

**MISSISSIPPI STATE DEPARTMENT OF HEALTH  
DIVISION OF HEALTH PLANNING AND RESOURCE DEVELOPMENT  
NOVEMBER 2010**

**CON REVIEW HG-MME-0910-034  
NORTH MISSISSIPPI MEDICAL CENTER  
RENOVATION FOR, AND ACQUISITION OF, HYBRID  
OPERATING ROOM EQUIPMENT  
CAPITAL EXPENDITURE: \$3,486,800  
LOCATION: TUPELO, LEE COUNTY, MISSISSIPPI**

**STAFF ANALYSIS**

**I. PROJECT SUMMARY**

A. Applicant Information

North Mississippi Medical Center (NMMC) is a 650-bed general acute care, short-term medical/surgical hospital. North Mississippi Medical Center is a non-profit, tax-exempt, Delaware corporation licensed in Mississippi. It is licensed to operate 554 medical/surgical beds, 33 adult psychiatric beds, 33 adult chemical dependency beds, and 30 rehabilitation beds. NMMC offers a broad scope of specialty and sub-specialty services as the major regional medical center of the area, General Hospital Service Area 1 (GHSA 1). North Mississippi Medical Center is governed by a 17-member Board of Directors. The hospital is accredited by the Joint Commission on the Accreditation of Healthcare Organizations, and the Commission on Accreditation of Rehabilitation Facilities, and licensed by the Mississippi State Department of Health (MSDH).

The occupancy rates, average lengths of stay (ALOS), and the Medicaid utilization rates for NMMC are as follows for the years 2007 through 2009:

**North Mississippi Medical Center  
Utilization Data**

<b>Fiscal Year</b>	<b>Occupancy Rate (%)</b>	<b>ALOS (Days)</b>	<b>Medicaid Utilization Rate (%)</b>
2007	62.17	4.57	34
2008	94.52	5.68	31
2009	61.96	4.86	44

**Source:** Division of Health Facilities Licensure and Certification, MSDH.

**B. Project Description**

North Mississippi Medical Center requests Certificate of Need (CON) authority for renovation for, and acquisition of hybrid operating room (OR) equipment. The applicant indicates that the scope of the proposed project involves complete renovation of 1,400 square feet currently occupied area on the second floor of NMMC main unit. According to NMMC, the area is strategically located between the main unit 22 OR surgery department and the four (4) heart catheterization labs. The current area occupants will be relocated to other suitable locations and the vacated area extensively renovated. The work will require complete demolition and removal of existing walls, flooring, ceiling, HVAC, lighting, doors and replacement with a completely new infrastructure built to meet requirements of a sophisticated health catheterization lab and health surgery OR. No new services will be offered as a result of this project.

The total proposed capital expenditure is \$3,486,800 and of that amount, approximately 27.54 percent is allocated for renovation; 14.07 percent for non-fixed equipment; 48.77 percent for fixed equipment; 2.74 percent fees (architectural, consultant, etc.); and 6.88 percent for contingency reserve. The applicant indicates the proposed capital expenditure will be funded from cash reserves. The application contained a letter from the hospital's financial analyst attesting to the financial feasibility of the project.

The MSDH Division of Health Facilities Licensure and Certification found the site to be acceptable for the proposed project.

The applicant asserts that the proposed capital expenditure will be obligated December 2010 and the anticipated date the proposed project will be complete is May 1, 2011.

**II. TYPE OF REVIEW REQUIRED**

The Mississippi State Department of Health reviews applications for construction, renovation, expansion, or capital expenditure in excess of \$5,000,000 (for non-clinical health services) under the applicable statutory requirements of Section 41-7-191, subparagraphs (1) (j) of the Mississippi Code of 1972, Annotated, as amended, and duly adopted rules, procedures, plans, criteria, and standards of the Mississippi State Department of Health.

In accordance with Section 41-7-197(2) of the Mississippi Code 1972, Annotated, as amended, any affected person may request a public hearing on this project within 20 days of publication of the staff analysis. The opportunity to request a hearing expires on December 6, 2010.

