work usually in tandem with an emergency generator but they are not the same thing. A UPS system is a series of DC batteries (like large car batteries) which is continuously charged by the AC power feeding a building. The output of these DC batteries is sent to an inverter which takes the XX volts DC and turns it into 120 or 240 V AC to power the equipment in the PSAP. This way, if the commercial AC power feeding the building dies, these batteries (which are fully charged) will merely continue to provide power to the inverter, which will power the equipment. In turn, the batteries will be charged up when the generator comes on. Such an arrangement provides the added advantage of "conditioning the power" feeding the sophisticated electronic equipment in a PSAP, meaning that all spikes and valleys in the power are "smoothed out" as it passes through the DC batteries, plus there is no abrupt change or momentary "down time" when the generator kicks in, as nothing sensitive is running directly off the generator or commercial AC power.

A complete set up such as this is the kind of uninterruptible resource that any PSAP should have, but they can be very expensive and not likely affordable in a smaller or non consolidated PSAP setting. They are generally lacking in Washington Parish.

Section 2.7   Radio Communications General Statement

In general, this topic can be summed up by saying that an effective public safety communications system must have the following attributes:

- There must be an effective radio system available to the dispatcher for contacting any and all of their field responders, at any time, under any conditions with a very high degree of reliability. This generally means a good transmission system with good signal strength providing high quality audio to vehicle mounted radios, hand held radios and belt worn pagers in 97% of the jurisdiction's land mass, with special attention to high risk and/or high traffic volume areas and inside standard construction buildings.

- Similarly, there must be the ability for the dispatcher to receive (hear) transmissions from all field units, all types of field radios, in all or most of the areas of the jurisdiction's land area.

- There should be the ability for the dispatcher to communicate directly with all other PSAP agency's dispatchers from which they might require assistance, support, and coordination or back-up services.

- There should be the ability for the dispatcher to communicate directly with the field units and control points ("dispatchers") for any agency within their jurisdiction that they might need to direct or coordinate. Typically this means public works agencies, ambulances, transit agencies, etc.

- There should be the ability for field units from the jurisdiction to communicate directly with other field units from their jurisdiction (any type of agency within their jurisdiction), as well as any other field units from any other jurisdiction with whom they may have the need to coordinate.

- There should be the provision for adequate communications security so that sensitive information can be exchanged over the two way radio without jeopardizing the effective management of public safety incidents.

- There should be adequate "talk path capacity" (usually means adequate radio channels in conventional technology radio systems) so that no field unit needs to wait more than a few seconds for the ability to access the system for important information.

Except for areas close in to the various transmitter towers the above requirements are lacking in Washington Parish. This weakness makes parish wide communications and most agency to agency communications impossible.

A final consideration relating to radio is this: As time goes forward over the next 5-10 years, probably all the mobile and portable radio equipment in the Parish will be replaced. When it is replaced, a lot of money will be spent buying new versions of a technology that is 60 years old. The Parish needs to upgrade to a new technology platform such as digital APCO P25 as contained in the Louisiana interoperable 700 mhz system.

In 1998, the FCC adopted service rules for the 24 megahertz of spectrum in the 764-776/794-806 MHz frequency bands (collectively, the 700 MHz band). At the direction of Congress, this spectrum was reallocated from television broadcast services to public safety communications services.

In January 2001, the FCC adopted technical and operational standards for use of the narrow band portion of this spectrum. The Public Safety National Coordination Committee (NCC), a federal advisory committee, provided recommendations to the Commission on operational and technical parameters for use of the 700 MHz public safety band.

A large portion of the 700 MHz public safety spectrum, approximately 53 percent (12.5 MHz), is designated for general use by local, regional and state users. A regional planning process was adopted to govern management of this public safety spectrum. It is a similar process to that used in the 821-824 MHz and 866-869 MHz bands. Regional Planning Committees (RPCs) are allowed maximum flexibility to meet state and local needs, encourage innovative use of the spectrum, and accommodate new and as yet unanticipated developments in technology equipment. They are responsible for creating and managing regional plans.

The Louisiana system will be an IP network based and P25 compliant trunked system. It will operate primarily in the 700 MHz, 800 MHz bands with some broadband hot spots. The primary system (700 MHz/800MHz) infrastructure as initially built by the State shall provide secure 95% or better coverage when using a portable radio inside a street level vehicle within at least the more densely populated seven metropolitan areas of the State, and secure 95% or better coverage when using a portable street level radio in all other areas of the State.

The system will provide secure high speed broadband data and imaging using selected devices(s) in selected areas of the State of Louisiana

The system will also provide tailored gateway(s) to provide (1) legacy reach back for voice on selected talk groups/channels for system users as they transition from existing systems to this new system, and (2) ongoing voice interoperability on selected talk groups/channels between this system and other VHF, UHF, and/or 800 MHz public safety voice systems in each parish and in the adjoining states in border areas.

Section 2.8   Washington Parish Radio Equipment

The project includes the acquisition of 700 mhz radios for all emergency responders in the parish and their vehicles.

