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For questions or concerns regarding the Administrative Procedure Act or any of its components, consult with the agencies below. The bolded headings are typical issues which the given agency can address, but are not inclusive.

Rule Notices, Filings, Register, Deadlines, Copies of Proposed Rules, etc.

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Rules Review Commission
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Raleigh, North Carolina 27609 (919) 431-3104 FAX

contact:	Joe DeLuca Jr., Commission Counsel	joe.deluca@oah.nc.gov	(919) 431-3081
	Bobby Bryan, Commission Counsel	bobby.bryan@oah.nc.gov	(919) 431-3079

Fiscal Notes & Economic Analysis and Governor's Review

Office of State Budget and Management
116 West Jones Street (919) 807-4700
Raleigh, North Carolina 27603-8005 (919) 733-0640 FAX
Contact: Anca Grozav, Economic Analyst osbmruleanalysis@osbm.nc.gov (919) 807-4740

NC Association of County Commissioners
215 North Dawson Street (919) 715-2893
Raleigh, North Carolina 27603
contact: Rebecca Troutman rebecca.troutman@ncacc.org

NC League of Municipalities (919) 715-4000
215 North Dawson Street
Raleigh, North Carolina 27603
contact: Erin L. Wynia ewynia@nclm.org

Legislative Process Concerning Rule-making

Joint Legislative Administrative Procedure Oversight Committee
545 Legislative Office Building
300 North Salisbury Street (919) 733-2578
Raleigh, North Carolina 27611 (919) 715-5460 FAX

contact:	Karen Cochrane-Brown, Staff Attorney	Karen.cochrane-brown@ncleg.net
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NORTH CAROLINA REGISTER

Publication Schedule for January 2011 – December 2011

FILING DEADLINES			NOTICE OF TEXT		PERMANENT RULE			TEMPORARY RULES
Volume & issue number	Issue date	Last day for filing	Earliest date for public hearing	End of required comment period	Deadline to submit to RRC for review at next meeting	Earliest Eff. Date of Permanent Rule	Delayed Eff. Date of Permanent Rule 31st legislative day of the session beginning:	270th day from publication in the Register
25:13	01/03/11	12/08/10	01/18/11	03/04/11	03/21/11	05/01/11	05/2012	09/30/11
25:14	01/18/11	12/22/10	02/02/11	03/21/11	03/21/11	05/01/11	05/2012	10/15/11
25:15	02/01/11	01/10/11	02/16/11	04/04/11	04/20/11	06/01/11	05/2012	10/29/11
25:16	02/15/11	01/25/11	03/02/11	04/18/11	04/20/11	06/01/11	05/2012	11/12/11
25:17	03/01/11	02/08/11	03/16/11	05/02/11	05/20/11	07/01/11	05/2012	11/26/11
25:18	03/15/11	02/22/11	03/30/11	05/16/11	05/20/11	07/01/11	05/2012	12/10/11
25:19	04/01/11	03/11/11	04/16/11	05/31/11	06/20/11	08/01/11	05/2012	12/27/11
25:20	04/15/11	03/25/11	04/30/11	06/14/11	06/20/11	08/01/11	05/2012	01/10/12
25:21	05/02/11	04/08/11	05/17/11	07/01/11	07/20/11	09/01/11	05/2012	01/27/12
25:22	05/16/11	04/25/11	05/31/11	07/15/11	07/20/11	09/01/11	05/2012	02/10/12
25:23	06/01/11	05/10/11	06/16/11	08/01/11	08/22/11	10/01/11	05/2012	02/26/12
25:24	06/15/11	05/24/11	06/30/11	08/15/11	08/22/11	10/01/11	05/2012	03/11/12
26:01	07/01/11	06/10/11	07/16/11	08/30/11	09/20/11	11/01/11	05/2012	03/27/12
26:02	07/15/11	06/23/11	07/30/11	09/13/11	09/20/11	11/01/11	05/2012	04/10/12
26:03	08/01/11	07/11/11	08/16/11	09/30/11	10/20/11	12/01/11	05/2012	04/27/12
26:04	08/15/11	07/25/11	08/30/11	10/14/11	10/20/11	12/01/11	05/2012	05/11/12
26:05	09/01/11	08/11/11	09/16/11	10/31/11	11/21/11	01/01/12	05/2012	05/28/12
26:06	09/15/11	08/24/11	09/30/11	11/14/11	11/21/11	01/01/12	05/2012	06/11/12
26:07	10/03/11	09/12/11	10/18/11	12/02/11	12/20/11	02/01/12	05/2012	06/29/12
26:08	10/17/11	09/26/11	11/01/11	12/16/11	12/20/11	02/01/12	05/2012	07/13/12
26:09	11/01/11	10/11/11	11/16/11	01/03/12	01/20/12	03/01/12	05/2012	07/28/12
26:10	11/15/11	10/24/11	11/30/11	01/17/12	01/20/12	03/01/12	05/2012	08/11/12
26:11	12/01/11	11/07/11	12/16/11	01/30/12	02/20/12	04/01/12	05/2012	08/27/12
26:12	12/15/11	11/22/11	12/30/11	02/13/12	02/20/12	04/01/12	05/2012	09/10/12

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EXPLANATION OF THE PUBLICATION SCHEDULE

This Publication Schedule is prepared by the Office of Administrative Hearings as a public service and the computation of time periods are not to be deemed binding or controlling. Time is computed according to 26 NCAC 2C .0302 and the Rules of Civil Procedure, Rule 6.

GENERAL

The North Carolina Register shall be published twice a month and contains the following information submitted for publication by a state agency:

(1) temporary rules;
(2) notices of rule-making proceedings;
(3) text of proposed rules;
(4) text of permanent rules approved by the Rules Review Commission;
(5) notices of receipt of a petition for municipal incorporation, as required by G.S. 120-165;
(6) Executive Orders of the Governor;
(7) final decision letters from the U.S. Attorney General concerning changes in laws affecting voting in a jurisdiction subject of Section 5 of the Voting Rights Act of 1965, as required by G.S. 120-30.9H;
(8) orders of the Tax Review Board issued under G.S. 105-241.2; and
(9) other information the Codifier of Rules determines to be helpful to the public.

COMPUTING TIME: In computing time in the schedule, the day of publication of the North Carolina Register is not included. The last day of the period so computed is included, unless it is a Saturday, Sunday, or State holiday, in which event the period runs until the preceding day which is not a Saturday, Sunday, or State holiday.

FILING DEADLINES

ISSUE DATE: The Register is published on the first and fifteen of each month if the first or fifteenth of the month is not a Saturday, Sunday, or State holiday for employees mandated by the State Personnel Commission. If the first or fifteenth of any month is a Saturday, Sunday, or a holiday for State employees, the North Carolina Register issue for that day will be published on the day of that month after the first or fifteenth that is not a Saturday, Sunday, or holiday for State employees.

LAST DAY FOR FILING: The last day for filing for any issue is 15 days before the issue date excluding Saturdays, Sundays, and holidays for State employees.

NOTICE OF TEXT

EARLIEST DATE FOR PUBLIC HEARING: The hearing date shall be at least 15 days after the date a notice of the hearing is published.

END OF REQUIRED COMMENT PERIOD An agency shall accept comments on the text of a proposed rule for at least 60 days after the text is published or until the date of any public hearings held on the proposed rule, whichever is longer.

DEADLINE TO SUBMIT TO THE RULES REVIEW COMMISSION: The Commission shall review a rule submitted to it on or before the twentieth of a month by the last day of the next month.

FIRST LEGISLATIVE DAY OF THE NEXT REGULAR SESSION OF THE GENERAL ASSEMBLY: This date is the first legislative day of the next regular session of the General Assembly following approval of the rule by the Rules Review Commission. See G.S. 150B-21.3, Effective date of rules.

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NOTICE OF RULE MAKING PROCEEDINGS AND PUBLIC HEARING

NORTH CAROLINA BUILDING CODE COUNCIL

Notice of Rule-making Proceedings *is hereby given by NC Building Code Council in accordance with G.S. 150B-21.5(d).*

Citation to Existing Rule Affected by this Rule-Making: *North Carolina Electrical and Residential Codes.*

Authority for Rule-making: *G.S. 143-136; 143-138.*

Reason for Proposed Action: *To incorporate changes in the NC State Building Codes as a result of rulemaking petitions filed with the NC Building Code Council and to incorporate changes proposed by the Council.*

Public Hearing: *December 12, 2011, 10:00AM, NC Department of Insurance, 322 Chapanoke Road, Classroom Downstairs, Raleigh, NC 27603. Comments on both the proposed rule and any fiscal impact will be accepted.*

Comment Procedures: *Written comments on both the proposed rule and any fiscal impact may be sent to Chris Noles, Secretary, NC Building Code Council, NC Department of Insurance, 322 Chapanoke Road, Suite 200, Raleigh, NC 27603. Comment period expires on December 16, 2011.*

Statement of Subject Matter:

1. Request by Jeremy Bertrand, with Log Homes of America, Inc., to amend the 2012 NC Residential Code, Table N1102.1. The proposed amendment is as follows:

TABLE N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

l. Log walls complying with ICC400 [Standard of the Design & Construction of Log Structures] and with a minimum average wall thickness of 5" or greater shall be permitted in Climate Zone 5 when overall window glazing is 0.34 U-factor or lower, and all other component requirements are met.

Motion – David Smith/Second – Al Bass/Granted – The request was granted unanimously and was referred to the Joint Energy/Residential Committee for review.
Reason Given – To continue to allow the use of 5" logs for log home construction in North Carolina. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

2. Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.8 (A)(7). The proposed amendment is as follows:

Section 210.8 (A)(7)

(7) Laundry, utility, and wet bar sinks – where the receptacles are installed within 1.8 m (6 ft) of the outside edge of the sink

Motion – Mack Nixon/Second – Ralph Euchner/Granted – The request was granted unanimously and was referred to the Electrical Committee for review.
Reason Given – Requiring GFCI outlets at all sinks is not necessary and unnecessarily increases the cost of construction. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

3. Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.12(B). The proposed amendment is as follows:

Section 210.12 (B)

~~(B) Branch Circuit Extensions or Modifications – Dwelling Units. In any of the areas specified in 210.12 (A), where branch circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:~~
~~(1) A listed combination type AFCI located at the origin of the branch circuit~~
~~(2) A listed outlet branch circuit type AFCI located at the first receptacle outlet of the existing branch circuit~~

Motion – Al Bass/Second – Lon McSwain/Granted – The request was granted unanimously and was referred to the Electrical Committee for review.
Reason Given – During the code revision cycle to the 2011 National Electrical Code, there was no fire data used to support the expansion of arc-fault circuit interrupters (AFCI's) to include all existing branch circuits that are either modified, extended or replaced. This industry standard does not provide a cost benefit to the community. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

4. Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 210.52(I). The proposed amendment is as follows:

Section 210.52(I) Required Outlets

~~**(I) Foyers.** Foyers that are not part of a hallway in accordance with 210.52(H) and that have an area that is greater than 5.6m2 (60 ft2) shall have a receptacle(s) located in each wall space 900 m (3 ft) or more in width and unbroken by doorways, floor-to-ceiling windows and similar openings.~~

Motion – Tom Turner/Second – Ed Moore/Granted – The request was granted unanimously and was referred to the Electrical Committee for review.
Reason Given – During the code revision cycle to the 2011 National Electrical Code, the technical committee established an arbitrary minimum size of 60 sf and receptacle wall spacing requirement without referencing any empirical data, studies, or common house design plans. The National Electrical Code does not define what a foyer entails nor does it differentiate a foyer from an entrance hallway which will lead to inconsistency in the inspections process and disruption of the building process. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

5. Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 404.2 (C). The proposed amendment is as follows:

Section 404.2 (C) Switches Controlling Lighting Loads

(C) Occupancy Sensor Switches Controlling Lighting Loads.

Motion – Mack Nixon/Second – David Smith/Granted – The request was granted unanimously and was referred to the Electrical Committee for review.
Reason Given – This proposed amendment simple adds language to delineate that this requirement is for lighting loads being controlled by a switch equipped with an occupancy sensor. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

6. Request by Robert Privott, NC Home Builders Association, to amend the 2011 NC Electrical Code, Section 406.4 (D)(4). The proposed amendment is as follows:

Section 406.4 (D)(4) Arc-Fault Circuit-Interrupter Protection

~~**406.4(D)(4) Arc-Fault Circuit-Interrupter Protection.** Where a receptacle outlet is supplied by a branch circuit requires arc-fault circuit-interrupter protection as specified elsewhere in this code, a replacement receptacle at this outlet shall be one of the following:~~

~~1. A listed outlet branch circuit type arc-fault circuit-interrupter receptacle.~~
~~2. A receptacle protected by a listed outlet branch circuit type arc-fault circuit-interrupter type receptacle.~~
~~3. A receptacle protected by a listed combination type arc-fault circuit-interrupter type circuit breaker~~
~~This requirement becomes effective January 1, 2014.~~

Motion – Kim Reitterer/Second – David Smith/Granted – The request was granted unanimously and was referred to the Electrical Committee for review.
Reason Given – New provision requiring an untested and unreliable technology has been introduced into the National Electrical Code. The proposed effective date of this rule is January 1, 2015.
Fiscal Statement – This rule is not expected to either have a substantial economic impact or affect local and state funds. A fiscal note has not been prepared.

Note from the Codifier: *The notices published in this Section of the NC Register include the text of proposed rules. The agency must accept comments on the proposed rule(s) for at least 60 days from the publication date, or until the public hearing, or a later date if specified in the notice by the agency. If the agency adopts a rule that differs substantially from a prior published notice, the agency must publish the text of the proposed different rule and accept comment on the proposed different rule for 60 days.*
Statutory reference: G.S. 150B-21.2.

TITLE 15A – DEPARTMENT OF ENVIRONEMNT AND NATURAL RESOURCES

Notice *is hereby given in accordance with G.S. 150B-21.2 that the Environmental Management Commission intends to adopt the rules cited as 15A NCAC 02C .0217-.0230, .0240-.0242; amend the rules cited as 15A NCAC 02C .0201-.0202, .0204, .0206-.0209, .0211; and repeal the rules cited as 15A NCAC 02C .0205, .0213-.0216.*

Link to agency website pursuant to G.S. 150B.19.1(c): http://portal.ncdenr.org/web/wq/aps/gwpro/rules-statutes/rule-revisions

Proposed Effective Date: *April 1, 2012*

Public Hearing:
Date: *November 30, 2011*
Time: *7:00 p.m.*
Location: *Western Piedmont Community College (Moore Hall, Leviton Auditorium), 1001 Burkemont Ave., Morganton, NC*

Public Hearing:
Date: *December 1, 2011*
Time: *7:00 p.m.*
Location: *Archdale Building (Ground Floor Hearing Room), 512 N. Salisbury St., Raleigh, NC*

Public Hearing:
Date: *December 13, 2011*
Time: *6:30 p.m.*
Location: *Martin Community College (Auditorium), 1161 Kehukee Park Rd., Williamston, NC*

Public Hearing:
Date: *December 14, 2011*
Time: *6:30 p.m.*
Location: *Cape Fear Community College (BB&T Auditorium), 4500 Blue Clay Rd., Castle Hayne, NC*

Reason for Proposed Action: *Rules proposed for amendment are being revised to comply with changes to applicable federal regulations, to make organizational improvements, and to make editorial changes or corrections. Organizational changes are being proposed in order to have all administrative requirements located in a single rule and to have unique requirements for different types of injection wells located in a specific rule dedicated to each type of injection well. Rules proposed for amendment are primarily to enable each allowable injection well type to have all permitting, construction, monitoring, and reporting requirements located in a unique rule dedicated to each type of allowable injection well. Some other rules proposed for amendment are to be reserved for future codification in order to simplify the rulemaking process for emerging issues. Additionally, other rules proposed for amendment simply contain language of existing rules that will be relocated to new rules in order to provide a smooth organizational structure. Lastly, rules proposed for repeal consist of regulatory language that is being relocated to the content of the rules proposed for amendment. Again, this will enable an organizational structure in which each allowable injection well type to have all permitting, construction, monitoring, and reporting requirements located in a unique rule dedicated to that well type.*

Procedure by which a person can object to the agency on a proposed rule: *Objections, compliments, suggestions, or any other comment about the proposed rules specified in this Notice of Text can be submitted during the public comment period, which will begin on October 17, 2011, and will end on January 13, 2012. Oral and written comments can be submitted in person during any one of the public hearings identified above or they may be submitted in writing to Thomas Slusser, DWQ-Aquifer Protection Section, 1636 Mail Service Center, Raleigh, NC 27699-1636, at any time during the public comment period. Oral comments cannot be accepted unless they are submitted during one of the public hearings. Hearing Officers presiding over the public hearings may limit the amount of time that oral comments are delivered in order to ensure that everyone who wants to give comments orally has a chance to do so. The Environmental Management Commission (EMC) is interested in all comments pertaining to the proposed rules. All persons interested and potentially affected by the proposal are encouraged to read this entire notice, the proposed rules and associated fiscal note, and to submit comments. The EMC may not adopt a rule that differs substantially from the text of the proposed rule published in this notice unless the EMC publishes the text of the proposed different rule and accepts comments on the new text [General Statute 150B 21.2(g)].*

Comments may be submitted to: *Thomas Slusser, DWQ-Aquifer Protection Section, 1636 Mail Service Center, Raleigh, NC 27699-1636; phone (919) 715-6164*

Comment period ends: *January 13, 2012*

Procedure for Subjecting a Proposed Rule to Legislative Review: If an objection is not resolved prior to the adoption of the rule, a person may also submit written objections to the Rules Review Commission after the adoption of the Rule. If the

Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive those objections by mail, delivery service, hand delivery, or facsimile transmission. If you have any further questions concerning the submission of objections to the Commission, please call a Commission staff attorney at 919-431-3000.

Fiscal impact (check all that apply).

☒ **State funds affected**
☒ **Environmental permitting of DOT affected**
Analysis submitted to Board of Transportation:
☒ **Local funds affected**
Date submitted to OSBM:
☒ **Substantial economic impact (≥$500,000)**
☒ **Approved by OSBM**
☐ **Approval by OSBM not required**

CHAPTER 02 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 02C - WELL CONSTRUCTION STANDARDS

SECTION .0200 - CRITERIA AND STANDARDS APPLICABLE TO INJECTION WELLS

15A NCAC 02C .0201 PURPOSE

The rules in this Section establish classes of injection wells and set forth requirements and procedures for permitting, constructing, operating, monitoring, reporting, and abandoning approved types of injection wells and abandoning, monitoring, and reporting non-permitted wells used for the injection of wastes or any substance of a composition and concentration such that, if it were discharged to the land or waters of the state, would create a threat to human health or would otherwise render those waters unsuitable for their best intended ~~best usage.~~ usage as defined in 15A NCAC 02L .0201. Except as provided for in G.S. 143-215.1A, the discharge of any wastes to the subsurface or groundwaters of the state by means of wells is prohibited by G.S. 143-214.2(b).

Authority G.S. 87-84; 87-87; 87-88; 87-94; 87-95; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0202 SCOPE

The rules in this Section apply to all construction, operation, use, modification, alteration, repair, and abandonment activities of all injection wells as defined herein. ~~persons proposing to construct, alter, repair, or abandon any injection well, or owning, using or operating, or proposing to use or operate any well for injection~~. These Rules do not apply to subsurface distribution systems associated with sewage treatment and disposal permits issued in accordance with G.S. 130A.

Authority G.S. 87-86; 87-87; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0204 DEFINITIONS

The definition of any word or phrase used in the rules in this Section shall be the same as given in ~~G.S. 87-85 and~~ G.S. 87-85, G.S. 143-213, or any referenced rule ~~G.S. 143-213, except~~ and that the following words and phrases shall have the following meanings:

(1) "Abandonment or Plugging Record" means a systematic listing of permanent or temporary abandonment of a well and may contain a well log or description of amounts and types of abandonment material used, the method employed for abandonment, a description of formation location, formation thickness, and location of abandonment structures.

~~(2) "Air Injection Well or Air Sparging Well" means a well that is used to inject uncontaminated air to the subsurface to promote volatilization and enhance bioremediation of contaminants in the groundwater and soil.~~

~~(3) "Aquifer Test Well" means a well into which uncontaminated fluid is injected in order to facilitate the assessment of local aquifer characteristics such as permeability, hydraulic conductivity, storage coefficient, or transmissivity. This includes slug tests which assess aquifer characteristics by the addition of a known volume of water to cause an instantaneous change in the water level of the well.~~

~~(4) "Area Permit" means a permit that regulates all injection activities within the associated Area of Review.~~

(2) "Area of Review" means the area around an injection well as specified in each applicable rule.

(3) "Best intended usage" is as defined in 15A NCAC 02L .0201 for each groundwater classification.

~~(5)~~(4) "Catastrophic Collapse" means the ~~sudden and utter~~ failure of ~~overlaying~~ overlying strata caused by removal of underlying materials.

~~(6)~~(5) "Closed-Loop Geothermal ~~Injection~~ Well System" means a system of continuous piping, part of which is installed in the ~~subsurface,~~ subsurface via vertical or angled borings, through which moves a fluid that does not exit the piping, ~~and~~ but ~~which~~ is used to transfer heat energy ~~to and from the fluid.~~ between the subsurface and the fluid in association with a heating and cooling system.

~~(7)~~(6) "Closed-Loop Groundwater Remediation System" means a system as defined in G.S. 143-215.1A. ~~and attendant processes used for improving the quality of contaminated groundwater by collecting or pumping~~

groundwater, treating the groundwater to reduce the concentration of or remove contaminants, and reintroducing the treated water beneath the surface in such a manner that the treated groundwater will be recaptured by the collecting or pumping portion of the system.

(7) "Cluster" means two or more geothermal injection wells connected to the same manifold or header of a geothermal heating and cooling system.

(8) "Compliance Boundary" means a boundary as specified by 15A NCAC 2L (Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina), at and beyond which groundwater quality standards may not be exceeded.

(9)(8) "Confined or Enclosed Space" means any space, having a limited restricted means of ingress or egress, entry and exit which and is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere.

(10)(9) "Confining Zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement.

(11)(10) "Contaminant" means any physical, chemical, biological or radiological substance or matter which, if injected, may cause a violation of any water quality standard under 15A NCAC 2L, may adversely affect the health of humans, or may degrade the quality of the groundwater. in water.

(12)(11) "Contamination" "Contaminate" or "Contamination" means foreign materials of such nature, quality, and quantity as to cause degradation of the quality of the water. the introduction of any contaminant into groundwater in excess of the applicable groundwater quality standards specified in 15A NCAC 02L.

(13)(12) "Director" means the Director of the Division of Water Quality. Quality or the Director's delegate.

(14)(13) "Division" means the Division of Water Quality.

(15)(14) "Facility, Operation, or Activity" means any injection well or system.

(16)(15) "Flow Rate" means the volume per unit time of a fluid moving past a fixed reference point. fluid which emerges from an orifice, pump, or turbine or passes along a conduit or channel.

(17)(16) "Fluid" means a material or substance which flows or moves; is capable of flowing whether in a semisolid, liquid, sludge, gas, or any other form or state.

(18)(17) "Formation Fluid" means fluid present in a formation under natural conditions. This does not include introduced fluids, such as drilling mud and grout, used to facilitate the construction or development of a well.

(19)(18) "Generator" means any person, by site location, whose act or process produces hazardous waste.

(20)(19) "Groundwaters" mean those waters occurring in the subsurface under saturated conditions.

(21)(20) "Grout" means well construction material as specified is as defined in 15A NCAC 2C .0100 (Criteria and Standards Applicable to Water Supply and Certain Other Wells). Rule .0102 of this Subchapter.

(22)(21) "Hazardous Waste" means any solid, semisolid, liquid, or contained gaseous waste or combination thereof, which because of its quantity, concentration, or physical, chemical or infectious characteristic may:

(a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or

(b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

(23)(22) "Hazardous Waste Management Facility" means all contiguous land and structures, and other appurtenances and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combination of them).

(24)(23) "Hose Bibb or Tap" means a fluid sampling port located on or appurtenant to a well.

(25)(24) "Hydraulic Conductivity" means the rate at which a unit volume of fluid of a specific density, viscosity and temperature can flow through a permeable medium of unit cross section and under unit hydraulic gradient.

(25) "Hydraulic or Pneumatic Fracturing" means the intentional act of forming new fractures or propagating existing fractures in a geologic formation or portion thereof with the explicit intent of increasing the formation's permeability. Hydraulic fracturing can only be used in association with groundwater remediation injection activities and shall not result in the fracturing of any confining units or otherwise cause or contribute to the migration of contamination into uncontaminated areas.

(26) "Hydrostratigraphic" means a body of rock or unconsolidated sediment distinguished and characterized by observable hydraulic

properties that relate to its ability to receive, store, transmit, and yield water.

(26)(27) "Injectant" means any solid or fluid that is emplaced in the subsurface by means of an injection well.

(27)(28) "Injection" means emplacement or discharge into the subsurface of a solid or fluid substance or material. This definition excludes drilling fluids, grout used in association with well construction or abandonment, and fluids used in connection with well development, rehabilitation or stimulation.

(28)(29) "Injection Well" means any ~~excavation which is cored, bored, drilled, jetted, dug, or otherwise constructed,~~ well as defined in G.S. 87-85, whose depth is greater than its largest surface dimension and which is used, or intended to be used, for the injection of fluids or solids into the subsurface or groundwaters.

(29)(30) "Injection Zone" means a geological formation, group of formations, or part of a formation receiving solids or fluids through ~~a~~ an injection well.

(30)(31) "Lithology" means the description of rocks or sediments on the basis of their physical and chemical characteristics.

(32) "Lithostratigraphic" means a body of rock or unconsolidated sediment that is distinguished and characterized by observable lithologic features or its position relative to other bodies of rock or unconsolidated sediment.

~~(31) "Major Facility" means a Class 1 or 4 well.~~

(32)(33) "Mechanical Integrity" means:

(a) an absence of a leak in the casing, tubing, or packer of an injection well; and

(b) an absence of ~~any significant~~ fluid movement ~~into an underground source of drinking water~~ through vertical channels adjacent to the injection well bore.

(33)(34) "Monitoring Well" ~~means any well constructed for the primary purpose of obtaining samples of groundwater or other liquids for examination or testing, or for the observation or measurement of groundwater levels. This definition excludes lysimeters, tensiometers, and other devices used to investigate the characteristics of the unsaturated zone.~~ is as defined in Rule .0102 of this Subchapter.

(34)(35) "Owner" ~~means any person who holds the fee or other property rights in the well being constructed. A well is real property and its construction on land shall be deemed to vest ownership in the land owner, for purposes of this Section and statutes governing groundwater, in the absence of contrary agreement in writing.~~ is as defined in Rule .0102 of this Subchapter.

(35)(36) "Permit" means an authorization, license, or equivalent control document issued by the Director to implement the requirements of ~~these Rules.~~ the rules of this Section.

(37) "Permitted by Rule" means that the injection activity is authorized by the rules of this section and does not require the issuance of an individual permit when injection wells are constructed and operated in accordance with the rules of this Section.

(36)(38) "Plug" means the act or process of stopping the flow of fluids into or out of a formation through a borehole or well penetrating that formation.

(37)(39) "Potable Water" means those waters of the state which are suitable for drinking, culinary, or food processing purposes.

(38)(40) "Pressure" means the total load or force per unit area acting on a surface.

~~(39) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.~~

(40)(41) "Receptor" means any human, plant, animal, or structure which is, or has the potential to be, ~~adversely~~ affected by the release or migration of contaminants. Any well constructed for the purpose of monitoring groundwater and contaminant concentrations shall not be considered a receptor.

(42) "Secretary" means the Secretary of the Department of Environment and Natural Resources or the Secretary's delegate.

(43) "Site" is as defined in Rule .0102 of this Subchapter.

(41)(44) "Subsidence" means the lowering of the natural land surface in response to: earth movements; reduction of formation fluid pressure; removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (Hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.

(45) "Subsurface Distribution System" means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids or solids below the surface of the ground.

~~(42) "Thermal Waste" means a material having a temperature which is in excess of 30 degrees Fahrenheit above or below the naturally occurring temperature of the receiving groundwater, as determined by the Director.~~

(43)(46) "Transmissivity" means the product of the hydraulic conductivity and the total saturated thickness of a porous or fractured medium.

(44)(47) "Underground Sources of Drinking Water" means ~~an aquifer or its portion:~~

(a) which supplies any public water system; or

(b) which contains a sufficient quantity of groundwater to supply a public water supply system; and

(i) currently supplies drinking water for human consumption; or

(ii) contains fewer than 10,000 milligrams per liter of total dissolved solids. all underground waters of the State classified as existing or potential water supplies in 15A NCAC 02L.

(45)(48) "Waste" means waste is as defined in G.S. 143-213(18).

(49) "Waters" or "Waters of the State" is as defined in G.S. 143-212.

(46)(50) "Well head" means the upper terminal of the well including adapters, ports, valves, seals, and other attachments. is as defined in Rule .0102 of this Subchapter.

(47)(51) "Well System" means two or more wells serving the same facility. is as defined in Rule .0102 of this Subchapter.

Authority G.S. 87-85; 87-87; 143-213; 143-215.1A.

15A NCAC 02C .0205 AREA OF REVIEW

(a) The area of review for an injection well or well field shall be a fixed radius around the well or well field of 1/4 mile (1320 feet) or greater, as determined by the Director, for the following Class 5 well types:

(1) Type 5A7 - Heating/Cooling Water Return Well

(2) Type 5I - In-situ Groundwater Remediation Well

(3) Type 5L - Closed-Loop Groundwater Remediation Well

(4) Type 5P - Air Injection Well

(5) Type 5Q - Closed-Loop Geothermal Injection Well Systems

(6) Type 5X30 - Aquifer Test Well

(b) In determining a fixed radius greater than 1/4 mile, the following factors shall be taken into consideration by the Director:

(1) physical and chemical characteristics of the injected and formation fluids;

(2) injection rate and pressure;

(3) hydrogeology;

(4) population and its groundwater use and dependence; and

(5) historical practices in the area.

(c) For all other Class 5 well types which can be approved under the rules in this Section, the area of review for an injection well or well field shall be calculated using the procedure for determining the zone of endangering influence specified in 40 CFR 146.6(a).

Authority G.S. 87-87; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0206 CORRECTIVE ACTION

(a) Injection wells not constructed in compliance with the criteria and standards specified in these Rules rules shall be brought into compliance with the rules in this Section or abandoned by the person(s) responsible for the construction of the well(s). well(s) within 30 calendar days of becoming aware of any instance of noncompliance.

(b) Where operation of any injection facility is not in compliance with the requirements of the rules in this Section, or where continued operation of the injection facility threatens any water quality standard or classification established under the authority of G.S. 143-214.1, the owner of the injection facility shall perform the following:

(1) Stop stop all injection activities immediately;

(2) Notify notify the Division orally within 24 hours (or the next business day), and in writing within five calendar days, of becoming aware of any instance of noncompliance;

(3) Perform perform a complete site assessment and submit to the Division, as soon as practicable Division within 30 calendar days of notifying the Division. The Director may approve an alternate time period based on the severity and extent of noncompliance. or in accordance with a schedule established by the Director, a report which shall include but not be limited to a description of: The site assessment report shall include a description of:

(A) The the source and cause of contamination;

(B) Any any imminent hazards to public health and safety and actions taken to mitigate them;

(C) All all receptors and significant exposure pathways;

(D) The the horizontal and vertical extent of soil and groundwater contamination and all significant factors affecting contaminant transport; and

(E) Any any geological and hydrogeological features influencing the movement or chemical or physical character of the contaminants. contaminants; and

(4) Submit submit a corrective action plan and a proposed schedule for implementation of the corrective action to the Director, Director for approval. In establishing a schedule, For approving the proposed plan and schedule, the Director shall consider any reasonable schedule proposed by the permittee. the compliance history of the well owner, severity and extent of noncompliance, and any other criteria necessary for the protection of human

health and the environment. The corrective action plan shall ~~include but not be limited to:~~ include:

(A) ~~A~~ a description of the proposed corrective action and reasons for its selection;

(B) ~~Specific~~ specific plans, including engineering details where ~~applicable~~ applicable, for restoring the groundwater quality and for restoring the integrity of the injection facility if the injection activity is to continue;

(C) ~~A~~ a schedule for the implementation and operation of the proposed plan; and

(D) ~~A~~ a monitoring plan for evaluating the effectiveness of the proposed corrective action.

Authority G.S. 87-87; 87-88; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0207 MECHANICAL INTEGRITY

~~(a) An injection well shall be considered to have mechanical integrity if:~~

~~(1) there is no measurable leak in the casing, tubing or packer; and~~

~~(2) there is no measurable fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore which would result in deterioration of the water quality in zones above or below the injection zone; and~~

~~(3) injection pressure is no greater than atmospheric pressure (i.e. 14.7 pounds per square inch).~~

~~(b) If the injection pressure is to be greater than atmospheric, a demonstration of the mechanical integrity of the injection facility prior to injection shall be required unless it can be demonstrated to the Director's satisfaction that the methods and materials used in the construction of the well and injection operations shall not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 2L. In conducting and evaluating the tests for mechanical integrity, the owner shall apply one of the following methods:~~

~~(1) monitoring of the annulus pressure; or~~

~~(2) a pressure test with liquid or gas.~~

~~(c) When the owner reports the results of mechanical integrity tests to the Director, the owner shall include a description of the test(s) and the method(s) used. In making an evaluation of the data submitted, the Director may review monitoring or other test data available.~~

(a) An injection well has internal mechanical integrity when there is no leak in the casing, tubing, or packer as demonstrated by one of the following methods:

(1) monitoring of the tubing-casing annulus pressure, following an initial pressure test, with sufficient frequency to be representative as determined by the Director. This test must be performed at the well head while maintaining an annulus pressure different from atmospheric pressure;

(2) pressure testing with liquid or gas; or

(3) any other method proposed by the permittee and approved by the Director.

(b) An injection well has external mechanical integrity when there is no fluid movement into groundwaters through vertical channels adjacent to the injection well bore as determined by one of the following methods:

(1) the results of a temperature or noise log;

(2) grouting records plus predictive calculations demonstrating that the injection pressures will not exceed the strength of the grout; or

(3) any other equally effective method proposed by the permittee and approved by the Director.

(c) In conducting and evaluating the tests enumerated in this Section or other tests allowed by the Director, the owner or operator shall apply methods and standards generally accepted in the industry. When the well owner or operator reports the results of mechanical integrity tests, a description of the test(s) and the method(s) used shall be included. The Director shall review monitoring and other test data submitted since the previous evaluation.

(d) The Director may require additional or alternative tests if the results presented by the owner or operator under Paragraph (c) of this Rule are not satisfactory to demonstrate that an injection well has mechanical integrity.

(e) If an injection well fails to demonstrate mechanical integrity, the well owner or operator shall take corrective action as specified in Rule .0206 of this Section.

Authority G.S. 87-87; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0208 FINANCIAL RESPONSIBILITY

When required by the rules of this Section, ~~The~~ the permittee shall maintain and demonstrate financial responsibility and ~~resources,~~ resources in the form of performance bonds or other equivalent forms of financial assurances, as approved by the ~~Director~~ Director, ~~and as specified in the permit,~~ to close, plug, and abandon the injection operation.

Authority G.S. 87-87; 87-88; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0209 CLASSIFICATION OF INJECTION WELLS

Injection Wells are classified as follows:

~~(a) Class 1.~~

(1) Class 1. No person shall construct, use, or operate a well of this class for injection. This class applies to industrial, municipal, and nuclear disposal wells that are used to inject wastes beneath the lowermost formation containing groundwater. A description of the primary function for wells of this class is as follows:

(1) This class applies to industrial, municipal, and nuclear disposal wells that are used to inject wastes beneath the lowermost formation containing an underground source of drinking water.

(2) The designated type code and a description of the primary function for wells of this class shall be as follows:

(A)(a) Type 1H – Hazardous Waste Disposal Well. These wells are used by generators of hazardous wastes or owners of hazardous waste management facilities to inject hazardous waste.

(B)(b) Type 1I – Industrial disposal well. Disposal Well. These wells are used to inject non-hazardous industrial waste.

(C)(c) Type 1M – Municipal disposal well. Disposal Well. These wells are used to inject non-hazardous waste.

(D)(d) Type 1N – Nuclear disposal well. Disposal Well. These wells are used to inject nuclear waste.

(E) Type 1X - Other Class 1 wells.

(3) No person shall construct, use, or operate a well of this class for injection.

(b) Class 2.

(1)(2) Class 2. No person shall construct, use, or operate a well of this class for injection. This class applies to oil and gas production and storage related injection wells and includes wells which are used to inject fluids:

(A)(a) which are brought to the surface in connection with natural gas storage operations or conventional oil or natural gas production;

(B)(b) for enhanced recovery of oil or natural gas; and

(C)(c) for storage of hydrocarbons which are liquid at standard temperature and pressure.

(2) No person shall construct, use, or operate a well of this class for injection.

(c) Class 3.

(1)(3) Class 3. No person shall construct, use, or operate a well of this class for injection. This class applies to special process wells which are used to inject for the purpose of extraction of minerals or energy. A description of the primary function for wells of this class is as follows:

(2) The designated type code and a description of the primary function for wells of this class shall be as follows:

(A) Type 3G - In-situ Gasification Well.

(a) In Situ Production of Uranium or Other Metals. This category includes only in-situ production from ore bodies that have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class 5.

(B)(b) Type 3M – Solution Mining Well. These wells are used in the solution mining of salts or potash.

(C)(c) Type 3S – Sulfur Mining Well. These wells are used in the mining of sulfur by the Frasch process.

(D) Type 3T - Geothermal Well.

(E) Type 3U - Uranium mining Well.

(3) No person shall construct, use, or operate a well of this class for injection.

(d) Class 4.

(1)(4) Class 4. No person shall construct, use, or operate a well of this class for injection. This class applies to injection wells that are used to inject hazardous wastes into or above a formation containing an underground source of drinking water and includes wells used by:

(A)(a) generators of hazardous wastes or radioactive wastes; and

(B)(b) owners of hazardous waste management facilities, or radioactive waste disposal sites.

(2) No person shall construct, use, or operate a well of this class for injection.

(e) Class 5.

(1)(5) Class 5. This class applies to all injection wells not included in Class 1, 2, 3, and 4. 4, or 6.

(a) The construction, use, or operation of the following Class 5 injection well types is prohibited. A description of the primary function for these prohibited Class 5 wells is as follows:

(2) The construction, use, or operation of the following Class 5 injection well types are prohibited. The designated type code and a description of the primary function for these wells shall be as follows:

(A) Type 5A8 - Groundwater Aquaculture Return Flow Well. These wells inject groundwater or surface water that has been used to support aquaculture.

(B) Type 5D2 - Storm Water Drainage Well. These wells receive storm-water runoff from paved areas, including parking lots, streets, residential subdivisions, building roofs, or highways.

(C) Type 5F1 - Agricultural Drainage Well. These wells receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy runoff.

(D) Type 5G30 - Special Drainage Well. These wells are used for disposing of water from sources other than direct

~~precipitation. Examples of this well type include: landslide control drainage wells, water tank overflow drainage wells, swimming pool drainage wells, and lake control drainage wells.~~

~~(E) Type 5H - Gaseous Hydrocarbon Storage Well. These wells are used for the storage of hydrocarbons which are gases at standard temperature and pressure.~~

~~(F) Type 5N24 - Radioactive Waste Disposal Well. These wells are used for all radioactive waste disposal other than Class 4 wells.~~

~~(G) Type 5W - Sewage or Wastewater Disposal Well. These wells are used to inject sewage or wastewater from any source to the groundwaters of the State. This includes but is not limited to cesspools and abandoned drinking water wells.~~

~~(H) Type 5X13 - Mining, Sand, or Other Backfill Well. These wells are used to inject a mixture of fluid and sand, mill tailings, and other solids into mined out portions of subsurface mines whether, what is injected is a radioactive waste or not. This also includes special wells used to control mine fires and acid mine drainage wells.~~

~~(I) Type 5X14 - Solution Mining Well. These wells are used in solution mining in conventional mines, such as stopes leaching.~~

~~(J) Type 5X15 - In-situ Fossil Fuel Recovery Well. These wells are used for the in-situ recovery of coal, lignite, oil shale, and tar sands.~~

~~(K) Type 5X17 - Air Scrubber Waste Disposal Well. These wells are used to inject wastes from air scrubbers.~~

~~(L) Type 5X18 - Water Softener Regeneration Brine Disposal Well. These wells are used to inject regeneration wastes from water softeners.~~

~~(M) Type 5X28 - Motor Vehicle Waste Disposal Well. These wells receive wastes from motor vehicle facilities and include but are not limited to autobody repair shops, new and used car dealerships, specialty repair shops (e.g., transmission, muffler, and radiator repair shops and any facility that steam cleans or otherwise washes undercarriages or engine parts or does any vehicular repair work).~~

(i) Agricultural Drainage Well. These wells receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy runoff.

(ii) Air Scrubber Waste Disposal Well. These wells are used to inject wastes from air scrubbers.

(iii) Gaseous Hydrocarbon Storage Well. These wells are used for the storage of hydrocarbons which are gases at standard temperature and pressure.

(iv) Groundwater Aquaculture Return Flow Well. These wells inject groundwater or surface water that has been used to support aquaculture.

(v) In-situ Fossil Fuel Recovery Well. These wells are used for the in-situ recovery of coal, lignite, oil shale, and tar sands.

(vi) Mining, Sand, or Other Backfill Well. These wells are used to inject a mixture of fluid and sand, mill tailings, and other solids into mined out portions of subsurface mines, whether the injectant is a radioactive waste or not. This also includes wells used to control mine fires and acid mine drainage wells.

(vii) Motor Vehicle Waste Disposal Well. These wells receive wastes from motor vehicle facilities and include autobody repair shops, new and used car dealerships, specialty repair shops (e.g., transmission, muffler, and radiator repair shops and any facility that steam cleans or otherwise washes undercarriages or engine parts or does any vehicular repair work).

(viii) Sewage or Wastewater Disposal Well. These wells are used to inject sewage or wastewater from any source to the groundwaters of the State. This includes cesspools and abandoned drinking water wells.

(ix) Solution Mining Well. These wells are used in solution mining in conventional mines, such as stopes leaching.

(x) Special Drainage Well. These wells are used for disposing of water from sources other than direct precipitation. Examples of this well type include: landslide control drainage wells, water tank overflow drainage wells, swimming pool drainage wells, and lake control drainage wells.

(xi) Water Softener Regeneration Brine Disposal Well. These wells are used to inject regeneration wastes from water softeners.

~~(3)~~(b) The construction, use, or operation of the following Class 5 injection well types may be approved by the Director provided that the injected material does not contain any waste or any substance of a composition and concentration such that, if it were discharged to the land or waters of the state, would create a threat to human health or would otherwise render those waters unsuitable for their best intended ~~best~~ usage. ~~The designated type code and a description of the primary function for these wells shall be as follows:~~

~~(A) Type 5A7 - Heating/Cooling Water Return Well. These wells reinject groundwater used to provide heating or cooling for structures. These wells may be approved by the Director only if the temperature of the injection fluid is not in excess of 30 degrees Fahrenheit above or below the naturally occurring temperature of the receiving groundwater. This includes wells using a geothermal fluid source.~~

~~(B) Type 5B22 - Salinity Barrier Well. These wells inject uncontaminated water into an aquifer to prevent the intrusion of salt water into the fresh water.~~

~~(C) Type 5I - In situ Groundwater Remediation Well. These wells are used to inject additives for the in situ treatment of contaminated soil or groundwater, when such additives are determined by the Division of Epidemiology to be protective of human health and permitted by the Division.~~

~~(D) Type 5L - Closed-Loop Groundwater Remediation Well. These wells are used to inject treated groundwater as part of a closed-loop remediation system for the prevention, control, or remediation of aquifer pollution.~~

~~(E) Type 5P - Air Injection Well. These wells are used to inject air to enhance in situ treatment of groundwater.~~

~~(F) Type 5QM - Closed-Loop Geothermal Mixed Fluid Injection Well System. These wells are used to house a subsurface system of pipe that re-circulates fluid other than potable water for heating and cooling purposes and where the fluid is isolated from the environment.~~

~~(G) Type 5QW Closed Loop Geothermal Water-Only Injection Well System. These wells are used to house a subsurface system of pipe that re-circulates potable water for heating and cooling purposes and where the fluid is isolated from the environment.~~

~~(H) Type 5R21 - Aquifer Recharge Well. These wells are used to recharge depleted aquifers and may inject uncontaminated water of equal or better quality than the aquifer being recharged.~~

~~(I) Type 5S23 - Subsidence Control Well. These wells are used to inject fluids into a non-oil or gas-producing zone to reduce or eliminate subsidence associated with overdraft of fresh water and not used for the purpose of oil or natural gas production.~~

~~(J) Type 5T - Tracer Well. These wells are used to inject substances determined by the Division of Epidemiology to be protective of human health and permitted by the Division.~~

~~(K) Type 5X25 - Experimental Technology Well. These wells are used in experimental or unproven technologies where operation is in compliance with all appropriate rules and Statutes.~~

~~(L) Type 5X30 - Aquifer Test Well. These wells are used to inject uncontaminated fluid into an aquifer to determine aquifer characteristics.~~

~~(M) Type 5Z - Other Wells.~~

(i) Aquifer Recharge Wells specified in Rule .0218 of this Section.
(ii) Aquifer Storage and Recovery Wells specified in Rule .0219 of this Section.
(iii) Aquifer Test Wells specified in Rule .0220 of this Section.
(iv) Experimental Technology Wells specified in Rule .0221 of this Section.
(v) Geothermal Aqueous Closed-Loop Wells specified in Rule .0222 of this Section.
(vi) Geothermal Direct Expansion Closed-Loop Wells specified in Rule .0223 of this Section.
(vii) Geothermal Heating/Cooling Water Return Wells specified in Rule .0224 of this Section.
(viii) Groundwater Remediation Wells specified in Rule .0225 of this Section.
(ix) Salinity Barrier Wells specified in Rule .0226 of this Section.
(x) Stormwater Drainage Wells specified in Rule .0227 of this Section.
(xi) Subsidence Control Wells specified in Rule .0228 of this Section.
(xii) Tracer Wells specified in Rule .0229 of this Section.
(xiii) Other Wells specified in Rule .0230 of this Section.

(6) Class 6. No person shall construct, use, or operate a well of this class for injection. This class applies to wells that are used for the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.

Authority G.S. 87-87; 87-94; 87-95; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 143-215.6(c).

15A NCAC 02C .0211 GENERAL PERMITTING REQUIREMENTS APPLICABLE TO ALL INJECTION WELL TYPES

(a) A permit shall be obtained from the Director prior to constructing, operating, or using any well for injection unless the well is deemed permitted in accordance with ~~Paragraph (u) of this Rule.~~ the rules of this Section. ~~In those instances where all individual injection wells within a well field will be essentially similar with respect to construction, operation, reporting, and abandonment, and are of the same well Type, the Director may issue an area permit for the injection operations within that same well field, facility, site, reservoir, or similar unit.~~ No permit shall be granted for the injection of wastes or any substance of a composition and concentration such that, if it were discharged to the land or waters of the state, would create a threat to human health or would otherwise render those waters unsuitable for their intended best usage unless specifically provided for by Statute or by the Rules in this Section.

(b) No well owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any applicable groundwater quality standard specified in 15A NCAC 02L or may otherwise adversely affect human health. The applicant for a permit shall have the burden of showing that the requirements of this Paragraph are met.

(c) If at any time the Director learns that any injection well may cause a violation of any applicable groundwater quality standard specified in 15A NCAC 02L, the Director shall do one of the following:

(1) require an individual permit for injection wells that are otherwise permitted by rule;
(2) require such actions as may be necessary to prevent the violation, including corrective action as required in Rule .0206 of this Section; or
(3) take enforcement action.

~~(b)~~(d) All permit applications shall be signed as follows:

(1) ~~for~~ For a corporation: by a responsible corporate ~~officer~~ officer. For the purposes of this Section, a responsible corporate officer means a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation. [Note: The Division does not require specific assignments or delegations of authority to responsible corporate officers. The Division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Division to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions.];
(2) ~~for~~ For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
(3) ~~for~~ For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official; ~~or~~
(4) ~~for~~ For all other persons: by the well ~~owner.~~ owner; or
(5) For any other person authorized to act on behalf of the applicant: documentation shall be submitted with the permit application package that clearly indentifies the person,

explicitly grants them specific signature authority, and is signed and dated by the applicant.

~~(c)~~(e) The person signing the permit application shall certify that the data furnished on the application is accurate and that the injection well will be operated in accordance with the approved specifications and conditions of the permit.

~~(d) An application shall be submitted, in duplicate, to the Director on forms furnished by the Director and shall include the following:~~

~~(1) For all Class 5 Well Types:~~

~~(A) The permit well owner's and (if different from the owner) the well operator's name, address, telephone number, and status as a federal, state, private, public, or other activity;~~

~~(B) The name, mailing address, telephone number, and location of the facility for which the application is submitted and a brief description of the nature of the business;~~

~~(C) A description of the injection activities proposed by the applicant;~~

~~(D) A scaled, site-specific map showing the location(s) of the following:~~

~~(i) the proposed injection well(s);~~

~~(ii) all property boundaries;~~

~~(iii) the direction and distance from the injection well or well system to two nearby permanent reference points (such as roads, streams, and highway intersections);~~

~~(iv) all buildings within the property boundary;~~

~~(v) any other existing or abandoned wells, including water supply and monitoring wells, within the area of review of the injection well or well system;~~

~~(vi) any existing sources of potential or known groundwater contamination, including waste storage, treatment, or disposal systems within the area of review of the injection well or well system; and~~

~~(vii) all surface water bodies within the area of review of the injection well or well system.~~

~~(E) The chemical, physical, biological, and radiological characteristics of the fluid to be injected;~~

~~(F) The proposed average and maximum daily rate and quantity of fluid to be injected;~~

~~(G) Detailed plans and specifications of the surface and subsurface construction details of the system;~~

~~(H) A listing of all permits or construction approvals, received or applied for by the applicant, that are related to the site or facility covered by this application including but not limited to:~~

~~(i) Hazardous Waste Management program permits or approval under the Resource Conservation and Recovery Act (RCRA);~~

~~(ii) NC Division of Water Quality Non Discharge permits;~~

~~(iii) Sewage Treatment and Disposal Permits issued in accordance with G.S. 130A; and~~

~~(iv) Other environmental permits required by state or federal law.~~

~~(I) Up to four Standard Industrial Codes which best reflect the principal products or services provided by the facility;~~

~~(J) Whether or not the facility is located on Indian lands;~~

~~(K) Such other information as deemed necessary by the Director for the protection of human health and the environment.~~

~~(2) For Type 5A7 and 5QM Wells, in addition to the information required in Subparagraph (d)(1) of this Rule, the application shall include the heating/cooling system installation contractor's name, address, and telephone number;~~

~~(3) For Type 5I and 5L Wells, in addition to the information required in Subparagraph (d)(1) of this Rule, the application shall include:~~

~~(A) a brief description of the contamination incident and incident number assigned by Division staff in the Department's Regional Office;~~

~~(B) a site specific scaled map showing the following:~~

~~(i) contour intervals not exceeding two feet;~~

~~(ii) the location of all springs, lakes, ponds, or other surface drainage features within 1000 feet of the~~

injection well or well system;

(iii) potentiometric surface showing direction of groundwater movement; and

(iv) the horizontal and vertical extent of the contaminant plume (including isoconcentration lines and plume cross sections).

