

**DIVISION OF HEALTH PLANNING AND RESOURCE DEVELOPMENT  
FEBRUARY 2005**

CON Review: HG-MME-1204-046  
Forrest General Hospital  
Picture Archiving and Communication System  
Capital Expenditure: \$11,100,000  
Location: Hattiesburg, Mississippi

**STAFF ANALYSIS**

**I. PROJECT SUMMARY**

**A. Applicant Information**

Forrest General Hospital (FGH) is a five hundred and sixteen (516) bed, general acute-care short term medical and surgical facility located in Hattiesburg, Mississippi. Forrest General Hospital is a not-for-profit, tax exempt institution owned by Forrest County, Mississippi. The Hospital is governed by a seven-member Board of Trustees. All citizens of Forrest County are eligible to serve on the Hospital Board of Trustees which are appointed by the Forrest County Board of Supervisors. Forrest General Hospital is accredited by the Joint Commission on Accreditation of HealthCare Organizations (JCAHO).

The occupancy rates, average lengths of stay (ALOS) and the Medicaid utilization rates for the three most recent fiscal years are as follows (medical/surgical beds only):

<b>Fiscal Year</b>	<b>Occupancy Rate (%)</b>	<b>ALOS (Days)</b>	<b>Medicaid* Utilization Rate (%)</b>
2001	72.08	4.57	18.8%
2002	64.70	4.72	12.1%
2003	61.24	4.59	29.2%

Source: Division of Health Facilities Licensure and Certification, MSDH

**B. PROJECT BACKGROUND**

Forrest General Hospital requests Certificate of Need (CON) authority for the acquisition of a Picture Archiving and Communication System for Radiology (PACs) to improve the efficiency and quality of patient care through digital image acquisition, storage, retrieval, transportation, and display. PACS will be enhanced by utilizing computed radiography (CR) technology. This technology uses a digital "plate" to replace the standard film cassette used for x-rays today. CR plate readers will replace the film processors that are currently in use. The CR plate readers will then transmit the images to a central storage location for distribution and interpretation.

Imaging modalities that currently produce digital image, such as CT and MRI, will also transmit images to a central storage location for distribution and interpretation rather than being printed on film using dry laser technology.

Radiologists review computer workstations will replace the wall mounted view boxes currently used for film interpretation at each of the radiologist viewing areas. This will enable almost immediate viewing of images after a procedure is performed regardless of the location of the exam or the location of the radiologist performing the interpretation.

A web enabled application will allow clinician access to images at the point of patient care. This access will be available immediately after the exam is performed and will be independent of the delivery of images to the radiologist for interpretation. Simultaneous access to the images will be available to multiple care-givers at various locations, decreasing delays in patient care.

Online storage of images will be scaled to accommodate six months to one year's worth of images immediately available for access. Additional storage capacity will allow for digital storage of images for a length of time needed to comply with state and federal regulatory requirements for retention of medical images. These images will also be available for retrieval and viewing.

The PACS system will be integrated with the Hospital Information System (HIS) and Radiology Information System (RIS) to enable sharing data such as scheduling, patient registration information, orders, results, charges, and status of exams.

The capital expenditure for this project will be obligated within thirty (30) days of the approval of the Certificate of Need Application, and it is expected that this project will be completed within approximately thirty (30) months of the date of the initial approval.

## **II. TYPE OF REVIEW REQUIRED**

Projects which propose the acquisition or replacement of non-medical equipment are reviewed in accordance with Section 41-7-191, subparagraphs (1)(j) and Section 41-7-173 © (ii), Mississippi Code of 1972, 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 of 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 March 7, 2005.

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

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

The *FY-2005 State Health Plan* does not contain criteria and standards for the acquisition of non-medical equipment. However, this application is in substantial compliance with the overall objectives of the *State Health Plan*.

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

Chapter 8 of the *Mississippi Certificate of Need Review Manual, 2000 revisions*, 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**

The applicant states that the acquisition and implementation of PACs has been in FGH's Clinical Information Systems Plan since the mid-90's. The acquisition cost has been included in the Capital Formation Plans for the past two fiscal years.

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

According to the applicant, PACs is essentially the only alternative to continuing to acquire, interpret, and archive Radiology images using film.

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

The applicant has determined that this project is financially feasible. The three year operating projections reflect a first year operating expense of \$310,894,985, \$320,500,942 the second year, and \$330,115,969 the third year.

The financial feasibility study indicates that sufficient funds exist and will be generated to meet Forrest General Hospital's operating expenses, working capital needs, and other financial requirements during the projection period. FGH does not plan to alter its charges for Radiology Imaging procedures nor does it expect levels of utilization of Radiology procedures to change as a result of the implementation of PACs.

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

The proposed PACs system will be used uniformly in the acquisition, interpretation, and archiving of Radiology images for all residents of the service area who elect to use FGH's Radiology services. The implementation of the proposed technology should be virtually transparent to the community. It is expected that any reaction from the community will be a positive one since PACs will facilitate both patient's and provider's access to Radiology images acquired at FGH.

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

Forrest General Hospital maintains no institutional barriers to medically underserved populations receiving medical care or other clinical services. The percentage of underserved populations receiving care at Forrest General Hospital (see below) reasonably reflects their percentages in the service area populations. All demographic groups in the service area will benefit from the Intensive and Coronary Units' new and renovated space and ease of access that will be available.

The applicant provided the following dollar amount and percentage of gross patient revenue to medically indigent patients in 2002, 2003, and 2004:

<i><b>Fiscal Year</b></i>	<i><b>Gross Patient Revenue</b></i>	<i><b>Charity</b></i>	<i><b>Percent</b></i>
2002	\$ 467,065,990	\$ 24,602,272	5.3%
2003	\$ 508,505,735	\$ 14,235,540	2.8%
2004	\$ 577,319,896	\$ 21,832,006	3.8%
Projected 2005	\$ 619,675,175	\$ 19,776,984	3.2%

Forrest General Hospital serves Medicare, Medicaid, and medically indigent patients and states that it will continue to provide health services to these groups.