Emergency responders will be equipped with Motorola's XTS 2500 portable radio. This is Motorola's high-performance, small-sized, digital two-way radio. This IP enabled portable is lightweight and easy to carry. This unit is an affordable choice to integrate these sophisticated two-way radios into their existing system with the migration capability to the newer Project 25 digital infrastructure for additional interoperability.

Emergency response vehicles will be equipped with Motorola's XTL 5000 Digital Mobile Radio with its new architecture and design. This robust Project 25 compliant mobile assures crisp, continuous and high quality communication. The XTL 5000 is for radio users who require high performance, quality and reliability in their daily communications.

Section 2.9   Dispatch Consoles

Consoles will be needed for a new Communications Center to function properly. The control station technique works well for small operations, back up dispatch locations, and emergency field command posts.

In the main dispatch the dispatchers will require solid control of the radio stations. Only a true radio dispatch console can provide the ergonomic friendly easy selection and operation of the various radio channels on which they will perform their work.

Each dispatch position should be a duplicate of the others. This will allow access of the various radio channels by all members of the dispatch staff to support each other during busy radio traffic situations.

Multiple operator position electronics supports redundancy for hardware. In the event that a radio workstation does fail, the operator can move to another work station and continue working the system.

To minimize the size of the console workstation the current dispatch hardware of choice has turned out to be the "CRT" or computer type of console. It offers minimized space requirements on the desktop, is easy to reconfigure, as changes to the system are required. It is now real competitive in cost with the more familiar "button and light" console that has been the traditional hardware configuration. The days of the button-based console are limited as the manufacturers of radio equipment move into the PC console mode

Section 2.10   **Budgetary Estimate for Radio Equipment and Vendor Services**

Radio Console Positions:

As was established earlier, none of the PSAPs in the parish today have true "radio console" positions. Instead, they are using desk-top RF control stations. Today's fairly common "CRT based" radio/CAD and 911 workstation looks like this:
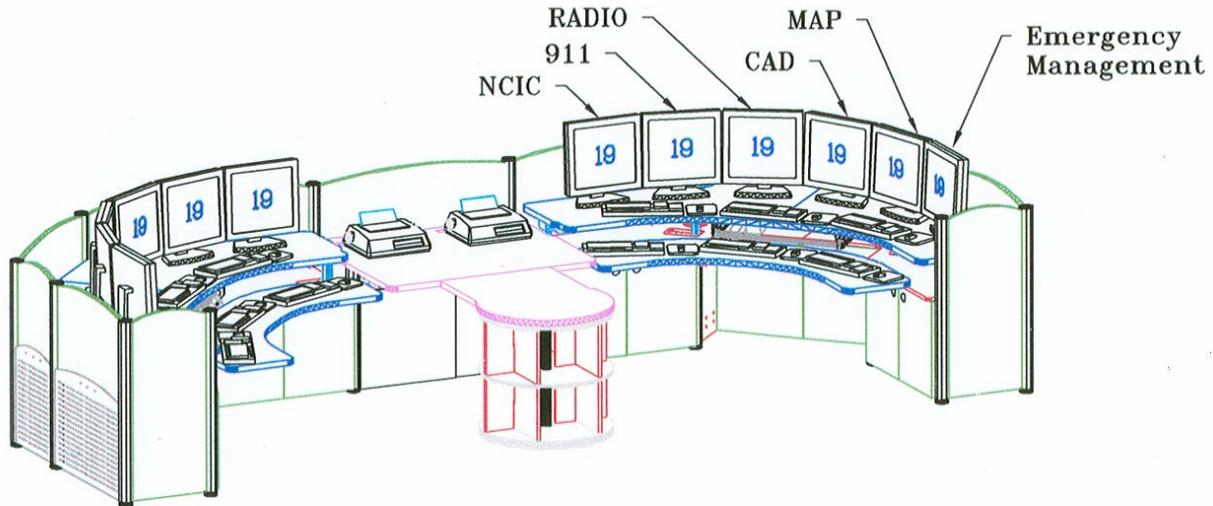
Each Position to include 5 computers and six flat screens.   Computers are to be for the following:

> 1. 911 Call Taking
>
> 2. CAD
>
> 3. NCIC
>
> 4. Radio Control
>
> 5. Emergency Management Info System

Monitor screens are to be for the following:

> 1. 911 Call Taking
>
> 2. Mapping
>
> 3. CAD
>
> 4. Emergency Management Info. System
>
> 5. NCIC
>
> 6. Radio Control

In addition, the room containing these dispatch position communication consoles will be equipped with the following projection screens mounted on the surrounding walls :

1. Bogalusa PD CAD Screen
2. WPSO CAD Screen
3. Franklinton PD CAD Screen
4. EMS CAD Screen
5. Fire Departments CAD Screen
6. Map with 9-1-1 call locations plotted
7. Emergency Management Info System
8. TV : Choice of Security cameras or CNN/Weather

The radio control portion of the dispatcher workstation come networked with main control electronics in the "back room" in a configuration known as a "CEB" (Central Electronics Bank).

