

## ATTACHMENT – REQUIRED STATE AGENCY FINDINGS

### FINDINGS

C = Conforming

CA – Conditional

NC – Nonconforming

NA = Not Applicable

Decision Date: July 20, 2017

Findings Date: July 20, 2017

Project Analyst: Tanya S. Rupp

Team Leader: Lisa Pittman

Project ID #: O-11328-17

Facility: New Hanover Regional Medical Center

FID #: 943372

County: New Hanover

Applicant: New Hanover Regional Medical Center

Project: Acquire an additional CT scanner

### REVIEW CRITERIA FOR NEW INSTITUTIONAL HEALTH SERVICES

G.S. 131E-183(a) The Department shall review all applications utilizing the criteria outlined in this subsection and shall determine that an application is either consistent with or not in conflict with these criteria before a certificate of need for the proposed project shall be issued.

- (1) The proposed project shall be consistent with applicable policies and need determinations in the State Medical Facilities Plan, the need determination of which constitutes a determinative limitation on the provision of any health service, health service facility, health service facility beds, dialysis stations, operating rooms, or home health offices that may be approved.

NA

New Hanover Regional Medical Center (NHRMC, or “the applicant”) proposes to acquire one additional CT scanner to be located adjacent to the emergency department on the main campus of the hospital. NHRMC will have a total of four CT scanners upon project completion. The total cost for the proposed project is \$1,227,364.

#### **Need Determination**

The proposed project does not involve the addition of any new health service facility beds, services, or equipment for which there is a need determination in the 2017 SMFP. Therefore, there are no need determinations applicable to this review.

#### **Policies**

There are no policies in the 2017 SMFP that are applicable to this review.

**Conclusion**

In summary, there are no need determinations or policies in the 2017 SMFP that are applicable to this review. Therefore, this criterion is not applicable to this review.

- (2) Repealed effective July 1, 1987.
- (3) The applicant shall identify the population to be served by the proposed project, and shall demonstrate the need that this population has for the services proposed, and the extent to which all residents of the area, and, in particular, low income persons, racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups are likely to have access to the services proposed.

**C**

NHRMC proposes to acquire one fixed CT scanner to be installed in 422 square feet of renovated space adjacent to the emergency department on the main campus of the hospital. NHRMC is a North Carolina licensed acute care hospital that provides emergency services 24 hours per day, seven days per week at the main campus in Wilmington. NHRMC currently operates three CT scanners at the hospital. At project completion, NHRMC will be licensed for a total of four CT scanners.

The NHRMC system includes seven separately licensed facilities and a total of nine CT scanners, as shown in the table below:

| FACILITY                                     | #<br>SCANNERS | CITY        | COUNTY      |
|--|---------------|-------------|-------------|
| New Hanover Regional Medical Center          | 3             | Wilmington  | New Hanover |
| NHRMC Orthopedic Hospital                    | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Brunswick Forest | 1             | Leland      | Brunswick   |
| NHRMC Health & Diagnostic – Medical Mall     | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Military Cutoff  | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Rocky Point      | 1             | Rocky Point | Pender      |
| NHRMC Health & Diagnostic – North            | 1             | Wilmington  | New Hanover |

In Section C, page 29, the applicant states the proposed CT scanner will be located in space that is currently used as a waiting room for surgical trauma intensive care unit (STICU) patient’s family members. Emergency patients who need CT scans will be still be served on the existing scanner that is located in the emergency department.

**Patient Origin**

The 2017 SMFP does not define a service area for CT scanners. The Criteria and Standards for Computed Tomography Equipment (10A NCAC 14C .2301) state that the service area for a fixed CT scanner is defined as “a geographical area defined by the applicant from which the applicant projects to serve patients.” The applicant defines its service area based on its

historical patient origin, as shown in the two tables below. Providers may also serve residents of counties not included in their service area.

In Section C.2, page 34, the applicant provides historical patient origin for CT services at the hospital, as summarized in the table below:

| COUNTY                             | # PATIENTS<br>FY 2016 | % OF TOTAL<br>FY 2016 |
|------------------------------------|-----------------------|-----------------------|
| New Hanover                        | 23,343                | 54.3%                 |
| Brunswick                          | 7,246                 | 16.9%                 |
| Pender                             | 4,754                 | 11.1%                 |
| Onslow                             | 1,913                 | 4.5%                  |
| Columbus                           | 1,692                 | 3.9%                  |
| Other NC counties and other states | 4,022                 | 9.3%                  |
| <b>Total</b>                       | <b>42,970</b>         | <b>100.0%</b>         |

Numbers may not sum due to rounding

In Section C.2, page 35, the applicant projects patient origin for CT services at the hospital for the first three project years, as summarized in the table below:

