STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA

REPORT TO THE 1999 GENERAL ASSEMBLY OF NORTH CAROLINA 2000 REGULAR SESSION

ACKNOWLEDGMENTS

Steven Rose, Commission Counsel, and Esther Manheimer, Assistant Commission Counsel, were the primary preparers of this report. Valuable contributions were made by Dr. Steven A. Johnston and Dr. Allen K. Miedema of the Research Triangle Institute. This report was assembled with the valuable assistance of Kristen Crosson, Research Assistant in the Research Division of the North Carolina General Assembly. The Commission staff is grateful for the dedicated support of Commission Assistant Dee Bagley.

May 16, 2000

TO THE MEMBERS OF THE 1999 GENERAL ASSEMBLY, 2000 REGULAR SESSION:

Pursuant to Session Law 1997 - 40 as amended by Session Law 1999-122, the Study Commission on the Future of Electric Service in North Carolina herewith submits its report to the General Assembly.

Senator David W. Hoyle
Commission Cochairman

Representative Ronald L. Smith
Commission Cochairman

STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA
1999-2000

LEGISLATIVE MEMBERS

David W. Hoyle, Co-Chair
Post Office Box 2494
Gastonia, North Carolina 28053
Telephone No.: (704) 867-0822
FAX No.: (704) 866-4338

Senator Daniel G. Clodfelter
100 North Tryon Street, 47th Floor
Charlotte, North Carolina 28202-4003
Telephone No.: (704) 331-1041
FAX No.: (704) 378-2041

Senator Roy A. Cooper, III
Post Office Drawer 4538
Rocky Mount, North Carolina 27803
Telephone No.: (252) 442-3115
FAX No.: (252) 442-4170

Senator Walter H. Dalton
560 North Main Street
Rutherfordton, North Carolina 28139
Telephone No.: (828) 286-8222
FAX No.: (828) 286-8229

Senator James S. Forrester
Post Office Box 459
Stanley, North Carolina 28164
Telephone No.: (704) 263-4716
FAX No.: (704) 263-8169

Senator Kay R. Hagan
305 Meadowbrook Terrace
Greensboro, North Carolina 27408
Telephone No.: (336) 379-8721
FAX No.: (336) 379-8003

Senator Fletcher L. Hartsell, Jr.
Post Office Box 368
Concord, North Carolina 28026-0368
Telephone No.: (704) 786-5161
FAX No.: (704) 788-8058

Representative Ronald L. Smith, Co-Chair
103 Gloucester Court
Newport, North Carolina 28570
Telephone No.: (252) 726-7933
FAX No.: (252) 726-7933

Representative Phillip A. Baddour, Jr.
Post Office Box 916
Goldsboro, North Carolina 27533-0916
Telephone No.: (919) 735-7275
FAX No.: (919) 736-3297

Representative Donald A. Bonner
Post Office Box 718
Rowland, North Carolina 28383
Telephone No.: (910) 422-3402
FAX No.: (910) 422-3033

Representative John W. Hurley
Post Office Box 714
Fayetteville, North Carolina 28303
Telephone No.: (910) 483-6210
FAX No.: (910) 868-4078

Representative Mary L. Jarrell
1010 Wickliff Avenue
High Point, North Carolina 27262
Telephone No.: (336) 884-1276
FAX No.: (336) 884-5184

Representative Daniel F. McComas
Post Office Box 2274
Wilmington, North Carolina 28402
Telephone No.: (910) 343-8372
FAX No.: (910) 343-8003

Representative W. Edwin McMahan
5815 Westpark Drive
Charlotte, North Carolina 28217
Telephone No.: (704) 561-3402
FAX No.: (704) 561-8740

Senator R. L. Martin
Post Office Box 387
Bethel, North Carolina 27812
Telephone No.: (252) 825-4361
FAX No.: (252) 825-4361

Senator Thomas LaFontine Odom, Sr.
1515 Elizabeth Avenue
Charlotte, North Carolina 28204
Telephone No.: (704) 377-7333
FAX No.: (704) 377-5747

Representative William C. Owens, Jr.
113 Hunters Trail East
Elizabeth City, North Carolina 27909
Telephone No.: (252) 335-0167

Representative Drew P. Saunders
204 Sherwood Drive
Huntersville, North Carolina 28078-9003
Telephone No.: (704) 875-2738

PUBLIC MEMBERS

Terry Callender
Callender Enterprises, LLC
405 East Franklin Street
Delphi, Indiana 46923
Telephone No.: (765) 564-3557
FAX No.: (765) 564-6998

Mr. William Cavanaugh
Chief Executive Officer
Carolina Power and Light Company
Post Office Box 1551
Raleigh, North Carolina 27602
Telephone No.: (919) 546-3302
FAX No.: (919) 546-7536

Mr. Melvin Daniels, Jr.
1618 Rochelle Drive, Box 346
Elizabeth City, North Carolina 27909
Telephone No.: (252) 338-6939
FAX No.: (252) 331-6085

Mr. Richard Harkrader
1320 Shepard Street
Durham, North Carolina 27707
Telephone No.: (919) 489-1656
FAX No.: (919) 493-5908

Mr. Charles M. McKeller, Vice President
Glen Raven Mills
1831 North Park Avenue
Glen Raven, North Carolina 27217
Telephone No.: (336) 227-6211
FAX No.: (336) 226-8133

Ms. Sheila Ogle, President
Media Research Planning
Post Office Box 4799
Cary, North Carolina 27519
Telephone No.: (919) 468-1000
FAX No.: (919) 468-1956

Mr. Richard B. Priory
Chairman of the Board
Chief Executive Officer
Duke Energy
Post Office Box 1244
PB03D
Charlotte, North Carolina 28201-1244
Telephone No.: (704) 382-7229
FAX No.: (704) 382-5600

Mr. Chuck Terrill
Chief Executive Officer
NCEMC
Post Office Box 27306
Raleigh, North Carolina 27611-7306
Telephone No.: (919) 875-3124
FAX No.: (919) 954-7135

B. Lee Kindberg, Ph.D.
2801 Cross Country Road
Charlotte, North Carolina 28270
Telephone No.: (704) 849-9586
FAX No: (704) 849-9669

Mr. Jesse Tilton
Chief Executive Officer
ElectriCities of North Carolina
Post Office Box 29513
Raleigh, North Carolina 27626-0513
Telephone No.: (919) 760-6000, Ext. 330
FAX No.: (919) 760-6050

Mr. Henry C. Knight
1000 Mersey Lane
Raleigh, North Carolina 27615
Telephone No.: (919) 431-9688
FAX No.: (919) 431-9693 or 431-9694

STAFF

Mr. Steven Rose, Counsel
Ms. Esther Manheimer, Assistant Counsel
North Carolina General Assembly
Suite 545 LOB
300 North Salisbury Street
Raleigh, North Carolina 27603-5925
Telephone No.: (919) 733-2578
FAX No.: (919) 715-5460

Ms. Jane M. "Dee" Bagley
Commission Assistant
North Carolina General Assembly
Room 2108 LB
Raleigh, North Carolina 27601-2808
Telephone No.: (919) 733-5651
FAX No.: (919) 715-5460

PART I

INTRODUCTION

The Study Commission on the Future of Electric Service in North Carolina was established by the 1997 General Assembly by enactment of Session Law 1997-40, Senate Bill 38. (Appendix A). The 1999 Amendment to SL 1997-40, Session Law 1999-122 increased the number of members on the Commission from 23 to 29 by adding six additional members of the General Assembly. (Appendix B). The Commission is now composed of nine members of the Senate; nine members of the House of Representatives; the chief executive officers of the North Carolina Electric Membership Corporation, ElectriCities of North Carolina, Duke Energy, and Carolina Power and Light; two residential consumers; two industrial consumers; one commercial consumer; one environmental representative; and one power marketer representative.

Funding for the activities of the Commission has come from the Utilities Commission and Public Staff Fund pursuant to Section 10.1 of SL 1997-483 (Appendix C), as amended by Section 6.1 of SL 1999-395 (Appendix D).

The Commission was charged with examining "the costs, adequacy, availability, and pricing of electric rates and service in North Carolina to determine whether legislation is necessary to assure an adequate and reliable source of electricity and economical, fair, and equitable rates for all consumers of electricity in North Carolina." Twenty specific issues are enumerated in Section 2

of SL 1997-40. Although the Commission has organized its work by viewing its charge as determining whether or not regulation of retail service of electricity should be changed in North Carolina to allow retail competition, it has nevertheless addressed all of the specific issues enumerated in SL 1997-40.

The Commission filed an interim report with the 1998 Regular Session of the 1997 General Assembly. That report covered the Commission's activities from November 4, 1997 through April 23, 1998. This report covers the Commission's activities from April 23, 1998 until the present. Among the recommendations contained in this report is a recommendation that this Commission continue its work through June 30, 2006 (Appendix D and E).

EXECUTIVE SUMMARY

The Study Commission on the Future of Electric Service in North Carolina recommends that North Carolina make a commitment to enter the world of competitive retail electric service, with full retail choice of generation suppliers being available to all customers, on January 1, 2006. This report contains nine specific recommendations.

The Commission recognizes that competitive retail electric service is on the way for the entire country – pushed along by the unfolding of competition in wholesale electric sales and the general trend in the United States to move away from heavily regulated services where possible. There is the additional factor of international trade. Our electric suppliers, especially those that are investor owned, are no less a part of the diverse yet very connected international marketplace than any other large business. They are important players in the economic life of our State and must be allowed the freedom to compete that regulation, such as is applied to monopoly services, simply will not allow.

The Commission recognizes the need for controls. Electricity is a necessity; it cannot be stored in sufficient quantities, and most consumers rely on others for the provision of this product. Thus, it is important to note that this is not "deregulation." It is a restructuring of the marketplace in which the portion of this service that can be allowed to be competitive, will be.

The first legislative recommendations are scheduled for delivery to the 2001 General Assembly. The Commission recognizes that there is much additional work to be done before legislation can be completed for introduction, and before the actual process of moving to a restructured environment can be completed.

The Commission will continue to work on issues of consumer protection, along with environmental and alternative energy issues. Tax laws will need to be rewritten in order to accommodate a competitive retail electric market. Issues relating to the transmission and distribution of electricity must also be resolved. Most of these items will be fully addressed in the legislation to be recommended to the 2001 General Assembly. Where necessary, additional legislation will be recommended to the 2003 General Assembly.

The situation regarding North Carolina's municipal power agencies is unique and challenging and the Commission continues to struggle with the question of how to resolve this dilemma as the State moves into a competitive retail electric marketplace. Legislation on this topic will be recommended to the 2001 General Assembly

The issue of stranded costs must also be addressed. These are a legacy of the regulated environment in which we have operated for the past 100 years. They are costs that would be recovered in due course with the continuation of full monopoly services, but in a competitive environment these costs may not be recoverable. The Commission has recognized that it is important that these costs are recovered, to the extent they are reasonable and cannot otherwise be mitigated. The method the Commission chooses to recommend for the investor owned

utilities in this report combines a rate freeze until December 31, 2004 with the ability of the utilities to seek permission from the North Carolina Utilities Commission to lower rates or modify rate design until December 31, 2004. It also requires a proceeding before the Utilities Commission, commencing sometime prior to January 1, 2005, in which, among other things, the investor owned utilities will be allowed to establish any remaining stranded costs that would not be recovered in the course of the rate freeze. Legislation on this recommendation, including other North Carolina utilities, will be recommended to the 2001 General Assembly

Finally, in order for this Commission to complete the work of recommending legislation to the 2001 General Assembly, and in some cases to the 2003 General Assembly, and to follow the process of moving to a competitive environment as it unfolds over the next six years, the Commission recommends that the 2000 Regular Session of the 1999 General Assembly extend the life and funding of this Commission until June 30, 2006.