<u>Furniture for console positions:</u>

Furniture estimate based on previous budgetary numbers provided by Watson furniture. This is the specialized furniture pictured above on and in which the equipment is stored.

Work positions set up for 8 CRT's, with CPU storage space, movable work surface. Price for the installed product is about $20,000 per operator position.
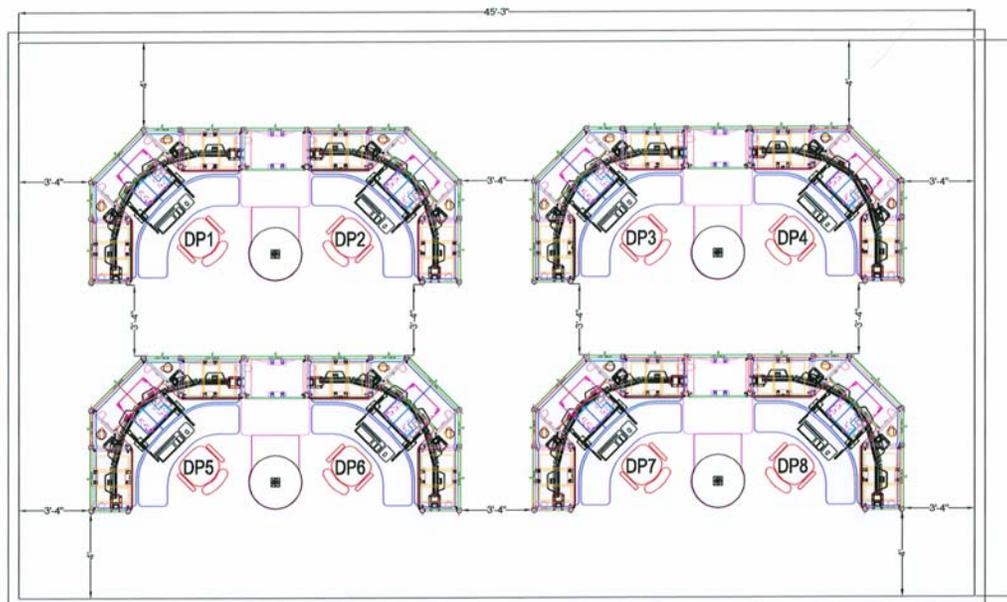
Communications Center Towers and SATComm

A new radio tower is recommended for the 700 mhz system and back up 155 mhz systems. In addition, a powered, crank up tower is needed for RACES/ARES 140 mhz FM VHF amateur service and 3.0 – 30.0 mhz log periodic directional antenna for SSB hf communications. The existing tower adjacent to the Communications Center location has no history with anyone in the Parish. Thus, there is a great unknown as to its integrity to support the present system much less any other new equipment and installation labor activity.

Section 2.11   Other Radio System Technology Issues

In addition to the digital modulation and 700 trunked system equipment, there are other radio system technology issues that are applicable to Washington Parish and should be reviewed and implemented.
These issues are common technology solutions that have been used by many public safety agencies to resolve system coverage problems and improve overall wide area system coverage and reliability. Please refer to the color coverage map plots depicting the overall wide area coverage offered by these scenarios. These system technologies are:

- **In House SAT Comm Voice and Data System**
- **In House Alpha Numeric Paging for Fire Dispatch Back Up**
- **AVL (Automatic Vehicle Location)**
- **ARES / RACES**

In House SAT Comm Voice and Data System :

In order to provide backup broadband VoIP voice, data, and video capability
to the Communications Center if normal landline and wireless systems are inoperable, the project includes sufficient funding to acquire a transportable TES-3900 transportable earth station. Portability insures that the unit can be safely protected at the Communications Center and set up outside subsequent to a catastrophic event. Cost for this system is included in Section 2.9 of this report.

The system includes :

Tri-Fold Antenna

- Elevation-over-azimuth positioner features continuous 330° azimuth coverage and 90° continuous elevation adjustment.
- The ability to view geostationary satellites, horizon to horizon
- Electrical performance meets or exceeds :
  U.S. FCC pattern req. for 2° satellite spacing INTELSAT E-2, E-1, G, and K Standards for Ku-Band INTELSAT F-1 and G Standards for C-Band EUTELSAT Standards

Modem

- 2.4 kbit/s to 4.375 Mbit/s
- Fully Accessible System Topology (FAST)
- Intermediate Data Rate (IDR)
- Intelsat Business Services (IBS)
- Drop and Insert (D&I)
- Automatic Uplink Power Control (AUPC)
- Asynchronous Channel Unit Overhead

Transceiver

- C-Band (5.845-6.425 GHz)
- Ku-Band (14.0-14.5 GHz)
- Various Output Power Level (2w-50w)
- 70/140 MHz IF

Earth Station Management System

The AxxSys™ Earth Station Management System consists of a fixed computer workstation which interfaces with the RF equipment and other system related hardware.

