ADAMS

EXECUTIVE SUMMARY

excerpted from

EMERGENCY FACILITIES ASSESSMENT

University and Charity Hospitals

New Orleans, Louisiana

for

LSU Health Sciences Center
HEALTH CARE SERVICES DIVISION

November 2005

The information contained here in has been excerpted from the Emergency Facilities Assessment of University and Charity Hospitals of which ADAMS was commissioned by Louisiana State University, Health Sciences Center, Health Care Services Division immediately following the impact of Hurricane Katrina on the facilities referenced.

All inquiries concerning this material should be directed to:

Don Smithburg
LSU HSCD
Executive Vice President/CEO
8550 United Plaza Boulevard, 4th Floor
Baton Rouge, LA 70809
225.922.0490

4.0 SUMMARY

As a result of numerous site assessments, it was observed that the current MEP systems of the inspected facilities have sustained major damage as a result of Hurricane Katrina and subsequent flooding. The Assessment Team's conclusions are that major portions of the MEP systems, including distribution, will require replacement. In addition to the MEP systems, there was significant damage to interior/finish systems, exterior and window systems, roof systems and vertical transportation systems. Extraordinary effort and expense will be required to either repair or replace these systems and return each of the facilities to a state of licensed operation and regulatory accreditation.

The structural evaluation was limited to a visual inspection of those areas that could be accessed. The extent of structural damage will need to be confirmed through a costly program of destructive testing that will examine all pile caps and piers, which cannot be engaged at this time due to current environmental conditions. Given the extent and estimated cost of the systems damage other than structural that has been witnessed, this exercise may not be a good investment in some of the facilities.

Overall, it is important for LSU to understand that repair estimates for the two hospitals approach $375.1 Million. Under FEMA cost guidelines which exclude any site development, demolition, professional fees and other soft costs, the replacement cost of the two hospitals is estimated to be $567.1 Million. Therefore, the overall repair cost, as a percentage of overall replacement cost, is approximately 66 percent. *Actual replacement cost of the facilities is estimated at $907.3 Million.*

1 Facility	2 Estimated Repair Cost*	3 Estimated Replacement Cost*	4 Repair Cost as % of Replacement Cost	5 Estimated Actual Replacement Cost**
Charity Hospital	$257.7 Million	$395.4 Million	65 percent	$632.6 Million
University Hospital	$117.4 Million	$171.7 Million	68 percent	$274.7 Million

* *Utilizing FEMA Cost Formula*

** *Inclusive of site development, demolition, professional fees and other soft costs as defined on page 4.2.*

The cost estimates in the table above are based on the Detailed Cost Reports found in the Appendix of this report. As the process of refining the cost information evolved, differences will be noted between earlier drafts of the New Orleans hospitals and building pricing estimates and the currently presented estimates (Detailed Cost Reports). The estimates above were derived from the initial ISES reports also found in the Appendix, and have been refined further from those initial ISES reports. Please refer to the Detailed Cost Reports for repair and replacement included in the Appendix for further and the most current definition of cost estimates.

It is believed that the facility replacement costs in the current report more accurately reflect the almost unprecedented construction market conditions present in New Orleans now and into the near future. The Means 2005 City Cost Index for New Orleans replacement costs, "Pre-

Katrina", has been increased by 66%, to 144.02% of the Means national average. The repair project costs have been similarly refined in an effort to factor in the probable effect of inflation that will be encountered during the construction process that will extend at least three years into the future, and probably as many as five or six years.

The Assessment Team developed repair estimates to clean, sanitize, repair, and replace those parts of each facility necessary to restore these Hurricane Katrina-damaged buildings to a pre-hurricane condition, but not to upgrade any existing systems not required to be upgraded by current law. The costs developed do not represent the costs of complete facility renovations or costs that could not be identified or determined from visible inspection of accessible areas and building information made available by LSU. However, existing fixed building components and systems were thoroughly inspected. The cost estimates represent repairing existing damage to these buildings without any anticipation of changes to facility space layout or function.