PART II

COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA

COMMISSION RECOMMENDATIONS

April 3, 2000

The Commission on the Future of Electric Service in North Carolina makes the following recommendations to the 2000 Regular Session of the 1999 General Assembly:

RECOMMENDATIONS

1. **Retail choice.** Fully competitive retail electric service will be available to all consumers in North Carolina as of January 1, 2006. Additionally, this Commission will recommend to the 2001 General Assembly an interim plan to permit some customers to choose their electric supplier beginning on January 1, 2005. This plan will include these provisions:

   a) Up to fifty percent (50%) of each power supplier's customer load, equally proportioned among customer classes, may choose an alternative electric supplier beginning January 1, 2005. The North Carolina Utilities Commission (NCUC) will establish the rules for implementation of this recommendation.

   b) Customers eligible to choose an alternative supplier as of January 1, 2005 will receive a "shopping credit" that is the equivalent of the then current, competitive market price for that class of customer

(e.g. residential, commercial, industrial) as established by the NCUC, and will pay its incumbent power supplier an appropriate transition charge.

2. **Stranded Costs.** In order to facilitate the change from a fully regulated environment to one where retail electric competition can flourish, recovery of reasonable potentially stranded costs is important and must occur.

With regard to the investor owned utilities, the issue of stranded costs shall be addressed to the extent possible through a rate freeze at current rates as of March 31, 2000. The rate freeze shall continue until December 31, 2004, unless, during the rate freeze period, the utility chooses to lower its rates or modify its rate design with the approval of the NCUC.

The investor owned utilities shall initiate a proceeding before the NCUC to:

a) establish rates for the period January 1, 2005 through December 31, 2005;

b) establish remaining stranded cost recovery charges, if any; and,

c) take such other actions required to effectuate customer choice.

If any investor owned utility is awarded additional stranded cost recovery after December 31, 2004, the NCUC shall initiate a one-time true-up of such utility's remaining stranded costs by July 1, 2007. That proceeding will adjust prospectively the continuing level of stranded cost recovery as appropriate.

This Commission will make further specific recommendations on recovery of stranded costs of other electric suppliers to the 2001 General Assembly. In

making such recommendations, this Commission will consider competitive generation costs for the various power suppliers.

None of the recommendations contained in this section is intended to alter the fuel clause adjustment proceedings now permitted by G.S. 62-133.2.

3. **Municipal Power Agency Debt.** At this time no recommendation is made as to the handling of the municipal power agency debt. A recommendation regarding the debt problem will be made to the 2001 General Assembly. Nothing in this recommendation is intended to preclude the municipalities from being able to sell or retain their electric distribution systems by making a payment to the MPA debt equivalent to the appraised value of the distribution system.

4. **Recommended Legislation.** This Commission will recommend specific legislative language necessary to accomplish its recommendations to the 2001 General Assembly and, where necessary, the 2003 General Assembly.

5. **Consumer Protection.** This Commission's recommendations to the 2001 General Assembly will address issues of consumer protection. These issues include:

a) Safety and reliability;

b) Universal service;

c) Ability to aggregate;

d) Measures to ensure that a competitive generation market will be established and all classes of customers have bona fide choices of electric generation suppliers;

e) Adequate safeguards to protect all consumers from abuse, misinformation, and fraud;

f) A form of "standard offer service" whereby all consumers can make the passive choice of staying with their current supplier at competitive rates. The rates for such standard offer service shall be subject to regulation by the NCUC. The allocation of any type of deregulation fees or costs, if any, shall be determined by the NCUC;

g) Requirements to ensure that the citizens of North Carolina will have adequate levels of power for growth and emergency conditions in the future;

h) A comprehensive consumer education program;

i) Disclosure requirements.

Additional issues of consumer protection will be addressed in the Commission's recommendations to the 2001 General Assembly.

6. **Environment and Alternative Energy.** This Commission's recommendations to the 2001 General Assembly will consider issues of environmental protection and promoting the use of alternative energy sources, including but not limited to the following:

a) A public benefit fund to address low income, renewable energy, and energy efficiency issues which may not be met in a deregulated market place;

b) A requirement for energy suppliers to include a small percentage of renewable electricity in the power they sell in North Carolina to encourage a robust green energy market and a minimum of clean energy generation in North Carolina;

c) Disclosure of information about generation fuel sources on consumers' bills so they will have the necessary information to make an informed choice on the products;

d) A procedure for customer choice for renewable energy (green energy) whether the cost is higher or lower;

e) Appropriate studies of potential regulatory issues relating to air quality issues which may arise as a result of electric restructuring;

f) Options for identification of an appropriate entity to encourage and hasten the development of less expensive and more efficient methods of electric generation, distribution, and use of electricity by all citizens in the state;

g) Any additional issues of environmental protection and promotion of the use of alternative sources of energy which may require legislative consideration.

7. **Tax Laws.** The Department of Revenue will recommend to this Commission not later than July 31, 2002 changes needed to the tax laws of the State due to the introduction of a competitive environment for the retail sale of electricity. One of the goals of these recommendations will be to present options to address tax revenue streams in the state that may be diminished as a result of the introduction of a competitive environment.

8. **Transmission and Distribution.** The North Carolina Utilities Commission (NCUC) will report to this Commission not later than July 31, 2002 the intended structure of a transmission entity and the intended framework for the regulation of distribution systems that will promote competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. In making this recommendation this Commission recognizes that electric utilities are required by the Federal Energy Regulatory Commission to file by October 15, 2000, plans for participating in a regional transmission entity for the purpose of developing competitive wholesale generation markets. Current FERC regulations require implementation of those plans by December 15, 2001. This Commission further recognizes that the task assigned to the NCUC is very much entwined with the requirements of FERC and that the regional transmission entity developed to comply with the federal requirements will effect the recommendations of the NCUC. This Commission also recognizes that steps taken by electric utilities to effectuate development of the competitive wholesale market, including revising of corporate structures and codes of conduct for corporate affiliates, will also contribute to the transition to a competitive retail market.

9. **Commission Authority.** The authority of this Commission, including its funding authority, will be extended until June 30, 2006 in order to recommend specific legislation, to review activities related to the implementation of these Commission recommendations, and to recommend any additional needed legislation.

RECOMMENDATION ONE

Retail choice. Fully competitive retail electric service will be available to all consumers in North Carolina as of January 1, 2006. Additionally, this Commission will recommend to the 2001 General Assembly an interim plan to permit some customers to choose their electric supplier beginning on January 1, 2005. This plan will include these provisions:

a) Up to fifty percent (50%) of each power supplier's customer load, equally proportioned among customer classes, may choose an alternative electric supplier beginning January 1, 2005. The North Carolina Utilities Commission (NCUC) will establish the rules for implementation of this recommendation.

b) Customers eligible to choose an alternative supplier as of January 1, 2005 will receive a "shopping credit" that is the equivalent of the then current, competitive market price for that class of customer (e.g. residential, commercial, industrial) as established by the NCUC, and will pay its incumbent power supplier an appropriate transition charge.

The Commission has answered in the affirmative the question of whether or not North Carolina should change its regulation of electricity generation providers to permit competitive retail sales of electricity. Fully competitive retail electric service should be available to all North Carolina consumers on January 1, 2006. The Commission intends to recommend to the 2001 General Assembly a plan allowing up to 50% of each power supplier's customer load, equally proportioned

among customer classes, to choose an alternative electric supplier beginning January 1, 2005.

The rules for implementation of the transition plan, from January 1, 2005 to January 1, 2006, will include the provision of a "shopping credit" for the eligible customers. This will be done by having the North Carolina Utilities Commission determine the competitive price of power, which will be separated from the rate charged by the incumbent power supplier. This separated power charge becomes the "price to beat." If the other charges due the incumbent power supplier, plus the cost of purchasing power on the open market, are less than the regulated cost of power, then the customer has saved the difference. If those combined charges exceed the regulated cost of power, then the customer will be paying more than the regulated cost of power.

Further details of the implementation of this plan will be determined by this Commission and included in the legislation recommended to the 2001 General Assembly.

This recommendation obviously includes the answer to what has become known to the Commission as the "threshold question," that is whether or not to restructure. In recommending that North Carolina join the 25 other states that have, at this point, embarked on retail electric restructuring plans, the Commission does not look to one single reason for doing so. In fact, there is no single reason that compels North Carolina to move to a restructured environment.

It is difficult to determine whether the price of electricity will go down in a competitive retail market. Forecasting the price of electricity, whether in a

regulated environment or a retail competitive environment, cannot be done with a high degree of certainty. And the longer the term of the forecast, the more difficult it is to predict.

The Research Triangle Institute prepared a two-volume report entitled "Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina" at the request of the Study Commission. In that report, RTI states that net changes in employment are a useful way to summarize measures of economic benefit or detriment. RTI states that the size of the forecasted net gain in employment is not a large one relative to the overall base of employment in the State. However, RTI does predict that the effect of restructuring to retail competition does produce a net positive gain in employment.[1]

With retail competition customers will have the ability to choose a specific type of power, such as wind or solar, even if that choice might actually be more expensive. Today that choice does not exist. A competitive environment may also result in electricity providers offering additional services to customers as a means of inducement for those customers to purchase power from the particular supplier.

North Carolina does not exist in a vacuum. It is very much affected by what the federal government does and by the actions of other states. This may be the most compelling reason to pursue restructuring of retail electric sales.

The trend toward less regulation and more competition has been in existence

[1] Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina, ES-3 and 4.

in the United States for some years. We have seen airlines, trucking, railroad, and telecommunications move from being regulated monopolies to competitive businesses. This began for electricity in 1992 when Congress passed the Energy Policy Act of 1992. Although the Energy Policy Act of 1992 directly effects wholesale sales of electricity, introducing a competitive environment, it would not be long before an influence began to be felt on the retail side as well. This was especially true in states with high retail electric rates, such as California. While Congress continues to struggle with a number of bills providing for retail electric competition, it seems very likely that it will not be long before agreement is reached between the Congress and the Administration and the country sees a mandated competitive retail environment. Although North Carolina does not seem to be suffering in its industrial recruitment efforts at the present time even though 25 other states have announced restructuring plans, one must keep in mind that most of these restructuring plans are not fully in effect at this time. It is likely that businesses are not making location decisions based on whether a state has retail competition, at least not yet. However, a state that fails to act on electric competition when the other states have, would appear to be at a disadvantage. There are too many other choices for business locations for someone to say they would prefer to be in a state that does not appear to be moving forward with the rest of the country. If North Carolina's business recruitment efforts began to lag, how long would it take us to recover?

There are other aspects of electricity competition that may prove to advance the desirability of North Carolina for business location or expansion. Electricity

intensive industries will want the ability to buy competitive power. So will multiple location industrial and commercial customers who will want to take advantage of load aggregation which increases the total amount of electricity bought by them and thus enhances their bargaining position for lower rates.

In the end, the Study Commission envisions being able to create a competitive environment that would allow those who can take advantage of competition to do so, and yet would also protect ratepayers so they do not find themselves in a situation that is economically worse than the present one. Rates for most ratepayers in North Carolina are reasonable. If this can be protected in the future, then restructuring should produce an overall gain for the State. Even if that gain is relatively modest, it must be weighed against the probability of economic harm if the state does nothing while the other states around it change.

