Department of Health and Human Services
Division of Licensing and Regulatory Services
State House, Augusta, Maine
Preliminary Analysis

Date: **06/20/2007**

Project: **Proposal by Eastern Maine Medical Center**

Prepared by: **Phyllis Powell, Certificate of Need Manager**
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Directly Affected Party: **Magnetic Resonance Technologies of Maine, L.P.**

Recommendation: **DISAPPROVED**

Estimated Capital Expenditure per Applicant	$11,456,269
Approved Capital Expenditure per CON	$0
Maximum Contingency per CON	$0
Total Approved Capital Expenditure with Contingency	$0
Capital Investment Fund Impact per CON	$0

The following preliminary staff assessment is based solely on the record established to date and recommends that the proposal be **disapproved**.

INTRODUCTION

The applicant provided the following abstract.

"EMMC proposes to develop an Outpatient Imaging Center to be located at the EMH Mall on the West side of Bangor."

"**Background**: Imagining modalities are scattered throughout EMMC's main campus and inpatient and outpatient tests are offered together. With the increasing importance of imaging in patient diagnosis and treatment choices, co-mingling inpatients and out patients in several locations have the following results:

- Inpatient tests are essential to discharge; delays in inpatient tests drives increases in length of stay
- Inpatients are waiting in stretchers in hallways due to limited capacity of imaging equipment
- Patient waiting areas combine gowned patients with others
- Patient privacy is compromised
- Parking for outpatients is difficult and walking distances can be significant"

"EMMC's imaging volume has been steadily increasing. This is consistent with national trends. Outpatients and their referring physicians expect to have access to timely, high quality imaging services."

"EMMC has developed a highly successful regional PACS program to improve access to radiology services in a nine county service area. Multiple providers are tied into this digital archiving system."

"In addition, EMMC has a strong Imaging Quality program which intends to ensure that the right imaging modality is matched to clinical situations. Evidence based tools have been shared with regional providers."

"**Proposal**: EMMC proposes to relocate imaging equipment from EMMC's campus and to consolidate imaging equipment currently located at the EMH Mall to develop a comprehensive 33,000 sq. ft. Outpatient Imaging Center. Modalities to be offered at the OIC include diagnostic, ultrasound, mammography, fluoroscopy, CT, and MRI. Due to increased demand for services, EMMC will add equipment to respond to increased needs for ultrasound, echocardiography, EKG, digital mammography, and CT."

"The OIC will consolidate scheduling, staffing, reception, and appropriate waiting areas for outpatients requiring quick testing and turnaround. At the same time, moving outpatients from EMMC will provide much needed capacity for inpatients requiring complicated procedures."

"The capital cost of the project is $11.45 million and third year incremental operating cost is $3.4 million."

I. Project Description

A. From Applicant

The applicant provided the following information in regards to the project description.

"The proposed EMMC Outpatient Imaging Center will be located in 33,200 square feet of renovated space located in the Eastern Maine Healthcare Mall on Union Street in West Bangor. Map location is **Attachment G**. *(On file at CONU.)* The single story structure will consist of renovation of existing space that is being vacated by a medical supply warehouse. No new buildings will be constructed. By using an existing structure, the effect on the environment will be minimal. The purchase price, at market value, of the structure is included in the capital cost of this project. The proposed center includes relocation and consolidation of imaging services already located at the EMH Mall with the relocation of the majority of EMMC's outpatient imaging services currently located on EMMC's main hospital campus on State Street."

"Current and proposed site plans for the OIC at the EMH Mall are included as **Attachment I**." *(On file at CONU.)*

Location

"The location for the proposed outpatient imaging center is the EMH Mall on Union Street in West Bangor. This location provides easy access from all parts of Bangor; interstate 95 exits are approximately one-half mile from the EMH Mall. CT, MRI, Diagnostic Imaging, and Mammography services already exist at the EMH Healthcare Mall, but in separate, disconnected areas with no common reception or waiting areas. Other services located at the EMH Mall include: Diabetes and Nutrition Center, Maine Rehabilitation Outpatient Center, Eye Center of Maine, ALI, Retail Pharmacy, Walk-in Care, Outpatient Dialysis (Spring 07), and Center for Family Medicine."

"A large Federally Qualified Health Center (non-EMHS) and other health related services are also located near the proposed site and will benefit from a consolidated and efficient outpatient imaging center."

Equipment

"An outpatient center must offer most studies that could be performed in a hospital setting. Some intricate procedures, invasive procedures, or imaging exams scheduled with exams in other non-imaging departments would not be expected to be performed at the OIC. Equipment that is proposed for the center includes:

- Diagnostic Imaging- A rad/fluoro room will offer procedures such as Upper GI series and will free up the fluoro unit at EMMC to be used primarily for inpatient procedures and pediatric sedation patients. A rad/fluoro room could also be used for other routine x-rays once the fluoroscopy schedule was complete and would be complimentary to the radiographic room now located at Union Street. One of the radiography units will be a dedicated chest unit. Equipment needed to set up for this room will be less costly than a similar suite in a hospital because an inpatient radiography suite needs to have the capability to provide a full range of

exams. The dedicated chest unit will provide efficient scheduling and lower operating costs. Net Increase: 1 room in year 3.

- CT – In addition to the CT scanner already at the EMH Mall, an additional scanner will be added to handle additional volumes. Currently the wait to schedule an outpatient CT study at EMMC's outpatient unit at the EMH Mall is seven business days (using the third next available appointment as a standard gauge). Other non-EMMC scanners in the Bangor area have similar delays and are near capacity. The proposed CT scanner will be a "work horse" unit that has the capability to provide all CT procedures with the exception of Coronary CT angiography. The high-end scanner which handles the more intricate studies such as complex biopsies and cardiac exams will remain at the EMMC's hospital facility. The current scanner will be relocated from its current location on the Union Street campus so that it can be housed in the same suite and share the support and waiting areas of the other imaging modalities. Net Increase: 1 CT scanner in year 2.

- Ultrasound – There will be two general US units at the OIC to provide a broad spectrum of ultrasound procedures. Net increase: 2 ultrasound machines (1 - year 1, 1- year 3).

- MRI – The existing mobile unit, which is located at the EMH Mall full-time, will be replaced by a fixed unit. The mobile unit will be removed from service in the greater Bangor service area. The proposed space plan **Attachment J** *(On file at CONU.)* includes an area for the preparation and staging of MRI patients. This area will consist of an additional table and coils, so that patients can be prepped then moved into the room with the scanner for their exam. This will increase efficiency by 50%, eliminating the need to purchase a second MRI unit. Since there is no net increase of MR equipment, only the space related costs are included in this application. Net Increase – 0.

- PET services will be relocated to EMMC's new cancer center to better service the oncology population who are the primary users of this service. The relocation of PET services was part of the 2006 CON approval for EMMC's Cancer Center. No net increase of PET equipment.

- Digital Mammography – An additional mammography unit will be added in year two of the project to accommodate the growing demand for screening mammography by an aging population. Net increase – 1 digital mammography unit in year 2.

- Diagnostic Cardiology – One of EMMC's echocardiography units will be replaced be a new unit at the proposed center (this is a scheduled equipment replacement) and a new unit will be added at the new outpatient-imaging center. The current 5 units at EMMC cannot handle any additional volume. With the forecasted growth, EMMC will need to increase from 5 to 6 units (total at the 2 sites). Net increase: 1 echocardiography unit in year 3."

"The major equipment to be relocated or added is summarized in the following table."

TABLE 1: EMMC PROPOSED MAJOR IMAGING EQUIPMENT
NUMBER of UNITS by LOCATION

Major Equipment	Existing Equipment Main Campus	Existing Equipment Union Street	Moved from Main Campus (1)	New Purchase	Total Year Three Main Campus	Total Year Three Union Street
Digital Mammography (2)	2	1	0	1	2	2
CT	2	1	0	1	2	2
Ultrasound	8	0	0	2	8	2
Echocardiography	5	0	1	1	4	2
Radiography	6	1	2	0	4	3
Flouroscopy	2	0	0	1	2	1

(1) Includes replacement equipment
(2) Main campus units are primarily for diagnostic services; Union Street units are used only for screening.

Program, Space Design and Operations

"The shift of the majority of EMMC's outpatient imaging patients from the main campus on State Street to the EMH Mall will allow EMMC to decompress the overcrowded imaging department and focus on the more acutely ill inpatients. EMMC will be better able to accommodate the outpatient population and allow providers to feel more comfortable discharging patients with follow-up imaging exams scheduled; reducing the need to hold patients in the hospital to receive imaging exams. The proposed detailed program plan is **Attachment J**. *(On file at CONU.)* **Attachment K** *(On file at CONU.)* is the floor plan of the proposed OIC."

"Space will be designed and built to be flexible to accommodate shifts in demand for different imaging modalities. Anticipated operating hours will be dependent on modality and will be primarily 8:00 a.m. to 7:00 p.m. Monday – Saturday to correspond to the hours of the Walk In Clinic. Sundays will have on-call diagnostic radiology only. All other advanced imaging will occur on the State Street campus to maximize efficiency of staffing."

"**Impact on other providers:** EMMC is planning this project to meet the current and projected needs of its patients. No change in market share is assumed in the forecasts of future use. By better separating inpatient and outpatient services, providers needing access to EMMC imaging services will benefit by the timely scheduling of their patients."

Project Timeline

CON Approval	June 2007
Design Phase	June 2007 - January 2008
Building Renovation	February 2008 – October 2008
Equipment Installation	November 2008 - December 2008
Full Implementation	January 2009

Relationship to State Health Plan
"The development of this project relates well to Maine's State Health Plan. A detailed assessment of how this project is consistent with the Maine State Health Plan including EMMC's support for preventative services, and how gains in effectiveness and improved outcomes will be measured, are included in Section VIII: Relationship to State Planning Documents."

B. CONU Discussion

EMMC has submitted a proposal to consolidate most outpatient imaging services to a facility located on Union Street in Bangor where they already perform some outpatient imaging services. They feel they need to do this to alleviate increasing volume pressures they are experiencing at their hospital campus located on State Street in Bangor.

EMMC states the campus on State Street is landlocked without much room to expand. Expansion on the State Street Campus would be more costly to build than space that is already available on Union Street. Parking is also a problem at their State Street Campus. Some outpatients find it difficult to walk to get their necessary outpatient procedures done where parking at the Union Street facility would be more convenient.

The other problem is inpatient and outpatient imaging patients are competing for the same equipment at the same time leaving overcrowded waiting areas and according to EMMC inpatient clients are required to stay longer as a result.

Conclusion

The applicant has provided information contained in the record that does not make this a viable project as described in Sections III, IV, V, VI, VII, VIII and XI of this analysis.

II. Profile of the Applicant

A. From Applicant

The applicant provided the following information regarding the project:

Eastern Maine Medical Center (EMMC)
"EMMC is an acute care, non-profit community hospital, which began operations in 1892. EMMC serves as the referral hospital for the region, which includes Penobscot, Piscataquis, Aroostook, Washington, Hancock, Waldo, Knox, Kennebec, and Somerset counties. EMMC is licensed for 411 acute care nursing beds. EMMC offers a full range of specialty services including cardiac, oncology, hematology, nephrology, orthopedics, obstetrics, pediatrics, rehabilitation and palliative care, along with general medical and surgical services, with an active medical staff of over 300 physicians. EMMC's inpatient units operated at 81% occupancy using midnight census in FY2006. **Attachment A** *(Not included. On file at CONU.)* includes a current copy of EMMC's acute care license. Eastern Maine Medical Center's primary address is: EMMC, 489 State St., Bangor ME 04401." "In addition to acute care services, EMMC provides a wide range of ambulatory services. These include

emergency, trauma and urgent care services, family practice services, outpatient surgery, physical and occupational therapy, cardiac wellness and rehabilitation, dialysis, diabetic and nutritional counseling, imaging services, digital mammography, bone density and prosthetics through our Breast and Osteoporosis Center and pediatric specialty services."

"EMMC has a transfer agreement for referral services with virtually all of the critical access hospitals (12 CAH hospitals) in the region, EMMC is verified as a Level II trauma center by the American College of Surgeons, is one of three state designated trauma centers, and provides emergency preparedness services through the state Maine Regional Resource Center (MaRRC) grant program to 21 hospitals in this state. EMMC serves the largest geographic service area of any referral center in the state."

"EMMC has been selected three years in a row as one of the top 10 hospitals in the country for overall patient satisfaction for those hospitals submitting information to the Avatar market survey system - an accomplishment only 3 other hospitals in Avatar's national database have realized. Recently, EMMC had the distinction of receiving Center of Excellence accreditation for the Bariatric Surgical weight loss program from the American Society of Bariatric Surgery. EMMC is the only hospital in Maine with this recognition."

"EMMC is a subsidiary of Eastern Maine Healthcare Systems (EMHS). The table in **Attachment B** *(On file at CONU.)* shows the relationship between EMMC and other EMHS subsidiaries. The EMMC Board of Trustees is shown in **Attachment C**. *(On file at CONU.)* CVs of key individuals for the project are contained in **Attachment D**." *(On file at CONU.)*

Direct Service Affiliates

"Descriptions of our affiliated direct care provider organizations appear in **Attachment F**. *(On file at CONU.)* They include: Acadia Hospital Corp. (AHC), Affiliated Laboratory, Inc (ALI), Eastern Maine HomeCare, Blue Hill Memorial Hospital (BHMH), Charles A. Dean Memorial Hospital and Nursing Home, Inland Hospital, Rosscare, Sebasticook Valley Hospital (SVH), and The Aroostook Medical Center (TAMC)."

EMMC Imaging Services

"The Medical Imaging Department at Eastern Maine Medical Center has a long history of providing highly sophisticated services with state-of-the-art equipment and highly qualified staff. In many instances, EMMC Medical Imaging has been the first in the area to offer innovative procedures and new modalities. There are no freestanding imaging centers in EMMC's service area that offer a full array of technologies."