Code upgrades inextricably linked to performing repair work costs have been delineated on the "Repair Cost Detail Reports" included in the Appendix as requested by FEMA officials. However, it is our contention that such code upgrades would not have been required if not triggered by the damage sustained as a result of the hurricane. Quite simply, whether within the parameters for reimbursement or not, those costs are very real. From a point of practicality, compatibility between new code-compliant equipment and previously existing, older non-compliant distribution systems is not, in our opinion, possible in most instances due to non-functionality, inability to permit and/or warrant. Systems involved would not be feasible to perform the functions for which they were being used immediately prior to the disaster without performing such upgrades concurrently.

Replacement facility estimates (listed in column 3 of the chart on the preceding page) excluded any site development, demolition, professional fees and other soft costs consistent with known FEMA guidelines.

Additionally, LSU should be aware that the estimates above do not include the following costs:

- The costs to pursue an accelerated repairs or replacement, design and construction delivery schedules.
- Obvious measures that should be taken to further flood-proof both facilities, both external and internal.
- Numerous ancillary service buildings supplementing Charity Hospital that will require repair or replacement.
- Miscellaneous FF&E (fixtures, furnishings and equipment)
- Medical equipment
- Telecommunications, IT and other low voltage systems
- Temporary facilities
- Budget contingency lines

The facilities in question, albeit challenged from a facility condition perspective, were nonetheless functioning and performing vital health services as the only Level I Trauma Center in the southern part of Louisiana. The LSU School of Medicine has and continues to depend on

these facilities and related patient bases to perform its mission, which in turn is equally vital to the New Orleans regional economy for a number of reasons. Now that renovations and/or replacement of these facilities are in play, LSU should anticipate rigid implementation of facility-based accreditation criteria by JCAHO and ACGME.

With regard to facility replacement scheduling, the normal design and construction of replacement inpatient facilities of this magnitude can take five years or longer. This timeframe can obviously be improved with planned phasing and logistics. Given observed environmental hazards, the repair of the existing facilities will be hampered, at least initially. Initial estimates of a repair timeframes could be as long as twelve to twenty four months. That said, LSU should recognize that timeliness for FEMA approval of plans and associated reimbursement for replacement facilities have historically spanned years rather than months. Given the critical nature of healthcare services delivery to LSU's patient constituency, interim facility options as well as bridge funding for replacement facility development should be prioritized at this juncture.

ADAMS has facilitated access to the referenced facilities for numerous representatives of various regulatory agencies and governing authorities during the course of developing this report, including members of the designated FEMA review team. ADAMS has met on several occasions with the FEMA review team on-site and at FEMA Headquarters in Baton Rouge to keep them apprised of unfolding events and findings. The officials with whom we interacted have demonstrated willingness to be as supportive of LSU's application for public assistance as possible within their published guidelines. Please refer to the Appendix for excerpts of those requirements relevant to these issues.

5.0 RECOMMENDATION

Hurricane Katrina has rendered the two hospitals listed above unsuitable for use and occupancy. From an environmental standpoint, inpatient environments are critical to the containment of potential health hazards associated with standing water. Because of damage and contamination resulting from Hurricane Katrina, a repair option is feasible only if these facilities are thoroughly cleaned and sanitized, including dewatering, abating asbestos and biohazards, and disposing of these contaminants in accordance with all federal, state, and local rules and regulations. According to the CDC, the largest concerns for the current conditions at facilities such as these are sanitation and hygiene. Mold is an inherent condition of unclean water and unsanitary conditions. The removal of mold and biohazards is critical to the health of persons with respiratory conditions, as well as minimization of the spread of bacteria and Hepatitis A.

Given the conditions observed at these facilities, the nature of these facilities, and their relationship to the health and well-being of the community, extensive cleaning and certification that all hazardous materials have been removed are recommended, should reconstruction be weighed. The buildings should be thoroughly inventoried for asbestos-containing materials (ACMs) and all suspect materials tested. If there are any found to contain asbestos, they should be abated and disposed of in accordance with all applicable federal, state and local regulations.

Additionally, through the course of the assessment, the team was made aware by LSU's Health Physicist of various radiological sources of concern that could pose health hazards, and should be dealt with accordingly in an expedient manner.