The beginning dates for retail competition are important to North Carolina. They allow sufficient time for proper consideration of all the changes needed to allow the transition from the traditional methods of electricity regulation. They also contribute to lower stranded costs, which in turn means that the economic benefits to the state are potentially higher.

A final thought: The entities whose methods of doing business are under consideration for change represent major North Carolina corporations who employ large numbers of people, provide stock investments for many people, and are responsible for ensuring that the electric energy infrastructure exists in our state when businesses come here looking for locations. There is an obligation to

these corporate citizens, as well as to the citizens who work for them and invest in them, to allow them the ability to compete in a changing world.

RECOMMENDATION TWO

Stranded Costs. In order to facilitate the change from a fully regulated environment to one where retail electric competition can flourish, recovery of reasonable potentially stranded costs is important and must occur.

With regard to the investor owned utilities, the issue of stranded costs shall be addressed to the extent possible through a rate freeze at current rates as of March 31, 2000. The rate freeze shall continue until December 31, 2004, unless, during the rate freeze period, the utility chooses to lower its rates or modify its rate design with the approval of the NCUC.

The investor owned utilities shall initiate a proceeding before the NCUC to:

a) establish rates for the period January 1, 2005 through December 31, 2005;

b) establish remaining stranded cost recovery charges, if any; and,

c) take such other actions required to effectuate customer choice.

If any investor owned utility is awarded additional stranded cost recovery after December 31, 2004, the NCUC shall initiate a one-time true-up of such utility's remaining stranded costs by July 1, 2007. That proceeding will adjust prospectively the continuing level of stranded cost recovery as appropriate.

This Commission will make further specific recommendations on recovery of stranded costs of other electric suppliers to the 2001 General Assembly. In making such recommendations, this Commission will consider competitive generation costs for the various power suppliers.

None of the recommendations contained in this section is intended to alter the fuel clause adjustment proceedings now permitted by G.S. 62-133.2.

The Commission recognizes that stranded costs exist as a result of reasonable investments made by the regulated monopoly electric utilities, and other providers, to carry out their agreements with the State and the people they serve to provide adequate electric power. It follows that, if we change the business environment in which we, the people of this State, asked that these investments be made, then we have an obligation to ensure that they are recovered as part of the transition from a regulated to a competitive marketplace. Fortunately, the stranded costs that will exist in this State, at least for the investor owned utilities, are not excessive, and can be recovered in ways that will not have a dramatic impact on the price of electricity as we move into a competitive environment.

In a report to this Commission, the Research Triangle Institute estimates that stranded costs for North Carolina's six power providers could total $6.3 billion for its reference case year of 2004. However, when the stranded cost estimates for the municipal power agencies are removed, the figure drops to $2.7 billion.[2] The

---

[2] Stranded Cost Estimates for a Restructured Electric Industry in North Carolina – Addendum to Final Report, page 6. It must be noted that the RTI figures are estimates based on certain assumptions contained in their Stranded Cost Estimate reports. They must not be considered "findings" of stranded cost amounts.

Commission feels it is reasonable to separate out the municipal power agency stranded debt and deal with it as a separate item. See recommendation three below.

The RTI report highlights another aspect of stranded costs, and one which helps this Commission make its choice as to the commencement of customer choice and how stranded costs should be dealt with. In estimating stranded costs, moving the reference case date from 2004 to 2006, RTI finds that the total stranded costs in the State, without the municipal power agencies, would be $1.97 billion. Time is kind to stranded costs. It is the hope of the Commission that the amount of time necessary to allow the completion of studies, the passage of legislation, and the necessary actions by the Utilities Commission will also go a long way to help mitigate stranded costs.

The Commission's recommendation on stranded costs speaks both to investor owned utilities and the North Carolina Electric Membership Corporation when it states that "recovery of reasonable potentially stranded costs is important and must occur." However, the specifics following that statement apply only to the investor owned utilities. The Commission will make further specific recommendations on recovery of stranded costs of other electric suppliers to the 2001 General Assembly.

With regard to the investor owned utilities, it is the hope of the Commission that allowing their rates to be frozen at current levels until December 31, 2004 will allow for a satisfactory recovery of stranded costs. However, recognizing the element of uncertainty that exists with regard to stranded costs, and recognizing

that the stranded costs for each of the investor owned utilities are different and could increase because of required additional investments, the stranded costs recommendation of this Commission allows for a proceeding before the North Carolina Utilities Commission that will, among other things, allow a utility to establish any unrecovered stranded costs and allow the Utilities Commission to fashion a recovery charge if that is needed. If stranded costs are allowed beyond the end of the freeze date, then this Commission's recommendation includes a requirement for a one-time true-up of that utility's stranded costs by July 1, 2007.

The Commission feels that the methods of stranded cost recovery adopted for the investor owned utilities strike a balance between the right of a utility, particularly a state regulated utility, to recover its investments as it was promised, while at the same time recognizing that stranded cost calculations and recovery are imprecise and that one should not delay any more than necessary the passage from a rate base recovery environment to a competitive environment. One could argue that true-ups of stranded costs could continue for the life of the investments that have contributed to these stranded costs. This Commission feels that such precision is not necessary and the complexity and the lengthiness of the proceedings that would be necessary to even approximate this kind of precision are detrimental to the change from a regulated to a competitive environment for retail competition.

With regard to the stranded debt of the Municipal Power Agencies, see Recommendation Three below, and the discussion that follows it.

RECOMMENDATION THREE

Municipal Power Agency Debt. At this time no recommendation is made as to the handling of the municipal power agency debt. A recommendation regarding the debt problem will be made to the 2001 General Assembly. Nothing in this recommendation is intended to preclude the municipalities from being able to sell or retain their electric distribution systems by making a payment to the MPA debt equivalent to the appraised value of the distribution system.

North Carolina Municipal Power Systems: Background

Today 74 cities in North Carolina own and operate municipal power systems; the population of those cities represents about 11.5 percent of North Carolina's total population. Of these 74 cities, 51 jointly own generation facilities through the municipal power agencies (MPAs).

These 74 cities are members of ElectriCities of North Carolina (ElectriCities). ElectriCities is a traditional trade association and provides the services that are typical of such an organization, including the development of legislation affecting municipal power systems and legal support to the member municipalities. The role of the organization expanded considerably over time, particularly after the formation of the MPAs. Today ElectriCities not only performs trade association duties, but also offers a wide range of training, marketing support, and actual distribution system management and operation on a subscription basis for its members.

Evolution of the Municipal Power Agencies

In the early 1970s, municipal power systems, like other suppliers worldwide, were concerned about the large fuel price increases that were occurring. At the time, most of North Carolina's municipal systems were bulk power customers, buying most or all of their power from investor-owned utilities (IOUs) to meet their customers' needs. Their wholesale electricity rates rose 530 percent in the 12 years from 1970 to 1982, primarily due to large increases in fossil fuel prices.

Because of these rapidly rising costs, the municipalities concluded that acquiring their own generation was the best source of long-term cost relief. In particular, they and other utilities of that time were especially attracted to nuclear generation plants, which were projected to become a low-cost source of power. Most observers thought that nuclear capacity would be added at $500 per kilowatt of capacity, roughly twice the cost of coal plants at the time. They thought this initial cost premium for nuclear plants was justified because of large savings in operating costs compared to competing fossil-fueled plants. Both the North Carolina municipal utilities and the IOUs were attracted to joint investment in nuclear power plants, as were the North Carolina electric cooperatives.

In 1975 the North Carolina General Assembly passed Chapter 159B, the Joint Municipal Electric Power and Energy Act. The General Assembly determined that municipalities were important suppliers of electricity and that the state should allow them to jointly finance, develop, own, and operate appropriate generation and transmission facilities, if they desired to do so. The North Carolina power agencies were formed after the passage of the Act. However, final authorization

for their joint ownership of generation did not come until 1977 when North Carolina voters approved a constitutional amendment that allowed the cities to jointly own generation with private entities.

The formation of the power agencies began after the passage of Chapter 159B in 1975. In the early stages of their formation, three separate power agencies were proposed, essentially formed of cities located within the service territory boundaries of each of North Carolina's three major IOUs. However, the agencies initially numbered 2 and 3, which comprised 32 cities located within the boundaries of North Carolina Power and Carolina Power and Light (CP&L), were combined to form North Carolina Eastern Municipal Power Agency (NCEMPA). The other, North Carolina Municipal Power Agency #1 (NCMPA1), comprised of 19 cities located within the service territory boundaries of Duke Power. Today, both of these MPAs continue to serve their original member cities.

Both CP&L and Duke Power built power generation capacity that is jointly owned with the two MPAs. Duke's Catawba nuclear plant is jointly owned with NCMPA1, North Carolina Electric Membership Corporation (NCEMC), and some publicly and customer-owned utilities in South Carolina. CP&L's Shearon Harris nuclear plant, Brunswick nuclear plant, Mayo coal plant, and Roxboro coal plant are jointly owned with NCEMPA. Duke and CP&L operate these plants for a fee paid by the MPAs. The structured relationship among these two IOUs, the two MPAs, ElectriCities, and the MPA member cities was put in place in the late 1970's and the early 1980's and remains largely unchanged today. A Board of Commissioners that consists of one representative from each member city governs each MPA.

The Power Agency Predicament

The series of decisions leading to the formation of the MPAs and their ownership of generation assets was fateful. In fact, most of the key assumptions and projections that led to those decisions turned out to be wrong. Thus, today the electric rates of the cities that are members of the MPAs are more than 20 percent higher than those charged to CP&L and Duke Power customers and in some cases more than 35 percent higher.[3] Three factors account for these rate differences:

Huge Construction Cost Overruns. As it turned out, the MPAs were buying shares of nuclear plants that were under construction at the time of the incident at Three Mile Island. After that incident, the Nuclear Regulatory Commission imposed much tougher regulations on all nuclear plants then under construction as well as any future nuclear plants to be constructed. These regulations, among other things, led to final construction costs that were as much as four times the initial estimates. Under their purchase contracts the municipalities were obligated to pay their share of all construction costs. As a result, they bought into the last and most expensive nuclear power plants constructed.

Decline in Load Compared to Forecast. During the late 1970s, the U.S. experienced double-digit load growth, which was predicted to continue throughout the 1980s. Also, fuel prices had been increasing because of the actions of the Organization of the Petroleum Exporting Countries and other factors. In light of this situation, large-scale capacity purchases seemed a good

[3]See RTI's report to the Study Commission, Task 2: Rate Comparisons, July 1998, page 3-3 and Appendix D.

option. However, increases in energy efficiencies at the customer level caused load to increase significantly less than had been predicted. Therefore, the municipalities, particularly the members of NCMPA1, had purchased more baseload generation than they actually needed. The debt on this excess baseload capacity is partially responsible for the MPAs' higher rates.

Decline in Sell-Back Price. Because the municipalities were building extra capacity in anticipation of future growth, in the early years of the plants, the IOUs agreed to buy back all or a percentage of the power in excess of the power agencies' needs. Several factors have affected the sell-back price and quantity. The 1986 Tax Reform Act required IOUs to lower their "buy-back" prices because of their treatment of income taxes. This change led to serious revenue losses to the MPAs, because the sell-back price was tied to the IOU's rate level. Also, in more recent years, the sell-back contracts have begun to expire or to be renegotiated, thus lowering the amount of excess capacity that the MPA can sell back.