"EMMC's radiology services are scattered across the main campus facility. Diagnostic Radiology, Interventional Radiology, and CT Scanning are grouped on the first floor of EMMC. Ultrasound and Nuclear Medicine are located on the second floor. In January 2003, Vascular Care of Maine opened and the Vascular Lab relocated to space on the second floor of the Irving Kagan building on EMMC's campus. The Breast and Osteoporosis Center (BOC) and Maternal Fetal Medicine are components of Women's and Children's Services. Both are located in different locations on the State Street campus. EMMC Imaging supports these programs with technologists who provide mammograms and ultrasound studies. Spectrum Radiologists provide reading and interpretive services."

"Other on-and off-site services are spread across a number of disparate areas with no common reception or support staff. These services and their locations are:

- Diagnostic radiology services at the Webber Medical Office Building on EMMC's State Street campus.
- Diagnostic radiology services at the Eastern Maine Healthcare (EMH) Mall on the west side of Bangor.
- Breast and Osteoporosis Center mammography screening at the EMH Mall.
- PET Center of Maine at the EMH Mall. PET services will be relocated to EMMC's new cancer center when it opens in fiscal year 2009.
- MRI services are located at the EMH Mall as an EMMC service; EMMC leases the equipment under a wholesale billing arrangement. MRI services at EMMC's main campus are provided and owned by a private, non-EMMC provider."

Picture Archiving and Communication Systems (PACS)

"In 2002 EMMC made a commitment to provide to the citizens of northern, eastern and central Maine the first nationally successful Imaging Regional Health Information Organization (RHIO) by investing $2.5 million in a picture archiving and communication systems (PACS). This program allows any hospital within the state of Maine to leverage EMMC's investment by extending the PACS into their institution. PACS provides access to imaging and other sub-specialty EMMC physicians consults for determining the course of care needed by utilizing clinical information supported through imaging studies. This technology has extended EMMC's leadership role in Imaging Services in the region. In 2003, EMHS received a $500,000 grant from the USDA Rural Utilities Service Distance Learning and Telemedicine program to assist in this expansion. Currently, the EMMC Imaging RHIO is operational in 17 hospitals, healthcare centers and for-profit imaging centers throughout Northern and Eastern Maine. Over the next six months, there will be an additional three hospitals within EMMC's total service area to join the RHIO. The saving to the region from this sharing of infrastructure has been in the millions of dollars, in technology costs, IT staffing, film savings and a decrease in duplication of expensive imaging studies. Most of the healthcare organizations within northern and eastern Maine would not have been able to afford this cutting edge technology and care decisions for patients would have been delayed. Many patient transfers have been postponed or delayed with the access of images across the region, allowing more care to be provided closer to the patient's home. The Imaging RHIO significantly extends access of specialty radiology services throughout the region. Spectrum Radiology has been a partner and leader in the implementation of the Imaging RHIO PACS See **Attachment G** *(On file at CONU.)* for a map of EMMC's PACS Imaging RHIO implementation sites throughout the region."

Operating Hours

"EMMC Medical Imaging provides diagnostic and therapeutic procedures to the patients of EMMC and supports the medical staff at its main campus twenty-four hours a day, seven days a week. The following hours apply when staff is on site. All other hours are covered via call for emergent studies:

- State Street Campus
- Diagnostic Radiology on Haskell Level 1- 24 hours a day, 7 days a week.

- Diagnostic Radiology in Webber 4 East and Webber 3 West - Monday – Friday 8 a.m. to 5 p.m.
- Diagnostic Radiology in Grant Level 1 - ED - 24 hours a day, 7 days a week
- CT on Haskell Level 1 - 24 hours a day, 7 days a week
- Ultrasound on Grant Level 2 - 7am – 6pm Monday-Friday and Saturday until 12 noon.
- Vascular Testing on Kagan 2- 7am – 6pm Monday-Friday and Saturday until 12 noon.
- Nuclear Medicine on Haskell Level 2 – Monday –Friday, 7:30 a.m. to 5 p.m.
- Special Procedures on Haskell Level 1- 7 a.m. – 6 p.m. Monday-Friday.
- Maternal Fetal Medicine on Webber 4 West 8 a.m. to 5 p.m. Monday-Friday.
- Breast and Osteoporosis Center (BOC) on Haskell Level 0 - 8 a.m. to 5 p.m. without call hours."

"EMH Mall Hours without call unless noted are:

- Diagnostic, MRI and CT- 8 a.m. to 8 p.m., Monday through Saturday. On-call for Sundays for diagnostics. All in separate suites without connecting areas.
- The PET Imaging Center of Maine 9 a.m. to 6 p.m. Monday through Friday. This service will relocate to EMMC's new cancer center when the center opens in 2009.
- BOC Mammography Screening at the EMH Mall- 8 am – 5 pm Monday to Friday."

"In past years, Eastern Maine Medical Center has been successful in providing access to outpatient imaging services for non-urgent studies within 5 days of request for services. This is known throughout Bangor as EMMC's '5 day promise' for scheduling of outpatients. Because of the combination of increased demand for services, the logistics and challenge of treating inpatients and outpatients in common space that is now inadequate, it is becoming more difficult to schedule outpatients within 5 days. In many areas of the country, the expectation is that imaging exams will be available 48 hours after the test is ordered. **Attachment H** *(Not included. On file at CONU.)* includes an article about imaging turnaround times and meeting patient and provider expectations."

EMMC Imaging Quality Plan

"EMMC Imaging Services focuses heavily on Quality and Safety in health care. Some highlights of the quality program include:

- Overreads and random reviews – EMMC has developed algorithms so that after-hour studies are re-interpreted by radiologists working during days.
- Reporting of Critical Findings – Ordering physicians are notified of any findings of a critical nature by radiologists.
- Appropriate Utilization of Imaging Studies – EMMC uses American College of Radiology (ACR) appropriateness Criteria ® which are evidence based guidelines to assist referring physicians and other providers in making the most appropriate imaging or treatment decisions."

"More in-depth discussion on EMMC's Imaging Quality Plan is included in **Section VIII** of this application."

B. CONU Discussion

i. Criteria:

That the applicant is fit, willing and able to provide the proposed services at the proper standard of care as demonstrated by, among other factors, whether the quality of any health care provided in the past by the applicant or a related party under the applicant's control meets industry standards.

ii. Analysis

The Division of Licensing and Regulatory Services, Medical Facilities Unit confirmed that Eastern Maine Medical Center is a fully licensed acute care hospital licensed in the State of Maine and is MaineCare and Medicare certified. The Division's most recent survey was completed on January 6, 2005. No major deficiencies were cited that would affect licensure. EMMC sent in a plan of correction on 01/31/05 and it was accepted by the Department on February 14, 2005. The last Joint Commission report was completed on July 25, 2004. In that report, EMMC passed and no problems were identified in the outpatient imaging area.

The applicant has shown a long standing ability to provide hospital based services within licensing standards.

iii. Conclusion

Based on the discussion above the CONU recommends that the Commissioner determine that the applicant is fit, willing and able to provide the proposed services at the proper standard of care.

III. Capital Expenditures, Financing and Compliance

A. From Applicant

The applicant provided the following information in regards to proposed capital expenditures, availability of capital financing, staffing, financial feasibility, economic feasibility and the compliance with rules and regulations of local, State and federal agencies.

Proposed Capital Expenditure

"Table 2 provides details of major equipment expenditures anticipated with the project. A significant portion of the project is replacement and relocation of current medical imaging equipment."

TABLE 2: EQUIPMENT COSTS

Equipment	Quantity	Unit Cost	Total Cost	Useful Life	Depreciation
Major Equipment					
Digital Mammography	1	$ 375,000	$ 375,000	7	$ 53,571
CT	1	900,000	900,000	5	180,000
Ultrasound	2	180,000	360,000	7	51,429
Chest Unit Digital (R)	1	260,000	260,000	7	37,143
Radiography Digital (R)	1	412,000	412,000	7	58,857
Fluoroscopy	1	525,000	525,000	7	75,000
Echocardiography(one R)	2	285,000	570,000	7	81,429
Subtotal	**9**	**$2,937,000**	**$3,402,000**		**$ 537,429**
Other Equipment					
Ultrasound-sonosite	1	15,000	15,000	7	2,143
PACS/Workstations	1	158,000	158,000	5	31,600
EKG	1	13,000	13,000	7	1,857
Total	3		**$ 186,000**		**$ 35,600**
Relocation of Existing (*)	**3**	$50,000	**$150,000**	7	$ 21,429
Total Equipment			**$3,738,000**		**$ 594,457**

(R) denotes planned
(*) One CT unit, one mammography unit, one radiography unit

Less: Replacement Equipment	Quantity	Unit Cost	Total Cost	Useful Life	Depreciation
Echocardiogaphy	1	$ 285,000	$ 285,000	7	$ 40,714
Chest Unit Digital	1	$ 260,000	$ 260,000	7	37,143
Radiography Digital	1	$ 412,000	$ 412,000	7	58,857
Total Incremental	3		**$2,781,000**		**$ 457,743**

"Total capital costs related to the project are summarized in Table 3. EMMC will lease the space to be renovated. Lease costs are included in the operating costs for the project. Renovation costs were developed based on a detailed analysis of the program developed in conjunction with EMMC staff and SMRT architects. While full implementation is two years away EMMC is confident that the projected costs for major moveable equipment and renovation costs are reasonable and an accurate assessment of likely prices and costs."

TABLE 3: PROPOSED CAPITAL EXPENDITURES BUDGET

Category		Amount
Land Improvements/Site Development		740,000 (1)
Architect's Basic Fees		824,057 (2)
Construction		5,478,900 (3)
Construction Contingency		438,312 (4)
Furnishings		120,000
Equipment		2,781,000 (5)
Legal Fees/Permits/Licensing Fees		54,000 (6)
Interest During Construction		430,000 (7)
Finance/Service Fees		590,000 (7)
Total Capital Costs	**$**	**11,456,269**

Notes:
(1) Includes expanded parking, see Attachment J
(2) Estimated at 13% of construction cost
(3) See detail in Attachment J
(4) 8% of construction cost
(5) See Table 2: Major Medical Equipment
(6) Building Permit and CON filing fee
(7) Based on Table 4

TABLE 4: SOURCES AND USES OF FUND

Sources		
Long-Term Debt (1)	$	9,721,215
Equity and Fundraising (2)		1,735,054
Total Sources (3)	**$**	**11,456,269**
Uses		
Construction and related costs	$	7,655,269
Equipment (3)		2,781,000
Financing (include DSRF)		1,020,000
Total Uses	**$**	**11,456,269**

Notes:
(1) Assumes MHHEFA tax-exempt bond financing, 30 years at 5% interest rate for 80% of construction costs + 100% equipment financing via capital lease
(2) Amount financially feasible based on EMMC's current financial position
(3) Per Table 3

Project Financing Justification

"To finance the proposed Outpatient Imaging Center, EMMC will finance 80% of the cost of the building renovation through tax-exempt bond financing for 30 years at an assumption of a 5% interest rate. In addition, EMMC will lease (capital lease) the costs of the equipment for five years at an assumed interest of 6.5%. This financing is necessary as EMMC "days cash on hand" is expected to be approximately 81 days by the end of fiscal year 2011, the third year of this proposed project. This calculation of 81 days assumes that the legislative body of the State of Maine will approve the Governor's proposal to increase MaineCare payments as outlined in his plan in October of 2006. At 81 days, EMMC will continue to be significantly lower than the median of 140 days maintained by "A-rated" hospitals per Standard & Poor's."

Staffing

"EMMC has no significant staffing shortages in the Imaging Department and anticipates no difficulty in staffing the proposed center. Available resources include the radiologic technologist training program at Eastern Maine Community College in Bangor and financial assistance from EMMC's Health Education Trust that is available for new students."

"Clinical staffing will cover the hours of operation of the imaging center. Diagnostic imaging services will maintain the same hours of operation as the Walk-in-Care Center at the Mall, currently 8:00 a.m. to 7:00 p.m. Hours of operation of the other modalities will be continually evaluated to ensure they are sufficient to meet the need. At this time it is anticipated that most (CT, MRI, Ultrasound, mammography) will be available ten hours per day. If demand increases beyond the current forecast, hours can be extended."

"The proposed center will have on-site radiologists to support the range of services to be offered. The implementation of PACS allows for efficient staffing. The radiologists will be able to support services at the EMMC main campus and the proposed outpatient center. Refer to the Spectrum Radiologists' letter of support for the EMMC OIC, **Attachment O**." *(On file at CONU.)*

"Table 13 includes the incremental staff and salary costs for the project. With the outpatient center, EMMC will gain efficiencies in scheduling both inpatients and outpatients. The logistical problems caused by limited space and insufficient capacity will be greatly reduced. As a result, overtime costs will be reduced. The number of projected FTE's is net of the reduction in overtime hours."

TABLE 13: INCREMENTAL FTE'S and PROJECTED SALARY COSTS

	FY11		Yearly Incremental Salary Cost			Total Incremental Salary Cost		
Imaging	**FTE's**	**Cost**	**FY09**	**FY10**	**FY11**	**FY09**	**FY10**	**FY11**
Imaging Technician	8.40	$401,856	$162,656	$191,360	$47,840	$162,656	$354,016	$401,856
Imaging Aide	1.20	$34,944	$34,944			$34,944	$34,944	$34,944
RN's	2.40	$139,776	$34,944	$69,888	$34,944	$34,944	$104,832	$139,776
	12.00	**$576,576**	**$232,544**	**$261,248**	**$82,784**	**$232,544**	**$493,792**	**$576,576**
Echo								
Echo Technicians	2.40	$149,760	$74,880		$74,880	$74,880	$74,880	$149,760
Echo Aide	1.20	$34,944	$34,944			$34,944	$34,944	$34,944
Administrative								
Receptionist	2.40	$64,896	$64,896			$64,896	$64,896	$64,896
Patient Registrar	1.20	$32,448	$32,448			$32,448	$32,448	$32,448
	3.60	**$97,344**	**$97,344**			**$97,344**	**$97,344**	**$97,344**
Total Salaries	**16.80**	**$708,864**	**$364,832**	**$261,248**	**$82,784**	**$364,832**	**$626,080**	**$708,864**

"Table 14 includes the projected incremental revenue and expense for the proposed Outpatient Imaging Center. Data included is in estimated 2007 dollars. The project is financially feasible with a positive operating margin."