**GR Criterion 7 - Information Requirement**

The applicant affirms that it will record and maintain the information stated above regarding charity care, care to the medically indigent, and Medicaid populations. (Note: FGH routinely maintains patient origin data based on county.)

**GR Criterion 8 - Relationship to Existing Health Care Service**

FGH expects implementation of the PACs project to have an extremely positive impact on the existing health care system. Not only will PACs improve the efficiency and effectiveness of the radiology departments and radiologists utilizing the PACs, it will also improve non-FGH providers' access to images and study interpretations through web based access.

**GR Criterion 15 - Available Resources**

Forrest General Hospital currently maintains a full complement of professional and support staff for the provision of PACS. Forrest General has documented its health management and financial resources necessary to carry forward with this project. The applicant anticipates no additional personnel will be added as a result of this upgrade of equipment.

**GR Criterion 16 - Relationship to Ancillary or Support Services**

The applicant provides a full range of ancillary and support services on the FGH campus. These services are appropriately organized and made available to all clinical service functions.

**GR Criterion 17 - Quality of Care**

FGH is in compliance with the Minimum Standards of Operation for Mississippi Hospitals, according to the Division of Health Facilities Licensure and Certification. FGH is accredited by the Joint Commission on Accreditation of Health Care Organizations, and is licensed and certified by the Mississippi State Department of Health and for participation in the Medicare and Medicaid programs.

**IV. FINANCIAL FEASIBILITY**

**A. Capital Expenditure Summary**

FGH submitted the following capital expenditure summary:

CONSTRUCTION COST - NEW	\$	0
CONSTRUCTION COST - RENOVATION	\$	250,000
TOTAL FIXED EQUIPMENT COST	\$	9,925,000
FEES (ARCHITECTURAL, CONSULTANT, ETC.)	\$	425,000
CONTINGENCY RESERVE	\$	<u>500,000</u>
<b>TOTAL EXPENDITURE</b>	<b>\$</b>	<b><u><u>11,100,000</u></u></b>
The applicant rounded total to the nearest thousand		

The proposed capital expenditure is for PACs system.

The applicant submitted the following annual depreciation expenses related to the project:

<i>DESCRIPTION</i>	<i>ANNUAL DEPRECIATION EXPENSE</i>
New equipment cost	\$ 1,985,085
New building cost	<u>\$ 117,458</u>
Total	<u><u>\$ 2,102,543</u></u>

All other increases or decreases are projected based upon FGH's regular budgeting process.

**B. Method of Financing**

The applicant proposes to finance this project with accumulated cash reserves. No additional debt is projected.

**C. Effect on Operating Cost**

The applicant projects the following expenses, utilization, and results from operation for the first three years following completion of the project:

<b>REVENUE</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>
Net Patient Service Revenue	\$ 309,916,377	\$ 319,213,868	\$ 328,790,284
Other Operating Revenue	\$ 10,571,407	\$ 10,888,549	\$ 11,215,206
<b>TOTAL OPERATING REVENUE</b>	<b>\$ 320,487,784</b>	<b>\$ 330,102,417</b>	<b>\$ 340,005,490</b>
<b>EXPENSES</b>			
Salaries	\$ 109,424,020	\$ 112,706,741	\$ 116,087,943
Benefits	\$ 21,236,088	\$ 21,873,171	\$ 22,529,366
Supplies & Other	\$ 84,105,359	\$ 86,628,520	\$ 89,227,375
Professional Fees	\$ 27,241,107	\$ 28,058,340	\$ 28,900,090
Bad Debts	\$ 48,890,861	\$ 50,357,587	\$ 51,868,314
Depreciation (Existing)	\$ 13,995,272	\$ 16,628,329	\$ 17,134,125
Interest	\$ 3,899,736	\$ 4,016,728	\$ 4,137,230
Depreciation (New)	\$ 2,102,542	\$ 231,526	\$ 231,526
<b>TOTAL EXPENSES</b>	<b>\$ 310,894,985</b>	<b>\$ 320,500,942</b>	<b>\$ 330,115,969</b>
<b>NET INCOME (LOSS)</b>	<b>\$ 9,592,799</b>	<b>\$ 9,601,475</b>	<b>\$ 9,889,521</b>

Note: According to the applicant, the only expense item directly related to this project is new depreciation.

**D. Cost to Medicaid/Medicare**

<b>Patient Mix by Type Payor</b>	<b>Utilization Percentage</b>	<b>First Year Expenses</b>
Medicaid	16.3%	\$ 342,714
Medicare	44.1%	\$ 927,221
Blue Cross/Blue Shield	11.7%	\$ 245,997
Other Third Party Payor	13.6%	\$ 285,946
Self Pay	14.3%	\$ 300,664
<b>TOTAL</b>	<b>100.0%</b>	<b>\$ 2,102,542</b>

Bad Debt Patients 7.9%, and Charity Care Patients 3.2%

**V. RECOMMENDATIONS OF OTHER AFFECTED AGENCIES**

The Division of Medicaid was provided a copy of this application for review. The Division of Medicaid estimates the annual cost to Medicaid for the capital expenditure to be \$342,645.

**VI. CONCLUSION AND RECOMMENDATION**

This project is in substantial compliance with criteria and standards contained in the 2005 State Health Plan; the Certificate of Need Review Manual, revised 2000; 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 Forrest General Hospital for the acquisition of Picture Archiving and Communication System for Radiology.