| COUNTY                          | FIRST FULL FY<br>10/1/18 – 9/30/19 |                          | SECOND FULL FY<br>10/1/19 – 9/30/20 |                          | THIRD FULL FY<br>10/1/20 – 9/30/21 |                          |
|---------------------------------|------------------------------------|--------------------------|-------------------------------------|--------------------------|------------------------------------|--------------------------|
|                                 | #<br>PATIENTS<br>FY 2019           | % OF<br>TOTAL FY<br>2019 | #<br>PATIENTS<br>FY 2020            | % OF<br>TOTAL FY<br>2020 | #<br>PATIENTS<br>FY 2021           | % OF<br>TOTAL FY<br>2021 |
| New Hanover                     | 26,724                             | 54.3%                    | 27,980                              | 54.3%                    | 29,295                             | 54.3%                    |
| Brunswick                       | 8,317                              | 16.9%                    | 8,708                               | 16.9%                    | 9,118                              | 16.9%                    |
| Pender                          | 5,463                              | 11.1%                    | 5,720                               | 11.1%                    | 5,988                              | 11.1%                    |
| Onslow                          | 2,215                              | 4.5%                     | 2,319                               | 4.5%                     | 2,428                              | 4.5%                     |
| Columbus                        | 1,919                              | 3.9%                     | 2,010                               | 3.9%                     | 2,104                              | 3.9%                     |
| Other NC counties, other states | 4,577                              | 9.3%                     | 4,792                               | 9.3%                     | 5,017                              | 9.3%                     |
| <b>Total</b>                    | <b>49,215</b>                      | <b>100.0%</b>            | <b>51,528</b>                       | <b>100.0%</b>            | <b>53,950</b>                      | <b>100.0%</b>            |

Numbers may not sum due to rounding

The applicant adequately identifies the population proposed to be served.

**Analysis of Need**

In Section C.4, pages 37 - 43, the applicant describes the factors which it states support the need for the proposed project, including:

- The population of New Hanover County increased by 7.9% from 2011 to 2016 and is projected to increase by 6.5% between 2016 and 2021 (page 38).
- The primary service area population, which includes New Hanover, Brunswick, Columbus, Pender and Onslow counties, increased by 8.1% between 2011 and 2016 and is projected to increase by 7.2% between 2016 and 2021 (page 39).

- The population aged 65 and older accounted for 16.7% of the population in the primary service area but represented 45.2% of the total CT scans performed at NHRMC in FY 2016 due to the increased need of this age group for orthopedic and neurological scans (page 39).
- NHRMC's staff has increased from 470 to 565 physicians in the past decade, and is scheduled to add additional physicians to its physician group network. This will increase referrals to NHRMC for CT scans, particularly when additional specialties are added to the group (page 40).
- The applicant began operating an Accountable Care Organization (ACO) in January 2014, which resulted in an increase in NHRMC's market share in its service area from 18.1% to 20.9% in the three year period. The applicant states an ACO is "*a set of health care providers – including primary care physicians, specialists, and hospitals – that work together collaboratively and accept collective accountability for the cost and quality of care delivered to a population of patients.*" (pages 41-42).
- NHRMC has experienced growth in nearly all inpatient and outpatient services since FY 2008. Total inpatient days of care have increased 22.2%, emergency department visits by 25.8%, outpatient visits by 58.0%, and CT scanner services have increased by 27.7% from FY 2008 to FY 2016.

In summary, the applicant adequately demonstrates the need for one additional fixed CT scanner at NHRMC.

### **Projected Utilization**

In Sections C.6, page 45 and Form C in Section Q, the applicant projects utilization of the existing and proposed fixed CT scanners at NHRMC as summarized below.

The applicant identified the number of CT scans for FY 2012 through FY 2016 by using the 2013 - 2017 LRAs, and calculated the average annual change rate in the number of CT scans for that time, which was 9.4%.

The applicant projects CT scans using one - half of the average annual change rate calculated for the five-year period FY 2012 – FY 2016, or 4.7%. The applicant states the growth in the number of CT scans performed at NHRMC from FY 2015 to FY 2016 increased to 11.3%; therefore, the 4.7% growth rate used to project future utilization is both conservative and reasonable, given the historical growth rates from FY 2012 to FY 2016 and the growth rate from FY 2015 to FY 2016.

The applicant provides utilization for historical years FY 2012 - 2016; interim years FY 2017 - 2018; and the first three operating years FY 2019-2021, as shown in the following table:

|               | HISTORICAL |            |            |            |            | INTERIM    |            | PROJECTED  |            |            |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|               | 5          | 4          | 3          | 2          | 1          | 1          | 2          | 1          | 2          | 3          |
|               | FY<br>2012 | FY<br>2013 | FY<br>2014 | FY<br>2015 | FY<br>2016 | FY<br>2017 | FY<br>2018 | FY<br>2019 | FY<br>2020 | FY<br>2021 |
| CT Scans      | 46,727     | 50,677     | 54,064     | 60,115     | 66,893     | 70,037     | 73,329     | 76,775     | 80,384     | 84,162     |
| % Change      | --         | 8.5%       | 6.7%       | 11.2%      | 11.3%      | 4.7%       | 4.7%       | 4.7%       | 4.7%       | 4.7%       |
| # Change      | --         | 3,950      | 3,387      | 6,051      | 6,778      | 3,144      | 3,292      | 3,446      | 3,608      | 3,778      |
| # CT Scanners |            |            | 9          | 9          | 9          | 9          | 9          | 10         | 10         | 10         |
| # HECT Units  |            |            | 84,734     | 94,019     | 105,345    | 110,296    | 115,480    | 120,907    | 126,590    | 132,539    |

Based on its own utilization data, the applicant projects its proposed fixed CT scanner will perform in excess of the utilization threshold of 5,100 HECT units per year required under the Criteria and Standards for Computed Tomography Scanners promulgated at 10A NCAC 14C .2302(b). The applicant's projections are based on historical utilization and are supported by population growth projections in the service area. Additionally, the applicant is already performing in excess of the utilization threshold required by 10A NCAC 14C .2303. Average utilization of all the CT scanners in the entire service area as defined by the applicant is in excess of the utilization threshold required by the Rules. Projected utilization is thus based on reasonable and adequately supported assumptions. Therefore, the applicant adequately demonstrates the need to acquire one additional fixed CT scanner.