TABLE 14: INCREMENTAL REVENUE and EXPENSE PROJECTIONS (in 2007 dollars)

	Year 1 FY09 Projection	Year 2 FY10 Projection	Year 3 FY11 Projection
Gross Revenues (1)	**$6,805,458**	**$9,192,993**	**$11,302,033**
Contractual Adjustments	3,385,345	4,581,806	5,653,789
Bad Debt & Charity Care	238,191	321,755	395,571
Net Revenue	**$3,181,922**	**$4,289,433**	**$5,252,672**
Direct Expenses			
Staff Salaries (2)	$364,832	$626,080	$708,864
Employee Benefits & taxes (3)	109,450	187,824	212,659
Total Employee Compensation	**$474,282**	**$813,904**	**$921,523**
Supplies (4)	257,615	348,907	427,476
Service Contracts	0	107,100	234,600
Renovation Depreciation (5)	433,713	433,713	433,713
Equipment Depreciation (6)	183,457	417,029	457,743
Rent Expense @ $10 sq.ft.(7)	322,000	322,000	322,000
Utilities & Maintenance @ $7 sq. ft. (7)	225,400	225,400	225,400
Interest Expense (8)	411,106	445,095	452,935
Total Direct Expenses (9)	**$2,307,573**	**$3,113,148**	**$3,475,391**
Operating Margin	**$874,349**	**$1,176,285**	**$1,777,281**

Notes:

(1) Revenue calculated based on incremental volume using FY2007 prices.
(2) Per Table 13.
(3) Employee benefits and taxes estimated at 30% of salaries.
(4) Supply costs based on incremental volume using FY2007 dollars.
(5) Based on $8,675,264 building costs depreciated over 20 years.
(6) Per Table 2, equipment purchases will be phased in over 3 years.
(7). Costs applied to 32,200 ft. sq. (total ft. sq. less 1000 sq. ft. covered walkway)
(8) Expense per financing plan, Table 4.
(9) Total incremental expenses.

Capital Investment Fund (CIF) Debit

"The appropriate CIF debit for this project, based on third year incremental operating costs is $3,475,391. See (9) above."

"Table 15 is a calculation of revenue and expenses based on Table 14 and including assumptions of inflation factors for variable revenue and expenses."

TABLE 15: INCREMENTAL REVENUE and EXPENSE PROJECTIONS

	Inflated Year 1 FY09 Projection	Inflated Year 2 FY10 Projection	Inflated Year 3 FY11 Projection	Inflation Assumption
Gross Revenues (1)	**$7,503,018**	**$10,642,039**	**$13,737,692**	5.0%
Contractual Adjustments	3,831,858	5,513,797	7,229,310	
Bad Debt & Charity Care	262,606	372,471	480,819	
Net Revenue	**$3,408,555**	**$4,755,771**	**$6,027,562**	3.5%
Direct Expenses				
Staff Salaries (2)	$394,602	$704,255	$829,271	4%
Employee Benefits & taxes (3)	127,662	236,604	289,320	8%
Total Employee Compensation	**$522,264**	**$940,859**	**$1,118,591**	
Supplies (4)	278,636	392,473	500,087	4%
Service Contracts	0	107,100	234,600	
Renovation Depreciation (5)	433,713	433,713	433,713	
Equipment Depreciation (6)	183,457	417,029	457,743	
Rent Expense @ $10 sq.ft.(7)	348,275	391,762	458,306	4%
Utilities & Maintenance @ $7 sq. ft. (	243,793	274,234	320,814	4%
Interest Expense (8)	411,106	445,095	452,935	
Total Direct Expenses (9)	**$2,421,245**	**$3,402,265**	**$3,976,790**	
Operating Margin	**$987,310**	**$1,353,506**	**$2,050,772**	

(1) Revenue calculated based on incremental volumes.
(2) Per Table 13.
(3) Employee benefits and taxes estimated at 30% of salaries.
(4) Supply costs based on incremental volume.
(5) Based on $8,675,264 building costs depreciated over 20 years.
(6) Per Table 2, equipment purchases will be phased in over 3 years.
(7).Costs applied to 32,200 ft. sq. (total ft. sq. less 1000 sq. ft. covered walkway)
(8) Expense per financing plan, Table 4.
(9) Total incremental expenses.

"EMMC will continue to meet all the requirements required by local, state and federal agencies. EMMC has the capacity and a well-established history in this regard. As discussed in previous sections of this application, the new Outpatient Imaging Center will facilitate meeting safety requirements. EMMC will work with all necessary agencies to obtain the necessary permits including the City of Bangor for site plan approval and the State Fire Marshal's Office and the Division of Licensing during the implementation of this project. The EMH Mall site plan has already been approved by all regulatory agencies for medical services."

B. CONU Discussion

i. Criteria:

The economic feasibility of the proposed services is demonstrated in terms of:

- Capacity of the applicant to support the project financially over its useful life, in light of the rates the applicant expects to be able to charge for the services to be provided by the project;
- Applicant's ability to establish and operate the project in accordance with existing and reasonably anticipated future changes in federal, State and local licensure and other applicable or potentially applicable rules;

ii. Analysis

The CONU financial analysis considers information contained in the 2006 Almanac *of* Hospital Financial *and* Operating Indicators and generally accepted accounting standards in determining the financial capability of the hospital to support this proposed project.

The review of financial indicators is important because they present a fair and equitable representation of the financial health of an organization and can present appropriate comparisons. This provides a sound basis for a determination of whether the hospital has the ability to commit the financial resources to develop and sustain the project. While there are a number of indicators that are used in the industry, the ones applied to this review have been selected due to their direct relevance to the financial health of the applicant. The following analysis is based upon information contained in the record. One item of terminology needs to be defined. Throughout the analysis, a comparison of high-performance and low-performance hospitals is referenced. These groups are based on the uppermost and lowermost quartiles of hospitals based on their return on investments. CONU chose not to specifically discuss return on investment, but instead to use that ratio to group all hospitals in regards to making a comparison to the particular project and applicant.

The pro-forma financial statements submitted by the applicant and made part of the record did not include the years FYE 2007-2010. The applicant provided pro-forma financial projections for 2011 that did not reflect the historical financial data compared to actual audited financial statements for the period 2004-2006. For example, the applicant projected for 2011 that EMMC's income from operations would be $1,009,000 when actual income from operations for 2004-2006 were $11,886,197, $37,737,492 and $13,059,584 respectively. In addition, from past approved CON's, the applicant projected that income from operations or additional savings would total $9,650,406 as follows:

- Construction of a Co-Gen Power Plant – a savings of $1,031,000 per year by (2010).
- Construction of an additional 12-Bed ICU Unit – income from operations of that whole unit $2,809,622 by (2009).
- Construction of a new outpatient cancer treatment facility – income from operations $3,759,012 by (2011).
- This project Diagnostic Imaging Center – income from operations $2,050,772 by (2011).

Because of the inconsistencies between the most recent financial projections and prior submissions, CONU cannot rely on the financial information in the pro-forma financial statements to make a determination on the applicant's ability to financially support the project.

Profitability:

Non-profit hospitals need to perform at financially sustainable levels in order to carry out their public missions. An adequate operating margin is a key indicator of the financial health of a hospital.

According to the 2006 Almanac *of* Hospital Financial *and* Operating Indicators, operating margins in the high performing hospital group have seen greater improvements in margins while hospitals in the low performing group are sliding. High performing hospitals are doing better now than five years ago. Over the same time, lower performing hospitals are generally doing worse than five years ago. There is a widening gap between high and low performing hospitals. Improvement in operating profits for high-performing hospitals drives this widening performance gap. As a comparison, operating margins in the Northeast Region are considerably lower than in other regions.

	2004 Northeast Median	2004 Maine State Median	2004 EMMC's	2011 EMMC's Proforma
Operating Margin	1.60%	3.10%	3.22%	0.18%

The Maine State average for 2004 was 3.1%. EMMC's in 2004 was 3.22, slightly above the average which puts them in the 50th percentile. The trend for the State of Maine has been inconsistent with a low of -1.2 to a high of 3.1 over the 2000 to the 2004 period. EMMC had a spike in their operating margin in 2005 to 8.39% but went back to 2.68% in 2006. The reason for the spike in the operating margin for 2005 may be contributed to a one time settlement EMMC received from the State of Maine to settle MaineCare claims for the period 1996-2003.

The applicant provided pro-forma financial statements that are not consistent with prior submissions in previous CON applications. This does not allow the CONU to accurately determine what impact, if any, this project would have on the operating margins of EMMC through the projected third year of operation (2011). The applicant anticipates that this project will provide an incremental operating margin of 34% for this project by 2011. (Table 15) This project, as projected, would be very profitable for EMMC.

Liquidity:

Liquidity measures a hospital's ability to manage change and provide for short-term needs for cash. Liquidity alleviates the need for decision making to be focused on short term goals and allows for more efficient planning and operation of a hospital.

Days Cash On Hand is a ratio that is industry accepted, easily calculated, and used to determine a hospital's ability to meet cash demands.

According to the 2006 Almanac *of* Hospital Financial *and* Operating Indicators, high performing hospitals have approximately 80 days cash on hand while low performing hospitals have 45 days.

Urban hospitals with revenues greater than $150 million had approximately 81.9 days cash on hand in 2004.

	2004 Northeast Median	2004 Maine State Median	2004 EMMC's Average	2011 EMMC's Proforma
Days Cash on Hand	81.20 Days	73.40 Days	86.10 Days	50.06 Days

In 2004 the average days cash on hand from all sources for hospitals in the State of Maine was 73.4 days. The CONU calculated days cash on hand for EMMC in 2004 as approximately 68 days indicating that EMMC was between the 25th to 50th percentile. EMMC's days cash on hand has declined to 65.04 in 2005 and to 52.53 in 2006.

According to the same source, the average day's cash on hand between 2000 and 2004 remained about 68 days. Maine had 15% less days cash on hand than the Northeast Region at 80 days, 12 days more than the Maine average.

The applicant provided pro-forma financial statements that are not consistent with prior submissions in previous CON applications. This does not allow the CONU to accurately determine what impact, if any, this project would have on days cash on hand for EMMC through the projected third year of operation (2011). The applicant anticipates that this project will generate a positive cash flow as indicated in the project's specific pro-formas included in the application. (Table 15).

The applicant anticipates that this project will generate positive cash flow as indicated in the project specific pro-formas included in the application.

Capital Structure Ratios:

Many long term creditors and bond rating agencies evaluate capital structure ratios to determine the hospitals ability to increase its amount of financing. During the past 20 years, the hospital industry has radically increased it's percentage of debt financing. This trend makes capital structure ratios important to hospital management because these ratios are widely used by outside creditors. Values for these ratios ultimately determine the amount of financing available to a hospital. Debt service coverage is the most widely used capital structure ratio. Debt service coverage minimums are often seen as loan requirements when obtaining financing. Debt service coverage is the ratio of earnings plus depreciation and interest expense to debt service requirements. In 2004 the median Maine hospital's debt service coverage (DSC) was 3.45x.

	2004 Northeast Median	2004 Maine State Median	2004 EMMC's Average	2011 EMMC's Proforma
Debt Service Coverage	3.12	3.45	9.59	3.81

EMMC had a DSC in 2004 of 9.59x which places the hospital in the range of 90th - 100th percentile. The statewide trend for 2000-2004 is inconsistent with a low of 2.39 in 2002 and a high of 3.71 in 2000. The DSC for EMMC in 2005 increased significantly to 17.11 and than declined to 10.01 in

2006. The reason for the spike in DSC for 2005 may be contributed to a one time settlement EMMC received from the State of Maine to settle MaineCare claims for the period 1996-2003.

The applicant provided pro-forma financial statements that are not consistent with prior submissions in previous CON applications. This does not allow the CONU to accurately determine what impact, if any, this project would have on the Debit Service Coverage (DSC) ratio of EMMC through the projected third year of operation (2011). The applicant anticipates that this project will generate a positive cash flow as indicated in the project's specific pro-formas included in the application. (Table 15). This project's projected income from operations should have a positive impact on the DSC ratio of the hospital.

According to the 2006 Almanac *of* Hospital Financial *and* Operating Indicators, Fixed Asset Financing: "Low performance hospitals have historically used more debt to finance net fixed assets than high performance hospitals. With the removal of capital cost pass throughs, long term debt will become most costly relative to equity. High performance hospitals are restructuring their capital positions to reflect this shift in the relative costs of debt and equity capital. However, we expect fixed asset financing ratios to continue to remain stable during the next 5 (five) years as hospitals curtail their growth in new capital expenditures and reduce their reliance on long term debt."

	2004 Northeast Median	2004 Maine State Median	2004 EMMC's Average	2011 EMMC's Proforma
Fixed Asset Financing	62.9	54.3	55.0%	44.0%

The Northeast has considerably higher rates in financing fixed assets than other regions. The 2004 average for hospitals in the State of Maine was 54.3 percent in regards to fixed asset financing. In 2004, EMMC's capital structure ratio was at 55 percent, which is at the 50th percentile for the State of Maine. For the years 2000-2004, hospitals with revenues similar to EMMC averaged 68 percent.

The fixed asset financing ratio over the past 5 years has remained relatively consistent in the State of Maine.

The applicant provided pro-forma financial statements that are not consistent with prior submissions in previous CON applications. This does not allow the CONU to accurately determine what impact, if any, this project would have on the Fixed Asset Financing (FAF) ratio of EMMC through the projected third year of operation (2011). The applicant anticipates that this project will generate a positive cash flow as indicated in the project's specific pro-formas included in the application. (Table 15). Because of the high percentage of financing involved with the project, FAF will increase if this project occurs.

Efficiency Ratios:

According to the 2006 Almanac *of* Hospital Financial *and* Operating Indicators, total asset turnover (TAT) provides an index of the number of operating revenue dollars generated per dollar of asset investment. Higher values for this ratio imply greater generation of revenue from the existing

investments of assets. Larger hospitals usually have lower values for turnover than smaller hospitals. This can be attributed to two factors. First, larger hospitals are most likely to have newer physical plants. Second, capital intensity is often greater in larger hospitals due to more special services and higher levels of technology.

	2004 Northeast Median	2004 Maine State Median	2004 EMMC's Average	2011 EMMC's Proforma
Total Asset Turnover	1.06	1.18	1.39	1.53

In 2004, according to the source cited above, Maine hospitals had a total asset turnover ratio of 1.18. For 2004 EMMC had a Total Asset Turnover of 1.39 times increasing to 1.42 times in 2005 and 2006.