(C) a tabulation of data on all wells within 1/4 mile of the injection well(s), excepting water supply wells serving a single family residence, which penetrate the proposed injection zone. Such data shall include a description of each well's type, depth, record of abandonment or completion, and any additional information the Director may require;

(D) a hydrogeologic description, soils description, and cross section of the subsurface to a depth that includes the known or projected depth of contamination. G.S. 89E-18 requires that any geologic plans, reports, or documents in which the performance is related to the public welfare or safeguarding of the environment be prepared by a licensed geologist or subordinate under his direction. G.S. 89E-13 requires that all drawings, reports, or documents involving geologic work which shall have been prepared or approved by a licensed geologist or a subordinate under his direction be signed and sealed by him or her. The number of borings shall be sufficient to determine the following:

(i) the regional geologic setting;

(ii) significant changes in lithology;

(iii) the hydraulic conductivity of the saturated zone;

(iv) the depth to the mean seasonal high water table; and

(v) a determination of transmissivity and specific yield of the aquifer to be used for injection (showing calculations used for transmissivity and specific yield).

(E) a detailed description of the proposed injection procedure including:

(i) average and maximum daily rate and quantity of fluid to be injected;

(ii) average and maximum injection pressure;

(iii) injection pressure relative to the overburden pressure of the soils and injection zone;

(iv) injection temperature; and

(v) demonstration of closed loop recovery of injected and contaminated fluids;

(F) proposed concentration of any contaminant in the effluent, given any proposed pretreatment;

(G) plans for proposed location and construction details of groundwater monitoring well network including schedule for sampling and analytical methods.

(4) For Types 5B22, 5R21, 5S23, 5T, 5X25, and 5Z wells, in addition to the information required in Subparagraph (d)(1) of this Rule, the application shall include:

(A) a detailed description of all planned activities relating to the proposed injection facility including but not limited to:

(i) construction plans and materials;

(ii) operation procedures; and

(iii) planned injection schedule.

(B) a hydrogeologic description, soils description, and cross section of the subsurface to the depth of the proposed injection zone. G.S. 89E-18 requires that any geologic plans, reports, or documents in which the performance is related to the public welfare or safeguarding of the environment be prepared by a licensed geologist or subordinate under his direction. G.S. 89E-13 requires all drawings, reports, or documents involving geologic work which shall have been prepared or approved by a licensed geologist or a subordinate under his direction be signed and sealed by him or her. The number of borings shall be sufficient to determine the following:

(i) the regional geologic setting;

(ii) significant changes in lithology;

(iii) the hydraulic conductivity of the saturated zone;

(iv) the depth to the mean seasonal high water table; and

(v) a determination of transmissivity and specific yield of the aquifer to be used for injection (show calculations used for transmissivity and specific yield).

(C) plans for proposed location and construction details of groundwater monitoring well network including schedule for sampling and analytical methods.

(e)(f) All applications for a new permit or renewal, modification, or transfer of an existing permit shall be filed in sufficient time prior to construction and operation or expiration, modification, or transfer to allow compliance with all legal procedures.

(f)(g) All reports shall be signed by a person described in Paragraph (b)(d) of this Rule. Rule or by a duly authorized agent of that person. All records, reports, and information required to be submitted to the Director and public comment on these records, reports, or information shall be disclosed to the public unless the person submitting the information can show that such information, if made public, would disclose methods or processes entitled to protection as trade secrets. secrets as defined in G.S. 66-152. The Director shall determine which information is entitled to confidential treatment. In the event the Director determines that such information is entitled to be treated as confidential treatment, information as defined in G.S. 132-1.2, the Director shall take steps to protect such information from disclosure.

(g)(h) The Director shall consider the cumulative effects of drilling and construction of multiple wells and operation of all proposed wells within a well field during evaluation of an area permit application. applications.

(h) Injection may not commence until construction is complete, the permittee has submitted notice of completion of construction to the Director, and the Director has inspected or otherwise reviewed the injection well and finds it in compliance with the permit conditions. If the permittee has not received notice from the Director of intent to inspect or otherwise review the injection well within 10 days after the Director receives the notice, the permittee may commence injection. Prior to granting approval for the operation of any injection well, the Director shall consider the following information when such information is required by these Rules:

(1) all available logging and testing data on the well;

(2) a satisfactory demonstration of mechanical integrity pursuant to these Rules;

(3) the proposed operating procedures;

(4) the results of the formation testing program; and

(5) the status of corrective action on defective wells in the area of review.

(i) The Director may establish maximum injection volumes and pressures necessary to assure that:

(1) fractures are not initiated in the confining zone;

(2) injected fluids do not migrate outside the injection zone or area;

(3) injected fluids do not cause or contribute to the migration of fluids beyond the compliance boundary;

(4) formation fluids are not displaced outside the formation; and

(5) there is compliance with operating requirements.

(j)(i) A All permits permit shall be issued for a period not to exceed five years from the date of issuance. On expiration of the permit, the permit shall become invalid unless application is made, at least 120 days prior to the expiration date, for an extension of the subject permit. Permits are considered active until all permit requirements have been met and documentation has been received indicating that the wells meet one of the following conditions:

(1) The wells are temporarily or permanently abandoned in accordance with Rule .0240 of this Section;

(2) the wells have been converted to some other use; or

(3) the wells are permitted under another permit issued by the appropriate permitting authority for that activity.

(k)(j) The permittee shall at all times properly operate and maintain all All facilities shall, at all times, be properly operated and maintained and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the rules of this Section. conditions of this permit. Proper operation and maintenance includes effective performance and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(k) The permittee shall allow the Director, or an authorized representative, upon their presentation of credentials and other documents as may be required by law, to:

(1) enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

(2) have access to and copy, during normal business hours, any records that must be kept under the conditions of the permit;

(3) inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

(4) sample or monitor, at reasonable times, and for the purposes of assuring permit compliances or as otherwise authorized, any substances or parameters.

(l) The permit may be modified, revoked and reissued, or terminated by the Director in whole or part for actions which would adversely impact human health or the ~~environment,~~ environment. ~~such~~ Such actions ~~to~~ may ~~include but not be limited to:~~ include:

(1) violation of any terms or conditions of the permit;

(2) obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; or

(3) refusal of the permittee to allow authorized employees of the Division upon proper presentation of ~~credentials:~~ credentials to:

(A) ~~to~~ enter upon permittee's premises on which a system is located in which any records are required to be kept under terms and conditions of the permit;

(B) ~~to~~ have access to and copy any records required to be kept under terms and conditions of the permit;

(C) ~~to~~ inspect any monitoring equipment or method required in the permit; or

(D) ~~to sample any discharge~~ collect any sample from the injection facility.

(m) The filing of an application by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, shall not stay any permit condition.

(n) The permit shall not convey any property rights of any sort, or any exclusive privilege.

(o) The permittee shall furnish to the Director any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. The permittee shall also furnish to the Director, upon request, copies of records required by the permit to be kept.

~~(p) The permittee shall allow the Director, or an authorized representative, upon their presentation of credentials and other documents as may be required by law, to:~~

~~(1) enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;~~

~~(2) have access to and copy, during normal business hours, any records that must be kept under the conditions of the permit;~~

~~(3) inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and~~

~~(4) sample or monitor, at reasonable times, and for the purposes of assuring permit compliances or as otherwise authorized, any substances or parameters.~~

~~(q)~~(p) The permittee shall retain copies of records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit, for a period of at least three years from the date of the sample, measurement, report, or application. Records of monitoring information shall ~~include:~~ include the:

(1) ~~the~~ date, exact place, and time of sampling or measurements;

(2) ~~the~~ individual(s) who performed the sampling or measurements;

(3) ~~the~~ date(s) analyses were performed;

(4) ~~the~~ individual(s) who performed the analyses;

(5) ~~the~~ analytical techniques or methods used; ~~and~~

(6) ~~the~~ results of any such sampling, measurements, and ~~analyses.~~ analyses; and

(7) description and date of any maintenance activities performed including the name and contact information of the individual(s) performing such activities.

~~(r)~~(q) The permit shall not be ~~transferable~~ transferred to any ~~person.~~ person without the submission of a permit ownership or name change request to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be appropriate.

~~(s)~~(r) The permittee shall report any monitoring or other information ~~which indicates that any contaminant may cause an endangerment to an underground source of drinking water and any~~ that indicates noncompliance with a specific permit ~~condition~~ condition, that a contaminant may cause a violation of applicable groundwater quality standards specified in 15A NCAC 02L, or that a malfunction of the injection system ~~which~~ may cause ~~fluid migration~~ the injected fluids to migrate outside the approved injection zone or area. The information shall be ~~provided,~~ provided to the ~~Director,~~ Director orally within 24 hours of the occurrence and as a written submission within five days of the occurrence. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and any steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

~~(t)~~(s) The Commission may delegate, through a Memorandum of Agreement to another state agency, the authority to permit injection wells that are an integral part of a facility requiring a permit from that agency.

~~(u) The following injection wells are deemed to be permitted pursuant to G.S. 87-87 and it shall not be necessary for the Division to issue individual permits for construction or operation of the following Class 5 Well Types:~~

~~(1) Type 5P - Air Injection Well which meets the following criteria:~~

~~(A) The air to be injected shall not exceed the ambient air quality standards set forth in 15A NCAC 2D Section .0400 and shall not contain any detectable hazardous constituents; and~~

~~(B) The operation of the air injection well shall not cause contaminated groundwater to migrate into an area not contaminated prior to initiation of injection activities or cause a contravention of a groundwater~~

quality standard as specified in 15A NCAC 2L.

(2) Type 5QW - Closed-Loop Geothermal Water-Only Injection Well System which recirculates potable water only and meets the following criteria:

(A) The construction of the system shall be completed in such a manner so as to preclude surficial contaminants from entering the borehole; and

(B) The person responsible for the construction of the injection well system shall submit notification, prior to construction, of construction to the Division on forms supplied by the Division.

(3) Type 5X30 - Aquifer Test Well which meets the following criteria:

(A) The operation of the aquifer test well shall not cause contaminated groundwater to migrate into an area not contaminated prior to initiation of injection activities or cause a contravention of a groundwater quality standard as specified in 15A NCAC 2L; and

(B) The fluid to be injected shall be uncontaminated.

(4) In addition to the criteria specified in Subparagraph (u)(2) of this Rule, any test hole or boring shall be permanently abandoned by the driller in accordance with Rule .0214 of this Section within two days after drilling or two days after testing is complete, whichever is less restrictive, except when a test well is being converted to a permanent injection well, in which case conversion shall be completed within 30 days.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0213 ADDITIONAL CRITERIA AND STANDARDS APPLICABLE TO CLASS 5 WELLS

(a) Location.

(1) For all well types, the injection well shall not be located in an area generally subject to flooding. Areas which are generally subject to flooding include those with concave slope, alluvial or colluvial soils, gullies, depressions, and drainage ways.

(2) For Type 5I, and 5L wells where the concentration of any component of the injectant:

(A) exceeds the groundwater quality standards specified in 15A NCAC 2L .0202, the injection well shall not be located:

(i) at a point where the injectant would degrade the existing quality of the groundwater in the water-bearing unit into which the injectant is being released; or

(ii) at a point where, as a result of the injection activity, corrective action would be required under 15A NCAC 2L .0106.

(B) is less than the groundwater quality standards specified in 15A NCAC 2L .0202, the injection well shall not be located at point where the injectant would result in a contravention of any of the aforementioned groundwater quality standards in the water bearing unit into which the injectant is being released.

(3) For all well types, the injection well shall be located in an area which does not require a person to enter confined spaces to perform sampling and inspection activities.

(4) For Type 5A7, 5R21, 5S23, 5X25, and 5Z wells, the minimum horizontal separation between a well that is designed for injection at atmospheric pressure and potential sources of groundwater contamination shall be as follows unless it can be demonstrated to the Director's satisfaction that a lesser separation distance will not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 2L:

(A) Septic tank and drainfield 50 ft.

(B) Other subsurface ground absorption waste disposal system. 50 ft.

(C) Industrial or municipal sludge spreading or wastewater irrigation sites 50 ft.

(D) Water tight sewage or liquid waste collection or transfer facility 25 ft.

(E) Cesspools and privies 50 ft.

(F) Animal feedlots or manure piles 50 ft.

(G) Fertilizer, pesticide, herbicide, or other chemical storage areas50 ft.

(H) Sanitary landfills 500 ft.

(I) Non hazardous waste storage, treatment, or disposal lagoons 100 ft.

(J) Other non hazardous solid waste landfills 100 ft.

(K) Animal barns 50 ft.

(L) All other potential sources of groundwater contamination50 ft.

(5) For all other well types the minimum horizontal separation between a well that is designed for injection and potential sources of groundwater contamination shall be the distance necessary to prevent migration of contaminants or a violation of groundwater standards as demonstrated by hydrogeologic computer modeling.

(b) Drilling Fluids and Additives. Drilling fluids and additives shall not contain organic materials that cause the surrounding groundwaters to become non potable nor toxic substances, and may be comprised only of:

(1) the formational material encountered during drilling; or

(2) materials manufactured specifically for the purpose of borehole conditioning or well construction; or

(3) materials approved by the Director, based on a demonstration of not adversely affecting human health or the environment.

(c) Drilling, Casing, Screens, and Testing.

(1) In the drilling, casing, screening, and testing of injection wells the following procedures shall be utilized:

(A) unless otherwise excepted by this Rule, a casing shall be installed which extends from at least 12 inches above land surface to the top of the injection zone or to a depth of 20 feet whichever is shallower;

(B) wells with casing extending less than 12 inches above land surface and wells without casing may be approved by the Director only when the following conditions are met:

(i) Either:

(I) site specific conditions directly related to business activities, such as vehicle traffic, would endanger the physical integrity of the well; or

(II) it is not operationally feasible for the well head to be completed 12 inches above land surface due to the engineering design requirements of the system; and

(ii) for Type 5Q wells without permanent casing, the well head is completed in such a manner so as to preclude surficial contaminants from entering the well; and the vertical length of the borehole shall be grouted to a minimum depth of 20 feet below land surface with a grout, as specified in Rule .0204 of this Section, and by a method approved by the Director based on a demonstration of not adversely affecting human health or the environment; and

(iii) for all other wells, the well head is completed in such a manner so as to preclude surficial contaminants from entering the well; and well head protection shall include:

(I) an accessible external sanitary seal installed around the casing and grouting;

(II) a sufficient vertical distance between the top of the grouting and the top of the casing to prevent any surficial fluids from entering the injection well casing; and

(III) a water-tight seal installed on the top of the casing;

(C) the methods and materials used in construction shall not threaten the physical and mechanical integrity of the well during its lifetime (i.e., it shall be designed and constructed to operate the projected life of the well) and shall be compatible with the proposed injection activities. In determining the suitability of the methods and materials to be used in the drilling, casing, screening, and testing, the Director shall consider the following:

(i) depth to the injection zone;

(ii) injection pressure, external pressure, internal pressure, and axial loading;

(iii) hole size;

(iv) size and grade of all casing (wall thickness, diameter, nominal weight, length, joint

specification, and casing material);

(v) size and grade of all screen material (wall thickness, nominal weight, diameter, length, joint specification, and screen material);

(vi) corrosiveness of injected and formation fluids;

(vii) lithology of injection and confining zones;

(viii) type and grade of cement;

(ix) type and grade of drilling fluid and additives; and

(x) other applicable state and local well construction and environmental standards;

(D) multi-screened wells shall not connect aquifers or zones which have differences in water quality which would result in a degradation of any aquifer or zone;

(E) the migration of fluids outside the approved injection or recovery zone or area is not permitted;

(F) contaminants are not introduced into underground sources of drinking water unless specifically authorized by Statute or Rule; and

(G) the borehole shall not penetrate to a depth greater than the depth at which injection will occur unless the purpose of the borehole is the investigation of the geophysical and geochemical characteristics of an aquifer. Following completion of the investigation the borehole beneath the zone of injection shall be grouted completely to prevent the vertical migration of any contaminants downward.

(2) In addition to the requirements of Subparagraph (c)(1) of this Rule, the testing requirements for all wells other than Type 5A7, 5QW, 5P, and 5X30 shall include but not be limited to:

(A) Appropriate logs and other tests conducted during the drilling and construction of the wells shall be submitted to the Director within 30 days of completion of well construction. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director within 30 days of completion of the tests. The logs and tests appropriate to each type of Class 5 well shall be determined by the Director based on the intended function, depth, construction, and other characteristics of the well, availability of similar data in the area of the drilling site, and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, such logs and tests shall include deviation checks conducted on all holes where pilot holes and reaming are used, and at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling. In the case of area permits, the Director may authorize logs and tests of the well field as a whole, rather than of each individual well within the well field.

(B) When the injection zone is a water-bearing formation, the following information concerning the injection zone as determined or calculated by the owner, shall be submitted to the Director within 30 days of completion of the determinations in an integrated form:

(i) fluid pressure;

(ii) fluid temperature;

(iii) fracture pressure;

(iv) other physical and chemical characteristics of the injection zone;

(v) physical and chemical characteristics of the formation fluids; and

(vi) compatibility of injected fluids with formation fluids.

(C) When the injection formation is not a water bearing formation, only the information required in Parts (B)(iii) and (iv) of this Subparagraph shall be determined or calculated and submitted to the Director within 30 days of completion of the determinations.

(D) Monitoring wells completed in the injection zone and any of those zones adjacent to the injection zone might be affected by the injection operations. These wells shall be located in such a fashion as to detect any movement of injection fluids, process by products, or formation fluids outside the injection area or zone. If the operation may be affected by subsidence or catastrophic collapse, the monitoring wells shall

be located so that they will not be physically affected and shall be of an adequate number to detect movement of injected fluids, process by-products, or formation fluids outside the injection zone or area. In determining the number, location and spacing of monitoring wells, the following criteria shall be considered by the Director:

(i) the population relying on the underground source of drinking water affected, or potentially affected, by the injection operation;

(ii) the proximity of the injection operation to points of withdrawal of drinking water;

(iii) the local geology and hydrology;

(iv) the operating pressures;

(v) the chemical characteristics and volume of the injected fluid, formation water, and process by products; and

(vi) the density of injection wells.

(E) For any wells that inject at a pressure exceeding atmospheric, tests for mechanical integrity and injection capacity shall be conducted in accordance with Rule .0207 of this Section.

(3) All piping, wiring, and vents shall enter the well through the top of the casing unless otherwise approved by the Director based on a design demonstrated to preclude surficial contaminants from entering the well.

(4) A hose bibb, sampling tap, or other collection equipment, as approved by the Director based on a demonstration of not adversely affecting human health or the environment, shall be installed on the line entering the injection well such that a sample of the injectant can be obtained immediately prior to its entering the injection well.

(d) Grouting and Sand-and-Gravel-Packing.

(1) The annular space between the casing and the borehole shall be grouted:

(A) with a type of cement that is non-toxic and is non-reactive with the casing or screen materials, the formation, and the injected fluids;

(B) by a method such that the physical and mechanical integrity of the well(s) is not threatened during its life expectancy;

(C) from land surface:

(i) to a minimum depth of 20 feet when the well is greater than 20 feet in depth; or

(ii) to within two feet of the top of the injection zone in those wells less than 20 feet in depth; or

(iii) in another configuration, as approved by the Director, upon demonstrations that such a configuration is necessitated by engineering design of the injection facility and will not adversely affect human health or the environment; and

(D) so that the grout shall extend outward from the casing wall to a minimum thickness equal to either one third of the diameter of the outside dimension of the casing or two inches, whichever is greater.

(2) Grout shall be placed around the casing by one of the following methods:

(A) Pressure. Grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular area around the casing and overflows at the surface.

(B) Pumping. Grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application.

(C) Other. Grout may be emplaced in the annular space by gravity flow in such a way to insure complete filling of the space.

(3) If an outer casing is installed, it shall be grouted by either the pumping or pressure method.

(4) All grout mixtures shall be prepared prior to emplacement.

(5) The well shall be grouted within five working days after the casing is set.

(6) No additives which will accelerate the process of hydration shall be used in grout for thermoplastic well casing.

(7) In those instances where the life expectancy of the well will not exceed 90 days, the Director may consider modifications or deletion of the grouting requirements where such modifications or deletion would not have a deleterious effect upon an underground source of drinking water.

(8) Packing materials shall:

(A) be composed of quartz, granite, or similar rock material and shall be clean, of uniform size, water-washed and free from clay, silt, or other deleterious material;

(B) be disinfected prior to subsurface emplacement;

(C) be emplaced such that it shall not connect aquifers or zones which have differences in water quality that would result in the deterioration of the water qualities in any aquifer or zone; and

(D) be evenly distributed around the screen and shall extend to a depth at least one foot above the top of the screen. A one foot thick seal, comprised of bentonitic clay or other sealing material approved by the Director based on a demonstration of not adversely affecting human health or the environment, shall be emplaced directly above and in contact with the packing material.

(e) Operating.

(1) Pressure at the well head shall be limited to a maximum which will ensure that the pressure in the injection zone does not initiate new fractures or propagate existing fractures in the injection zone, initiate fractures in the confining zone, or cause the migration of injected or formation fluids outside the injection zone or area.

(2) Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.

(3) Provisions shall be made by the permittee for the monitoring of operating processes at the well head.

(4) All injection wells shall be afforded protection against damage during construction and use.

(f) Monitoring.

(1) Monitoring of any injection wells may be required by the Director as necessary to demonstrate adequate protection of underground sources of drinking water. In determining the type, density, frequency, and scope of monitoring, the Director shall consider the following:

(A) physical and chemical characteristics of the injection zone;

(B) physical and chemical characteristics of the injected fluid(s);

(C) volume and rate of discharge of the injected fluid(s);

(D) compatibility of the injected fluid(s) with the formation fluid(s);

(E) the number, type and location of all wells, mines, surface bodies of water, and man made structures within the area of review;

(F) proposed injection procedures;

(G) expected changes in pressure, formation fluid displacement, and direction of movement of injected fluid;

(H) proposals of corrective action to be taken in the event that a failure in any phase of injection operations endangers an underground source of drinking water; and

(I) the life expectancy of the injection operations.

(2) Monitoring, if required by the Director, shall be in accordance with the following requirements:

(A) Samples and measurements, taken for the purpose of monitoring, shall be representative of the monitored activity.

(B) Analysis of the physical and chemical characteristics of the injected fluid shall be made monthly or more frequently, as necessary, in order to provide representative data for characterization of the injectant.

(C) Monitoring of injection pressure, flow rate, and cumulative volume shall occur according to a schedule determined necessary by the Director.

(D) Monitoring wells associated with the injection site shall be monitored quarterly to detect any migration of injected fluids from the injection zone.

(E) Continuous recording devices to monitor the injection pressure, flow, rate, and volume of injected fluid shall be installed.

(g) Injection Well Identification Plate.

(1) An identification plate showing the name and registration number of the drilling contractor shall be permanently installed on the well within 24 hours after completion of the drilling.

(2) The identification plate shall be constructed of a durable weatherproof, rustproof metal or equivalent material.

(3) The identification plate shall be securely attached to the well casing, or other location approved by the Director due to its immediate proximity to another part of the injection well, where it is readily visible.

(4) The identification plate shall not be removed from the well by any person.

(5) The identification tag shall be stamped with a permanent marking within 30 days of completion of the well to show the following:

(A) total depth of well;
(B) casing depth (ft.) and inside diameter (in.);
(C) screened intervals of screened wells;
(D) gravel interval of gravel packed wells;
(E) yield, in gallons per minute (gpm), or specific capacity in gallons per minute per foot of drawdown (gpm ft. dd);
(F) static water level and date measured;
(G) drilling contractor and registration number; and
(H) date well completed.

(h) Reporting. The well owner shall be responsible for submitting to the Director on forms furnished by the Director, or on an alternate approved form which provides the same information:

(1) A record of the construction or abandonment or repairs of a well, to include: the owner's name; well location, size, and depth; casing record; method of completion or abandonment; formation log; static water level; injection apparatus; and records of any surveys, geophysical logs, tests, or water analyses, and changes in construction or in materials replaced. These records shall be submitted within 30 days of completion of specified activities or abandonment of the well, whichever occurs earliest.
(2) Quarterly reports on required monitoring activities, which shall include:
(A) the date, exact place, and time of sampling or measurements;
(B) the individual(s) who performed the sampling or measurements;
(C) the date(s) analyses are performed;
(D) the individual(s) who performed the analyses;
(E) the analytical techniques or methods used; and
(F) the results of such sampling, measurements or analyses.

Authority G.S. 87-87; 87-88; 87-94; 87-95; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0214 ABANDONMENT AND CHANGE-OF-STATUS

(a) In the event any injection or associated monitoring well is abandoned, either temporarily or permanently, the well owner shall notify the Director within 15 days and the well(s) shall be abandoned in accordance with one of the following procedures or other alternatives approved by the Director based on a demonstration of not adversely affecting human health or the environment:

(1) Procedures for temporarily abandoned wells.
(A) Upon temporary removal from service, or prior to being put into service, the well shall be sealed with a water tight cap or seal compatible with the casing and installed so that it cannot be removed without the use of hand or powers tools.
(B) The well shall be maintained whereby it is not a source or channel of contamination to an underground source of drinking water during its temporary status.
(C) The well shall be repaired, to achieve compliance with the Rules in this Section, or permanently abandoned within 30 days of receipt of notice from the department, upon finding that a well is acting as a source or channel of contamination to an underground source of drinking water.
(2) Procedures for permanently abandoned wells.
(A) All casing and materials may be removed prior to initiation of abandonment procedures if the Director finds such removal will not be responsible for, or contribute to, the contamination of an underground source of drinking water. Any casing not grouted in accordance with 15A NCAC 2C .0113 shall be removed or properly grouted.
(B) The entire depth of the well shall be sounded before it is sealed to insure freedom from obstructions that may interfere with sealing operations.
(C) The well shall be thoroughly disinfected, prior to sealing, if the Director determines that failure to do so could lead to the contamination of an underground source of drinking water.
(D) Drilled wells shall be completely filled with cement grout, which shall be introduced into the well through a pipe which extends to the bottom of the well and is raised as the well is filled. "Bored" or hand dug wells over 24 inches in diameter may be filled with an alternative material approved by the Director based on a demonstration of not adversely affecting human health or the environment.
(E) In the case of gravel packed wells in which the casing and screens have not been removed, neat cement shall be injected into the well completely filling it from the bottom of the casing to the top.

(F) In those cases when, as a result of the injection operations, a subsurface cavity has been created, the well shall be abandoned in such a manner that will prevent the movement of fluids into or between underground sources of drinking water and in accordance with the terms and conditions of the permit.

(b) Exploratory or test wells, constructed for the purposes of obtaining information regarding an injection well site, shall be permanently abandoned in accordance with Subparagraph (2) of this Rule upon completion of their exploratory or testing status.

(c) An injection well shall be permanently abandoned by the drilling contractor before removing his equipment from the site if the well casing has not been installed or has been removed from the well bore.

Authority G.S. 87-87; 87-88; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0215 VARIANCE

(a) The Director may grant a variance from any construction or operation standards under the rules of this Section. Any variance will be in writing, and may be granted upon written application to the Director, by the person responsible for the construction of the well for which the variance is sought, if the Director finds facts to support the following conclusions:

(1) that the use of the well will not endanger human health and welfare or the groundwater;

(2) that construction or operation in accordance with the standards was not technically feasible or desirable.

(b) The Director may require the variance applicant to submit such information as he deems necessary to make a decision to grant or deny the variance. The Director may impose such conditions on a variance or the use of a well for which a variance is granted as he deems necessary to protect human health and welfare and the groundwater resources. The findings of fact supporting any variance under this Rule shall be in writing and made part of the variance.

(c) A variance applicant who is dissatisfied with the decision of the Director may commence a contested case by filing a petition under G.S. 150B-23 within 60 days after receipt of the decision.

Authority G.S. 87-87(4); 87-88; 143-215.1A; 143-215.3(a)(4); 150B-23.

15A NCAC 02C .0216 DELEGATION

(a) The Director may grant permission for well construction under G.S. 87-87.

(b) The Director may give notices and sign orders for violations under G.S. 87-91.

(c) The Director may subdelegate, to an official of the Division, the granting of a variance from any construction standard, or the approval of alternate construction methods or materials, as specified under the rules in this Section.

Authority G.S. 87-87(4); 143-215.1A; 143-215.3(a)(1); 143-215.3(a)(4).

15A NCAC 02C .0217 PERMITTING BY RULE

(a) The following injection well systems are deemed to be permitted by the rules of this Section pursuant to G.S. 87-88(a) and it shall not be necessary for the Division to issue an individual permit for the construction or operation of the following injection well systems providing that the system does not result in the violation of any assigned surface water, groundwater, or air quality standard, there is no groundwater discharge of the injectant into surface waters, and all criteria for the specific systems are met:

(1) Aquifer Test Wells specified in Rule .0220 of this Section;

(2) Geothermal Aqueous Closed Loop Wells specified in Rule .0222 of this Section;

(3) Geothermal Direct Expansion Closed Loop Wells specified in Rule .0223 of this Section;

(4) Groundwater Remediation Wells specified in Rule .0225 of this Section; and

(5) Stormwater Drainage Wells specified in Rule .0227 of this Section.

(b) Nothing in this Rule or the rules of this Section shall be construed to allow the violation of any assigned surface water, groundwater, or air quality standard.

(c) Any violation of this Rule shall be treated in accordance with Rule .0206 of this Section.

(d) Injection well systems permitted by rule under the rules of this Section shall remain permitted by rule, notwithstanding any violations of the Rules of this Section, or until such time as the Director determines that they should not be deemed to be permitted.

(e) If the Director determines that an injection well system should not be permitted by rule, the Director may require the owner of the injection well system to obtain an individual permit. This determination shall be made based on existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88(a).

15A NCAC 02C .0218 AQUIFER RECHARGE WELLS

These wells are used to recharge depleted aquifers and inject uncontaminated water of equal or better quality than the aquifer being recharged. The requirements for Aquifer Recharge Wells shall be the same as described in Rule .0219 of this Section except that the Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0219 AQUIFER STORAGE AND RECOVERY WELLS

These wells are used to inject potable water for the purposes of subsurface storage and for later recovery of the injected water. All Aquifer Storage and Recovery Wells require permits.

(1) Permit Applications. In addition to the permit requirements set forth in Rule .0211 of this Section, an application shall be submitted, in duplicate, to the Director on forms furnished by the Director and shall include the following:

(a) Site Description that includes the following:

(i) the name of the well owner or person otherwise legally responsible for the injection wells, their mailing address, telephone number, and status as a federal, state, private, public, or other entity;

(ii) the name of the property owner, if different from the well owner, their physical address, mailing address, and telephone number;

(iii) the name, mailing address, telephone number, and geographic coordinates of the facility for which the application is submitted; and

(iv) a list of all permits associated with the injection well system.

(b) Project Description. A description of what problem the project is intended to solve or what objective the project is intended to achieve and shall include the following:

(i) history and scope of the problem or objective;

(ii) what is currently being done to solve the problem or achieve the objective;

(iii) why existing practices are insufficient to solve the problem or achieve the objective;

(iv) what other alternatives were considered to solve the problem or achieve the objective; and

(v) how this option was determined to be the most effective or desirable to solve the problem or achieve the objective.

(c) Demonstration of Financial Responsibility as required in Rule .0208 of this Section.

(d) Injection Zone Determination. The applicant shall specify the horizontal and vertical portion of the injection zone within which the proposed injection activity shall occur based on the hydraulic properties of that portion of the injection zone specified. No violation of groundwater quality standards specified in 15A NCAC 02L resulting from the injection shall occur outside the specified portion of the injection zone as detected by a monitoring plan approved by the Division.

(e) Hydrogeologic Evaluation. If required by G.S. 89E or 89C, a licensed geologist or professional engineer shall prepare a hydrogeologic evaluation of the facility to a depth that includes the injection zone determined in accordance with Sub-Item (1)(d) of this Rule. A description of the hydrogeologic evaluation shall include all of the following:

(i) regional and local geology and hydrogeology;

(ii) significant changes in lithology underlying the facility;

(iii) depth to the mean seasonal high water table;

(iv) hydraulic conductivity, transmissivity, and storativity of the injection zone based on tests of site-specific material, including a description of the test(s) used to determine these parameters;

(v) rate and direction of groundwater flow as determined by predictive calculations or computer modeling; and

(vi) lithostratigraphic and hydrostratigraphic logs of test and injection wells.

(f) Area of Review. The area of review shall be calculated using the procedure for determining the zone of endangering influence specified in 40 CFR 146.6(a). The applicant must identify all wells within the area of review that penetrate the injection or confining zone, and repair or permanently abandon all wells that are improperly constructed or abandoned.

(g) Analyses of the injection zone(s) including:
  (i) test results of the native groundwater and the proposed recharge water for the parameters listed in Sub-Item (7)(e) of this Rule;
  (ii) geochemical analyses of representative samples of the aquifer matrix to determine the type and quantity of reactive minerals; and
  (iii) evaluation of the chemical compatibility of the native groundwater, injected water, and the aquifer matrix using site specific geochemical data and hydraulic properties of the injection zones, geochemical modeling, and any other analytical tool required. The chemical compatibility evaluation shall identify potential changes in groundwater quality resulting from the injection activities within the area of review specified in Sub-Item (1)(f) of this Rule.

(h) Injection Procedure. The applicant shall submit a detailed description of the proposed injection procedure that includes the following:
  (i) the proposed average and maximum daily rate and quantity of injectant;
  (ii) the average maximum injection pressure expressed in units of pounds per square inch (psi);
  (iii) calculation of fracture pressures of confining units expressed in units of psi; and
  (iv) the total or estimated volume to be injected.

(i) Injection well construction details including:
  (i) the number and depth of injection wells;
  (ii) indication whether the injection wells are existing or proposed;
  (iii) well drilling contractor name and certification number;
  (iv) depth and type of casing;
  (v) depth and type of screen material;
  (vi) depth and type of grout; and
  (vii) detailed plans and specifications of the surface and subsurface construction of each injection well or well system.

(j) Monitoring Wells. Monitoring wells shall be located so as to detect any movement of injection fluids, process by-products, or formation fluids outside the injection zone as determined by the applicant in accordance with Sub-Item (1)(d) of this Rule. The monitoring schedule shall be consistent with the proposed injection schedule, pace of the anticipated reactions, and rate of transport of the injected fluid. The applicant shall submit a monitoring plan that includes the following:
  (i) a list of monitoring parameters and analytical methods to be used;
  (ii) other parameters that may serve to indicate the progress of the intended reactions;
  (iii) a list of existing and proposed monitoring wells to be used; and
  (iv) a sampling schedule to monitor the proposed injection.

(k) Well Data Tabulation. A tabulation of data on all existing or abandoned wells within the area of review of the injection well(s) that penetrate the proposed injection zone, including water supply wells, monitoring wells, and wells proposed for use as injection or monitoring wells. Such data shall include a description of each well's type, depth, record of abandonment or completion, and any additional information the Director may require.

(l) Plan of Action. A proposed plan of action to be taken if the proposed injection operation causes fracturing of confining units, results in adverse geochemical reactions, or otherwise threatens groundwater quality.

(m) Maps and Cross-Sections. Scaled, site-specific site plans or maps depicting the location, orientation, and relationship of facility components including the following:
  (i) area map based on the most recent USGS 7.5' topographic map of the area, at a scale of 1:24,000 and

showing the location of the proposed injection site;

(ii) topographic contour intervals showing all facility related structures, property boundaries, streams, springs, lakes, ponds, and other surface drainage features;

(iii) all existing or abandoned wells within the area of review of the injection well(s), listed in the tabulation required in Sub-Item (1)(k) of this Rule, that penetrate the proposed injection zone, including water supply wells, monitoring wells, and wells proposed for use as injection wells;

(iv) potentiometric surface map(s) of each hydrostratigraphic unit in the injection zone(s) that show the direction of groundwater movement, and all existing and proposed wells;

(v) cross-section(s) that show the horizontal and vertical extent of the injection zone(s), lithostratigraphic units, hydrostratigraphic units, and all existing and proposed wells, complete with casing and screen intervals; and

(vi) any existing sources of potential or known groundwater contamination, including waste storage, treatment, or disposal systems within the area of review of the injection well or well system.

(n) Such other information as deemed necessary by the Director for the protection of human health and the environment.

(2) Injection Volumes. The Director may establish maximum injection volumes and pressures necessary to assure that:

(a) fractures are not initiated in the confining zone(s);

(b) injected fluids do not migrate outside the injection zone or area;

(c) injected fluids do not cause or contribute to the migration of contamination into uncontaminated areas; and

(d) there is compliance with operating requirements.

(3) Injection.

(a) Injection may not commence until construction is complete, the permittee has submitted notice of completion of construction to the Director, and the Director has inspected or otherwise reviewed the injection well and finds it in compliance with the permit conditions. If the permittee has not received notice from the Director of intent to inspect or otherwise review the injection well within 10 days after the Director receives the notice, the permittee may commence injection.

(b) Prior to granting approval for the operation, the Director shall consider the following information:

(i) all available logging and testing data on the well;

(ii) a satisfactory demonstration of mechanical integrity pursuant to Rule .0207 of this Section;

(iii) the proposed operating procedures;

(iv) the results of the formation testing program; and

(v) the status of corrective action on defective wells in the area of review.

(4) Well Construction.

(a) Wells shall not be located where:

(i) surface water or runoff will accumulate around the well due to depressions, drainage ways, or other landscapes that will concentrate water around the well;

(ii) a person would be required to enter confined spaces to perform sampling and inspection activities; or

(iii) injectants or formation fluids would migrate outside the approved injection zone as determined by the applicant in accordance with Sub-Item (1)(d) of this Rule.

(b) The methods and materials used in construction shall not threaten the physical and mechanical integrity of the well during its lifetime and shall be compatible with the proposed injection activities.

(c) The well shall be constructed in such a manner that surface water or

contaminants from the land surface cannot migrate along the borehole annulus either during or after construction.

(d) The borehole shall not penetrate to a depth greater than the depth at which injection will occur unless the purpose of the borehole is the investigation of the geophysical and geochemical characteristics of an aquifer. Following completion of the investigation, the borehole beneath the zone of injection shall be grouted completely to prevent the migration of any contaminants.

(e) Drilling fluids and additives shall contain only potable water and may be comprised of one or more of the following:

(i) the formation material encountered during drilling;

(ii) materials manufactured specifically for the purpose of borehole conditioning or well construction; or

(iii) materials approved by the Director, based on a demonstration of not adversely affecting human health or groundwater quality.

(f) The annular space between the borehole and casing shall be grouted:

(i) with an allowable grout listed under Rule .0107 of this Subchapter that is non-reactive with the casing or screen materials, the formation, or the injectant;

(ii) from land surface to within two feet of the top of the injection zone and between all discontinuous sections of well screen; and

(iii) so that the grout extends outward from the casing wall to a minimum thickness equal to either one-third of the diameter of the outside dimension of the casing or two inches, whichever is greater.

(g) Grout shall be emplaced around the casing by one of the following methods:

(i) Pressure. Grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular space around the casing and overflows at the surface;

(ii) Pumping. Grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application; or

(iii) Other. Grout may be emplaced in the annular space by gravity flow in such a way to ensure complete filling of the space. Gravity flow shall not be used if water or any visible obstruction is present in the annular space at the time of grouting.

(h) All grout mixtures shall be prepared prior to emplacement per the manufacturer's directions with the exception that bentonite chips or pellets may be emplaced by gravity flow if water is present or otherwise hydrated in place.

(i) If an outer casing is installed, it shall be grouted by either the pumping or pressure method.

(j) The well shall be grouted within seven days after the casing is set or before the drilling equipment leaves the site, whichever occurs first.

(k) No additives that will accelerate the process of hydration shall be used in grout for thermoplastic well casing.

(l) A casing shall be installed that extends from at least 12 inches above land surface to the top of the injection zone.

(m) Wells with casing extending less than 12 inches above land surface may be approved by the Director only when one of the following conditions are met:

(i) site specific conditions directly related to business activities, such as vehicle traffic, would endanger the physical integrity of the well; and

(ii) it is not operationally feasible for the well head to be completed 12 inches above land surface due to the

engineering design requirements of the system.

(n) Multi-screened wells shall not connect aquifers or zones having differences in water quality which would result in a degradation of any aquifer or zone.

(o) Prior to removing the equipment from the site, the top of the casing shall be sealed with a water-tight cap or well seal, as defined in G.S. 87-85, to preclude the entrance of contaminants from entering the well.

(p) Packing materials for gravel and sand packed wells shall be:

(i) composed of quartz, granite, or other hard, non-reactive rock material and shall be clean, of uniform size, water-washed and free from clay, silt, or other deleterious material;

(ii) disinfected prior to subsurface emplacement;

(iii) emplaced such that it shall not connect aquifers or zones having differences in water quality that would result in the deterioration of the water qualities in any aquifer or zone;

(iv) evenly distributed around the screen and shall extend to a depth at least one foot above the top of the screen. A minimum one-foot thick seal, comprised of bentonite clay or other sealing material approved by the Director, shall be emplaced directly above and in contact with the packing material.

(q) All injection wells shall have a well identification plate that meets the criteria specified in Rule .0107 of this Subchapter.

(r) A hose bibb, sampling tap, or other collection equipment approved by the Director shall be installed on the line entering the injection well such that a sample of the injectant can be obtained immediately prior to its entering the injection well.

(s) If applicable, all piping, wiring, and vents shall enter the well through the top of the casing unless otherwise approved by the Director based on a design demonstrated to preclude surficial contaminants from entering the well.

(t) The well head shall be completed in such a manner so as to preclude surficial contaminants from entering the well; and well head protection shall include:

(i) an accessible external sanitary seal installed around the casing and grouting; and

(ii) a water-tight cap or seal compatible with the casing and installed so that it cannot be removed without the use of hand or power tools.

(5) Testing.

(a) Appropriate logs and other tests conducted during the drilling and construction of the wells shall be submitted to the Director within 30 days of completion of well construction. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the Director within 30 days of completion of the tests. The appropriateness of the logs and tests shall be determined by the Director based on the intended function, depth, construction, and other characteristics of the well, availability of similar data in the area of the drilling site, and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, such logs and tests shall include:

(i) lithostratigraphic logs of the entire borehole;

(ii) hydrosratigraphic logs of the entire borehole; and

(iii) deviation checks conducted on all holes where pilot holes and reaming are used, and at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

(b) When the injection zone is a water-bearing formation, the following information concerning the injection zone as determined by the applicant in accordance with Sub-Item (1)(d) of this Rule shall be submitted to the Director within 30 days of completion of the determinations in

an integrated form which includes the following:

(i) fluid pressure;

(ii) fluid temperature;

(iii) fracture pressure;

(iv) other physical and chemical characteristics of the injection zone;

(v) physical and chemical characteristics of the formation fluids; and

(vi) compatibility of injected fluids with formation fluids.

(c) When the injection formation is not a water bearing formation, only the fracture pressure and other physical and chemical characteristics of the injection zone shall be determined or calculated and submitted to the Director within 30 days of completion of the determinations.

(d) Tests for mechanical integrity shall be conducted prior to operation and every five years thereafter in accordance with Rule .0207(a) of this Section.

(6) Operation and Maintenance.

(a) Pressure at the well head shall be limited to a maximum which will ensure that the pressure in the injection zone does not initiate new fractures or propagate existing fractures in the injection zone, initiate fractures in the confining zone, or cause the migration of injected or formation fluids outside the injection zone or area.

(b) Injection between the outermost casing and the well borehole is prohibited.

(c) Monitoring of the operating processes at the well head shall be provided for by the well owner, as well as protection against damage during construction and use.

(7) Monitoring.

(a) Monitoring shall be required by the Director to demonstrate protection of the groundwaters of the State.

(b) In determining the type, density, frequency, and scope of monitoring, the Director shall consider the following:

(i) physical and chemical characteristics of the injection zone;

(ii) physical and chemical characteristics of the injected fluid(s);

(iii) volume and rate of discharge of the injected fluid(s);

(iv) compatibility of the injected fluid(s) with the formation fluid(s);

(v) the number, type and location of all wells, mines, surface bodies of water, and structures within the area of review;

(vi) proposed injection procedures;

(vii) expected changes in pressure, formation fluid displacement, and direction of movement of injected fluid;

(viii) proposals of corrective action to be taken in the event that a failure in any phase of injection operations that renders the groundwaters unsuitable for their best intended usage as defined in 15A NCAC 02L .0202; and

(ix) the life expectancy of the injection operations.

(c) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(d) The following analytical parameters shall be included:

(i) disinfectants and disinfection byproducts;

(ii) radium, radionuclides, and gross alpha radiation;

(iii) Reduction Potential (Eh), pH, Total Dissolved Solids (TDS), Biological Oxygen Demand (BOD), Total Oxygen Demand (TOD), Chemical Oxygen Demand (COD), temperature, conductivity, dissolved oxygen;

(iv) coliform, Escherichia coli (E. Coli), Giardia, Cryptosporidium;

(v) parameters deemed appropriate by the Director based on the source water, injection zone formation materials, native groundwater, or any other reason deemed necessary to protect groundwater, human

health, or the environment; and

(vi) other parameters for which National Primary and Secondary Drinking Water Standards have been established.

(e) Analysis of the physical, chemical, biological, or radiological characteristics of the injected fluid shall be made monthly or more frequently, as necessary, in order to provide representative data for characterization of the injectant.

(f) Continuous recording devices to monitor the injection pressure, flow, rate, and volume of injected fluid shall be installed.

(g) Monitoring of injection pressure, flow rate, and cumulative volume shall occur according to a schedule determined necessary by the Director.

(h) Monitoring wells associated with the injection site shall be monitored quarterly or on a schedule determined by the Director to detect any migration of injected fluids from the injection zone.

(i) Monitoring wells completed in the injection zone and any of those zones adjacent to the injection zone may be affected by the injection operations. If affected, the Director may require additional monitor wells located to detect any movement of injection fluids, process by products, or formation fluids outside the injection zone as determined by the applicant in accordance with Sub-item (1)(d) of this Rule. If the operation is affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected and shall be of an adequate number to detect movement of injected fluids, process by products, or formation fluids outside the injection zone or area. In determining the number, location and spacing of monitoring wells, the following criteria shall be considered by the Director:

(i) the population relying on the groundwater resource affected, or potentially affected, by the injection operation;

(ii) the proximity of the injection operation to points of withdrawal of groundwater;

(iii) the local geology and hydrology;

(iv) the operating pressures;

(v) the chemical characteristics and volume of the injected fluid, formation water, and process by products; and

(vi) the density of injection wells.

(8) Reporting.

(a) A record of the construction, abandonment, or repairs of the injection well shall be submitted to the Director within 30 days of completion of the specified activities.

(b) All sampling results shall be reported to the Division quarterly, or on a frequency determined by the Director, and based on the reaction rates, injection rates, likelihood of secondary impacts, and site-specific hydrogeologic information.

(c) The test results for mechanical integrity shall be submitted to the Director within 30 days of the completion of the test.

(9) Public Notice. Public notice of intent to issue permits for applications submitted pursuant to this Rule shall be given prior to permit issuance.

(a) Such notice shall:

(i) be posted on the Division website or mailed to all property owners within the area of review;

(ii) provide 30 days for public comments to be submitted to the Director; and

(iii) include a description of pertinent details of the project, such as the permit applicant; the location, number, and depth of injection wells; and the injectant type, source, and volume.

(b) After the public comment period has ended the Director shall:

(i) consider the comments submitted;

(ii) determine if the draft permit shall be issued, modified, or denied; and

(iii) post notice on the Division website as of the final permitting action, which shall include the issued

permit or the reason for denial if the permit was denied.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0220 AQUIFER TEST WELLS

These wells are used to inject uncontaminated fluid into an aquifer to determine the aquifer characteristics.

(1) Injection wells of this type are permitted by rule when constructed and operated in accordance with this Rule.

(2) Only potable water may be injected through this type of injection well.

(3) Tests for mechanical integrity shall be conducted in accordance with Rule .0207(b) of this Section.

(4) Injection wells of this type shall be constructed in accordance with the well construction standards applicable to monitoring wells specified in Rule .0108 of this Subchapter.

(5) The operation of the aquifer test well shall not cause contaminated groundwater to migrate into an area not contaminated prior to initiation of injection activities or cause a contravention of applicable groundwater quality standards as specified in 15A NCAC 02L.