**Access**

In Section C.10, page 48, the applicant states that NHRMC is a not-for-profit organization that does not discriminate against any class of patient based on ability to pay, race, ethnicity, sex, handicap or age. The applicant states it actively participates in the Medicare and Medicaid programs. In Section L.3, page 88, the applicant projects that 56.5% of patients will have some or all of their CT scanner services paid for by Medicare and/or Medicaid. On page 88, the applicant also states that it includes indigent and charity care patients in the self-pay category of payor sources and states that it provided nearly \$13.6 million in charity care and wrote off more than \$84.2 million in unpaid patient accounts as bad debt during FY 2016. The applicant adequately demonstrates the extent to which all residents, including underserved groups, will have access to the proposed services.

**Conclusion**

In summary, the applicant adequately identifies the population to be served, demonstrates the need the population has for the services proposed, and adequately demonstrates the extent to which all residents, including underserved groups, will have access to the proposed services. Therefore, the application is conforming to this criterion.

- (3a) In the case of a reduction or elimination of a service, including the relocation of a facility or a service, the applicant shall demonstrate that the needs of the population presently served will be met adequately by the proposed relocation or by alternative arrangements, and the effect of the reduction, elimination or relocation of the service on the ability of low income persons, racial and ethnic minorities, women, handicapped persons, and other underserved groups and the elderly to obtain needed health care.

NA

- (4) Where alternative methods of meeting the needs for the proposed project exist, the applicant shall demonstrate that the least costly or most effective alternative has been proposed.

CA

In Section E.3, page 61, the applicant states that no alternative exists to the proposal to acquire an additional CT scanner at the hospital for the following reasons:

- The applicant states that the location in the hospital in which the proposed CT scanner will be located is adjacent to the emergency department and the CT control room, thus making the location ideal for a new CT scanner.
- The hospital system's nine existing CT scanners are operating at more than two times the minimum standard set forth in 10A NCAC 14C §.2303(2), and the three CT scanners at the main hospital are exceeding capacity daily. The applicant states that, as a result, the NHRMC is continually changing the CT schedule to accommodate emergency and in-patients, which adversely effects other patients who need CT scanner services.
- The applicant states the NHRMC Orthopedic Hospital, currently located approximately five miles distant, will relocate to the main hospital campus, further straining CT scanner capacity.

Furthermore, the application is conforming to all other statutory and regulatory review criteria, and thus, is approvable. A project that cannot be approved cannot be an effective alternative.

In summary, the applicant adequately demonstrates that the proposal is the least costly or most effective alternative to meet the identified need. Therefore, the application is conforming to this criterion and approved subject to the following conditions.

- 1. New Hanover Regional Medical Center shall materially comply with all representations made in the certificate of need application.**
  - 2. New Hanover Regional Medical Center shall not acquire, as part of this project, any equipment that is not included in the project's proposed capital expenditures in Section VIII of the application and that would otherwise require a certificate of need.**
  - 3. New Hanover Regional Medical Center shall acknowledge acceptance of and agree to comply with all conditions stated herein to the Agency in writing prior to issuance of the certificate of need.**
- (5) Financial and operational projections for the project shall demonstrate the availability of funds for capital and operating needs as well as the immediate and long-term financial feasibility of the proposal, based upon reasonable projections of the costs of and charges for providing health services by the person proposing the service.

C

New Hanover Regional Medical Center proposes to acquire an additional CT scanner for use in renovated space adjacent to the emergency department on the main campus of the hospital.

**Capital and Working Capital Costs**

In Form F.1a in Section Q, page 107, the applicant projects the total capital cost of the proposed project will be \$1,227,364, as follows:

|                             |                    |
|-----------------------------|--------------------|
| Construction/Renovation:    | \$412,418          |
| Medical Equipment:          | \$727,966          |
| Architect/Engineering Fees: | \$ 28,500          |
| Furniture:                  | \$ 25,000          |
| Consultant Fees             | \$ 35,000          |
| Contingency                 | \$ 48,480          |
| <b>Total:</b>               | <b>\$1,277,364</b> |

In Section F.3, page 64, the applicant states it projects \$22,427 in start-up expenses, incurred to hire 2.1 Full Time Equivalent (FTE) CT Technologists over a one month period. The applicant states it does not project any initial operating expenses associated with the project, since it currently operates CT scanners in the hospital.

**Availability of Funds**

In Sections F.2 and F.3, pages 62 and 64, the applicant states the entire capital cost of the project will be funded with cash, accumulated reserves, or owner's equity. Exhibit F.2 contains a letter dated April 9, 2017 from the Chief Financial Officer for New Hanover Regional Medical Center which states that NHRMC will fund the capital cost of \$1,277,364 and the working capital cost of \$22,427 through "*Cash and Investments (Designated by Board for Capital Improvements)*." Exhibit F.2 also contains NHRMC's consolidated balance sheets, which indicate that as of September 30, 2016, NHRMC had \$85,535,000 in cash and cash equivalents, \$1,203,871,000 in total assets, and a net position of \$783,364,000. The applicant adequately demonstrates that sufficient funds will be available for the capital and working capital needs of the project.