In the period of 2000 – 2004 there has been a steady increase in the total asset turnover for Maine hospitals.

The applicant provided pro-forma financial statements that are not consistent with prior submissions in previous CON applications. This does not allow the CONU to accurately determine what impact, if any, this project would have on the Total Asset Turnover (TAT) ratio of EMMC through the projected third year of operation (2011). The applicant anticipates that this project will generate a positive cash flow as indicated in the project's specific pro-formas included in the application. (Table 15).

An analysis of the Marshall & Swift valuation system (November, 2005 x Current Cost Multiplier-Jan., 2007) that projects cost for certain building classes, estimates that the cost per square foot to construct a new single story outpatient (surgical) center would be $309.97 ($276.76 x 1.12 Current Cost Multiplier) per square foot for Class A-B type good construction or $306.29 ($273.48 x 1.12 Current Cost Multiplier) per square foot for General Hospital grade Class A Type good construction. The Marshall & Swift valuation system does not give estimates for renovating an existing building. Given this estimate, the projected cost to build a new building for this project would be in the range of $10,107,570-$10,229,010 ($306.29-$309.97 x 33,000 sq. ft.). EMMC has projected costs to renovate existing warehouse space at its chosen Union Street location at $8,555,269 (Total capital costs of $11,456,269 less Furnishings and Equipment of $2,901,000 or about $259.25 per sq. ft.) This is a considerable savings compared to constructing a new building.

iii. Conclusion

The applicant suggests Standard & Poor's requires that 140 days cash on hand is required to be rated as an "A-Rated" hospital but does not actually state for the record what their rating is with Standard and Poor's. Through the period FYE 2004-2006, EMMC's days cash on hand has continued to decline and has not been in compliance with Standard and Poor's "A-Rated" status of having 140 days cash on hand. EMMC's days cash on hand would be greater if not for their equity transfers made to other affiliates within the Eastern Maine Healthcare System over the periods FYE 2004-2006.

It should be noted that the umbrella organization of EMMC, Eastern Maine HealthCare Systems, is a large (for Maine Hospitals) organization with no less than 14 significant organizations with various

ownership percentages and relationships both for and not-for-profit. In the audited 2006 financial statements this is described in a note to the financial statements which encompasses four pages. In 2006, $132 MM was charged by and between the different operating companies. Additionally, interentity equity transfers of more than $7.1 million was transferred from EMMC's unrestricted net assets to various related entities for the years 2004-2006. The extent and purpose of these charges, transfers, fees and revenues could have a material impact on the hospital entity financial condition as examined in this section. While not affecting the financial situation of the entity was a whole, this activity has an undetermined impact on EMMC's individual financial status.

The applicant did not provide for the record a market benefit analysis of lease vs. purchase of capital equipment to accurately determine that to purchase the equipment is the best cost approach.

For these reasons, the CONU could not determine if the applicant can support this project financially over its useful life.

It does appear that if this project were to be approved, which we do not recommend, the applicant's alternative to relocate this project to an existing site and renovating that site, saves the project considerable costs vs. constructing a new building to house the project as evidenced by the comparisons from Marshall & Swift.

CONU recommends the Commissioner determine that the economic feasibility of the project has not been demonstrated.

IV. Needs to be Met

A. From Applicant

The applicant provided the following information in regards to need for the project.

"The development of an Outpatient Imaging Center by Eastern Maine Medical Center is essential to accommodate the demand for imaging volumes in eastern Maine and to relieve the compression caused by the growth in both inpatient and outpatient services. An outpatient imaging center will provide an improved and efficient setting for the care for ambulatory patients. Currently EMMC inpatients and outpatients are forced to share facilities. These facilities are no longer adequate to serve both patient groups. As the regional trauma center and referral center for northern and eastern Maine, EMMC is responsible for ensuring an infrastructure sufficient to address growing need for services. EMMC is pursuing the development of an OIC to meet the following needs:"

Increased Need for Imaging Services

"Volumes at EMMC continue to grow. CT, Ultrasound, Mammography and Diagnostic Radiology volumes have increased significantly over the past year five years. See Tables 5 and 6. Outpatient imaging procedures in the EMMC departments involved in the proposal account for 60% of the total procedures in these areas. To provide the additional rooms, equipment, and staff to address the increase at EMMC's State Street campus is cost prohibitive and would be extremely difficult and not patient/family friendly. The imaging department is landlocked between the surgery and cardiology departments, leaving no room for expansion. EMMC's current patient care model has outpatients and

inpatients located in the same space. When this portion of EMMC was constructed in the 1970's, this space was sufficient to meet the need. Thirty years later this space is no longer adequate. Forcing patients into this inadequate space is a disservice to inpatients, outpatients and their families. Throughout the day inpatients on stretchers line the hallways. The outpatient waiting area is cramped and inadequate. Due to limited space, gowned patients waiting for treatment often are seated with people dressed in street clothes. This lack of privacy is inappropriate in a modern health care facility. **See Attachment L** *(On file at CONU.)* for photographs of current facility crowding on a typical day."

Outpatient Imaging Center: Echocardiography services

"Outpatient echocardiography services have seen enormous growth historically and are projected to continue growing into the future. As the healthcare providers target proactive management, diagnosis, and treatment of heart disease and as the population continues to age, the need for these services will only increase. As with EMMC's imaging services, the inpatient and outpatient echocardiography services are forced into the same inadequate space. This is causing tremendous patient and referring provider dissatisfaction due to long wait times, difficulty in scheduling, reschedules, patient dissatisfaction in navigating the hospital inpatient areas to receive and outpatient service. The waiting and service areas are congested and shared with families of patients receiving emergent and elective invasive procedures or inpatient services. Providing outpatient echocardiography services within the Outpatient Imaging Center will enable this growth service line to continue to grow and expand, meeting the needs of the patient, enhancing and reaching our goal of continue to expand offering Cardiac services to the patients we serve within Bangor and our entire service area."

TABLE 5: IMAGING SERVICES VOLUME INCREASES 2001-2006

Department	FY2001	FY2006	Increase	5 year % Increase	Avg Annual Increase
Diagnostic	73,747	81,976	8,229	11.2%	2.1%
Ultrasound	10,641	16,380	5,739	53.9%	9.0%
CT Scanner	16,008	30,501	14,493	90.5%	13.8%
Mammography	8,373	10,081	1,708	20.4%	3.8%
Echocardiography	5,309	9,242	3,933	74.1%	11.7%
Total	**114,078**	**148,180**	**30,169**	**26.4%**	**5.4%**

Source: EMMC internal statistics

Table 6 provides inpatient and outpatient trends in detail over the past 5 years.

TABLE 6: EMMC IMAGING SERVICES VOLUME FY2001-FY2006							
		FY2001	**FY2002**	**FY2003**	**FY2004**	**FY2005**	**FY2006**
Diagnostic							
	Inpatient	32,621	33,595	32,790	32,350	34,608	37,058
	Outpatient	33,101	34,415	34,359	36,403	34,793	27,765
	Total	65,722	68,010	67,149	68,753	69,401	64,823
EMH Mall							
	Inpatient	65	55	19	31	27	44
	Outpatient	3,961	4,038	5,033	5,652	6,442	10,708
	Total	4,026	4,093	5,052	5,683	6,469	10,752
Webber Medical Office Building							
	Inpatient	148	108	122	117	114	139
	Outpatient	3,851	3,902	3,808	3,857	4,069	6,262
	Total	3,999	4,010	3,930	3,974	4,183	6,401
TOTAL DIAGNOSTIC							
	Inpatient	32,834	33,758	32,931	32,498	34,749	37,241
	Outpatient	40,913	42,355	43,200	45,912	45,304	44,735
	Total	73,747	76,113	76,131	78,410	80,053	81,976
		FY2001	**FY2002**	**FY2003**	**FY2004**	**FY2005**	**FY2006**
ULTRASOUND							
	Inpatient	2,257	2,108	2,481	2,725	3,100	3,486
	Outpatient	8,384	8,280	8,148	10,744	11,818	12,894
	Total	10,641	10,388	10,629	13,469	14,918	16,380
CT SCANNER							
	Inpatient	5,491	6,791	6,831	7,972	9,241	11,114
	Outpatient	10,517	12,683	12,491	15,331	16,859	19,387
	Total	16,008	19,474	19,322	23,303	26,100	30,501
MAMMOGRAPHY							
	BOC Mammograms	5,816	5,800	5,807	4,302	3,607	
	Screening Ctr	2,557	2,657	2,590	5,045	5,783	
	Screening EMMC						1,555
	Diagnostic EMMC						2,440
	Screening EMH Mall						6,086
	Total	8,373	8,457	8,397	9,347	9,390	10,081
ECHOCARDIOGRAPHY							
	Inpatient	3,840	4,096	4,189	4,844	5,907	7,227
	Outpatient	1,469	1,553	1,415	1,491	1,816	2,015
	Total	5,309	5,649	5,604	6,335	7,723	9,242

Parking

"Parking is at a premium at EMMC's main campus. EMMC's valet service has done an outstanding job to reduce walking distances for patients, yet many patients still end up walking considerable distances to reach their appointment locations. The growth of primarily outpatient services such as VascularCare of Maine, and the Cardiac Wellness Center at EMMC place further strains on the neighboring parking areas. In FY 2006 approximately 73,000 outpatient imaging exams were performed at EMMC (VascularCenter and EMH Mall campus excluded). This is an average of 200 imaging exams per day (based on seven days per week) with peak days over 250 imaging exams. At an average of 1.2 exams per person per visit there is the potential to remove up to 170 cars/day from the EMMC parking lots. This will improve access for the more acutely ill patients that need to use the inpatient and emergency department areas of EMMC. The EMH Mall campus provides much more convenient access to parking."

Scheduling

"Imaging test schedules now have to be adapted to accommodate an increasing number of more complex cases involving biopsies, traumas, and delays that can result in a busy inpatient setting. The scheduling of patients at the proposed OIC will be timely and more efficient. As the inpatient population presents with more acute illness than in years past, exam times for these patients have increased and caused delays in outpatient throughput. Currently 70% of all inpatients receive advanced imaging studies within 24 hours of discharge. Providers have told EMMC staff that some of these tests are ordered because providers are concerned with the delays in scheduling outpatient exams. Therefore, they schedule tests while patients are still in-house. This increases inpatient length of stay and cost per case, contributes to back-ups in the emergency department, and delays patient discharges."

Environment

"Gone are the days when patients were admitted for a "workup" and spent 3-4 days in the hospital getting tests ranging from upper GI series' to IVP's. Today's patients are much more ill and require greater attention. Timing of transport services to return an ill patient to their room without lying on a stretcher in hallways is sometimes difficult and inevitably outpatients have to walk past very ill patients on the way to their exams. This does not create the ideal setting for outpatients."

"An outpatient center should be warm and comfortable much like Vascular Care of Maine or the PET Center. The proposed center will create an environment where patients will be treated promptly in an environment more suitable to their needs. Over the past fiscal year, EMMC's outpatient imaging satisfaction scores have declined steadily (see CT as example in **Attachment M**). *(On file at CONU.)* Patients and families provided many comments about receiving excellent care in the various imaging departments, but also expressed concern with being crowded together with "sick people" in crowded waiting and treatment areas."

EMMC Primary and Referral Service Areas

"Primary Service Area is the Bangor Hospital Service Area as defined by the Maine Health Data Organization. The 2006 estimated population is approximately 134,000 residents.
Referral Service Area is defined as the Hospital Service Areas in the nine counties of northern and eastern Maine (excluding the Bangor H.S.A.). The 2006 estimated population is approximately 378,000 residents.

A map illustrating EMMC's service area is included in **Attachment G**." *(On file at CONU.)*

"Population projections by age group are included in Table 6. The over age 65 population, which has the greatest need for services over the next ten to fifteen years (source is data from the Maine State Planning Office) is expected to grow more than any other age group. For example, in EMMC's Primary Service Area, the 65-79 age cohort will increase by 43% over the next ten years. The forecasted need for services includes projections from the Outpatient Market Estimator program of the Healthcare Advisory Board's Innovations Center. This tool uses national utilization rates by age and other demographic characteristics applied to population of the towns in EMMC's Primary and Referral Service Areas. A description of the Outpatient Market Estimator is **Attachment N**." *(On file at CONU.)*

TABLE 7
ESTIMATED and PROJECTION POPULATION
EMMC TOTAL SERVICE AREA

PRIMARY SERVICE AREA (1)

	Population			Change		% Change	
Age Group	2006	2016	2020	to 2016	to 2020	to 2016	to 2020
00-04	6,629	7,029	6,771	400	142	6.0%	2.1%
05-17	20,464	19,271	19,571	-1,193	-893	-5.8%	-4.4%
18-29	25,342	23,035	21,220	-2,307	-4,122	-9.1%	-16.3%
30-44	27,454	27,953	29,341	499	1,887	1.8%	6.9%
45-64	37,806	40,790	38,972	2,984	1,166	7.9%	3.1%
65-79	12,040	17,184	20,316	5,144	8,276	42.7%	68.7%
80+	4,653	5,477	5,785	824	1,132	17.7%	24.3%
Total	**134,388**	**140,739**	**141,976**	**6,351**	**7,588**	**4.7%**	**5.6%**

REFERRAL SERVICE AREA (2)

	Population			Change		% Change	
Age Group	2006	2016	2020	to 2016	to 2020	to 2016	to 2020
00-04	18,292	18,684	17,748	392	-544	2.1%	-3.0%
05-17	58,651	52,725	52,578	-5,926	-6,073	-10.1%	-10.4%
18-29	52,932	45,306	40,291	-7,626	-12,641	-14.4%	-23.9%
30-44	71,295	69,317	71,792	-1,978	497	-2.8%	0.7%
45-64	115,315	119,021	112,349	3,706	-2,966	3.2%	-2.6%
65-79	43,575	55,937	63,379	12,362	19,804	28.4%	45.4%
80+	17,570	19,281	19,810	1,711	2,240	9.7%	12.7%
Total	**377,630**	**380,271**	**377,947**	**2,641**	**317**	**0.7%**	**0.1%**

TOTAL SERVICE AREA (3)

	Population			Change		% Change	
Age Group	2006	2016	2020	to 2016	to 2020	to 2016	to 2020
00-04	24,921	25,713	24,519	792	-402	3.2%	-1.6%
05-17	79,115	71,996	72,149	-7,119	-6,966	-9.0%	-8.8%
18-29	78,274	68,341	61,511	-9,933	-16,763	-12.7%	-21.4%
30-44	98,749	97,270	101,133	-1,479	2,384	-1.5%	2.4%
45-64	153,121	159,811	151,321	6,690	-1,800	4.4%	-1.2%
65-79	55,615	73,121	83,695	17,506	28,080	31.5%	50.5%
80+	22,223	24,758	25,595	2,535	3,372	11.4%	15.2%
Total	**512,018**	**521,010**	**519,923**	**8,992**	**7,905**	**1.8%**	**1.5%**

(1) Bangor Hospital Service Area
(2) All Hospital Service Areas from Waterville to Ft. Kent (excluding Bangor HSA).
(3) Primary plus Referral Service Areas, see map **Attachment G**

Source: Maine State Planning Office, excludes unorganized territories.