(6) Injection well inventory information shall be submitted within 30 days of construction, abandonment, or any other change of status. As part of the inventory, the Director shall require and the owner/operator to provide the following information:

(a) facility name, address, and location indicated by either:

(i) latitude and longitude with reference datum, position accuracy, and method of collection; or

(ii) a facility site map with property boundaries;

(b) name, telephone number, and mailing address of legal contact;

(c) ownership of facility as a private individual or organization, or a federal, state, county, or other public entity;

(d) number of injection wells and their construction details; and

(e) operating status as proposed, active, inactive, temporarily abandoned, or permanently abandoned.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0221 EXPERIMENTAL TECHNOLOGY WELLS

These wells are used in experimental or unproven technologies where operation is in compliance with all appropriate rules and statutes. Rule requirements for Experimental Technology Wells shall be evaluated and treated as one of the Class 5 injection well types in this Section that the Director determines most closely resembles the equivalent hydrogeologic complexity and potential to adversely affect groundwater quality. The Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20);

15A NCAC 02C .0222 GEOTHERMAL AQUEOUS CLOSED-LOOP WELLS

These wells are used to house a subsurface system of closed-loop pipe that circulates potable water only or a mixture of potable water and performance-enhancing additives such as antifreeze, corrosion inhibitors, or scale inhibitors for heating and cooling purposes. Only additives that the Department of Health and Human Services' Division of Public Health determines to be protective of public health shall be used.

(1) Permitted by Rule. All Aqueous Closed-Loop Geothermal Wells are permitted by rule when constructed and operated in accordance with the Rules of this Section.

(2) Individual Permits. The Director may require an individual permit for any closed loop geothermal well system to ensure compliance with the rules of this Section or the protection of human health or water quality. If an individual permit is required, then an application for permit renewal shall be made at least 120 days prior to the expiration date of the permit.

(3) Notification. In addition to the requirements set forth in Rule .0211 of this Section, notifications shall be submitted at least 48 hours prior to the actual start date of well construction, excluding weekends and State holidays. The notification shall be submitted in duplicate to the Director on forms furnished by the Director and shall include the following:

(a) the well owner's name and, if different from the property owner, the well operator's name, address, telephone number, email address (if

available), and status as a federal, state, private, public, or other activity;

(b) the physical address or Parcel Identification Number of the well facility if different than the well owner's mailing address;

(c) a description of the proposed injection activities;

(d) a scaled, site-specific map showing the following:

(i) any water supply well, surface water body, septic tank and drainfield, or any other potential sources of contamination listed in Sub-Item (4)(d) of this Rule within 100 feet of the proposed injection well(s);

(ii) property boundaries within 250 feet of the parcel on which the proposed wells are located; and

(iii) an arrow orienting the site to one of the cardinal directions;

(e) the types and concentrations of additives, if any, to be used in the closed-loop geothermal well system. All proposed additives not already approved for use at the time of application submittal shall be subject to a health risk evaluation. Only approved additives shall be used in any closed loop geothermal well system;

(f) plans and specifications of the surface and subsurface construction details of the system;

(g) the well driller contractor's name, North Carolina Well Contactor Certification number, address, email address (if available), and telephone number;

(h) the heating/cooling system installation contractor's name and certification number, address, email address (if available), and telephone number;

(i) description of how the septic system, if present, will be protected during well construction; and

(j) such other information as deemed necessary by the Director for the protection of human health and the environment.

(4) Well Construction.

(a) Only tubing that has passed pressure testing conducted in accordance Item (6) of this Rule shall be used.

(b) The well shall be constructed in such a manner that surface water or contaminants from the land surface cannot migrate along the borehole annulus either during or after construction.

(c) The well shall be located such that:

(i) the injection well is not in an area where surface water or runoff will accumulate around the well due to depressions, drainage ways, or other landscapes that will concentrate water around the well; and

(ii) the injection well is not in an area that requires a person to enter confined spaces to perform sampling and inspection activities.

(d) The minimum horizontal separation from potential sources of groundwater contamination that exist at the time the well(s) are constructed shall be as follows, unless it can be demonstrated to the Director's satisfaction that a lesser separation distance will not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 02L:

(i) Building perimeters, including any attached structures 15 feet

(ii) Septic tanks and drainfields, including drainfield repair areas 50 feet

(iii) Sewage or liquid-waste collection or transfer facilities constructed to water main standards in accordance with 15A NCAC 02T .0305(g)(2) or 15A NCAC 18A .1950(e), as applicable 5 feet

(iv) Sewage or liquid-waste collection or transfer facilities not constructed to water main standards in accordance with 15A NCAC 02T .0305(g)(2) or 15A NCAC 18A .1950(e), as applicable 25 feet

(v) Aboveground or underground petroleum or chemical storage tanks 50 feet

(vi) Land-based or subsurface waste storage or disposal systems 50 feet
(vii) Gravesites 50 feet
(viii) Any other potential sources of contamination 50 feet

(e) The methods and materials used in construction shall not threaten the physical and mechanical integrity of the well during its lifetime and shall be compatible with the proposed injection activities.

(f) Drilling fluids and additives shall contain only potable water and may be comprised of one or more of the following:
(i) the formation material encountered during drilling;
(ii) materials manufactured specifically for the purpose of borehole conditioning or well construction; or
(iii) materials approved by the Director, based on a demonstration of not adversely affecting human health or the environment.

(g) Allowable grouts listed under Rule .0107 of this Subchapter shall be used with the exception that bentonite chips or pellets shall not be used.

(h) Grout shall be placed the entire length of the well boring from the bottom of the boring to land surface or, if completed below land surface, to the well header or manifold connection.

(i) The grout shall be emplaced by one of the following methods:
(i) Pressure. Grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular space around the casing and overflows at the surface;
(ii) Pumping. Grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application; or
(iii) Other. Grout may be emplaced in the annular space by gravity flow in such a way to ensure complete filling of the space. Gravity flow shall not be used if water or any visible obstruction is present in the annular space at the time of grouting.

(j) If temporary outer casing is installed, it shall be removed during grouting of the borehole in such a way that maintains the integrity of the borehole and uniform grout coverage around the geothermal tubing.

(k) If a permanent outer casing is installed:
(i) The space between the interior wall of the casing and the geothermal tubing shall be grouted the entire length of the well boring from the bottom of the boring to land surface or, if completed below land surface, to the well header or manifold connection;
(ii) The annular space between the casing and the borehole shall be grouted with a grout that is non-reactive with the casing or the formation; and
(iii) Grout shall extend outward in all directions from the casing wall to borehole wall and have a minimum thickness equal to either one-third of the diameter of the outside dimension of the casing or two inches, whichever is greater.
(iv) In no case shall a well be required to have an annular grout seal thickness greater than four inches.

(l) Grout emplacement shall not threaten the physical or mechanical integrity of the well.

(m) The well shall be grouted within seven days after drilling is complete or before the drilling equipment leaves the site, whichever occurs first.

(n) Prior to removing the equipment from the site, the top of the casing shall be sealed with a water-tight cap or well seal, as defined in G.S. 87-85, to preclude the entrance of contaminants from entering the well.

(o) No additives that will accelerate the process of hydration shall be used in grout for thermoplastic well casing.

(p) Well head completion shall be conducted in such a manner so as to

preclude surficial contaminants from entering the well.

(5) Well Location. The location of each well boring and appurtenant underground piping leading to the heat exchanger(s) shall be identifiable such that they may be located, repaired, and abandoned as necessary after construction.

(a) The as-built locations of each well boring, header pit, and appurtenant underground piping shall be recorded on a scaled site-specific facility map, which shall be retained onsite and distributed as specified in Sub-Item (8)(a) of this Rule.

(b) Each well boring and header pit shall be located by a North Carolina registered land surveyor, a GPS receiver, or by triangulation from at least two permanent features on the site, such as building foundation corners or property boundary iron pins.

(c) Well boring and appurtenant underground piping locations shall be identifiable in the field by tracer wire and warning tape, concrete monuments, or any other method approved by the Director upon a demonstration that such a method provides a reliable and accurate method of detection.

(d) If tracer wire and warning tape are used, then tracer wire consisting of copper wire of at least 14 gauge shall be placed adjacent to all horizontal piping during pipe installation, and warning tape shall be installed directly above the horizontal piping approximately 12 inches below final grade.

(e) If concrete monuments are used, then each monument shall be located directly above each individual well, at the perimeter corners of each well field, or in the center of each well cluster. Each concrete monument shall be permanently affixed with an identification plate constructed of durable weatherproof rustproof metal, or other material approved by the Director as equivalent, which shall be stamped with the following information:

(i) well contractor name and certification number;

(ii) number and depth of the boring(s);

(iii) grout depth interval;

(iv) well construction completion date; and

(v) identification as a geothermal well/well field.

(6) Testing.

(a) Closed loop tubing shall pass a pressure test on-site prior to installation into the borehole. Any closed loop tubing that fails the pressure test shall either not be used or have the leaks located and repaired plus successfully pass a subsequent pressure test prior to installation.

(b) The closed loop well system shall pass a pressure test after installation and prior to operation. Any pressure fluctuation other than that due to thermal expansion and contraction of the testing medium shall be considered a failed test. Any leaks shall be located and repaired prior to operating the system.

(7) Operation.

(a) The well shall be afforded protection against damage during construction and use.

(b) The well shall be operated and maintained in accordance with the manufacturer's specifications throughout its operating life.

(8) Monitoring and Reporting.

(a) The well owner shall submit the as-built well locations as documented in accordance with Item (5) of this Rule to the Director and applicable county health department. The well owner shall also record these documents with the register of deeds of the county in which the facility is located:

(b) Upon sale or transfer of the property, the owner shall give a copy of these records to the new property owner(s).

(c) The Director may require any monitoring necessary to demonstrate protection of waters of the state to the level of the applicable groundwater standards.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0223 GEOTHERMAL DIRECT EXPANSION CLOSED-LOOP WELLS

These wells are used to house a subsurface system of closed-loop pipe that circulates refrigerant gas for heating and cooling purposes. Only gasses that the Department of Health and

Human Services' Division of Public Health determines to be protective of public health shall be used.

(1) Permitted by Rule. All Direct Expansion Closed-Loop Geothermal Wells are permitted by rule when constructed and operated in accordance with the Rules of this Section.

(2) Individual Permits. The Director may require an individual permit for any closed loop geothermal well system to ensure compliance with the rules of this section or the protection of human health or water quality. If an individual permit is required, then an application for permit renewal shall be made at least 120 days prior to the expiration date of the permit.

(3) Notification. In addition to the requirements set forth in Rule .0211 of this Section, notifications shall be submitted at least 48 hours prior to the actual start date of well construction, excluding weekends and State holidays. The notification shall be submitted in duplicate to the Director on forms furnished by the Director and shall include the following:

(a) the well owner's name and, if different from the property owner, the well operator's name, address, telephone number, email address (if available), and status as a federal, state, private, public, or other activity;

(b) the physical address or Parcel Identification Number of the well facility if different than the well owner's mailing address;

(c) a description of the proposed injection activities;

(d) a scaled, site specific map showing the following:

(i) any water supply well, surface water body, septic tank and drainfield, or any other potential sources of contamination listed in Sub-Item (4)(e) of this Rule within 100 feet of the proposed injection well(s);

(ii) property boundaries within 250 feet of the parcel on which the proposed wells are located; and

(iii) an arrow orienting the site to one of the cardinal directions;

(e) the type of gas to be used in the closed-loop geothermal well system. All proposed gases not already approved for use at the time of application submittal shall be subject to a health risk evaluation. Only approved gases shall be used in any closed loop geothermal well system;

(f) plans and specifications of the surface and subsurface construction details of the system;

(g) the well driller contractor's name, North Carolina Well Contactor Certification number, address, email address (if available), and telephone number;

(h) the heating/cooling system installation contractor's name and certification number, address, email address (if available), and telephone number;

(i) description of how the septic system, if present, will be protected during well construction; and

(j) such other information as deemed necessary by the Director for the protection of human health and the environment.

(4) Well Construction.

(a) Closed loop tubing shall consist of refrigeration-grade copper pipe as defined or described in ASTM B280-08, which is hereby incorporated by reference, including subsequent amendments and editions, and can be obtained from ASTM International, 100 Bar Harbor Drive, P.O. Box C 700, West Conshohocken, PA, 19428-2959 at a cost of thirty-eight dollars ($38.00). Tubing with any measureable leak shall not be used. Testing shall be conducted in accordance with Item (6) of this Rule.

(b) All systems shall be constructed with cathodic protection unless testing conducted in accordance with Item (6) of this Rule indicates that all pH test results are within the range of 5.5 to 11.0 standard units.

(c) The well shall be constructed in such a manner that surface water or contaminants from the land surface cannot migrate along the borehole annulus either during or after construction.

(d) The well shall be located such that:

(i) the injection well is not in an area where surface water or runoff will accumulate around the well due to depressions, drainage ways, or other landscapes that will concentrate water around the well; and

(ii) the injection well is not in an area that requires a person to enter confined spaces to perform sampling and inspection activities.

(e) The minimum separation distance of the entire length of the borehole from potential sources of groundwater contamination that exist at the time the well(s) are constructed shall be as follows, unless it can be demonstrated to the Director's satisfaction that a lesser separation distance will not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 02L:

(i) Building perimeters, including any attached structures 15 feet

(ii) Septic tanks and drainfields, including drainfield repair areas 50 feet

(iii) Sewage or liquid-waste collection or transfer facilities constructed to water main standards in accordance with 15A NCAC 02T .0305(g)(2) or 15A NCAC 18A .1950(e), as applicable 15 feet

(iv) Sewage or liquid-waste collection or transfer facilities not constructed to water main standards in accordance with 15A NCAC 02T .0305(g)(2) or 15A NCAC 18A .1950(e), as applicable 25 feet

(v) Aboveground or underground petroleum or chemical storage tanks 50 feet

(vi) Land-based or subsurface waste storage or disposal systems 50 feet

(vii) Gravesites 50 feet

(viii) Any other potential sources of contamination 50 feet

(f) Angled boreholes shall not be drilled in the direction of underground petroleum or chemical storage tanks unless it can be demonstrated to the satisfaction of the Director that doing so will not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 02L.

(g) The methods and materials used in construction shall not threaten the physical and mechanical integrity of the well during its lifetime and shall be compatible with the proposed injection activities.

(h) Drilling fluids and additives shall contain only potable water and may be comprised of one or more of the following:

(i) the formation material encountered during drilling;

(ii) materials manufactured specifically for the purpose of borehole conditioning or well construction; or

(iii) materials approved by the Director, based on a demonstration of not adversely affecting human health or the environment.

(i) Allowable grouts listed under Rule .0107 of this Subchapter shall be used with the exception that bentonite chips or pellets shall not be used.

(j) Grout shall be placed the entire length of the well boring from the bottom of the boring to land surface or, if completed below land surface, to the well header or manifold connection.

(k) The grout shall be emplaced by one of the following methods:

(i) Pressure. Grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular area space the casing and overflows at the surface;

(ii) Pumping. Grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application; or

(iii) Other. Grout may be emplaced in the annular space by gravity flow in such a way to ensure complete filling of the space. Gravity flow shall not be used if water or any visible obstruction is present in the annular space at the time of grouting.

(l) If temporary outer casing is installed, it shall be removed during grouting of

the borehole in such a way that maintains the integrity of the borehole and uniform grout coverage around the geothermal tubing.

(m) If a permanent outer casing is installed:

(i) The space between the interior wall of the casing and the geothermal tubing shall be grouted the entire length of the well boring from the bottom of the boring to land surface or, if completed below land surface, to the well header or manifold connection.

(ii) The annular space between the casing and the borehole shall be grouted with a grout that is non-reactive with the casing or the formation.

(iii) Grout shall extend outward in all directions from the casing wall to borehole wall and have a minimum thickness equal to either one-third of the diameter of the outside dimension of the casing or two inches, whichever is greater.

(iv) In no case shall a well be required to have an annular grout seal thickness greater than four inches.

(n) Grout emplacement shall not threaten the physical or mechanical integrity of the well.

(o) The well shall be grouted within seven days after drilling is complete or before the drilling equipment leaves the site, whichever occurs first.

(p) Prior to removing the equipment from the site, the top of the casing shall be sealed with a water-tight cap or well seal, as defined in G.S. 87-85, to preclude the entrance of contaminants from entering the well.

(q) No additives that will accelerate the process of hydration shall be used in grout for thermoplastic well casing.

(r) Well head completion shall be conducted in such a manner so as to preclude surficial contaminants from entering the well.

(5) Well Location. The location of each well boring and appurtenant underground piping leading to the heat exchanger(s) shall be identifiable such that they may be located, repaired, and abandoned as necessary after construction.

(a) The as-built locations of each well boring, header pit, and appurtenant underground piping shall be recorded on a scaled site-specific facility map, which shall be retained onsite and distributed as specified in Sub-Item (8)(a) of this Rule.

(b) Each well boring and header pit shall be located by a North Carolina registered land surveyor, a GPS receiver, or by triangulation from at least two permanent features on the site, such as building foundation corners or property boundary iron pins.

(c) Well boring and appurtenant underground piping locations shall be identifiable in the field by tracer wire and warning tape, concrete monuments, or any other method approved by the Director upon a demonstration that such a method provides a reliable and accurate method of detection.

(d) If tracer wire and warning tape are used, then tracer wire consisting of copper wire of at least 14 gauge shall be placed adjacent to all horizontal piping during pipe installation, and warning tape shall be installed directly above the horizontal piping approximately 12 inches below final grade.

(e) If concrete monuments are used, then each monument shall be located directly above each individual well, at the perimeter corners of each well field, or in the center of each well cluster. Each concrete monument shall be permanently affixed with an identification plate constructed of durable weatherproof rustproof metal or other material approved by the Director as equivalent, which shall be stamped with the following information:

(i) well contractor name and certification number;

(ii) number and depth of the boring(s);

(iii) grout depth interval;

(iv) well construction completion date; and

(v) identification as a geothermal well/well field.

(6) Testing.

(a) Closed loop tubing shall pass a pressure test on-site prior to installation into the borehole. Any closed loop tubing that fails the pressure test shall either not be used or have the leaks located and repaired plus successfully pass a subsequent pressure test prior to installation.

(b) The closed loop well system shall pass a pressure test after installation and prior to operation. Any pressure fluctuation other than that due to thermal expansion and contraction of the testing medium shall be considered a failed test. Any leaks shall be located and repaired prior to operating the system.

(c) When not providing cathodic protection as specified in Sub-Item (4)(b) of this Rule drilling cuttings shall be tested for pH at a frequency of at least every 10 feet of boring length using a pH meter that has been calibrated prior to use according to the manufacturer's instructions.

(7) Operation.

(a) The well shall be afforded protection against damage during construction and use.

(b) The well shall be operated and maintained in accordance with the manufacturer's specifications throughout its operating life. Cathodic protection, if required, shall be maintained at all times in accordance with the manufacturer's specifications throughout the operating life of the well(s).

(8) Monitoring and Reporting.

(a) The well owner shall submit the as-built well locations as documented in accordance with Item (5) of this Rule to the Director and applicable county health department. The well owner shall also record these documents with the register of deeds of the county in which the facility is located.

(b) Upon sale or transfer of the property, the owner shall give a copy of these records to the new property owner(s).

(c) The Director may require any monitoring necessary to demonstrate protection of waters of the state to the level of the applicable groundwater standards.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0224 GEOTHERMAL HEATING/COOLING WATER RETURN WELLS

These wells reinject groundwater used to provide heating or cooling for structures. These wells may be approved by the Director only if the temperature of the injection fluid is not in excess of 30 degrees Fahrenheit above or below the naturally occurring temperature of the receiving groundwater. This includes wells using a geothermal fluid source. All Geothermal Heating/Cooling Water Return Wells require a permit.

(1) Permit Applications. In addition to the permit requirements set forth in Rule .0211 of this Section, an application shall be submitted, in duplicate, to the Director on forms furnished by the Director and shall include the following:

(a) the permit well owner's and (if different from the property owner) the well operator's name, address, telephone number, email address (if available), and status as a federal, state, private, public, or other activity;

(b) the physical address of the location of the well site if different than the well owner’s mailing address;

(c) a description of the injection activities proposed by the applicant;

(d) a scaled, site-specific map showing at a minimum, the following:

(i) any water supply well, surface water body, septic tank and drainfield, or any other potential sources of contamination listed under Rule .0107 of this Subchapter within 100 ft. of the proposed injection well(s);

(ii) property boundaries within 250 feet of the parcel on which the proposed wells are located; and

(iii) an arrow orienting the site to one of the cardinal directions;

(e) the proposed average and maximum daily injection rate, volume, pressure, temperature, and quantity of fluid to be injected;

(f) plans and specifications of the surface and subsurface construction details of the system including a schematic of the injection and source well(s) construction;

(g) the well driller contractor's name, North Carolina Well Contactor Certification number, address, email

address (if available), and telephone number;

(h) the heating/cooling system installation contractor's name, address, email address (if available), and telephone number; and

(i) such other information as deemed necessary by the Director for the protection of human health and the environment.

(2) Permit Renewals. Application for permit renewal shall be made at least 120 days prior to the expiration date of the permit.

(3) Well Construction.

(a) The water supply well shall be constructed in accordance with the requirements of Rule .0107 of this Subchapter.

(b) If a separate injection well is used then it shall also be constructed in accordance with the requirements of Rule .0107 of this Subchapter except that the entire length of the casing shall be grouted from land surface to a depth of two feet above the screen or, for open-end wells, to the bottom of the casing.

(c) The injection well system shall be constructed such that a sampling tap or other collection equipment approved by the Director provides a functional source of water when the system is operational. Such equipment shall provide the means to collect a water sample immediately after emerging from the water supply well and immediately prior to injection into the return well.

(4) Operation and Maintenance.

(a) Pressure at the well head shall be limited to a maximum which will ensure that the pressure in the injection zone does not initiate new fractures or propagate existing fractures in the injection zone, initiate fractures in the confining zone, or cause the migration of injected or formation fluids outside the injection zone or area.

(b) Injection between the outermost casing and the well borehole is prohibited.

(c) Monitoring of the operating processes shall be provided for by the well owner, as well as protection against damage during construction and use.

(5) Monitoring and Reporting.

(a) Monitoring of any well may be required by the Director as necessary to demonstrate adequate protection of waters of the state to the level of applicable groundwater standards.

(b) The well owner shall retain copies of records of any site maps showing the location of the injection wells, and any testing, calibration, or monitoring information done on-site. Upon sale or transfer of the property, the owner shall give a copy of these records to the new property owner(s).

(c) The permittee shall record the number and location of the wells with the register of deeds in the county in which the facility is located.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0225 GROUNDWATER REMEDIATION WELLS

These wells are used to inject additives, treated groundwater, or ambient air for the treatment of contaminated soil or groundwater. Only additives that the Department of Health and Human Services' Division of Public Health determines to be protective of public health shall be approved for injection. When on-site contaminated groundwater is used, the groundwater remediation injection wells shall be permitted in accordance with 15A NCAC 02T .1600.

(1) Permitted by Rule. The following are permitted by rule pursuant to Rule .0217 of this Section when constructed and operated in accordance with Items (3) through (9) of this Rule, all criteria for the specific injection system are met, hydraulic or pneumatic fracturing are not conducted, and the injection wells or injection activities do not result in the violation of any groundwater or surface water standard outside the injection zone:

(a) Passive Injection Systems. Injection wells that use in-well delivery systems to diffuse injectants into the subsurface;

(b) Small-scale Injection Operations. Injection wells used to remediate contaminant plumes located within a land surface area not to exceed 2,500 square feet;

(c) Pilot Tests. Preliminary studies conducted for the purpose of evaluating the technical feasibility of a remediation strategy in order to develop a full scale remediation plan for future implementation, and where the surface area of the injection zone wells are located within an area that does not exceed five percent of the

land surface above the known extent of groundwater contamination. Only a single pilot test shall be conducted on each separate contaminant plume. An individual permit shall be required to conduct more than one pilot test on any separate groundwater contaminant plume;

(d) Air Injection Wells. Injection wells used to inject ambient air to enhance in-situ treatment of groundwater.

(i) The air to be injected shall not exceed the ambient air quality standards set forth in 15A NCAC 02D .0400 and shall not contain petroleum or any other constituent that would cause a violation of groundwater standards specified in 15A NCAC 02L.

(ii) Injection wells of this type shall be constructed in accordance with the well construction standards applicable to monitoring wells specified in Rule .0108 of this Subchapter.

(2) Notification for Injection Wells Permitted by Rule. Notification for injection well systems permitted by rule pursuant to Item (1) of this Rule shall be submitted to the Director on forms supplied by the Director two weeks prior to injection. Such notification shall include the following:

(a) name and contact information of the well owner;

(b) name and contact information of the person who can answer technical questions about the proposed injection system if different from the well owner;

(c) geographic coordinates of the injection well or well field;

(d) maps of the injection zone relative to the known extent of contamination such as:

(i) contaminant plume map(s) with isoconcentration lines that show the horizontal extent of the contaminant plume in soil and groundwater, existing and proposed monitoring wells, and existing and proposed injection wells; and

(ii) cross-section(s) to the known or projected depth of contamination that show the horizontal and vertical extent of the contaminant plume in soil and groundwater, major changes in lithology, existing and proposed monitoring wells, and existing and proposed injection wells;

(e) purpose, scope, and goals of the proposed injection activity;

(f) name, volume, concentration, and Material Safety Data Sheet of each injectant;

(g) schedule of injection well construction and injection activities;

(h) plans and specifications of each injection well or well system, which include:

(i) the number and depth of injection wells;

(ii) indication whether the injection wells are existing or proposed;

(iii) well contractor name and certification number; and

(iv) indication of whether the injection wells are permanent wells, "direct push" temporary injection wells, or are subsurface distribution systems; and

(i) description of monitoring plan capable of determining if violations of groundwater quality standards specified in 15A NCAC 02L result from the injection activity.

(3) Permit Applications for Injection Wells not Permitted by Rule. In addition to the permit requirements set forth in Rule .0211 of this Section, an application shall be submitted, in duplicate, to the Director on forms furnished by the Director and shall include the following:

(a) site description and incident information that include the following:

(i) name of the well owner or person otherwise legally responsible for the injection wells, mailing address, telephone number, and status as a federal, state, private, public, or other entity;

(ii) name of the property owner, if different from the well owner, physical address, mailing address, and telephone number;

(iii) name, mailing address, telephone number, and geographic coordinates of the facility for which the application is submitted and a brief description of the nature of the business;

(iv) a brief description of the contamination incident including the source, type, cause, and release date(s) of the contamination; a list of all contaminants in the affected soil or groundwater; the presence and thickness of free product; and the maximum contaminant concentrations detected in the affected soil and groundwater;

(v) the State agency responsible for management of the contamination incident, including the incident tracking number, and the incident manager's name and telephone number; and

(vi) a list of all permits issued for the facility or contamination incident, including: Hazardous Waste Management program permits or approval under the Resource Conservation and Recovery Act (RCRA), waste disposal permits issued in accordance with G.S. 143-215.1, Sewage Treatment and Disposal Permits issued in accordance with G.S. 130A, and other environmental permits required by state or federal law.

(b) Injection Zone Determination. The applicant shall specify the horizontal and vertical portion of the injection zone within which the proposed injection activity shall occur based on the hydraulic properties of that portion of the injection zone specified. No violation of groundwater quality standards specified in Subchapter 02L resulting from the injection shall occur outside the specified portion of the injection zone as detected by a monitoring plan approved by the Division.

(c) Hydrogeologic Evaluation. If required by G.S. 89E or 89C, a licensed geologist or professional engineer shall prepare an evaluation of the facility to a depth that includes injection zone determined in accordance with Sub-Item (3)(b) of this Rule. The hydrogeologic description shall include all of the following:

(i) regional and local geology and hydrogeology;

(ii) significant changes in lithology underlying the facility;

(iii) depth to bedrock;

(iv) depth to the mean seasonal high water table;

(v) hydraulic conductivity, transmissivity, and storativity, of the injection zone based on tests of site-specific material, including a description of the test(s) used to determine these parameters;

(vi) rate and direction of groundwater flow as determined by predictive calculations or computer modeling; and

(vii) lithostratigraphic and hydrostratigraphic logs of test and injection wells.

(d) Area of Review. The area of review shall be calculated using the procedure for determining the zone of endangering influence specified in 40 CFR 146.6(a). The applicant must identify all wells within the area of review that penetrate the injection or confining zone, and repair or permanently abandon all wells that are improperly constructed or abandoned.

(e) Injectant Information. The applicant shall submit the following information for each proposed injectant:

(i) injectant name and manufacturer, concentration at the point of injection, and percentage if present in a mixture with other injectants;

(ii) the chemical, physical, biological, or radiological characteristics necessary to evaluate the potential to

adversely affect human health or groundwater quality;

(iii) the source of fluids used to dilute, carry, or otherwise distribute the injectant throughout the injection zone as determined in accordance with Sub-Item (3)(b) of this Rule. If any well within the area of review of the injection facility is to be used as the fluid source, then the following information shall be submitted: location/ID number, depth of source, formation, rock/sediment type, and a chemical analysis of the water from the source well, including analyses for all contaminants suspected or historically recognized in soil or groundwater on the site;

(iv) a description of the rationale for selecting the injectants and concentrations proposed for injection, including an explanation or calculations of how the proposed injectant volumes and concentrations were determined;

(v) a description of the reactions between the injectants and the contaminants present including specific breakdown products or intermediate compounds that may be formed by the injection;

(vi) a summary of results if modeling or testing was performed to investigate the injectant's potential or susceptibility for biological, chemical, or physical change in the subsurface; and

(vii) an evaluation concerning the development of byproducts of the injection process, including increases in the concentrations of naturally occurring substances. Such an evaluation shall include the identification of the specific byproducts of the injection process, projected concentrations of byproducts, and areas of migration as determined through modeling or other predictive calculations.

(f) Injection Procedure. The applicant shall submit a detailed description of the proposed injection procedure that includes the following:

(i) the proposed average and maximum daily rate and quantity of injectant;

(ii) the average maximum injection pressure expressed in units of pounds per square inch (psi); and

(iii) the total or estimated total volume to be injected.

(g) Fracturing Plan. If hydraulic or pneumatic fracturing is proposed, then the applicant shall submit a detailed description of the fracturing plan that includes the following:

(i) Material Safety Data Sheets of fracturing media including information on any proppants used;

(ii) a map of fracturing well locations relative to the known extent of groundwater contamination plus all buildings, wells, septic systems, underground storage tanks, and underground utilities located within the Area of Review;

(iii) a demonstration that buildings, wells, septic systems, underground storage tanks, and underground utilities will not be adversely affected by the fracturing process;

(iv) injection rate and volume;

(v) orientation of bedding planes, joints, and fracture sets of the fracture zone;

(vi) performance monitoring plan for determining the fracture well radius of influence; and

(vii) if conducted, the results of geophysical testing or pilot demonstration of fracture behavior conducted in an uncontaminated area of the site.

(h) Injection well construction details including:

(i) number and depth of injection wells;
(ii) number and depth of borings if using multi-level or "nested" well systems;
(iii) indication whether the injection wells are existing or proposed;
(iv) well drilling contractor name and certification number;
(v) depth and type of casing;
(vi) depth and type of screen material;
(vii) depth and type of grout;
(viii) indication whether the injection wells are permanent or temporary "direct push" points; and
(ix) plans and specifications of the surface and subsurface construction details of each injection well or well system.

(i) Monitoring Wells. Monitoring wells shall be of sufficient quantity and location as determined by the Director so as to detect any movement of injection fluids, injection process by-products, or formation fluids outside the injection zone as determined by the applicant in accordance with Sub-Item (3)(b) of this Rule. The monitoring schedule shall be consistent with the proposed injection schedule, pace of the anticipated reactions, and rate of transport of the injectants and contaminants. The applicant shall submit a monitoring plan that includes the following:
(i) target contaminants plus secondary or intermediate contaminants that may result from the injection;
(ii) other parameters that may serve to indicate the progress of the intended reactions;
(iii) a list of existing and proposed monitoring wells to be used; and
(iv) a sampling schedule to monitor the proposed injection.

(j) Well Data Tabulation. A tabulation of data on all existing or abandoned wells within the area of review of the injection well(s) that penetrate the proposed injection zone, including monitoring wells and wells proposed for use as injection wells. Such data shall include a description of each well's type, depth, record of abandonment or completion, and any additional information the Director may require.

(k) Maps and Cross-Sections. Scaled, site-specific site plans or maps depicting the location, orientation, and relationship of facility components including the following:
(i) area map based on the most recent USGS 7.5' topographic map of the area, at a scale of 1:24,000 and showing the location of the proposed injection site;
(ii) topographic contour intervals showing all facility related structures, property boundaries, streams, springs, lakes, ponds, and other surface drainage features;
(iii) all existing or abandoned wells within the area of review of the injection well(s), listed in the tabulation required in Sub-Item (3)(j) of this Rule, that penetrate the proposed injection zone, including, water supply wells, monitoring wells, and wells proposed for use as injection wells;
(iv) potentiometric surface map(s) that show the direction of groundwater movement, existing and proposed wells;
(v) contaminant plume map(s) with isoconcentration lines that show the horizontal extent of the contaminant plume in soil and groundwater, and existing and proposed wells;
(vi) cross-section(s) to the known or projected depth of contamination that show the horizontal and vertical extent of the contaminant plume in soil and groundwater, major changes in lithology, and existing and proposed wells; and
(vii) any existing sources of potential or known groundwater contamination,

including waste storage, treatment, or disposal systems within the area of review of the injection well or well system.

(l) Such other information as deemed necessary by the director for the protection of human health and the environment.

(4) Injection Volumes. The Director may establish maximum injection volumes and pressures necessary to assure that:

(a) fractures are not initiated in the confining zone of the injection zone determined in accordance with Sub-Item (3)(b) of this Rule;

(b) injected fluids do not migrate outside the injection zone or area;

(c) injected fluids and fractures do not cause or contribute to the migration of contamination into uncontaminated areas; and

(d) there is compliance with operating requirements.

(5) Well Construction.

(a) Wells shall not be located where:

(i) surface water or runoff will accumulate around the well due to depressions, drainage ways, or other landscapes that will concentrate water around the well;

(ii) a person would be required to enter confined spaces to perform sampling and inspection activities; and

(iii) injectants or formation fluids would migrate outside the approved injection zone as determined by the applicant in accordance with Sub-Item (3)(b) of this Rule.

(b) Wells used for hydraulic or pneumatic fracturing shall be located within the extent of known groundwater contamination but no closer than 75 feet to this boundary unless it can be demonstrated to the satisfaction of the Director that a lesser separation distance will not result in a threat to human health or a contravention of a groundwater quality standard as specified in 15A NCAC 02L, such as through the use of directional fracturing.

(c) The methods and materials used in construction shall not threaten the physical and mechanical integrity of the well during its lifetime and shall be compatible with the proposed injection activities.

(d) The well shall be constructed in such a manner that surface water or contaminants from the land surface cannot migrate along the borehole annulus either during or after construction.

(e) The borehole shall not penetrate to a depth greater than the depth at which injection will occur unless the purpose of the borehole is the investigation of the geophysical and geochemical characteristics of an aquifer. Following completion of the investigation the borehole beneath the zone of injection shall be grouted completely to prevent the migration of any contaminants.

(f) For "direct-push" temporary injection wells constructed without permanent or temporary casing, injection and well abandonment activities shall be conducted within the same working day as when the borehole is constructed.

(g) Drilling fluids and additives shall contain only potable water and may be comprised of one or more of the following:

(i) the formation material encountered during drilling;

(ii) materials manufactured specifically for the purpose of borehole conditioning or well construction; and

(iii) materials approved by the Director, based on a demonstration of not adversely affecting human health or groundwater quality.

(h) The annular space between the borehole and casing shall be grouted:

(i) with an allowable grout listed under Rule .0107 of this Subchapter that is non-reactive with the casing or screen materials, the formation, or the injectant;

(ii) from land surface to within two feet of the top of the injection zone and between all discontinuous sections of well screen; and

(iii) so that the grout extends outward from the casing wall to a minimum thickness equal to either one-third of

the diameter of the outside dimension of the casing or two inches, whichever is greater.

(i) Grout shall be emplaced around the casing by one of the following methods:

(i) Pressure. Grout shall be pumped or forced under pressure through the bottom of the casing until it fills the annular space around the casing and overflows at the surface;

(ii) Pumping. Grout shall be pumped into place through a hose or pipe extended to the bottom of the annular space which can be raised as the grout is applied. The grout hose or pipe shall remain submerged in grout during the entire application; or

(iii) Other. Grout may be emplaced in the annular space by gravity flow in such a way to ensure complete filling of the space. Gravity flow shall not be used if water or any visible obstruction is present in the annular space at the time of grouting.

(j) All grout mixtures shall be prepared prior to emplacement per the manufacturer's directions with the exception that bentonite chips or pellets may be emplaced by gravity flow if water is present or otherwise hydrated in place.

(k) If an outer casing is installed, it shall be grouted by either the pumping or pressure method.

(l) The well shall be grouted within seven days after the casing is set or before the drilling equipment leaves the site, whichever occurs first.

(m) No additives that will accelerate the process of hydration shall be used in grout for thermoplastic well casing.

(n) A casing shall be installed that extends from at least 12 inches above land surface to the top of the injection zone.

(o) Wells with casing extending less than 12 inches above land surface and wells without casing may be approved by the Director only when one of the following conditions are met:

(i) site specific conditions directly related to business activities, such as vehicle traffic, would endanger the physical integrity of the well; or

(ii) it is not operationally feasible for the well head to be completed 12 inches above land surface due to the engineering design requirements of the system.

(p) Multi-screened wells shall not connect aquifers or zones having differences in water quality which would result in a degradation of any aquifer or zone.

(q) Prior to removing the equipment from the site, the top of the casing shall be sealed with a water-tight cap or well seal, as defined in G.S. 87-85, to preclude the entrance of contaminants from entering the well.

(r) Packing materials for gravel and sand packed wells shall be:

(i) composed of quartz, granite, or other hard, non-reactive rock material and shall be clean, of uniform size, water-washed and free from clay, silt, or other deleterious material;

(ii) disinfected prior to subsurface emplacement;

(iii) emplaced such that it shall not connect aquifers or zones having differences in water quality that would result in the deterioration of the water qualities in any aquifer or zone; and

(iv) evenly distributed around the screen and shall extend to a depth at least one foot above the top of the screen. A minimum one foot thick seal comprised of bentonite clay or other sealing material approved by the Director shall be emplaced directly above and in contact with the packing material.

(s) All permanent injection wells shall have a well identification plate that meets the criteria specified in Rule .0107 of this Subchapter.

(t) A hose bibb, sampling tap, or other collection equipment approved by the Director shall be installed on the line entering the injection well such that a sample of the injectant can be obtained immediately prior to its entering the injection well.

(u) If applicable, all piping, wiring, and vents shall enter the well through the top of the casing unless otherwise approved by the Director based on a design demonstrated to preclude surficial contaminants from entering the well.

(v) The well head shall be completed in such a manner so as to preclude surficial contaminants from entering the well; and well head protection shall include:

(i) an accessible external sanitary seal installed around the casing and grouting; and

(ii) a water-tight cap or seal compatible with the casing and installed so that it cannot be removed without the use of hand or power tools.

(w) For subsurface distribution systems the following shall apply:

(i) for systems designed to be constructed within seven feet of the land surface and above the seasonal high water table, the distribution system design volume, injection volume, and injection rate shall be based on the hydraulic conductivity of the geologic material having the lowest permeability as determined by appropriate *in situ* or laboratory test methods; and

(ii) the land surface directly above all systems shall be covered with pavement or compacted soil or other suitable material to prevent stormwater or other fluids on the land surface from infiltrating into the subsurface distribution system.

(6) Mechanical Integrity. All permanent injection wells require tests for mechanical integrity, which shall be conducted in accordance with Rule .0207(b) of this Section.

(7) Operation and Maintenance.

(a) Unless permitted by this rule, pressure at the well head shall be limited to a maximum which will ensure that the pressure in the injection zone does not initiate new fractures or propagate existing fractures in the injection zone, initiate fractures in the confining zone, or cause the migration of injected or formation fluids outside the injection zone or area.

(b) Injection between the outermost casing and the well borehole is prohibited.

(c) Monitoring of the operating processes at the well head shall be provided for by the well owner, as well as protection against damage during construction and use.

(8) Monitoring.

(a) Monitoring of the injection well may be required by the Director to demonstrate protection of groundwaters of the state.

(i) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(ii) Analysis of the physical, chemical, biological, or radiological characteristics of the injectant shall be made monthly or more frequently, as necessary, in order to provide representative data for characterization of the injectant.

(iii) Monitoring of injection pressure, flow rate, and cumulative volume shall occur according to a schedule determined necessary by the Director.

(iv) Monitoring wells associated with the injection site shall be monitored quarterly or on a schedule determined by the Director to detect any migration of injected fluids from the injection zone.

(b) In determining the type, density, frequency, and scope of monitoring, the Director shall consider the following:

(i) physical and chemical characteristics of the injection zone;

(ii) physical and chemical characteristics of the injected fluid(s);
(iii) volume and rate of discharge of the injected fluid(s);
(iv) compatibility of the injected fluid(s) with the formation fluid(s);
(v) the number, type and location of all wells, mines, surface bodies of water, and structures within the area of review;
(vi) proposed injection procedures;
(vii) expected changes in pressure, formation fluid displacement, and direction of movement of injected fluid;
(viii) proposals of corrective action to be taken in the event that a failure in any phase of injection operations that renders the groundwaters unsuitable for their best intended usage as defined in Rule .0202 of Subchapter 02L; and
(ix) the life expectancy of the injection operations.

(c) Monitoring wells completed in the injection zone and any of those zones adjacent to the injection zone may be affected by the injection operations. If affected, the Director may require additional monitor wells located to detect any movement of injection fluids, injection process by products, or formation fluids outside the injection zone as determined by the applicant in accordance with Subitem (3)(b) of this Rule. If the operation is affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected and shall be of an adequate number to detect movement of injected fluids, process by products, or formation fluids outside the injection zone or area. In determining the number, location and spacing of monitoring wells, the following criteria shall be considered by the Director:
(i) the population relying on the groundwater resource affected, or potentially affected, by the injection operation;
(ii) the proximity of the injection operation to points of withdrawal of groundwater;
(iii) the local geology and hydrology;
(iv) the operating pressures;
(v) the chemical characteristics and volume of the injected fluid, formation water, and process by products; and
(vi) the density of injection wells.

(9) Reporting.
(a) For all injection wells, the well owner shall be responsible for submitting to the Director on forms furnished by the Director, or on an alternate approved form that provides the same information:
(i) a record of the construction, abandonment, or repairs of the injection well within 30 days of completion of the specified activities;
(ii) the Injection Event Record within 30 days of completing each injection; and
(b) For injection wells requiring an individual permit, the following shall apply:
(i) The well owner shall be responsible for submitting to the Director on forms furnished by the Director, or on an alternate approved form, hydraulic or pneumatic fracturing performance monitoring results;
(ii) All sampling results shall be reported by the well owner to the Division quarterly or on a frequency determined by the Director based on the reaction rates, injection rates, likelihood of secondary impacts, and site-specific hydrogeologic information; and
(iii) A Final Project Evaluation report shall be submitted within nine months after completing all injection-related activities associated with the permit or produce a

project interim evaluation before submitting a renewal application for the permit. This document shall assess the injection projects findings in a written summary. The final project evaluation shall also contain monitoring well sampling data, contaminant plume maps and potentiometric surface maps.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0226 SALINITY BARRIER WELLS

These wells inject uncontaminated water into an aquifer to prevent the intrusion of salt water into the fresh water. The requirements for Salinity Barrier Wells shall be the same as in Rule .0219 of this Section except that the Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0227 STORMWATER DRAINAGE WELLS

These wells receive the flow of water that results from precipitation occurring immediately following rainfall or a snowmelt event.

(1) The following are permitted by rule pursuant to Rule .0217 of this Section:
  (a) systems designed in accordance with stormwater controls required by federal laws and regulations, state statutes and rules, or local controls adopted consistent with these federal or state requirements; and
  (b) roof-top runoff infiltration systems.
(2) Nothing in this Rule shall be construed as to allow untreated stormwater to be emplaced directly into any aquifer or to otherwise result in the violation of any groundwater quality standard as specified in 15A NCAC 02L.
(3) Reporting. Injection well inventory information shall be submitted within 30 days of construction, abandonment, or any other change of status. As part of the inventory, the Director shall require and the owner/operator shall provide the following information:
  (a) facility name, address, and location indicated by either:
    (i) latitude and longitude with reference datum, position accuracy, and method of collection; or
    (ii) a facility site map with property boundaries;
  (b) name, telephone number, and mailing address of legal contact;
  (c) ownership of facility as a private individual or organization, or a federal, state, county, or other public entity;
  (d) number of injection wells; and
  (e) operating status as proposed, active, inactive, temporarily abandoned, or permanently abandoned.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0228 SUBSIDENCE CONTROL WELLS

These wells are used to inject uncontaminated fluids into a non-oil or gas-producing zone to reduce or eliminate subsidence associated with overdraft of fresh water and not used for the purpose of oil or natural gas production. The requirements for Subsidence Control Wells shall be the same as described in Rule .0219 of this Section except that the Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0229 TRACER WELLS

These wells are used to inject substances for the purpose of determining hydrogeologic properties of aquifers. The requirements for Tracer Wells shall be the same as described in Rule .0225 of this Section except that the Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0230 OTHER WELLS

Rule requirements for Other Wells shall be evaluated and treated as one of the Class 5 injection well types in this section that the Director determines most closely resembles the equivalent hydrogeologic complexity and potential to adversely affect groundwater quality. The Director may impose additional requirements for the protection of human health and the environment based on site specific criteria, existing or projected environmental impacts, compliance with the provisions of the rules of this Section, or the compliance history of the facility owner. The Director may permit by rule the emplacement or discharge of a fluid or solid into the subsurface for any activity that meets the technical definition of an "injection well" that the Director determines not to have the potential to adversely affect groundwater quality and does not fall under other rules in this Section.

Authority G.S. 87-87; 87-88; 87-90; 87-94; 87-95; 89E-13; 89E-18; 143-211; 143-214.2(b); 143-215.1A; 143-215.3(a)(1); 143-215.3(c); 150B-19(4); 40 CFR Part 144.52(a)(7); 40 CFR Part 145.11(a)(20).

15A NCAC 02C .0240 ABANDONMENT AND CHANGE-OF-STATUS OF WELLS

(a) In the event any injection well is abandoned, either temporarily or permanently, the well owner shall notify the Director 15 days prior to abandonment and the well(s) shall be abandoned in accordance with one of the following procedures or other alternatives approved by the Director based on a demonstration of not adversely affecting human health or the environment:

(1) Procedures for temporarily abandoning wells other than closed-loop geothermal wells shall be the same as described in Rule .0113 of this Subchapter.

(2) For temporarily abandoning a closed-loop geothermal well, the well shall be maintained whereby it is not a source or channel of contamination during the period of abandonment.

(3) Procedures for permanently abandoning wells other than closed-loop geothermal wells shall be the same as described in Rule .0113 of this Subchapter.

(4) Procedures for permanently abandoning closed-loop geothermal wells shall be as follows:

(A) all casing, tubing or piping, and associated materials shall be removed prior to initiation of abandonment procedures if such removal will not cause or contribute to contamination of groundwater;

(B) the boring shall be filled from bottom to top with grout through a hose or pipe which extends to the bottom of the well and is raised as the well is filled;

(C) for tubing with an inner diameter of one-half inch or greater, the entire vertical length of the inner tubing shall be grouted;

(D) for tubing with an inner diameter less than one-half inch, the tubing shall be refilled with potable water and capped or sealed at a depth not less than two feet below land surface in the event that grouting of the inner tubing cannot feasibly be grouted; and

(E) any protective or surface casing not grouted in accordance with the requirements set forth in this Section shall be removed and grouted in accordance with the requirements set forth in this Section.

(5) In those cases when, as a result of the injection operations, a subsurface cavity has been created, the well shall be abandoned in such a manner that will prevent the movement of fluids into or between aquifers and in accordance with the terms and conditions of the permit.

(b) Any well which acts as a source or channel of contamination shall be brought into compliance with the standards and criteria of these Rules, repaired, or permanently abandoned. Repair or permanent abandonment shall be completed within 15 days of the discovery of the violation.

(c) Exploratory or test wells, constructed for the purposes of obtaining information regarding an injection well site, shall be permanently abandoned in accordance with Rule .0113 of this Subchapter within two days after drilling or two days after testing is complete, whichever is less restrictive. An exception would be when a test well is being converted to a permanent injection well, in which case conversion shall be completed within 30 days.

(d) An injection well shall be permanently abandoned by the drilling contractor before removing his equipment from the site if the well casing has not been installed or has been removed from the well bore.

(e) The well owner is responsible for permanent abandonment of a well except when the well contractor is responsible due to improper location, construction, repair, or completion of the well.

Authority G.S. 87-87; 87-88; 143-211; 143-215.1A; 143-215.3(a)(1); 143-215.3(c).

15A NCAC 02C .0241 VARIANCE

(a) The Director may grant a variance from any construction or operation standards under the rules of this Section. Any variance shall be in writing, and shall be granted upon written application to the Director, by the person responsible for the construction of the well for which the variance is sought, if the Director finds facts to support the following conclusions:

(1) that the use of the well will not endanger human health and welfare or the groundwater; and

(2) that construction or operation in accordance with the standards was not technically feasible or the proposed construction provides equal or better protection of the groundwater.

(b) The Director may require the variance applicant to submit such information as the Director deems necessary to make a decision to grant or deny the variance. The Director may impose such conditions on a variance or the use of a well for which a variance is granted as the Director deems necessary to protect human health and welfare and the groundwater resources. The findings of fact supporting any variance under this Rule shall be in writing and made part of the variance.

(c) The Director shall respond in writing to a request for a variance within 30 days from the receipt of the variance request.

(d) For variances requested as a part of a permit application, the Director may include approval as a permit condition.

(e) A variance applicant who is dissatisfied with the decision of the Director may commence a contested case by filing a petition under G.S. 150B-23 within 60 days after receipt of the decision.

Authority G.S. 87-87(4); 87-88; 143-215.1A; 143-215.3(a)(4); 150B-23.

15A NCAC 02C .0242 DELEGATION

(a) The Director is delegated the authority to grant permission for well construction under G.S. 87-87.

(b) The Director is delegated the authority to give notices and sign orders for violations under G.S. 87-91.