**III. CONFORMANCE WITH THE STATE HEALTH PLAN AND OTHER ADOPTED CRITERIA AND STANDARDS**

**A. State Health Plan (SHP)**

The *FY 2010 State Health Plan* contains criteria and standards which an applicant is required to meet before receiving CON authority for construction, renovation, expansion, or capital improvement involving a capital expenditure in excess of \$2,000,000. The application is in substantial compliance with these criteria.

**Note:** Projects are reviewed under the *State Health Plan* that is effective at the time the project is submitted. This project was received on September 1, 2010. The *2011 State Health Plan* became effective September 8, 2010.

#### **SHP Criterion 1 – Need**

**Projects which do not involve the addition of any acute care beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans (duly adopted by the governing board), recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.). In addition, for projects which involve construction, renovation, or expansion of emergency department facilities, the applicant shall include a statement indicating whether the hospital will participate in the statewide trauma system and describe the level of participation, if any.

According to the applicant, NMMC would not have the ability to meet the demand of complex or emerging interventional procedures without this hybrid room. This would lead to patients choosing other health care systems that perform the latest interventional procedures. This could lead to a decrease in the ability to recruit new physicians for the service area. It would also decrease the opportunity to grow long term volume without adding hybrid procedures. Patients seeking transcatheter aortic valve replacement would have to go out of state to have the procedure performed. Transcatheter aortic valve replacement cannot be performed without a hybrid room.

The proposed project will not involve additional beds or the offering of a new institutional health service.

North Mississippi Medical Center participates in the statewide trauma system as an in-state Level 2 Trauma Center.

#### **SHP Criterion 2 – Bed Service Transfer/Reallocation/Relocation**

This project does not involve the transfer/reallocation or relocation of beds.

#### **SHP Criterion 3 – Uncompensated Care**

North Mississippi Medical Center, asserts that all patients, regardless of their circumstances, will be treated at NMMC. According to the applicant, the hospital provided \$60,977,629 in charity care for FY 2009. The applicant asserts that it has published charity guidelines that provide a means for patients to be treated. NMMC provides the same level of care to all patients, regardless of their financial abilities.

#### **SHP Criterion 4 – Cost of Project**

The project will cost \$214.02 per square foot for renovation (see Attachment 2). The *Means Construction Cost Data, 2010*, does not compare costs of renovation projects. The proposed project involves the purchase of fixed and non-fixed equipment.

According to the applicant, the cost of equipment is estimated at \$2,192,445 or 62.84 percent of the total project. NMMC asserts that the project involves renovation of a 1,400 square feet area on the second floor of the hospital. The placement of the equipment at that location is the best option for patients and the most economical option.

#### **SHP Criterion 5 – Floor Area and Space Requirements**

As mentioned above, the project involves 1,400 square feet of renovation on the second floor of the hospital. North Mississippi Medical Center asserts that placement of the equipment at that location is the best option for patients and the most economical option.

#### **SHP Criterion 7 – Need for Service**

This application does not propose the need for new services. North Mississippi Medical Center proposes renovation/acquisition of hybrid operating room equipment.

### **B. General Review (GR) Criteria**

Chapter 8 of the *Mississippi Certificate of Need Review Manual, Revised May 1, 2010*; addresses general criteria by which all CON applications are reviewed. This application is in substantial compliance with general review criteria.

#### **GR Criterion 2 – Long Range Plan**

According to the applicant, the hybrid operating room will allow NMMC to transform surgical techniques and pave the way for revolutionary new minimally invasive therapies. The project is consistent with NMMC's long range plan because it allows the hospital to promote the hospital as a provider of cutting edge care. The project will also meet the needs of the further shift from surgical to endovascular treatment.

#### **GR Criterion 3 – Availability of Alternatives**

North Mississippi Medical Center asserts that eight potential locations on the second floor were carefully analyzed. Of the eight options, two options were chosen primarily for their proximity to needed support services and the general efficient availability of the location.

According to the applicant, the two alternatives chosen are as follows:

**Alternative Approach #1:** Convert one of the cardiac cath labs into the hybrid operating room.

**Advantage** – NMMC asserts that the room is very large and provides sufficient space for a hybrid OR.

**Disadvantages** – NMMC asserts that the room was not centrally located between the operating room and the cath lab. The room was not equipped with the proper HVAC to meet the standards of the operating room. The cost to renovate the room was more than the central location because of existing overhead equipment, and establishing a sterile environment inside the cath lab would be very hard to meet.