"Demand for outpatient imaging services has grown dramatically over the last ten years. At EMMC's main campus there is little room to increase capacity. The aging of the population will further add to the burden on the current facility. The age groups with the highest incidence rates are the age groups forecasted to grow the most over the next ten years."

National Trends

- "A Health Care Advisory Board (HCAB) study noted that imaging procedures performed in the United States have increased annually at 8% since 1995 and are predicted to continue at a similar rate for the next 5-10 years. See excerpts from *The Future of Diagnostic Imaging* **Attachment N**. *(On file at CONU.)*
- The greatest growth in imaging procedures has been, and is expected to be, in services utilized by the elderly; these include cardiovascular, urology, neurology, oncology, orthopedics and rehabilitation.
- As the inpatient length of stay has been reduced, outpatient procedures have increased; this is expected to be a continued trend.
- Hospital outpatient departments currently deliver 48% of the total annual procedures. This number is much higher in eastern and northern Maine because multi-modality for-profit independent imaging centers have not been established in EMMC's service area.
- The rapid growth in imaging procedures is well documented. This is due in large part to improvements in CT technology that benefits a wider range of patients. For example, Coronary CT Angiography is now feasible with the introduction of the 64-slice scanner."

Capacity

"Most capacity benchmarks are based on the capacity at independent, non-hospital sponsored outpatient centers. What ultimately determines capacity of a given modality is the types of procedures performed and the patient severity mix. A tertiary care center such as EMMC often performs more complex studies and procedures than a free-standing outpatient center. Even so, EMMC compares favorably with these benchmarks. The following information, based on data from the Healthcare Advisory Board and EMMC's facility planning consultants, illustrates that EMMC's current imaging equipment is being called on to perform more tests per unit than is typical and is operating at capacity in all modalities."

TABLE 8: Usage Benchmarks for Imaging Modalities

Modality	Benchmark per Unit (1)	EMMC Performance (2)	Comments
Ultrasound (US)	8 exams per day	10.2 exams per day per unit.	US is at capacity with current space. Cannot meet '5 day promise' for scheduling.
CT	2-3 exams/hour 8,527 annually	10,107 per scanner in FY2006.	The '5 day promise' cannot be met.
Fluoroscopy	1-2 per hour	2 per hour	Cannot handle all referrals; shifted to other modalities.
X-ray	4 per hour	EMMC campus at 4.3 per hour; Webber and Union St. at 6 per hour	Faster turnaround for units dedicated as outpatient only

Source data: (1) Benchmark per unit per Healthcare Advisory Board for Outpatient Imaging Centers. (2) EMMC performance per internal statistics which includes both inpatient and outpatients.

"EMMC has projected growth in outpatient volume in these services based on historical data, forecasts from EMMC's facility planning consultants and the Health Care Advisory Bard (HCAB). The forecasted rate of increase in Table 9 is a conservative estimate that is consistent with, or lower than the nationally forecasted rates of increase summarized in Table 10."

TABLE 9: EMMC PROJECTED OUTPATIENT IMAGING VOLUME

Modality		FY2007 Budget	FY2008	FY2009 *year 1*	FY2010 *year 2*	FY2011 *year 3*
Diagnostic	Procedures	44,254	45,139	46,042	46,963	47,902
	% Increase		2%	2%	2%	2%
CT	Procedures	20,357	22,393	23,512	24,688	25,922
	% Increase		10%	5%	5%	5%
Ultrasound	Procedures	13,087	13,480	13,884	14,301	14,730
	% Increase		3%	3%	3%	3%
Mammography	Procedures	8,500	8,925	10,161	10,770	11,416
(Screening)	% Increase	both sites	5%	6%	6%	6%
Echocard.	Procedures	2,081	2,206	2,338	2,479	2,627
	% Increase		6%	6%	6%	6%

TABLE 10: SUMMARY of FORECASTING MODELS

Modality	**Historical 5 Yrs (1)**	**EMMC MFP (2) Ten Years**	**HCAB (3) Total (4)**	**HOPD (5)**	**CON 5 yrs (6)**
Diagnostic	7.2%	16%	5%	9%	10%
CT	84.3%	31%	96%	69%	30%
Ultrasound	53.8%	10%	40%	31%	15%
Mammography	20.4%	(7)	31%	20%	29%
Echocardiogram	64.6%	52%	79%	57%	30%

(1) EMMC internal data 2001-2006
(2) Preliminary data from EMMC 2006 Master Facility Plan feasibility and program planning study. Katz Consulting Group and Kurt Salmon Associates: 2005-2015
(3) Health Care Advisory Board Innovations Center Outpatient Forecasting Model: 2005: 2015
(4) All providers in service area
(5) All Hospital Outpatient Departments
(6) Cumulative growth 2007-2012
(7) Included in diagnostic

"Table 11 summarizes the determination of capacity per modality of major medical equipment in the proposed center. Capacity, hours per day and procedure time, are based on national data compiled by EMMC's facility planning consultants. For the dedicated chest unit, an 80% efficiency rate is used because a unit dedicated to chest procedures only will have a faster turn-around time than a general all-purpose unit."

TABLE 11: PROCEDURES per UNIT ASSUMPTIONS

Modality	Days per Yr (1)	Hours per Day	Hours per Case (2)	Efficiency Rate (3)	Procs. Per Year
Diagnostic	275	10	0.33	80%	6,667
CT	275	10	0.25	75%	8,250
Ultrasound	275	10	0.80	75%	2,578
Mammography	250	10	0.33	75%	5,625
Echocardiography	250	8	1.00	75%	1,500

(1) Diagnostic, CT and Ultrasound will be open 5.5 days per week
(2) Based on data from Master Facility Planning consultants and HCAB
(3) Accounts for clean-up, set-up, no-shows and downtime.
Dedicated Chest Unit will improve on standard 75% efficiency

"The projected volume from Table 9 and the capacity per unit from Table 11 are used to determine the number of units of major medical equipment needed. There will continue to be some outpatient volume on the State Street campus from the emergency department and the on-campus medical office building."

TABLE 12: MAJOR MEDICAL EQUIPMENT NEEDED by MODALITY

Modality	Outpatient FY2011 State St. (6)	Union St.	Proc. Per Unit (1)	Units Needed at OIC	Proposed Units
Diagnostic (2)	20,000	27,902	6,667	4.19	4
CT (3)	8,040	17,882	8,250	2.17	2
Ultrasound (4)	7,677	7,052	2,578	2.74	2
Mammography (5)	0	11,416	5,625	2.03	2
Echocardiography	0	2,627	1,500	1.75	2

(1) See table 11 "Procedures per Unit Assumption"
(2) Includes general radiography, chest unit and fluoroscopy
(3) State St includes CTA (1440), CCTA (1200), ED cases (2400) and biopsies (3000) = 8,040 tests.
(4) State St. includes Maternal and Fetal Medicine
(5) Screening only
(6) Includes volume from emergency department and medical office building.

"As shown in the preceding analysis, EMMC's proposed number of units of major medical equipment is a reasonable increase in the capacity needed to provide these services. Due to the space limitations at EMMC's hospital campus it would not be feasible to add this capacity there."

"The EMMC Outpatient Imaging Center is vital to the long term success of patient care in the greater Bangor area. The OIC will be instrumental in providing safe, efficient and cost effective health care to the residents of Bangor and the surrounding communities. The proposed Outpatient Imaging Center addresses a number of critical long term patient care issues. Those issues are compression between inpatients and outpatients, length of stay problems, patient dissatisfaction, physician dissatisfaction, logistical problems, potential JCAHO violations, fire safety hazards, clinical care problems and privacy issues."

Compression and Length of Stay Problems at EMMC's State Street Campus

"The EMMC imaging department performs in excess of 80,000 outpatient procedures a year. This high volume has caused a tremendous amount of compression between both inpatients and outpatients. Both patient groups compete for limited space which negatively impacts the department's ability to provide care efficiently. The patient waiting area is very small and must accommodate a large volume of patients inclusive of wheelchairs and patients with other forms of physical limitations; see photo in **Attachment L**. *(On file at CONU.)* Consequently, there is constant over crowding and privacy is virtually non-existent."

"Through-put and efficiency are compromised as compression creates a backlog in scheduling which causes conflicts between various patient populations. For example, in the ultrasound department it is not unusual to have 20 "add-ons" to the inpatient schedule at the end of the day. This results in increased operating costs, particularly from increased overtime pay. EMMC is trying to develop creative scheduling solutions, but the lack of space and capacity is making this extremely challenging. A new outpatient center will reduce overtime costs due to issues caused by space constraints by 50%."

"Outpatients are scheduled ahead of inpatients to accommodate volume and also to meet the service expectations of ordering physicians and patients. Physicians have expressed the desire for user friendly and timely scheduling of outpatients. In addition, Emergency Department patients must be imaged in a timely manner to expedite treatment, discharge or admission. The imaging staff is often put in the position of choosing which patients to serve first. Lower acuity inpatients are often scanned later in the day, adding to the length of their hospital stay. There is the potential for physicians to delay treatment decisions because images are not ready in a timely manner. This increases inpatient length of stay which leads to other inefficiencies, potential delay of care and increased costs to the healthcare system. A new Outpatient Imaging Center that allows the majority of outpatients to be treated away from the inpatient area will allow EMMC to meet its goals of reducing inpatient length of stay."

"The present facility configuration is inconsistent with the modern practice of medicine, and makes the goal of providing the highest quality patient care very challenging. Furthermore, the target goal of discharging inpatients by noon recommended by Navigant Consulting[1]cannot be met under the present compressed circumstances. Since inpatients are not scheduled for specific slots in imaging services, nursing units are challenged in meeting the noon discharge goal. In order to reduce inpatient length of stay, improve efficiency and throughput, a more patient friendly model is necessary. Transitioning

[1] Navigant Consulting- Navigant Patient Flow Consulting Initiative, conducted for EMMC in 2005.

outpatients to a more accessible environment will create a more dynamic and patient friendly experience for both inpatients and outpatients."

"EMMC will document the improvements in inpatient length of stay, outpatient satisfaction and imaging services turn-around-time that will result from shifting more patients to the proposed Outpatient Imaging Center."

Patient and Physician Satisfaction

"The Outpatient Imaging Center will be more efficient and will address directly the issue of physician and patient satisfaction. Outpatients have often expressed dissatisfaction with the integrated patient model. We have shown in **Attachment M**, *(On file at CONU.)* the decrease in EMMC outpatient imaging satisfaction due to overcrowding and the integration with inpatients. Outpatients prefer environments that are less clinical in appearance and separated from the sicker inpatients. Ease of making appointments, same day service and quicker turn-around time of results will benefit patients by providing them with information about their health sooner. In fact, according to Janet Sung, M.D., radiologist and founder of the Windsong Radiology Group, "good service includes timely communication with patients."[2] Dr. Sung further states that "everything is oriented around the idea of making the patient's visit easier, shorter and more comfortable."[3] This is best achieved in an environment that offers a one-stop integrated imaging experience."

"The Outpatient Imaging Center will also benefit the referring physicians of the area. Physicians want to refer their patients to facilities that are efficient, user-friendly and patient focused. Facilities that offer integrated specialty imaging provide the additional benefit of allowing patients ease of movement between different modalities within the same visit when necessary. This approach will also increase physician efficiency by saving time and effort. Referring physicians' office staff will spend less time scheduling appointments and the need to direct patients to different locations will be greatly reduced. Physician practices will be able to devote more time to direct patient care. Modern imaging centers provide physicians with the focused care, flexible scheduling and through-put efficiencies necessary to reach economies of scale in a very complex healthcare environment."

Joint Commission for the Accreditation of Healthcare Organization (JCAHO) Issues

"JCAHO has implemented policies on managing patient flow that will have a tremendous impact on how patient care is facilitated within the hospital. Healthcare leaders have been charged with the mandate to "develop and implement plans to identify and mitigate impediments to efficient patient flow."[4] Undoubtedly, this will impact the delivery of care at Eastern Maine Medical Center. Moreover, the hospital will have to look seriously into the problem of flow as it relates to the mixing of inpatients and outpatients in the same environment. The present imaging department's design is not conducive to a mixed patient environment and the long term success of moving ED patients, inpatients and outpatients efficiently through the system is in jeopardy."

Fire Safety Issues

"Presently, the imaging department can not physically accommodate additional patients. Any future overcrowding of corridors (as illustrated in **Attachment L**) *(On file at CONU.)* and hallways will

[2] America's Busiest Imaging Center, See **Attachment H**
[3] Ibid.
[4] JCAHO Standard LD.3.11

potentially lead to poor patient handling; slow evacuation and the movement of patients to safety zones would be hindered if the CON is not approved."

Clinical Care and Privacy Issues

"Imaging is often called upon to provide a variety of IV and clinical nursing functions. Nursing units that are unsuccessful in gaining IV access on patients for CT scans, often call upon radiology nursing to provide that service. Due to the lack of space, IV lines are often inserted while patients are still in hallways, corridors and places that are less than desirable for proper patient care. Also, patients are forced to share sensitive clinical information in less than private surroundings. This practice is potentially in conflict with HIPAA regulations."