(c) The Director may grant a variance from any construction standard, or the approval of alternate construction methods or materials, as specified under the rules of this Section.

Authority G.S. 87-87(4); 143-215.1A; 143-215.3(a)(1); 143-215.3(a)(4).

* *

***Notice** is hereby given in accordance with G.S. 150B-21.2 that the NC Water Treatment Facility Operators Certification Board intends to amend the rules cited as 15A NCAC 18D .0201, .0304, .0309.*

Link to agency website pursuant to G.S. 150B.19.1(c): http://www.ncwater.org/pws
Fiscal Note if prepared posted at: http://www.osbm.state.nc.us/file/pdf_files/DENR09132011.pdf

Proposed Effective Date: *February 1, 2012*

Public Hearing:
Date: *November 1, 2011*
Time: *10:00 a.m.*
Location: *2728 Capital Blvd., Room 1h120, Raleigh, NC*

Reason for Proposed Action:
15A NCAC 18D .0201, .0304 – *The revision of these rules is necessary to add an apprentice certification for water treatment facility operators. The apprentice certification will allow applicants to take the certification examinations prior to obtaining experience. An applicant who passes the examination without having experience will be certified as an apprentice until the required experience is obtained.*
15A NCAC 18D .0309 – *The amendment to this rule is to allow the Board to require operators to go back to school when they request reinstatement of their certifications if the certification has been expired, revoked or retired for more than five years.*

Procedure by which a person can object to the agency on a proposed rule: *A person can object to the agency on a proposed rule by writing, emailing or calling: Lancie Bailey, NCWTFOCB, 1635 Mail Service Center, Raleigh, NC 27699-1635; email lancie.bailey@ncdenr.gov; phone (919) 715-9517.*

Comments may be submitted to: *Lancie Bailey, NCWTFOCB, 1635 Mail Service Center, Raleigh, NC 27699-1635; phone (919) 715-9571; fax (919) 715-2726; email lancie.bailey@ncdenr.gov*

Comment period ends: *December 16, 2011*

Procedure for Subjecting a Proposed Rule to Legislative Review: If an objection is not resolved prior to the adoption of the rule, a person may also submit written objections to the Rules Review Commission after the adoption of the Rule. If the Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive those objections by mail, delivery service, hand delivery, or facsimile transmission. If you have any further questions concerning the submission of objections to the Commission, please call a Commission staff attorney at 919-431-3000.

Fiscal impact (check all that apply).
☒ **State funds affected**
☐ **Environmental permitting of DOT affected**
Analysis submitted to Board of Transportation
☒ **Local funds affected**
Date submitted to OSBM:
☐ **Substantial economic impact (≥$500,000)**
☒ **Approved by OSBM**
☐ **No fiscal note required**

CHAPTER 18 - ENVIRONMENTAL HEALTH

SUBCHAPTER 18D - WATER TREATMENT FACILITY OPERATORS

SECTION .0200 - QUALIFICATION OF APPLICANTS AND CLASSIFICATION OF FACILITIES

15A NCAC 18D .0201 GRADES OF CERTIFICATION

(a) Applicants for the various grades of certification shall be at least 18 years old and meet the following educational and experience requirements:

(1) GRADE A-SURFACE shall have one year acceptable experience at a surface water facility while holding a Grade B-Surface certificate and have satisfactorily completed an A-Surface school conducted by the Board.

(2) GRADE B-SURFACE shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two year technical program with a diploma in water and wastewater technology, have six months of acceptable experience at a surface water facility, and have satisfactorily completed an B-Surface school conducted by the Board, or

(B) Have one year of acceptable experience at a surface water facility while holding a Grade C-Surface certificate and have satisfactorily completed a B-Surface school conducted by the Board.

(3) GRADE C-SURFACE shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two year technical program with a diploma in water and wastewater technology, have six months of acceptable experience at a surface water facility, and have satisfactorily completed an C-Surface school conducted by the Board, or

(B) Be a high school graduate or equivalent, have six months acceptable experience at a surface water facility and have satisfactorily completed a C-Surface school conducted by the Board.

(4) GRADE A-WELL shall have one year of acceptable experience at a well water facility while holding a Grade B-Well certificate and have satisfactorily completed an A-Well school conducted by the Board.

(5) GRADE B-WELL shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two year technical program with a diploma in water and wastewater technology, have six months of acceptable experience at a well water facility, and have satisfactorily completed an B-Well school conducted by the Board, or

(B) Have one year of acceptable experience at a well water facility while holding a Grade C-Well certificate and have satisfactorily completed a B-Well school conducted by the Board.

(6) GRADE C-WELL shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two year technical program with a diploma in water and wastewater technology, have three months of acceptable experience at a well water facility, and have satisfactorily completed an C-Well school conducted by the Board, or

(B) Be a high school graduate or equivalent, have six months of acceptable experience at a well water facility, and have satisfactorily completed a C-Well school conducted by the Board, or

(C) Hold a Grade A-Surface certification and have satisfactorily completed a C-Well school conducted by the Board.

(7) GRADE D-WELL shall be a high school graduate or equivalent, have three months of acceptable experience at a well water facility, and have satisfactorily completed a C-Well or D-Well school conducted by the Board.

(8) GRADE A-DISTRIBUTION shall have one year of acceptable experience at Class B or higher distribution system while holding a Grade B-Distribution certificate and have satisfactorily completed an A-Distribution school conducted by the Board.

(9) GRADE B-DISTRIBUTION shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two year technical program with a diploma in water and wastewater technology, have six months of acceptable experience at a Class B or higher distribution system, have satisfactorily completed an B-Distribution school conducted by the Board, and shall hold a certificate of completion of trench shoring training conducted by the Board; or

(B) Have one year of acceptable experience at a Class C or higher distribution system while holding a Grade C-Distribution certificate and

have satisfactorily completed a B-Distribution school conducted by the Board.

(10) GRADE C-DISTRIBUTION shall hold a certificate of completion of trench shoring training conducted by the Board and shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences, or be a graduate of a two year technical program with a diploma in water and wastewater technology, have three months of acceptable experience at a Class C or higher distribution system, and have satisfactorily completed an C-Distribution school conducted by the Board, or

(B) Be a high school graduate or equivalent, have six months of acceptable experience at a Class D or higher distribution system and have satisfactorily completed a C-Distribution school conducted by the Board.

(11) GRADE D-DISTRIBUTION shall be a high school graduate or equivalent, have three months of acceptable experience at a distribution system, and have satisfactorily completed a D-Distribution school conducted by the Board.

(12) GRADE CROSS-CONNECTION-CONTROL shall:

(A) Be a college graduate with a bachelor's degree in the physical or natural sciences or be a graduate of a two-year technical program with a degree in water and wastewater or civil engineering technology, and have satisfactorily completed a cross connection control school conducted by the Board, or

(B) Be a high school graduate or equivalent, have six months of acceptable experience at Class D - Distribution or higher system or have one year experience in the operations of cross connection control devices, and have satisfactorily completed a cross connection control school conducted by the Board, or

(C) Be a plumbing contractor licensed by the State of North Carolina and have satisfactorily completed a cross connection control school conducted by the Board.

(13) APPRENTICE shall at a minimum be a high school graduate or equivalent. The apprentice shall have satisfactorily completed a Grade C or Grade D school conducted by the Board and shall have successfully passed an examination designed for the class of certification for which the applicant is applying. The apprentice certification may be renewed annually for a maximum of five years, pursuant to the continuing education and renewal requirements of this Subchapter. An apprentice shall not act as ORC for a facility. An apprentice is eligible for Grade C or D certification after meeting the applicable experience requirements as set forth in this Rule.

(b) Applications for certification of an operator certified in a state other than North Carolina shall be submitted on the Board's form. The application shall supply information to assist the Board in determining whether or not the requirements under which the out-of-state certification was obtained are equal to those required by the rules of the Water Treatment Facility Operators Board of ~~Certification~~ Certification.

Authority G.S. 90A-21(c); 90A-22; 90A-23; 90A-24.

SECTION .0300 - APPLICATIONS AND FEES

15A NCAC 18D .0304 FEE SCHEDULE

(a) The cost of examination and certification shall be fifty dollars ($50.00). The cost of upgrading an apprentice to Grade C or D certification shall be fifty dollars ($50.00).

(b) The cost of a temporary certificate shall be fifty dollars ($50.00).

(c) The examination and certification fee must be paid to the Board when the application is submitted.

(d) The cost of the annual certification renewal shall be thirty dollars ($30.00). Renewal fees shall be due December 31 of each calendar year and shall be delinquent on the first day of February. Delinquent certifications shall be charged an additional fee of thirty dollars ($30.00).

(e) The operator shall notify the Board, in writing, within 30 days of any change in his/her address.

Authority G.S. 90A-27.

15A NCAC 18D .0309 CERTIFICATION REINSTATEMENT

(a) An operator whose certification has expired may seek reinstatement within two years of expiration by paying any renewal fees in arrears, including late fees and either providing proof of continuing education for each calendar year as required in Rule .0308 of this Section, or passing another examination of that grade.

(b) Any person having a certification expired for more than two years or revoked shall apply to the Board for approval to be eligible for any further certification or reinstatement of certificate.

(c) In addition to other conditions it may require for certification reinstatement, the Board may require a person to first satisfactorily complete the appropriate school conducted by the NCWTFOCB if his certificate has been expired, retired, or revoked for more than five years from the date of consideration

of the request by the Board. Satisfactory completion of said school is in addition to any original school that was completed for the original certification.

Authority G.S. 90A-25.1; 90A-26.

TITLE 21 – OCCUPATIONAL LICENSING BOARDS AND COMMISSIONS

CHAPTER 08 - BOARD OF CERTIFIED PUBLIC ACCOUNTANT EXAMINERS

***Notice** is hereby given in accordance with G.S. 150B-21.2 that the NC State Board of CPA Examiners intends to amend the rules cited as 21 NCAC 08G .0409-.0410; 08J .0105.*

Link to agency website pursuant to G.S. 150B.19.1(c):
http://www.nccpaboard.gov

Proposed Effective Date: *February 1, 2012*

Public Hearing:
Date: *December 19, 2011*
Time: *10:00 a.m.*
Location: *NC State Board of CPA Examiners, 1101 Oberlin Road, Suite 104, Raleigh, NC 27605*

Reason for Proposed Action: *The purpose of the rule-making is to amend current rules to reflect changes in the continuing professional education (CPE) rules regarding ethics courses and non-self study CPE.*

Procedure by which a person can object to the agency on a proposed rule: *A person may make a written comment and or be present at the public hearing to make an oral comment to the rules.*

Comments may be submitted to: *Robert N. Brooks, NC State board of CPA Examiners, P.O. Box 12827, Raleigh, NC 27605-2827*

Comment period ends: *December 19, 2011*

Procedure for Subjecting a Proposed Rule to Legislative Review: If an objection is not resolved prior to the adoption of the rule, a person may also submit written objections to the Rules Review Commission after the adoption of the Rule. If the Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive those objections by mail, delivery service, hand delivery, or facsimile transmission. If you have any further questions concerning the submission of objections to the Commission, please call a Commission staff attorney at 919-431-3000.

Fiscal impact (check all that apply).
- ☐ **State funds affected**
- ☐ **Environmental permitting of DOT affected**
  Analysis submitted to Board of Transportation
- ☐ **Local funds affected**
  Date submitted to OSBM:
- ☐ **Substantial economic impact (≥$500,000)**
- ☐ **Approved by OSBM**
- ☒ **No fiscal note required**

SUBCHAPTER 08G - CONTINUING PROFESSIONAL EDUCATION (CPE)

SECTION .0200 - RESPONSIBILITIES TO CLIENTS AND COLLEAGUES

21 NCAC 08G .0409 COMPUTATION OF CPE CREDITS

(a) Group Courses: Non-College. CPE credit for a group course that is not part of a college curriculum shall be given based on contact hours. A contact hour shall be 50 minutes of instruction. One-half credits shall be equal to 25 minutes after the first credit hour has been earned in a formal learning activity. For example, a group course lasting 100 minutes shall be two contact hours and thus two CPE credits. A group course lasting 75 minutes shall be only one and one-half contact hours and thus one and one-half CPE credits. When individual segments of a group course shall be less than 50 minutes, the sum of the individual segments shall be added to determine the number of contact hours. For example, five 30-minute presentations shall be 150 minutes, which shall be three contact hours and three CPE credits. No credit shall be allowed for a segment unless the participant completes the entire segment.

(b) Completing a College Course. CPE credit for completing a college course in the college curriculum shall be granted based on the number of credit hours the college gives the CPA for completing the course. One semester hour of college credit shall be 15 CPE credits; one quarter hour of college credit shall be 10 CPE credits; and one continuing education unit (CEU) shall be 10 CPE credits. However, under no circumstances shall CPE credit be given to a CPA who audits a college course.

(c) Self Study. CPE credit for a self-study course shall be given based on the average number of contact hours needed to complete the course. The average completion time shall be allowed for CPE credit. A sponsor must determine, on the basis of pre-tests, the average number of contact hours it takes to complete a course. ~~CPE credit for self-study courses shall be limited so that a CPA completes at least eight hours of non-self study each year.~~

(d) Instructing a CPE Course. CPE credit for teaching or presenting a CPE course for CPAs shall be given based on the number of contact hours spent in preparing and presenting the course. No more than 50 percent of the CPE credits required for a year shall be credits for preparing for and presenting CPE courses. CPE credit for preparing for and presenting a course

shall be allowed only once a year for a course presented more than once in the same year by the same CPA.

(e) Authoring a Publication. CPE credit for published articles and books shall be given based on the number of contact hours the CPA spent writing the article or book. No more than 25 percent of a CPA's required CPE credits for a year shall be credits for published articles or books. An article written for a CPA's client or business newsletter is not applicable for this CPE credit.

(f) Instructing a College Course. CPE credit for instructing a graduate level college course shall be given based on the number of credit hours the college gives a student for successfully completing the course, using the calculation set forth in Paragraph (b) of this Rule. Credit shall not be given for instructing an undergraduate level course. In addition, no more than 50 percent of the CPE credits required for a year shall be credits for instructing a college course and, if CPE credit shall also be claimed under Paragraph (d) of this Rule, no more than 50 percent of the CPE credits required for a year shall be credits claimed under Paragraph (d) and this Paragraph. CPE credit for instructing a college course shall be allowed only once for a course presented more than once in the same year by the same CPA.

Authority G.S. 93-12(8b).

21 NCAC 08G .0410 PROFESSIONAL ETHICS AND CONDUCT CPE

(a) As part of the annual CPE requirement, all active CPAs shall complete CPE on professional ethics and ~~conduct as set out in 21 NCAC 08N.~~ conduct. They shall complete either two hours in a group study format or ~~four hours~~ in a self-study ~~format.~~ format of a course on regulatory or behavioral professional ethics and conduct. ~~These courses shall be approved by the Board pursuant to 21 NCAC 08G .0400.~~ This CPE shall be offered by a CPE sponsor registered with the ~~Board~~ Board, or with NASBA pursuant to 21 NCAC 08G .0403(a) or (b).

(b) A non-resident licensee whose primary office is in North Carolina must comply with Paragraph (a) of this Rule. All other non-resident licensees may satisfy Paragraph (a) of this Rule by completing the ethics requirements in the jurisdiction in which he or she is licensed as a CPA and works or resides. If there is no ethics CPE requirement in the jurisdiction where he or she is licensed and currently works or resides, he or she must comply with Paragraph (a) of this Rule.

Authority G.S. 93-12(8b).

SUBCHAPTER 08J - RENEWALS AND REGISTRATIONS

21 NCAC 08J .0105 RETIRED AND INACTIVE STATUS: CHANGE OF STATUS

(a) A CPA may apply to the Board for change of status to retired status or inactive status provided the CPA meets the description of the appropriate status as defined in 21 NCAC 08A .0301. Application for any status change may be made on the annual certificate renewal form or another form provided by the Board.

(b) A CPA who does not meet the description of inactive or retired as defined in 21 NCAC 08A .0301 may not be or remain on inactive or retired status.

(c) A CPA on retired status may change to active status by:

(1) paying the certificate renewal fee for the license year in which the application for change of status is received;

(2) furnishing the Board with evidence of satisfactory completion of 40 hours of acceptable CPE courses during the 12-month period immediately preceding the application for change of status. Eight of the required hours must be credits derived ~~from non-self study CPE and eight of the required hours must be~~ from a course or examination in North Carolina accountancy statutes and rules (including the Code of Professional Ethics and Conduct contained therein) as set forth in 21 NCAC 08G .0401(a); and

(3) three certificates of moral character and endorsements as to the eligibility signed by CPAs holding valid certificates granted by any state or territory of the United States or the District of Columbia.

(d) A CPA on retired status may request change to inactive status by application to the Board.

(e) Any individual on inactive status may change to active status by complying with the requirements of 21 NCAC 08J .0106(c).

Authority G.S. 93-12(8); 93-12(8b).

Note from the Codifier: *The rules published in this Section of the NC Register are temporary rules reviewed and approved by the Rules Review Commission (RRC) and have been delivered to the Codifier of Rules for entry into the North Carolina Administrative Code. A temporary rule expires on the 270th day from publication in the Register unless the agency submits the permanent rule to the Rules Review Commission by the 270th day.*
This section of the Register may also include, from time to time, a listing of temporary rules that have expired. See G.S. 150B-21.1 and 26 NCAC 02C .0500 for adoption and filing requirements.

TITLE 07 – DEPARTMENT OF CULTURAL RESOURCES

Rule-making Agency: *Department of Cultural Resources*

Rule Citation: *07 NCAC 04N .0202*

Effective Date: *September 23, 2011*

Date Approved by the Rules Review Commission: *September 15, 2011*

Reason for Action: *The amended rule is to add admission charges to offset the loss of revenue established by Session Law 2011-145. Section 21.1 of this legislation established the Transportation Museum special fund. The fund shall be used to pay all costs associated with the operation and maintenance of the North Carolina Transportation Museum. Senate Appropriations Committee Report on the Continuation, Expansion and Capital Budgets (2011 Budget Technical Corrections) transfers the Transportation Museum to 50% receipts-support in FY 2011-12 and total receipts-support in FY 2012-13.*

CHAPTER 04 - DIVISION OF ARCHIVES AND HISTORY

SUBCHAPTER 04N – HISTORIC SITES REGULATIONS

SECTION .0200 - SITE HOURS: ADMISSION FEES

07 NCAC 04N .0202 ADMISSION FEES

(a) The following sites do not charge an admission fee:
(1) Alamance Battleground,
(2) Aycock Birthplace,
(3) Bennett Place,
(4) Bentonville Battleground,
(5) Brunswick Town,
(6) Caswell-Neuse,
(7) Duke Homestead,
(8) Fort Dobbs,
(9) Fort Fisher,
(10) Historic Halifax,
(11) House in the Horseshoe,
(12) Polk Memorial,
(13) Reed Gold Mine,
(14) Somerset Place,
~~(15) Spencer Shops,~~
~~(16)~~(15) Town Creek Indian Mound,
~~(17)~~(16) Vance Birthplace,
~~(18)~~(17) Charlotte Hawkins Brown Memorial,
~~(19)~~(18) Horne Creek Living History Farm.

(b) The following site charges an admission fee of one dollar ($1.00) for adults, fifty cents ($0.50) for children, and one half off the regular admission price for groups of ten or more: Wolfe Memorial.
(c) The following site charges an admission fee of one dollar ($1.00) for adults, twenty-five cents ($0.25) for children: James Iredell House.
(d) The following site charges an admission fee of one dollar ($1.00) for adults, fifty cents ($0.50) for children and one half off the regular admission price for groups of ten or more to each major historic structure:
(1) Historic Bath, Bonner House;
(2) Historic Bath, Palmer-Marsh House.
(e) The following site charges an admission fee of three dollars ($3.00) for adults, one dollar and fifty cents ($1.50) for students, two dollars ($2.00) for senior citizens, and fifty cents ($0.50) off the regular admission price for groups of ten or more: Elizabeth II.
(f) The North Carolina Transportation Museum at Spencer charges admission fees as follows:
(1) General Admission: Five dollars ($5.00) for adults; four dollars ($4.00) for seniors and active military; three dollars ($3.00) students (ages 3 to 12); and free for children (ages 0 to 2).
(2) Group Admission (15 or more visitors): Four dollars ($4.00) for adults; three dollars and fifty cents ($3.50) for seniors and active military; one dollar and fifty cents ($1.50) for students (ages 3 to 12); and free for children (ages 0 to 2).

History Note: Authority G.S. 121-4(8); 121-4(9;
Eff. February 1, 1985;
Amended Eff. January 1, 1990; June 1, 1989;
Emergency Amendment Eff. July 14, 2011;
Temporary Amendment Eff. September 23, 2011.

TITLE 15A – DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Rule-making Agency: *Wildlife Resources Commission*

Rule Citation: *15A NCAC 10B .0215, .0219, .0223*

Effective Date: *October 1, 2011*

Date Approved by the Rules Review Commission: *September 15, 2011*

Reason for Action:

15A NCAC 10B .0215, .0219 – *G.S. 113-291.1(b)(2) currently permits the use of electronic calls for hunting crows and coyotes. Section 4 of S.L. 2011-369 repeals that provision and replaces it with a provision that allows the Commission to regulate the use of electronic calls by rule. An unintended consequence of this law is that effective October 1, 2011, it will no longer be legal for persons to use electronic calls in this manner until such time as the Commission is able to adopt rules to allow the practice to continue, which is the intent of the Commission. The Commission is submitting changes for amendment to 15A NCAC 10B.0215 contemporaneously with this submission that are identical to the temporary rule. The purpose for both the temporary and permanent amendment is to maintain the status quo rather than create a gap in enforcement that would likely come as a surprise to the public.*

15A NCAC 10B .0223 – *Section 2 of S.L. 2011-369 repeals the definition of wild boar (G.S. 113-129(15b)) and adds the definition of "feral swine" (5c), making feral swine a wild animal. The intention of this provision is to permit the taking of as many feral swine as possible due to depredations caused by that animal. Under current law, however, there is no provision for the taking of a wild animal for which the Commission has not set an open season and bag limits. This temporary rule will permit hunters to immediately begin taking feral swine. The Commission is submitting changes for adoption of 15A NCAC 10B .0223 contemporaneously with this submission that are identical to the temporary rule. The purpose for both the temporary and permanent rule is to effect implementation of the statute as soon as possible.*

CHAPTER 10 - WILDLIFE RESOURCES AND WATER SAFETY

SUBCHAPTER 10B - HUNTING AND TRAPPING

SECTION .0200 - HUNTING

15A NCAC 10B .0215 CROWS

(a) Open ~~Seasons:~~ seasons for crows are as follows: Wednesday, Friday and Saturday of each week from the first Wednesday in June to the last day of February and on the following holidays: July 4, Labor Day, Thanksgiving, Christmas, New Years and Martin Luther King, Jr. days.

Note: Federal law protects crows and limits state seasons to a maximum of 124 days per year.

(b) ~~Bag Limits: No restriction.~~ There are no bag limit restrictions on crows.

(c) Manner of Take. Hunters may use electronic calls.

History Note: Authority G.S. 113-134; 113-291.1; 113-291.2; 50 C.F.R. 20.133;
Eff. February 1, 1976;
Amended Eff. May 1, 2009; May 1, 2006; June 1, 2005; July 1, 1991; July 1, 1987; July 1, 1984; July 1, 1983;
Temporary Amendment Eff. October 1, 2011.

15A NCAC 10B .0219 COYOTE

(a) ~~No~~ There is no closed ~~season.~~ season for taking coyotes by hunting.

(b) ~~Bag Limits: No restriction.~~ There are no bag limit restrictions on coyotes.

(c) Manner of Take. Hunters may use electronic calls.

History Note: Authority G.S. 113-134; 113-291.1; 113-291.2;
Eff. July 1, 1993;
Temporary Amendment Eff. October 1, 2011.

15A NCAC 10B .0223 FERAL SWINE

(a) Open season. There is no closed season for taking feral swine by hunting.

(b) Bag limits. There are no bag limit restrictions.

History Note: Authority G.S. 113-129; 113-134; 113-291; 113-291.2;
Temporary Adoption Eff. October 1, 2011.

This Section contains the full text of some of the more significant Administrative Law Judge decisions along with an index to all recent contested cases decisions which are filed under North Carolina's Administrative Procedure Act. Copies of the decisions listed in the index and not published are available upon request for a minimal charge by contacting the Office of Administrative Hearings, (919) 431-3000. Also, the Contested Case Decisions are available on the Internet at http://www.ncoah.com/hearings.

OFFICE OF ADMINISTRATIVE HEARINGS

Chief Administrative Law Judge
JULIAN MANN, III

Senior Administrative Law Judge
FRED G. MORRISON JR.

ADMINISTRATIVE LAW JUDGES

Beecher R. Gray
Selina Brooks
Melissa Owens Lassiter
Don Overby
Randall May
A. B. Elkins II
Joe Webster

AGENCY	CASE NUMBER	DATE	PUBLISHED DECISION REGISTER CITATION
ALCOHOLIC BEVERAGE CONTROL COMMISSION			
ABC Commission v. TruVisions Enterprises, LLC, T/A Touch	10 ABC 7025	06/29/11	26:06 NCR 509
ABC Commission v. Universal Entertainment, LLC T/A Zoo City Saloon	11 ABC 2294	07/05/11	
ABC Commission v. Quick Quality Inc., T/A Quick Quality	11 ABC 2543	07/19/11	
ABC Commission v. GK Mart Inc., T/A GK Mart	11 ABC 02647	07/22/11	
ABC Commission v. Triangle Food and Fun LLC, T/A Six Forks Pub	11 ABC 07107	09/16/11	
ABC Commission v. CH Pub LLC, T/A Kildares Irish Pub	11 ABC 07109	08/16/11	
DEPARTMENT OF CRIME CONTROL AND PUBLIC SAFETY			
Donnie R. Holbrook, Susan R Holbrook v. Victim and Justice Service	09 CPS 0449	08/19/11	
Felicia G. Awaritoma v. Crime Victims Compensation Commission	10 CPS 01451	09/01/11	
Dianne Moody Costello v. Victim and Justice Services	11 CPS 05780	06/20/11	
Rosalena Merriam v. Victims Compensation	11 CPS 09780	09/19/11	
DEPARTMENT OF HEALTH AND HUMAN SERVICES			
Scott M. Jensen, DMD v. DHHS, Division of Medical Assistance	09 DHR 3252	06/21/11	
Patricia Anne Edwards v. DHHS, Division of Child Development	10 DHR 0292	06/06/11	
Marchell Gunter, The Home of Marchell F Gunter v. DHHS	10 DHR 0557	06/03/11	
Qingxia Chen and Chen Family Child Care Home Inc v. Division of Child Development	10 DHR 0790	07/29/11	
Theracare Home Health and Staffing, LLC v. DHHS, Division of Medical Assistance Program Integrity	10 DHR 1455	06/01/11	
Ronnie Newton v. DHHS, Division of Health Service Regulation	10 DHR 2172	08/22/11	
Alternative Life Programs, Inc. Marchell F Gunter v. DHHS	10 DHR 3583	06/03/11	
Carolyn Rucker v. DHHS, Division of Medical Assistance	10 DHR 3717	05/19/11	
Qingxia Chen and Chen Family Child Care Home Inc v. Division of Child Development	10 DHR 4182	07/29/11	
WakeMed v. DHHS, Division of Health Service Regulation, CON Section and Rex Hospital, Inc, d/b/a Rex Healthcare, Holly Springs Surgery Center, LLC and Novant Health, Inc	10 DHR 5274	05/17/11	26:04 NCR 274
Rex Hospital Inc d/b/a Rex Healthcare v. DHHS, Division of Health Service Regulation, CON Section And WakeMed, Springs Surgery Center, LLC and Novant Health, Inc	10 DHR 5275	05/17/11	26:04 NCR 274
Angela Mackey v. DHHS, Division of Health Service Regulation	10 DHR 5499	06/01/11	
Cynthia Dawn Sloope v. DHHS	10 DHR 5500	06/07/11	
Carteret Family Practice Clinic, P.A., v. DHHS, DMA, Program Integrity Section	10 DHR 5859	07/13/11	26:06 NCR 516
Alternative Life Programs, Inc. Marchell F Gunter	10 DHR 6204	06/03/11	
Cherie L Russell v. DHHS, Division of Health Services Regulation	10 DHR 6240	05/17/11	
Grover L. Hunt v. DHHS, Division of Health Service Regulation, Health Care Personnel Registry Section	10 DHR 6710	05/25/11	
Christopher Sanders v. DHHS, Division of Health Service Regulation, Health Care Personnel Registry	10 DHR 7511	06/23/11	
Raymond Taylor Mabe Jr. v. OAH, Debbie Odette/Glana Surles	10 DHR 8094	05/26/11	

Shanta M. Collins v. DHHS, Division of Health Service Regulation	10 DHR 8444	06/22/11	
Geraldine Highsmith, Pediatric Therapy Associates v. DHHS	10 DHR 8735	07/08/11	
Randall Ephraim v. DHHS, Division of Health Service Regulation	10 DHR 9278	09/12/11	
Coretta Francine Hicks v. Health Care Registry	10 DHR 01065	08/19/11	
Marcell Gunter, Alternative Life Programs Inc. v. DHHS, Durham Center LME and DMA (CSCEVC NC Medicaid Provider)	10 DHR 03827	06/23/11	
Revonda McCluney Smith v. DHHS, Division of Health Service Regulation	10 DHR 04755	09/29/11	
American Human Services Inc, v. DHHS, Division of Medical Assistance	10 DHR 05575	08/19/11	26:06 NCR 540
Chera L Dargan v. Department of Health and Human Services Registry	10 DHR 05796	09/01/11	
Gwendolyn Fox, Trinity III v. DMA Program Integrity DMA Controller's Section	10 DHR 06499	09/01/11	
WakeMed v. DHHS, Division of Health Service Regulation, CON Section	10 DHR 08008	08/19/11	26:08 NCR 705
Edna Lee v. DHHS, Division of Health Service Regulation	10 DHR 08938	07/22/11	
Yolanda M. Brown v. Health Care Registry Personnel	10 DHR 09708	07/14/11	
James L. Graham v. DHHS, Division of Health Service Regulation, Health Care Personnel Registry Section	11 DHR 0303	06/28/11	
Geraldine Highsmith, Pediatric Therapy Associates v. DHHS	10 DHR 0691	07/08/11	
Geraldine Highsmith, Pediatric Therapy Associates v. DHHS	10 DHR 0762	07/08/11	
Geraldine Highsmith, Pediatric Therapy Associates v. DHHS	10 DHR 0763	07/08/11	
Angela Clark v. DHHS	11 DHR 1565	06/03/11	
Geraldine Highsmith, Pediatric Therapy Associates v. DHHS	11 DHR 2021	07/08/11	
April G. Cooper v. Edgecombe County, Dept. of Social Services (DHHS) Food Stamps	11 DHR 2146	06/15/11	
Patricia Anne Edwards v. DHHS, Division of Child Development	11 DHR 2149	06/06/11	
Nicole Shante McGee v. DHHS, Division of Facility Services, Health Care Personnel	11 DHR 2355	08/08/11	
Demetrius L. Brooks v. DHHS, Division of Health Service Regulation	11 DHR 2441	06/30/11	
Koisey Lorlu Dahn v. DHHS, Division of Health Service Regulation	11 DHR 2443	09/08/11	
Danielle Whitman v. DHHS	11 DHR 2709	08/08/11	
Cyonna Hallums v. DHHS, Healthcare Registry	11 DHR 2858	06/30/11	
Angela L. Jordan v. DHHS, Division of Health Service Regulation	11 DHR 2920	06/30/11	
Creative Hands Occupational Therapy v. Susan Olmschenk v. Office of Administrative Hearings	11 DHR 2924	06/10/11	
Singleton Developmental Center Inc, dba In The Beginning Child Care #3 v. Division of Child Development, DHHS	11 DHR 2990	05/27/11	
Singleton Developmental Center Inc, dba In The Beginning Child Care #3 v. Division of Child Development, DHHS	11 DHR 2993	05/27/11	
Singleton Developmental Center Inc, dba In The Beginning Child Care #3 v. Division of Child Development, DHHS	11 DHR 2994	05/27/11	
Singleton Developmental Center Inc, dba In The Beginning Child Care #3 v. Division of Child Development, DHHS	11 DHR 2995	05/27/11	
Daphne Davis v. DHHS, Division of Facility Services, Health Care Personnel Registry	11 DHR 3110	07/13/11	
Hee Soon Kwon d/b/a Beatties Ford Mart v. DHHS	11 DHR 3168	07/18/11	
Nellie v. Mitchell, Little Lamb's Daycare v. DHHS, Division of Child Development	11 DHR 3391	06/13/11	
Yolanda McKinnon v. DHHS, Division of Child Development	11 DHR 4117	06/09/11	
Kenneth Dellinger Executive Office KD Support Services d/b/a Kellys Care #5 v. DHHS, Division of Health Care Service Regulation Adult Care Licensure Section	11 DHR 4755	07/14/11	
Amy Robinson v. DHHS, Division of Facility Services	11 DHR 4758	07/27/11	
Angelicia Linney v. Alexander County DSS	11 DHR 4965	06/21/11	
Robin Whistsett-Crite/RJ Whitsett Residential Services v. DHHS	11 DHR 5146	07/12/11	
Kathy Daniels v. CNS Registry	11 DHR 6318	08/04/11	
Calvin E. Cowan, Shirley Cowan v. DHHS	11 DHR 6880	08/16/11	
Melody Barnette v. Department of Social Services	11 DHR 7330	09/06/11	
Samuel Swindell v. DHHS, Regulatory and Licensing Section and Alexander Youth Network	11 DHR 8314	08/22/11	
Joyce Muhammad v. DHHS	11 DHR 00198	07/11/11	
Support Staff v. DHHS, Division of Medical Assistance	11 DHR 01449	07/11/11	
Pamela Terry – President/Administrator PALS-Magnolia v. DHHS, Division of Health Service Regulation Mental Health Licensure & Certification Section	11 DHR 01952	09/06/11	
Maithily H Patel v. Nutrition Service Branch, DHHS	11 DHR 02144	06/30/11	
Kishja Marlin v. DHHS	11 DHR 03313	07/07/11	
Wonne Mills v. Department of Social Services/Fraud Department, Office of Administrative Hearings	11 DHR 03389	06/27/11	
Beau A. Davis v. DHHS	11 DHR 03691	06/20/11	
Edna Lee v. DHHS, Division of Health Service Regulation	11 DHR 03836	07/22/11	
Bertha's Place Inc, Wayne Louis Garris v. Mecklenburg County LME	11 DHR 04186	06/17/11	
Crystal Lashay Eason v. DHHS, Division of Health Service Regulation, Health Care Personnel Registry Section	11 DHR 04473	08/12/11	
Nicole McGee v. Health Care Personnel Registry	11 DHR 04475	06/17/11	
Nyanga G. (Godee) Lumumba v. DHHS	11 DHR 01387	06/24/11	
Nyanga G. (Godee) Lumumba v. DHHS	11 DHR 01913	06/24/11	
Dondra R. Sugg v. Carteret County Social Services Food Stamp	11 DHR 04958	07/15/11	
Stepping Stones Group Homes Inc v. DHHS, Division Of Health Service Regulation Mental Health Licensure and Certification	11 DHR 05068	07/19/11	
Lesliey Cowans v. DHHS, Division of Health Services Regulation	11 DHR 05426	09/08/11	
Jerris McPhail v. Department of Health and Human Services	11 DHR 05518	07/19/11	
Cynthia Neely v. Dept. of Social Services	11 DHR 05786	07/28/11	
Bobby F Huskey v. Dept. of Health and Human Service Division Health Service Regulation	11 DHR 06238	08/04/11	
Silverette Denise Swindell v. DHHS	11 DHR 06429	08/11/11	
Recovery Center of Durham v. Division of Health Service Regulation	11 DHR 06491	09/15/11	

Sandra Grace and Making Changes, Inc., v. The Beacon Center and DHHS	11 DHR 06792	08/26/11	
Comprehensive Rehab of Wilson Inc. Eileen R Carter v. Office of Controller DMA-Accounts Receivable, Rheba C Heggs	11 DHR 07331	08/18/11	
Darnell Holman v. DHHS, Division of Health Service Regulation	11 DHR 07856	09/23/11	
Teresa Slye v. DHHS, Office of the Chief Medical Examiner	11 DHR 07858	08/19/11	
Nicole Jackson v. DHHS, Division of Health Service Regulation	11 DHR 08103	08/22/11	
Tony Ledwell v. DHHS, Division of Health Service Regulation	11 DHR 08158	08/31/11	
Kevin Warren v. Health Care Personnel Registry	11 DHR 08552	08/23/11	
Annette Adams v. DHHS, Division of Health Service Regulation	11 DHR 08897	09/19/11	
Carson Daycare, Brenda Carson v. Division of Child Development – DHHS	11 DHR 09030	09/23/11	
Family Intervention & Prevention Services LLC, a North Carolina limited liability company	11 DHR 09243	08/05/11	
Audrey A Crawford v. DHHS	11 DHR 09308	09/09/11	
DEPARTMENT OF CORRECTION			
Andria Lambert v. DOC	10 DOC 3417	08/11/11	
Robert Lee Hood v. DOC	11 DOC 7655	08/16/11	
John Channon Engle v. Department of Correction	11 DOC 07333	07/11/11	
DEPARTMENT OF JUSTICE			
Timothy Scott Phillips v. Criminal Justice Education and Training Standards Commission	10 DOJ 2518	07/20/11	
Aaron R Taylor v. Company Police Program	10 DOJ 5356	05/27/11	
Dustin Clark v. Department of Justice, Company Police Program	10 DOJ 5877	05/24/11	
Travis Mark Caskey v. Sheriffs' Education and Training Standards Commission	10 DOJ 6966	06/02/11	
John Patrick Harris v. Sheriffs' Education and Training Standards Commission	10 DOJ 7772	07/21/11	
Robert Scott MacFayden v. Sheriffs' Education and Training Standards Commission	10 DOJ 7773	06/01/11	
Ikeisha Simone Jacobs v. Criminal Justice Education and Training Standards Commission	10 DOJ 07780	07/15/11	
Edwards Lee Bombria, IV v. Sheriffs' Education and Training Standards Commission	10 DOJ 08360	07/14/11	
Clifford Allan Jones v. Sheriffs' Education and Training Standards Commission	11 DOJ 2018	06/28/11	
Richard Alan Hadley v. Sheriffs' Education and Training Standards Commission	11 DOJ 2019	07/28/11	
Kristopher Adam Vance v. Sheriffs' Education and Training Standards Commission	11 DOJ 2020	07/21/11	
Jason Timothy Winters v. Sheriffs' Education and Training Standards Commission	11 DOJ 4825	07/28/11	
James Robert Graham v. Private Protective Services Board	11 DOJ 4956	09/09/11	
Heath Dwayne Kinney v. Alarm Systems Licensing Board	11 DOJ 4957	06/28/11	
Eric Steven Britt v. Alarm Systems Licensing Board	11 DOJ 5515	07/21/11	
Darren Jay Taylor v. Alarm Systems Licensing Board	11 DOJ 5516	07/21/11	
Laduan Vinyah Jacobs v. Private Protective Services Board	11 DOJ 7650	07/21/11	
Glen Thomas Buckner v. Alarm Systems Licensing Board	11 DOJ 8429	09/09/11	
Charles William Evegan v. Sheriffs' Education and Training Standards Commission	11 DOJ 02016	06/03/11	
Darius Antuan McLean v. Sheriffs' Education and Training Standards Commission	11 DOJ 04824	07/11/11	
Dustin Elvin Campbell v. Criminal Justice Education and Training Standards Commission	11 DOJ 04832	08/30/11	
Drew Wayne Adkins v. Sheriffs' Education and Training Standards Commission	11 DOJ 06780	08/15/11	
Robert Wayne Gregg v. Criminal Justice Education and Training Standards Commission	11 DOJ 06787	08/04/11	
Gary Richard Sessons v. Criminal Justice Education and Training Standards Commission	11 DOJ 06790	08/30/11	
Rodney Dale; Class (John Doe) Health Taylor Gerard v. State of North Carolina, Department of Justice, Charlotte Mecklenburg Police Department, Mecklenburg County Superior Court, Mecklenburg County Sheriffs' Office, Mecklenburg County Attorney's Office	11 DOJ 09708	08/10/11	
DEPARTMENT OF LABOR			
Hilliard Glass Company, Inc v. Department of Labor, Wage and Hour Bureau	11 DOL 07329	07/15/11	
DEPARTMENT OF STATE TREASURER			
Malcolm Woodall v. Department of State Treasurer, Retirement Systems Division	10 DST 6343	09/01/11	
STATE BOARD OF EDUCATION			
Jeffery Covington v. State Board of Education	10 EDC 7273	06/21/11	
Joseph Dawson v. State Board of Education	10 EDC 06744	07/25/11	
Charla Ann Lewallen v. State Board of Education	11 EDC 04191	07/20/11	
Janice Lucille Muse v. Public Schools of North Carolina State Board of Education, Department of Public Instruction	11 EDC 08155	07/19/11	
Stephanie Alina Sossamon v. Dept. of Public Instruction	11 EDC 08431	07/19/11	
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES			
Superior Realty, LLC v. DENR	09 EHR 6631	06/10/11	
Floyd A. Rager, Jr., and Marianne Rager v. Cherokee Co. Health Department, DENR	10 EHR 6163	07/20/11	
Farmington Square LLC, Jawahar Muniyandi v. City of Raleigh Stormwater Management	10 EHR 01613	07/14/11	
Kevan Busik v. DENR, Division of Coastal Management and 1118 Longwood Avenue, Realty Corporation	10 EHR 08355	06/01/11	26:05 NCR 427
Jeff Snavely/Triad Siteworks Inc v. NCDENR	11 EHR 2475	06/06/11	
Mary Louies Haggins v. Environmental Service, Terra Jane Barnhill	11 EHR 03694	07/21/11	
Jeryl D Jones v. DENR	11 EHR 04312	08/31/11	
Chris & Mary Ricksen v. Swain County Health Department, DENR	11 EHR 05427	08/05/11	

DEPARTMENT OF INSURANCE

Janet McKillop v. Blue Cross Blue Shield of, State Health Plan	11 INS 2711	08/04/11	

OFFICE OF STATE PERSONNEL

Lewis Ray Murray v. NCSU	09 OSP 00570	08/30/11	
Sandra J. Barile v. Dare County Department of Social Services	10 OSP 0469	07/11/11	
Vlzdimir Zaytsev v. DENR	10 OSP 0905	07/13/11	
Gary W. Buchanan v. DOC	10 OSP 3181	07/15/11	
Mary Bach v. Gaston County DSS	10 OSP 3419	06/23/11	
Daniel Wayne Creson v. DOC	10 OSP 4113	06/16/11	
Robert Lindsey v. Department of Correction	10 OSP 5362	07/05/11	
Beverly M. Terry v. County of Durham, Department of Social Services	10 OSP 5765	07/26/11	26:06 NCR 526
Christopher Sanders v. DHHS	10 OSP 5943	06/23/11	
Katherine Kwesell Harris v. DOT, Retirement of Systems Division	11 OSP 5946	08/24/11	
Charlotte Boyd v. DOT	10 OSP 6533	06/17/11	
Denise Mclean v. DOC	10 OSP 8549	08/01/11	
Earlene F. Hicks v. State Health Plan	10 OSP 06200	09/19/11	
Cynthia White v. School of Science and Math	10 OSP 06491	07/21/11	
Barbara Jenkins v. Department of Commerce/NCIC	10 OSP 08215	08/15/11	
Reginald Lyons v. Fayetteville State University	11 OSP 0510	08/19/11	
Melissa A McLean v. Ms. Gerri Robinson, MSW Social Services Director, Durham County, Dept. of Social Services	11 OSP 1379	06/03/11	
Vickie D. Randleman v. NCSU	11 OSP 3838	06/09/11	
Mary K. Severt v. Iredell Dept. of Social Services	11 OSP 4757	06/27/11	
Carol Ann Melton v. Allen Reed Rutherford Correctional Center	11 OSP 5143	07/14/11	
Dr. Arlise McKinney v. UNC at Greensboro	11 OSP 6163	07/14/11	
Lynnette Cole v. Davidson County	11 OSP 10019	07/26/11	
Henry Dennis Tysor III v. Dept. of Corrections, Fountain Corrections	11 OSP 02643	07/12/11	
Jessie M Chambers v. Brown Creek Correctional Institution	11 OSP 03747	06/23/11	
David Wesley Vondiford v. DOT	11 OSP 04954	07/29/11	
Kimberly B. Allison v. Office of Administrative Office of the Courts	11 OSP 08847	08/15/11	

OFFICE OF SECRETARY OF STATE

Husayn Ali Bey v. Department of Secretary of State	10 SOS 09195	06/28/11	
Christopher R. Eakin v. Department of Secretary of State	11 SOS 0139	06/08/11	

UNC HOSPITALS

Elizabeth Pate v. UNC Hospital Systems	11 UNC 06879	08/31/11	

STATE OF NORTH CAROLINA	IN THE OFFICE OF ADMINISTRATIVE HEARINGS
COUNTY OF WAKE	10 DHR 08008
WAKEMED, Petitioner, vs. NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES, DIVISION OF HEALTH SERVICE REGULATION, CERTIFICATE OF NEED SECTION, Respondent, And REX HOSPITAL, INC. d/b/a REX HEALTHCARE, Respondent-Intervenor.	**RECOMMENDED DECISION**

TABLE OF CONTENTS

STATE OF NORTH CAROLINA COUNTY OF WAKE	IN THE OFFICE OF ADMINISTRATIVE HEARINGS 10 DHR 08008
WAKEMED, Petitioner, vs. NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES, DIVISION OF HEALTH SERVICE REGULATION, CERTIFICATE OF NEED SECTION, Respondent, And REX HOSPITAL, INC. d/b/a REX HEALTHCARE, Respondent-Intervenor.	**RECOMMENDED DECISION**

This matter came on for hearing before Beecher R. Gray, Administrative Law Judge ("ALJ"), on June 27-July 1, 2011 and July 5-6, 2011, in Raleigh, North Carolina. Having heard all of the admitted evidence in the case, and having considered the exhibits, arguments, and relevant law, the undersigned makes Findings of Fact by a preponderance of the evidence, enters Conclusions of Law thereon, and makes the following Recommended Decision. Under N.C. Gen. Stat. §§ 131E-188(a) and 150B-23, a contested case hearing was held in this matter. At the end of Petitioner's case-in-chief, Respondent-Intervenor, joined by Respondent, made a Motion to Dismiss under N.C. R. Civ. P. 41(b). After hearing oral argument from all parties on the Motion, said Motion was granted.

APPEARANCES

For Petitioner WakeMed ("Petitioner" or "WakeMed"):

Maureen Demarest Murray
Susan McNear Fradenburg
Smith Moore Leatherwood LLP
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Post Office Box 21927
Greensboro, NC 27420

For Respondent N.C. Department of Health and Human Services, Division of Health Service Regulation, Certificate of Need Section (the "CON Section" or "Agency"):

June S. Ferrell
N.C. Department of Justice
Post Office Box 629
Raleigh, NC 27602-0629

For Respondent-Intervenor Rex Hospital, Inc. ("Rex"):

Gary S. Qualls
William W. Stewart, Jr.
K&L Gates LLP
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ISSUES AS STATED BY WAKEMED

Whether the Certificate of Need ("CON") Section exceeded its authority or jurisdiction; acted erroneously; failed to use proper procedure; acted arbitrarily or capriciously; or failed to act as required by rule or law in approving Rex Hospital's application to expand and consolidate surgical and cardiovascular services at Rex Hospital, Project I.D. No. J-8532-10 ("the Rex Hospital Application").

ISSUES AS STATED BY THE AGENCY

Whether the Respondent substantially prejudiced Petitioner's (WakeMed) rights; exceeded its authority or jurisdiction; acted erroneously; failed to use proper procedure; acted arbitrarily or capriciously; or failed to act as required by law or rule, in approving the CON application of Rex Hospital, Inc. d/b/a Rex Healthcare, Project I.D. No. J-8532-10.

ISSUES AS STATED BY REX

1. Whether the CON Section violated the standards of N.C.G.S. §150B-23(a) when it approved the application of Rex Hospital, Inc. for Project I.D. No. J-8532-10.

2. Whether WakeMed satisfied its burden of proving that the CON Section's approval of Rex's Application for Project I.D. No. J-8532-10 substantially prejudiced WakeMed's rights.

APPLICABLE LAW

1. The procedural statutory law applicable to this contested case is the North Carolina Administrative Procedure Act, N.C. Gen. Stat. §150B-1 et seq.

2. The substantive statutory law applicable to this contested case hearing is the North Carolina Certificate of Need Law, N.C. Gen. Stat. § 131E-175 et seq.

3. The administrative regulations applicable to this contested case hearing are the North Carolina Certificate of Need Program Administrative Rules, 10A N.C.A.C. 14C .0101 et seq., the Criteria and Standards for Major Medical Equipment, 10A N.C.A.C. 14C .3100 et seq., and the Office of Administrative Hearings Rules, 26 N.C.A.C. 3.0100 et seq.

BURDEN OF PROOF

As Petitioner, WakeMed bears the burden of proof by a preponderance of the evidence that the Agency substantially prejudiced WakeMed's rights, and that the Agency also acted outside its authority, acted erroneously, acted arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule in approving Rex's Application. See N.C. Gen. Stat. § 150B-23(a); Britthaven, Inc. v. N.C. Dep't of Human Res., 118 N.C. App. 379, 382, 455 S.E.2d 455, 459 (1995); Overcash v. N.C. Dep't of Env't & Natural Res., 179 N.C. App. 697, 704, 635 S.E.2d 442, 447-48 (2006).