As a result of these factors, the MPAs have continued to struggle since their inception. Their challenge has been to deliver electricity to their members at a price that is comparable to rates that other utilities within the region charge their customers. Despite the MPAs' tax-exempt status and their accompanying low cost of debt, the battle has been lost. In the early years, the agencies paid about $2 billion in interest expenses (both before and after commercial operation of their

generating units) by borrowing additional funds, temporarily keeping rates low.[4] As a consequence, they carry the cumulative value of those uncharged costs as an asset—unfortunately a worthless asset. Their financial problems are immense, as summarized below.

Financial Condition of the Power Agencies

Both of the power agencies are fully capitalized by debt— since neither has authority under North Carolina law to issue common or preferred stock. Since their inception, both have issued tax-exempt bonds and other debt instruments under the aegis of the Local Government Commission (LGC) of the State of North Carolina. The LGC participates in the debt placements.[5] Currently, the total amount of outstanding debt that is owed by the two power agencies is about $5.6 billion and represents about 28 percent of the total state and local debt in North Carolina. Two important factors affect the MPAs' debt:

Backed by Electricity Revenues. The bonds issued by the two power agencies are not like other municipal bonds, because they are not backed by the municipalities' tax revenues. Instead, the bonds are backed by revenues the power agencies receive from sales of electricity to the member cities. Each member city has a fixed debt share (called the "initial project share") that it is responsible to pay. The North Carolina LGC has the right to step in and ensure

[4]More than half of this cost was incurred prior to commercial operation and was similar to a practice called Allowance for Funds Used During Construction (AFUDC) that was also used by IOUs.

[5] See RTI's Task 4, Vol. 1 for more details on the legal and regulatory relationship of the MPAs to the LGC.

that the bonds are retired by the member cities. So the true liability for all of the MPA debt resides with the electricity customers of the member cities. They are obliged by State law and by contract to retire all the debt acquired by the city representatives through their joint actions with the power agencies.

Issued at High Rates. At the time that the power agency bonds were issued, the nation was experiencing some of the highest interest rates in its history. In borrowing funds at those rates, the agencies became saddled with extremely high debt service costs—albeit much lower, because of their tax-exempt status, than was the case for private-sector borrowers at the time. By refinancing, the agencies have considerably lowered the average interest rate on their debt. However, this has led to refinancing costs, which added to the total debt burden.

Currently, debt service on this staggering amount of debt represents more than one-half of the electric rates MPA member cities charge to their customers. As noted earlier, these rates are already higher than those of IOU rates in North Carolina, and high debt service requirements are a major reason for this difference. Current forecasts of MPA member cities' debt service requirements and electric rates show them to be rising over the next several years, so the current situation is likely to get worse before it gets better, even in the absence of competition among retail power suppliers.

The Commission has struggled with this problem as well. One promising proposal was put forth by Duke and CP&L and involved the sale of MPA generation assets as well as distribution assets. These asset sales would bring insufficient revenues to pay all the debts, so it was proposed that public financing

be used to pay the balance. But many contentious issues are raised by that proposal, including who should be allowed to purchase those assets and how the balance of the debt remaining after such a sale should be paid.

Many proposals to resolve these differences have been put before the Commission. At the request of the Commission Cochairs, representatives of the IOUs, the MPAs, and North Carolina Electric Membership Corporation have been meeting to try to fashion an acceptable proposal.

So far, no resolution has occurred. However, the Commission recognizes the importance of resolving this issue. It stands in the way of the MPA member cities participation in the competitive environment proposed in this report. The Commission will continue to work on this issue and intends to include a resolution to it in the report to the 2001 General Assembly.

RECOMMENDATION FOUR

Recommended Legislation. **This Commission will recommend specific legislative language necessary to accomplish its recommendations to the 2001 General Assembly and, where necessary, the 2003 General Assembly.**

The Commission recommends that specific legislative language necessary to accomplish the Commissions' recommendations be made to the 2001 General Assembly due to the fact that the Commission needs the 2000-2001 interim to develop and draft electric restructuring legislation. Electric industry restructuring is highly complex and multifaceted. In addition, North Carolina has the added complication of a staggering municipal power agency debt totaling 5.6 billion dollars or approximately 28% of this State's debt. Since 1997, this Commission has been diligently studying the issue of electric industry restructuring and it was not until April 3, 2000 that the Commission was able to reach a consensus regarding its recommendations for restructuring. The 2000 Session begins May 8, 2000 and with only a little over one month from the approval of the recommendations and the beginning of Session, it was clear that the Commission would need more time to conclude its work and to develop a comprehensive restructuring legislative package. Please note that study commissions such as this Commission are prohibited from meeting during the Session. A little more than one month to resolve all the details and draft such a complex bill would deprive the citizens of this State of the quality legislation they demand and deserve. Due to the complexity of electric industry restructuring in North Carolina, this Commission must see that each essential step towards restructuring be taken in

advance of the introduction of any restructuring legislation. This includes adequately addressing the municipal power agency debt problem.

This Commission has repeatedly recognized that North Carolina cannot restructure its electric industry without addressing the Municipal Power Agency debt problem. Additionally, both North Carolina State Treasurer Harlan Boyles and North Carolina State Governor Jim Hunt have called upon the General Assembly to help solve the municipal power agency debt problem. Treasurer Boyles has appeared before the Commission on three occasions and during the latter two appearances has appealed to this Commission to address the municipal power agency debt problem. These recommendations clearly state that this Commission is making no recommendations regarding the municipal power agency cities, but that such recommendations are to be made to the 2001 General Assembly.

This Commission has also identified the need for tax law changes under electric industry restructuring. This Commission contracted with the Research Triangle Institute to research and report on the effects of electric industry restructuring on tax revenues. These recommendations call on the North Carolina Department of Revenue to further enhance the Commission's work by recommending necessary changes in the tax laws of this State due to the introduction of a competitive environment for the retail sale of electricity. The Department of Revenue's recommendations must be made no later than July 31, 2002. Thus, the Commission's recommended 2001 restructuring legislation may

require additional legislation concerning tax law changes that will be recommended by this Commission to the 2003 General Assembly.

Finally, this Commission recognizes the probability that further legislation, not presently contemplated, may be needed to complete a successful transition to full retail competition by the target date of January 1, 2006.

RECOMMENDATION FIVE

Consumer Protection. This Commission's recommendations to the 2001 General Assembly will address issues of consumer protection. These issues include:

a) Safety and reliability;

b) Universal service;

c) Ability to aggregate;

d) Measures to ensure that a competitive generation market will be established and all classes of customers have bona fide choices of electric generation suppliers;

e) Adequate safeguards to protect all consumers from abuse, misinformation, and fraud;

f) A form of "standard offer service" whereby all consumers can make the passive choice of staying with their current supplier at competitive rates. The rates for such standard offer service shall be subject to regulation by the NCUC. The allocation of any type of deregulation fees or costs, if any, shall be determined by the NCUC;

g) Requirements to ensure that the citizens of North Carolina will have adequate levels of power for growth and emergency conditions in the future;

h) A comprehensive consumer education program;

i) Disclosure requirements.

Additional issues of consumer protection will be addressed in the Commission's recommendations to the 2001 General Assembly.

This Commission has thoroughly studied the issue of consumer protection and electric industry restructuring. Henry Knight and Sheila Ogle, two members of the Commission representing residential and small business consumers, have helped shed light on the importance of emphasizing consumer protection and ensuring that any restructuring legislation include consumer protection provisions. Most recently, Rob Schofield of the North Carolina Justice and Community Development Center made a presentation to the Commission concerning consumer protection issues. He represented AARP of North Carolina, the North Carolina Consumers Council, and the North Carolina Council of Churches. Mr. Schofield explained that restructuring legislation must benefit all consumers by addressing (1) service, (2) marketing, (3) billing, (4) consumer education, (5) environmental concerns, and (6) stranded costs. Commission members Henry Knight and Sheila Ogle were able to work with Senator Odom to introduce an amendment to the draft-suggested recommendations that incorporated Mr. Knight's and Ms. Ogle's concerns as well as those represented by Mr. Schofield. The following reiterates and explains each consumer protection recommendation:

a) Safety and reliability and g) Requirements to ensure that the citizens of North Carolina will have adequate levels of power for growth and emergency conditions in the future -

In a regulated electric industry environment, the North Carolina Utilities Commission has the authority to ensure the safety and reliability of this State's electric system as well as to ensure that North Carolina has adequate levels of power. Safety includes ensuring that the public is not at risk of being harmed by electric wires and components. Reliability simply means that all will have power that is, within acceptable limits, uninterrupted. See the Research Triangle Institute's report on "Reliability Considerations in Electric Industry Restructuring" for a more in depth discussion on this issue. In a restructured environment reliability is a concern because there could be no entity requiring utilities to maintain certain reserve requirements or requiring utilities to build new generation. This Commission does not intend to restructure the electric utility industry accepting a future where brown-outs or black-outs are the accepted norm or where capacity is not available for business or residential expansion. Nor does the Commission intend to leave consumers without the means for rapid power restoration in the event of a severe weather condition such as a hurricane.

b) Universal service -

Universal service is a fundamental component of a restructured electric industry. The concept of universal service (the availability of electricity service for all) was one of the reasons for creating an electric utility industry that is a regulated monopoly. For example, in exchange for allowing a company such as Duke Power or CP&L to have a monopoly over a given service territory the company must provide power to ***all*** customers living in that territory, and pricing must be uniform for all members of a customer class, regardless of the cost for

serving a particular customer. Universal service is a fundamental underpinning to a sound infrastructure in North Carolina. The universal service of electricity, like water, sewer, telecommunications and so on is an essential component of a thriving economic environment such as the one currently enjoyed in North Carolina. It is the intent of this Commission to continue the practice of universal service. This Commission recognizes the necessity of each and every North Carolina citizen, business and government entity having available electricity at reasonable prices in order to maintain a healthy economy, as well as provide all the other benefits of electricity.

c) Ability to aggregate -

The ability to aggregate means the grouping together of various power purchasers and negotiating the purchase of their power as one entity. Currently, aggregation is prohibited. In a restructured electric industry, this Commission finds that the buying power of individual power purchasers, such as schools, will be enhanced through aggregation and will also bring stability to those customers' rates. Additionally, this Commission intends to further competition and to that end finds that the practice of aggregation encourages competition among power providers.

d) Measures to ensure that a competitive generation market will be established and all classes of customers have bona fide choices of electric generation suppliers -

This Commission is recommending the restructuring of the North Carolina retail electricity market but this means the deregulation of only the generation

portion of the electricity industry. The purpose of the deregulation of the generation portion of the electricity industry is to encourage competition among generation suppliers. It is this Commission's hope that the result of competition will be lower generation electricity prices for all consumers and possibly the development of new, innovative electricity technology. Many will argue that other benefits may be realized such as an increase in "green" power.