**Financial Feasibility**

The applicant provides pro forma financial statements for the first three full fiscal years of operation following completion of the project in Section Q of the application. The applicant projects that revenues will exceed operating expenses in the first three operating years of the project, as shown in the table below.

| <b>NHRMC CT SCANNER PROJECTED REVENUE AND EXPENSES – FYs 2019-2021</b> |                       |                       |                       |
|--|-----------------------|-----------------------|-----------------------|
|  | <b>OY 1 – FY 2019</b> | <b>OY 2 – FY 2020</b> | <b>OY 3 – FY 2021</b> |
| Total Number CT Scans  | 76,775                | 80,384                | 84,162                |
| Total Gross Revenues (Charges)   | \$141,712,887         | \$152,824,595         | \$164,807,571         |
| Total Net Revenue  | \$26,252,772          | \$28,311,252          | \$30,531,138          |
| Average Net Revenue per Procedure                                      | \$342                 | \$352                 | \$363                 |
| Total Operating Expenses (Costs)                                       | \$2,804,956           | \$2,981,216           | \$3,062,495           |
| Average Operating Expense per Procedure                                | \$37                  | \$37                  | \$36                  |
| Net Income   | \$23,447,817          | \$25,330,036          | \$27,468,643          |

The assumptions used by the applicant in preparation of the pro forma financial statements are reasonable, including projected utilization, costs and charges. See Section Q of the application for the assumptions used regarding costs and charges. The discussion regarding projected utilization found in Criterion (3) is incorporated herein by reference. The applicant adequately demonstrates sufficient funds for the operating needs of the proposal and that the financial feasibility of the proposal is based upon reasonable projections of costs and charges.

**Conclusion**

In summary, the applicant adequately demonstrates that sufficient funds will be available for the capital and working capital needs of the project. Furthermore, the applicant adequately demonstrates that the financial feasibility of the proposal is based upon reasonable projections of costs and charges. Therefore, the application is conforming to this criterion.

- (6) The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities.

**C**

NHRMC proposes to acquire one fixed CT scanner to be installed in what is currently the STICU waiting area, adjacent to the emergency department on the main campus of the hospital. NHRMC is a North Carolina licensed acute care hospital that provides emergency services 24 hours per day, seven days per week at the main campus in Wilmington. NHRMC currently operates three CT scanners at the hospital. At project completion, NHRMC will be licensed for a total of four CT scanners.

The 2017 SMFP does not define a service area for CT scanners. The Criteria and Standards for Computed Tomography Equipment (10A NCAC 14C .2301) states the service area for a fixed CT scanner is defined as “a geographical area defined by the applicant from which the applicant projects to serve patients.” The applicant defines its service area as New Hanover, Brunswick, Pender, Onslow and Columbus counties. Providers may also serve residents of counties not included in their service area.

The NHRMC system includes seven separately licensed facilities and a total of nine CT scanners, as shown in the table below:

| FACILITY                                     | #<br>SCANNERS | CITY        | COUNTY      |
|--|---------------|-------------|-------------|
| New Hanover Regional Medical Center          | 3             | Wilmington  | New Hanover |
| NHRMC Orthopedic Hospital                    | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Brunswick Forest | 1             | Leland      | Brunswick   |
| NHRMC Health & Diagnostic – Medical Mall     | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Military Cutoff  | 1             | Wilmington  | New Hanover |
| NHRMC Health & Diagnostic – Rocky Point      | 1             | Rocky Point | Pender      |
| NHRMC Health & Diagnostic – North            | 1             | Wilmington  | New Hanover |

In Section C.11, page 54, the applicant provides a table to illustrate historical utilization of the existing CT scanners in the NHRMC system. In FFY 2016, the nine CT scanners performed a total of 66,893 scans, or 105,345 HECT units. According to the Criteria and Standards for CT Scanners (10A NCAC 14C .2300), each existing fixed CT scanner owned or controlled by the applicant shall have performed at least 5,100 HECT units in the 12 months prior to submission of the application. Each CT scanner owned or operated by NHRMC system performed 11,705 HECT units, which is more than twice the minimum required by the rules [105,345 / 9 scanners = 11,705].

Additionally, the project analyst examined utilization in the other facilities located in the applicant’s defined service area, as identified by the applicant in Section G, page 69 (J. Arthur Doshier Memorial Hospital, Novant Health Brunswick Medical Center, Onslow Memorial Hospital, Columbus Regional Healthcare System and Pender Memorial Hospital). The following table illustrates this data:

| FACILITY                               | # CT<br>SCANNERS | #<br>PROCEDURES | #<br>HECTS    | # HECTS /<br>SCANNER |
|--|------------------|-----------------|---------------|----------------------|
| J. Arthur Doshier Memorial Hospital    | 1                | 4,657           | 6,707         | 6,707                |
| Novant Health Brunswick Medical Center | 1                | 12,383          | 17,848        | 17,848               |
| Onslow Memorial Hospital               | 2                | 15,890          | 22,756        | 11,378               |
| Columbus Regional Healthcare System    | 2                | 10,204          | 15,701        | 7,851                |
| Pender Memorial Hospital               | 2                | 4,632           | 7,847         | 3,924                |
| <b>Total</b>                           | <b>8</b>         | <b>47,766</b>   | <b>70,859</b> | <b>8,857</b>         |

Source: 2017 LRAs  
 Numbers are rounded

According to the 2017 LRAs, those facilities performed an average of 8,857 HECT units per CT scanner, which is 173% greater than the required minimum of 5,100 HECT units per CT scanner [8,857 / 5,100 = 1.73].