Summary

"The Outpatient Imaging Center will eliminate a host of logistical, service and access related problems such as, the difficulty of navigating the hospital's complex medical campus; the problem of parking; disconnected imaging service lines; patient frustration and associated patient complaints."

"The hospital campus is complex and a challenge for patients and visitors to navigate. Parking is not centrally located, forcing patients to walk long distances to get to the hospital. For patients who are physically unable to walk or have physical limitations, valet service is available. However, this causes traffic jams and egress issues at the hospital's main entrance. The hospital lobby is small and congested. The corridors are long, narrow and terminate at dead ends making it difficult for patients to find their way around."

"The various imaging services within the hospital are housed in three separate locations. In addition, diagnostic imaging and CT are split between the hospital's inpatient campus and other off-site locations. MRI is housed within a mobile unit and further isolated from other specialty imaging services. The present situation adds to the confusion and frustration that patients and providers experience when trying to access EMMC services. It is not uncommon for patients to voice their frustrations upon reaching the imaging department. The lack of integration caused by the fragmented space and their locations hinders delivery of care, promotes inefficiency and makes it more challenging for EMMC to provide comprehensive service to the public. The proposed Imaging Center will rectify the problem and allow for a more consolidated and comprehensive customer service approach that is free of the logistical mine fields that are so prevalent in a hospital setting. The proposed Imaging Center will go a long way in ameliorating the logistical problems and facilitate the provision of quality patient care and service."

B. CONU Discussion

i. Criteria

That there is a public need for the proposed services as demonstrated by certain factors, including, but not limited to:

- Whether, and the extent to which, the project will substantially address specific health problems as measured by health needs in the area to be served by the project;

- Whether the project will have a positive impact on the health status indicators of the population to be served;
- Whether the services affected by the project will be accessible to all residents of the area proposed to be served; and
- Whether the project will provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project;

ii. Analysis

The applicant has provided documentation that supports the assertion that demand for outpatient imaging services continues to grow in their geographic location. However, the applicant has not indicated what health problems in the area need to be served by the project or how the project will substantially address those problems. Outpatient need imaging services are currently provided at their hospital campus located on State Street in Bangor. The applicant stated in the record:

- Outpatient imaging services are competing more and interfering with inpatient imaging procedures at the hospital campus creating overcrowding conditions and suggesting inpatient stays are lengthened as a result.
- On numerous occasions, inpatients are forced to wait considerable time in hallways for imaging services.
- The hospital campus has a parking problem and many times outpatients are forced to walk considerable distances to get their necessary imaging procedures.
- Patient complaints about parking and waiting times are often the feedback EMMC gets from customer satisfaction surveys.

The applicant failed to provide quantifiable data that would have justified the need for this project, such as:

- The number of slips and falls that have occurred as a result of parking and walking distances to get to outpatient imaging services;
- The average wait times patients are experiencing in the imaging department from scheduled time to actual exam time;
- The number of complaints they get in satisfaction surveys that are a result of overcrowding and wait times;
- The number of rescheduled visits due to overcrowding and wait times;
- The reduction in overtime costs in dollars if this project was approved and;
- An estimate of the added costs for inpatients waiting for imaging tests before being discharged and the number of times it has happened.

The applicant has also not demonstrated that the project will provide demonstrable improvements in quality and outcome measurers. In fact, the MQF expressed that this application appears to have the potential of a negative impact on quality by increasing overuse potential of outpatient imaging procedures. The MQF commissioned a geographical variation study of advanced imaging use in Maine for the diagnoses of abdominal/pelvic pain and back pain from January 2003 – June 2005 and the study showed that advanced imaging for the described diagnoses in the Bangor region was 8%

above the State average with CT and MRI components 7% and 10% respectively above the State average. Unnecessary CT studies are a concern not only because of misuse of resources but also because of the concern about unnecessary radiation exposure. The MQF also acknowledged that the applicant does not control all advanced imaging in its region and MQF does not have the ability, nor does the methodology exit, to apportion individual or institutional responsibility for the likely overuse of advanced imaging in the Bangor region. The MQF also acknowledged that EMMC has, in the past, been a responsible provider of imaging services.

iii. Conclusion

The applicant did not provide the benchmark report from the Healthcare Advisory Board for Outpatient Imaging Centers which the applicant used for their projected imaging modalities. It was not clear what the current hours of operation are for outpatient imaging services and the rationale for those hours. In addition, the applicant failed to provide quantifiable data as identified above to substantiate that this project will substantially address specific health problems as measured by health needs in the area to be served by this project; what positive impact of the health-status indicators of the population to be served are; and failed to provide demonstrable improvements in quality and outcome measurers applicable to the services proposed in this project.

CONU recommends that the Commissioner determine that the public need for this project has not been established.

V. Alternatives Considered

A. From Applicant

The applicant provided the following information in regards to alternatives considered for this project.

Expand Imaging Services at State Street Campus
"EMMC cannot easily accommodate the growing need for outpatient imaging services at its main campus. The current location is landlocked. EMMC imaging services cannot be expanded at that site without disrupting adjacent programs. As described elsewhere in this application, imaging services are already fragmented; expanding scattered locations at this campus is not feasible. There is no space available to separate inpatients and outpatient imaging services patients on the hospital campus."

- **Alignment with EMMC Master Facility Plan**
  "EMMC is currently undergoing an extensive master facility planning process. Initial recommendations from the outside consultants Morris & Switzer support the concept of an outpatient imaging center separate from the primarily inpatient campus as the next logical step for EMMC's main campus facility plan. During 2007, the EMMC Master Facility Plan (MFP) will be finalized with recommendations for the entire State Street campus. It is important to develop the OIC no matter which direction the MFP takes."

Locate Outpatient Imaging Services elsewhere
"The Union Street location is the most cost effective alternative. The proposed service will be located in existing space made available by the relocation of a medical warehouse. The campus already

includes EMMC's Walk-in Care Center, Eye Center, Center for Family Medicine, Endocrine, Diabetes and Nutrition Center as well as other imaging services. Other non-EMHS medical services are nearby as well including Penobscot Community Health Center, a large Federally Qualified Health Clinic (FQHC), linked to EMMC via PACS."

"The proposed location is convenient to residents of Bangor as well as those traveling from outside the area."

Develop Joint Venture Imaging Center with Radiologists/ others
"This option would require CON review due to creation of a new health facility."

Do Nothing
"This alternative would not address the growing difficulty of access to outpatient services at the EMMC campus and would not accommodate growing demand for imaging services. Doing nothing would not allow EMMC to meet its goal of improving efficiency, reducing inpatient length of stay and containing costs, while providing the highest quality care."

EMMC PROPOSED OUTPATIENT IMAGING PAYOR MIX

Payor	Gross	Net
Commercial	46.1%	70.4%
Medicare	30.4%	20.0%
MaineCare	17.0%	6.1%
Self Pay	6.4%	3.5%
Total	100.0%	100.0%

B. CONU Discussion

i. Criteria

The proposed services are consistent with the orderly and economic development of health facilities and health resources for the State as demonstrated by:

- The impact of the project on total health care expenditures after taking into account, to the extent practical, both costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care;
- The availability of State funds to cover any increase in State costs associated with utilization of the project's services; and
- The likelihood that more effective and accessible, or less costly. Alternative technologies or methods of service delivery may become available.

ii. Analysis

Presently, EMMC has limited space in which to expand on their State Street campus. Any expansion or constructing of new additional space on State Street would be more costly due to Hospital Grade construction and would do nothing to alleviate the parking problem. Space is available to renovate at a Union Street Facility that currently is warehouse space for a hospital supply business affiliated with

EMMC's parent corporation. Construction costs to refit this available space is less costly than constructing new space at the State Street campus and it already houses some imaging services. In addition, there is ample parking and the proposed site is easily accessible from I-95.

Total approved 3rd year incremental, inflated operating costs are projected to be $3,976,790 (See Table 15 in Section II) and of that amount MaineCare's 3rd year cost is $676,054 ($3,976,790 x 17.0% (MaineCare payor mix)), which is both the Federal and State portions combined. Currently the impact to the State portion of the budget per year would be approximately $236,619 ($676,054 x 35%) if MaineCare reimbursed 100% of costs. The CONU recognizes that MaineCare does not reimburse 100% of its' share of the costs to EMMC therefore, the actual impact on the budget would be somewhere less than $236,619.

iii. Conclusion

In absence of a determination of need (Sec. IV), and considering the estimated additional costs to MaineCare, CONU recommends that the Commissioner determine that the proposed project is not consistent with the orderly and economic development of health facilities.

VI. State Health Plan

A. From Applicant

The applicant provided the following information in regards to how this proposed project relates to priorities of State Health Plan:

Specific Priorities from pages 56-60 of the State Health Plan include the following:

- State Health Plan Priority: Projects that protect public health and safety are of utmost importance.

"Projects that directly and unambiguously protect the public's health and safety are assigned the highest priority in the current environment, where resources are constrained. Examples of such projects include:

- *Elimination of specific threats to patient safety;*
- *Projects that center on a redirection of resources and focus toward population-based health and prevention…including prevention, early detection, treatment and rehabilitation of chronic conditions …. At a minimum priority projects will devote a portion of the total "value" or cost of the project to new investment in a related public health effort that is aimed at reducing the demand for the service proposed under the application at the population level…."*

Improved Patient and Staff Safety. The proposed facility will enhance the safety of patients, visitors and staff in the following ways:

- Minimize potential for error due to overcrowded conditions. There will be less clutter, less noise, greater ease of access and more patient privacy. Patient care staff will be able to focus more on patient care without dealing with the problems of inadequate space.

- There will be adequate space for necessary equipment, such as IV poles and patient monitors, minimizing the risk of patient falls.
- Physical access to patients for staff responding to adverse drug reactions or other emergencies will be greatly improved.
- Increased space for family and friends accompanying patients will increase patients' sense of safety, well-being and comfort - making all procedures easier.
- Parking for patients will be greatly improved. The shorter distance patients will travel to the facility entrance will decrease risk of falls."

State Health Plan Priority: Projects that center on a redirection of resources and focus toward population-based health and prevention

"Page 57 of the Maine State Health Plan states:"

> "The DHS will convene an advisory committee comprising representatives of Maine hospitals, ACSs, health care professionals and experts in public health to define for the CON Program what types of investments called for in this priority will "qualify" a project as having met this criteria. This priority will be effective beginning with the with the large project review cycle slated for January, 2007."

"Page 60 of the Plan also states under the heading "Tasks/Deadlines/Responsibilities":"

> "The Department of HHS will convene a workgroup of relevant stakeholders comprising representatives of Maine hospitals, ambulatory care centers, health care professionals and experts in public health to define for the CON Program what types of investments called for in this priority will "qualify" a project as having satisfied the criteria for investment in public health, discussed under the first priority for CON projects, above. This workgroup will be convened no later than June 2006 and shall complete its work by September 2006, in advance of the deadline for CON letters of intent for the January 2007 review cycle."

"This advisory committee/workgroup is expected to hold its first meeting in January 2007. The definition of what "qualifies" under this priority called for in the current Maine State Health Plan is not yet available to applicants submitting applications for review in the 2007 hospital large project cycle. Also, it is not clear if the intent of the State Health plan, in calling for the redirection of resources to public health efforts, is referring to capital or operating resources; EMMC uses both."

"Even though the definition of what "qualifies" activities under this priority is not yet available to applications in this CON cycle, EMMC will continue its work in this area. EMMC, as applicant, is working in many areas that will strengthen public health in the region. While not specific to the proposed CON project, EMMC as applicant has been a substantial champion for prevention of illness on the community for many years. Three examples of this commitment are:

- Since 1988, EMMC has dedicated the department of Community Wellness Services to the regional community. The professionals in that department provide risk factor assessment, health screening and health promotion education in both community and workplace setting. For the last 10 years, that investment on staff and services is approximately $350,000 per year. Most recently EMMC's Community Wellness Program has formed a new collaborative with the Maine Network for Health called Health & Wellness Services. EMMC provides access to

a full spectrum of comprehensive employee wellness programs from screening and health risk assessments, to coaching and nurse advocacy for high risk individuals and care management for catastrophic illness. Current clients include Jackson Lab and Maine Distributors.

- EMMC and EMHS are charter members and strong supporters of the Bangor Region Wellness Council (BRWC). EMMC has been one of the primary drivers behind this program sponsored by the Bangor Region Chamber of Commerce. EMMC leadership helped form the BRWC to assist employers in establishing best practices for employee health promotion. In addition, in 2006 EMMC became a major sponsor of the BRWC, committing $10,000 a year for 3 years to help sustain this award winning initiative. In 2006, the Greater Bangor Region was recognized as the first "Well Region" in the nation by the Wellness Council of America (WELCOA), a non-profit group dedicated to employee wellness programs.
- EMMC's Cardiac Wellness of Maine provides prevention programming to the greater Bangor region. The offerings, while broad, are specifically targeted to address lifestyle issues that contribute to heart disease. Programs include cooking demonstrations along with classes that focus on stress management, activity, lipid management, and risk reduction. Like other communities heart disease is the major cause of death in central and northern Maine. For this reason, it is the mission of Cardiac Wellness of Maine to supply information to its constituents through Phase II programming, community outreach, and its cardiovascular learning center.
- EMMC imaging services are committed to re-directing health care resources to appropriate imaging tests. More about this allows in the explanation of the Imaging quality programs."

"<u>Redirection of resources and focus toward population-based health and prevention</u>.
These types of projects would not normally be CON-related projects as they do not involve a capital expenditure or other activity that would trigger CON review."

"The outcome of treatment for chronic diseases is often largely dependent on early detection. While prevention should be the first priority, early detection is critical. EMMC recognizes the importance of this component and will continue its efforts directed at increasing citizen awareness of the importance of appropriate use of screening. An example of EMMC's commitment is its involvement with Caring Connections. This program will be more productive with implementation of the proposal. With improved access to care and increased capacity, compliance with nationally accepted mammography screening guidelines will be greatly enhanced."

<u>Caring Connections:</u>
"Caring Connections is a cooperative program developed September 1996 between Eastern Maine Medical Center and The Bangor –Brewer YWCA (now known as the Bangor Y). EMMC engaged the Bangor Y to provide certain outreach, education, support group services for breast and cervical cancer, focusing on women with low income, no insurance or underinsured. Osteoporosis outreach support and education along with menopause education is also a key component to this community service that joined this program in 1999."