**Alternative Approach #2:** Convert the SRNA classroom located between the cardiac cath lab and the operating room into the hybrid room.

**Advantages** – The applicant asserts that the ideal square footage for the necessary equipment needed for the room. Construction cost estimated to be less than option 1. This area is not occupied by daily clinical practice; therefore, there should be limited disturbance in workflow. This option is very accessible for all specialties involved (cardiologist, cardiac surgeons, vascular surgeon, and radiologist), and able to establish a sterile environment to meet state specification.

**Disadvantages** – NMMC asserts that the SRNA classroom is not located in the existing operating room, and does not have the proposed HVAC to meet the operating room requirements.

North Mississippi Medical Center asserts that to achieve the clinical specialization and results expected, the overall initiative is to provide a hybrid OR as the state-of-the-art equipment enabling state-of-the-art procedures to improve patient's well being. The location of the proposed hybrid OR became the issue. From a safe clinical practice perspective, the hybrid OR needs to be located on the second floor of the main unit in proximity to the 22 OR surgery suite and the Heart Institute, specifically the four (4) heart catheterization labs.

#### **GR Criterion 4 - Economic Viability**

Based on the applicant's three-year projections, this project will produce a net income of \$747,472, \$558,462, and \$867,669 for the first, second, and third year of operation, respectively.

The application contained a letter from the hospital's financial analyst attesting to the financial feasibility of the project.

#### **GR Criterion 5 - Need for the Project**

North Mississippi Medical Center asserts that the benefits of a hybrid room include the ability to complete combination procedures in the same setting at the same time. For instance, an open-heart surgical procedure can be performed and a heart cath with stent can be performed in the same setting at the same time. Currently, this type of hybrid procedure is performed on different days, which extends the length of stay and increases the expense. This technique can also be accomplished in vascular procedures as well. The applicant asserts that a patient can have a carotid stent procedure, and if an emergency occurs requiring shift to an open procedure, this can be done immediately without moving the patient to a new room and incurring the expense of a new set-up and the increased risk of an adverse outcome. The main benefits of a hybrid room are better care for the patient, decreased safety risk, decreased cost, and improved efficiency.

According to the applicant, the objective of the proposed project is to create an operational hybrid OR providing the ability to perform open and closed endovascular, cardiac, vascular and cardiothoracic procedures in the same setting.

- a. **Access by Population Served:** The applicant indicates that all patients will be served regardless of circumstances. Patient selection is based on the diagnosis or procedures required.

- b. **Relocation of Services:** This application does not propose the relocation of services. North Mississippi Medical Center proposes renovation/acquisition of hybrid operating room equipment.
- c. **Current and Projected Utilization of Like Facilities in the Area:** NMMC states that this type of project does not exist within the service area. No additional services are being proposed.
- d. **Probable Effect on Existing Facilities in the Area:** According to the applicant, enabling both cardiac catheterization and open heart procedures at the same time, is not currently available, in General Hospital Service Area 2, or in Mississippi. The applicant expects no impact on hospitals providing similar services.
- e. **Community Reaction:** The application contains five (5) letters of support for the propose project.

No adverse comments were received from the community.

**GR Criterion 6 - Access to the Facility or Service**

- a. **Medically Underserved Population:** North Mississippi Medical Center asserts that the percent of medically underserved patients seen at its facility, in all probability, parallels the percent of medically underserved patients in Mississippi. North Mississippi Medical Center asserts that it treats all patients regardless of ability to pay and currently provides over 30 medical clinics throughout its service area making inroads to lessen the medically underserved population.
- b. **Performance in Meeting Federal Obligations:** The applicant submits that North Mississippi Medical Center has no obligations under any federal regulations requiring uncompensated care, community service, or access by minority/handicapped persons.
- c. **Unmet Needs to be Served by Applicant:** The applicant submits the following percentage of gross patient revenue (GPR) and actual dollar amount of health care provided to charity care patients for the last two years as well as the projected amounts for the two years following completion of the proposed project:

**Charity Care Patients**

	GPR %	GPR Dollar Amount
Historical Year 2008	4.55	\$ 47,925,600
Historical Year 2009	5.11	\$60,977,629
Projected Year 1	5.18	\$72,344,328
Projected Year 2	5.24	\$ 77,356,097

#### **GR Criterion 7 - Information Requirement**

The applicant asserts that it will record and maintain the information required by this criterion and make it available to the Mississippi State Department of Health within 15 business days of request.