According to NHRMC’s 2017 LRA, 66,893 procedures were performed on the nine existing CT Scanners, for a total of 105,344 HECT units. If NHRMC had one more CT scanner as proposed in this application, for a total of 10, and the number of HECT units remained constant, the utilization would be 206% of the minimum [105,344 HECT units / 10 CT scanners = 10,534 per scanner. 10,534 HECT units / 5,100 = 2.06]. Likewise, if there had been one more CT scanner in the entire service area as defined by the applicant, and the number of HECT units as performed remained constant, the utilization in the entire service area would still be in excess of the minimum required by the Rules [176,203 total HECT units / 18 CT scanners = 9,789

HECT units per scanner.  $9,789 / 5,100 = 1.93$ , or 193%]. See the following table, which adds NHRMC data to the above table:

| FACILITY                               | # CT SCANNERS | # PROCEDURES   | # HECTS        | # HECTS / SCANNER |
|--|---------------|----------------|----------------|-------------------|
| J. Arthur Doshier Memorial Hospital    | 1             | 4,657          | 6,707          | 6,707             |
| Novant Health Brunswick Medical Center | 1             | 12,383         | 17,848         | 17,848            |
| Onslow Memorial Hospital               | 2             | 15,890         | 22,756         | 11,378            |
| Columbus Regional Healthcare System    | 2             | 10,204         | 15,701         | 7,851             |
| Pender Memorial Hospital               | 2             | 4,632          | 7,847          | 3,924             |
| NHRMC                                  | 9             | 66,893         | 105,344        | 11,705            |
| <b>Total</b>                           | <b>17</b>     | <b>114,659</b> | <b>176,203</b> | <b>10,364</b>     |

Source: 2017 LRAs  
 Numbers are rounded

The applicant proposes to acquire one fixed CT scanner for use in the main hospital. The applicant adequately demonstrates in its application that the fixed CT scanner it proposes to locate in the main hospital is needed in addition to the existing CT scanners in the county. The applicant adequately demonstrates that its projected utilization is based on reasonable and adequately supported assumptions. The discussion regarding projected utilization found in Criterion (3) is incorporated herein by reference.

The applicant adequately demonstrates that the proposal would not result in an unnecessary duplication of existing or approved fixed CT scanner services in the service area. Therefore, the application is conforming to this criterion.

- (7) The applicant shall show evidence of the availability of resources, including health manpower and management personnel, for the provision of the services proposed to be provided.

C

In Section Q, page 120, on Form H, the applicant states that it currently employs 19.03 full time equivalent (FTE) positions to for the CT scanner services at the hospital. According to Form H, the applicant projects to employ a total of 2.1 FTE positions (CT technologists) to staff the proposed additional fixed CT scanner in the second year of the project. In Section H.2, page 72, the applicant describes its experience with and process for recruiting and retaining staff. In Section H.4(b), page 73, the applicant identifies Dr. Willard Hession as the Medical Director for the radiology department at NHRMC. The applicant adequately demonstrates the availability of sufficient health manpower and management personnel to provide the proposed services. Therefore, the application is conforming to this criterion.

- (8) The applicant shall demonstrate that the provider of the proposed services will make available, or otherwise make arrangements for, the provision of the necessary ancillary and support services. The applicant shall also demonstrate that the proposed service will be coordinated with the existing health care system.

C

In Section I, pages 75 - 77, the applicant identifies the necessary ancillary and support services and describes how they will continue to be made available at the hospital. Exhibit I.1 contains a letter from the President and CEO of NHRMC describing the hospital's ancillary and support services that are in place and will continue to be in place following the addition of the proposed CT scanner. In Section I.2, page 76, the applicant lists facilities with which it has existing transfer arrangements and identifies some of the programs it provides to the community through NHRMC Community Health Services. The applicant adequately demonstrates that necessary ancillary and support services are available and that the proposed services will be coordinated with the existing healthcare system. Therefore, the application is conforming to this criterion.

- (9) An applicant proposing to provide a substantial portion of the project's services to individuals not residing in the health service area in which the project is located, or in adjacent health service areas, shall document the special needs and circumstances that warrant service to these individuals.

NA

- (10) When applicable, the applicant shall show that the special needs of health maintenance organizations will be fulfilled by the project. Specifically, the applicant shall show that the project accommodates: (a) The needs of enrolled members and reasonably anticipated new members of the HMO for the health service to be provided by the organization; and (b) The availability of new health services from non-HMO providers or other HMOs in a reasonable and cost-effective manner which is consistent with the basic method of operation of the HMO. In assessing the availability of these health services from these providers, the applicant shall consider only whether the services from these providers:
- (i) would be available under a contract of at least 5 years duration;
  - (ii) would be available and conveniently accessible through physicians and other health professionals associated with the HMO;
  - (iii) would cost no more than if the services were provided by the HMO; and
  - (iv) would be available in a manner which is administratively feasible to the HMO.

NA

- (11) Repealed effective July 1, 1987.
- (12) Applications involving construction shall demonstrate that the cost, design, and means of construction proposed represent the most reasonable alternative, and that the construction project will not unduly increase the costs of providing health services by the person proposing the construction project or the costs and charges to the public of providing health services by other persons, and that applicable energy saving features have been incorporated into the construction plans.