"The need was initially identified with research from the CDC and the Maine Breast and Cervical Health Program. Subsequently, the continued need has been supported by participant/provider evaluations, reports from the Office of Women's Health, National Breast Cancer Coalition, American Cancer Society, National Consortium of Breast Centers, National Cancer Institute, Maine Women's

Health Initiative, EMH Regional Community Needs Assessment and the mission and vision of both EMMC and Bangor Y."

"Caring Connections provides many services: Breast and cervical cancer education, assistance with arranging for appropriate screenings through EMMC's Center for Family Medicine and Breast and Osteoporosis Center using MBCHP guidelines, barrier to care reduction (personal navigators, transportation assistance) support and financial assistance for diagnostic and treatment received at EMMC. EncorePlus, a support and exercise group for breast cancer survivors is currently in 7 counties. Bridging the Gap addresses the women with an identified breast problem needing diagnostic care but who do not qualify for MBCHP due to age but meet the financial guidelines. This program also includes education and printed material specifically for young women about breast health. Bridging Books allows for consistent education material to be provided to women newly diagnosed with breast cancer. Oncologists and surgeons in 6 counties are using this informational packet which provides consistent reference material to women at a very difficult time. Osteoporosis outreach and education is offered individually small groups or in bimonthly in the Osteoporosis Support and Education group. This promotes bone health, identifies risk factors and assists those living with osteoporosis and osteopenia. The need for general health information and understanding of the changes women face with menopause was the impetus to add this to the program."

"Maine Breast and Cervical Health Program participants run at 98-100% capacity in this program. EMMC's cap with MBCHP and the Center for Family Medicine at EMMC is 225 participants at any given time. When the location is conducive to collaboration, Caring Connections will team up with Community Wellness and offer worksite education and coordinates the Women's Week annual Health Fair. Caring Connections information is distributed thoroughly in the region by a number of mechanisms."

"Project results are measured quarterly. This includes a review of the monthly activity logs, provider and participant evaluations. The review looks at effectiveness, quality, objective and cost. This program is funded currently by EMMC, $96,905 annually, and several grants especially the Susan G. Komen Foundation and Avon."

- ***State Health Plan Priority: Projects that contribute to lower costs of care and increased efficiencies are also high priorities.***

…Projects that clearly demonstrate that they will generate cost savings either through verifiable increased operational efficiencies or through strategies that will lead to lower demand for high cost services in the near and long term should be given very high priority during the competitive review process. These types of projects may include:

Projects that physically consolidate hospitals or services that serve all or part of the same area and that demonstrate an appropriate, cost effective use for the "abandoned" infrastructure, that do not result in increased costs to the health care system and that…do not contribute to sprawl

"The proposed Imaging Center will make use of space "abandoned" by a medical warehouse and will not contribute to urban sprawl. The use of existing construction will help limit capital costs. Renovation/construction will use "green" technology wherever possible."

"The proposed site will be designed and built for flexibility. It will be much easier and less costly to add an imaging suite, or change a modality (convert CT suite to MRI for example) at this location than at the main, inpatient campus which is already severely hindered by space limitations."

"Operational efficiencies will be gained by separating outpatients from inpatients. For example, most CT exams at the outpatient imaging center will be scheduled for 15 minute intervals. Currently at EMMC's main campus, because of the difficult logistics of coordinating more complex inpatient cases with outpatient procedures, CT exams are generally scheduled at 20 minute intervals."

"EMMC recognizes that the healthcare system has finite resources and excessive imaging can be a safety issue. Erik Steele D.O., EMHS' Chief Medical Officer, illustrates EMMC and EMHS' awareness of these issues and the commitment to contain healthcare costs while improving patient safety in his two recent columns in the Bangor Daily News (Included as Attachment H). *(On file at CONU.)* Dr. Steele is responsible for coordinating EMHS' system-wide (including seven hospitals) medical and safety protocols. EMMC and Spectrum Radiologists will build on current protocols to insure appropriate imaging utilization and to increase the awareness of referring physicians. Besides the QI/QA standards included in this application, EMMC will use some of its resources to strengthen these protocols. Where applicable, ordering physicians will be asked to review relevant protocols for appropriateness of test at the time of ordering. To EMMC's knowledge this is not yet being done in Maine. As the referral center for northern and eastern Maine, EMMC recognizes its responsibility to ensure technology is safe and used appropriately."

"EMMC's CT volume has nearly doubled in the last five years, which matches the national trend. At this rate of increase in demand, EMMC would need three additional CT scanners by 2012, not just the one proposed in this application. EMMC's QA/QI initiatives monitor utilization for appropriateness. EMMC's approach is a careful assessment of the rapid growth in need for imaging services. EMMC believes its proposal to add one CT scanner at this time more appropriately matches the true need for this service."

EMMC Imaging Services Quality Assurance activities

"Eastern Maine Medical Center Imaging Services considers quality and safety in health care its highest priority and has a long history as a leader and innovator in these areas. Some of the highlights of the Quality programs include:"

"Over-reads and random reviews. Phase 1 - With the implementation of an Imaging Picture Archiving and PACS solution, EMMC has algorithms in place to ensure that all after hours studies are re-interpreted by a radiologists practicing on days. EMMC utilizes the American College of Radiology (ACR) criteria to quantify disagreements over interpretation of imaging results. A notification system is in place to handle these discrepancies. Phase 2 roll-out will be for random peer review of all cases within the data base. This is scheduled for March – April 2007. **Attachment P** *(On file at CONU.)* provides the workflow and notification process of the peer review."

"Reporting of Critical Findings. EMMC has a well-defined process of notifying the ordering physician of findings of a critical nature. In these cases the radiologist personally makes contact with the provider. For example, a radiologist will call the ordering physician when a lung nodal is seen on

a PE study. What is less well-defined is the process of notification for exams with findings that are not considered life threatening but need follow-up within a 14 day timeframe. It has been up to the individual radiologist to make a determination on whether the finding was significant enough to call the ordering physician's office. EMMC is in the process of developing a notification system which will automatically track within the current information system any results that have been identified as non-urgent follow-up."

"Utilization of Imaging Studies: EMMC recognizes that the healthcare system has finite resources, also there is recognition that excessive imaging can be a patient and staff safety issue. EMMC is working closely with the Medical Staff to insure that EMMC does not over utilize imaging studies. A few examples of activities include:"

1. "In the fall of 2006, EMMC received a copy of the Maine Quality Forum's An Analysis of Population Based Utilization of Advanced Imaging (CT and MRI) Maine All-payer Database, January 2003 – June 2005. EMMC has reviewed this analysis and, given our focus on eliminating inappropriate exams, is concerned with the findings presented in the Table 3 – Proportion of Advanced Imaging Procedures with an Appropriate Concurrent Diagnosis. This study identified the Bangor area has having only 50.6% of Abdominal/Pelvic CT and 81.2% of Lumbar Spine CTs ordered deemed appropriate. In November and early December of 2006, EMMC Chief of Radiology reviewed 102 randomly chosen CT records of exams that met the criteria in the MQF analysis using the ACR appropriateness Criteria®."

"The ACR Appropriateness Criteria® are evidence-based guidelines to assist referring physicians and other providers in making the most appropriate imaging or treatment decision. By employing these guidelines, providers enhance quality of care and contribute to the most efficacious use of radiology. The guidelines are developed by expert panels in diagnostic imaging, interventional radiology, and radiation oncology. Each panel includes leaders in radiology and other specialties. There are currently over 160 topics. For more information on the background and development process see a detailed description in **Attachment P**." *(On file at CONU.)*

"Findings from this review were as follows:"

"Using the ACR appropriate Criteria® our findings were:"

ACR Score (*)	Abdominal/Pelvic CT Reviews	Lumbar/Spine CT Reviews
8	84	12
6	2	3
4	0	1
Total Reviewed	86	16

(*) ACR Scores: 7-9 = most appropriate, 4-6 = appropriate, other imaging modality may be better, 1-3 = not appropriate

"Conclusion: 100% of all Abdominal CT's were performed appropriately. Of the Lumbar spine CTs - 75% were appropriately ordered, 19% were borderline with further investigation needed and one study

(6%) should have been an MRI. EMMC will be reviewing additional Spine CTs to provide more education to ordering providers and radiologists."

2. "Spectrum Medical Group has published a booklet that identifies the least expensive and most appropriate exam to minimize duplication or performance of unnecessary exams and distributed this to all the ordering providers in the region. See Attachment Q. *(On file at CONU.)* This booklet is based on of the ACR appropriateness criteria® and the Royal College of Radiology in London. Since this booklet became available, EMMC has noted a decrease in the number of times that referring providers needed to be contacted to either arrange a more appropriate exam or to cancel an exam altogether."

3. "Clinical Decision Support and Computerized Physician Order Entry (CPOE) is currently being implemented at Eastern Maine Medical Center. EMMC has a team of imaging specialists as subject matter experts who are utilizing the ACR appropriateness criteria® to establish rules and triggers at the time the order is placed to assure the correct, most appropriate exam is ordered for the clinical question being asked. EMMC is also developing rules around cases with multiple CTs within a 72 hour period to identify patients who potentially are at a higher risk of contrast induced nephrotoxicity."

4. "During FY06, EMMC experienced a growth in inpatient days of approximately 3% with a corresponding increase in inpatient imaging studies of 13%. A significant portion of this increase is due to increased patient acuity as EMMC's case mix index continues to increase. However EMMC is committed to being good stewards of finite healthcare dollars and has established a multi-disciplinary group which will be examining hospital-wide and individual provider utilization of imaging studies."

5. "Review of standardized order sets and decrease utilization. In the spring of 2005, it was identified through a staff member that all post-CABG (cardiac surgery) patients were receiving a chest x-ray exam in post anesthesia (PACU). After an extensive review of cases, it was noted that regardless of the result of the chest x-ray there were no changes in treatment plan. EMMC removed the routine post-op chest x-ray from the standardized order sheet and decreased chest x-rays for this patient population by 100%, a total of 800 exams. EMMC had a similar experience in early 2006 with post-op hip films. EMMC is currently in the process of reviewing all order sets and practice to eliminate routine imaging studies where there was little to no change in treatment plan whether the study was positive or negative."

"EMMC plans to extend robust evaluation studies of appropriateness of studies into the outpatient setting as data becomes available."

State Health Plan Priority: Projects that advance access to services and reflect a collaborative, evidence-based strategy for introducing new services and technologies are also priority projects.

"No new technology is being introduced as part of this proposal."

- ***State Health Plan Priority: Projects and/or applicants demonstrating certain attributes should be deemed higher priority than those without these attributes.***

- ***Projects that include a complementary preventive component that will lead to a reduced need for services at the population level will receive the highest priority among all applications reviewed in a given review cycle***.

...Projects and/or applicants that demonstrate a tangible, real investment in MHINT should be assigned a higher priority ranking…

Similarly, applicants and/or projects representing real investments in EMR systems both in the hospital and in community medical practices will receive a higher priority ranking than those applicants failing to make such an investment. Qualifying investments will support clinical data exchange between separate data systems or applications using accredited standards for the exchange of data such as HL7.

Tangible real investment in Health Info Net

"EMHS plays an active role in HealthInfoNet (formerly MHINT), an independent not-for-profit 501(c)(3) information service provider, organized under the governance and oversight of representatives for consumers, health care providers, business, government, and payers. HealthInfoNet is a bridge to achieving coordinated continuity of care and enhanced safety for individuals seeking health care across the State of Maine and beyond. EMHS is involved in many aspects of HealthInfoNet. Dan Coffey, EMHS Executive Vice President is a Board Member and Treasurer. Cathy Bruno, EMHS Chief Information Officer, and Eric Hartz, M.D., EMHS Chief Medical Information Officer, are members of the Technology and Professional Practice Advisory Committee, the group that will choose the technology vendor. John Branscombe, COO of Maine Network for Health, a PHO which works closely with EMHS and EMMC, participates on the Consumer Advisory Committee. Glenn Martin and Carl Faulstick, EMHS Corporate Compliance Officers serve on the Privacy and Security Variations Work Group. Len Giambalvo, EMHS Vice President for Legal Services, is a member of the Privacy and Security Legal Work Group. Carol King, EMHS Director of Provider Relations is a Technology Committee Subject Expert. In addition, to date, EMHS has donated $50,000 to help fund the start up of HealthInfoNet."

- "Provider education will be a continuing component of this project as well."
- "The measure of success of these initiatives will include continued provider education, increased age and risk appropriate screening and ultimately improved rates of early diagnosis."

Contribution to lower costs of care and increased efficiencies

…The promotion of both early detection and prevention strategies will result, over time, in lowered costs of care to Maine's healthcare system .

- "More efficient outpatient and inpatient scheduling has the potential to lower operating costs.
- Separation of outpatient and imaging services at the hospital will remove the current logistical difficulties and will have the potential to shorten hospital inpatient length of stay."

Advancing access to services

- "The primary intent of this project is to improve access to existing services. Based on trended service growth, EMMC's main hospital campus cannot sustain, effectively or appropriately, the increased need for imaging services.

- Patient access will be improved in the following ways:
  - Patients and families from throughout the region traveling to the area by automobile will have an easier time reaching the new Outpatient Imaging Center. The location near I-95 and Union Street will aid those coming from all directions.
  - Bus service is available at the new location for residents of the greater Bangor area.
  - The imaging center will be visible from first arrival on the campus. The difficulty finding the current center on the congested EMMC campus has been identified as problematic new patients and families. The newly built Center will be much easier to locate for patients and families with a clearly visible entrance
  - Parking will be enhanced.
  - Within the center itself, environmental design will permit easier way-finding and closer proximity for essential services.
  - Access to radiology is significantly improved by EMMC's regional PACS. The OIC will include PACS reading stations throughout the facility."