WITNESSES

Witnesses for Petitioner WakeMed:

1. Allen Lee Gambill, financial planning consultant, WakeMed Health and Hospitals. (Gambill Tr. p. 67) Mr. Gambill was accepted as an expert in the North Carolina Medicaid program. (Gambill Tr. pp. 122-123)

2. Karin Sandlin, partner, Keystone Planning Group, LLC. (Sandlin Tr. p. 502) Ms. Sandlin was accepted as an expert in the areas of preparation, review, and analysis of CON applications, health planning, need and utilization projections, financial projections, and cost and feasibility analysis of health services in the CON arena. (Sandlin Tr. pp. 510-512) Ms. Sandlin was accepted as an expert in these areas with the qualification that the cost and financial expertise is in the realm of CON and health planning, not from an accounting perspective and that her expert opinions are limited from stating how the Agency performs a CON analysis. (Sandlin Tr. pp. 510-512)

3. David Meyer, owner, Keystone Planning Group, LLC. (Meyer Tr. p. 767) Mr. Meyer was accepted as an expert in the areas of preparation, review and analysis of CON applications, health planning, need and utilization projections, financial projections, and cost and feasibility analysis of health services. (Meyer Tr. pp. 774-775)

4. Stan Taylor, Vice President for Corporate Planning, WakeMed. (Taylor Tr. p. 1020) Mr. Taylor was accepted as an expert in the areas of preparation, review and analysis of CON applications, health planning, need and utilization projections, and cost and feasibility analysis of health care services. (Taylor Tr. p. 1034) Mr. Taylor was accepted as an expert in these areas with the qualification that his opinions are limited from stating how the Agency performs a CON analysis. (Taylor Tr. p. 1034)

Adverse Witnesses Called by Petitioner WakeMed:

1. Mike McKillip, Project Analyst, CON Section.

2. Martha Frisone, Assistant Chief, CON Section.

EXHIBITS[1]

Joint Exhibits:

The following documents were Joint Exhibits admitted into evidence:

Joint Exhibit 1	Rex's 2010 CON Application (Project I.D. No. J-8532-10)
Joint Exhibit 2	Agency File (Project I.D. No. J-8532-10)

WakeMed Exhibits Admitted into Evidence:

The following documents were offered by WakeMed and admitted into evidence:

WakeMed Ex. 101	2010 SMFP Cardiac Catheterization Chapter
WakeMed Ex. 107	Allen Gambill Resume
WakeMed Ex. 109	Calculation of Total Medicaid and UCC Costs Compared to Total Hospital Operating Costs, Just Wake County – Hospital Fiscal Year 2008 (WakeMed-Rex Phase III 7417)
WakeMed Ex. 111	Allen Gambill's Financial Analysis (WakeMed-Rex Phase III 7509A)
WakeMed Ex. 112	2008 Medicaid UCC Costs to Total Cost, All Hospitals – 2008 Cost Ratio Chart
WakeMed Ex. 114	Calculation of Total Medicaid and UCC Costs Compared to Total Hospital Operating Costs, Just Wake County – Hospital Fiscal Year 2007 (WakeMed-Rex Phase III 7430)
WakeMed Ex. 116	Rex Hospital Form 990 for 1999 (WakeMed-Rex Phase III-007379-007408)

[1] All citations to Joint Exhibits shall be cited as "Jt. Ex. __." All citations to WakeMed's Exhibits admitted into evidence shall be cited as "WakeMed Ex. __." All citations to the Exhibits that Rex attached to its Motion to Dismiss filed on July 6, 2011, shall be cited as "Ex. __ to Rex's Mot to Dismiss." To the extent that pages of Exhibits contain Bates numbers, all page references in Exhibits shall refer to the Bates numbers.

WakeMed Ex. 117	DMA Statistics and Reports, website information for Wake County (WakeMed-Rex Phase III-007419-7421)
WakeMed Ex. 119	Supplemental Medicaid Schedule B – Data for the Calculation of Medicaid and Uncompensated Care Cost (WakeMed-Rex Phase III-007423-7424)
WakeMed Ex. 120	Public Notice document regarding Rex Hospital seeking to be considered a governmental entity (WakeMed-Rex Phase III-007936)
WakeMed Ex. 123	Karin Sandlin Resume
WakeMed Ex. 126A	Karin Sandlin Expert Opinions – Attachment B – Rex Hospital Actual Cardiac Cath Utilization vs. 2006 CON Projected Utilization (Diagnostic Equivalent Caths) (WakeMed-Rex Phase III-007451) (portions redacted)
WakeMed Ex. 128	Karin Sandlin Expert Opinions – Attachment C, pg. 2 – Rex Hospital Actual Cardiac Cath Utilization Actual vs. Projected(Diagnostic Equivalent Caths) (WakeMed-Rex Phase III-007453)
WakeMed Ex. 129	Karin Sandlin Expert Opinions –Rex EP Patients and Procedures (WakeMed-Rex Phase III-007962) (portions redacted)
WakeMed Ex. 131	Rex Hospital – Cardiac Catheterization Volumes – Fiscal Years 2001-2009
WakeMed Ex. 133	Required State Agency Findings/Catawba Valley Medical Center/Replacement of one linear accelerator, Project ID No. E-8041-07 (5/1/08)
WakeMed Ex. 135	Required State Agency Findings/CMC NorthEast/Bed Tower Application, Project ID No. F-8219-08 (2/27/09)
WakeMed Ex. 136	Required State Agency Findings/Catawba Valley Medical Center/Renovate the existing hospital by constructing new patient tower, Project ID No. E-8126-08 (11/03/08)
WakeMed Ex. 141	Chart: Cardiac Cath Projections 60% capacity
WakeMed Ex. 142	Chart: Number of Cardiac Caths Needed at Rex Hospital 2009
WakeMed Ex. 143	Chart: Utilization of Stress/EKG rooms

WakeMed Ex. 149	David Meyer Resume
WakeMed Ex. 152	David Meyer Expert Opinion Summary – Attachment B – 92-WAKE County (WakeMed-Rex Phase III-007436-7437)
WakeMed Ex. 153	David Meyer Expert Opinion Summary – Attachment C – Medicaid Payor Mix Comparison (WakeMed-Rex Phase III-007438-7441)
WakeMed Ex. 155	Chart: Form B, Statement of Revenue
WakeMed Ex. 156	Chart: Form D, Projected Average Charges
WakeMed Ex. 157	Chart: Form C, Salaries
WakeMed Ex. 158	Chart: Form B, Professional Fees and Indirect Expense
WakeMed Ex. 159	Chart: Project Year 3 Revenue and Expenses
WakeMed Ex. 160	Chart: Rex Projects Utilizing Bond Financing
WakeMed Ex. 161	Chart: Rex Projects Under Appeal
WakeMed Ex. 162	Chart: Pre- and Post-Bays Ratio
WakeMed Ex. 163	W. Stan Taylor Resume (WakeMed-Rex Phase III-000004-006)
WakeMed Ex. 164	Revenue Impact of Cases Shifted from WakeMed Facilities to Rex
WakeMed Ex. 166	Chart: Physician Support Letters
WakeMed Ex. 194	Rex Hospital, Inc. d/b/a Rex Healthcare's Responses and Objections to WakeMed's Third Request for Production of Documents (06/23/11)
WakeMed Ex. 196	Fiscal Year 2008 Comparison of Rex Ratios to Wake County Percentages
WakeMed Ex. 197	Required State Agency Findings/Hillcrest Convalescent Center/Renovation and Modernization of a 120-bed Skilled Nursing Facility/Durham County, Project ID No. J-7765-06 (5/04/07)
WakeMed Ex. 198	Calculation of Total Medicaid and UCC Costs Compared to Total Hospital Operating Costs Including UNC and Duke – Hospital Fiscal Year 2008, with handwritten notations by Taylor

WakeMed Exhibits Submitted as Offers of Proof:

The following exhibits were submitted as offers of proof by WakeMed:

WakeMed Ex. 124	Karin Sandlin Expert Opinion Summary
WakeMed Ex.126B	Karin Sandlin Expert Opinions – Attachment B – Rex Hospital Actual Cardiac Cath Utilization vs. 2006 CON Projected Utilization (Diagnostic Equivalent Caths) (WakeMed-Rex Phase III-007451)
WakeMed Ex. 150	David Meyer Expert Opinion Summary

Rex Exhibits Attached to Rex's Motion to Dismiss:

The following exhibits were attached to Rex's Motion to Dismiss (filed July 6, 2011):

Ex. 1	Parkway Urology, P.A. v. N.C. Dep't of Health & Human Servs., ___ N.C. App. ___; 696 S.E.2d 187 (2010).
Ex. 2	Recommended Decision dated July 20, 2010 in Rex Hospital, Inc., et al. v. NCDHHS, DHSR, CON Section, et al. (contested cases 09 DHR 5769, 09 DHR 5770, 09 DHR 5785) (Prostate Center Demonstration Project) (Rex 3678-3816)
Ex. 3	Final Agency Decision dated October 12, 2010 in Rex Hospital, Inc., et al. v. NCDHHS, DHSR, CON Section, et al. (contested cases 09 DHR 5769, 09 DHR 5770, 09 DHR 5785) (Prostate Center Demonstration Project) (Rex 3817- 3865)
Ex. 4	Recommended Decision dated February 22, 2010 in Wake Radiology Services LLC, Wake Radiology Diagnostic Imaging Inc., Wake Radiology Consultants PA, Smithfield Radiology Inc., and Raleigh MR Imaging LP v. NCDHHS, DHSR, CON Section, et. al. (contested case 09 DHR 3473) (Rex 3557-3574)
Ex. 5	Final Agency Decision dated June 3, 2010 in Wake Radiology Services LLC, Wake Radiology Diagnostic Imaging Inc., Wake Radiology Consultants PA, Smithfield Radiology Inc. and Raleigh MR Imaging LP v. NCDHHS, DHSR, CON Section, et. al. (contested case 09 DHR 3473) (Rex 3575-3593)
Ex. 6	Final Agency Decision dated October 14, 2008 for Fletcher Hospital Incorporated d/b/a Park Ridge Hospital v. NCDHHS, DHSR, CON Section, et al. in contested case 08 DHR 0053 (Rex 3513-3556)

BASED UPON careful consideration of the sworn testimony of the witnesses presented at the hearing, the documents and exhibits received and admitted into evidence, and the entire record in this proceeding, the undersigned makes the following Findings of Fact. In making the Findings of Fact, the undersigned has weighed all the evidence and has assessed the credibility of the witnesses by taking into account the appropriate factors for judging credibility, including but not limited to, the demeanor of the witnesses, any interests, bias, or prejudice each witness may have, the opportunity of each witness to see, hear, know, or remember the facts or occurrences about which each witness testified, whether the testimony of each witness is reasonable, and whether the testimony is consistent with all other believable evidence in the case. Wherefore, the Undersigned makes the following Findings of Fact, Conclusions of Law and Recommended Decision, which is tendered to the North Carolina Department of Health and Human Services for a final decision.

FINDINGS OF FACT

I. BACKGROUND

A. Parties

1. Petitioner WakeMed is a North Carolina corporation with its principal place of business located in Wake County, North Carolina.

2. Respondent Certificate of Need Section ("CON Section" or "Agency") is the agency within the North Carolina Department of Health and Human Services ("Department"), Division of Health Service Regulation ("Division"), that carries out the Department's responsibility to review and approve the development of new institutional health services under the Certificate of Need ("CON") Law, codified at N.C. Gen. Stat. Chapter 131E, Article 9.

3. Respondent-Intervenor Rex Healthcare ("Rex") is a North Carolina corporation with its principal place of business located in Wake County, North Carolina.

B. Rex's Application

4. On June 15, 2010, Rex submitted a CON application proposing to construct an addition to the hospital to expand and consolidate surgical and cardiovascular services, and create a new main entrance and public concourse (hereinafter "Rex's Application"). (Jt. Ex. 1 p. 6; Jt. Ex. 2 pp. 4-5, 77)

5. Rex's Application was assigned Project I.D. No. J-8532-10. Rex's Application was not part of a competitive review, meaning Rex's Application was a stand-alone application that was not competitive with any other CON application in this CON review. (Jt. Ex. 1 p. 4; Jt. Ex. 2 pp. 4-5, 77)

6. Rex's Application described the proposed project as follows:

> The current phase of the Master Facility Plan, and the subject of this application, involves the expansion and renovation of space at its main hospital campus

related to the provision of surgical and cardiovascular services in order to remedy age-related facility deficiencies and increase efficiencies of these services on the main campus. This project will also renovate and expand space to create a new main entrance and public concourse. Total square footage at the hospital will increase from 894,336 square feet to 1,021,295 square feet, or 14 percent. Most of the increase will occur with the construction of the Heart and Vascular Center. As explained, these services currently are performed in small, outdated spaces located throughout the hospital. The other major portion of new space will be allocated to the new main entrance and public concourse that will significantly improve way-finding and access for patients, families and other visitors. With this project Rex does not propose any new services that it is not currently offering, but believes the consolidation project will enable it to better deliver care in the services it currently offers.

(Jt. Ex. 1 p. 19; Jt. Ex. 2 p. 78)

7. The following table, prepared from pages 20-21 of Rex's Application and page 79 of the Agency File, summarizes the proposal in Rex's Application:

Current Location	Renovation	New Space	Level
Level 1			
Stress/EKG		Heart & Vascular (Non-Invasive & Nuclear Cardiology)	5th
Echo/TEE		Heart & Vascular (Non-Invasive & Nuclear Cardiology	5th
Pulmonary Function Testing (PFT)		Heart & Vascular (Non-Invasive & Nuclear Cardiology	5th
Nuclear Cardiology		Heart & Vascular (Non-Invasive & Nuclear Cardiology	5th
Neurodiagnostics			Relocate to Sleep Center
Level 2 (Clinical)	Renovation	New Space	
Same Day Surgery (SDS)	Renovation/ expansion of existing space to right-size Ors		2nd
Same Day Surgery (SDS) Pre/Post/PACU	Renovation/ expansion of existing space		2nd

Surgery Registration and Waiting	Relocated to vacated PAT to accommodate SDS expansion		2nd
Heart & Vascular Procedure Rooms (Cath, EP, and Tilt/Cardioversion Rooms		Heart & Vascular Center (procedure rooms)	7th
Cath Prep and Recovery		Heart & Vascular Center	6th
Vascular Interventional Rooms (two rooms in Radiology, one adjacent to SDS)		Heart & Vascular Center (procedure rooms)	7th
Peripheral Vascular Lab		Heart & Vascular Center (Non-Invasive & Nuclear Cardiology)	5th
Preadmission Testing (PAT)	Relocated to vacated Cardiac Cath pre/post space		2nd
Laboratory	Expand into vacated Cardiac Cath space		2nd
Level 1 and 2 (Non-Clinical)	Renovation	New Space	Level
Case Management Offices	Relocate to portion of vacated board room		2nd
Public spaces, including two entrance ways, gift shop, café, pastoral care, chapel, waiting areas and courtyard		Becomes part of new main entrance and public concourse	2nd
Board Room		Relocate from Level 1 Administrative Offices	3rd
Other (non existing)	Renovation	New Space	
		Trauma Elevator & ED Connector	
		Physician Office Space (leased)	8th
		Mechanical Support	8th

10

**Please note that the proposed Heart & Vascular Center does not have a Level 3 or Level 4.

^Echo/ Echo TEE and the peripheral vascular lab are part of the same service component but are provided in two separate locations. Currently, Echo/Echo TEE is located on Level 1 and the peripheral vascular lab is located on Level 2. With the proposed project, all procedures will be combined in the Non-Invasive portion of the Heart & Vascular Center on Level 5.

*Neurodiagnostics involves mobile equipment that will be relocated without any cost or construction and thus no need is demonstrated for this component in the remainder of the application.

(Jt. Ex. 1 pp. 20-21; Jt. Ex. 2 pp. 78-79)

8. Rex's Application did not propose to relocate any equipment or services off of its main campus. The project proposed in the Application solely involves Rex's main hospital campus located at 4420 Lake Boone Trail, Raleigh, North Carolina. (Jt. Ex. 1 pp. 4, 204)

9. Rex's Application did not propose to expand the service area for the services proposed in the Application. (Jt. Ex. 1 pp. 107-109)

10. Rex's Application did not propose any new services that it previously had not offered. (Jt. Ex. 1 p. 19; Jt. Ex. 2 p. 78)

11. There is not any CON performance standard applicable to any of the services or equipment proposed in Rex's Application. (Frisone Tr. p. 413; Sandlin Tr. p. 532)

12. There is not any CON-defined capacity standard applicable to any of the services or equipment proposed in Rex's Application. (Frisone Tr. pp. 422-424; Sandlin Tr. p. 682)

13. In evaluating the need for the project proposed in Rex's Application, the Agency utilized Rex's capacity definitions. None of the witnesses testifying on behalf of WakeMed:

a. purported to be clinical or operational experts who could second-guess what Rex had proposed;

b. knew WakeMed's capacity for those same services, including cardiac catheterization (also referred to herein as "cardiac cath"), electrophysiology (also referred to herein as "EP"), pre and post space (or "bays"), and stress/EKG services;

c. knew WakeMed's ratios for pre- and post-care spaces for cardiovascular and surgery services; and

d. could cite to any standards that rebutted the reasonableness of Rex's ratios.

(Sandlin Tr. pp. 501-763; Meyer Tr. pp. 766-1012; Taylor Tr. pp. 1020-1213)

14. The only additional piece of equipment that Rex proposed to acquire was another electrophysiology unit. This electrophysiology unit also is the only medical equipment, as defined in N.C. Gen. Stat. § 131E-176(14o), included in Rex's Application. (Jt. Ex. 1 pp. 11, 40) All other equipment was either existing or replacement equipment. (Jt. Ex. 1 pp. 22)

15. Rex's Application also proposed to add an additional stress/EKG room. Rex's Application further proposed to increase the number of pre and post bays for surgery patients and for heart and vascular patients. (Jt. Ex. 1 pp. 24-26)

16. None of the components in Rex's project require a CON per se, regardless of cost. See N.C. Gen. Stat. § 131E-176(16).

C. Rex's Application as Part of Three Phases of Rex's Master Facility Plan and Rex's Predevelopment CON Application

17. The project proposed in Rex's Application encompasses Phase III of Rex's Master Facility Plan. (Jt. Ex. 1 pp. 6, 12)

18. Phase I of Rex's Master Facility Plan involved Rex's Macon Pond Road CON application wherein Rex proposed the relocation a portion of its hospital-based outpatient services to a new outpatient center on Macon Pond Road in Raleigh, North Carolina. The Phase I CON application was submitted in February 2008 and was identified as Project I.D. No. J-8053-08. The Phase I CON application was approved by the CON Section and the CON for Phase I was issued on August 28, 2008. Through a CON-approved material compliance letter, the Phase I CON was downsized from the original scope by relocating four operation rooms to the Macon Pond location instead of the eight operating rooms as originally proposed. (Jt. Ex. 1 pp. 6, 13, 24, 74, 18-19, 65, 275-299)

19. Phase II of Rex's Master Facility Plan involved Rex's proposal to renovate and expand cancer services on its main campus located on Lake Boone Trail in Raleigh, North Carolina. The Phase II CON application was submitted in February 2010, and identified as Project I.D. No. J-8470-10. (Jt. Ex. 1 pp. 6, 19)

20. On April 14, 2010, Rex submitted a predevelopment CON application, which was identified as Project I.D. No. J-8495-10. (Jt. Ex. 1 p. 6) Rex's predevelopment CON application sought to allow Rex to move forward with design and development of projects associated with the phases of Rex's Master Facility Plan. (Jt. Ex. 1 pp. 19, 209-210)

21. WakeMed did not oppose Rex's Phase I CON application, Rex's Phase II CON application, or Rex's predevelopment CON application. (Taylor Tr. pp. 1099-1100) These other Rex CON applications were in different CON review cycles than the Rex Application at issue in this contested case.

D. CON Review Process

22. The CON Section deemed Rex's Application complete for review and began review of Rex's Application on July 1, 2010. (Jt. Ex. 2 p. 5)

23. Rex's Application was the sole CON application being reviewed in this CON review. (Jt. Ex. 2 pp. 4-5, 77)

24. After the review begins, any person may file written comments and exhibits concerning an application under review with the Agency, until thirty (30) days have elapsed. These written comments may include:

a. Facts relating to the service area proposed in the application;

b. Facts relating to the representations made by the applicant in its application, and its ability to perform or fulfill the representations made; and

c. Discussion and argument regarding whether, in light of the material contained in the application and other relevant factual material, the application complies with relevant review criteria, plans, and standards.

N.C. Gen. Stat. § 131E-185(a1)(1).

25. WakeMed did not submit any written comments, as permitted by N.C. Gen. Stat. § 131E-185(a1)(1), in this CON Review. (McKillip Tr. p. 379; Taylor Tr. p. 1097)

26. Within twenty (20) days of concluding the written comment period, a public hearing must be held. Oral arguments regarding the application or applications under review may be made at the public hearing. Additionally, the public hearing shall include the following:

a. An opportunity for the proponent of each application under review to respond to the written comments submitted to the Agency about its application;

b. An opportunity for any person, except one of the proponents, to comment on the applications under review; and

c. An opportunity for a representative of the Agency, or such other person or persons who are designated by the Agency to conduct the hearing, to question each proponent of applications under review with regard to the contents of the application.

N.C. Gen. Stat. § 131E-185(a1)(2).

27. In accordance with N.C. Gen. Stat. § 131E-185(a1)(2), a public hearing was held on Rex's Application on August 18, 2010 in Raleigh, North Carolina. (Jt. Ex. 2 pp. 6, 8, 22-52)

28. No representative of WakeMed spoke or filed any comments at the public hearing on August 18, 2010 regarding Rex's Application. (Taylor Tr. pp. 1097-1098) No representative of WakeMed was present at the public hearing. (Jt. Ex. 2 pp. 22-52)

29. There were numerous presentations made at the public hearing in favor of Rex's Application, including those made by Peg O'Connell, Dr. Cam Patterson, Dr. James Zidar, Dr.

Linda Butler, Roni Capbarat Boberg, Ray Paquette, and Erick Hawkins. (Jt. Ex. 2 pp. 25-52) There is no evidence of any public hearing presentations made at the public hearing in opposition to Rex's Application.

30. No later than 150 days after the review begins, the Agency shall issue a decision to approve, approve with conditions, or deny an application for a new institutional health service. Within five (5) business days after it makes a decision on an application, the Agency shall provide written notice of all the findings and conclusions upon which it based its decision, including the criteria used by the Department in making its decision, to the applicant. See N.C. Gen. Stat. § 131E-186.

31. By a decision letter dated October 29, 2010 and the Required State Agency Findings ("Agency Findings") also dated October 29, 2010, the CON Section conditionally approved Rex's Application. (Jt. Ex. 2 pp. 17-20, 77-115)

32. The conditions placed on the award of the CON to Rex are as follows:

a. Rex "shall materially comply with all representations made in its application."

b. Rex "shall not acquire, as part of this project, any equipment that is not included in the project's proposed capital expenditure in Section VIII of the application or which would otherwise require a certificate of need."

c. Rex "shall acknowledge acceptance of and agree to comply with all conditions stated herein to the Certificate of Need Section in writing prior to the issuance of the certificate of need."

(Jt. Ex. 2 p. 103)

33. N.C. Gen. Stat. § 131E-183 provides that the Agency "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."

34. The Agency applied the review criteria at N.C. Gen. Stat. § 131E-183 to the Rex Application at issue, as well as the CON regulations "Criteria and Standards for Major Medical Equipment" as promulgated in 10A N.C.A.C. 14C.3100 et seq. (Jt. Ex. 2 pp. 77-115)

35. The Agency found Rex's Application to be conforming to all applicable statutory review criteria set forth in N.C. Gen. Stat. § 131E-183(a), and all applicable regulatory criteria set forth in 10A N.C.A.C. 14C.3100 et seq. (Jt. Ex. 2 pp. 77-115)

36. Specifically, the Agency found that Rex's Application was conforming to Statutory Criteria 1, 3, 4, 5, 6, 7, 8, 12, 13, 14, 18a, and 20, and with the regulatory criteria at 10A N.C.A.C. 14C.3103(a) through (f), .3104(a) through (b)(5), .3105, and .3106. The Agency

found all other statutory and regulatory criteria not applicable to the Rex Application. (Jt. Ex. 2 pp. 77-115)

37. Mike McKillip was the project analyst assigned to review Rex's Application. (McKillip Tr. p. 245) Martha Frisone, Assistant Chief for the CON Section, reviewed, edited, and co-signed the Agency Findings. (Frisone Tr. p. 392)

38. On November 29, 2010, WakeMed filed a Petition for Contested Case Hearing to challenge the CON Section's approval of Rex's Application.

39. On December 10, 2010, Rex filed an Unopposed Motion to Intervene. An Order granting the Unopposed Motion to Intervene was entered on December 14, 2010.

II. IMPACT OF AGENCY DETERMINATION UPON WAKEMED'S RIGHTS

40. WakeMed contends that it is harmed by the Agency's October 29, 2010 decision to approve Rex's Application in two ways:

a. The decision approved Rex's projected shift of 282 cardiac catheterization patients from WakeMed's Raleigh campus and WakeMed Cary Hospital to Rex and such a shift would result in a loss of gross revenue to WakeMed; and

b. The decision failed to hold Rex accountable under Criterion 13, resulting in the perpetuation of the status quo that enables Rex to serve a disproportionate share of the medically underserved in Wake County as compared to WakeMed and other hospitals located in Wake County.

(Tr. pp. 1294-1295; Taylor Tr. pp. 1058-1068, 1078-1079; WakeMed Exs. 164, 198)

41. WakeMed's allegation of harm relating to the patient shift relates solely to the cardiac catheterization component of Rex's project. Therefore, absent WakeMed's Criterion 13 allegation of harm, WakeMed does not contend that it is harmed by the vast majority of the Agency's approval of Rex's Application.

A. Shift of Cardiac Catheterization Patients

42. Rex's Application projects 24 additional cardiac catheterization procedures each year from 2009 to 2018 in the next nine years, totaling 218 procedures over a nine-year period. (Jt. Ex. 1 pp. 79-81)

43. As provided in Rex's Application, Rex's cardiac catheterization projections projected to lose market share. Rex did so by projecting to grow at a slower rate than the market as a whole. (Jt. Ex. 1 p. 80)

44. Rex's Application showed that 282 cardiac catheterization procedures had been performed at WakeMed's Raleigh campus and WakeMed Cary Hospital in federal fiscal year 2009 by the cardiologist joining the Rex Heart and Vascular Specialists physician group. Rex's

Application provided that it is not relying on all these procedures shifting for its projection methodology, but instead provided them as a demonstration of the reasonableness of its projections. (Jt. Ex. 1 pp. 78-79)

45. Despite these representations in Rex's Application, Stan Taylor, Vice President for Corporate Planning at WakeMed and testifying as an expert witness, testified that WakeMed would expect the shift of cardiac cath procedures from WakeMed's Raleigh campus and WakeMed Cary Hospital to be larger than 282 cardiac cath procedures. (Taylor pp. 1103-1104) Mr. Taylor also testified that WakeMed would expect the shift to occur every year, and not just one year. (Taylor Tr. pp. 1103-1104)

46. Mr. Taylor acknowledged that there is nothing in the CON Law that precludes physicians from deciding where they want to practice, including whether they want to practice at WakeMed or Rex. (Taylor Tr. pp. 1103-1104) In addition, WakeMed offered no evidence that patients were not free to seek services with a physician they prefer.

47. The preponderance of the evidence shows that the shift of cardiac catheterization patients from either WakeMed's Raleigh campus or WakeMed Cary Hospital would occur regardless of Rex's Application. The cardiologists joining Rex Heart and Vascular Specialists were joining regardless of this project. (Jt. Ex. 1 pp. 63, 690-693; Frisone Tr. pp. 452, 454)

48. WakeMed has not shown harm related to the approval of Rex's Application because of the proposed shift of cardiac cath patients from WakeMed to Rex since that shift will occur regardless of the Agency's approval of Rex's Application.

49. Moreover, since the hiring of additional cardiologists does not require a CON, WakeMed has not shown any harm related to Rex's Application caused by the addition of the cardiologists and their shift of patients.

50. WakeMed's cardiac cath units have been operating at or near capacity for the three years preceding the filing of Rex's Application. (Taylor Tr. p. 1115) There is no evidence to suggest that WakeMed's cardiac cath units will not continue to operate at or near capacity.

51. The preponderance of the evidence shows that WakeMed's cardiac cath volumes should continue to grow, particularly considering that Rex is proposing to grow cardiac cath volumes more slowly than the Wake County cardiac cath market growth overall, and thus not proposing to grow cardiac cath market share.

B. Perpetuating the Status Quo under Criterion 13

52. Although WakeMed argued that Rex serves a disproportionate share of the medically underserved in Wake County and that is harmful to WakeMed, Rex's current payor mix for its hospital is not the result of the Agency's decision to approve Rex's Application. In addition, prior to Rex's Application, Rex was serving the same payor mix percentages as projected in Rex's Application. In other words, Rex's projected payor mix was identical to its historical payor mix. Thus, based upon Rex's own representations in its Application, the approval of Rex's Application would not change its hospital-wide payor mix or its payor mix for the specific services proposed in Rex's Application.

53. The Agency's approval of Rex's Application would not constitute any change to the status quo of Rex's payor mix for the entire hospital or for the services proposed in Rex's Application.

54. Consistent with this finding, WakeMed witnesses repeatedly testified that the Agency's approval of Rex's Application would perpetuate the status quo. (Meyer Tr. pp. 855-856; Taylor Tr. pp. 1058-1060, 1065, 1074)

55. In this regard, Mr. Taylor prepared financial loss calculations during the contested case hearing relating to Medicaid costs and uninsured costs should Rex continue its same facility-wide payor mix for Medicaid and uninsured. (WakeMed Ex. 198; Taylor Tr. pp. 1051-1052, 1055-1057, 1059-1060, 1063-1068) Mr. Taylor did not make similar calculations relating to Medicare recipients, racial and ethnic minorities, women, handicapped persons or any other groups that could be considered medically underserved. Further, there is no evidence to suggest a correlation between Mr. Taylor's uninsured cost calculations and medically indigent or low income persons. Moreover, as found herein, the Medicaid data used by WakeMed does not have a correlation to any health services.

56. WakeMed made no allegation and offered no evidence that Rex serves a disproportionately low share of the medically underserved in Wake County as compared to WakeMed or other hospitals located in Wake County for the specific service lines proposed in Rex's Application.

57. A meaningful comparison of the payor mix for the specific service lines proposed in Rex's Application cannot be made because the information is not publically available. (Meyer Tr. pp. 1010-1011)

58. As found under Criterion 13 herein, the preponderance of the evidence shows that a meaningful comparison cannot be performed of the facility-wide data as proposed by WakeMed, for the following reasons:

a. Medicaid reimbursement rates differ among different hospitals based upon a reimbursement system that was developed by Allen Gambill, which he categorized as fair and which reimburses WakeMed at a higher rate than Rex;

b. Payor mixes vary among service lines, with cardiovascular services being more Medicare heavy than Medicaid;

c. Rex and WakeMed have different service lines, with WakeMed having trauma and other services that are Medicaid heavy; and

d. Payor mixes can vary because of a hospital's surrounding population.

59. WakeMed asserts that it provides more Medicaid care as an entire hospital system than Rex. However, WakeMed is reimbursed under the Medicaid system at a higher rate than Rex. (Gambill Tr. pp. 166-167) This higher amount of Medicaid care and higher amount of

reimbursement experienced by WakeMed will occur regardless of the Agency's decision approving Rex's Application.

60. Allen Gambill, a financial planning consultant at WakeMed and testifying as an expert in the North Carolina Medicaid program, testified that, while he was at North Carolina's Division of Medical Assistance, he established the hospital reimbursement mechanism for the Medicaid system, and he thought that the reimbursement system was fair. (Gambill Tr. pp. 235-237)

61. While WakeMed alleges that Rex serves a disproportionately low share of the Medicaid-eligible population in Wake County, the 9% Medicaid-eligible figure repeatedly cited by WakeMed witnesses bears no relationship to: cardiovascular services; surgery services; or any hospital services. (Gambill Tr. pp. 179-181, 201, 204-205)

62. Similarly, WakeMed was unable to draw any correlation between the 13.4% of uninsured persons in Wake County to any specific service line of health care in Wake County, including cardiovascular or surgical services. (Gambill Tr. pp. 205-208)

63. Evidence also showed that cardiovascular services are more Medicare heavy than Medicaid because these services are typically for older individuals, and not the 21 and under age group. (Gambill Tr. pp. 242-243; Taylor Tr. p. 1156; WakeMed Ex. 117)

64. The aggregate facility-wide data used by WakeMed to allege harm also does not take into account the different service lines at different hospitals, including WakeMed and Rex. WakeMed witnesses, including Mr. Gambill and Mr. Taylor, agreed that service lines at issue impact upon payor mix. (Gambill Tr. pp. 172-173; Taylor Tr. pp. 1137-1140) Evidence was presented that WakeMed's Raleigh campus has services experiencing a higher number of Medicaid and uninsured patients than at Rex or WakeMed Cary Hospital. (Taylor Tr. pp. 1137-1138)

65. None of the WakeMed witnesses had any opinions about whether any of the historical or projected payor mix percentages of any of the specific service lines proposed in Rex's Application were too low. (Meyer Tr. pp. 873-874; Taylor Tr. pp. 1161-1162)

66. WakeMed witnesses agreed that Criterion 13 does not have a litmus test or definitive standard. (Meyer Tr. p. 872; Taylor Tr. pp. 1126-1127)

67. As found under Criterion 13 above, there is no language in Criterion 13 that directs the Agency to determine a proportional share of the medically underserved between or among providers in a service area. (Taylor Tr. pp. 1192-1193)

68. Consistent with the lack of a litmus test and the lack of language in Criterion 13 requiring a proportional share among providers, Mr. Taylor testified that his main concern is not with the CON Section, but with the State's health planning process. (Taylor Tr. pp. 1086-1087) Such a concern is not of the type addressable in a CON review or contested case, but is a matter left to the General Assembly or rule-making.

69. Rex's Application provides the following information relating to its financial and charity assistance:

> The News & Observer in its Friday, February 22, 2010 edition quotes Adam Linker, a health policy analyst who wrote a report for the Health Access Coalition of the North Carolina Justice Center detailing the financial assistance policies of Triangle area hospitals. According to Mr. Linker, while all of the six hospitals in the Raleigh, Durham, Chapel Hill area "have charity care policies that kick in when most people need them, the hospitals in the UNC Health Care system are more generous than others." . . . For example, a family of four that has an income of $41,000 per year would be eligible for free care if they have no insurance coverage. Duke Hospital, Durham Regional, Duke Raleigh and WakeMed all use that poverty threshold, according to Mr. Linker. UNC Health Care, which includes Rex Hospital in Raleigh and UNC Hospitals in Chapel Hill uses a higher threshold for charity care ($55,000 for a family of four) based on the higher cost of living in the Triangle. Mr. Linker stated that more hospitals should consider adjusting their thresholds to match the higher cost of living in the area.

(Jt. Ex. 1 pp. 140-141; Gambill Tr. pp. 211-212)

70. In aggregate dollars, Rex had higher 2008 hospital total Medicaid costs than WakeMed Cary Hospital and Duke Raleigh Hospital. (Gambill Tr. pp. 175-176; Taylor Tr. pp. 1135-1136; WakeMed Ex. 109) The allowable cost in 2008 hospital total Medicaid cost for Rex Hospital was approximately $18.5 million, whereas the allowable cost for WakeMed Cary Hospital was $7.8 million and the allowable cost for Duke Raleigh Hospital was $8 million. (Gambill Tr. pp. 175-176; Taylor Tr. pp. 1135-1136; WakeMed Ex. 109)

71. In aggregate dollars, Rex also was higher than both WakeMed Cary Hospital and Duke Raleigh Hospital in terms of absolute dollars for uninsured. (Gambill Tr. p. 176; WakeMed Ex. 109) Rex's uninsured dollars for HFY 2008 was $13.7 million, whereas WakeMed Cary Hospital was at $8.5 million and Duke Raleigh Hospital was at $9.8 million. (Gambill Tr. p. 176; WakeMed Ex. 109)

72. In combining the total dollars for total Medicaid costs, the UNC Health Care System, which includes Rex, is higher than the WakeMed System, which includes WakeMed's Raleigh campus and WakeMed Cary Hospital. (Gambill Tr. pp. 175-177; Taylor Tr. p. 1135)

73. Rex's Application represented that the UNC Health Care System provided $266 million in charity care in 2009, whereas WakeMed provided $82 million and the Duke system provided $48 million. (Jt. Ex. 1 p. 141; Gambill Tr. p. 212)

74. The preponderance of the evidence indicates that WakeMed's allegation of harm relating to perpetuating the status quo of the amount of medically underserved provided by Rex in comparison to WakeMed and other hospitals on a facility-wide basis does not relate to the Agency's approval of Rex's Application at issue.

75. No credible evidence or testimony was presented at the hearing to indicate that WakeMed has met its burden of demonstrating harm as a result of the Agency's approval of Rex's Application.

III. THE REX APPLICATION'S CONFORMITY TO STATUTORY AND REGULATORY REVIEW CRITERIA

A. WakeMed's Contentions Regarding Review Criteria

76. At the contested case hearing in this matter, WakeMed's witnesses contended that Rex's Application should have been found nonconforming with Criteria 3, 4, 5, 6, 12, 13 and 18a. Based upon these nonconformities, WakeMed alleged that the Agency erred in approving Rex's Application.

77. WakeMed contended that the individual components of Rex's project were interrelated and thus the failure of one component to be approved rendered the entire Application unapprovable. (Taylor Tr. p. 1081) WakeMed's witnesses also contended that Rex's alleged nonconformity with Criteria 5 and 13 would render Rex's entire Application unapprovable, including all of the components of the project. (Taylor Tr. pp. 1205-1206)

78. With regard to the individual components of Rex's proposal, Stan Taylor testified that consolidating Rex's existing functions into a Heart and Vascular Center on the same campus made sense. The parts of the project that Mr. Taylor stated WakeMed opposed were those where Rex is proposing to add capacity. (Taylor Tr. p. 1110)

79. Consistent with Mr. Taylor's testimony in the regard and aside from WakeMed's Criteria 5 and 13 contentions, WakeMed offered no evidence during the contested case hearing, either in the form of opinion testimony or prior Agency findings or otherwise, indicating any opposition to the following service components of Rex's project (which are identified in the above chart taken from pages 20 and 21 of Rex's Application and from the Agency Findings contained on page 79 of the Agency File):

a. Echo/TEE;
b. Pulmonary Function Testing;
c. Nuclear Cardiology;
d. Neurodiagnostics;
e. Same Day Surgery, excluding the increase in pre and post surgical bays and the proposed six extended recovery bays (and, thus, including the renovation, expansion and/or relocation of existing space to right-size the operating rooms, PACU, surgery registration and waiting);
f. Vascular Interventional Rooms;
g. Peripheral Vascular Lab;
h. Preadmission Testing;
i. Laboratory;
j. Case Management Offices;
k. Public space, including two entrance ways, gift shop, café, pastoral care, chapel, waiting areas and courtyard;

l. Board Room;
m. New Trauma Elevator and ED Connector;
n. Physician Office Space (Leased); and
o. Mechanical Support.

(Sandlin Tr. pp. 711, 722, 727-729; Meyer Tr. pp. 934-937; Taylor Tr. pp. 1111-1114)

80. Similarly, WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, that the Agency erred in approving any of these components of Rex's project, aside from WakeMed's Criterion 13 contentions.

81. For instance, upon questioning, Karin Sandlin, WakeMed's CON consultant and testifying as an expert witness, stated that she had no opinions about the following components of Rex's Application: nuclear cardiology, EKG, pulmonary function testing; neurodiagnostics; the surgery registration and waiting area, tilt cardioversion room, peripheral vascular lab, preadmission testing, laboratory, case management offices, public spaces, board room, the other categories including new trauma elevator and ED connector, physician office space (leased), and mechanical support. (Sandlin Tr. pp. 711, 722, 727-729) David Meyer, another WakeMed CON consultant and testifying as an expert witness, testified in a similar manner. (Meyer Tr. pp. 934-937)

82. During the contested case hearing, WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, indicating any opposition to the Rex's proposal to relocate and consolidate its three existing Stress/EKG Rooms on the same campus, aside from WakeMed's Criterion 13 contentions. WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, that the Agency erred in approving the relocation and consolidation of Rex's three existing Stress/EKG Rooms on the same campus, aside from WakeMed's Criterion 13 contentions.

83. Mr. Taylor even testified that certain components of Rex's Application were approvable. Mr. Taylor testified that he thought the surgical portion of Rex's Application was an approvable component, excluding the portion expanding the pre and post surgical bays and excluding his Criterion 13 concerns. (Taylor Tr. pp. 1112-1114) This approvable component included the renovation and expansion of the existing space to right-size Rex's operating rooms. (Taylor Tr. p. 1113) Mr. Taylor testified that he would have done the same thing if he had been at Rex in terms of the surgical portion of the project excluding the increase in pre and post surgical bays. (Taylor Tr. p. 1112-1113)

84. Aside from his Criterion 13 concerns, Mr. Taylor also testified that the following components of Rex's Application were approvable: pulmonary function testing, nuclear cardiology testing, echo/echo TEE/peripheral vascular lab, and vascular interventional rooms. (Taylor Tr. pp. 1111-1112)

85. During the contested case hearing, and in addition to WakeMed's Criteria 5 and 13 contentions, WakeMed contended that the Agency erred in approving the following components of Rex's Application: (i) the relocation of three existing cardiac catheterization labs and implementation of a fourth CON-approved cardiac catheterization lab on the same campus;

(ii) the increase in pre and post bays for heart and vascular services; (iii) the increase in pre and post bays for surgery; (iv) the addition of a second electrophysiology lab; and (v) the addition of one Stress/EKG room. (Sandlin Tr. pp. 501-763; Meyer Tr. pp. 766-1012; Taylor Tr. pp. 1020-1213)

B. Criterion 1

86. N.C. Gen. Stat. § 131E-183(a)(1) ("Criterion 1") requires that a "proposed project . . . 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 room, or home health offices that may be approved."

87. The Agency found that Criterion 1 is not applicable to this review of Rex's Application. (Jt. Ex. 2 p. 77)

88. The Agency correctly determined that Rex's Application does not propose to develop beds or services or acquire equipment for which there is a need determination in the 2010 State Medical Facilities Plan ("SMFP"). (Jt. Ex. 2 p. 77)

89. The Agency also correctly determined that there are no policies in the 2010 SMFP that are applicable to the review of Rex's Application. (Jt. Ex. 2 p. 77)

90. WakeMed did not offer any evidence, in opinion form or otherwise, to dispute the Agency's finding that no need determinations in the 2010 SMPF are applicable to the project proposed in Rex's Application.

91. WakeMed did not offer any evidence, in opinion form or otherwise, to dispute the Agency's finding that no policies in the 2010 SMFP are applicable to the project proposed in Rex's Application.

92. None of the WakeMed witnesses offered any testimony, in the form of opinion or otherwise, that the Agency erred in finding Criterion 1 not applicable to Rex's Application.

93. Because there are no policies and need determinations in the 2010 SMFP that are applicable to the project proposed in Rex's Application, the Agency correctly found that Criterion 1 is not applicable to this review of Rex's Application. (Jt. Ex. 2 p. 77)

94. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming to Criterion 1.

95. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming to Criterion 1.

C. **Criterion 3**

96. N.C. Gen. Stat. § 131E-183(a)(3) ("Criterion 3") requires the following:

> 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.

(Jt. Ex. 2 p. 77)

97. Criterion 3 has two components: (1) the applicant must identify the population that it proposes to serve; and (2) the applicant must demonstrate the need that population has for the services it proposes.

98. The Agency found that Rex's Application was conforming to Criterion 3, finding that Rex adequately identified the population to be served and demonstrated the need that population had for the proposed project. (Jt. Ex. 2 pp. 87, 102)

1. Criterion 3: Identification of Population to be Served by Rex

99. The Agency found the Rex Application conforming to the first prong of Criterion 3, concluding that Rex adequately identified the population it proposed to serve. (Jt. Ex. 2 p. 87; accord Jt. Ex. 1 pp. 111-117)

100. Rex's Application provided that Rex's proposed service area is based upon its historical patient origin for the services proposed in the Application. (Jt. Ex. 1 pp. 107-108; Jt. Ex. 2 p. 87)

101. WakeMed did not offer any evidence, in opinion form or otherwise, to dispute the Agency's finding that Rex adequately identified the population to be served.

102. Considering that the scope of Rex's proposal is adding relatively few new services (i.e., no new services that Rex does not already provide, no additional equipment other than one unit of EP equipment, and no health services that are *per se* regulated by the CON Law), but is instead primarily relocating, expanding, and consolidating existing services on the same campus, it is entirely reasonable for Rex to project patient origin based upon its historical patient origin.

103. For a project such as that proposed by Rex (i.e., one that is not moving to a different location and does not involve any new services that it does not presently provide), it is reasonable for Rex to propose to serve patients that it was already drawing from its multi-county service area. WakeMed failed to show otherwise.

104. The preponderance of the evidence demonstrates that Rex properly identified the population proposed to be served, and demonstrated conformity with this first component of Criterion 3.

2. Criterion 3: Need that Identified Population Has for the Services Proposed by Rex

105. WakeMed's primary contentions at the contested case hearing were that Rex's Application did not show the need under Criterion 3 for the following components of its project: (i) the relocation of three existing cardiac catheterization labs and implementation of a fourth CON-approved cardiac catheterization lab on the same campus; (ii) the increase in pre and post bays for heart and vascular services; (iii) the increase in pre and post bays for surgery; (iv) the addition of a second electrophysiology lab; and (v) the addition of one Stress/EKG room. Although WakeMed did not directly contend that Rex did not need to renovate and consolidate its cardiovascular services and surgical services on the same campus, the undersigned makes findings relating to this need as the focus underlying Rex's entire project is the consolidation of its cardiovascular services into the Heart and Vascular Center which creates space allowing Rex to re-configure and expand its surgical services.

(a) <u>Need to Renovate and Consolidate Cardiovascular Services</u>

106. Throughout Rex's Application, Rex explained the need to renovate and consolidate its cardiovascular services. (Jt. Ex. 1)

107. Rex's Application provided ample explanation of the deficiencies surrounding its existing cardiovascular services. Rex's Application stated that its existing cardiovascular services are spread out over seven locations throughout the hospital. (Jt. Ex. 1 p. 67) Rex's Application discussed in length and provided examples of how this fragmentation is upsetting to patients and their family members and counterproductive to staff. (Jt. Ex. 1 p. 67) Rex's Application also discussed how the fragmentation of cardiovascular services results in services that are less accessible to patients, less efficient to manage, and less consistent with regards to quality control. (Jt. Ex. 1 p. 67)

108. Rex's Application explained the benefits of consolidating and relocating its existing cardiovascular services on the same campus, including how doing so will address the fragmentation issue, improve quality of care, increase patient accessibility, and lower costs through improved efficiencies. (Jt. Ex. 1 pp. 66-72) Rex's Application listed the improvements and efficiencies as follows, which also was quoted in the Agency Findings:

> The proposed co-location will improve the delivery process and quality of care provided to the patients because of its physical concentration of related services staffed by experts focused solely on the cardiovascular patient. A number of efficiencies are gained from co-locating these services: improved patient flow, outcomes, and satisfaction; smoother transitions for patients from one procedure to another; improved staffing efficiencies; improved access for physicians, enabling physicians to perform procedures serially; improved pre / post procedure

monitoring; minimized risk associated with patient transfer; and better continuity of care.

(Jt. Ex. 1 pp. 67-68; Jt. Ex. 2 p. 90)

109. Rex's Application also explained that there have been no major renovations or updates to its cardiovascular services since they originally were built in 1988. (Jt. Ex. 1 p. 70) Rex's Application stated that there is a need to bring the facility up-to-date and renovating the space will address age-related facility deficiencies. (Jt. Ex. 1 pp. 70, 72)

110. Rex's Application further discussed the need to modernize its existing Cardiac Cath Labs and EP Lab. (Jt. Ex. 1 pp. 37, 70)

111. WakeMed did not offer any evidence, in the form of opinion testimony or otherwise, to dispute the qualitative need explained in Rex's Application and contained in the Agency Findings for the consolidation, renovation and relocation of Rex's cardiovascular services on the same campus.

112. WakeMed also did not offer any evidence, in the form of opinion testimony or otherwise, to dispute the need to modernize Rex's cardiovascular services on the same campus or the need to bring the facility up-to-date.

113. WakeMed has proposed similar projects, which have been approved by the Agency, to consolidate, expand, and re-configure its cardiovascular services.

114. On October 15, 1993, WakeMed submitted a CON application, referred to as the 1993 Wake Heart Center CON application at the contested case hearing. (Taylor Tr. pp. 1162-1163) The 1993 Wake Heart Center CON application sought in part to consolidate cardiovascular services by relocating the services within the hospital. (Taylor Tr. pp. 1162, 1166, 1171)

115. The statutory criteria in the CON Law that were applicable to the 1993 Wake Heart Center CON application were the same as those applicable to the Rex Application, including Criteria 3 and 13. (Meyer Tr. pp. 1163-1165)

116. Stan Taylor testified that he oversaw the preparation of the 1993 Wake Heart Center CON application. (Taylor Tr. p. 1162)

117. Mr. Taylor acknowledged that the consolidation of cardiovascular services proposed in the 1993 Wake Heart Center CON application would help patients, doctors and patients' families, all of which also was referenced in that application. (Taylor Tr. pp. 1165-1166)

118. Mr. Taylor testified that the project proposed in the 1993 Wake Heart Center CON application is an example of patient centered care. (Taylor Tr. p. 1166) Mr. Taylor further testified that, in addition to the 1993 Wake Heart Center CON application, WakeMed's 2003

Heart Center CON application also furthered the objective of patient centered care. (Taylor Tr. pp. 1084-1085)

119. As testified to by Mr. Taylor, the term "patient centered care" relates to taking the services to the patient rather than moving the patient around the system. (Taylor Tr. p. 1084) Mr. Taylor agreed that the objective of patient centered care could be achieved by consolidating similar services close to one another. (Taylor Tr. p. 1084) Mr. Taylor acknowledged that patient centered care is positive for numerous reasons, including streamlining the process so it is better for the patient, the patient's family, and the physician, as well as to achieve more cost effective results. (Taylor Tr. pp. 1084-1085)

120. The 1993 Wake Heart Center CON application explained that maintaining the status quo by not consolidating WakeMed's cardiovascular services would prevent WakeMed from attaining higher quality levels, maximizing cost efficiency, and reducing average length of stay. (Taylor Tr. p. 1165)

121. WakeMed did not offer any evidence to distinguish the benefits of consolidation expressed in its 1993 Wake Heart CON application from similar benefits articulated by Rex's Application.