However, consumers can only realize the benefits of competition if a truly competitive generation market is established giving all customers a bona fide choice of electric generation suppliers. This means that the method chosen for restructuring must not only allow competition among generation suppliers but must encourage competition. The federal government has already begun encouraging competition by issuing Federal Energy Regulatory Commission Order 888 that requires electricity companies to open their transmission lines for the use of all electricity suppliers. It is the intent of this Commission to continue this encouragement of generation market competition and this Commission will avoid making any recommendation that hinders competition.

e) Adequate safeguards to protect all consumers from abuse, misinformation, and fraud,

h) A comprehensive consumer education program, and

i) Disclosure requirements -

A key element to successfully restructuring the electricity industry in North Carolina will be an aggressive and comprehensive consumer protection program. In a regulated environment the North Carolina Utilities Commission, the Public

Staff. and the Attorney General are the watchdogs of the consumer through the use of rate regulation proceedings and other oversight mechanisms. While distribution and transmission will still be regulated in a restructured electric industry environment, each individual consumer must be an advocate for himself or herself when it comes to the purchase of power. It is the intention of this Commission to arm every consumer with the information they need to make educated decisions about the purchase of power and to understand their new unbundled electricity bill.

f) A form of "standard offer service" whereby all consumers can make the passive choice of staying with their current supplier at competitive rates. The rates for such standard offer service shall be subject to regulation by the NCUC. The allocation of any type of deregulation fees or costs, if any, shall be determined by the NCUC -

The standard offer service is a tool used in many states moving into a restructured electricity environment. The standard offer is a retail electric rate set by the North Carolina Utilities Commission for the generation component of power. The standard offer has the following benefits. It allows every electricity customer in the State the option not to choose a new generation supplier and instead to remain with their incumbent supplier. In addition, the incumbent supplier must offer their customers the standard offer. The standard offer is sometimes called the "price to beat" because customers can evaluate the standard offer and then shop around for a lower generation price. Another benefit of

providing a standard offer is that it ensures that every electricity customer continues to receive power at a reasonable rate in a competitive environment.

Additional Issues -

These consumer protection issues, and others that may arise in the consideration of this topic, will be addressed in the Commission's recommendations to the 2001 General Assembly.

RECOMMENDATION SIX

Environment and Alternative Energy. This Commission's recommendations to the 2001 General Assembly will consider issues of environmental protection and promoting the use of alternative energy sources, including but not limited to the following:

a) A public benefit fund to address low income, renewable energy and energy efficiency issues which may not be met in a deregulated market place;

b) A requirement for energy suppliers to include a small percentage of renewable electricity in the power they sell in North Carolina to encourage a robust green energy market and a minimum of clean energy generation in North Carolina;

c) Disclosure of information about generation fuel sources on consumers' bills so they will have the necessary information to make an informed choice on the products;

d) A procedure for customer choice for renewable energy (green energy) whether the cost is higher or lower;

e) Appropriate studies of potential regulatory issues relating to air quality issues which may arise as a result of electric restructuring;

f) Options for identification of an appropriate entity to encourage and hasten the development of less expensive and more

efficient methods of electric generation, distribution, and use of electricity by all citizens in the state;

g) **Any additional issues of environmental protection and promotion of the use of alternative sources of energy which may require legislative consideration.**

In 1998, the Commission received presentations concerning environmental issues from Tripp Pollard, an attorney with the Southern Environmental Law Center, and Susan Luster, the Executive Director of the North Carolina Solar Energy Association. And in 1999 the Commission received two presentations on the effects North Carolina's electric industry has on the environment and how a restructured industry could possibly improve or harm environmental quality. On August 19, 1999 Dennis Nightingale from the Public Staff spoke about numerous environmental issues such as problems associated with different kinds of electrical generation - coal, nuclear, and hydro and the difficulty of locating transmission lines. He also presented several environmental initiatives adopted by states who have already restructured. In October 1999 the environmental representative on the Study Commission, Richard Harkrader, made a slide presentation on environmental problems caused by emissions from "grandfathered" coal fired, power plants which generate 45% of North Carolina's electricity. In a related presentation on March 22, 2000, the Secretary of Environmental and Natural Resources presented a report on Governor Hunt's Clean air Plan.

In 1999 and 2000 the Study Commission voted twice on issues related to environmental and alternative energy. In its last meeting in 1999 the Study

Commission, responding to requests from Commission members and North Carolina environmental groups, authorized the Research Triangle Institute to do a study and report that will be entitled "Environmental Considerations Associated with Electric Industry Restructuring in North Carolina". This report is now being edited and it will be released in the late Spring or early Summer of 2000. On April 3, 2000 the Study Commission adopted an amendment introduced by Commission member Senator Odom. Senator Odom's amendment to the draft suggested recommendations listed seven different environmental protection and alternative energy items to be considered for recommendation to the 2001 General Assembly.

Consideration of these seven items will be an important part of the restructuring discussions because past requirements for utilities to promote clean energy generation, and energy efficiency or low-income customer protection may be lost in a restructured retail generation market. The seven items are:

a) a public benefit fund (PBF, also called a system benefit charge) could be maintained by collecting a small charge paid by all rate payers (known as a wires charge because it is part of the price paid for each kilowatt hour purchased). Currently in NC, Advanced Energy and the NCUC are funded by a wires charge. The fund could perform any or all of the following:

1) provide for low-income assistance;

2) help make all NC customers more energy efficient which would reduce the need for generating electricity and lower consumer bills and;

3) help commercialize and promote renewable energy for generating electricity. (Renewable energy includes energy made from biomass - wood, farm crops and animal wastes, hydrogen, small hydro, solar and wind.)

b) a renewable portfolio standard (RPS) could be a requirement for energy suppliers to include a small percentage of renewable energy generated electricity in the electricity they sell in North Carolina. A RPS could help the commercialization of renewable energy.

c) Disclosure could require electric suppliers to tell consumers how the electricity they buy was generated, what fuels were used and what emissions resulted.

d) A competitive electricity market in NC will attract suppliers selling "green" electric products. The experience of other states with a competitive market and statewide polling done by the NC Solar Energy Association suggests that between 10% and 20% of NC consumers would choose "green electricity." Disclosure and certification are a very important requirement for this market.

e) The generation and use of electricity has a large impact on North Carolina health and air quality. Some have argued that a competitive market will cause the older, lower cost, coal fired power plants to run more and as a result create more pollution. The report of RTI commissioned by this Study Commission "Environmental Consideration Associated With Electric Industry Restructuring in North Carolina will be

available to the Commission when it reconvenes after the 2000 Short Session.

f) One of the major promises of electric utility restructuring is that a competitive market should foster innovation and create more efficient technologies. It may be beneficial for some branches of state government and some of our universities to follow, participate in, or encourage this process.

g) This Commission will consider other issues of environmental protection and alternative energy as it prepares its recommendations to the 2001 General Assembly

RECOMMENDATION SEVEN

Tax Laws. The Department of Revenue will recommend to this Commission not later than July 31, 2002 changes needed to the tax laws of the State due to the introduction of a competitive environment for the retail sale of electricity. One of the goals of these recommendations will be to present options to address tax revenue streams in the state that may be diminished as a result of the introduction of a competitive environment.

State and Local Tax Issues

State and local tax issues are important in North Carolina electric industry restructuring, primarily for two reasons: (1) Revenues from taxes levied on electric utilities in North Carolina are large; and (2) Many of these revenues are at risk if the industry is restructured. Four state and local taxes are of particular importance: (1) state corporate income tax, (2) local property taxes, (3) state gross receipts tax, and (4) state sales tax.

Altogether, remittances of these four taxes by electricity suppliers accounted for about $634 million in 1997 tax revenues in North Carolina. Roughly one-third of this total was from the gross receipts tax, slightly less than one-third was from the sales tax, and about one-sixth each was from property and corporate income taxes. Those revenues are ultimately spent by all three levels of North Carolina government, accounting for about 3.25 percent of total state tax revenues, 2.25 percent of county tax revenues, and 6.9 percent of municipal tax revenues. These revenues can be at risk in a restructured electricity industry for the following reasons:

- The retail market price of electricity may fall for many customers in many areas of the State.
- Income earned by utilities from electric operations may fall as the retail market price of electricity falls.
- Assets involved in electricity generation may fall in value as the retail market price of electricity falls and if stranded costs associated with these assets are not adequately recovered.
- The dollar volume of sales may fall if the retail market price of electricity falls.
- The State may find it difficult to tax out-of-state electricity providers (the "nexus" issue).

These risks may be partially offset if:

- lower retail electricity prices occur and stimulate new and expanded businesses and industry;
- our incumbent electricity providers are able to expand their electricity sales volumes and income (both in- and out-of-state); and
- restructuring involves the transfer of assets (e.g., via a negotiated sale or auction) from electricity providers that pay less taxes to those that pay more, e.g. from municipal power agencies [MPAs] to investor-owned utilities [IOUs] or to customer-owned utilities (COUs).

Key Policy Decisions Affect on Tax Revenues from Utilities

The two most important policy decisions affecting North Carolina tax revenues are those relating to the recovery of stranded costs and the establishment of nexus for tax purposes. Stranded cost recovery decisions can affect North Carolina tax revenues in three significant ways.

- First, the aggregate amount of stranded costs significantly affects the difference between current electricity prices and competitive prices, so the amount of stranded costs affects the amount of potential price reductions under competition. Those price changes significantly affect electricity revenues and, hence, revenue-based tax proceeds.
- Second, stranded costs may affect property tax revenue because of the way in which utility property is appraised for tax purposes.
- Third, the state's decision on the recovery of stranded costs would have critical tax revenue implications, because stranded cost recovery payments are presumed to be taxable. Therefore, recovery of stranded costs would automatically offset part of the tax losses that would otherwise occur during the transition period.

Retail competition would likely introduce new electricity suppliers to North Carolina; some of them located in other states. Whether these out-of-state providers will be liable to pay North Carolina taxes remains an issue, generally described as the nexus issue. Nexus refers to the authority of a state to levy taxes on any out-of-state seller, historically based on physical presence

(that is, an out-of-state provider's having sufficient property, employees, or other presence in a state to justify taxation). However, an exact legal definition of physical presence has not been established for the purpose of taxing electricity sales. The existence of nexus would affect the competitive price of electricity and, therefore, the amount of stranded costs. As a result, revenues from the gross receipts tax, sales tax on electricity, and corporate income tax would be higher with nexus than without it. Therefore, North Carolina has an obvious incentive to establish nexus or to implement alternative tax policies that have the same effect as nexus.

Because sales and gross receipts taxes account for almost two-thirds of taxes remitted by electric utilities, they are the taxes that are most at risk if the electric industry is restructured. The two taxes account for 70 to 90 percent of potential tax revenue losses if stranded costs are not recovered or if nexus is not established for tax purposes. The percentage losses are identical for these taxes because both are collected as a percentage of electricity revenues.

The potential for revenue loss from corporate income and property taxes is less certain. This potential is very sensitive to the extent of electricity sales expansion, business and industry expansion, and increase in asset values that might accompany industry restructuring, especially if utility stranded costs are recovered.

Statewide, municipalities are likely to suffer the highest proportionate tax revenue losses (up to 1.2 percent of their total tax revenues) under industry restructuring because of the impact on property taxes and municipal proceeds

of gross receipts tax collections. County tax collections are likely to fall by a smaller percentage (up to 0.3 percent) statewide. However, counties that depend heavily on utility property taxes, especially counties that have a large apportionment of the assessed value of utility properties, and counties that are served by utilities with large stranded costs, may experience much greater than average effects due to reassessments that could occur. State tax collections may fall by as much as 0.8 percent if utility stranded costs are not recovered and nexus is not established for tax purposes.

Tax Policy Options

If industry restructuring reduces retail electricity prices in North Carolina and there are no changes in tax policies, there will be commensurate reductions in state and local tax bases. Several tax policy options are available to lawmakers:

- no change,
- allow stranded cost recovery,
- change tax rates, and
- restructure existing taxes.

The relative attractiveness among these options depends on the resolution of the nexus issue.

The no change option is likely to lead to losses in tax collections. Unless the state implements offsetting tax policies, a likely consequence is that state, county, and municipal governments would experience tax revenue shortfalls.