Healthiest State in the Nation initiatives

- "One example of EMMC's commitment to prevention is new major employee wellness initiative following the lines of Be Fit for Maine's Future. EMMC's program is For the Health of It. Participants will complete a personal health risk appraisal on-line, engage with a health professional (nurse or health educator) from either Advocates for Health, a Maine Network for Health program or EMMC's Community Wellness service to develop a health promotion /coaching plan and become eligible for incentives based on continued program participation and goal achievement. Coaching is available throughout participation, as well as on-line to WebMD and by phone to "Health Line" is a toll-free phone number staffed by nurses and other health professionals at Advocates for Health. EMMC is one of the largest employers in the region with about 3000 employees. The plan is to begin first with EMMC and then roll it out to other EMHS organizations, as they are interested. The program is set to launch in early 2006."

Investment in Electronic Medical Record

"A key component to regional health is a medical record that is easily accessible with all of the appropriate safeguards for patient confidentiality. EMMC is committed to the development of a regional health record, beginning this initiative in the mid 1990's. EMMC first connected its oncology clinic in Blue Hill with operations on EMMC's campus. Since the beginning of the project, EMMC has spent nearly $40,000,000 in implementing Cerner Millennium clinical systems. In December 2004 another $14,208,000 was committed including annual maintenance on existing Cerner Millennium applications as well as software licenses for Cerner's newest applications like CVNet for cardiology, Inet for ICU, Profit for patient billing, and SURGInet for Anesthesiology. As of September 2004, EMMC signed a $23,000,000 multi-year contract for Cerner to be the remote host - one more step in assuring that when a provider needs the system to respond to patient care needs it will be available to support his/her delivery of care. These dollars will support the continued development of seamless access to information and safeguards that can come from physician order entry, automatic rules that prevent drug interactions and inappropriate dosing, assists to decision making assuring best practice interventions, and clear communication reducing the risk of misinterpretation - all enhancements to patient safety and best care outcome. EMMC recently received at $500,000 grant from the USDA to develop regional e-ICU support."

- "The OIC will not have an impact on the costs of other providers".

- ***State Health Plan Priority: Projects that exercise less than a 0.5% increase on regional insurance premiums shall be given priority consideration under the CON review process***.

"The Bureau of Insurance will be conducting this analysis as part of the review process. The methodology to determine this calculation is not yet available to CON applicants. Because of the relatively small amount of incremental costs involved with this project, EMMC believes that the proposed Outpatient Imaging Center will have minimal affect on insurance premiums and will be well under the above threshold."

Compliance with Dirigo's "Voluntary" Targets:

"The impact of the proposed project on EMMC's cost per case mix adjusted discharge (CMAD) is to decrease the cost per CMAD by four tenths of one percent (-.4%). Under the first three years of Dirigo (through fiscal year 2005), EMMC's cost per CMAD increased a cumulative 9.8% as compared to a cumulative target of 10.8%. However in fiscal year 2006, the increase was 8% as a result of pressures on healthcare wages and the need to hire additional staff for volume purposes and for regulatory reporting purposes (quality initiatives). EMMC's operating margin for the first three years of Dirigo averaged 3% and was 2.7% in fiscal year 2006."

B. CONU Discussion

i. Criterion

Is Consistent with the State Health Plan. For this determination, the Commissioner will be guided by the priority criteria set forth in the State Health Plan. Those projects meeting the greatest number of criteria in any of the relevant priority groupings will be given the highest priority and consideration for approval by the Commissioner.

State Health Plan goals targeted by Applicant include:	**State Health Plan Priority**
Improve Patient and Staff Safety	Highest Priority
Redirection or resources	Highest Priority
Real investment in MHINT and EMR systems	High Priority
Contribute to lower cost of care and increased efficiencies	High Priority
Less than a 0.5% increase on regional insurance premiums	High Priority

ii. Analysis

The CONU received the required assessment by Dora Mills, M.D. Director, Maine Center For Disease Control and Prevention to Catherine Cobb, Director, Division of Licensing and Regulatory Services, which was sent via e-mail dated February 1, 2007. Dr. Mills makes the following comments:

1. Whether, and the extent to which, the project is consistent with and furthers the goals of the State Health Plan

"The application indicates that patient safety will be enhanced as the facility will reduce overcrowding, be more accessible with additional parking, located on the ground floor and contain increased space for the patients and families for privacy in the newly renovated facility."

"This project does not involve a redirection of resources toward population-based health and prevention, though the consolidation of outpatient imaging may result in some efficiencies in the delivery of the Caring Connections Program, since it involves outreach to women regarding breast and cervical health services."

"The project is not expected to lower demand for services, and in fact, may increase demand."

"The application indicates that this project is to renovate a facility at the Eastern Maine Healthcare (EMH) Mall and relocate testing services currently provided on the hospital campus and in other areas including those at the Mall. The planned use of the area vacated in the hospital is planned to allow more accessible space for the hospital staff and patients. Since the building that is to be renovated is currently in place this project is not classified as contributing to sprawl."

"This project does not involve a telemedicine component."

"This project does not involve new technologies."

"The project does not involve a comprehensive preventive program. However, the applicant has a history of investments in preventive programs, and specifically mentions Community Wellness Services (~$350,000 per year), Bangor Region Wellness Council ($10,000 per year), Cardiac Wellness of Maine, Caring Connections ($96,905 per year). The applicant states that the newly renovated facility will incorporate green technology wherever possible, but details of this are lacking. The applicant has invested in MHINT and EMR."

Summary of Alignment to 2006/07 State Health Plan:

"This project will consolidate and add several units of major imaging equipment to a location that will provide a greater amount of space for patients and staff that will reduce medication errors, provide patient parking that requires less walking, provide for patient privacy and provide additional space for required ancillary equipment."

2. Whether, and the extent to which, the project will substantially address specific health problems as measured by health needs in the area to be served by the project.

"This project is a renovation project for the purposes of relocation and consolidation of testing equipment that is currently operational in several different locales. Once the consolidation is complete the equipment will continue to be utilized for routine testing. Obviously early disease detection and treatment will lead to decreases in inappropriate utilization and have a positive impact on the patients' ability to have healthier outcomes. However, because the availability of the equipment that is intended to be consolidated is currently being utilized, this project is not considered to be a new comprehensive approach to reducing specific health problems."

3. Whether the project will have a positive impact on the health status indicators of the population to be served.

"There is no evidence provided that relocating the Outpatient Imaging Center to West Bangor in the EMH Mall will positively impact on the health status of the population to be served."

4. Whether the services affected by the project will be accessible to all residents of the area proposed to be served.

"Because Eastern Maine Medical Center is a non-profit institution, it has to make its services accessible to all residents in the service area."

5. Whether the project will provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project.

"Other than the increased space for the patients and their families as well as the testing equipment, there is no indication of improvements in quality or outcome measures for the services in this project."

William A. Bremer, Bureau of Insurance assessment memorandum to Phyllis Powell, Manager CONU dated May 2, 2007 states the following:

"The Bureau of Insurance applied the assessment model that was previously developed internally with support from its consultant, Milliman, Inc., of Minneapolis, MN, in order to develop an estimate of the impact that this CON project is likely to have on private health insurance premiums in Eastern Maine Medical Center's service area and in the entire State of Maine. I have worked with you and your staff at the CON Unit, using the data and support from the US Census Bureau, the State Planning Office, the State Office of Integrated Access and Support, and the Bureau of Insurance, as well as Jean Mellett, Director of Planning, EMMC, and her staff, to perform this assessment."

"The methodology compares the CON project's Year 3 operating costs (adjusted to the year ending June 30, 2007) to the estimated private health insurance average premium per person for the same period – which is the period of time for which the 2006-2007 capital investment fund has been established. Based on the model, I estimate that the maximum impact of this CON project on private health insurance premiums in Eastern Maine Medical Center's service area for the project's third year of operation will be approximately $0.408 per $100 (0.408%) of premium. I further estimate that this project, in its third year of operation, will have an impact on statewide private health insurance premiums of approximately $0.108 per $100 (0.108%) of premium."

iii. Conclusion

The CONU considered the assessment from the Maine Center For Disease Control and Prevention and the assessment from the Bureau of Insurance (BOI) as noted above. EMMC has demonstrated that the project will result in less than a 5% increase on regional insurance premiums according to the assessment from the BOI.

EMMC has invested heavily in a regional PACS system and participates in the HealthInfoNet that is a bridge to achieving coordinated continuity of care and enhanced safety for individuals seeking health

care across the state. However, this application contains nothing new in response to redirection of resources or making a real investment in MHINT and EMR systems that aren't already in place.

The CONU agrees with the assessment by the BOI. The State Health Plan recognizes a project cannot be considered a priority if the regional cost to third party payors exceed an increase greater than .5%. The BOI concluded this project will have an impact of less than .5% to regional insurance costs.

Even though this project does not exceed the .5% criterion, it has not demonstrated it will protect public health and safety as it has not provided enough quantifiable data to support this criteria as referenced in our analysis and conclusion in the Needs Section IV. BOI projects an impact of .408 in EMMC's service area.

CONU recommends that the Commissioner determine that this project does not meet the requirements of the State Health Plan.

VII. Outcome and Community Impact

A. From Applicant

No information was provided by applicant specific to this section.

B. CONU Discussion

i. Criteria

Ensures high-quality outcomes and does not negatively affect the quality of care delivered by existing service providers;

ii. Analysis

The applicant did not provide any data for this section to determine if this project would ensure high quality outcomes. Again, the MQF has documented over scanning in the Bangor area. In addition, the applicant did not provide any market share data for the record to determine what effect if any this project would have on current service providers and/or what the current capacity availability is in regards to existing service providers.

iii. Conclusion

CONU recommends that the Commissioner determine that this project does not ensure high-quality outcomes and has not demonstrated that it will not affect the quality of care by existing service providers.

VIII. Service Utilization Impact

A. From Applicant

No quantifiable data specific to this section was provided by applicant.

B. CONU Discussion

i. Criterion

Does not result in inappropriate increases in service utilization, according to the principles of evidence-based medicine adopted by the Maine Quality Forum, as established in Title 24-A, section 6951.

ii. Analysis

The MQF provided information on this application for the record. Created under Dirigo, the Forum has adopted the national consensus standard definition of healthcare quality. To be quality care, care must be safe, timely, effective, and patient centered. As stated earlier, the MQF had concerns about increases in service utilization. EMMC received a copy of the study at the technical assistance meeting held by the CONU. According to the MQF, CT and MRI scans were above the statewide average in the Bangor area but could not be attributed to any particular provider. MRI and CT services do fall in the category of supply sensitive care where utilization of services is in part drive by supply. EMMC addressed what procedures they have in place plus additional procedures they are committed to put in place to ensure that inappropriate scanning does not take place but they did not address the reason why MRI and CT scans are above the State average in the Bangor region.

iii. Conclusion

The CONU is unable to determine from the information provided by the applicant whether this project will result in inappropriate increases in service utilization from this provider.

IX. Other

i. Criterion

Can be funded within the Capital Investment Fund. 22 M.R.S.A. Sec. 335 (7).

Capital Investment Fund (CIF): "One of the constraints the law puts on Certificate of Need is an annual limit on the dollar value of the projects approved by the Department of Health and Human Services, which are allowed to go ahead with implementation" Maine State Health Plan, (pg 50). CON review criteria requires that a project can be funded within the limits of the CIF. The CONU recommends that this project not be approved so no charge to the Capital Investment Fund is warranted.

X. Timely Notice

A. From Applicant

The applicant provided the following information in regards to timely notice.

"The letter of Intent / reviewability was filed September 29, 2006."

"The technical Assistance meeting was held with CON Unit, Maine Quality Forum and Bureau of Insurance staff on October 17, 2006."

B. CONU Discussion

Letter of Intent filed:	September 28, 2006
Subject to CON review letter issued:	September 29, 2006
Technical assistance meeting held:	October 17, 2006
CON application filed	December 20, 2006
CON certified as complete:	December 20, 2006
Public informational meeting held:	January 10, 2007

As listed above, all the necessary paperwork was filed on a timely manner to be placed into the 2007 Large Hospital Review Cycle

Conclusion

The CONU has determined a timely notice was given.

XI. Findings and Recommendations

Based on the preceding analysis, the CONU makes the following findings and recommendations:

A. That the applicant is fit, willing and able to provide the proposed services at the proper standard of care as demonstrated by, among other factors, whether the quality of any health care provided in the past by the applicant or a related party under the applicant's control meets industry standards;

B. The economic feasibility of the proposed services has not been demonstrated in terms of the:
1) Capacity of the applicant to support the project financially over its useful life, in light of the rates the applicant expects to be able to charge for the services to be provided by the project; and
2) The applicant's ability to establish and operate the project in accordance with existing and reasonably anticipated future changes in federal, state and local licensure and other applicable or potentially applicable rules;

C. That there is a public need for the proposed services has not been demonstrated by certain factors, including, but not limited to;
1) the project will not substantially address specific health problems as measured by health needs in the area to be served by the project;
2) the project will not have a positive impact on the health status indicators of the population to be served;

3) the services affected by the project will be accessible to all residents of the area proposed to be served; and
4) the project will not provide demonstrable improvements in quality and outcome measures applicable to the services proposed in the project;

D. That the proposed services are not consistent with the orderly and economic development of health facilities and health resources for the State as demonstrated by:
1) The impact of the project on total health care expenditures after taking into account, to the extent practical, both costs and benefits of the project and the competing demands in the local service area and statewide for available resources for health care;
2) The availability of State funds to cover any increase in State costs associated with utilization of the project's services; and
3) The likelihood that more effective, more accessible or less costly alternative technologies or methods of service delivery may become available;

In making a determination under this subsection, the commissioner shall use data available in the state health plan under Title 2, section 103, data from the Maine Health Data Organization established in Title 22 Chapter 1683 and other information available to the commissioner. Particular weight must be given to information that indicates that the proposed health services are innovations in high quality health care delivery, that the proposed health services are not reasonably available in the proposed area and that the facility proposing the new health services is designed to provide excellent quality health care.

E. That the project is not consistent with the State Health Plan;

F. That the project does not ensure high-quality outcomes and has not demonstrated that it will not negatively affect the quality of care delivered by existing service providers;

G. That the project does not demonstrate that it will not result in inappropriate increases in service utilization, according to the principles of evidence-based medicine adopted by the Maine Quality Forum; and

H. That the project can be funded within the Capital Investment Fund.

Conclusion

CONU recommends that the Commissioner **DISAPPROVE** this project.