122. The approval of WakeMed's 1993 Wake Heart CON application, wherein it articulated a rationale for consolidating cardiovascular services similar to the rationale Rex articulates in its Application at issue in this contested case, is consistent with the Agency's decision to approve Rex's Application as it relates to consolidating cardiovascular services. It is inconsistent for WakeMed to contend otherwise.

(b) <u>Need to Renovate, Expand and Consolidate Surgical Services</u>

123. Throughout Rex's Application, Rex explained that the renovation, expansion and consolidation of the proposed surgical component of its project would:

a. remedy space deficiencies in the existing SDS by bringing all eight operating rooms up in size to improve efficiencies and enable the accommodation of modern technologies and equipment;

b. renovate and update the SDS surgical area that has not had major renovations since originally built in 1985;

c. improve circulation in the SDS unit; and

d. create universal rooms with equal sizing so that any patient may utilize any operating room.

(Jt. Ex. 1 pp. 54, 65-66, 75)

124. As found herein, Mr. Taylor testified that he thought the surgical portion of Rex's Application was an approvable component, excluding the portion expanding the pre and post surgical bays and excluding his Criterion 13 concerns. (Taylor Tr. pp. 1112-1114) Mr. Taylor testified that he would have done the same thing if he had been at Rex. (Taylor Tr. p. 1113)

125. Rex's Application also proposed to move the surgery registration and waiting area from its current location in the main hospital to the space in the main hospital that will be vacated by the relocation of the peripheral vascular lab and preadmission testing. (Jt. Ex. 1 p. 25; Jt. Ex. 2 p. 81)

126. Mr. Taylor testified that he had no opinion opposing the surgery registration and waiting area portion of Rex's project. (Taylor Tr. p. 1114; Jt. Ex. 1 p. 25)

127. Consistent with the representations in Rex's Application, the Agency Findings correctly found that Rex is not proposing to increase the number of its operating rooms as part of this project. (Jt. Ex. 2 p. 92; accord Jt. Ex. 1 p. 75)

128. To project surgical utilization, Rex relied upon its surgical projections as stated in its two operating room CON applications filed on February 15, 2010 with the Agency. Rex's Application states that it is relying upon those surgical projections because there have been no subsequent changes that affect Rex's surgical utilization projections between February 15, 2010 and the filing of Rex's Application at issue on June 15, 2010. (Jt. Ex. 1 pp. 75-76; Jt. Ex. 2 p. 91) Rex's Application also indicated that its existing operating rooms are well-utilized and projected to continue to be, regardless of the outcome of those two prior operating room CON applications. (Jt. Ex. 1 pp. 74-76; Jt. Ex. 2 p. 91)

129. Rex's two prior operating room CON applications, upon which Rex relied upon in its Application at issue, were found conforming to all applicable statutory and regulatory review criteria by the Agency. (Sandlin Tr. pp. 729, 732)

130. WakeMed offered no evidence, either in the form of opinion testimony, prior Agency findings, or otherwise, indicating that there are any changes between February 15, 2010 and June 15, 2010, which would render unreliable Rex's surgical projections in its two prior operating room CON applications. In addition, no evidence was offered at the contested case hearing that would suggest that Rex's existing operating rooms were not well-utilized.

131. The Agency Findings correctly determined that Rex's Application adequately demonstrated the need to renovate and expand its existing eight operating rooms in the SDS Department.

(c) Need to Relocate Three Existing Cath Labs and Implement a Fourth CON-Approved Cath Lab

132. Rex's Application did not propose to increase the number of cardiac catheterization units as part of the project proposed in the Application. (Jt. Ex. 1 p. 77-81; Jt. Ex.

2 p. 92) Rex's Application also did not propose to replace any of Rex's cardiac catheterization equipment. (Jt. Ex. 1 p. 77-81; Jt. Ex. 2 p. 92)

133. Rex has three operational units of cardiac catheterization equipment. (Joint Ex. 1 p. 77; Jt. Ex. 2 pp. 81-82, 92; McKillip Tr. p. 277) On March 22, 2007, Rex was issued a CON authorizing it to acquire a fourth unit of cardiac catheterization equipment (Project I.D. No. J-7656-06). (Jt. Ex. 1 pp. 77; Jt. Ex. 2 pp. 82, 92; McKillip Tr. p. 277)

134. Rex's Application proposed to relocate the three operational cardiac catheterization units and make operational the fourth CON-approved cardiac catheterization unit to new space on the main hospital campus. (Jt. Ex. 2 p. 92)

135. Ms. Frisone testified that, because Rex already had CON approval for four cardiac cath labs, Rex did not need to demonstrate the need for four cardiac cath labs. Rather, Rex was required to establish the need to build space for the four cath labs. Ms. Frisone explained that the project proposed in this case is to move the cardiac cath labs to a different location and the Agency is evaluating the reasonableness of that move. (Frisone Tr. p. 414)

136. WakeMed's witnesses were inconsistent in whether they disagreed with Ms. Frisone's testimony. Ms. Sandlin agreed with Ms. Frisone and testified that Rex did not need to demonstrate the need to operate four cath labs, but needed to demonstrate the need to develop the space for those four cath labs. (Sandlin Tr. p. 745) Stan Taylor, however, testified that he thought that Rex needed to demonstrate the need for four cath labs, and not just the space for those four cath labs. (Taylor Tr. p. 1197)

137. Whether characterized as demonstrating the need for space or demonstrating the need for the equipment itself, Rex's need methodology and utilization projections adequately demonstrate the need for Rex's cardiac cath component of its project.

138. Rex's Application provided that its cardiac catheterization volumes have declined since FFY 2007, as shown in the following chart:

Rex Cardiac Catheterization Volumes

Federal Fiscal Year	Diagnostic	Interventional/ Therapeutic	Diagnostic-Equivalent Procedures*
2007	1,966	960	3,646
2008	1,901	980	3,616
2009	1,863	929	3,489

Source: 2008 to 2010 Hospital License Renewal Applications.
** Diagnostic-equivalent procedures are calculated as interventional/therapeutic procedures x 1.75 plus diagnostic procedures.*

(Jt. Ex. 1 p. 78; Jt. Ex. 2 p. 92)

139. Rex's Application projected to reverse this historical decline and explained as follows in its Application:

> Rex believes that its cardiac catheterization volumes will increase in future years due [to] the projected growth of the population as noted in Section III.1.(a) as well as its recent establishment of Rex Heart and Vascular Specialists. This employed group of five physicians will lead to increased cardiac catheterizations at Rex, both directly as some of these physicians perform catheterizations and as well through an increased heart and vascular patient referral base.

(Jt. Ex. 1 p. 78-79; Jt. Ex. 2 p. 93) Rex's Application specifically identified the five cardiologists that would comprise the Rex Heart and Vascular Specialists physician group, and included letters of support from each of those physicians. (Jt. Ex. 1 pp. 690-693)

140. There were no CON rules applicable to the cardiac cath component of Rex's project because Rex was not proposing to acquire an additional cardiac catheterization unit. (Frisone Tr. p. 413; Sandlin Tr. p. 591) Thus, the Criteria and Standards for Cardiac Catheterization Equipment and Cardiac Angioplasty Equipment found at 10A N.C.A.C. 14C.1600 et seq. were not applicable to Rex's Application, including the performance standards found at 10A N.C.A.C. 14C.1603. (Frisone Tr. p. 413; Sandlin Tr. p. 591)

141. Notwithstanding the inapplicability of 10A N.C.A.C.1600 et seq., Rex operated its three operational cardiac catheterization labs at 77.5% of total capacity in FFY 2009 (77.5% = 3,489 diagnostic-equivalent procedures ÷ [three cardiac labs x 1,500 diagnostic-equivalent procedures per year in capacity]). This exceeds the cardiac catheterization equipment performance standard threshold of 60% found in 10A N.C.A.C. 14C.1603. (Jt. Ex. 1 p. 78; Jt. Ex. 2 p. 93) WakeMed presented no evidence at the contested case hearing to dispute these facts.

142. Rex's Application provided that, even if Rex had a total of four operational cardiac catheterization labs, Rex's FFY 2009 capacity would be 58.1%, which is just short of the 60% threshold in 10A N.C.A.C. 14C.1603 (58.1% = 3,489 diagnostic equivalent procedures ÷ [four cardiac labs x 1,500 diagnostic-equivalent procedures per year in capacity]). (Jt. Ex. 1 p. 78; Jt. Ex. 2 p. 93)

143. Ms. Frisone testified that this shows that, assuming no growth and an operational fourth cardiac cath lab, Rex is close enough to the 60% threshold, used only as a guideline here, to demonstrate the need to build space for four cath labs. (Frisone Tr. pp. 413-415) Ms. Frisone further testified that the 77.5% figure for three cath labs could be enough to trigger a need for a fourth cath lab. (Frisone Tr. pp. 413-414) Ms. Frisone surmised that, consistent with prior decisions and Rex's current volume, Rex justified all four cardiac cath labs. (Frisone Tr. p. 414) Adding to the reasonableness viewed by the Agency, Ms. Frisone further testified that Rex's Application indicated that it had recruited additional physicians and expected those physicians to result in a slight increase in utilization. (Frisone Tr. p. 414)

144. Rex's Application indicated that the Rex Heart and Vascular Specialists physician group, consisting of five (5) cardiologists, performed 728 procedures at non-Rex facilities in

FFY 2009. Rex's Application further indicated that Rex believes that most of the 728 procedures will be shifted to Rex. Rex's Application provided that it is not relying on all 728 shifting for its projection methodology, but instead provides it as a demonstration of the reasonableness of its projections. (Jt. Ex. 1 pp. 78-79)

145. Rex projected that its cardiac cath volumes for diagnostic caths and interventional caths will grow at half of the historical Wake County growth rates:

a. Diagnostic cath volumes projected to grow 0.62% annually; and

b. Interventional cath volumes projected to grow 1.27% annually.

(Jt. Ex. 1 pp. 79-80)

146. Rex is not projecting to capture additional market share through the project proposed in Rex's Application. Rex's Application projects to decrease its market share because Rex is assuming that it will grow at a slower rate than the market as a whole. (Jt. Ex. 1 p. 80)

147. Rex's Application projects that Rex will provide 218 additional cardiac catheterizations from 2009 to 2018, which amounts to 24 additional cath procedures each year. This is well below the 728 cardiac catheterizations that Rex indicated are likely to shift each year due to the addition of the Rex Heart and Vascular Specialists physician group. (Jt. Ex. 1 pp. 79-81)

148. Applying the growth rates in Rex's Application, Rex projects to operate its four cardiac cath labs at 63.2% of capacity in FFY 2018 (project year three) (63.2% = 3,790 diagnostic equivalent procedures ÷ 1,500 diagnostic-equivalent procedures per lab per year in capacity x 4 labs). (Jt. Ex. 1 p. 81; Jt. Ex. 2 p. 93) This is above the performance standard of 60% contained in 10A N.C.A.C. 14C. .1603, which as found herein is not applicable but can be used as a guideline. (Jt. Ex. 1 p. 81)

149. Considering that Rex projects only 24 additional cardiac catheterization procedures each year despite the addition of the Rex Heart and Vascular Specialists physician group, Rex's Application projected modest cardiac cath growth. (Jt. Ex. 1 p. 80; Jt. Ex. 2 p. 94)

150. WakeMed did not present any evidence to refute that Rex projected modest cardiac cath growth.

151. Mr. Taylor acknowledged that the chart on page 79 of Rex's Application projected to shift cardiac cath procedures from both the Duke system and the WakeMed system. (Taylor Tr. p. 1102) Mr. Taylor testified that this chart in Rex's Application showed that 282 cardiac cath procedures had been performed at WakeMed's Raleigh campus and WakeMed Cary Hospital in FFY2009. (Taylor Tr. pp. 1102-1103)

152. Mr. Taylor testified that WakeMed would expect the shift of cardiac cath procedures from WakeMed's Raleigh campus and WakeMed Cary Hospital to be larger than 282

cardiac cath procedures. (Taylor Tr. pp. 1103-1104) Mr. Taylor also testified that WakeMed would expect the shift to occur every year, and not just one year. (Taylor Tr. p. 1103)

153. Mr. Taylor acknowledged that there is nothing in the CON Law that precludes physicians from deciding where they want to practice, including whether they want to practice at WakeMed or Rex. (Taylor Tr. pp. 1103-1104)

154. Ms. Sandlin opined that Rex failed to demonstrate the need under Criterion 3 for the cardiac cath component of its project. Ms. Sandlin further opined that Rex's projected increase in cardiac cath volumes is unsupported because: (i) Rex failed to explain why its historical cardiac cath volumes had been decreasing; (ii) population growth by itself is insufficient to justify the increase; (iii) Rex failed to provide annualized data for FY2010 to determine if their projected growth is reasonable; (iv) Rex's Stress/EKG procedure volumes had been declining and there is a link in her opinion between cardiac cath volumes and Stress/EKG volumes; and (v) Rex's Application showed minimal support from physicians. (Sandlin Tr. pp. 501-763)

155. Ms. Sandlin did not recall ever preparing any CON applications where she had to prove any compliance standards with respect to cardiac cath services. (Sandlin Tr. p. 591)

156. Ms. Sandlin admitted that there is no rule or law that required Rex to provide the information that she believes Rex should have provided in its Application. (Sandlin Tr. pp. 749-750) For instance, Ms. Sandlin is unaware of any administrative rules that would have required Rex to include historical cardiac cath volume up to a certain date. (Sandlin Tr. p. 677) Ms. Sandlin characterized her testimony as examples of information that Rex could have provided to the Agency. (Sandlin Tr. pp. 749-750)

157. WakeMed offered no evidence of mandatory requirements, either through CON rules or other authority, underlying the information that Ms. Sandlin testified should have been included in Rex's Application.

158. Ms. Sandlin's testimony regarding the rationale for Rex not being able to turn around its negative trend as compared to the other applications she prepared was not reasonable or credible and was unsupported by any facts or evidence.

159. In prior CON applications that Ms. Sandlin has prepared, Ms. Sandlin has projected to turn around negative historical volume trends that were greater than that set forth in Rex's Application.

160. For instance, in a previous CON application for Catawba Valley Medical Center ("Catawba") to replace its linear accelerator, which was prepared by Ms. Sandlin, Catawba had experienced a negative historical trend for linear accelerator procedures from 2005-2008, yet the CON application projected a growth rate of 1.17%. (Sandlin Tr. pp. 598, 600; WakeMed Ex. 133) The 1.17% growth rate in that Catawba application was equivalent to the projected growth rate of Catawba's service area. (Sandlin Tr. p. 603)

161. According to Ms. Sandlin's calculations, Rex's historical compound annual growth rate was negative 2.18% while the historical compound annual growth rate for Catawba was negative 7.6%. (Sandlin Tr. pp. 606-608, WakeMed Exs. 133 and 128)

162. Ms. Sandlin explained that the reasons for the decrease in Catawba's linear accelerator procedures were attributed to one physician leaving and a change to the way CPT Codes were reported. She testified that, since the physician would be returning and the CPT Code reporting change would stabilize, there would no longer be a decrease in linear accelerator procedures and the trend would reverse itself at the rate of 1.17%. (Sandlin Tr. pp 600-605; WakeMed Ex. 133) Yet, Ms. Sandlin was not convinced that the addition of the Rex Heart and Vascular Specialists physician group would not result in increased utilization at Rex. (Sandlin Tr. pp. 609-610)

163. Ms. Sandlin also was involved in preparing a previous CON application for CMC-NorthEast, which involved expansion and new construction for over 300 acute care beds and relocation of cardiac cath services to support the acute care beds. (Sandlin Tr. pp. 613-615; Ex. 135)

164. Historical diagnostic-equivalent cardiac cath procedures at CMC-NorthEast had declined from 2006-2008 at a compound annual growth rate of negative 7.26%, as compared to Rex's negative 2.18%. (Sandlin Tr. pp. 618-619) The CMC-NorthEast CON application did not include a specific explanation as to why cardiac cath volumes were decreasing. (Sandlin Tr. p. 663) Yet, the CMC-NorthEast CON application projected an increase in utilization of 2.6%. (Sandlin Tr. pp. 619-620)

165. Ms. Sandlin testified that the rationale behind why the trend would turn around from a negative 7.26% to a positive 2.6% dealt with the need to relocate the cardiovascular services closer to other cardiovascular services and closer to the acute care beds. Once the relocation and consolidation of services occurred it would improve productivity and thus increase utilization. (Sandlin Tr. pp. 619-621) The CMC-NorthEast CON application specifically stated:

> Both CMC-NorthEast cardiac cath labs are needed to continue to support the Cannon Heart Center cardiac services. Space limitations of the existing spaces decrease efficiencies; however, the proposed project will relocate these services proximate to other cardiac and acute care services to improve productivity and thus increase utilization. CMC-NorthEast projects the utilization for these services based on the projected population growth rate for Cabarrus County.

(Sandlin Tr. pp. 619-620)

166. This increase in projected utilization was forecasted by Ms. Sandlin in the CMC-NorthEast CON application, even though CMC-NorthEast's EP, EKG, stress EKG and TEE volumes were decreasing. (Sandlin Tr. pp. 623-631)

167. Ms. Sandlin attempted to distinguish the Rex Application from the CMC-NorthEast CON application on the basis of her belief that Rex did not have an open heart surgery

program and Rex was not placing its cardiovascular services in close proximity to acute care beds as CMC-NorthEast was doing. (Sandlin Tr. pp. 620-622)

168. Contrary to Ms. Sandlin's testimony, evidence was presented that Rex performed 315 open heart surgeries in 2008 which is far more open heart surgeries than CMC-Northeast performed in 2008. (Taylor Tr. p. 1158; WakeMed Ex. 135; Jt. Ex. 1 p. 361) This information relating to Rex's open heart surgery program was contained within the Rex Application. (Jt. Ex. 1 pp. 357-362)

169. Furthermore, Rex's Application specifically discussed the close proximity of Rex's project to acute care beds and how that close proximity will be beneficial to patients and the physicians. (Jt. Ex. 1 pp. 37-38) This is directly contrary to Ms. Sandlin's testimony that Rex's Application did not discuss the need for cardiovascular services to remain in close proximity to acute care beds. (Compare Sandlin Tr. p. 621 to Jt. Ex. 1 pp. 37-38)

170. Adding to the unreliability of Ms. Sandlin's attempts to distinguish the CMC-NorthEast CON application, that application projected volumes to increase well before the proposed bed tower was completed and services consolidated. (Sandlin Tr. pp. 690-691)

171. In addition to cardiac cath service, the CMC-NorthEast CON application projected other service volumes to increase despite an historical negative growth trend in those services. (Sandlin Tr. pp. 631-632; 642-643; 649-652)

172. Unlike Rex's Application, neither Catawba's CON application nor CMC-Northeast's CON application relied upon physician recruitment to turn around their decreasing utilization and did not identify specific physicians like Rex's Application. (Sandlin Tr. p. 604-605, 626)

173. WakeMed offered no evidence, in the form of opinion testimony or otherwise, to dispute Rex's conservative projection that its cardiac cath services would lose market share, despite the addition of the cardiologists in the Rex Heart and Vascular Specialists physician group.

174. WakeMed presented no evidence, such as in the form of other Agency findings, that the Agency ever has found a CON application nonconforming on the sole basis that the applicant failed to project a historical decline in a service would continue going forward. Similarly, Mr. McKillip was not aware of any other CON reviews where the Agency evaluated whether a historical decline would continue going forward. (McKillip Tr. p. 286)

175. Rex demonstrated compliance with Criterion 3 by reasonably projecting the need to construct new space in order to consolidate the three operational cardiac catheterization units and make the fourth unit operational. (McKillip Tr. p. 378)

176. The preponderance of the evidence demonstrates that Rex adequately described how it projected the utilization of the cardiac catheterization component of its project.

(d) Need to Increase Pre and Post Bays for Heart and Vascular Patients and Need for Six Extended Recovery Bays

177. Rex's Application proposed to increase its pre and post bays for heart and vascular patients from 19 pre and post bays to 36 bays. (Jt. Ex. 1 pp. 90-91) Rex's Application also proposed to develop six extended recovery bays. (Jt. Ex. 1 p. 91)

178. Specifically, Rex's Application explained the following regarding its number of existing pre and post bays:

> Currently, Rex has pre/post space in four different locations for heart and vascular patients, totaling 19 bays:
>
> - 12 pre/post bays for cardiac cath/EP patients across the hall from the cardiac catheterization and EP labs.
> - Three pre/post bays for the two Vascular Interventional Rooms in Radiology.
> - Four pre/post bays for the one Vascular Interventional Room adjacent to Same Day Surgery.
> - Due to space constraints, current non-invasive cardiac patients treated through the heart services provided on Level 1 often receive pre/post care in their procedure rooms.
>
> In addition, tilt and cardioversion patients currently are treated in the tilt room of the cardiac catheterization suite. . . .

(Jt. Ex. 1 pp. 90-91)

179. For its proposal, Rex's Application amply described the rationale underlying the incremental pre and post bays for heart and vascular patients, as follows:

> In the proposed Heart and Vascular Center, which will consolidate all of the above services and add one cardiac catheterization lab and one EP lab, Rex proposes to develop 36 pre/post bays to serve nine invasive heart and vascular rooms (four cath labs, two EP labs, and three vascular interventional rooms), for a ratio of 4:1. This ratio will allow Rex to provide pre/post services to non-invasive cardiac patients and to provide tilt and cardioversion services in this same space. The proposed number of pre/post bays will enable Rex to more efficiently utilize the invasive treatment rooms, with space for as many as two patients recovering from the treatment and two patients waiting for treatment at any time on a per invasive room basis. In addition, Rex proposes to develop six extended recovery bays which will provide extended recovery 24 hours per day, seven days per week. Patients requiring extended recovery or observation will not be sent to the floor but will be able to recover in these bays located in the recovery space on Level 6. The addition of the extended recovery bays will ensure that acute beds in the main hospital are kept open for appropriate patients.

(Jt. Ex. 1 p. 91)

180. Rex's Application also proposed to perform tilt and cardioversions in the proposed pre and post space, rather than in the tilt room of the cardiac catheterization suite. (Jt. Ex. 1 p. 91) Rex explained that this will be beneficial to patients by allowing them to have their procedure and recover in the same place. (Jt. Ex. 1 p. 91)

181. There are no CON criteria or standards for pre and post bays for heart and vascular patients. There also are no SMFP-defined performance standards for these bays. WakeMed did not offer any evidence to dispute these findings.

182. There is not a CON rule that requires a certain utilization threshold for post and pre bays for heart and vascular patients. There also is no CON rule that defines capacity on a uniform basis for these bays. WakeMed did not offer any evidence to dispute these findings. Moreover, Karin Sandlin admitted that she is unaware of any CON standard that would require Rex to show volumes for these pre and post bays at a particular utilization threshold. (Sandlin Tr. p. 718)

183. Similar to the lack of rules or uniform standards for post and pre bays, there are no such rules or uniform standards for the six (6) extended recovery bays proposed by Rex. WakeMed also did not offer any evidence of such rules or uniform standards.

184. WakeMed's critique of Rex's proposed additional pre and post bays for heart and vascular patients as well as its proposed six (6) extended recovery bays was primarily articulated by Ms. Sandlin at the contested case hearing.

185. Ms. Sandlin opined that Rex did not show the need for its proposed increase in bays and for the six (6) extended recovery bays because of the lack of rationale for the increase in ratio in the Application and based upon her opinion that Rex did not demonstrate the need to develop the cardiac cath component of its project or the additional EP lab. (Sandlin Tr. pp.715-716)

186. David Meyer testified that, with regard to the pre and post bays for heart and vascular services, Mr. Meyer's opinion was limited to the extent that Rex's Application did not justify the need for four (4) cath labs or two (2) EP labs. (Meyer Tr. p. 798) Mr. Meyer testified that, if Rex did not justify the need for four (4) cardiac cath labs and two (2) EP labs, then, in his opinion, the proposed number of pre and post bays is excessive based on the 4 to 1 ratio used in Rex's Application. (Meyer Tr. pp. 798-799)

187. In as much as Rex's Application was correctly found to conform with Criterion 3 for its cardiac cath component of its project, as found herein, Ms. Sandlin's and Mr. Meyer's contention that Rex did not show the need for its incremental pre and post bays and extended recover bays based upon the failure to show the need for the cardiac cath component of its project is without foundation.

188. Similarly, in as much as Rex's Application was correctly found to conform with Criterion 3 for its proposed additional EP unit, as found herein, Ms. Sandlin's and Mr. Meyer's contention that Rex did not show the need for its incremental pre and post bays and extended

recover bays based upon the failure to show the need for the additional EP unit is without foundation.

189. With regard to the lack of rationale for the proposed increase, Ms. Sandlin's testimony that Rex's Application provided no rationale to describe the need for the incremental bays is not credible as it does not comport with the representations in Rex's Application. Rex's Application adequately explained the need for the 17 additional pre and post bays for heart and vascular patients as well as the need for the six (6) extended recovery bays. (Jt. Ex. 1 p. 77)

190. Moreover, Ms. Sandlin's testimony was not credible as to the number of existing pre and post bays that she thought Rex had in operation as well as the number of bays she thought Rex would have after the project completion, which led her to develop flawed ratios. Specifically, Ms. Sandlin appears to have misread Rex's Application when she stated that she counted Rex as having 15 pre and post bays for cardiovascular services, when Rex's Application clearly states that "Currently, Rex has pre/post space in four different locations for heart and vascular patients, totaling 19 bays. . . ." (Jt. Ex. 1 p. 90)

191. Moreover, Rex expressly stated that the 19 bays include the three (3) existing pre and post bays for the Vascular Interventional rooms. (Jt. Ex. 1 p. 90) Yet, Ms. Sandlin added the three (3) existing pre and post bays for the Vascular Interventional rooms to the total proposed of 36. (559-560) This was clearly an error by Ms. Sandlin as Rex's Application repeatedly represented that its total bays would be 36 at the completion of the project and that it is expanding its bays by a total of 17, which is 36 total bays proposed minus the 19 existing bays that included the three (3) for the Vascular Interventional rooms.

192. Another flaw in Ms. Sandlin's ratios is her basis that Rex was proposing to use its 36 pre and post bays for eight (8) rooms. (Sandlin Tr. p. 560) Rex's Application clearly states that the proposed total of 36 pre and post bays would "serve nine invasive heart and vascular rooms (four cath labs, two EP labs, and three vascular interventional rooms), for a ratio of 4:1." (Jt. Ex. 1, p. 91)

193. Yet another flaw in Ms. Sandlin's ratios is her combination of Rex's proposed pre and post bays with the six (6) extended recovery bays. (Sandlin Tr. pp. 559-560) Rex Application proposed to use the six (6) extended recovery bays for a different purpose than the 36 total pre and post bays. (Jt. Ex. 1 p. 91) As such, it is reasonable for Rex not to include the six (6) extended recovery bays in its 4:1 ratio.

194. Ms. Sandlin's testimony regarding the ratio of bays to rooms for Rex's heart and vascular patients was not credible for the reasons discussed above relating to the flaws in her assumptions used to create her ratios. Furthermore, at deposition, Ms. Sandlin testified that she calculated the ratio to be 9:1 and then at trial changed that to 5.6:1 stating that she had failed to include some of Rex's cardiovascular services into her ratio calculations. (Sandlin Tr. pp. 560, 715) Considering Ms. Sandlin's calculation of eight (8) rooms, as opposed to Rex's Application delineating nine (9) rooms, her addition of three (3) bays for the Vascular Interventional rooms that Rex had already included in its existing bay calculation, and her addition of the six (6) recovery bays, it appears that Ms. Sandlin's calculation errors continued from her deposition to trial resulting in unreliable ratios calculated on her part.

195. Rex's Application correctly represents and provides adequate rationale that it is proposing a ratio of 4:1 in pre and post bays to serve nine heart and vascular rooms. (Jt. Ex. 1 p. 90-91)

196. There is no evidence of any CON rules, guideline or policies that require a certain ratio threshold for pre and post bays compared to heart and vascular rooms.

197. WakeMed witnesses, including Ms. Sandlin, did not know the ratio of pre and post bays for heart and vascular patients at WakeMed's Raleigh campus or WakeMed Cary Hospital. (Sandlin Tr. pp. 718-719)

198. There is no evidence of any national standards relating to the number of pre and post bays for cardiovascular services.

199. WakeMed did not offer any evidence of an acceptable ratio that it felt would have been appropriate for Rex to use in projecting pre and post bays for heart and vascular patients.

200. WakeMed presented no evidence, such as in the form of other Agency findings, that the Agency ever has found a CON application nonconforming for the addition of pre and post bays or extended recovery bays on any of the bases that WakeMed witnesses articulated at the contested case hearing.

201. The preponderance of the evidence demonstrates that Rex adequately demonstrated the need for the component of its project relating to pre and post bays and extended recover bays for heart and vascular patients.

(e) Need to Increase Pre and Post Bays for Surgery

202. Rex's Application proposed to expand the pre and post space in its Same Day Surgery department from 37 prep and Level II recovery bays to 54. (Jt. Ex. 1 p. 77)

203. Rex's Application provided ample rationale for why Rex needs the additional 17 pre and post surgical bays, including:

a. The additional bays will allow for better patient throughput as the space will allow for three patients recovering from surgery and three patients waiting for surgery at any time per operating room.

b. As Wake County's busiest surgery provider, Rex needs this degree of flexibility because Rex is treating both more complex outpatient cases, requiring longer recoveries, as well as shorter and higher volume cases, requiring a greater number of pre/post spaces to ensure that the operating rooms are used as efficiently as possible.

c. The incremental bays will be larger than the existing bays, which will enhance patient privacy and, in turn, has a positive impact on the quality of surgical services.

(Jt. Ex. 1 pp. 66, 77)

204. WakeMed offered no evidence, in opinion form or otherwise, to dispute this rationale.

205. WakeMed's opposition to this component of Rex's project was expressed at the contested case hearing as contending that Rex's Application contained no documentation, explanation or quantitative analysis to explain the need for its increase in pre and post surgical bays. (Meyer Tr. p. 801)

206. WakeMed contended at the contested case hearing that such an increase is unreasonable in light of Rex's representation on page 24 of its Application that Rex's Same Day Surgery department is downsizing from 12 operating rooms to eight operating rooms. (Meyer Tr. p. 800)

207. Since Rex included a discussion of its downsizing of Same Day Surgery operating rooms from 12 to eight in its Application, it is logical to conclude that Rex took that downsizing into account when it projected the need for the incremental pre and post surgical bays.

208. Rex's Application conservatively projected that its FFY2016 to FFY2018 surgery cases will remain at FFY2015 levels. (Jt. Ex. 1 pp. 75-76) Rex's Application provided that, at a minimum, these projections reflect that Rex's operating rooms will operate at 88.5% of capacity in FFY2018 (or project year 3) (88.5% = 8,088 inpatient cases x 3 hours + 12,993 outpatient cases x 1.5 hours per case] ÷ [21 ORs x 9 hours per day x 260 days per year]). (Jt. Ex. 1 p. 76)

209. As found previously herein, Rex relied upon its surgical projections from two prior operating room CON applications, both of which were found conforming with all applicable criteria by the Agency. (Jt. Ex. 1 pp. 74-76; Sandlin Tr. pp. 729, 732) Rex's Application also indicated that its existing operating rooms are well-utilized and projected to continue to be, regardless of the outcome of those two prior operating room CON applications. (Jt. Ex. 1 pp. 75-76; Jt. Ex. 2 p. 91)

210. No evidence was offered at the contested case hearing to suggest that Rex's existing operating rooms were not well-utilized and would not remain so in the future. WakeMed witnesses did not dispute that Rex has a busy surgical problem or that Rex should have been approved to expand the size of its existing operating rooms. (Sandlin Tr. pp. 734-736) Thus, there is no dispute about the high level of utilization of Rex's operating rooms.

211. There are no CON criteria or standards for pre and post surgical bays. There also are no performance standards in the CON Law or regulations for pre and post surgical bays. WakeMed did not offer any evidence to dispute these findings.

212. There are no utilization thresholds for pre and post surgical bays in the CON Law or regulations. There also is no CON statute or rule that defines capacity on a uniform basis for pre and post surgical bays. WakeMed did not offer any evidence to dispute these findings.

213. There is no ratio of operating rooms to pre and post surgical bays in the CON Law or regulation. WakeMed did not offer any evidence otherwise.

214. WakeMed presented no evidence at the contested case hearing that there are any national standards or ratios for the number of pre and post surgical bays to operating rooms.

215. In stark contrast to Rex's rationale for its proposed pre and post bays contained in the Rex Application, WakeMed's Stan Taylor was unable to identify any rationale for the proposed pre and post surgery bays in WakeMed's Raleigh Surgery Center application. (Taylor Tr. p. 1190)

216. WakeMed did not offer any evidence of an acceptable ratio that it felt would have been appropriate for Rex to use in projecting pre and post surgical bays. WakeMed witnesses failed to even testify as to the ratio of WakeMed's pre and post surgical bays to operating rooms.

217. WakeMed presented no evidence, such as in the form of other Agency findings, that the Agency ever has found a CON application nonconforming for the addition of pre and post surgical bays on any of the bases that WakeMed witnesses articulated at the contested case hearing.

218. The preponderance of the evidence demonstrates that Rex adequately demonstrated the need for the component of its project relating to pre and post surgical bays.

(f) Need for One Additional EP Lab

219. Rex operates one existing EP Lab on its main campus. In Rex's Application, Rex proposed to acquire one additional unit of EP equipment for a total of two units. (Joint Ex. 1 pp. 82-85; Joint Ex. 2 p. 95; McKillip Tr. p. 288)

220. The Agency determined in the Agency Findings that the Rex Application adequately demonstrated the need to acquire one additional unit of EP equipment, and to construct new space in order to expand and consolidate EP services in the proposed Heart and Vascular Center. (Jt. Ex. 2 pp. 95-98)

221. As found herein in prior Findings of Fact, WakeMed did not contest the relocation and consolidation of existing EP services on the same campus. Rather, WakeMed contested the Agency's approval of one additional EP unit for Rex. (Sandlin Tr. p 551)

222. From federal fiscal years 2007 to 2009, Rex's EP procedures increased from 608 procedures to 981 procedures, which is a CAGR of 27%. (Jt. Ex. 1 p. 82) To project EP volumes, Rex did not use the 27% CAGR. Instead, to project EP volumes, Rex applied the Office of State Budget and Management Wake County population for 2010 to 2018 of 2.73% to Rex's FFY09 procedure volumes. (Jt. Ex. 1 p. 82) Thus, Rex projected its EP procedures to grow at one-tenth of its historical EP procedure growth rate.

223. Ms. Frisone confirmed this approach by Rex in her testimony, wherein she testified that Rex's EP volumes increased by 27% annually from 2007-2009, but Rex's

Application only projected a future growth rate of 2.73% because it was based on county population growth rate and not their own historical volume growth rate. (Frisone Tr. pp. 423-424)

224. Using the 2.73%, Rex projected to 1,250 EP procedures in FFY18 (which is project year 3). (Jt. Ex. 1 pp. 83-84)

225. There are no CON criteria or standards specifically for EP Labs. There also are no SMFP-defined performance standards specifically for EP Labs. (Jt. Ex. 2 p. 96) WakeMed did not offer any evidence to dispute these findings.

226. The Criteria and Standards for Major Medical Equipment, located at 10A N.C.A.C. 14C.3100 et seq., are applicable to this CON review solely because Rex is proposing to acquire one additional EP Lab. (Jt. Ex. 2 p. 111) These Major Medical Equipment rules, however, have no performance standards that contain any utilization thresholds that have to be met. (Sandlin Tr. p. 697) WakeMed did not offer any evidence to dispute this finding.

227. CON Analyst McKillip explained that, because there are no specific performance standards related to EP labs, it is up to the applicant to define its own capacity. (McKillip Tr. p. 294) Consistent with Mr. McKillip's testimony, because there are no Criteria and Standards or SMFP-defined performance standards for EP Labs, Rex self-defined its EP capacity in the Rex Application. (Jt. Ex. 1 pp. 83-84)

228. Rex's Application explained the reasoning underlying its definition of capacity as follows:

> . . . Rex has measured its EP lab utilization and capacity based on the number of EP procedures that are performed regardless of whether multiple EP procedures were performed on the same patient. This approach allows for a more accurate understanding of utilization and capacity as many EP patients receive more than one procedure, and each procedure requires additional time in an EP lab. Using utilization and capacity calculations based only on patients would not capture the potential for patients to have multiple procedures.

(Jt. Ex. 1 p. 83) WakeMed did not offer any evidence to dispute this reasoning articulated in Rex's Application.

229. Rex's Application also provided the following explanation relating to the way in which the annual Hospital License Renewal Applications ("HLRA") require hospitals to count patients and not procedures, as well as Rex's calculation to arrive at total EP procedures:

> The HLRA requires hospitals to count patients not procedures; specifically EP patients are counted only once "regardless of the number of diagnostic, interventional, and / or EP catheterizations performed" (see HLRA pages seven). While the HLRA calls this a count of procedures, it is truly a count of patients and so Rex uses the term 'HLRA defined EP patients'. The table below shows, for Rex, the number of HLRA EP defined patients and the number of EP procedures

shown in this application; the difference between these two counts equals the number of patients who received multiple EP catheterizations.

Rex EP Volumes

Federal Fiscal Year	HLRA Defined EP Patients*	Patients Who Received Multiple EP Procedures	Rex Total Procedures^
2007	497	111	608
2008	440	301	741
2009	503	478	981

* Source: Rex 2008 through 2010 HLRAs.
^ Source: Rex internal data.

(Jt. Ex. 1 p. 83)

230. Rex's Application next provided the following capacity calculation and explanation:

> Rex's EP lab is scheduled for procedures 8.5 hours per day Monday through Friday, except on holidays, and on average each procedure, including set-up and clean-up, lasts 2.75 hours. As such, Rex's EP lab has an effective capacity for 770 procedures per year (770 procedures per year = 8.5 hours per day x 249 days per year ÷ 2.75 hours per procedure).

(Jt. Ex. 1 p. 84)

231. Based upon Rex's self-defined capacity of 770 procedures per year, Rex exceeded its EP lab capacity by 211 procedures in FFY 09 (981 procedures performed compared to capacity of 770 procedures. (Jt. Ex. 1 p. 84)

232. Rex's Application explained that Rex had to perform some of its EP procedures in a cath lab due to the EP capacity constraints, stating:

> Rex also performs EP procedures in its cath labs when capacity constraints necessitate. As noted above, Rex performed 981 procedures in FFY09 which exceeds its EP lab capacity by 211 procedures. These procedures were performed in a cath lab due to the capacity constraints of the EP lab. This practice will continue until a second EP lab can be added, as proposed in this application, whereupon all EP procedures will be performed in EP labs.

(Jt. Ex. 1 p. 84)

233. Based upon its EP projections and capacity, Rex projected to operate its one existing EP Lab and one proposed additional EP Lab at 81.2% of capacity in FFY18 (which is project year 3), calculated as follows: 81.2% = 1,250 EP procedures ÷ 770 procedures per EP lab x 2 EP labs. (Jt. Ex. 1 p. 84; McKillip Tr. p. 292)

234. To determine projected patients for the purposes of the response to the Criteria and Standards for Major Medical Equipment, Rex's Application applied its FFY 2009 ratio of EP procedures to patients of 1.95 (981 procedures ÷ 503 patients = 1.95) to the projected procedures. (Jt. Ex. 1 pp. 84-85) This results in a projection of serving 641 patients by FFY 2018 (which is project year 3). (Jt. Ex. 1 p. 85)

235. WakeMed's critique of whether Rex demonstrated the need for its proposed additional EP Lab was articulated by Ms. Sandlin at the contested case hearing. Ms. Sandlin did not recall ever preparing any CON applications where she had to prove any compliance standards with respect to EP services. (Sandlin Tr. p. 591)

236. Ms. Sandlin opined that Rex's Application did not explain any rationale for the difference in the growth of patients versus procedures. However, in a Catawba application prepared in part by Ms. Sandlin, Ms. Sandlin had a situation where the oncology patient numbers were going down and the patient days of care were increasing, yet no explanation was provided in Catawba's application for the decrease in patients. (Sandlin Tr. pp. 699-700)

237. In that Catawba application prepared by Keystone, Ms. Sandlin's planning group, Catawba proposed to build new space for acute care beds in a new bed tower. (Sandlin Tr. p. 656; WakeMed Ex. 136) Part of Catawba's application proposed to increase the oncology unit from 11 to 16 acute care beds since Catawba had experienced significant oncology growth for FY 2007-FY 2008. According to Ms. Sandlin, the growth was attributed to patient days of care rather than number of patients. The number of patients was actually decreasing with a compound annual growth rate of negative 4.78% even though the length of stay was increasing. (Sandlin Tr. p. 657-658)

238. The projections were based on patient days of care and according to Ms. Sandlin the difference between patient days of care and number of patients did not need to be described in Catawba's application. (Sandlin Tr. p. 700)

239. It is not consistent to criticize Rex for its alleged failure to provide rationale regarding its projected volume for certain services without adhering to the same standard in an application that she prepared.

240. Ms. Sandlin re-calculated Rex's EP projections using a CAGR in EP patients instead of EP procedures as Rex performed. (WakeMed Ex. 129) Using a 0.6% growth rate in EP patients, Ms. Sandlin projected forward the number of patients through 2018 and then applied Rex's ratio of 1.95 procedures per patient to arrive at her projected procedures. (Sandlin Tr. p. 540) Based upon Ms. Sandlin's calculation, Rex would be at 67.2% of capacity for the two proposed EP Labs. (Sandlin Tr. p. 544)

241. Ms. Sandlin felt that 67.2% was too low because she believes that the Agency typically uses 80% of capacity to evaluate whether a new piece of equipment will be well utilized with respect to Criterion 3. (Sandlin Tr. p. 544) However, Ms. Sandlin acknowledged that there were no performance standards having a utilization threshold that were applicable to Rex's Application. (Sandlin Tr. p. 697) Further diminishing this opinion, Ms. Sandlin admits

that 60% is the performance standard for adding an additional piece of cardiac cath equipment. (Sandlin Tr. p. 697)

242. Even accepting Ms. Sandlin's re-defined methodology to project EP utilization, there is nothing to suggest that the 67.2% figure is too low to demonstrate the need for another EP lab. The CON Law and regulations contain no performance standards or capacity levels for EP equipment. To add a somewhat similar piece of equipment, cardiac cath equipment, an applicant only has to satisfy a 60% level. (Sandlin Tr. p. 532; Jt. Ex. 2 p. 93)

243. Mr. McKillip explained that he determined a projection to meet 81.2% of capacity to be sufficiently utilized to justify the need for an additional EP lab. (McKillip Tr. p. 293) Mr. McKillip stated that, in his view, an applicant for a second additional EP Lab would need to project 50% utilization for two units of EP equipment at a minimum. (McKillip Tr. 293-295) Rex's projection of 81.2% exceeds Mr. McKillip's minimum threshold by 31.2 percentage points.

244. None of the WakeMed witnesses, including Ms. Sandlin, offered any opinion or basis as to why Mr. McKillip's view would be unreasonable. WakeMed also failed to offer any prior Agency findings that contradicted Mr. McKillip's view or that supported applying any minimum level capacity threshold for EP equipment, much less an 80% threshold as contended by Ms. Sandlin.

245. Furthermore, as explained by Ms. Frisone, applicants are free to use their own methodologies and then the Agency evaluates the reasonableness of those methodologies. The Agency does not approve methodologies or require that a specific methodology be used. (Frisone Tr. p. 428) Thus, the fact that Ms. Sandlin would have used a different methodology has no bearing on whether the Agency erred.

246. WakeMed also presented no evidence of any national standards that define EP Lab capacity. Mr. McKillip was not aware of any national standards. (McKillip Tr. p. 292)

247. During the review of Rex's Application, Mr. McKillip did not check any other EP programs to determine what the capacity was of those other programs. (McKillip Tr. p. 292) Similarly, Mr. McKillip did not look at any other EP applications to determine what any other applicant had defined capacity for an EP Lab. (McKillip Tr. p. 292) Rex was permitted to define its own capacity using Rex's own data since there are no CON capacity standards for EP services, and thus there was nothing wrong with Mr. McKillip relying upon Rex's self-defined capacity and not searching for how other providers defined their own EP capacity.

248. Ms. Sandlin testified that she has no opinion that Rex calculated its EP procedure ratios or average procedure time incorrectly. Specifically, Ms. Sandlin testified that she was not providing any opinion that Rex counted its EP procedures in a manner that fails to accurately portray the time and resources expended on these procedures. (Sandlin Tr. p. 708) Ms. Sandlin further admitted that she does not have a problem with the way that Rex counted its EP procedures. (Sandlin Tr. p. 709) Mr. Taylor also had no opinion as to whether Rex counted its EP procedures incorrectly. (Taylor Tr. p. 1116)

249. Rather, Ms. Sandlin critiqued Rex for failing to provide information on the average procedure time for EP labs, such as the types of procedures performed in the EP Labs and the amount of time that each procedure takes. (Sandlin Tr. p. 549) However, she testified that she is unaware of WakeMed's average procedure time or ratio of patients to procedures and is unaware of any regional or national standard for EP procedure times. (Sandlin Tr. pp. 704-707) Mr. Taylor also was uncertain as to WakeMed's average time to perform an EP procedure. (Taylor Tr. p. 1115)

250. Furthermore, neither Ms. Sandlin nor any WakeMed witness identified any prior Agency findings or CON rule that requires an applicant to document or provide detailed assumptions as to how the applicant calculated the average procedure time for an EP service. Ms. Sandlin did not identify any prior CON application where she had provided such information.

251. Ms. Sandlin also contended that Rex's Application should have been found nonconforming with Criterion 3 because Rex used the ratio of 1.95 procedures to patients. (Sandlin Tr. p. 546)

252. Inconsistent with her testimony that she had no problem with how Rex counted EP procedures, Ms. Sandlin testified that the 1.95 ratio results in an overstatement of the number of procedures. (Sandlin Tr. p. 546) However, Rex's Application did not use the 1.95 ratio to arrive at its number of projected procedures, but used that ratio to arrive at projected patients solely for the purpose of responding to the Criteria and Standards for Major Medical Equipment. (Jt. Ex. 1 pp. 84-85)

253. Considering that the Criteria and Standards for Major Medical Equipment do not have a performance or utilization standard that required Rex to project above a certain number of projected patients, Ms. Sandlin was unable to opine that Rex's Application should have been found nonconforming with Criterion 3 because it did not project a certain number of patients.

254. Ms. Sandlin's critique of Rex's use of the 1.95 ratio appears to be similar to her critique of the average procedure time in that she believes that Rex did not provide sufficient information to demonstrate the reasonableness of the 1.95 ratio. (Sandlin Tr. pp. 708-710)

255. Neither Ms. Sandlin nor any WakeMed witness identified any prior Agency findings or CON rule that requires an applicant to document or provide detailed assumptions as to how the applicant calculated the ratio of EP procedures to patients. Ms. Sandlin did not identify any prior CON application where she had provided such information.

256. Furthermore, neither Ms. Sandlin nor any WakeMed witness identified any prior Agency findings or CON rule that requires an applicant to average its ratios of EP procedures to patients for the three years prior to filing the application. Ms. Sandlin did not identify any prior CON application where she had provided such information.

257. There was no error in Rex using the 1.95 ratio, which was derived from the most recent full federal fiscal year prior to the filing of the Rex Application.

258. Moreover, as explained by Ms. Frisone, the issue with respect to capacity is usually number of procedures, not number of patients. (Frisone Tr. pp. 425-426)

259. Overall, WakeMed presented no evidence that Rex counted its EP procedures incorrectly. (Sandlin Tr. pp. 708-709; Taylor Tr. p. 1116)

260. At the time of this CON review, WakeMed was the only other Wake County hospital operating fixed units of EP equipment. (McKillip Tr. p. 299; Jt. Ex. 2, p. 97) While Duke Raleigh Hospital had been approved to acquire and install a "biplane system to provide diagnostic and interventional electrophysiology and neurovascular services" through a CON issued on August 10, 2010 in Project I.D. No. J-8505-10, Duke Raleigh Hospital did not operate any fixed EP equipment prior to October 29, 2010. (McKillip Tr. pp. 299, 302)

261. The Agency Findings contain a comparison of Rex's projected EP utilization with the utilization of EP services at WakeMed. (Jt. Ex. 2 pp. 97-98) Using WakeMed's reported number of EP patients for FY09, the Agency applied Rex's assumptions regarding the 1.95 ratio of procedures to patients and the annual capacity of EP equipment at 770 procedures per year to calculate that WakeMed's existing two EP units were operating at 185% of capacity. (Jt. Ex. 2 pp. 97-98) WakeMed did not offer any evidence, in the form of opinion testimony or otherwise, to oppose the Agency's comparison or contend that the 185% of capacity was in error.

262. The Agency Findings also state that, in FY15, Duke Raleigh Hospital projected that its EP equipment would be utilized at 85% of capacity, as capacity was defined by Duke Raleigh Hospital in its CON application identified as Project I.D. No. J-8505-10. WakeMed did not offer any evidence, in the form of opinion testimony or otherwise, to oppose this determination in the Agency Findings.

263. Based upon its analysis determining that WakeMed's two fixed units of EP equipment were operating at 185% and Duke Raleigh Hospital's projection to operate its one fixed unit of EP equipment at 85%, the Agency Findings concluded that the existing and approved EP equipment in Wake County is or will be well utilized. (Jt. Ex. 2 p. 98) WakeMed did not offer any evidence, in the form of opinion testimony or otherwise, to oppose this conclusion in the Agency Findings.