Tax revenues collected from the electric industry by the state, counties, and municipalities could fall by as much as 5 percent (equal to 0.2 percent of their combined tax collections from all sources), even if utility stranded costs are recovered and if nexus is established for tax purposes.

One option for policy change is to allow stranded cost recovery—a decision that has critical implications for mitigating tax shortfalls that may be created by retail competition. Tax law suggests that revenue from stranded cost recovery surcharges would be taxed just like any other component of electric utility revenues. Thus, gross receipts and sales taxes would be levied on recovery surcharges. In addition, revenue from stranded cost recovery would contribute to the utilities' income, and any resulting profits would be subject to the state income tax. Therefore, stranded cost recovery would have the effect of mitigating some tax revenue losses during the transition period. This is the case, whether nexus is established or not, since stranded costs are recovered from customers regardless of whether they buy power from in-state or out-of-state generators.

The State could also offset projected tax losses by increasing the rates of one or more of the existing taxes on utilities. However, this option is practical only if nexus is established. Because the gross receipts tax and the sales tax on electricity together account for the largest share of tax revenue, these tax rates would likely be the most prominent candidates for change.

Tax restructuring options include introducing an entirely new tax or applying a surcharge on an existing tax. Two of the most promising options

for offsetting potential revenue losses are a consumption tax, also referred to as an excise tax, and an electricity surcharge, which is a tax based on dollar sales. However, as is the case for changes in tax rates, an electricity surcharge is practical only if nexus is established.

A consumption (excise) tax is a new tax that is designed to recover equivalent tax revenues under retail competition, but in a more uniform way than is possible with sales or gross receipts taxes. This tax would be levied on kilowatt-hours (kWh) instead of dollar sales and would be collected by the North Carolina entities that sell electricity at the retail level (i.e., distributors). It would be collected regardless of whether power is purchased from in-state or out-of-state generation companies.

In summary, if nexus is established, the most promising tax option for offsetting potential tax revenue losses may be to change existing tax rates. If North Carolina cannot establish nexus, a consumption or excise tax appears to be the preferred option for offsetting potential tax revenue losses. The recent adoption of a consumption tax on natural gas in North Carolina provides an important precedent, suggesting that in the absence of nexus such a tax will be an effective measure for offsetting other tax losses due to retail competition.

It is the recommendation of this Commission to request that the Department of Revenue recommend changes needed to the tax laws of this State. The Department's recommended changes must be made not later than July 31, 2002 so that this Commission can have an opportunity to review the

changes and recommend necessary legislation to the 2003 General Assembly in time for a transition period to start on January 1, 2005.

RECOMMENDATION EIGHT

Transmission and Distribution. The North Carolina Utilities Commission will report to this Commission not later than July 31, 2002 the intended structure of a transmission entity and the intended framework for the regulation of distribution systems that will promote competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. In making this recommendation this Commission recognizes that electric utilities are required by the Federal Energy Regulatory Commission to file by October 15, 2000, plans for participating in a regional transmission entity for the purpose of developing competitive wholesale generation markets. Current FERC regulations require implementation of those plans by December 15, 2001. This Commission further recognizes that the task assigned to the Utilities Commission is very much entwined with the requirements of FERC and that the regional transmission entity developed to comply with the federal requirements will effect the recommendations of the Utilities Commission. This Commission also recognizes that steps taken by electric utilities to effectuate development of the competitive wholesale market, including revising of corporate structures and codes of conduct for corporate affiliates, will also contribute to the transition to a competitive retail market.

The key phrase in this recommendation is "assuring reliable electric service at reasonable rates to all consumers in North Carolina." If we cannot do this, then there is no reason to restructure the regulation of electricity service in our State.

This recommendation takes into account the fact that in a restructured environment, generation will be competitive, but transmission and distribution will remain largely regulated. Furthermore, this recommendation recognizes the fact that the federal government will exercise a substantial amount of control over the operation of the transmission system, while state governments will have more control in regulating the distribution system.

Current Federal Energy Regulatory Commission regulations require the electric utilities to file plans for participation in regional transmission entities by October 15, 2000. Implementation of those plans is to begin by December 15, 2001. Even if we were not looking at retail competition as coming of age in this country, we would nevertheless be making these changes to the transmission system because the Energy Policy Act of 1992 requires them for the promotion of the competitive wholesale markets mandated in that legislation. This Commission recognizes that these changes will also promote the establishment of transmission systems, which will lend themselves to the operation of competitive retail markets. Retail generation sold on a competitive basis will need to be "shipped" across these transmission lines. Thus an open, transparent, and available transmission system will promote competitive retail markets as well as competitive wholesale markets.

The distribution systems will make the final local delivery of electricity, just as they do today. These, too, must be readily available to all shippers and purchasers of electricity.

This Commission feels that the operation of the distribution systems, and to the extent the State will affect them, the operation of the transmission systems, must continue to be under the experienced regulatory authority of the North Carolina Utilities Commission, pursuant to policy objectives that will be set out by the General Assembly. That philosophy is the same one that has guided the regulation of monopoly electric providers for the past 100 years.

Regulatory oversight will be required to ensure fairness among competitors and to ensure reliability of service. Reliability of service may require the Utilities Commission to establish rules that will ensure that sufficient electricity is available on a day to day basis, as well as ensuring long-term capacity – that is, capacity that will be there when the load exists in the State.

This Commission expects the Utilities Commission to play a central role in the protection of North Carolina electricity consumers, just as it always has. We expect the Public Staff and the Attorney General to continue to protect consumers as well.

By giving the Utilities Commission until July 31, 2002 to report back to this Commission on the intended structure of the transmission entity and the framework of regulation for the distribution systems, this Commission is hopeful that by then the Federal Energy Regulatory Commission will have made its final orders regarding transmission entities. In addition, in the event the North Carolina Utilities Commission feels that additional legislation is required to allow them to properly do their job in a competitive environment, our Study

Commission will have sufficient time to consider such a request and make recommendations to the North Carolina General Assembly in the 2003 biennium.

Electric service is no less vital in a competitive market than in a monopoly market. Thus the concept of universal service must remain intact. As always, small consumers will need more protection than large consumers. For example, small consumers will need a higher level of protection from market spikes, as well as from unethical purveyors of electric services.

Finally, this Commission envisions that the Utilities Commission will be in the forefront of carrying out the policy recommendations contained in Recommendations 5, Consumer Protection, and 6, Environment and Alternative Energy, in whatever form these policies are finally established by the General Assembly.

RECOMMENDATION NINE

Commission Authority. **The authority of this Commission, including its funding authority, will be extended until June 30, 2006 in order to recommend specific legislation, to review activities related to the implementation of these Commission recommendations, and to recommend any additional needed legislation.**

The framework of these recommendations envisions specific legislation being recommended to the 2001 General Assembly, and most likely, to the 2003 General Assembly. This Commission has much additional work to accomplish before retail competition in electric service is a reality in North Carolina. It is imperative that this Commission continues to operate and continues to be funded.

The legislation establishing this Study Commission was optimistic. It envisioned a report to the 1999 General Assembly, and that that would be the end of the work of this Commission. The optimism, or perhaps the naiveté of that expectation, is now apparent. This Commission has much work to be done in order to properly finish its job. The recommended legislation contained in Part IV of this report provides the necessary extension of authority and the necessary extension of funding. This is the only legislation this Commission recommends for adoption in the 2000 Regular Session.

PART III

SUMMARY OF MEETINGS

Commission Proceedings

The Study Commission on the Future of Electric Service in North Carolina (Commission) met twelve times since making its interim report to the 1997 General Assembly (1998 Regular Session). The interim report can be found in the Legislative Library. A synopsis of all meetings since the 1997 interim report and other Commission activities follows below. The minutes of each meeting, in their entirety with attachments, may be obtained from the Commission clerk. In addition, all Research Triangle Institute reports mentioned in these proceedings may be obtained in the Legislative Library located on the fifth floor of the Legislative Office Building or online at http://www.rti.org.

November 10, 1998

At its only meeting of the 1998-1999 interim, the Commission heard from Dr. Allen K. Miedema, Director of the Center for Economics Research, and Dr. Stephen A. Johnston, both of the Research Triangle Institute (RTI), regarding the completed RTI reports and a progress report on other assignments.

Dr. Miedema, gave an update on the research tasks RTI was commissioned to perform for the Commission regarding electric service issues in North Carolina. Dr. Miedema gave a brief overview of the RTI tasks commissioned to date, consultants hired to participate in those tasks, and the task schedules and deliverables to date.

Dr. Johnston presented the Public Hearings Report (prepared under Task 1). He explained that the public hearings were well attended and took place in eight North Carolina cities: Asheboro, Elizabeth City, Wilmington, Gastonia, Statesville, Boone, Asheville and Raleigh. Dr. Johnston further explained that citizens most frequently mentioned the following issues: fairness and equity among customer classes, reliability, universal access, stranded costs and customer choice. He gave RTI's findings concerning speaker preferences as to whether or not restructuring of the electric industry should occur. He explained that the majority was in the category that expressed no strong opinion; however, that was not to say that they did not have an opinion for or against restructuring. Citizens offered the following guidance to the Commission regarding the study process: study all issues carefully, be deliberate and careful and monitor experience in proactive states and neighboring states.

Dr. Johnston then presented the Rate Comparisons Report (prepared under Task 2). Dr. Johnston explained that RTI used data from the United States Department of Energy from 1996, and the purpose for using the data from a single source was to insure consistency in their comparisons. Dr. Johnston explained that for all customer classes, North Carolina's electrical rates are 4.8% less than the national average. North Carolina's investor owned utilities' rates are 15.2% below the national average. North Carolina's municipal power providers' rates are 31.4% above the national average and the North Carolina electric cooperatives' rates are 27.9% above the national average. Dr. Johnson stated that North Carolina has a high concentration of industry in electricity-intensive

industries, roughly 3½ times the national average, second only in the southeast to South Carolina. He gave RTI's key findings regarding recruitment success and stated that it does not appear that North Carolina's electric rates have severely impacted our industrial recruitment success.

Dr. Miedema presented a schedule for the progress and delivery for the following RTI reports: Task 3: State and Local Tax Considerations in Electric Industry Restructuring; Task 4: Analysis of Options for Resolving Stranded Cost Issues; Task 5: Analysis of Economic Benefits/Detriments from Electric Industry Restructuring; Task 6: Reliability Considerations in Electric Industry Restructuring; Task 7: Summary of Written Public Comments; and Task 8: Cost Impacts of Government Tax and Financing Policies. A copy of Dr. Miedema and Dr. Johnston's presentation is attached to the minutes.

Steven Rose, Committee Counsel, presented the restructuring activities in other states. He then gave a brief overview of the restructuring activities in other states, and pointed out the following: (1) states where retail competition has begun (California, Massachusetts and Rhode Island); (2) states with legislation mandating full retail competition (Connecticut, Illinois, Maine, Montana, Nevada, New Hampshire, Oklahoma, Pennsylvania, and Virginia; (3) states where the public utilities commission (PUC) has issued orders to restructure (Arizona, Maryland, Michigan, and New York); and (4) that 34 states have not implemented retail competition, have not passed retail competition legislation and are without a PUC order requiring retail competition. A copy of Mr. Roses' chart and presentation are attached to the minutes.