Therefore, the Assessment Team recommends that additional environmental testing be done, including biohazard sampling for air, water, ductwork, floodwaters, mold, biological contaminants, heavy metals, petrochemicals and asbestos for the protection of any persons working in and around the facilities referenced on an ongoing basis for the near term.

Given the dangerous nature of the facilities at this time, they should not be occupied for any purpose, short-term or long-term, especially inpatient use. The facilities present a significant fire hazard, given the inability to fight potential fire, as well as the inability to establish the integrity of the medical gas piping networks and natural gas supply lines located throughout the building. No personnel should enter these buildings, with the exception of those engaged in the emergency removal of assets.

When coupled with the potential cost of environmental remediation (including cleanup and removal of asbestos) to facilitate any contemplated renovation, the cost of repair will grow substantially. As mentioned above, extensive destructive testing may be necessary to fully analyze actual structural conditions, particularly at Charity Hospital.

Serious consideration should be given before costs such as those identified are reinvested in facilities that are so substantially damaged and have gone well beyond their useful life. **Given these preliminary estimates, re-channeling such funds towards the construction of replacement facilities to provide modern healthcare delivery would obviously be more prudent.**

The intent of the Assessment Team is to provide LSU with an objective overview of the damage to the named facilities as a result of Hurricane Katrina. This report and its contents will be needed to complete necessary applications for federal assistance. FEMA policies suggest that it will restore an eligible facility to its pre-disaster condition. Restoration is divided into two categories: Repair or Replacement. If a facility is damaged to the point where LSU thinks the facility should be replaced rather than repaired, the following calculation, known as the "50% rule," should be used to determine the eligible components only.

If $\frac{\text{Repair Cost}}{\text{Replacement Cost}}$ < 50%, then only the repair cost is eligible.

If $\frac{\text{Repair Cost}}{\text{Replacement Cost}}$ > 50%, then the replacement cost is eligible.

FEMA regulation, specifically 44 CFR 206.226(d)(1), requires two criteria for a facility to be considered repairable:

- When disaster damages do not exceed 50% the cost of replacing a facility to its pre-disaster condition **and**
- It is feasible to repair the facility so that it can perform the function for which it was being used as well as it did immediately prior to the disaster.

At the time of the disaster, Charity Hospital was a fully accredited and licensed 340 bed level 1 trauma center. The repair estimates for replacement used in the first criteria above are conservative and do not reflect all repairs and renovations required to restore the hospital to a fully accredited and certified medical institution including: JCAHO (Joint Commission on Accreditation of Healthcare Organizations), ACGME (Accreditation Council for Graduate Medical Education), ACS (American College of Surgery), etc. Repair of Charity Hospital fails to meet the second criteria above because is not feasible to repair the facility at a FEMA eligible reasonable cost that restores the design, function, and capacity, including all required code and standard upgrades to satisfy necessary certifications and accreditations that Charity Hospital was operating under immediately prior to the disaster. Also, these costs do not include either the additional FEMA eligible expenses that may be incurred to complete eligible repairs mandated under the Historical Preservation Act, or prudent eligible mitigation that would be incorporated into the repairs.

For pertinent highlights of FEMA regulations, please see the FEMA Public Assistance Excerpts in the Appendix of this report.

Hurricane Katrina and the resultant flood damage have pushed these facilities beyond any practical measure for rehabilitation for patient care or research activities. **It is the opinion of the Assessment Team that Charity Hospital and University Hospital have been rendered uninhabitable and unsalvageable. The cost of rehabilitating these cannot be justified in comparison to replacement facilities built to standards of modern healthcare delivery.**

Given the urgency of this situation, all aspects of this report have developed in an accelerated period. Certain costs identified are simply the best, yet conservative, estimates available under the present conditions of the facilities and are therefore open to critique and further clarification.

It would be the intent of ADAMS, under the authority of its client LSU, to clarify the findings and assumptions contained herein if required to facilitate the application review process.

ADAMS recommends LSU apply for all eligible public assistance funding for replacement of the referenced facilities. ADAMS further suggests that many aspects of actual facility impact and the methodology of review require a reasonable and prudent approach.