264. The Agency Findings approving Duke Raleigh Hospital's CON application to acquire and install a "biplane system to provide diagnostic and interventional electrophysiology and neurovascular services" are contained in the Agency File for Rex's Application. (Jt. Ex. 2 pp. 54-73; Taylor Tr. pp. 1100-1102) This Duke Raleigh Hospital Application was being approved around the same time that Rex's Application was being filed with the CON Section. (Taylor Tr. p. 1101) WakeMed did not oppose this Duke Raleigh Hospital application. (Taylor Tr. p. 1101)

265. The Agency Findings approving Duke Raleigh Hospital's CON application also corroborate that WakeMed's existing units of EP equipment are well utilized. In those Agency Findings, based upon the definition of capacity used by Duke Raleigh Hospital, the Agency determined that WakeMed's EP units were operating at 111% of capacity. (Jt. Ex. 2 p. 60)

266. The preponderance of the evidence demonstrates that Rex adequately demonstrated the need for the component of its project relating to the need to acquire one additional unit of EP equipment, and to construct new space in order to expand and consolidate EP services in the proposed Heart and Vascular Center.

(g) Need for Additional Stress/EKG Room

267. Rex operates three Stress/EKG rooms and is proposing to develop a fourth Stress/EKG room as part of the project proposed in Rex's Application. (Jt. Ex. 1 pp. 88-90; Jt. Ex. 2 p. 101)

268. The Agency determined in the Agency Findings that Rex's adequately projected the need for the additional Stress/EKG room. (Jt. Ex. 2 pp. 98-102)

269. Rex's Application explained that the additional room "is primarily to improve patient flow as it will be dedicated to pharmacological stress procedures that do not require a treadmill." (Jt. Ex. 1 p. 88; Jt. Ex. 2 p. 101) Rex's Application further explained that the additional room will allow patients to be "in a separate space and therefore not unnecessarily occupy a room with a treadmill that could be otherwise used." (Jt. Ex. 1 pp. 88-89; Jt. Ex. 2 p. 101) WakeMed did not offer any evidence to dispute this qualitative explanation in Rex's Application demonstrating the need for the additional Stress/EKG room to be dedicated to pharmacological stress procedures.

270. WakeMed's critique of Rex's proposed additional Stress/EKG Room was articulated by Ms. Sandlin at the contested case hearing. Ms. Sandlin did not recall ever being involved in a CON application which projected capacity for Stress/EKG tests. (Sandlin Tr. p. 682)

271. Ms. Sandlin opined that Rex should not be approved for an additional stress/EKG because Rex had capacity in its existing rooms based on the rooms being available eight hours a day. (Sandlin Tr. pp. 679-680; WakeMed Ex. 143; Jt. Ex. 1 p. 89)

272. Rex did not define its capacity for Stress/EKG Rooms based on an eight-hour day, but instead projected capacity to treat all of its projected utilization before Noon. (Jt. Ex. 1 pp. 89-90)

273. Rex's Application provides patient comfort reasons for why it is not ideal for its Stress/EKG Rooms to operate after Noon. (McKillip Tr. p. 307; Jt. Ex. 1 p. 89) Specifically, Rex's Application states:

> Rex's Stress/EKG rooms are available for scheduled procedures eight hours per day Monday through Friday, except on holidays, and on average each procedure, including set-up, clean-up, and time waiting for physicians, lasts two hours. While these rooms are available from 7 am to 3 pm, most procedures are scheduled before 12 pm for patient comfort reasons. Specifically, patients must fast and cannot drink caffeine prior to the procedure; therefore, in order to maximize patient comfort and the quality of care, most are scheduled in the

> morning to prevent patients from having [to] wait all day to eat. Additionally, many Stress/EKG patients are receiving the test in order to determine if they can be discharged from the hospital; thus morning times are a priority to ensure that patients can be assessed in time to be discharged that day. Moreover, some patients may be sent directly for a cardiac cath after a Stress/EKG procedure which also underscores the importance of a morning appointment. In addition, Stress/EKG capacity must be flexible as it is often provided in conjunction with other services. For example, a nuclear stress test requires a patient to receive a nuclear cardiology test immediately prior to and after a stress test. As such, if either the Stress/EKG rooms or nuclear cardiology room is behind schedule, the other is affected.
>
> For the issues cited above, Rex believes the most effective use of its capacity, and the best use for clinical care, is to have sufficient capacity and flexibility to treat all of its projected utilization before 12 pm. As such, the three existing and one additional proposed Stress/EKG rooms have a capacity for 2,490 procedures per year before 12 pm (2,490 procedures per year = 4 rooms x 5 hours per day x 249 days per year ÷ two hours per procedure). Based on this most effective use of capacity, Rex will operate its three existing and one additional proposed Stress/EKG rooms at 67.3 percent of capacity in FFY18 or PY3 (67.3 percent of capacity = 1,677 Stress/EKG in rooms ÷ 2,490 procedures per year of capacity). However, without the additional room Rex would be projected to operate its Stress/EKG rooms at 89.8 percent of capacity before 12 pm in FFY18 or PY3 (89.8 percent of capacity = 1,677 Stress/EKG in rooms ÷ 1,868 procedures per year of capacity). Given the high projected utilization of only three rooms and the need for a flexible stress room with no treadmill for pharmacological stress patients, Rex believes the additional room is warranted.

(Jt. Ex. 1 pp. 89-90)

274. There are no CON criteria or standards for Stress/EKG tests or Stress/EKG rooms. There also are no SMFP-defined performance standards for Stress/EKG tests or Stress/EKG rooms. WakeMed did not offer any evidence to dispute these findings.

275. There is no CON rule that requires a certain utilization threshold for Stress/EKG tests or Stress/EKG rooms. There also is no CON rule that defines capacity on a uniform basis for Stress/EKG rooms or equipment. WakeMed did not offer any evidence to dispute these findings, and Ms. Sandlin acknowledged the lack of such rules in her testimony. (Sandlin Tr. p. 682)

276. WakeMed presented no evidence that there are any national standards for a certain number of Stress/EKG Rooms per cardiac cath room or per peripheral vascular room. Mr. McKillip did not do any investigation of whether there is any national standard for Stress/EKG Rooms. (McKillip Tr. pp. 307-308)

277. Mr. McKillip did not evaluate whether other providers defined their capacity for Stress/EKG Rooms to be performing procedures before Noon. (McKillip Tr. p. 307) There is no evidence in the record that would allow such an evaluation.

278. Ms. Sandlin testified that she is unaware of the stress/EKG capacity at WakeMed's Raleigh campus or WakeMed Cary Hospital. (Sandlin Tr. pp. 693-694)

279. Ms. Sandlin's opinion did not take into account the patient comfort reasons and flexibility discussed in Rex's Application as the basis for Rex scheduling most Stress/EKG procedures in the morning, between 7 a.m. and 12 p.m. (Sandlin Tr. pp. 680-681; Jt. Ex. 1 pp. 89-90)

280. Ms. Sandlin acknowledged that she did not purport to be a clinical or operational expert in cardiovascular services. (Sandlin Tr. pp. 681-682) Ms. Sandlin offered no substantive reasons as to why it is clinically or operational inappropriate for Rex to schedule most Stress/EKG procedures before Noon.

281. Ms. Sandlin's testimony regarding Rex failing to demonstrate the need for stress/EKG procedures was not reasonable or credible and was unsupported by any facts or evidence.

282. Rex's historical utilization of its Stress/EKG in rooms showed a negative CAGR of (3.8%) from FFY07 to FFY09. (Jt. Ex. 1 p. 85) Rex's Application also showed a negative CAGR of (12.1%) from FFY07 to FFY09 for Stress/EKG in total. (Jt. Ex. 1 p. 85). Rex's Application explained that, although Rex provided both total utilization and room utilization, the space proposed in Rex's Application is for procedures performed "in rooms" only. (Jt. Ex. 1 p. 85)

283. Therefore, it was reasonable for the Agency to not evaluate what the projected volumes would be for Stress/EKG if the negative growth rate of 12.1% were projected forward to continue, as Mr. McKillip testified he did not do. (McKillip Tr. p. 307; Jt. Ex. 1 p. 85) WakeMed offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, indicating that the Agency should have projected a negative growth rate of 12.1% forward for the Stress/EKG component of Rex's project.

284. Rex's Application reasonably projected Stress/EKG in rooms to remain at its FFY09 level, and not to grow at any percentage level. (Jt. Ex. 1 p. 86) WakeMed offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, indicating that the Agency should have found Rex nonconforming for applying a zero percent growth rate for its Stress/EKG projections.

285. Rex's Application adequately describes how it projects the utilization for "Stress/EKG in Rooms" as well as for "Stress/EKG in Total." (Jt. Ex. 1 pp. 85-90)

286. The preponderance of the evidence demonstrates that Rex adequately demonstrated the need for the component of its project relating to the need for the additional Stress/EKG room.

(h) Need for Other Procedure Services

287. Rex's Application proposed the renovation and consolidation of the following procedure services on the same main campus:

- Pulmonary Function Testing;
- Nuclear Cardiology Testing;
- Echo/Echo TEE/Peripheral Vascular Lab;
- Vascular Interventional Rooms;
- Three Stress/EKG in Rooms; and
- Tilt/Cardioversions.

(Jt. Ex. 1 pp. 20, 85)

288. Rex's Application also proposed to expand the main hospital laboratory into space vacated by the relocation of the cardiac cath space on the main campus. (Jt. Ex. 1 pp. 21, 28-29) Rex further proposed to relocate its neurodiagnostics equipment to a sleep lab. (Jt. Ex. 1 pp. 20-21) Rex's Application stated that this neurodiagnostics relocation involves mobile equipment that will be relocated without any cost or construction. (Jt. Ex. 1 p. 21)

289. The Agency determined in the Agency Findings that the Rex Application adequately demonstrates the need to construct new space in order to expand and consolidate the other cardiovascular services in the proposed Heart and Vascular Center. (Jt. Ex. 2 pp. 98-102)

290. Of these procedure services, Mr. Taylor testified that the following components are approvable: pulmonary function testing, nuclear cardiology testing, echo/echo TEE/peripheral vascular lab, and vascular interventional rooms. (Taylor Tr. pp. 1111-1112)

291. Mr. Taylor further testified that he had no opinions opposing the following components of Rex's project: tilt/cardioversions, laboratory, and neurodiagnostics. (Taylor Tr. pp. 1112, 1114)

292. Karin Sandlin also testified that she had no opinion about any of these other procedure service components, including nuclear cardiology services; echocardiogram; pulmonary function testing; neurodiagnostics; tilt cardioversion room; peripheral vascular lab; and laboratory component. (Sandlin Tr. pp. 711, 722, 727-729)

293. During the contested case hearing, WakeMed offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, indicating any opposition to the following components of Rex's project: pulmonary function testing, nuclear cardiology testing, echo/echo TEE/peripheral vascular lab, vascular interventional rooms, tilt/cardioversions, laboratory, and neurodiagnostics, aside from WakeMed's Criterion 13 contentions. WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, that the Agency erred in approving any of these components of Rex's project, aside from WakeMed's Criterion 13 contentions.

294. During the contested case hearing, WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, indicating any opposition

to the Rex's proposal to relocate and consolidate its three existing Stress/EKG Rooms on the same campus, aside from WakeMed's Criterion 13 contentions. WakeMed also offered no evidence, either in the form of opinion testimony or prior Agency findings or otherwise, that the Agency erred in approving the relocation and consolidation of Rex's three existing Stress/EKG Rooms on the same campus, aside from WakeMed's Criterion 13 contentions.

295. Rex's Application stated that each of these services – Pulmonary Function Testing, Nuclear Cardiology Testing, Echo/Echo TEE/Peripheral Vascular Lab, Vascular Interventional Rooms, Stress/EKG in Rooms, Tilt/Cardioversions, and Lab – are needed for comprehensive heart and vascular services to be provided to patients. (Jt. Ex. 1 pp. 85-86) WakeMed offered no evidence to indicate otherwise.

296. Rex's Application further stated that each of these services are needed to provide comprehensive heart and vascular services to patients, even those with lower volume such as nuclear cardiology and Stress/EKG. (Jt. Ex. 1 pp. 85-86) WakeMed offered no evidence to indicate otherwise.

297. Rex's Application adequately described how it projected the utilization of the other procedure services in stating:

> - If the FFY07 to FFY09 CAGR for the service was greater than the OSBM projected Wake County population CAGR for 2010 to 2018 of 2.73 percent, then the service is projected to grow at projected Wake County growth rate (PFT, VI Rooms, and Lab).
> - If the FFY07 to FFY09 CAGR for the service was positive but less than the OSBM projected Wake County population CAGR for 2010 to 2018 of 2.73 percent, then the service is projected to grow at its historical growth rate (Echo/Echo TEE/PVL and Tilt/Cardioversions).
> - If the FFY07 to FFY09 CAGR for the service was negative, then the service is projected to remain at its FFY09 levels (nuclear cardiology and Stress/EKG).
>
> . . .
>
> Rex believes that the three growth rate assumptions above are conservative and reasonable. None exceed the projected growth rate of the Wake County population. Those that are projected to grow at the projected growth rate of the Wake County population have demonstrated higher growth rates historically. Several heart and vascular services are projected to grow at their historical growth rates or to remain at their FFY 2009 levels which Rex believes is conservative the projected population increases noted earlier and due to the recent establishment of Rex Heart and Vascular Specialists. This employed group of five physicians will lead to increased heart and vascular procedures at Rex, both directly as some of these physicians will perform procedures at Rex that were previously performed elsewhere and as well through an increased heart and vascular patient referral base.

(Jt. Ex. 1 pp. 86-87)

298. Rex's Application also adequately defined its capacity for Echo/Echo TEE/Peripheral vascular lab services and for its three vascular interventional rooms. (Jt. Ex. 1, p. 88) WakeMed offered no evidence to dispute Rex's self-defined capacity.

299. Similar to the lack of CON rules, criteria or standards for Stress/EKG services, there are no CON rules, criteria or standards that require a certain utilization threshold for pulmonary function testing, nuclear cardiology testing, Echo/Echo TEE/Peripheral Vascular Lab, vascular interventional rooms, Tilt/Cardioversions, and lab services. There also are no CON rules, criteria or standards that define capacity on uniform basis or set forth performance standards for these services.

300. As with Stress/EKG services, WakeMed presented no evidence that there are any national standards for pulmonary function testing, nuclear cardiology testing, Echo/Echo TEE/Peripheral Vascular Lab, vascular interventional rooms, Tilt/Cardioversions, and lab services.

301. As with Stress/EKG services, there is no evidence in the record regarding how other providers, including WakeMed, define their capacity for pulmonary function testing, nuclear cardiology testing, Echo/Echo TEE/Peripheral Vascular Lab, vascular interventional rooms, Tilt/Cardioversions, and lab services.

302. Rex's Application explained that Rex is not creating dedicated space in order to offer Tilt/Cardioversion services as these services will be provided in the heart and vascular pre and post space. (Jt. Ex. 1 p. 90) WakeMed offered no evidence to dispute the reasonableness of Rex's proposal relating to Tilt/Cardioversion services.

303. Rex's Application explained that Rex needs to expand its laboratory space in order to provide 1,292,019 procedures in FFY18 (which is project year 3). Rex's Application indicated that its laboratory provides essential support to the other clinical services and Rex anticipates that its overall projected increase in procedure and patient volume will drive the need for more lab tests. (Jt. Ex. 1 p. 90) WakeMed offered no evidence to dispute the reasonableness of Rex's proposal relating to its lab services.

304. Rex's Application adequately describes how it projects the utilization of other procedure services, including pulmonary function testing, nuclear cardiology testing, Echo/Echo TEE/Peripheral Vascular Lab, vascular interventional rooms, Tilt/Cardioversions, and lab services. (Jt. Ex. 1 pp. 85-90)

305. The preponderance of the evidence demonstrates that Rex adequately demonstrated the need for the component of its project relating to the need to construct new space in order to expand and consolidate the other cardiovascular services in the proposed Heart and Vascular Center.

306. The preponderance of the evidence demonstrates that Rex adequate demonstrated that it was conforming to Criterion 3.

307. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 3.

D. Criterion 3a

308. N.C. Gen. Stat. § 131E-183(a)(3a) ("Criterion 3a") requires the following:

> 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.

309. The Agency Findings determined that Criterion 3a was not applicable to Rex's Application. (Jt. Ex. 2 p. 102)

310. Criterion 3a only applies to a proposal that seeks a reduction or elimination of a service.

311. While no WakeMed witness testified, in opinion form or otherwise, that Rex's Application should have been found nonconforming with Criterion 3a, WakeMed appeared to question whether Rex was decommissioning four surgical procedure rooms as part of its proposed project. (McKillip Tr. pp. 308-309, Sandlin Tr. p. 733)

312. The preponderance of the evidence indicates that Rex is not proposing to decommission four surgical procedure rooms as part of its proposed project. Ms. Sandlin testified that there is no discussion in Rex's Application as to whether the four surgical procedure rooms would be decommissioned as part of the project at issue in this contested case. (Sandlin Tr. p. 733) Consistent with Ms. Sandlin's testimony, Rex's Application referenced the possible closure of the four surgical procedure rooms only in the context of the prior operating room CON application (Project I.D. No. J-8469-10), which is an application that is separate and apart from Rex's Application at issue in this contested case. (Jt. Ex. 1 p. 14) Rex's Application even expressly stated that the renovations in the CON application identified as Project I.D. No. J-8460-10 will have no impact on the space involved in the project proposed in Rex's Application at issue here.

313. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 3(a)

E. Criterion 4

314. N.C. Gen. Stat. § 131E-183(a)(4) ("Criterion 4") provides as follows:

> 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.

315. The Agency found that Rex's Application was conforming with Criterion 4. (Jt. Ex. 1 p. 103)

316. WakeMed contended at the contested case hearing that Rex's Application should have been found nonconforming with Criterion 4 on the basis that Rex's Application should have been found nonconforming to either Criteria 3, 12 or 13 (Sandlin Tr. p. 565; Meyer Tr. pp. 937-938)

317. In as much as Rex's Application was correctly found by the Agency to be conforming to Criteria 3, 12 and 13, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 4.

318. The preponderance of the evidence demonstrates that Rex adequate demonstrated that it was conforming to Criterion 4.

319. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 4.

F. Criterion 5

320. N.C. Gen. Stat. § 131E-183(a)(5) ("Criterion 5") requires the following:

> 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.

321. The Agency found Rex's Application conforming to Criterion 5. (Jt. Ex. 1 pp. 103-104)

322. WakeMed's critique of Rex's conformity with Criterion 5 was articulated by Mr. Meyer at the contested case hearing.

323. Mr. Meyer first opined that Rex was nonconforming to Criterion 5 based upon Ms. Sandlin's opinions that Rex's Application was nonconforming to Criterion 3. Mr. Meyer was relying solely on Ms. Sandlin's opinion and did not have any separate opinions regarding Rex's conformity with Criterion 3. (Meyer Tr. p. 812-813)

324. In as much as Rex's Application was correctly found by the Agency to be conforming to Criterion 3, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 5 on that basis.

325. Mr. Meyer also opined that Rex is nonconforming to Criterion 5 because it failed to demonstrate the reasonableness of its costs and charges and the availability of funds for the project. (Meyer Tr. pp. 813, 832) Mr. Meyer did not rely upon any prior Agency findings to support his opinions.

1. Reasonableness of Costs and Charges

326. As required by the CON application form, Rex's Application contained five different financial projection forms (Forms A through E). (Meyer Tr. pp. 814-815) Forms A and B relate to the hospital as a whole, whereas Forms C through E relate to project proposed in the Rex Application. (Jt. Ex. 1,pp. 195-197, 202-203, 213-238; Meyer Tr. p. 945) Rex's Forms A and B were for fiscal years beginning July 1 through June 30 and Rex's Forms C through E were for fiscal years October 1 through September 30. (Jt. Ex. 1 pp. 213-238)

327. Mr. Meyer opined that the difference in fiscal years that Rex used in its Application for Forms A and B as compared to Forms C through E affects the reasonableness of Rex's projected costs because it is "not reasonable to show projected financial statements that have timings that are completely different, that are nine months different." (Meyer Tr. p. 817; WakeMed Ex. 155)

328. Rex's Application explained that Rex used two different fiscal years – an historical fiscal year that is from July 1 through June 30 which Rex used with Forms A and B for the hospital as a whole and the federal fiscal year that is from October 1 through September 30 which Rex used with Forms C through E for the proposed project. (Meyer Tr. pp. 941-942; Jt. Ex. 1 p. 196)

329. Rex's Application projected the occupancy or offering of services for the proposed project to begin on October 1, 2015. (Jt. Ex. 1 p. 212; Meyer Tr. pp. 944-945) Thus, the forms relating to Rex's proposed project used the federal fiscal year from October 1 through September 30 to comport with the proposed start date of Rex's project. (Meyer Tr. pp. 944-946)

330. There is no statute, rule or any other standards that require an applicant to use the same fiscal year for Forms A through E.

331. Mr. Meyer acknowledged that there is no specific rule that would require Rex's facility-wide Forms A and B to be aligned with the same fiscal year as used in the service-line specific Forms C, D and E. (Meyer Tr. p. 942) Furthermore, Mr. Meyer could not point to any specific language in the application form that requires Forms A through E to have the same fiscal year, whether it be calendar fiscal year, federal fiscal year or state fiscal year. (Meyer Tr. 975-977)

332. The CON application form is not a rule or part of the CON law. Rather, the CON application form is developed to aid the CON Section in the gathering of information so it can determine whether or not an application is conforming with the review criteria. (Meyer Tr. p. 978)

333. WakeMed offered no evidence, through Mr. Meyer or otherwise, indicating that Rex's use of different fiscal years for Forms A and B as compared to Forms C through E would

render Rex's Application financially infeasible. Mr. Meyer admitted to performing no such calculation. (Meyer Tr. p. 946)

334. Mr. Meyer also opined that Rex's Application in Form D showed different charges for each payor type for the different service lines, which was unusual to him, and failed to provide any assumptions as to why the gross charges were different by payor type. (Meyer Tr. pp. 818, 948-949; WakeMed Ex. 156)

335. Mr. Meyer assumed that each of the payor categories were receiving the same test or procedure since there were no assumptions provided on Form D to state otherwise. (Meyer Tr. p. 949)

336. Mr. Meyer conceded that different procedures could result in different average charges, which would not render the application financially infeasible. (Meyer Tr. pp. 949-950)

337. Mr. Meyer's testimony suggested that the lack of an assumption regarding the different average charges was not a fatal flaw rendering Rex's Application nonconforming to Criterion 5. (Meyer Tr. p. 950) In Mr. Meyer's opinion, this issue, standing alone, does not render Rex's Application financially infeasible. (Meyer Tr. p. 951)

338. Mr. Meyer also opined that, in his view, there appeared to be some salaried personnel that were not captured within the Salaries/Other Personnel line item. (Meyer Tr. p. 951; WakeMed Ex. 157)

339. The preponderance of the evidence shows that Rex included those salaried personnel in the Salaries/Clinical Personnel line item of Rex's Application. (Jt. Ex. 1 pp. 177-178, 230; Meyer Tr. pp. 952-955) During his review of Rex's Application, Mr. Meyer did not check to see if those expenses were included in that line item. (Meyer Tr. 952-954)

340. After being shown that Rex's Application included all of the salaried personnel expenses, Mr. Meyer acknowledged that his critique was that the assumption was lacking and not that the expense was omitted. (Meyer Tr. p. 955)

341. Another critique opined by Mr. Meyer is that Rex's "Other Indirect Expenses" line included in Form B of Rex's Application reflects an amount that is too low, and because of that, Rex should have had an assumption explaining why the amount was low. (Meyer Tr. pp. 955-958; WakeMed Ex. 158)

342. Mr. Meyer did not make any comparison to the amount that other applicants have included in such a line item or present any other Agency findings to support his opinion. Mr. Meyer stated that he is use to seeing a higher percentage for that line item. (Meyer Tr. p. 957)

343. Form B of Rex's Application is the Statement of Revenues and Expenses for Rex Hospital overall, and not specific to the project proposed in Rex's Application. (Jt. Ex. 1 p. 214; Meyer Tr. p. 956)

344. Mr. Meyer acknowledged that the "Other Indirect Expenses" line item is a catch-all category. Mr. Meyer further acknowledged that the amount in that line item would depend

upon how each provider captures what is included in the specific indirect expense line-items and then what falls in the residual category of "Other Indirect Expenses" line item. (Meyer Tr. p. 957)

345. Mr. Meyer also admitted that he is not in a position to question what goes into each specific line item in Rex's financial statements, and that Rex has more specific knowledge than he does of what goes into its specific line items. (Meyer Tr. pp. 956, 958)

346. Another critique of Rex's Form B conveyed by Mr. Meyer at the contested case hearing was that Rex's Form B does not contain any assumption regarding the decrease projected for professional fees between interim full fiscal year 2010-2011 and interim full fiscal year 2011-2012. (Meyer Tr. pp. 958-959; WakeMed Ex. 158)

347. In a CMC-NorthEast CON application filed in September of 2008 that proposed to build a new bed tower and relocate several services, including cardiac catheterization services, Mr. Meyer assisted in preparing Sections VI-XII of the application, which embraced all cost, charge and financial information. The CMC-NorthEast CON application did not contain any assumptions for Forms A, B, D, and E. Notwithstanding the lack of any assumptions, Mr. Meyer thought that the CMC-NorthEast CON application was approvable and conforming with Criterion 5. (Meyer Tr. pp. 959-963) The Agency approved the CMC-NorthEast CON application, including finding it conforming to Criterion 5. (WakeMed Ex. 135)

348. Mr. Meyer also testified that he found it unreasonable for the net income of the project to exceed the net income of the entire hospital. Mr. Meyer further explained that he found it unreasonable that the net patient revenue for the service lines proposed in Rex's project to be 27% of the entire facility net patient revenue while representing 108% of the facility-wide net income. (Meyer Tr. pp. 829-831, 963; WakeMed Ex. 159)

349. Mr. Meyer's opinion amounted to stating that Rex's net income for its proposed project seemed high in proportion to the net income of the hospital as a whole. (Meyer Tr. p. 963)

350. To prepare his analysis, Mr. Meyer compared Form B, which contains Rex's statement of revenues and expenses for the entire hospital, with Form C, which contains Rex's statement of revenues and expenses for the specific service-lines in Rex's project. Thus, Mr. Meyer's comparison did not compare information from the same fiscal year. (Meyer Tr. p. 963)

351. Mr. Meyer agreed that, in a hospital, some service lines have a positive net income while other service lines have a negative net income. Mr. Meyer stated that service lines such as cardiovascular and surgery services are high net income service lines. (Meyer Tr. pp. 963-964)

352. Mr. Meyer testified that, to remain financially viable, a hospital needs to have positive net income service lines to offset the negative net income service lines. (Meyer Tr. pp. 963-964)

353. Rex has a positive net income overall. (Meyer Tr. p. 965)

354. There is no statute, regulation, policy or standard requiring an applicant to provide the types of assumptions that Mr. Meyer opined should have been included in Rex's Application.

355. Mr. Meyer failed to offer any evidence, through testimony or exhibits, showing that he has included in any CON application the types of assumptions that he opined Rex should have included.

356. WakeMed failed to offer any evidence, through opinion testimony, prior CON application or otherwise, that it has included in any CON application the types of assumptions that Mr. Meyer opined should have been included in Rex's Application.

357. Neither Mr. Meyer nor WakeMed offered any evidence, in form of opinion testimony, prior Agency findings or otherwise, that the Agency has found a CON application nonconforming with Criterion 5 based upon any of the reasons opined by Mr. Meyer, including but not limited to the lack of assumptions that Mr. Meyer reference or his opinions relating to projecting too high of a net income for a project in relating to the net income for the entire facility.

358. The preponderance of the evidence demonstrates that the financial assumptions included in Rex's Application were adequate and that Rex did not omit any assumptions that would render its Application nonconforming with Criterion 5.

359. The preponderance of the evidence demonstrates that Rex's projected net income for its proposed project as well as the entire hospital were reasonable.

360. The preponderance of the evidence demonstrates that Rex adequately demonstrated that its costs and charges were reasonable.

2. Availability of Funding

361. The Agency found that Rex adequately demonstrated the availability of sufficient funds for the capital needs of the project, and thus conforming with that prong of Criterion 5. (Jt. Ex. 2 pp. 103-104)

362. Rex's Application projected that the total estimated capital costs would be $132,098,626 and would be financed from accumulated reserves. (Jt. Ex. 1 p. 189; Jt. Ex. 2 p. 103; Meyer Tr. p. 832)

363. The Rex Application included audited financial statements from FY2008-FY2009 which showed that Rex had $36 million in cash and another $112 million in assets available to fund this project, totaling $148,433,000. (Tr. p. 312; 833-834; Jt. Ex. 1, pp860-895; WakeMed Ex. 161)

364. If an applicant indicates it will pay for project using accumulated funds, the Agency will look to the financial statements to evaluate whether sufficient funds are available. (McKillip Tr. p. 314)

365. Rex's Application also included a letter signed by the Senior Vice President and Chief Financial Officer of Rex, which represented that Rex had sufficient funds available and committed to finance Rex's proposed project. (Jt. Ex. 1 p. 859; Jt. Ex. 2 pp. 103-104)

366. The CON application form requires the applicant to list what other CON proposals are approved but not yet operational and which projects are under review or under appeal. Rex included this list in its Application. (Jt. Ex. 1 p. 192)

367. Rex did not include the capital costs associated with those projects listed on page 192 of its application. However, those costs were available to the CON Section through the CONs themselves and through the progress reports for those projects. (McKillip Tr. pp. 315-316)

368. Mr. Meyer opined that Rex's Application should have been found nonconforming with the availability of funds prong of Criterion 5 because, in his view, Rex had $2.4 million in accumulated reserves and he did not believe that amount was sufficient to satisfy any bond liquidity amount that may apply to two other Rex projects that proposed bond financing. (Meyer Tr. pp. 839; WakeMed Ex. 161)

369. Mr. Meyer agreed that Rex had $148,433,000 available for Rex's projects at the time that Rex submitted its Application. (Meyer Tr. p. 965)

370. Mr. Meyer agreed that the $148,433,000 available for Rex's projects was larger than the total capital costs of the projects that Rex had under development or on appeal during the CON review of Rex's Application, which was $145.9 million. (Meyer Tr. pp. 836-837)

371. Mr. Meyer testified that if one subtracts the $145.9 million from the accumulated reserves of $148.4 million, that leaves Rex will accumulated reserves of $2.4 million. (Meyer Tr. p. 839; WakeMed Ex. 161)

372. According to Mr. Meyer, two of Rex's projects will be financed by bonds. (Meyer Tr. p. 838)

373. Mr. Meyer opined that when one uses bonds to finance its projects, the lenders expect to see a certain liquidity ratio to satisfy the bond liquidity requirement and that the $2.4 million left in accumulated reserves would not satisfy the bond liquidity requirement. (Meyer Tr. pp. 841, 967)

374. However, Mr. Meyer testified that he is not knowledgeable about the terms of Rex's bond documents, and thus did not know any bond liquidity requirement that applied to Rex's other projects. (Meyer Tr. p. 967)

375. WakeMed offered no evidence about the terms of any of Rex's bond documents, including any bond liquidity requirement that applied to Rex.

376. Furthermore, Rex did not propose to finance the project proposed in Rex's Application through bonds. Thus, even if WakeMed had offered evidence of any bond

documents applicable to Rex, they would not have related to the financing of Rex's project at issue.

377. Mr. Meyer's critique is flawed because it assumes that Rex would have to demonstrate financial coverage for all projects in the future, regardless of when the costs were to be incurred. (Meyer Tr. p. 968)

378. Mr. Meyer's critique is further flawed because it fails to subtract the $8.7 million for two of Rex's projects that had been denied by the CON Section, which were Rex's denied operating rooms CON applications (Project I.D. Nos. J-8468-10, J-8469-10). While there is a possibility that these projects could be approved on appeal, such an event would occur in the future outside of the CON review of Rex's Application at issue. The information available to the Agency during this CON review showed that those two CON applications were disapproved and that Rex would not expend any funds for those disapproved projects.

379. When the two previously denied operating rooms projects are not included in the outstanding Rex CON projects that rely upon accumulated reserves as the source of funding, Rex had outstanding projects and proposals, including the project proposed in the Rex Application, relying upon $137,259,637. There funds were designated to be funded from accumulated reserves based upon the evidence available to the Agency during the review of Rex's Application.

380. The preponderance of the evidence shows that Rex had $148.4 million in accumulated reserves to fund all CON approved projects and the project proposed in Rex's Application during the review of Rex's Application. (WakeMed Ex. 161) WakeMed failed to prove by a preponderance of the evidence that this amount is insufficient in any way or that having that amount of funds renders Rex's Application nonconforming to Criterion 5.

381. WakeMed failed to prove by a preponderance of the evidence that Rex was nonconforming to Criterion 5 based on lack of availability of funds.

382. The preponderance of the evidence shows that Rex has sufficient available and committed funds for the capital and operating needs of the project proposed in Rex's Application.

383. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 5.

G. Criterion 6

384. N.C. Gen. Stat. § 131E-183(a)(6) ("Criterion 6") requires the following:

> The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities

385. The Agency found Rex's Application conforming with Criterion 6. (Jt. Ex. 1 p. 104)

386. WakeMed contended at the contested case hearing that Rex's Application should have been found nonconforming with Criterion 6 on the basis that Rex's Application should have been found nonconforming to either Criteria 3, 12 or 13. (Sandlin Tr. p. 565; Meyer Tr. pp. 937-938)

387. In as much as Rex's Application was correctly found by the Agency to be conforming to Criteria 3, 12 and 13, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 6.

388. With regard to Criterion 6, Ms. Frisone explained that, with respect to "unnecessary duplication," the Agency analyzes whether a proposed project is "simply not needed by the patients" and the Agency does not evaluate whether it would harm another provider. (Frisone Tr. p. 440)

389. Ms. Frisone went on to testify that, if an applicant can demonstrate the need, the applicant can be found to be conforming under Criterion 6 even if they propose to take patients from another provider. (Frisone Tr. p. 441) In her review, Ms. Frisone was not concerned whether a proposed service would have a negative impact on an existing provider, she just performed her review as to whether the applicant has demonstrated a need for the proposed service in light of the existing capacity in the service area. (Frisone Tr. pp. 444-445)

390. WakeMed did not present any evidence to refute Ms. Frisone's interpretation of Criterion 6.

391. Ms. Frisone testified that this project is just about building new space and renovating existing space to bring the facility and the plant up to modern standards (Frisone Tr. p. 449)

392. The only additional unit of equipment proposed in Rex's Application is an EP unit. (Jt. Ex. 1 p. 104) Rex's Application adequately demonstrates that this additional EP unit is needed to serve current patients. (Jt. Ex. 1 pp. 82-85; Jt. Ex. 2 pp. 82-85)

393. There are no statutory or regulator criteria or standards applicable to Rex's Application that required Rex to demonstrate the effect of its project on other providers or to demonstrate the utilization of other providers. (Ex. 4 p. 8 to Rex's Mot to Dismiss; Ex. 5, p. 8 to Rex's Mot to Dismiss)

394. Nevertheless, Mr. Taylor testified that WakeMed's existing EP services are well-utilized. The Agency Findings relating to Rex's Application as well as the Agency Findings relating to the prior Duke Raleigh Hospital CON application also reflect that WakeMed's existing EP services are well-utilized. (Taylor Tr. p. 1115; Jt. Ex. 2 pp. 98) Prior to Rex's Application, WakeMed was even considering adding more EP units. (Taylor Tr. p. 115)

395. Similarly, although not pertinent under Criterion 6 since Rex was not adding a new piece of cardiac cath equipment, WakeMed's cardiac cath units had been operating at capacity for the three years prior to Rex filing its Application. (Taylor Tr. p. 1115)

396. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming to Criterion 6.

397. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 6.

H. Criterion 12

398. N.C. Gen. Stat. § 131E-183(a)(12) ("Criterion 12") requires that the applicant 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.

399. The Agency found Rex's Application conforming with Criterion 12. (Jt. Ex. 2 pp. 106-107)

400. David Meyer opined that Rex's Application should have been found nonconforming with Criterion 12 because he did not think that Rex demonstrated the need for its proposed increase in the number of pre and post heart and vascular bays and its proposed increase in the number of pre and post surgical bays. (Meyer Tr. pp. 797-801)

401. With regard to the pre and post bays for heart and vascular services, Mr. Meyer's opinion was limited to the extent that Rex's Application did not justify the need for four cardiac cath labs or for two EP labs. (Meyer Tr. p. 798) Mr. Meyer testified that, if Rex did not justify the need for four cardiac cath labs and the two EP labs, then, in his opinion, the proposed number of pre and post bays is excessive based on the 4 to 1 ratio used in Rex's Application. (Meyer Tr. pp. 798-799)

402. With regard to the pre and post surgical bays, Mr. Meyer based his opinion on his view that Rex's Application proposed to increase its ratio of operating rooms to pre and post bays from a ratio of one operating room to 3.08 bays to a ratio of on operating room to 6.75 bays. (Meyer Tr. pp. 800-801; WakeMed Ex. 162) Mr. Meyer opined that, in his view, Rex's Application did not document or explain the necessity for this change or the appropriateness of the new ratio. (Meyer Tr. pp. 800-801) Mr. Meyer also testified that Rex did not include in the Application any quantitative analysis to justify the ratio or the number of pre and post bays to operating rooms. (Meyer Tr. p. 801)

403. In as much as the preponderance of the evidence shows that the Agency correctly approved Rex's proposed pre and post bays for both cardiovascular and surgical services, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 12.

404. The preponderance of the evidence shows that Rex's Application adequately demonstrated that the cost, design, and means of construction proposed represent the most reasonable alternative for the project and that the construction project will not unduly increase the costs of providing health services. (Jt. Ex. 1 pp. 206, 301-320, 907)

405. The preponderance of the evidence demonstrates that Rex's Application adequately described the energy savings features that have been incorporated into the project. (Jt. Ex. 1 p. 209; Jt. Ex. 2 p. 107)

406. There is no statute, regulation or standard that requires the Agency to perform any analysis under Criterion 12 other than the analysis articulated in the Agency Findings. For instance, there is no requirement that the Agency perform a comparison of Rex's projected construction costs to any other Rex projects or to any of WakeMed's projects.

407. Similarly, the Agency was not required to evaluate Rex's project against any national or regional construction standards in its review of Criterion 12.

408. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming to Criterion 12.

409. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 12.

I. Criterion 13

410. N.C. Gen. Stat. § 131E-183(a)(13) ("Criterion 13") requires that the applicant shall demonstrate:

> (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;

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. 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

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.

N.C. Gen. Stat. §131E-183(a)(13).

411. The statutory language of Criterion 13 has been the same since at least 1993. (Taylor Tr. pp. 1163-1165)

412. The Agency found Rex's Application conforming with all subparts of Criterion 13. (Jt. Ex. 2 pp. 107-109)

413. The Agency applied its customary Criterion 13 analysis to Rex. (Frisone Tr. pp. 468-470)

414. WakeMed presented varying interpretations of Criterion 13 at the contested case hearing, with the standard proposed dependent upon which WakeMed witness was testifying.

415. None of the varying interpretations of Criterion 13 proposed by WakeMed witnesses ever have been applied by the Agency in prior CON reviews.

416. During the contested case hearing, WakeMed relied upon one set of prior Agency findings to support its Criterion 13(a) and 13(c) arguments (Project I.D. No. J-7765-06). (WakeMed Ex. 197) These Agency findings involved a nursing home facility, wherein Hillcrest Convalescent Center proposed to build replacement nursing facility beds on the current site of existing facility. WakeMed's reliance upon these prior Agency findings was not persuasive for numerous reasons, including the following:

a. The Hillcrest review involved a nursing home facility and the predominant payor for nursing homes is Medicaid, which differs from hospitals as a whole as well as the services included in Rex's Application;

b. Individual nursing homes do not differ in service lines offered as compared to hospitals that can differ dramatically in service lines which in turn causes different payor mixes among hospitals;

c. The data to perform the comparison analysis in the Hillcrest review was publically-available, as compared to the non-public service-line data of hospitals;

d. The data to perform the comparison analysis in the Hillcrest review related to the services at issue in that review, which differs from WakeMed's assertion that aggregate facility-wide data should be used in the review of Rex's Application; and

e. The Hillcrest facility was an aberration, having a 3% Medicaid payor mix as compared to the State average of over 60%.

(WakeMed Ex. 197; Gambill Tr. pp. 229, 240; Frisone Tr. pp. 476-477; Meyer Tr. pp. 884-888, 996, 999, 1110-1111; Taylor Tr. pp. 1136-1140) Thus, unlike hospitals (including Rex and WakeMed), nursing homes are homogenous providers as compared to the complex system of a hospital that are Medicaid heavy, which leads to a reasonable way to compare Medicaid percentages. The preponderance of the evidence shows that a similar comparison cannot reasonably be made for hospitals.

417. It also is not apparent from the WakeMed witnesses when their varying interpretations of Criterion 13 should be implemented by the Agency. For instance, after being questioned about his pending and past CON applications, including one filed on the same day as Rex's Application, Mr. Meyer ultimately admitted that his Criterion 13 opinion should only be imposed by the Agency going forward. (Meyer Tr. pp. 979-980)

418. Moreover, none of the varying interpretations of Criterion 13 proposed by WakeMed witnesses involved the Agency utilizing publicly-available information that bears a relationship to any hospital services.

419. None of the varying interpretations involved a bright-line, workable standard for the Agency to use in applying Criterion 13. Rather, WakeMed's witnesses ultimately testified that the Agency has discretion under Criterion 13.

420. For instance, Mr. Taylor was unable to identify any specific language in Criterion 13 that directs the Agency to determine a proportional share of the medically underserved between or among providers in a service area. (Taylor Tr. pp. 1192-1193) Mr. Taylor testified that, even though no specific "proportionality" standard is contained in the statutory language of Criterion 13, he felt that such an analysis is within the discretion of the Agency. (Taylor Tr. pp. 1192-1193)

1. Criterion 13(a)

421. N.C. Gen. Stat. § 131E-183(a)(13)(a) ("Criterion 13(a)") requires an applicant to show the extent to which the medically underserved populations currently utilize applicant's

existing services. According to Ms. Frisone, the Agency has typically reviewed this criterion by reviewing the percentage of the facility's total patients that fit into the various categories of "medically underserved," such as Medicare, Medicaid, handicapped, racial and ethnic minorities and women. (Frisone Tr. p. 461)

422. Applicants provide their historical payor mix to demonstrate conformity with Criterion 13. (Frisone Tr. p. 463)

423. WakeMed witnesses, David Meyer and Stan Taylor, presented varying interpretations of Criterion 13(a). While the WakeMed witnesses testified that some type of comparison was necessary under Criterion 13(a), they were unable to set forth a workable standard.

424. Mr. Meyer opined that Rex's Application is nonconforming with Criterion 13(a) because Rex's Application did not include a comparison of its historical payor mix percentage to the percentage of the medically underserved groups in Rex's proposed service area. (Meyer Tr. pp. 778, 780, 802, 861)

425. The preponderance of the evidence shows that 9% Medicaid-eligible aggregate payor mix data presented by WakeMed at the contested case hearing bears no relationship to: cardiovascular services; surgery services; or any hospital services. It is an abstract number that bears no relationship to services proposed by Rex in its Application. (Gambill Tr. pp. 179-181, 201, 204-205)

426. Mr. Gambill acknowledged that the 9% Medicaid-eligible figure does not indicate how many Medicaid patients sought hospital treatment and fails to correlate to any health services. (Gambill Tr. pp. 179-180, 201, 204-205) Mr. Gambill explained that "Medicaid-eligible" means a person qualified to receive Medicaid services, who may or may not utilize any health services. (Gambill Tr. p. 180) Mr. Gambill, therefore, conceded that, for all he knew, Rex was serving everyone that is Medicaid eligible for any given service. (Gambill Tr. pp. 180-181)

427. Similarly, Mr. Gambill was unable to draw any correlation between the 13.4% of uninsured persons in Wake County to any specific service line of health care in Wake County, including cardiovascular or surgical services. (Gambill Tr. pp. 205-208)

428. Also reflecting the unreliable nature of the 9% Medicaid-eligible figure, most Medicaid-eligible patients in Wake County are under the age of 21, and most of Rex's cardiovascular patients will be over the age of 21. Mr. Gambill testified that about three-fourths of the 9% Medicaid-eligible population in Wake County is under age 21, or about 60,000 of the 81,450 Medicaid-eligible individuals. (Gambill Tr. pp. 242-243; WakeMed Ex. 117) Mr. Gambill further explained that, as a percentage of the population, infants comprised the largest age group eligible for Medicaid. Mr. Taylor testified that 66% of the Medicaid-eligible population in Wake County is under the age of 21. (Taylor Tr. p. 1156)

429. Mr. Meyer conceded that he did not know whether it would have been sufficient to satisfy Criterion 13(a) for Rex to have merely mentioned the percentage of the medically

underserved groups in Rex's proposed service area. (Meyer Tr. pp. 862-865) Mr. Meyer also conceded that Criterion 13(a) does not specifically direct the Agency as to what is approvable or not in terms of the comparison. (Meyer Tr. pp. 928)

430. Until a few years ago, WakeMed CON applications did not provide the comparative data WakeMed now contends has always been required to satisfy Criterion 13. (Taylor Tr. p. 1127) Thus, Rex's Application is similar to WakeMed's CON applications filed up until a few years ago in terms of the data supplied related to Criterion 13. (Taylor Tr. p. 1132) This is another area where WakeMed's testimony seems completely implausible. WakeMed is essentially saying that CON applications WakeMed filed for decades (including those prepared or supervised by Stan Taylor) were not approvable because they failed WakeMed's newly discovered interpretation of Criterion 13.

431. Rex's Application also is similar to roughly 98% of the CON application submitted by David Meyer in terms of Criterion 13. (Meyer Tr. pp. 888, 892-895, 898; Taylor Tr. p. 1132) Mr. Meyer was unable to identify even a single CON application that he has prepared wherein he included such a comparison. (Meyer Tr. pp. 892, 895-896, 900-902) At the contested case hearing, Mr. Meyer acknowledged several CON applications prepared by him that did not contain any comparisons of the applicant's historical payor mix with that of competitors or the service area as a whole, including two prior CON applications containing an historical Medicaid percentage far below the county Medicaid-eligible percentage. (Meyer Tr. pp. 908-924)

432. Mr. Meyer characterized his opinion of Criterion 13 as an "epiphany" and "new opinion" that he developed a few days before his deposition in this case in June 2011. (Meyer Tr. pp. 888-894, 978-979) Thus, in the approximately 14 years that Mr. Meyer has been a CON consultant, he never interpreted Criterion 13 in the way that he opined at the contested case hearing, even though the statutory language of Criterion 13 has been the same since Mr. Meyer started preparing CON applications in 1997. (Meyer Tr. pp. 893-894)

433. Mr. Meyer does not believe that any of his past or currently pending CON applications are nonconforming with Criterion 13(a) on the basis that they do not contain the comparison that he opines Rex should have included in its Application. (Meyer Tr. pp. 895, 978-979) This includes a CON application that Mr. Meyer prepared and filed on the same day as Rex's Application, and which was found conforming with Criterion 13. (Meyer Tr. pp. 907-915) That CON application prepared on behalf of Wake Radiology did not include any comparison of Wake Radiology's historical payor mix with that of the proposed service area or any competitor's payor mix. (Meyer Tr. p. 909) Mr. Meyer testified that, if he had been hired to prepare Rex's Application, Mr. Meyer would not have included any payor mix comparison in the Rex Application. (Meyer Tr. pp. 918-919)

434. Mr. Taylor opined that, under Criterion 13(a), the Agency should review historically what the entire facility has done, and not look at the specific service line at issue in the CON application. (Taylor Tr. p. 1140) In contrast, Mr. Meyer opined that it could be appropriate for the Agency to focus upon the specific service lines being proposed in the CON application at issue. (Meyer Tr. p. 781)

435. Mr. Taylor and Mr. Meyer also differed on what an applicant needed to show to be conforming with Criterion 13(a).

436. Mr. Taylor clarified that it is not his opinion that Rex's Application is nonconforming with Criterion 13(a) because of the lack of comparative information in the Application. (Taylor Tr. p. 1131) Rather, it is his opinion that the Agency should have performed a comparison under Criterion 13. (Taylor Tr. p. 1131) Mr. Taylor stated that there are different ways for the comparison to be accomplished. (Taylor Tr. p. 1131)

437. Mr. Taylor repeatedly testified that it has been WakeMed's frustration that it has not received credit for what it does in the community, and, in particular, the amount of uninsured that WakeMed cares for and the amount of unreimbursed care that it provides. (Taylor Tr. pp. 1130-1132)

438. It is apparent that Mr. Taylor's goal for this comparison is to effectuate change in the applicant's payor mix. In this regard, Mr. Taylor testified that an applicant could redeem themselves by showing they were going to serve more underserved, irrespective of whether it was related to the project at issue in the pending CON application. (Taylor Tr. pp. 1147-1148)

439. Mr. Taylor testified that half of the hospitals in North Carolina (50%) would fail the Criterion 13(a) test that he is requesting the Agency to apply to Rex's Application. (Taylor Tr. p. 1153) Mr. Taylor testified that, if the Agency adopted his proposed test in which 50% of the hospitals in North Carolina would fail, hospitals would build networks and systems to meet the needs of the underserved. (Taylor Tr. pp. 1153-1154)

440. Mr. Taylor testified that, under his approach, all Rex CON applications would be denied until Rex starts explaining in its applications how it will develop a road map to achieve a higher percentage of Medicaid and uninsured patients in the community and meet those needs. (Taylor Tr. p. 1089)

441. Criterion 13(a) does not have a litmus test or a specific number, either percentage or monetary amount, that must be satisfied for conformity. (Meyer Tr. pp. 872, 995-996; Taylor Tr. pp. 1126-1127)

442. In this regard, none of the WakeMed witnesses had any opinions about whether any of the historical payor mix percentages of any of the specific service lines proposed in Rex's Application were too low or insufficient to satisfy Criterion 13(a). (Meyer Tr. pp. 873-874, 995-996; Taylor Tr. pp. 1161-1162)

443. WakeMed witnesses were unable to provide any historical percentages for Medicaid, Medicare, self pay, indigent, or charity care patients served at any hospital for the service lines proposed in Rex's Application. (Gambill Tr. pp, 202-203) This failure to provide such service line information included failing to provide the specific percentages for WakeMed's Raleigh campus and WakeMed Cary Hospital. (Gambill Tr. pp. 202-203; Meyer Tr. p. 881)

444. All of the payor mix information presented by WakeMed at the contested case hearing was on an aggregate basis based on the particular facility as a whole and WakeMed witnesses were unable to provide any service-line specific information. (Gambill Tr. pp. 202-

203, 208) This facility-wide data appears unreliable for use in any comparison under Criterion 13(a) for a number of reasons.