Next, there was a general discussion of the Commission's activities and future meetings. Senator Hoyle stated that the Cochairs and the staff were concerned about pushing ahead with additional meetings when the Commission was waiting on RTI's reports. The Cochairs were concerned that additional meeting might take away the staff's time, which is needed for review of the RTI reports. Senator Hoyle stated that he thought the intent of SB 38 was that the Commission would give a final report to the Long Session. However, SB 38 states that a report must be made, at the latest, to the 1999 General Assembly and thus the final report must be made to the 2000 Short Session.

Oliver (Tripp) Pollard, an attorney for the Southern Environmental Law Center, gave a presentation entitled "Environmental Issues Related to Restructuring of the Electric Utility Industry." Mr. Pollard's presentation focused on the following topics: (1) potential consequences of restructuring from an environmental standpoint; (2) the environmental problems that restructuring imposes; (3) some of the current environmental impacts of the electric industry; and (4) what can be done and what other states are doing to address environmental issues. Copies of Mr. Pollard's handout are attached to the minutes.

Wade Bennett, Plant Manager of Craven County Wood Energy, presented "Craven County Wood Energy: Renewable Energy for North Carolina." Mr. Pollard described Craven County Wood Energy and explained that the facility is a biomass power plant using wood wastes as fuel. Mr. Bennett's comments are attached to the minutes.

Perri Morgan, representing the National Federation of Independent Businesses (NFIB), gave a presentation on the "Unfair Competition of the Utilities." Ms. Morgan stated that the NFIB does not have an official position on deregulation but that her members are generally concerned about cost and reliability of electricity and fair competition as between the regulated electricity companies and the private business sector. Ms. Morgan's comments are attached to the minutes.

Susan Luster, Executive Director of the North Carolina Solar Energy Association (NCSEA), gave a presentation on "A Sustainable Energy Future for North Carolina." Ms. Luster explained that NCSEA is a non-profit, statewide organization promoting the understanding and use of solar and other renewables for the benefit of all. Ms. Luster introduced three people who helped research and write their report and who would be available for questions: Chris Larsen with the NCSEA and member of the NCSEA Board of Directors; Michael Nicklas, Principal in Innovative Design at Duke Solar; and Larry Shirley, Executive Director of the NCSEA and member of the NCSEA Board of Directors. Ms. Luster explained that NCSEA saw benefits and problems in electric industry restructuring and gave the following three recommendations: (1) deregulate generation and disclose fuel source and emissions on power bills; (2) implement a renewable portfolio standard of 20%; and (3) create a public benefit fund of 2.5 mills per kWh for renewables efficiency and low income assistance. A copy of Ms. Luster's presentation is attached to the minutes.

August 19, 1999

This was the first meeting of the 1999-2000 interim and was intended to be a review of the Commission's past activities for the many new members appointed to the Commission since the last meeting. The new members include: Representative Smith (Cochair), Representative Saunders, Representative Owens, Representative Jarrell, Representative Hurley, Representative Bonner, Representative Baddour, Senator Hartsell, Senator Hagan, Senator Clodfelter, and Dr. Lee Kindberg.

Steven Rose, Commission Counsel, gave an overview of the Commission's activities to date, explained Senate Bill 38 (S.L. 1997-40), the funding of the Commission, and gave an overview of the role of the Research Triangle Institute and the Commission.

Gisele Rankin, an attorney with the Public Staff, and Dennis Nightingale, Director of the Electric Division of the Public Staff, gave a presentation on the "History of Electric Power in the United States; Regulation of Public Utility Suppliers of Electricity; and Power System Operation and Long-Range Planning." Copies of Ms. Rankin's and Mr. Nightingale's presentation are attached to the minutes.

Esther Manheimer, Assistant Commission Counsel, gave a presentation regarding the "Restructuring Activities in Other States and in Congress." Ms. Manheimer emphasized neighboring states such as Virginia and South Carolina. A copy of Ms. Manheimer's handout is attached to the minutes.

Dr. Allen K. Miedema, Director for the Center for Economics Research at the Research Triangle Institute and Dr. Stephen A. Johnston, Director of Public Utility Economics at RTI gave presentations of the "Public Hearings Report" and

the "Rate Comparison Report." These reports were presented at the November 10, 1998 meeting but were presented at this meeting for the benefit of the new members. A copy of Dr. Miedema and Dr. Johnston's presentation is attached to the minutes.

Dennis Nightingale, Director of the Electric Division of the Public Staff, made a presentation on "Environmental Issues Related to Restructuring of the Electric Industry." A copy of this presentation is attached to the minutes.

August 24, 1999

Esther Manheimer, Assistant Commission Counsel, gave a presentation regarding the "Restructuring Activities in Other States and in Congress." Ms. Manheimer emphasized neighboring states such as Virginia and South Carolina. A copy of Ms. Manheimer's handout is attached to the minutes.

Steven Rose, Commission Counsel, gave a presentation of the Commission's schedule and RTI's remaining Reports. Handouts outlining the schedule and the delivery schedule for the remaining RTI reports are attached to the minutes.

This presentation was followed by a research support update given by Dr. Allen K. Miedema, Director for the Center for Economics Research at RTI. A copy of this presentation is attached to the minutes

Dr. Edward W. Erickson, Professor of Economics at North Carolina State University, presented RTI's "Summary of Written Public Comments" report. Dr. Erickson began by describing the respondents to the request for public comments. He then stated the questions issued for public comment, and explained that the following issues were prominent among individuals responding to the questions: (1) reliability,

(2) rates, (3) benefits, and (4) stranded costs. The prominent issues for organizations were: (1) stranded costs, (2) do not wait for Congress, (3) whether or not to open electric retail choice to all consumer classes, and (4) no pilot programs.

September 14, 1999

This meeting was originally scheduled as a two-day meeting but Hurricane Floyd forced the Cochairs to cancel the second day of the meeting (September 15, 1999). The agenda had called for three presentations but the abbreviated meeting schedule allowed for only one presentation. Please note that due to the aftermath of Hurricane Floyd, the meeting scheduled for September 21, 22, and 23, 1999 was also cancelled.

Dr. Allen K. Miedema, Director of the Center for Economics Research at RTI presented "Task 4: Policy Options for North Carolina's Municipal Power Agencies." This presentation was lengthy and took most of the day. Dr. Miedema began by explaining the Municipal Power Agency (MPA) debt problem and RTI's forecast of continued high prices that consumers in member cities will have to pay. Dr. Miedema then went on to describe the formation and organization of the MPAs, the financial condition of the MPAs, and the member cities of the MPAs. He explained that NCMPA1 consists of 19 cities in Western North Carolina and NCEMPA consists of 31 cities in Eastern North Carolina. NCEMPA and NCMPA1 have 1487 MW of capacity and the two have almost 6 billion dollars in debt. The projected price of power in the member cities is approximately 2¢/kWh above the forecasted competitive price of power. Dr. Miedema then went on to explain the legal and regulatory environment relevant to

the MPAs. Dr. Miedema described the various general policy alternatives that should be explored when attempting to solve the MPA debt problem. The policy alternatives include: (1) status quo, (2) finding an alternative revenue source (debt relief), (3) the liquidation of MPA generation and funds (divestiture), and (4) the sale of member city distribution systems (dissolution). Finally, Dr. Miedema explained the advantages and disadvantages for each option. A copy of Dr. Miedema's presentation is attached to the minutes.

October 6, 1999

The Commission heard from Steven Rose, Commission Counsel, who presented the October meeting schedule. Mr. Rose explained that the Commission would have two more meetings in the month of October, the first lasting two days and the second lasting three days. The purpose of those meetings was for the Commission to hear most of the remaining RTI reports, the responses of Commission members, and proposals by Commission members of suggested methods for solving the MPA debt problem. Mr. Rose's handout is attached to the minutes.

Various Commission members had asked to respond to RTI's Task 4, Volume 1: "Policy Options for North Carolina's Municipal Power Agencies" report. The first Commission member to respond was Jesse Tilton, CEO of ElectriCities of North Carolina. Speaking on his behalf was Alice Garland, Director of Public Affairs at ElectriCities. Ms. Garland explained that ElectriCities favors a rate freeze. She went on to describe the ownership relationship of the State's electric components, the relationship of wholesale electric sales and retail electric sales,

the current rate regulation for utilities, traditional electric utility components and how these components are affected by deregulation, and the definition of stranded cost. Ms. Garland then gave examples of recent nuclear asset sales and explained the MPA's stranded cost situation and compared it to Piedmont MPA in South Carolina. Ms. Garland then reviewed RTI's report regarding the MPA debt problem. She then presented a series of slides that compared RTI's findings to those of LaCapra Associates, a consultant hired by ElectriCities. Ms. Garland then gave a history review defining the MPA situation, including the MPA cities' rate disparity problem, the composition of the MPA cities' debt and the amount of the debt payments, and the MPA cities transfers to general fund. Ms. Garland concluded her presentation by stating that ElectriCities favors deregulation, that it is critical for North Carolina to deregulate due to rising rate disparity in MPA cities, the status quo is not favorable, other states are deregulating, deregulation can have a positive impact, and a rate freeze is a way to recover stranded costs. A copy of Ms. Garland's presentation is attached to the minutes.

Steven K. Young, Vice President of Rates and Regulatory Affairs at Duke Power, made the final presentation of the day. Mr. Young was speaking on behalf of Commission member Richard B. Priory, CEO of Duke Energy. Mr. Young's presentation was also a response to RTI's Task 4, Volume I: "Policy Options for North Carolina's Municipal Power Agencies" report. Mr. Young's presentation evaluated each of the four alternatives outlined by RTI in their MPA report. Mr. Young explained that Option 1, status quo, failed to alleviate MPA rate pressure and prohibited MPA cities from preparing for a competitive business

environment. Option 2, debt relief, spreads MPA debt to all electric consumers in the State. This option will affect the competitiveness of Duke's and CP&L's rates in their service territories. Duke does not believe the Debt Relief Option meets the Duke Power goal of fairness to all customers and all citizens of North Carolina. Option 3, Divestiture, involves the sale MPA generation assets and applying the revenues along with MPA funds toward paying off the MPA debt. Mr. Young explained that the problem with this option is that the MPAs have amassed debt that is far beyond the current market value of their generation assets. Liquidation of the generation assets coupled with the MPA funds on hand will still leave a sizeable level of debt to be dealt with through other approaches. Option 4, dissolution, is similar to option 3 except that it adds the sale of the 51 MPA cities' distribution systems. Mr. Young stated that this option results in the raising of the most revenue to be used to pay off the MPA debt. Mr. Young then explained the MPA's financial condition and their debt levels. He pointed out that Duke Energy's characterization of the use of the MPA debt is different than the characterization that Ms. Garland of ElectriCities portrayed. A copy of Mr. Young's presentation is attached to the minutes.

October 12-13, 1999

Dr. Steve Johnston, Director of Public Utility Economics of the Center for Economics Research at RTI and Dr. Eric Hirst, an independent consultant in electric restructuring, presented RTI's "Stranded Cost Estimates for a Restructured Electric Industry in North Carolina: Options and Issues (Volume 2)" and "Estimates of Stranded Costs and Recovery Options (Volume 3)" reports. Dr. Johnston began by

presenting a background and overview for the stranded cost reports volumes 2 and 3. Dr. Hirst then presented volume 2. Dr. Hirst explained the stranded cost issues, the three categories of stranded costs, estimates of U.S. stranded costs, different ways to estimate stranded costs, factors that affect stranded cost estimates, and the recovery of stranded costs.