Key features include :

- Complete Monitor and Control Capabilities
- Win 2000/Win NT interface
- MS Access Report and Event Logging

In-house alpha   numeric paging for fire dispatch back up: A relatively new technology that is gaining some considerable favor in public safety circles is "Alpha/Numeric Paging" (A/N Page) for fire responders. Typically, paging volunteer fire department responders has involved sending "paging tones" out on a radio channel to which belt-worn "tone and voice pagers" are tuned.

Generally, these pagers are left in the "standby mode", meaning they do not report audio out their loudspeaker unless and until they have been "alerted" by the dispatcher sending out the proper tones (sounds like two musical notes), at which point they BEEEEEEP loudly and then the dispatcher's voice can be heard with the paging announcement. Obviously, for this to be effective, the firefighter needs to be within range of the transmitter and be in an environment where the dispatcher's voice can be heard.

With A/N Page, the dispatcher is either provided with a small keyboard dedicated to composing short text messages or the main CAD keyboard is interfaced to the A/N

Page system, and a short message is sent to the display pagers reporting the nature of the information.

These systems can operate on either a communications center owned and operated radio channel or they are available from commercial service providers who allow agencies to subscribe to their service. As usual, if one subscribes to a commercial service, one has to contend for access to the system with other users, whereas if one uses their own radio system, there is no similar competition.

Cost for this system is included in Section 2.9 of this report.

Automatic Vehicle Location (AVL) is a combination of three complementary technologies:

- Global Positioning System (GPS)
- Geographic Information Systems (GIS)
- Land mobile radio systems.

AVL has been around in several different forms for a couple of decades now. The most recent iteration uses the U.S. Department of Defense's Global Positioning System (GPS). The GPS consists of a "constellation" of satellites (more than 24) in constant orbit around the earth which constantly transmit highly accurate timing and positioning information to the earth, where GPS receivers take that data and use it to triangulate their own position and elevation on the face of the earth.

The single most variable and difficult aspect of any AVL system is the "radio cloud" between the tracked vehicle and the GIS workstation at which the dispatcher will view that vehicle tracking. This is indicated by the "radio cloud" indicated in the preceding picture.

Assuming the GPS device in the vehicle collects appropriate data, and assuming said data is reported "up" to the dispatch center at the appropriate interval, then the dispatcher can effectively plot and track that vehicle's position on a high quality GIS map at their work station, along with the location of 911 calls to which that vehicle is responding. On the following page is a depiction of a 911 operator's GIS map showing the location of a 911 call (red arrow) and AVL tracked response units.

ARES / RACES

The Amateur Radio Emergency Services (ARES) and Radio Amateur Civil Emergency Services (RACES) are components of our nation's Emergency Management and Response organizations and plans. They are staffed by highly dedicated, competent and equipped volunteer radio operators who have the ability and equipment to augment civil authorities in times of disaster. They have particularly effective long range (up to inter-continental) communications and

telephone inter-connection capabilities. Often times in cases of wide spread power and telephone system outages (such as those occurring in a major hurricane or tornado) ARES/RACES units provide a critical link to the outside world.

RACES, administered by local, county and state emergency management agencies, and supported by the Federal Emergency Management Agency (FEMA) of the United States government, is a part of the Amateur Radio Service that provides radio communications for civil-preparedness purposes *only*, during periods of local, regional or national civil emergencies. These emergencies are not limited to war-related activities, but can include natural disasters such as fires, floods and earthquakes.

ARES, administered by the American Radio Relay League (ARRL), and under the direction of the ARRL appointed Emergency Coordinator (EC) for the Parish, provides emergency communication during events not severe enough to warrant a parish wide declaration by the parish's Director, Office of Emergency Preparedness.

Using the same amateur radio operators, an ARES group also enrolled as RACES can "switch hats" from ARES to RACES and RACES to ARES to meet the requirements of the situation as it develops. For example, during a "non declared emergency," ARES can operate under ARES, but when an emergency or disaster is officially declared by a state or federal authority, the operation can become RACES with no change in personnel.

Section 3   Computerization of the Communications Center

Section 3.1   Data Systems in General (CAD & RMS specifically)

One of the difficulties in preparing a report such as this is to be able to capture for an audience of "non dispatchers" the subtleties and intricacies of the call taking and dispatching process, especially in a larger, multi position communications centers.

Unfortunately, one of the developments (over the past few years) in the "public safety data processing industry" has been the fact that the term CAD has become all too generic. CAD began life in the late 1970's as a system known as **C**omputer **A**ided **D**ispatch. It was needed (and used) back then by almost exclusively very large urban 911 dispatch centers which had hundreds of street response units to manage, thousands of events per day to assign them to and limited radio and dispatcher resources over which to do all this. The original role of CAD was to aid the dispatcher in:

- Knowing which district or jurisdiction an event was located.

- Knowing which specific police, fire or EMS response unit was responsible for that specific location, and if that response unit was or was not available to be assigned to this event, and if not available, which alternate unit would be a logical choices based on that units area of responsibility.