Detail Cost Report - University Hospital

University Hospital Emergency Facility Assessment Program, LSU 0519

October 27, 2005

Repair Cost Information

Category	Direct Disaster Costs	Disaster Initiated Compliance Costs	Totals
ADA	$0	$3,224,271	$3,224,271
Life Safety	$2,254,614	$3,068,347	$5,322,961
Health	$32,181,419	$0	$32,181,419
Interior Finishes	$11,987,484	$35,960	$12,023,444
Mechanical	$14,099,947	$0	$14,099,947
Electrical	$2,696,460	$3,187,298	$5,883,758
Plumbing	$22,205,832	$0	$22,205,832
Site	$11,613,440	$0	$11,613,440
Exterior Envelope			
Windows	$0	$564,844	$564,844
Roof	$4,407,808	$0	$4,407,808
Walls	$4,063,064	$213,207	$4,276,271
Elevators	$243,492	$1,367,932	$1,611,424
Subtotals	$105,753,560	$11,661,859	$117,415,419
TOTALS			$117,415,419

Note: This Document has been excerpted from the "Emergency Facilities Assessment - University and Charity Hospitals," October 2005

Total Repair Costs	= Percent of FRC	$117,415,419	equals	68.4%
Facility Replacement Cost (FRC)		$171,713,735		

Replacement Cost Information

New Orleans FRCs
("Post-Katrina" - No Demo or Site)

Building	Building Type	SF	City Cost Index	Initial Cost/SF	Location Factor Add	Sum in $/SF	Facility Replacement Cost
University Hospital - Main Building	Hospital	364,400	144.02	275.1	$ 121.10	$ 396.20	$ 144,374,923
University Hospital - Medical Office Building	Medical Office Building	81,000	144.02	129.1	$ 56.83	$ 185.93	$ 15,060,315.42
University Hospital - Power Plant Building	Utility	5,500	144.02	1550.1	$ 682.35	$ 2,232.45	$ 12,278,497.11
Totals - University Hospital		**450,900**					**$171,713,735**

NOTES:

1. - "Pre-Katrina" Means 2005 City Cost Index for New Orleans equaled 86.4% of the Means National Average.
2. - "Post-Katrina" City Cost Index for New Orleans estimated to be 144.02% of the Means National Average (86.4% times 1.667).
3. - Estimates above do not include any professional fees.

Detail Cost Report - Charity Hospital

Charity Hospital Emergency Facility Assessment Program, LSU 0519

October 27, 2005

Repair Cost Information

Category	Direct Disaster Costs	Disaster Initiated Compliance Costs	Totals
ADA	$0	$4,872,482	$4,872,482
Life Safety	$2,967,271	$7,156,899	$10,124,170
Health	$42,554,177	$0	$42,554,177
Interior Finishes	$18,135,258	$0	$18,135,258
Mechanical	$28,084,121	$0	$28,084,121
Electrical	$2,628,625	$5,076,293	$7,704,918
Plumbing	$54,738,466	$0	$54,738,466
Site	$8,933,968	$644,805	$9,578,773
Exterior Envelope			
Windows	$26,383,500	$32,252,451	$58,635,951
Roof	$5,223,784	$0	$5,223,784
Walls	$11,679,317	$1,192,577	$12,871,894
Elevators	$608,728	$4,560,975	$5,169,703
Subtotals	$201,937,215	$55,756,482	$257,693,697
TOTALS			$257,693,697

Note: This Document has been excerpted from the "Emergency Facilities Assessment - University and Charity Hospitals," October 2005

Total Repair Costs	= Percent of FRC	$257,693,697	equals	65.2%
Facility Replacement Cost (FRC)		$395,406,622		

Replacement Cost Information

New Orleans FRCs
("Post-Katrina" - No Demo or Site)

Site	Building Type	SF	City Cost Index	Initial Cost/SF	Location Factor Add	Sum in $/SF	Facility Replacement Cost
Charity Hospital - Main Building	Hospital	998,000	144.02	275.1	$ 121.10	$ 396.20	$ 395,406,622

NOTES:

1. - "Pre-Katrina" Means 2005 City Cost Index for New Orleans equaled 86.4% of the Means National Average.
2. - "Post-Katrina" City Cost Index for New Orleans estimated to be 144.02% of the Means National Average (86.4% times 1.667).
3. - Estimates above do not include any professional fees.