C

The applicant proposes to renovate 422 square feet in an area that currently serves as the Short-term ICU (STICU) waiting room adjacent to the emergency department and the CT control room for the hospital's existing CT scanner used in the emergency department. In Section K.4, page 80, the applicant describes the methods that will be used by the facility to maintain efficient energy operations and contain the costs of utilities. In Exhibit F.1, the applicant provides a letter from an architect quoting the price for the renovation as \$450,000, which corresponds to the projected capital costs in Form F.1a in Section Q, page 107. The discussion regarding costs and charges found in Criterion (5) is incorporated herein by reference. The applicant adequately demonstrates that the cost, design and means of construction represent the most reasonable alternative, and that the construction cost will not unduly increase costs and charges for health services. Therefore, the application is conforming to this criterion.

- (13) The applicant shall demonstrate the contribution of the proposed service in meeting the health-related needs of the elderly and of members of medically underserved groups, such as medically indigent or low income persons, Medicaid and Medicare recipients, racial and ethnic minorities, women, and handicapped persons, which have traditionally experienced difficulties in obtaining equal access to the proposed services, particularly those needs identified in the State Health Plan as deserving of priority. For the purpose of determining the extent to which the proposed service will be accessible, the applicant shall show:
- (a) The extent to which medically underserved populations currently use the applicant's existing services in comparison to the percentage of the population in the applicant's service area which is medically underserved;

C

In Section L.1(b), page 86, the applicant reports the following payor mix for NHRMC's entire campus as well as for CT services for FY 2016:

| <b>NHRMC HISTORICAL PAYOR MIX FY 2016</b> |                        |                   |
|---|------------------------|-------------------|
| <b>PAYOR SOURCE</b>                       | <b>ENTIRE FACILITY</b> | <b>CT SERVICE</b> |
| Self-Pay*                                 | 5.2%                   | 11.3%             |
| Medicare**                                | 51.7%                  | 45.2%             |
| Medicaid**                                | 20.1%                  | 11.3%             |
| Insurance**                               | 18.7%                  | 28.2%             |
| TRICARE                                   | 0.0%                   | 1.5%              |
| Other                                     | 4.3%                   | 2.5%              |
| <b>Total</b>                              | <b>100.0%</b>          | <b>100.0%</b>     |

Totals may not foot due to rounding.

\*The applicant states on page 86 that it includes indigent and charity care patients as part of the Self-Pay category.

\*\*The applicant states on page 86 that these categories also include managed care plans.

On page 86 the applicant also states it provided nearly \$13.2 million in charity care in FFY 2016.

The United States Census Bureau provides demographic data for North Carolina and all counties in North Carolina. The following table contains relevant demographic statistics for the applicant's service area.

| Percent of Population |       |          |                             |                        |                              |                                       |
|-----------------------|-------|----------|-----------------------------|------------------------|------------------------------|---------------------------------------|
| County                | % 65+ | % Female | % Racial & Ethnic Minority* | % Persons in Poverty** | % < Age 65 with a Disability | % < Age 65 without Health Insurance** |
| New Hanover           | 16%   | 52%      | 23%                         | 18%                    | 9%                           | 19%                                   |
| Brunswick             | 27%   | 51%      | 19%                         | 16%                    | 12%                          | 19%                                   |
| Pender                | 17%   | 50%      | 26%                         | 15%                    | 13%                          | 20%                                   |
| Onslow                | 8%    | 45%      | 33%                         | 14%                    | 11%                          | 16%                                   |
| Columbus              | 18%   | 51%      | 40%                         | 24%                    | 15%                          | 21%                                   |
| Statewide             | 15%   | 51%      | 36%                         | 17%                    | 10%                          | 15%                                   |

Source: <http://www.census.gov/quickfacts/table>, 2014 Estimate as of December 22, 2015.

\*Excludes "White alone" who are "not Hispanic or Latino"

\*\*\*"This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates. Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable... The vintage year (e.g., V2015) refers to the final year of the series (2010 thru 2015). Different vintage years of estimates are not comparable."

However, a direct comparison to the applicant's current payor mix would be of little value. The population data by age, race or gender does not include information on the number of elderly, minorities, women or handicapped persons utilizing health services.

The applicant demonstrates that it currently provides adequate access to medically underserved populations. Therefore, the application is conforming to this criterion.

- (b) Its past performance in meeting its obligation, if any, under any applicable regulations requiring provision of uncompensated care, community service, or access by minorities and handicapped persons to programs receiving federal assistance, including the existence of any civil rights access complaints against the applicant;

C

Recipients of Hill-Burton funds were required to provide uncompensated care, community service and access by minorities and handicapped persons. In Section L.2, page 87, the applicant states that it has no such obligations under applicable federal regulations. In Section L.2(c), page 87, the applicant states that no civil rights complaints were filed against NHRMC in the last five years. Therefore, the application is conforming to this criterion.

- (c) That the elderly and the medically underserved groups identified in this subdivision will be served by the applicant's proposed services and the extent to which each of these groups is expected to utilize the proposed services; and

C

In Section L.3, page 88, the applicant projects its payor mix for the second operating year following project completion (FY 2020), as shown in the table below.

| <b>NHRMC HISTORICAL PAYOR MIX FY 2016</b> |                        |                   |
|---|------------------------|-------------------|
| <b>PAYOR SOURCE</b>                       | <b>ENTIRE FACILITY</b> | <b>CT SERVICE</b> |
| Self-Pay*                                 | 5.2%                   | 11.3%             |
| Medicare**                                | 51.7%                  | 45.2%             |
| Medicaid**                                | 20.1%                  | 11.3%             |
| Insurance**                               | 18.7%                  | 28.2%             |
| TRICARE                                   | 0.0%                   | 1.5%              |
| Other                                     | 4.3%                   | 2.5%              |
| <b>Total</b>                              | <b>100.0%</b>          | <b>100.0%</b>     |

Totals may not foot due to rounding.