- Knowing what level of response was appropriate to the specific type of incident being reported (a robbery in progress merits a greater and quicker response than a two day old report of a bike theft).

- Knowing what, if any, information had been entered into the CAD system's "hazard file" reporting hazardous conditions at the "respond to" address.

- Knowing whether or not a given address was or was not valid in that jurisdiction.

- Determining which "Event Serial Number" would apply to this response incident, and if a report was to be generated, what CASE NUMBER should be assigned to that report for filing purposes.

Concurrent with the development of CAD was the development of "RMS" systems (Records Management Systems). A RMS system attempts to computerize and automate all emergency responder generated information, whether it be from law enforcement, EMS, or the fire service. This information is filed electronically, and can be searched for or cross matched in many different ways. Ideally, a CAD system and an RMS system should be linked.

It is now possible to have CAD and RMS linked since in modern systems they are "modules" of the same vendor's general software package, and these modules can be designed so there is a certain amount of interaction between them.

Not only will this linkage facilitate the downloading of this CAD "header data" to a remote RMS system at a place like the Franklinton or Bogalusa PD, or the Washington Parish Sheriff's Office, it could also mean that live sessions on each of the three distant RMS systems could be going on at one or more of the PC workstations at the remote dispatch center.

So, what is generally being said here is the following:

1. The new Communications Center should acquire its own, "tailored for multiple agency/multiple jurisdiction police-fire and EMS dispatching" CAD system.

2. Arrangements should be made to either:

    a. Interface this new CAD with the RMS systems in place in each of the three law enforcement agencies for downloads.

b. And/or cause for sessions on the three RMS to be operating at the new communications center using the internet as a medium and having communications between the systems follow Internet Protocols and use "IP Addresses".

Costs associated with the proposed CAD system (which includes mapping and call handling software at the dispatcher positions) are as follows :

Section 3.2   GIS Mapping Systems in and in support of dispatch

Earlier we discussed AVL and the plotting of wired and wireless 911 call locations. Geographic Information Systems (GIS) are the foundations of these capabilities. In general, GIS is:

- Specialized software that runs on a standard Personnel Computer (PC)

- A set of geographic data sets that contain information about geographic items of interest to the user.
- The specific set of GIS data tables will vary from user to user, depending on that user's area of interest

- A Graphic User Interface (GUI) software package that is tailored to the specific use environment and simplifies the user's access to and manipulation of the GIS data that is available to them.

- For example, a land use planner might use GIS to:

  - Understand zoning
  - Understand population characteristics
  - Understand water table locations
  - Understand sub-surface things like sewers, utilities, etc.

- But a 911 dispatcher might use GIS to:

  - Know and see the address ranges on a given roadway
  - Know and see the response boundaries of the law enforcement, fire and EMS agencies for whom they dispatch.
  - Know and depict the coverage areas of wireless/cellular towers.

We believe anyone designing and equipping a new communications center today should be figuring in GIS. This would serve several purposes:

- As an aid in maintenance of the jurisdictions rural addressing (911 addresses) program.

- As a tool for the working dispatcher to plot the location of all incoming <u>wired</u> 911 calls (as shown by the red arrow in the earlier AVL discussion).

- As a tool for the working dispatcher to plot the location of all incoming <u>wireless</u> 911 caller locations. (See depictions that follow)

- As a tool for showing AVL locations.

- As a tool for just plain finding places in the jurisdiction.

- As a tool for making specialized maps and printing them out on demand

- As a tool for tracking historical activity in the jurisdictions.

- As a tactical tool for emergency planners that would facilitate running HazMat "plume analysis" for example.

It is our belief that anyone designing a new Communications Center today should be planning on implementing GIS mapping. One of the over-riding reasons for this is the need to use GIS to plot the locations of wireless 911 callers.

Section 3. 3   Computer-Telephony Integration (CTI)

As PCs have become more powerful and faster, they have begun to replace many of the older appliances in any office, and a 911 dispatch center is no different. The days of the old reel to reel logging audio recorder are largely gone, replaced by digital audio processing PCs, which do it all on the hard drive or a PC instead of reel after reel of audio tape. Similarly, desk top telephones (911 and other) are being replaced by what are called "CTI Sets".

One of the favorite advantages of CTI CPE is to integrate all the 911 call taking, recording, activity logging and call management tasks with routine 7 digit call taking tasks. Every 7 digit line and 911 line can appear on the CTI screen, along with as many of the extensions or external number to which a call may be transferred.

Section 3.4   Ancillary but related Computing issues (Incident Command Systems)

One of the roles often played by a communications center, and a role included in the current design of the new facility is the role of an Emergency Operations Center (EOC). An EOC is a specialized term that does not mean the same thing as an Emergency Dispatch Center. Rather, an EOC is a concept that dates back to military Tactical

Operations Centers (TOCs) and flowed into civilian life through the development of the military led Civil Defense organizations of World War II.