#### **GR Criterion 8 - Relationship to Existing Health Care System**

North Mississippi Medical Center asserts that it offers heart catheterization services by referral and scheduled collaboration with a private cardiology specialty practice. Concurrently, heart surgery services are offered by referral and scheduled in collaboration with an employed cardiothoracic surgery practice. Generally, patients are referred to these services or the result from emergency services at NMMC and elsewhere through referral.

The applicant believes that the hybrid operating room will give NMMC the ability to perform all endovascular procedures and future transcatheter aortic valve procedures in one room. Work flow and efficiency will increase because the patient can receive treatment in one room without having to visit multiple rooms for therapy.

Because no new services will be offered as a result of this project, staff concludes that this project would have no adverse affect on other providers in the referenced service area.

The Department received no letters of opposition concerning the proposed project.

#### **GR Criterion 9 - Availability of Resources**

According to the applicant, NMMC has 17 cardiologists and 5 CV surgeons available to provide services to its patients. The proposed project will not require additional staff or providers. NMMC asserts that the hospital has available, or in the case of health personnel will obtain, adequate resources for continuation of clinical services and anticipate volume increases. The applicant prepares, maintains and adheres to human resources development and recruitment plan and a physician recruitment plan to ensure adequate resources. In addition, NMMC experiences consistent staffing levels with a turnover rate lower than the industry average.

#### **GR Criterion 14 - Construction Projects**

- a. **Cost Estimate:** The application contains a cost estimate prepared by The McCarty Company.
- b. **Schematic Drawing:** The application contains a schematic drawing of the proposed project.
- c. **Space Allocations:** The applicant submits that none identified for the proposed project.
- d. **New Construction Projects:** This project involves renovation of 1,400 square feet of space.

- e. **Cost per Square Foot:** The project will cost \$214.02 per square foot for renovation (see Attachment 2). The *Means Construction Cost Data, 2010*, does not compare costs of renovation projects.

**GR Criterion 16 - Quality of Care**

North Mississippi Medical Center is in compliance with the *Minimum Standards for the Operation of Mississippi Hospitals*, according to the Division of Health Facilities Licensure and Certification, MSDH. The facility is accredited by the Joint Commission on Accreditation of Health Care Organizations.

**IV. FINANCIAL FEASIBILITY**

**A. Capital Expenditure Summary**

The total estimated capital expenditure is allocated as follows:

	Item	Cost	Percent of Total
a.	Construction Cost -- New	0	0
b.	Construction Cost -- Renovation	\$13,747,522	24.94%
c.	Capital Improvements	0	0
d.	Total Fixed Equipment Cost	1,702,012	48.77%
e.	Total Non-Fixed Equipment Cost	490,433	14.07%
f.	Land Cost	0	0
g.	Site Preparation Cost	0	0
h.	Fees (Architectural, Consultant, etc.)	95,850	2.74%
i.	Contingency Reserve	240,000	6.88%
j.	Capitalized Interest	0	0
k.	Other	0	0%
	<b>Total Proposed Capital Expenditure</b>	<b>\$3,486,800</b>	<b>100%</b>

**B. Method of Financing**

The applicant indicates that the proposed capital expenditure will be funded from hospital cash reserves. The application contained a letter from the hospital's financial analyst attesting to the financial feasibility of the project.

**C. Effect on Operating Cost**

North Mississippi Medical Center's three-year projected operating statement is presented at Attachment 1.



**D. Cost to Medicaid/Medicare**

Based on the applicant's projections, the cost to third party payors the first year of operation is as follows:

<b>Patient Mix</b>	<b>Utilization Percentage</b>	<b>First Year Expenses</b>
Medicaid	11	\$ 460,616
Medicare	50	2,093,706
Other	39	1,633,091
<b>Total</b>	<b>100</b>	<b>\$4,187,413</b>

North Mississippi Medical Center projects 5.18 percent care to charity care for the proposed project.