\*The applicant states on page 86 that it includes indigent and charity care patients as part of the Self-Pay category.

\*\*The applicant states on page 86 that these categories also include managed care plans.

The applicant states it does not project a difference in payor mix when the project is complete, and projects that 56.5% of its CT services patients will have all or some of their services paid for by Medicare and/or Medicaid.

The applicant demonstrates that medically underserved populations will continue to have adequate access to the CT services offered at NHRMC. Therefore, the application is conforming to this criterion.

- (d) That the applicant offers a range of means by which a person will have access to its services. Examples of a range of means are outpatient services, admission by house staff, and admission by personal physicians.

C

In Section L.5, page 89, the applicant states that access to CT services at NHRMC is by physician referral. The applicant adequately demonstrates that the facility will offer a range of means by which patients will have access to the proposed services. Therefore, the application is conforming to this criterion.

- (14) The applicant shall demonstrate that the proposed health services accommodate the clinical needs of health professional training programs in the area, as applicable.

C

In Section M, page 91, the applicant states that it already has established relationships with over 110 health professional training programs in New Hanover County and beyond. Exhibit M-1 contains a list of over 110 health professional training programs at over 110 different educational providers for which NHRMC has provided clinical training opportunities. In addition, on page 91, the applicant states the training affiliation agreements are perpetual,

automatic renewal, or automatic renewal with a letter of intent. The information provided is reasonable and credible and supports a finding of conformity to this criterion.

- (15) Repealed effective July 1, 1987.
  - (16) Repealed effective July 1, 1987.
  - (17) Repealed effective July 1, 1987.
  - (18) Repealed effective July 1, 1987.
- (18a) The applicant shall demonstrate the expected effects of the proposed services on competition in the proposed service area, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed; and in the case of applications for services where competition between providers will not have a favorable impact on cost-effectiveness, quality, and access to the services proposed, the applicant shall demonstrate that its application is for a service on which competition will not have a favorable impact.

### C

NHRMC proposes to acquire one fixed CT scanner to be installed in what is currently the STICU waiting area, adjacent to the emergency department on the main campus of the hospital. NHRMC is a North Carolina licensed acute care hospital that provides emergency services 24 hours per day, seven days per week at the main campus in Wilmington. NHRMC currently operates three CT scanners at the hospital. At project completion, NHRMC will be licensed for a total of four CT scanners.

The 2017 SMFP does not define a service area for CT scanners. The Criteria and Standards for Computed Tomography Equipment (10A NCAC 14C .2301) states the service area for a fixed CT scanner is defined as “*a geographical area defined by the applicant from which the applicant projects to serve patients.*” The applicant defines its service area as New Hanover, Brunswick, Pender, Onslow and Columbus counties. Providers may also serve residents of counties not included in their service area.

There are nine fixed CT scanners owned or controlled by NHRMC, and there are a total of eight additional fixed CT scanners serving the other counties that comprise the service area: Onslow, Pender, Columbus and Brunswick. The following table identifies the provider, the number of fixed CT scanners, and total HECT units for each provider, taken from the 2017 Hospital License Renewal Application (LRA), prepared by the project analyst:

**Service Area CT Scanner Utilization, FY 2016**

| FACILITY                                   | # CT SCANNERS | # HECT UNITS   | HECT UNITS / SCANNER |
|--|---------------|----------------|----------------------|
| New Hanover Regional Medical Center        | 9             | 105,344        | 11,705               |
| <b>Total New Hanover</b>                   | <b>9</b>      | <b>105,344</b> | <b>11,705</b>        |
| Onslow Memorial Hospital                   | 2             | 22,756         | 11,378               |
| Pender Memorial Hospital                   | 2             | 7,848          | 3,924                |
| J. Arthur Doshier Memorial Hospital        | 1             | 6,707          | 6,707                |
| Novant Brunswick Memorial Hospital         | 1             | 17,848         | 17,848               |
| Columbus Regional Healthcare System        | 2             | 15,701         | 7,851                |
| <b>Total Outside New Hanover County SA</b> | <b>8</b>      | <b>70,860</b>  | <b>8,857</b>         |
| <b>Grand Total Entire Service Area</b>     | <b>17</b>     | <b>176,204</b> | <b>10,364</b>        |

Data taken from 2017 LRAs, which reports data from FY 2016

In FY 2016, the applicant performed an average of 11,705 HECT units per CT scanner as reported on its 2017 LRA (Exhibit C.4, page 145). The applicant’s utilization was 229% greater than the minimum of 5,100 HECT units per CT scanner as promulgated in Criteria and Standards for CT Scanners (10A NCAC 14C .2300) [ $11,705/5,100 = 2.29$ ].

According to the 2017 LRAs, the other facilities in the applicant’s service area performed an average of 8,857 HECT units per CT scanner, which is 173% greater than the required minimum of 5,100 HECT units per CT scanner [ $8,857 / 5,100 = 1.73$ ].