Be definition, an EOC is a place where leaders (commanders) of various functions and elements relevant to the management of an emergency or disaster come together to collect, share and jointly react to and use information to make tactical and strategic decisions for the best and proper handling of the emergent situation.

The role envisioned at the new Washington Parish Communications Center (WPCC) is that of serving as an EOC for an individual agency, ie. Bogalusa Police Department, Franklinton Police Department, or the Washington Parish Sheriff's office.

For parish area wide emergencies, the Office of Homeland Security and Emergency Preparedness is responsible for EOC operation and currently operates a parish wide EOC on Bill Booty Road as a typical EOC described below. The Director - OEP, based on the complexity of the emergency, could decide on which facility to utilize, either the facility on Bill Booty Road or at the WPCC.

Obviously, for this function to work properly, the quality, relevancy, accuracy and timeliness of the information they receive, on which their decisions are based, must be very high. In a typical EOC, one sees temporary tables or desks labeled HEALTH, HIGHWAYS, FIRE, NBC (Nuclear, biological, chemical), POLICE, MEDIA, HOSPITALS, etc.

There are also lots of phones, lots of bulletin boards and a goodly number of maps and white boards on to which relevant timely information is scribbled for all to see. For example, if there are 2 hospitals in a region, and the event is a mass trauma event with lots of parties requiring hospitalization, the availability of beds medical specialties and equipment at the various hospitals can be critical.

In a "manual EOC", the person manning the "hospital desk" must either reach out to or field calls from all of the hospitals to continually update this information so that others may make decisions informed by the best data.

Enter computers and the Internet or Intranet. Imagine if all of the entities that could or might have input into the information collection process of an EOC were able to use the internet/intranet to go to a real time, locally managed, web site that listed current INFO NEEDS, and they could input their CURRENT INFO from their individual locations throughout the parish and that information would then displayed for the emergency management decision makers at the EOC to see .

Then, the managers at the EOC would only need to review the displayed data to find out which hospitals had which beds and which specialties were available. Obviously health care availability is only one of many such data streams to be used. Other examples would include reports and checkpoints in conjunction with graphics, maps,

haz mat information, equipment and personnel usage and availability, weather, video, live TV camera, contact lists and other information needed in an emergency situation.

Such a concept is now reality. The design of the EOC facility at the WPCC includes the capability to utilize this technology. It would be large enough to hold from 60 staff persons operating at work spaces arranged in a three tiered "U" shaped conference room arrangement.

This room will easily double as a Parish-wide public safety meeting and/or training room as well, adding to the sense of "ownership" of the facility by the public safety agencies in the Parish.

Section 4   Facilities Design Assessment

Section 4.1   Communications Center Location

Typically, there are three basic choices here:

1. Build/outfit a new Communications Center from scratch.

2. Find a "neutral" facility appropriate for becoming a Communications Center and make it one.

3. Convert an existing PSAP into a Communications Center.

Usually, there are numerous subordinate questions feeding into this larger question.

A. Can existing communications console equipment be expanded, and/or moved to another location? Should it be?

   ANSWER: There are no communications consoles in use.

B. Does any existing PSAP facility have adequate expansion space?

ANSWER: No.

C. Are there any "perception" issues associated with having a Communications Center located within an existing PSAP agency's facility?

ANSWER: Yes.

D. Are there any significant radio system upgrades that would be required and are they in any way PSAP location dependent?

ANSWER: YES. They are required and location would matter.

E. Are there any immediate technological improvements required to support a Communications Center ?

ANSWER: YES. New 911 CPE, new CAD, radio system upgrades, ETC.

Ideally, it is best to have a new, ground up facility. Not only does this make the task of installing new equipment or moving exiting equipment there prior to its "live date" easier, it could also be a space tailor made for this new and important function.

The geographic location of such a facility once thought to be a relatively moot point, since through leased phone lines and/or microwave links, one can pretty much control any radio transmitter or receiver equipment located anywhere in the Parish, is now understood, post Katrina, to be extremely important. Leased phone lines and microwave links are subject to destruction by catastrophic events such as Katrina.

It is therefore recommended that the facility be placed near the geographic center of the parish for best radio propagation and physical access. This location has been carefully chosen on Dollar Road in Washington Parish.

Section 4.2   Description of Building Design and Components

The Washington Parish Communications District and the Office of Homeland Security and Emergency Preparedness staff is currently working with Richard Lambert Consultants to develop preliminary design plans for the new facility on Dollar Road.

These plans are included following this section. A conceptual floor plan is attached.

General description: A one story, 20,032 sq ft. building with space for 8 dispatch positions, staff offices, an Incident Command Center, special equipment room, storage, kitchen, eating, sleeping, HVAC, reception and rest rooms.

Security and control to be provided by system of identification cards with imbedded micro chip for access control plus digital video monitoring system.

Applicable parish, state, and national building codes, standards, and guidelines are to be followed :

- National Electric Code (NEC) with modifications appropriate for public safety communications facilities, such as :
  Maximum resistance to ground of 5 ohms.