**V. RECOMMENDATIONS OF OTHER AFFECTED AGENCIES**

The Division of Medicaid estimates that the increased annual cost to Medicaid for the proposed project will be \$63,499 in inpatient services, and that outpatient services will be paid as outlined in the *Medicaid State Plan*. The Division of Medicaid opposes this project.

**VI. CONCLUSION AND RECOMMENDATION**

This project is in substantial compliance with the criteria and standards for the construction, renovation, expansion, capital improvements, replacement of health care facilities, and addition of hospital beds as contained in the *FY 2010 State Health Plan*; the *Mississippi Certificate of Need Review Manual, Revised May 1, 2010*; and duly adopted rules, procedures, and plans of the Mississippi State Department of Health.

The Division of Health Planning and Resource Development recommends approval of the application submitted by North Mississippi Medical Center for the renovation for, and acquisition of, hybrid operating room equipment.

**North Mississippi Medical Center  
HG-MME-0910-034  
Attachment 1**

North Mississippi Medical Center Three-Year Operating Statement (Project Only)			
	Year 1	Year 2	Year 3
<b>Revenue</b>			
Patient Revenue:			
Inpatient	\$2,093,707	\$2,848,063	\$3,420,125
Outpatient	<u>2,093,707</u>	<u>2,848,063</u>	<u>3,420,125</u>
<b>Gross Patient Revenue</b>	<b>\$4,187,414</b>	<b>\$5,696,126</b>	<b>\$6,840,250</b>
Charity Care	216,908	298,477	365,269
Deductions from Revenue	<u>2,150,237</u>	<u>2,963,124</u>	<u>3,619,860</u>
<b>Net Patient Revenue</b>	<b>\$1,820,268</b>	<b>\$2,434,524</b>	<b>\$2,855,120</b>
<b>Expenses</b>			
Operating Expenses:			
Salaries	\$182,100	\$406,850	\$421,846
Benefits	70,490	157,490	163,295
Supplies	334,829	748,079	775,652
Services	0	0	0
Lease	0	0	0
Depreciation	283,962	283,962	283,962
Interest	0	0	0
Other	201,414	279,679	342,697
<b>Total Expenses</b>	<b>\$ 1,072,795</b>	<b>\$ 1,876,060</b>	<b>\$ 1,987,452</b>
<b>Net Income (Loss)</b>	<b>\$ 747,472</b>	<b>\$ 558,462</b>	<b>\$867,669</b>
<b>Assumptions</b>			
Inpatient days	0	0	0
Outpatient days	0	0	0
Procedures <b>Hybrid OR</b>	82	98	118
Charge per outpatient day	0	0	0
Charge per inpatient day	0	0	0
Charge per procedure	0	0	0
Cost per inpatient day	0	0	0
Cost per outpatient day	0	0	0
Cost per procedure	0	0	0

**University of Mississippi Medical Center  
 HG-MME-0910-034  
 Attachment 1  
 Computation of Renovation Cost\***

<b>Cost Component</b>	<b>Total</b>	<b>Renovation</b>
New Construction Cost	0	0
Renovation Cost	\$958,505	\$ 958,505
Total Fixed Equipment Cost	\$1,702,012	\$1,702,012
Total Non-Fixed Equipment Cost	\$490,433	0
Land Cost	0	0
Site Preparation Cost	0	0
Fees (Architectural, Consultant, etc.)	\$95,850	\$95,850
Contingency Reserve	\$240,000	\$240,000
Capitalized Interest	0	0
Other	0	0
<b>Total Proposed Capital Expenditure</b>	<b>\$3,486,800</b>	<b>\$2,996,367</b>

Square Footage align="right">1,400 align="right">1,400  
*Allocation Percent* align="right">100%

<b>Costs Less Land, Non-Fixed Eqt. &amp; Other</b>	<b>\$2,996,367</b>	<b>\$2,996,367</b>
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**\$214.02** **\$214.02**

\*Source: Mississippi Certificate of Need Review Manual, Revised May 1, 2010