According to NHRMC’s 2017 LRA, 66,893 procedures were performed on the nine existing CT Scanners, for a total of 105,344 HECT units. If NHRMC had one more CT scanner as proposed in this application, for a total of 10, and the number of HECT units remained constant, the utilization would be 206% of the minimum [ $105,344 \text{ HECT units} / 10 \text{ CT scanners} = 10,534$  per scanner.  $10,534 \text{ HECT units} / 5,100 = 2.06$ ]. Likewise, if there had been one more CT scanner in the entire service area as defined by the applicant, and the number of HECT units as performed remained constant, the utilization in the entire service area would still be in excess of the minimum required by the Rules [ $176,203 \text{ total HECT units} / 18 \text{ CT scanners} = 9,789$  HECT units per scanner.  $9,789 / 5,100 = 1.93$ , or 193%]

In Section N, pages 92 - 97, the applicant discusses how any enhanced competition will have a positive impact on the cost-effectiveness, quality and access to the proposed services. The applicant states:

*“NHRMC expects the development of the proposed CT scanner project to have a positive or at least neutral effect on competition in the service area for several reasons:*

- *The CT scanner will be located in NHRMC, which is the only hospital in New Hanover County.*
- *The CT scanner is only expected to serve NHRMC Emergency Department patients and inpatients.*
- *Because of the circumstances of Emergency Department patients and NHRMC inpatients, it is unreasonable to assume they would ‘price shop’ for a less expensive CT scan.”*

See also Sections C, E, F, G, H, K, L, and O, where the applicant discusses the impact of the project on cost-effectiveness, quality, and access.

The information in the application is reasonable and adequately demonstrates that any enhanced competition in the service area includes a positive impact on the cost-effectiveness, quality, and access to the proposed services. This determination is based on the information in the application and the following analysis:

- The applicant adequately demonstrates the need for the project and that it is a cost-effective alternative. The discussions regarding the analysis of need and alternatives found in Criteria (3) and (4), respectively, are incorporated herein by reference.
- The applicant adequately demonstrates it will provide quality services. The discussions regarding quality found in Criteria (1) and (20) are incorporated herein by reference.
- The applicant demonstrates that it will provide adequate access to medically underserved populations. The discussions regarding access found in Criteria (1) and (13) are incorporated herein by reference.

Therefore, the application is conforming to this criterion.

- (19) Repealed effective July 1, 1987.
- (20) An applicant already involved in the provision of health services shall provide evidence that quality care has been provided in the past.

## C

In Section O, pages 98 - 101, and Exhibits O.1, O.2 and O.3, the applicant describes the methods used by NHRMC to ensure and maintain quality care. In Section O.3, page 100, the applicant lists the facilities owned or managed by NHRMC and on page 101 states that none of them have been out of compliance with any conditions of Medicare participation during the 18 months immediately preceding submission of this application. Exhibit O.3 contains a letter signed by the CEO of NHRMC, stating that all affiliated facilities have operated in compliance with all Medicare Conditions of Participation during the 18 months immediately preceding submission of the application. After reviewing and considering information provided by the applicant and considering the quality of care provided at NHRMC and the other facilities it owns or manages, the applicant provided sufficient evidence that quality care has been provided in the past. Therefore, the application is conforming to this criterion.

- (21) Repealed effective July 1, 1987.
- (b) The Department is authorized to adopt rules for the review of particular types of applications that will be used in addition to those criteria outlined in subsection (a) of this section and may vary according to the purpose for which a particular review is being conducted or the type of

health service reviewed. No such rule adopted by the Department shall require an academic medical center teaching hospital, as defined by the State Medical Facilities Plan, to demonstrate that any facility or service at another hospital is being appropriately utilized in order for that academic medical center teaching hospital to be approved for the issuance of a certificate of need to develop any similar facility or service.

C

The application is conforming or conditionally conforming to all applicable Criteria and Standards for Computed Tomography Equipment, promulgated in 10A NCAC 14C .2300. The specific criteria are discussed below:

**SECTION .2300 - CRITERIA AND STANDARDS FOR COMPUTED TOMOGRAPHY EQUIPMENT**

**10A NCAC 14C .2703 PERFORMANCE STANDARDS**

*An applicant proposing to acquire a CT scanner shall demonstrate each of the following:*

- (1) *each fixed or mobile CT scanner to be acquired shall be projected to perform 5,100 HECT units annually in the third year of operation of the proposed equipment;*
- C- In Section C, page 53, the applicant demonstrates that the proposed CT scanner will perform 13,254 HECT units in the third year of operation.
- (2) *each existing fixed or mobile CT scanner which the applicant or a related entity owns a controlling interest in and is located in the applicant's CT service area shall have performed at least 5,100 HECT units in the 12 month period prior to submittal of the application; and*
- C- In Section C, page 54, the applicant demonstrates that each fixed CT scanner owned and located in its service area performed 11,705 HECT units per scanner in the 12 months prior to submission of this application, which is 229% over the 5,100 HECT units required by this rule [ $11,705 / 5,100 = 2.29$ ].
- (3) *each existing and approved fixed or mobile CT scanner which the applicant or a related entity owns a controlling interest in and is located in the applicant's CT service area shall be projected to perform 5,100 HECT units annually in the third year of operation of the proposed equipment.*
- C- In Section C, page 55, the applicant demonstrates that each fixed CT scanner owned and located in its service area will perform 13,254 HECT units per scanner annually in the third year of operation, which is 259% over the 5,100 HECT units required by this rule [ $13,254 / 5,100 = 2.59$ ].