- National Fire Protection Association (NFPA)
  1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems

- Federal Emergency Management Agency (FEMA)
    Design and Construction Guidelines for Community Shelters (361)
    Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings (426)

- National Institute for Occupational Safety and Health (NIOSH)
    Guidance for Filtration and Air-Cleaning Systems to Protect Building Environments from Airborne Chemical, Biological, or Radiological Attacks (2003-136)

- Commission on Accreditation of Law Enforcement Agencies (CALEA),
    Public Safety Communications Standards Manual, Paragraph 6.4.1

- Architectural Barriers Act of 1968
    As amended 42 USC §§ 4151 et seq

Administrative offices to be provided with adequate space for 9-1-1 and Homeland Security Staff.

Dispatch Room to provide adequate space for 8 workstations configured using state of the art partitions and ergonomic work consoles such as those described earlier.

Incident Command will be conducted in a three tiered "U" shaped configuration large enough to handle 60 persons operating at workspaces with telephone and broadband connections. Both voice and data connections will be available either via normal landlines or via SATComm if needed. This room could easily double as a Parish-wide public safety meeting and/or training room as well, adding to the sense of "ownership" of the facility by the public safety agencies in the Parish. Room will include the following wall mounted projection screens :

- Bogalusa PD CAD Screen
- WPSO CAD Screen
- Franklinton PD CAD Screen
- EMS CAD Screen
- Fire Departments CAD Screen
- Map with 9-1-1 call locations plotted
- Emergency Management Info System
- TV : Choice of Security cameras or CNN/Weather

Conference Room with 8 person table & wall space along one wall for additional chairs

Field Office for Law Enforcement with separate secure egress from rest of building.

Specialized equipment room (radio, telephone, UPS, and computer equipment) to provide the proper security and environment for sensitive equipment. This will be for electronic equipment which includes administrative telephone system, 9-1-1 telephone

system, ID card security system, digital TV monitoring, radio equipment, Uninterruptible Power Supply and miscellaneous computer controls. All equipment to be rack mounted in 72 inch high, 19 inch racks. Incoming telephone circuit punch blocks to be mounted on plywood covered wall . Will include a cubicle for technician with a work bench.

HVAC (heating, ventilation and air conditioning) is stored in its own special ground floor room as far away from the noise sensitive dispatch room as possible.

Emergency generator to be located outside the HVAC room behind the facility, and we'd recommend LP gas operations for reliability.

Kitchen, Break Rooms, Dinning, and Restrooms provided, along with locker rooms.

Building exterior spaces will include:

- R/V – Trailer Hookups: 4 spaces – Connections to Internal Communication System, A/C power, water, sewer
- Room for 18 wheeler delivery of supplies and equipment
- Room for 3 helicopter landing pads – All need not be concrete or have lights
- Radio Tower offset to a distance to prevent contact with facilities if tower fails
- Generator and Fuel Tank (propane)
- Satellite Communication and small non height critical antennae on separate structural steel platform, not on roof.
- Grounding Loop System, multiple layers, roof, inside equipment rooms, under building foundation.

Section 4.3 Building Design and Layout

AREA TYPES:
Office\Function— 5,651 sq.ft. @ $168/sq.ft
Circulation— 4,227 sq.ft. @ $143/sq.ft.
Building Services— 3,918 sq.ft. @ $243/sq.ft.
Assembly— 6,236 sq.ft. @ $192/sq.ft.
Total— 20,032 sq.ft. @ $185 sq.ft.
***Estimated Building Budget = $3,705,920
Note: The figures are estimates based on industry averages and are subject to fluctuations and variations.

COST ANALYSIS FLOOR PLAN
SCALE N.T.S.

VICINITY MAP
NOT TO SCALE

LEGEND

● 1/2" IRON ROD SET UNLESS OTHERWISE STATED

The Servitudes and Restrictions shown this survey are limited to those set in the description furnished us and is no representation that all applicab Servitudes and Restrictions are show hereon. The surveyor has made no search or public record search in co the data for this survey.

I have consulted the Federal Insuranc Administration Flood Hazard Boundary Maps and found this property is no a Special Flood Hazard Area.

F. I. A. ZONE: "X"
BASE FLOOD ELEVATION: NONE

COMMUNITY PANEL NO. 220230 0150
EFFECTIVE DATE: 05/04/1988

CERTIFICATION:

I CERTIFY THAT THIS PLAT REPRESENTS AN ACTUAL GROUN SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION. DOES CONFORM TO THE REQUIREMENTS FOR THE MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS AS FOUND LOUISIANA ADMINISTRATIVE CODE TITLE 46: LXI, CHAPTER 2 CLASS "D" SURVEY.