445. Mr. Taylor admitted that most of the cardiac cath patients that Rex and WakeMed will be treating are not under the age of 21. (Taylor Tr. p. 1156) Rex's Application indicated that there were no cardiac cath or EP cases performed on any patients at Rex under the age of 15. (Taylor Tr. p. 1157; Jt. Ex. 1 p. 361)

446. The aggregate facility-wide data used by WakeMed also does not take into account the different service lines at different hospitals. WakeMed witnesses, including Mr. Gambill and Mr. Taylor, agreed that payor mixes are variable by hospital service line. (Gambill Tr. pp. 172-173; Taylor Tr. pp. 1137-1140) Mr. Gambill testified that he had been able to isolate baby deliveries as being a particular service line that tended to have a higher Medicaid percentage than other service lines. (Gambill Tr. p. 173)

447. In this regard, Mr. Taylor explained that WakeMed's Raleigh campus and WakeMed Cary Hospital have different Medicaid cost to facility ratios (WakeMed's Raleigh campus is 17.37 and WakeMed Cary Hospital is 6.47). (Taylor Tr. p. 1137; WakeMed Ex. 109) Mr. Taylor testified that there are valid reasons for the difference between WakeMed's Raleigh campus and WakeMed Cary Hospital, including: (1) WakeMed's Raleigh campus has a trauma program and the payor mix for trauma is "abysmal" with patients frequently having no resources, no insurance and no coverage; and (2) WakeMed's Raleigh campus has a high risk OB program and is the home to most of the Medicaid OB deliveries in Wake County. (Taylor Tr. pp. 1137-1138) Mr. Taylor criticized Rex for not developing those programs. (Taylor Tr. p. 1138) Even though WakeMed Cary Hospital has a lower Medicaid cost to facility ratio than WakeMed's Raleigh campus, Mr. Taylor denied that WakeMed Cary Hospital discriminates against Medicaid patients. (Taylor Tr. p. 1138)

448. Much of WakeMed's dispute with Rex's Application dealt with the fact that Rex historically provided a Medicaid percentage of 6.4%, which WakeMed attempted to compare to the 9% Medicaid-eligible number for Wake County.

449. The aggregate facility-wide data used by WakeMed also does not take into account the different locations and service lines of different hospitals. (Meyer Tr. p. 881)

450. WakeMed made no allegation and offered no evidence that Rex serves a disproportionately low share of the medically underserved in Wake County as compared to WakeMed and other hospitals located in Wake County for the specific service lines proposed in Rex's Application.

451. A meaningful comparison of the payor mix for the specific service lines proposed in Rex's Application cannot be made because the information is not publically available. (Meyer Tr. pp. 999, 1006-1011)

452. Further reflecting the lack of a workable standard to make any comparison among providers is the fact that the term "medically underserved group" is not defined in the CON Law or regulations.

453. Under Criterion 13(a), the Agency did not err in failing to make the type of payor mix percentage comparisons that WakeMed proposes should have been made.

454. Rex's Application adequately explained and documented that it does not discriminate on the basis of income, race, ethnicity, sex, handicap, age or any other factor which might restrict access to services. (Jt. Ex. 1 pp. 138-147) Rex's Application also adequately provided its historical payor mix during FY2009 for all services at Rex as well as for each service component of the proposed project. (Jt. Ex. 1 pp. 158-161)

455. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming with Criterion 13(a).

456. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 13(a).

2. Criterion 13(b)

457. N.C. Gen. Stat. § 131E-183(a)(13)(b) ("Criterion 13(b)") is viewed in two components: whether the applicant had any obligations under regulations requiring provision of uncompensated care and whether there were any civil rights access complaints filed against a facility. (Frisone Tr. pp. 489-490)

458. The Agency accepted Rex's representations that it had no obligations to provide uncompensated care, community service or access to care by medically underserved, minorities or handicapped persons during the last three years. (McKillip Tr. pp. 356-357; 491; Jt. Ex. 1 p. 157)

459. Furthermore, Rex's Application indicated that it did not have any civil right access complaints. (McKillip Tr. p. 355; Jt. Ex. 1 p. 156)

500. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming with Criterion 13(b).

501. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 13(b).

3. Criterion 13(c)

502. N.C. Gen. Stat. § 131E-183(a)(13)(c) ("Criterion 13(c)") requires the applicant to "demonstrate the contribution of the proposed service in meeting the needs of the elderly and of members of medically underserved groups" by showing "[t]hat 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."

503. The Agency found Rex's Application conforming to Criterion 13(c) and cited Section VI.15 of Rex's Application to support its finding. (Joint Ex. 2 pp. 108-109)

504. In evaluating conformity with Criterion 13(c), the Agency considers applicants' proposed "payor mix," or the distribution of its projected utilization among payment source (e.g., Medicare, Medicaid, self-pay, Blue Cross, Commercial, etc.) expressed in percentages. (Jt. Ex. 2 pp. 108-109)

505. Rex based its projected payor mix for each service component on its FFY 2009 payor mix. (Jt. Ex. 2 p. 109)

506. WakeMed contends that Rex's Application should have been found nonconforming with Criterion 13(c) under the theory that Rex was not meeting the needs of the underserved in the community as required by Criterion 13. (Taylor Tr. pp. 1205-1206) Mr. Taylor testified that an applicant should redeem themselves by showing they were going to serve more underserved, irrespective of whether it was related to the project at issue in the pending CON application. (Taylor Tr. pp. 1147-1148)

507. Similar to Criterion 13(a), Criterion 13(c) does not have a litmus test or a specific number, either percentage or in monetary amounts, that must be satisfied for conformity. (Meyer Tr. p. 872; Taylor Tr. pp. 1126-1127)

508. In this regard, none of the WakeMed witnesses had any opinions about whether any of the projected payor mix percentages of any of the specific service lines proposed in Rex's Application were too low or insufficient to satisfy Criterion 13(c). (Meyer Tr. p. 875; Taylor Tr. pp. 1161-1162)

509. As found under Criterion 13(a) above, WakeMed's experts conceded that the service line at issue could have an impact upon payor mix. (Gambill Tr. pp. 172-173; Taylor Tr. pp. 1137-1140)

510. Rex's Application noted that, "Rex's increased use of Rex employed physicians will also increase access as these employed physicians take all patients without regard to payor or ability consistent with Rex's policies." (Joint Ex. 1 p. 149)

511. Rex's Application is conforming to Criterion 13(c) because its projections of payor mix were based upon reasonable assumptions. Thus, Rex's Application demonstrates that medically underserved groups will be adequately served by its proposed project.

512. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming to Criterion 13(c).

513. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming to Criterion 13(c).

4. Criterion 13(d)

514. N.C. Gen. Stat. § 131E-183(a)(13)(d) ("Criterion 13(d)") requires the Agency, in order to determine the extent to which the proposed service will be accessible, to find that the applicant demonstrated "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."

515. Ms. Frisone explained that the Agency's evaluation under Criterion 13(d) deals with range of means a patient has to access those services, i.e. how does a person get admitted or register for a test or procedure. (Frisone Tr. pp. 499-500)

516. The Agency found Rex's Application conforming to Criterion 13(d) and cited Section VI.9 of Rex's Application to support its finding. (Jt. Ex. 2 pp. 109; Jt. Ex. 1 p. 155)

517. Section VI.9 of Rex's Application adequately described the range of means by which a person will have access to the proposed services. (Jt. Ex. 1 pp. 155-156)

518. The preponderance of the evidence shows that the Agency correctly found Rex's Application conforming to Criterion 13(d).

519. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 13(d).

J. Criterion 18a

520. Criterion 18a requires applicants to demonstrate the expected effects of the proposed service on competition, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed. N.C. Gen. Stat. § 131E-183(a)(18a) ("Criterion 18a").

521. In evaluating a proposed project under Criterion 18a, the Agency considers whether the applicant demonstrated that its proposed project will have a positive impact on competition for the service in the applicable service area by examining cost effectiveness, quality of services, and access to services. (Jt. Ex. 2 p. 110)

522. The Agency found that Rex's Application was conforming to Criterion 18a. (Jt. Ex. 2 pp. 109-110)

523. WakeMed contended at the contested case hearing that Rex's Application should have been found nonconforming with Criterion 18a on the basis that Rex's Application should have been found nonconforming to either Criteria 5, 12 or 13. (Meyer, Tr. pp. 844-845)

524. In as much as Rex's Application was correctly found by the Agency to be conforming to Criteria 5, 12 and 13, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 18a.

525. Mr. Taylor appeared to opine that Rex's Application should have been found nonconforming to Criterion 18a standing alone, although his testimony echoed WakeMed's Criterion 3 concerns. (Taylor Tr. p. 1075)

526. To the extent that WakeMed challenged Criterion 18a standing alone, WakeMed failed to show by a preponderance of the evidence that the Agency erred in finding Rex's Application conforming to Criterion 18a.

527. The preponderance of the evidence demonstrates that Rex adequately demonstrated that its proposal will have a positive impact on the cost-effectiveness, quality and access to the services proposed for the reasons set forth under the Agency's analysis of Criteria 3, 5, 7, 8, 13 and 20. (Jt. Ex. 2 p. 110)

528. No credible evidence or testimony was presented at the hearing to indicate that the Agency erred or otherwise failed to meet any of the N.C. Gen. Stat. § 150B-23 standards in finding the Rex Application conforming with Criterion 18(a).

CONCLUSIONS OF LAW

1. To the extent that certain portions of the foregoing Findings of Fact constitute mixed issues of law and fact, such Findings of Fact shall be deemed incorporated herein by reference as Conclusions of Law. Similarly, to the extent that some of these Conclusions of Law are Findings of Fact, they should be so considered without regard to the given label.

2. The parties properly are before the Office of Administrative Hearings. The Office of Administrative Hearings has jurisdiction over the parties and the subject matter of this action. The parties received proper notice of the hearing in this matter, as stipulated on the record by the parties. (Tr. p. 7)

3. A court need not make findings as to every fact which arises from the evidence and need only find those facts which are material to the settlement of the dispute. Flanders v. Gabriel, 110 N.C. App. 438, 449, 429 S.E.2d 611, 612, aff'd, 335 N.C. 234, 436 S.E.2d 588 (1993).

4. The subject matter of this contested case is the Agency's decision to approve the Rex Application. See N.C. Gen. Stat. § 131E-188(a) (providing for administrative review of Agency decision to issue, deny or withdraw certificate of need); Presbyterian Hospital v. N.C. Dep't of Health and Human Services, 177 N.C. App. 780, 784, 630 S.E.2d 213, 215 (2006); Britthaven, Inc. v. North Carolina Dep't of Human Resources, 118 N.C. App. 379, 382, 455 S.E.2d 455, 459 (1995) ("The subject matter of a contested case hearing by the ALJ is an agency decision.").

5. Under N.C. Gen. Stat. § 131E-183(a), the Agency "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."

6. The CON Section determines whether an application is consistent with or not in conflict with the review criteria set forth in N.C. Gen. Stat. § 131E-183 and any applicable standards, plans and criteria promulgated thereunder in effect at the time the review commences. See 10A N.C.A.C. 14C.0207.

7. The Agency has clear and express statutory authority to conditionally approve an applicant to ensure that the project conforms with applicable review criteria. N.C. Gen. Stat. § 131E-186; 10A NCAC 14C.0207(a); see also Dialysis Care of North Carolina, LLC v. N.C. Dep't of Health and Human Servs., 137 N.C. App. 638, 648-51, 529 S.E.2d 257, 263-64, aff'd per curiam, 353 N.C. 258, 538 S.E.2d 566 (2000) (affirming conditional approval of application regarding availability and commitment of portion of funding required for proposed project); In re Humana Hosp. Corp. v. N.C. Dep't of Human Resources, 81 N.C. App. 628, 632, 345 S.E.2d 235, 237 (1986) ("the law does not require that applications for certificates of need be approved precisely as submitted or not at all, and it would be folly of it did so").

8. WakeMed is an "affected person," as defined by N.C. Gen. Stat. § 131E-188(c).

9. N.C. Gen. Stat. § 131E-188 authorizes WakeMed as an "affected person" to petition for a contested case hearing. See N.C. Gen. Stat. § 131E-188(a) (2003).

10. N.C. Gen. Stat. § 131E-188 provides the statutory grounds for and prerequisites to filing a petition for a contested case hearing regarding certificates of need; it does not provide the framework for deciding the petition or the contested case which is governed by Article 3 of Chapter 150B of the General Statutes.

11. While WakeMed is an "affected person" under N.C. Gen. Stat. § 131E-188 because it provided similar services to individuals residing within the service area of Rex's proposed services in the Rex Application, the affected person status alone does not satisfy the independent prima facie requirement of a showing of substantial prejudice under N.C. Gen. Stat. § 150B-23(a). WakeMed was required to provide specific evidence of harm resulting from the award of the CON to Rex that went beyond any harm that necessarily resulted from additional competition. See Parkway Urology, P.A. v. N.C. Dep't of Health and Human Servs., ___ N.C. App. ___, 696 S.E.2d 187, 194 (2010).

12. As Petitioner, WakeMed bears the burden of proof on each and every element of its case. In a contested case, "[u]nder N.C. Gen. Stat. § 150B-23(a), the ALJ is to determine whether the petitioner has met its burden in showing that *the agency* substantially prejudiced petitioner's rights, and that the agency acted outside its authority, acted erroneously, acted arbitrarily and capriciously, used improper procedure, or failed to act as required by law or rule." Britthaven, 118 N.C. App. at 382, 455 S.E.2d at 459 (emphasis in original). The burden of persuasion placed upon WakeMed is by a "preponderance of the evidence." N.C. Gen. Stat. §150B-29 (stating "the party with the burden of proof in a contested case must establish the facts required by G.S. 150B-23(a) by a preponderance of the evidence. . . .").

13. The petitioner's burden is therefore two-fold: (1) to demonstrate substantial prejudice to its rights; and (2) to demonstrate that the Agency acted erroneously, arbitrarily or capriciously, or used improper procedure or failed to act as required by law or rule. N.C. Gen.

Stat. § 150B-23 provides that a petitioner in a contested case "*shall* state facts tending to establish that the agency . . . has deprived the petitioner of property, has ordered the petitioner to pay a fine or civil penalty, or has otherwise *substantially prejudiced the petitioner's rights*[.]" "It is well established that the word 'shall' is generally imperative or mandatory." Multiple Claimants v. N.C. Dep't of Health and Human Servs., 361 N.C. 372, 378, 646 S.E.2d 356, 360 (2007) (citations omitted). The appellate courts of this State have affirmed that a petitioner must demonstrate substantial prejudice to its legal rights in order to maintain a contested case. See Presbyterian Hosp. v. N.C. Dep't of Health and Human Servs., 177 N.C. App. 780, 630 S.E.2d 213 (2006) (upholding ALJ's grant of summary judgment on the basis that petitioner failed to demonstrate substantial prejudice to its rights from the grant of a non-competitive CON to its competitor to expand the competitors' emergency department); Bio-Medical Applications of N.C., Inc. v. N.C. Dep't of Health and Human Servs., 173 N.C. App. 641, 619 S.E.2d 593 (2005) (reiterating that it is the petitioner's burden to prove by a preponderance of the evidence substantial prejudice to its rights).

14. In determining these issues, the undersigned considered evidence that was presented or available to the Agency during the review period. Living Centers-Southeast, Inc. v. N.C. Dep't of Health and Human Servs., 138 N.C. App. 572, 581, 532 S.E.2d 192, 194 (2000); Britthaven, 118 N.C. App. at 382, 455 S.E.2d at 459 (citing In re Application of Wake Kidney Clinic, 85 N.C. App. 639, 355 S.E.2d 788 (1987)).

15. In a CON contested case, the court is limited to a review of the information presented to or available to the CON Section at the time of the review. Britthaven, Inc. v. N.C. Dep't of Human Res., 118 N.C. App. 379, 382, 455 S.E.2d 455, 459 (1995); see also In re Wake Kidney Clinic, 85 N.C. App. 639, 643, 355 S.E.2d 788, 791 (1987) ("The hearing officer is properly limited to consideration of evidence which was before the Section when making its initial decision, but the hearing officer is not limited to that part of the evidence before it that the Section actually relied upon in making its decision."). Information that was unavailable at the time of the CON Section's decision cannot be a basis for finding Agency error in making the decision.

16. This contested case is not a de novo review of the CON Section's decision. Britthaven, 118 N.C. App. at 382, 455 S.E.2d at 459. This court may not substitute its judgment for that of the Agency, even though the court could justifiably have reached a different result had the matter been before it de novo. Charter Pines Hosp., Inc. v. N.C. Dep't of Human Resources, 83 N.C. App. 161, 171, 349 S.E.2d 639, 646 (1986).

17. The appropriate standard of review in this case depends upon the issue being reviewed. When an appellant charges that a state agency erred in interpreting a statutory term, an appellate court may freely substitute its judgment for that of the agency. Britthaven, 118 N.C. App. at 384, 455 S.E.2d at 460. However, when an appellant questions whether the Agency's decision was supported by the evidence or whether it was arbitrary or capricious, the appropriate standard is the whole record test. Id.

18. Under the whole record test, "a court must examine all the record evidence – that which detracts from the agency's findings and conclusions as well as that which tends to support them – to determine whether there is substantial evidence to justify the agency's decision."

Good Hope Health Sys. v. Dep't of Health and Human Servs., 189 N.C. App. 534, 543, 659 S.E.2d 456, 462 (2008) (quoting Watkins v. N.C. State Bd. of Dental Exam'rs, 358 N.C. 190, 199, 593 S.E.2d 764, 769 (2004)), aff'd, 362 N.C. 504, 666 S.E.2d 749 (2008). Substantial evidence is "relevant evidence a reasonable mind might accept as adequate to support a conclusion." N.C. Gen. Stat. § 150B-2(8b). The whole record test merely gives the reviewing court the capability to determine whether the administrative decision has a rational basis in the evidence. Carillon Assisted Living, LLC v. N.C. Dep't of Health and Human Servs., 175 N.C. App. 265, 270, 623 S.E.2d 629, 633 (2006).

19. Under the whole record test, error in the Agency's analysis of an approved applicant does not require the applicant's disapproval if the error does not affect the outcome of the review. See, e.g., Britthaven, 118 N.C. App. at 386, 455 S.E.2d at 461.

20. North Carolina law gives great weight to the Agency's interpretation of a law it administers. Frye Regional Medical Center v. Hunt, 350 N.C. 39, 45, 510 S.E.2d 159, 163 (1999). The Agency's interpretation and application of the statutes and rules its is empowered to enforce are entitled to deference, as long as the Agency's interpretation is reasonable and based on a permissible construction of the statute. Good Hope Health Sys., LLC v. N.C. Dep't of Health and Human Servs., 189 N.C. App. 534, 544, 659 S.E.2d 456, 463 (2008), aff'd, 362 N.C. 504, 666 S.E.2d 749 (2008); Craven Reg. Medical Authority v. N.C. Dep't of Health and Human Servs., 176 N.C. App. 46, 58, 625 S.E.2d 837, 844 (2006); see also Carpenter v. N.C. Dep't of Human Res., 107 N.C. App. 278, 279, 419 S.E.2d 582, 584 (1992) (a reviewing court should defer to the agency's interpretation of a statute it administers "so long as the agency's interpretation is reasonable and based on permissible construction of the statute.").

21. North Carolina law also presumes that the Agency has properly performed its duties, and this presumption is rebutted only by a showing that the Agency was arbitrary or capricious in its decision making. In re Broad and Gales Creek Community Assoc., 300 N.C. 267, 280, 266 S.E.2d 645, 654 (1980); Adams v. N.C. State Bd. of Reg. for Prof. Eng. and Land Surveyors, 129 N.C. App. 292, 297, 501 S.E.2d 660, 663 (1998) (stating "proper to presume administrative agency has properly performed its official duties."); In re Land and Mineral Co., 49 N.C. App. 529, 531, 272 S.E.2d 6, 7 (1980) (stating that "the official acts of a public agency . . . are presumed to be made in good faith and in accordance with the law.").

22. Administrative agency decisions may be reversed as arbitrary and capricious only if they are "patently in bad faith" or "whimsical" in the sense that "they indicate a lack of fair and careful consideration," or "fail to indicate 'any course of reasoning and the exercise of judgment'. . . ." ACT-UP Triangle v. Comm'n for Health Services, 345 N.C. 699, 707, 483 S.E.2d 388, 393 (1997).

23. The "arbitrary and capricious" standard is a difficult one to meet. Blalock v. N.C. Dep't of Health and Human Servs., 143 N.C. App. 470, 475, 546 S.E.2d 177, 181 (2001).

I. WAKEMED FAILED TO DEMONSTRATE IT WAS SUBSTANTIALLY PREJUDICED BY THE AGENCY'S OCTOBER 29, 2010 DECISION AND, THEREFORE, ITS CASE MUST BE DISMISSED

24. The Administrative Procedure Act and the decisions of the North Carolina appellate courts require that a petitioner demonstrate by a preponderance of the evidence that "the agency named as the respondent has deprived the petitioner of property, has ordered the petitioner to pay a fine or civil penalty, or has otherwise substantially prejudiced the petitioner's rights." N.C. Gen. Stat. § 150B-23; Parkway Urology, P.A. v. N.C. Dep't of Health and Human Servs., ___ N.C. App. ___, 696 S.E.2d 187 (2010); Presbyterian Hosp. v. N.C. Dep't of Health and Human Servs., 177 N.C. App. 780, 785, 630 S.E.2d 213, 216 (2006); Bio-Medical Applications v. N.C. Dep't of Health and Human Servs., 173 N.C. App. 641, 619 S.E.2d 593 (2005).

25. WakeMed failed to demonstrate substantial prejudice to its legal rights. WakeMed failed to offer any evidence that it had been deprived of property or ordered to pay a fine or civil penalty as a result of the Agency's decision approving Rex's Application. WakeMed's allegations regarding potential harm were speculative and unsupported by the preponderance of the evidence, were unrelated to the Agency's decision approving Rex's Application, or were based on factors that predated the Agency's decision.

26. There is no credible evidence of any substantial harm WakeMed would suffer as a direct result of the Agency's October 29, 2010 decision to conditionally approve Rex's Application. WakeMed has failed to prove, by a preponderance of the evidence, that it will be substantially prejudiced by the Agency's October 29, 2010 decision to conditionally approve Rex's Application.

27. The evidence demonstrated that one of WakeMed's primary concerns is the effect of competition. WakeMed complained of the anticipated shift of cardiac cath cases from WakeMed to Rex caused by the five physicians joining Rex Heart and Vascular Specialists. The allegations of harm resulting from this shift were speculative and not supported by a preponderance of the evidence in the record.

28. The fact that some patients have chosen or may choose to receive services at a Rex facility rather than a facility staffed by WakeMed does not support or define any legal right that is substantially prejudiced by the Agency's decision to grant Rex a CON to construct an addition to the hospital to expand and consolidate surgical and cardiovascular services, and create a new main entrance and public concourse. "Everyone [has] the right to enjoy the fruits and advantages of his own enterprise, industry, skill, and credit. He has no right to be protected against competition." Coleman v. Whisnant, 225 N.C. 494, 506, 35 S.E.2d 647, 655 (1945). WakeMed "is not being prevented from benefiting from 'the fruits and advantages of [its] own enterprise, industry, skill, and credit,' but merely being required to compete for such benefit." Bio-Medical Applications v. N.C. Dep't of Health and Human Servs., 179 N.C. App. 483, 491-92, 634 S.E.2d 572, 578 (2006) (quoting Coleman, 255 N.C. at 506, 35 S.E.2d at 665.)

29. None of the CON Act's findings of fact in N.C. Gen. Stat. § 131E-175 address the importance of protecting any entity's market share, and WakeMed cannot assert protection of its

market share as grounds for determining that the CON Section's decision was erroneous or improper.

30. WakeMed also provided no testimony or evidence that it has a "right" to treat patients or receive revenue from patients that have yet to be diagnosed with cardiovascular diseases or problems or yet to be determined to be in need of surgical services, and are not currently patients of WakeMed. WakeMed witnesses admitted that physicians have the right to practice medicine where they desire and patients have the right to be treated where they wish.

31. There is nothing in the CON Law that restricts a physician's ability to practice medicine where they wish. Similarly, there is nothing in the CON Law that restricts a patient from choosing where to receive health care.

32. The evidence demonstrated that another one of WakeMed's primary concerns is the perpetuation of the status quo under Criterion 13 that enables Rex to serve a disproportionate share of the medically underserved in Wake County as compared to WakeMed and other hospitals located in Wake County.

33. WakeMed's allegations regarding the disproportionate share harm under Criterion 13 were speculative, unreliable, and/or were based on conditions that predated the Agency's decision. Therefore, WakeMed failed to demonstrate substantial prejudice to its rights caused by the Agency's decision.

34. WakeMed offered no competent evidence that its continued financial loss in Medicaid and uninsured costs were related to any of the services included in Rex's Application.

35. There is no credible evidence of any harm to WakeMed as a result of the Agency's decision finding Rex's Application conforming with Criterion 13. For the reasons found herein, WakeMed's varying interpretations of Criterion 13 are misplaced and the Agency correctly found Rex's Application conforming with Criterion 13.

36. There is no language in Criterion 13 that directs the Agency to determine a proportional share between providers in a service area of the medically underserved. WakeMed admitted such at the contested case hearing. (Taylor, Tr., pp. 1192-1193)

37. The preponderance of the evidence shows that Rex had higher dollar costs committed to Medicaid services than did WakeMed's Raleigh campus, WakeMed Cary Hospital or Duke Raleigh Hospital.

38. Because WakeMed failed to prove by a preponderance of the evidence that the Agency's decision to approve the Rex Application substantially prejudiced WakeMed's rights in any way, WakeMed failed to prove an essential element of its *prima facie* case. For that reason alone, the relief requested by WakeMed should be denied and WakeMed's case is subject to dismissal without regard to whether it proved Agency error. See N.C. Gen. Stat. § 150B-23; Parkway Urology, P.A. v. N.C. Dep't of Health and Human Servs., supra; Presbyterian Hosp. v. N.C. Dep't of Health and Human Servs., supra; Bio-Medical Applications v. v. N.C. Dep't of Health and Human Servs., supra.

II. WAKEMED ALSO FAILED TO MEET ITS BURDEN OF PROOF TO DEMONSTRATE AGENCY ERROR, AND, THEREFORE, ITS CASE MUST BE DISMISSED

39. Even if it is determined in the Final Agency Decision or on appeal that WakeMed demonstrated substantial prejudice, WakeMed's case would nonetheless fail because it failed to prove by a preponderance of the evidence that in approving the Rex Application in the CON Review, the Agency erred in one of the ways proscribed by N.C. Gen. Stat. § 150B-23(a).

40. WakeMed failed to prove by a preponderance of the evidence that the Agency exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining that the Rex Application was conforming or conditionally conforming with all applicable statutory review criteria set forth in N.C. Gen. Stat. § 131E-183(a).

41. WakeMed failed to prove by a preponderance of the evidence that the Agency exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining that the following statutory and regulatory criteria were not applicable to Rex's Application: N.C. Gen. Stat. § 131E-183(a)(1), (3a), (9), (10); and 10A N.C.A.C. 14C.3104(b)(6).

42. WakeMed failed to prove by a preponderance of the evidence that the CON Section exceeded its authority or jurisdiction, acted erroneously, failed to use proper procedure, acted arbitrarily or capriciously, or failed to act as required by law or rule in determining that the Rex Application was conforming or conditionally conforming with all applicable regulatory review criteria set forth in 10A N.C.A.C. 14C.1300.

43. The Agency acted within its authority and jurisdiction, acted correctly, used proper procedure, did not act arbitrarily or capriciously, did not act erroneously, and acted as required by law and rule in finding that Rex's Application conformed to the following statutory review criteria: N.C. Gen. Stat. § 131E-183(a)(3), (4), (5), (6), (7), (8), (12), (13), (14), (18a) and (20).

44. The Agency acted within its authority and jurisdiction, acted correctly, used proper procedure, did not act arbitrarily or capriciously, did not act erroneously, and acted as required by law and rule in finding that the following statutory and regulatory review criteria were not applicable to Rex's Application: N.C. Gen. Stat. § 131E-183(a)(1), (3a), (9), (10); and 10A N.C.A.C. 14C.3104(b)(6).

45. The Agency acted within its authority and jurisdiction, acted correctly, used proper procedure, did not act arbitrarily or capriciously, did not act erroneously, and acted as required by law and rule in finding that the Rex Application was conforming or conditionally conforming with all applicable regulatory review criteria set forth in 10A N.C.A.C. 14C.1300.

46. The CON Section's analysis of the conformity of the Rex Application with the applicable statutory and regulatory criteria was consistent with the objectives of the CON Law as set forth in N.C. Gen. Stat. § 131E-175.

47. In the Agency's review of Rex's Application, there is no statute, regulation or standard that required the Agency to perform any analysis under any of the applicable statutory and regulatory criteria other than the analysis articulated in the Agency Findings.

48. The Agency Findings rationally were based on information available to the Agency during the review of the Rex Application. Therefore, under the whole record test, the Undersigned concludes that the Agency Findings were not arbitrary or capricious and did not constitute Agency error.

A. Conclusions of Law on Criterion 1

49. The plain statutory language of Criterion 1 provides that a proposed project "shall be consistent with applicable policies and need determinations in the State Medical Facilities Plan...." N.C. Gen. Stat. § 131E-183(a)(1).

50. If the Agency determines that there are no applicable policies and need determinations in the State Medical Facilities Plan that are applicable a project proposed in a CON application, then the Agency lawfully may conclude that Criterion 1 is not applicable to the review of that CON application.

51. The Agency correctly and reasonably determined that Criterion 1 is not applicable to Rex's Application.

B. Conclusions of Law on Criterion 3

52. The statutory language of Criterion 3 requires an applicant to "identify the population to be served by the proposed project and ... demonstrate the need that this population has for the services proposed...." N.C. Gen. Stat. § 131E-183(a)(3).

53. As the North Carolina Court of Appeals has noted regarding CON applications: "A reasonable projection of something that will occur in the future, by its very nature, cannot be established with absolute certainty." Craven Reg. Med. Auth. v. N.C. Dep't of Health and Human Servs., 176 N.C. App. 46, 53, 625 S.E.2d 837, 841 (2006) (holding that uncertainty regarding specific procedure to patient ratio used by applicant to demonstrate need for its proposal was not grounds to find applicant non-conforming with Criterion 3 because ratio used by applicant was reasonable and supported by record evidence).

54. There is no statute, rule, or published guidance from the Agency that required Rex to satisfy any CON performance standard thresholds for any of the components proposed in Rex's Application.

55. There is no statute, rule, or published guidance from the Agency that required Rex to satisfy any CON capacity thresholds for any of the components proposed in Rex's Application.

56. There is no statute, rule, or published guidance from the Agency that requires an applicant to submit physician intent-to-refer letters in order to demonstrate need for the services proposed in Rex's Application.

57. The Agency correctly determined that Rex's projected utilization was based on reasonable and supported assumptions regarding historical growth trends and projected population growth. Therefore, the applicant adequately demonstrated the need to construct new space in order to expand and consolidate its health services and it proved the need for all of the components of the proposed project.

58. WakeMed failed to prove that Rex's Application did not demonstrate the need for any component of the project.

59. The Agency correctly and reasonably determined that Rex's Application conformed to Criterion 3 because the Rex Application adequately identified the population to be served by the proposed project and because Rex adequately demonstrated the need the identified population has for the services proposed.

C. Conclusions of Law on Criterion 3a

60. The plain statutory language of Criterion 3a provides that it is applicable only when there is a proposed "reduction or elimination of a service, including the relocation of a facility or a service" in a CON application. N.C. Gen. Stat. § 131E-183(a)(3a).

61. If the Agency determines that there is no "reduction or elimination of a service, including the relocation of a facility or service" in a CON application, then the Agency may lawfully conclude that Criterion 3a is not applicable to the review of that CON application.

62. The Agency correctly and reasonably determined that Criterion 3a is not applicable to Rex's Application.

D. Conclusions of Law on Criterion 4

63. Criterion 4 requires the Agency to determine whether an applicant adequately demonstrated that its application represents the most effective alternative of the different options available to the applicant for the objectives and need the applicant's proposed project is intended to meet. N.C. Gen. Stat. § 131E-183(a)(4).

64. In as much as Rex's Application was correctly found by the Agency to be conforming to Criteria 3, 12 and 13, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 4 as WakeMed's challenge to Criterion 4 was solely derivative of its challenge to Criteria 3, 12 and 13.

65. The Agency correctly and reasonably determined that Rex's Application conformed to Criterion 4.

E. Conclusions of Law on Criterion 5

66. Criterion 5 requires an applicant to show: (1) the availability of funds for capital and operating needs; and (2) the immediate and long-term financial feasibility of the proposed project. N.C. Gen. Stat. § 131E-183(a)(5).

67. There was sufficient information presented to the Agency in the Rex Application to determine the reasonableness of the projected revenues and expenses and the reasonableness of the supporting assumptions and methodology set forth in the Rex Application.

68. The Agency properly found that assumptions used by Rex in the preparation of the revenue and expense statements were reasonable, including projected utilization, costs and charges and that Rex adequately demonstrated that the financial feasibility of the proposal was based on reasonable projections of revenues and costs and therefore, was conforming with Criterion 5.

69. WakeMed did not prove by a preponderance of the evidence that Rex's approach to projecting the revenues and expenses for the proposed project was incorrect or unreasonable, or that the lack of some assumptions in the proformas had any meaningful effect on the financial feasibility of the proposed project.

70. There is no formula established to statute or rule to calculate financial feasibility. The information presented in the Rex Application and other information readily available to the Agency at the time of the review support the Agency's conclusion that Rex's project would be financially feasible in both the immediate future and long term.

71. The availability and commitment of funds for the project proposed in the Rex Application was evidenced by the audited financial statements for fiscal year ending June 30, 2009 and the financial commitment letter which was included in Rex's Application.

72. The Agency correctly concluded that the Rex Application demonstrated the availability and commitment of funds for capital and operating needs for the proposed project.

73. The Agency correctly and reasonably determined that the Rex Application conformed to Criterion 5.

F. Conclusions of Law on Criterion 6

74. Criterion 6 addresses whether a proposed project will result in duplication of existing or approved health service capabilities or facilities that is not needed or is unnecessary. N.C. Gen. Stat. § 131E-183(a)(6).

75. In as much as Rex's Application was correctly found by the Agency to be conforming to Criterion 3, then WakeMed failed to show that Rex's Application was nonconforming to Criterion 6 as WakeMed's challenge to Criterion 6 was solely derivative of its challenge to Criterion 3.

76. Criterion 6 does not prohibit any and all duplication of health services – only that duplication which is unnecessary. If the Agency determines that a project proposed in a CON application would result in necessary duplication of existing or approved health service capabilities or facilities, then the Agency may lawfully conclude that the application conforms with Criterion 6 if the applicant demonstrates the need of its identified population for the proposed project.

77. There is no statute, rule, standard or any other legal authority which required Rex to demonstrate that all of the existing cardiac catheterization labs, pre and post cardiovascular bays, extended recovery bays, EP labs, operating rooms, pre and post surgical bays, stress/EKG rooms, or any of the other services included in the Rex Application in Rex's proposed service area were fully utilized or that the volume of these services at other providers was adequate in order to demonstrate that Rex's proposed project would not result in unnecessary duplication of existing or approved health service capabilities or facilities under Criterion 6.

78. There is no statue, rule, standard or any other legal authority which required Rex to demonstrate the effect of its project on other providers or to demonstrate the utilization of other providers for any of the services included in Rex's Application.

79. The Agency correctly and reasonably concluded that Rex adequately demonstrated that it needed an additional EP unit to serve current patients.

80. In determining conformity with Criterion 6, the Agency properly relied upon the same facts upon which it determined conformity with Criterion 3. As discussed above, Rex's Application adequately demonstrated the need for its project.

81. The Agency conducted an independent analysis of the Rex Application under Criterion 6.

82. The Agency tacitly acknowledges that Criterion 6 must be reviewed and answered independently by finding Rex's Application conforming ("C") to that criterion.

83. There is nothing in the CON Law that prohibits the Agency from relying on the same information in a CON application in determining conformity with more than one criterion.

84. The CON Law, including, but not limited to Criteria 3 and 6, does not shield existing providers in a service area from competition that is deemed to be necessary.

85. The Agency correctly and reasonably concluded that the project proposed in the Rex Application would not result in unnecessary duplication of existing or approved health service capabilities or facilities.

86. The Agency correctly and reasonably concluded that the Rex Application conformed with Criterion 6.

G. Conclusions of Law on Criterion 12

87. Rex's Application adequately demonstrated that the cost, design and means of construction of its proposed project are reasonable and will not unduly increase the cost of providing health services. N.C. Gen. Stat. § 131E-183(a)(12).

88. The Agency correctly and reasonably determined that the Rex Application conformed to Criterion 12.

82

H. Conclusions of Law on Criterion 13

89. N.C. Gen. Stat. § 131E-183(a)(13) ("Criterion 13") addresses the degree to which the elderly and members of medically underserved groups have and will have access to the services proposed in the CON application at issue.

90. As provided in the last sentence of the first paragraph in Criterion 13 which introduces the subparts, the applicant is required to conform with the subparts "[f]or the purpose of determining the extent to which the proposed service will be accessible...." N.C. Gen. Stat. § 131E-183(a)(13). This language supports the conclusion that the General Assembly's focus in Criterion 13 is upon the services being proposed in the CON application at issue, and not upon the aggregate facility-wide services that are not part of the project proposed in the CON application being reviewed.

91. The Agency's interpretation and application of Criterion 13 is reasonable and based upon a permissible construction of that statute.

92. The Agency's interpretation and application of Criterion 13 is consistent with well-established principles of statutory construction. Namely, the Agency's interpretation comports with the intent of the CON Law and flows from a reasonable operation of the language in Criterion 13. Furthermore, the Agency's interpretation gives harmony to all subparts of Criterion 13. See In re Proposed Assessments v. Jefferson-Pilot Life Ins. Co., 161 N.C. App. 558, 560, 589 S.E.2d 179, 181 (2003); see also Good Hope Hosp, Inc. v. N.C. Dep't of Health and Human Servs., 175 N.C. App. 309, 311-12, 623 S.E.2d 315, 318, aff'd, 360 N.C. 641, 636 S.E.2d 564 (2006).

93. The Agency's interpretation also prevents Criterion 13 from producing absurd consequences. See Burgess v. Your House of Raleigh, Inc., 326 N.C. 205, 216, 388 S.E.2d 134, 141 (1990). Namely, it would absurd for the Agency to implement a test that half of the hospitals in the State of North Carolina would fail. Furthermore, there is nothing in the CON Law to suggest that the Agency has the power to dictate through Criterion 13 the types of services or programs that hospitals should provide.

94. There also is nothing in the CON Law, or Criterion 13 itself, suggesting that the General Assembly intended for Criterion 13 to be used as a mechanism to ease any burdens upon other providers in a service area to treat the elderly or medically underserved groups.

95. The record contains no analogous prior Agency findings that are inconsistent with the Agency's Criterion 13 interpretation and application in this contested case.

96. There is no language in Criterion 13 that refers to a comparison among health care providers. Similarly, there is no language in Criterion 13 setting forth a proportionality test as articulated by WakeMed. There also is no language in Criterion 13 to suggest that the General Assembly intended the Agency to use that criterion as a method of forcing hospitals to invest in service lines that increased the percentage for certain medically underserved groups.

97. Criterion 13 does not give preference to one medically underserved group over another, including but not limited to medically indigent or low income persons, Medicaid and Medicare recipients, racial and ethnic minorities, women and handicapped persons.

98. Similarly, Criterion 13 also does not give preference to the elderly over any of the medically underserved groups.

99. Criterion 13 does not set forth a minimum access standard, either historically or projected, for the elderly or any of the medically underserved groups, including but not limited to medically indigent or low income persons, Medicaid and Medicare recipients, racial and ethnic minorities, women and handicapped persons.

100. With regard to Criterion 13(a), the General Assembly's requirement is that the applicant show the extent to which the medically underserved population uses the applicant's existing current services. The Agency is allowed to exercise discretion to determine whether Rex adequately provided services to the medically underserved under Criterion 13(a).

101. With regard to Criterion 13(a), there is no proportionality required by the General Assembly and the Agency's discretion in this case was sufficient to meet what the legislature intended to have done, which was to examine what is the medically underserved population and whether the applicant is creating access or keeping access to the medically underserved.

102. Similarly, with regard to Criterion 13(c), there is no proportionality required by the General Assembly.

103. Under Criterion 13(c), the General Assembly intended for an applicant to show the extent to which the applicant will continue to provide access to the medically underserved. Criterion 13(c) does not require any particular amount of access, it is intended to only require reasonable access. The Agency has the discretion to determine the amount of access that is reasonable. Furthermore, Criterion 13(c) did not require Rex to project any certain level of payor mix.

104. Rex's Application adequately demonstrated that Rex provides adequate access to medically underserved populations. Therefore, the Agency correctly determined that the Rex Application conformed with Criterion 13(a).

105. Rex demonstrated its past performance in meeting access obligations to the medically underserved and the Agency correctly determined that the CCNC Application conformed with Criterion 13(b).

106. Rex's Application adequately demonstrated that the payor mix and its services to the underserved is not expected to change as a result of its proposed project from its historical experience.

107. With regard to Criterion 13(c), the Agency properly determined that Rex's projected payor mix was reliable and based on historical data, and Criterion 13(c) did not require

Rex to project any certain payor mix. The Agency thus properly found Rex's Application conforming to Criterion 13(c).

108. The Agency correctly determined that the Rex Application conformed with Criterion 13(d) because Rex provided a range of means by which a patient would have access to its services.

109. The Agency correctly and reasonably determined that Rex's Application conformed to Criterion 13.

110. Even if the Agency were required to perform the type of comparison analysis WakeMed contends is required under Criterion 13 on a facility-wide basis or a service-line basis, which the Undersigned has not concluded, WakeMed made no showing that Rex has not historically provided reasonable access and will not provide reasonable access to the elderly and members of medically underserved groups. Therefore, any error under Criterion 13 would be, at most, harmless error. See Britthaven, 118 N.C. App. at 383, 455 S.E.2d at 459 (harmless error not affecting the outcome of the Agency decision does not require reversal in a CON case).

I. Conclusions of Law on Criterion 18a

111. Rex's Application properly demonstrated "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 services proposed. . . .," as required by Criterion 18a.

112. In as much as Rex's Application was correctly found by the Agency to be conforming to Criteria 5, 12 and 13, then WakeMed failed to show that Rex's Application was nonconforming to Criteria 5, 12, and 13 as WakeMed's challenge to Criterion 18a was solely derivative of its challenge to Criteria 5, 12 and 13.

113. To the extent that WakeMed challenged Criterion 18a standing alone, WakeMed failed to show by a preponderance of the evidence that the Agency erred in finding Rex's Application conforming to Criterion 18a.

114. The Agency correctly and reasonably determined that Rex adequately demonstrated that its proposal will have a positive effect on the cost effectiveness, quality, and access to the services proposed.

115. Criterion 18a required Rex to demonstrate its proposed project will positively impact competition in the proposed service area. Rex was not required to demonstrate that its proposal will positively impact, or will not negatively impact, existing providers of similar services in its proposed service area in order to demonstrate that their proposed project conformed with Criterion 18a.

116. In determining conformity with Criterion 18a, the Agency properly relied upon the same facts upon which it determined conformity with Criteria 3, 5, 7, 8, 13 and 20.

117. The Agency conducted an independent analysis of the Rex Application under Criterion 18a.

118. The Agency tacitly acknowledges that Criterion 18a must be reviewed and answered independently by finding Rex's Application conforming ("C") to that criterion.

119. There is nothing in the CON Law that prohibits the Agency from relying on the same information in a CON application in determining conformity with more than one criterion.

120. The Agency correctly and reasonably determined that the Rex Application conformed with Criterion 18a.

J. Conclusions of Law on Other Statutory Review Criteria

121. WakeMed did not challenge or appeal the Agency's findings of conformity with the remaining Statutory Review Criteria set forth in its Required Agency Findings, including Criteria 14 and 20. Thus, the Agency correctly and reasonably concluded that the Rex Application was conforming with all remaining Statutory Review Criteria and its October 29, 2010 decision was free from error on those criteria.

K. Conclusions of Law on Agency Rules

122. WakeMed did not challenge during the contested case hearing the Agency's determination with respect to the Criteria and Standards for Major Medical Equipment, 10A N.C.A.C. 14C .3100 et seq. Thus, the Agency correctly and reasonably concluded that the Rex Application was conforming with all applicable provisions of the Criteria and Standards for Major Medical Equipment, 10A N.C.A.C. 14C .3100 et seq.

III. STANDARD FOR RULE 41 DISMISSAL

123. WakeMed was afforded the opportunity to bring its case, give an opening statement, call witnesses, including adverse witnesses, offer and admit exhibits, put on evidence and make oral arguments as provided by N.C. Gen. Stat. § 150B-25(c) and 26 N.C.A.C. 3.0101. There is no requirement that Respondent or Respondent-Intervenor offer evidence after Petitioner rests its case before moving the Court to issue a ruling that Petitioner has not satisfied its burden of proof and its claims should be denied. WakeMed was provided with any due process to which it may be entitled.

124. An administrative law judge shall "hear and rule on motions" and "grant dismissal when the case or any part thereof has become moot or for other reasons." 26 N.C.A.C. 3.0105.

125. Because WakeMed failed to meet its burden of proof, a ruling on the merits of its claims and a determination that its claims should be denied pursuant to the Administrative Procedure Act, the Rules of the Office of Administrative Hearings and Rule 41 of the North Carolina Rules of Civil Procedure was warranted. See 26 N.C.A.C. 3.0101.

126. "The most commonly used provision in Rule 41(b) is the motion to dismiss at the close of plaintiff's evidence in a nonjury trial 'on the ground that upon the facts and the law the

plaintiff has shown no right to relief.'" See G. Gray Wilson, North Carolina Civil Procedure § 41-8, p. 53 (2d ed. 1995)).

127. N.C. Gen. Stat. § 1A-1, Rule 41 provides in pertinent part:

> After the plaintiff, in an action tried by the court without a jury, has completed the presentation of his evidence, the defendant, without waiving his right to offer evidence in the event the motion is not granted, may move for a dismissal on the ground that upon the facts and the law the plaintiff has shown no right to relief.

N.C. Gen. Stat. § 1A-1, Rule 41(b).

128. Involuntary dismissal, pursuant to N.C. Gen. Stat. § 1A-1, Rule 41(b), should be granted when the petitioner has shown no right to relief or when the ALJ determines that the movant is entitled to a judgment on the merits. Hill v. Lassiter, 135 N.C. App. 515, 517, 520 S.E.2d 797, 800 (1999); see also G. Gray Wilson, North Carolina Civil Procedure § 41-8, pp. 54-55 (2d ed. 1995) ("A dismissal under this rule should be granted if plaintiff has shown no right to relief or if plaintiff has made out a colorable claim but the court nevertheless determines as the trier of fact that defendant is entitled to judgment on the merits.").

129. In considering a dismissal pursuant to Rule 41(b), the Undersigned "is not to take the evidence in the light most favorable to [petitioner]." Hill, 135 N.C. App. at 517, 520 S.E.2d at 800. Instead, the Undersigned considers all the evidence before him, taking into account the credibility of the witnesses, the weight of their testimony and the reasonable inferences to be drawn from them. Id.; see also G. Gray Wilson, North Carolina Civil Procedure § 41-8, pp. 54-55 (2d ed. 1995).

130. A Recommended Decision under the Rule 41(b) provision for failure to demonstrate substantial prejudice or agency error has been issued in two other cases. See Exs. 4, 5, and 6 to Rex's Mot to Dismiss.

RECOMMENDED DECISION

Based upon the foregoing Findings of Fact and Conclusions of Law, it hereby is recommended that the decision of the Certificate of Need Section approving Rex's Application (Project I.D. No. J-8532-10) be UPHELD and that a Certificate of Need be awarded to Rex authorizing the project proposed in Rex's Application.

ORDER

It hereby is ordered that the Agency shall serve a copy of the Final Decision on the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714, in accordance with N.C. Gen. Stat. § 150B-36(b).

87

NOTICE

The Agency that will make the final decision in this contested case is the North Carolina Department of Health and Human Services.

The Agency is required to give each party an opportunity to file exceptions to the decision and to present written arguments to those in the Agency who will make the final decision. N.C. Gen. Stat. § 150-36(a). The Agency is required by N.C. Gen. Stat. § 150B-36(b) to serve a copy of the final decision on all parties and to furnish a copy to the parties' attorneys of record and to the Office of Administrative Hearings.

In accordance with N.C. Gen. Stat. § 150B-36 the Agency shall adopt each finding of fact contained in the Administrative Law Judge's decision unless the finding is clearly contrary to the preponderance of the admissible evidence. For each finding of fact not adopted by the agency, the agency shall set forth separately and in detail the reasons for not adopting the finding of fact and the evidence in the record relied upon by the agency in not adopting the finding of fact. For each new finding of fact made by the agency that is not contained in the Administrative Law Judge's decision, the agency shall set forth separately and in detail the evidence in the record relied upon by the agency in making the finding of fact.

IT IS SO ORDERED.

This the 19 day of August, 2011.

Beecher R. Gray

Beecher R. Gray
Administrative Law Judge

88

A copy of the foregoing was mailed to:

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This the 19th day of August, 2011.

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89