Dennis L. Gowin

DENNIS L. GOWIN, P.L.S., LA REG. NO. 484
REGISTERED PROFESSIONAL LAND SURVEYOR

STATE OF LOUISIANA
DENNIS L. GOWIN
REG. No. 4846
REGISTERED
PROFESSIONAL
LAND SURVEYOR

TURNER SURVEYS, LLC

15732 E. HOFFMAN ROAD
PONCHATOULA, LA 70454
Phone: (985)386-2358
Fax: (985)386-2359
Turnersurveys@turnersurveys.net

BOUNDARY SURVEY OF
A 5.42 ACRE PARCEL
SECTION 39, T2S-R12E
GREENSBURG LAND DISTRICT
WASHINGTON PARISH, LOUISIANA

DATE: 10/06/2005	DRAWN BY: DLG	JOB NO.
SCALE: 1" = 100'	CHECKED BY: DLG	052176

GRAPHIC SCALE

100   50   0   50   100

(IN FEET)
1 inch = 100 ft.

5.42 AC.

S33°58'20"E
300.00'

N88°40'00"E
400.00'

S55°51'56"W
786.87'

N59°10'60"W
450.00'

N33°58'20"W
300.00'

208.80'

448.06'
S88°14'58"W (MEASURED)
453.94'
S88°40'00"W (REFERENCE)

REFERENCE SURVEY:
SURVEY OF 3.00 ACRE PARCEL BY
BILLY C. DANIELS PE/RLS, INC.
JOB #22113, DATED 06/20/2002.

N59°51'56"E 786.87'
REFERENCE BEARING

ROAD
DOLLAR

CONTAINS 5.42 ACRES AND IS
RESTRICTIONS THAT MAY BE OF

EXISTING 1 1/2" IRON PIPE;
OF 786.87 FEET TO THE POINT

ST OF:
CIVIL DEFENSE

REVISED

Section 4.4   Project Related Costs

	Details	Sub Totals	Grand Totals
Building (20,032 sq ft)	$185 per sq ft	$3,702,759	
Additional Site Related Line Items			
Site Preparation	$150,000		
Security Fencing	$90,000		
Security Pass Card System	$25,000		
Security Video Monitoring	$25,000		
Waste Treatment	$25,000		
Parking Lot	$25,000		
Fueling Station	$10,000		
Electrical Generation	$250,000		
UPS System	$50,000		
Total Additional Site Related Line Items		$650,000	
Total Building and Site			**$4,352,759**
Emergency Operations Center			
Incident Command Desks/Computers		$300,000	
Incident Command Software		$100,000	
Operations Related Equipment			
Projectors and Screens	$27,000		
A-V Control Station and Audio	$45,000		
Copier	$15,000		
System Server	$10,000		
Total Operations Related Equipment		$97,000	
Administrative Equipment and Furniture			
EOC Admin	$7,500		
EOC Director/PP	$10,000		
Conference/Media	$10,000		
Dining Area and Kitchen	$28,500		
Total Administrative Equipment and Furniture		$56,000	
Total Emergency Operations Center		**$553,000**	

DETAILED COST ESTIMATE (Page 2)

9-1-1 Equipment

Radio Dispatch Equipment	$617,000	
CAD System	$240,000	
911 Dispatch Cubicles (8)	$160,000	
Call Handling Software	$160,000	
Mapping Software	$100,000	
Controller	$100,000	
Dispatch Computers	$98,000	
Logging Recorder	$30,000	
Administrative Equipment and Furniture	$22,500	
Vehicle Location System Software	$20,000	
Total 9-1-1 Equipment		$1,547,500

Communications Infrastructure

Main Tower and Installation	$260,000	
Ham Radio Towers, Antennae, Equipment	$50,000	
SAT COM Platform, Antenna, Equipment	$50,000	
Total Communications Infrastructure		$360,000

Total Equipment	**$2,460,500**

Other Items

Land	$75,000	
Planning (Architectural, Engineering, Legal, Inspection)	$435,276	
Contingencies	$435,276	
Total Other Items		**$945,552**

Total Project	**$7,758,811**
Less, Land	**-$75,000**
Less, National Guard Site Work	**-$50,000**
Total New Funding	**$7,633,811**

PROJECT SPENDING PLAN

Category	Jul-07 Jan-08	Jan-08 Jul-08	Jul-08 Jan-09	Jan-09 Jul-09	Jul-09 Jan-10	Jan-10 Jul-10
A. Building	$ -	$ 740,552	$ 1,110,828	$ 1,110,828	$740,552	
B. Additional Site	$ -	$ 273,000	$ 136,000	$ 24,100	$216,900	
C. Equipment	$ -	$ -	$ -	$ -	$811,965	$ 1,648,535
D. Other A/E/L/I	$ 358,875	$ 23,055	$ 18,270	$ 18,270	$ 14,355	$ 2,451
Conting.		$ 87,000	$ 87,000	$ 130,500	$ 87,000	$ 43,776
E. Land	$ 75,000					
Total by Period	$ 433,875	$ 1,123,607	$ 1,352,098	$ 1,283,698	$1,870,772	$ 1,694,762

Category	Category Total
A. Building	$ 3,702,759
B. Additional Site	$ 650,000
C. Equipment	$ 2,460,500
D. Other A/E/L/I	$ 435,276
Conting.	$ 435,276
E. Land	$ 75,000
Project Total	$ 7,758,811