Dr. Johnston spoke again and presented volume 3. Dr. Johnston reviewed RTI's two models for determining stranded costs: the ERL model and the ORFIN model. Dr. Johnston then explained the reference case and presented a series of charts illustrating the stranded costs under both models for all the power providers in North Carolina under different scenarios (e.g. differing start dates for retail competition, removing capital additions, negative stranded costs, varying the market clearing price of power, nexus, discount rate, and length of analysis period). Dr. Johnston then compared RTI's stranded cost estimates to other published estimates, gave illustrative rate surcharges for full stranded cost recovery, presented the key lessons learned, and presented the key decision variable (e.g. length of time over which stranded costs will be recovered). A copy of Dr. Johnston and Dr. Hirst's presentation is attached to the minutes.

Bill Johnson, Senior Vice President of CP&L, gave a response presentation to RTI's "Task 4, Volumes 2 and 3: Stranded Cost Estimates for a Restructured Electric Industry in North Carolina." Mr. Johnson began by explaining utility finance and regulation. He then compared RTI's stranded cost estimates for CP&L to other published estimates and generally questioned RTI's estimates as being too low. He then reviewed the methods for stranded cost estimation. Mr. Johnson discussed

capital additions and their effect on stranded cost estimates and the future market price of electricity and its effect on stranded cost estimates. Finally, Mr. Johnson compared ORFIN and ERL and discussed the concept of "crossover," the point at which the competitive price of power exceeds the regulated price. A copy of Mr. Johnson's presentation is attached to the minutes.

The Commission then discussed the issue of whether or not to allow CP&L to submit their capital addition figures to RTI so that their stranded cost estimates could be re-calculated. Senator Hoyle explained that CP&L failed to properly answer the questions that RTI requested relating to capital additions and other numbers that Duke did include but CP&L did not include. Mr. Bill Johnson moved that the Study Commission allow CP&L to provide additional information to RTI so that they could run new stranded cost estimates for CP&L. After discussion and debate the Commission voted unanimously in favor of the motion.

Terry Ryan, Vice-President of Strategic Planning at the North Carolina Electric Membership Corporation (NCEMC), gave a response presentation to RTI's "Task 4, Volumes 2 and 3: Stranded Cost Estimates for a Restructured Electric Industry in North Carolina." Mr. Ryan stated that NCEMC's stranded costs may be higher than RTI estimated and NCEMC requests RTI's stranded cost models for all utilities. Mr. Ryan discussed the market clearing price of power, specific aspects of the NCEMC's situation, and that in the recovery of stranded costs true-ups should be considered. Finally, Mr. Ryan stated that the NCEMC's are viable entities for providing distribution service to the MPA member cities under the dissolution option. A copy of Mr. Ryan's presentation is attached to the minutes.

Richard Harkrader, a member of the Commission, gave a response presentation to RTI's "Task 4, Volumes 2 and 3: Stranded Cost Estimates for a Restructured Electric Industry in North Carolina." The focus of Mr. Harkrader's presentation was environmental concerns. He began by explaining the percentage of coal, natural gas, large hydropower, and nuclear generation produced by Duke and CP&L. He then discussed emissions and their environmental impact, the North Carolina utility emissions rankings, and North Carolina generation plant's emissions rates for NOx, SO_2 and CO_2. Mr. Harkrader explained that the total output of North Carolina coal plants has increased since the opening of the wholesale electric market. Mr. Harkrader said that capital additions should not be a component of stranded cost except for expenses related to the clean up of coal fired generation. Mr. Harkrader concluded with a discussion of coal plant clean up and how capital additions could be used for that clean up. A copy of Mr. Harkrader's presentation is attached to the minutes.

Bill Watson, Manager of Strategic Analysis for ElectriCities, gave a response presentation to RTI's "Task 4, Volumes 2 and 3: Stranded Cost Estimates for a Restructured Electric Industry in North Carolina." Mr. Watson's presentation was brief and made two points: (1) that previous generation asset sales provide a market valuation benchmark and (2) the benchmarks indicate the sale of the MPA generation assets would bring so little revenue that the MPAs would still have $4.6 billion in remaining debt. A copy of Mr. Watson's presentation is attached to the minutes.

October 26, 27 and 28, 1999

Dr. Steve Johnston, Director of Public Utility Economics of the Center for Economics Research at RTI, Dr. Eric Hirst, independent consultant in electric

restructuring, and Mr. P. Jeffrey Palermo of KEMA Consulting presented RTI's "Reliability Considerations in Electric Industry Restructuring" report. Dr. Johnston gave the study's background and overview. He explained the makeup of a power system and discussed the definition of reliability.

Dr. Hirst continued the presentation and spoke about maintaining bulk-power reliability in competitive markets. Dr. Hirst described the make-up of the bulk power system, defined bulk power reliability, and explained why reliability is important to North Carolina. Dr. Hirst then explained that IOU transmission maintenance, investment, capacity, and generation reserves are declining. In addition, Duke Power's wholesale transactions are increasing. He stated that the bulk power system has two unique features (near-real-time balancing of generation and load and passive nature of transmission), reliability and commerce are inseparable, restructuring may improve reliability, and new technologies can increase transmission capacity. Dr. Hirst described the possible federal and state roles in generation reliability and ways to manage generation adequacy (e.g. spot prices vs. regulators). Finally, Dr. Hirst concluded with a discussion of methods for maintaining reserve margins, new generation construction, federal and state roles in transmission reliability, and reliability options for North Carolina.

Mr. Palermo presented the third and final part of the reliability presentation. He began by defining distribution reliability. He then described the overall power system and the local distribution system. Mr. Palermo presented the reliability study procedures and defined the problem areas. He concluded the presentation by making eight recommendations regarding the following: (1) cost and

compensation, (2) access to data, (3) restoration of service, (4) customer communication, (5) levels of reliability, (6) curtailment practices, (7) customer apparatus, and (8) customer revenue. A copy of Dr. Johnston, Dr. Hirst, and Mr. Palermo's presentation is attached to the minutes.

Mr. Jesse C. Tilton, III, CEO of ElectriCities, gave a presentation regarding the MPA's debt problem. He began by defining the problem: MPA debt that far exceeds MPA assets, rate disparity for MPA city customers, and financial burden. Mr. Tilton then stated that the status quo was not a viable option and that ElectriCities preferred debt relief and a rate freeze. He pointed out that the State Treasurer and RTI had mentioned a rate freeze. Mr. Tilton then explained that many states were using a rate freeze as a component of deregulation and he then went on to explain the advantages and disadvantages of using a rate freeze. He concluded by stating that a rate freeze was a key component to an MPA debt solution. Mr. Tilton's presentation is attached to the minutes.

Dr. Lee Kindberg, Commission member, gave a presentation regarding the MPA's debt problem. Dr. Kindberg spoke on behalf of herself and Charles McKeller, also a Commission member. She stated that she and Mr. McKeller represent the North Carolina Coalition for Customers Choice in Electricity (NC4E). Dr. Kindberg began by explaining that restructuring is a means to dealing with the MPA debt. She reviewed the restructuring activities in other states, public power in North Carolina, the effects of Hurricane Floyd, and a newspaper article about mill closings. She then stated that it was time to stop pointing the finger and that regardless of what happened in the past something

must be done now. She presented NC4E's values: all guaranteed reliable power, reasonable rates, customer protections, and no one's rates go up. Dr. Kindberg reviewed how other states have dealt with stranded costs and restructuring. She then stated that the MPAs must be required to sell their generation assets, NCEMC should be allowed to sell their generation assets, the MPAs must sell or give equal value for their distribution systems, and the State should issue bonds or takeover existing ElectriCities bonds. Dr. Kindberg discussed the recovery of stranded costs/debt in North Carolina, replacing existing MPA bonds, the timing of the MPA asset sales, and when to introduce customer choice in North Carolina. She concluded by providing two recommendations regarding legislation and a stakeholder meeting. A copy of Dr. Kindberg's presentation is attached to the minutes.

Mr. Steve Young, Vice President of Rates and Regulatory Affairs for Duke Power, gave a presentation regarding the MPA's debt problem on behalf of Duke Power and CP&L. Mr. Young began by outlining the issue: $6 billion in MPA debt, rate disparity, and economic development. Mr. Young then presented a proposal: (1) sell MPA generation, (2) sell MPA distribution assets, (3) combine the proceeds from the generation and distribution sale with the MPA funds on hand and retire a portion for the MPA debt, (4) create a special purpose agency to issue bonds to retire the remainder of the debt, (5) freeze rates for MPAs, CP&L, and Duke, and after three years MPA rates drop to that of Duke and CP&L's rates and impose a "regulatory transition charge" to pay off bonds. Mr. Young explained that this proposal assumes that Duke and CP&L purchase both the

MPA's generation and the MPA's distribution assets, but that the proposal could accommodate other buyers. He then gave an example of the financial breakdown of the plan and regulated rates under the plan. Mr. Young reviewed the issues under the plan (e.g. special purpose agency, transition charge, etc.). He stated the benefits of the proposal such as the retirement of the MPA debt. He concluded with a summary of the proposal. A copy of Mr. Young's presentation is attached to the minutes.

Mr. Chuck W. Terrill, CEO of the North Carolina Electric Membership Corporation (NCEMC), gave a presentation regarding the MPA's debt problem. Mr. Terrill began his presentation by outlining NCEMC's position on deregulation: (1) all consumers should see benefit, (2) stranded costs borne equitably, (3) reliability/safety to remain priorities, and (4) exclusive areas for distribution. He then described the MPA problem, and offered a solution: (1) MPA generation sold to Duke and CP&L, (2) MPA distribution sold to NCEMC, (3) MPA funds used for debt repayment, (4) remaining costs collected from all North Carolina consumers through a transition charge, and (5) EMC's contract with Duke and CP&L for power supply. Mr. Terrill concluded his presentation by explaining the benefits of NCEMC's proposal (e.g. MPA bonds satisfied, etc.). A copy of Mr. Terrill's presentation is attached to the minutes.

Dr. Allen K. Miedema, Director of the Center for Economics Research at RTI and Dr. Robert L. Peace, Professor of Accounting at North Carolina State University presented RTI's "State and Local Tax Considerations in Electric Industry Restructuring (Volumes 1 and 2)" report. Dr. Miedema began the presentation by

explaining the relationship between restructuring and tax concerns. He reviewed the taxes paid by North Carolina electric utilities (and the amounts), the sources of these tax remittances (e.g. corporate income tax), the recipients of the taxes (State, counties, and cities) and the distribution of the taxes. Dr. Miedema then displayed the percentage share of tax receipts derived from electric utility taxes and the counties with the highest percentage of tax receipts from electric utility property taxes.

Dr. Peace took over from Dr. Miedema and presented each type of tax at issue: (1) corporate income tax, (2) property tax, (3) gross receipts tax, (4) sales tax on electricity, and (5) corporate sales and use tax on purchases.

Dr. Miedema resumed presenting and explained the issues affecting future North Carolina tax revenues: (1) future electricity prices, (2) stranded costs, (3) nexus, (4) and other issues (e.g. competition start date). Dr. Miedema described four possible scenarios (nexus and stranded cost recovery variations) and detailed the tax implications of each scenario. He concluded the presentation by describing four policy options: (1) no change, (2) allow stranded cost recovery, (3) change tax rates, and (4) restructure existing taxes. In conclusion, Dr. Miedema noted that, with nexus and stranded cost recovery, tax losses would be modest and the preferred option for offsetting tax losses when nexus is established is to change the rates of existing taxes. If no nexus is established then impose an excise tax. A copy of Dr. Miedema and Dr. Peace's presentation is attached to the minutes.

Dr. Steve Johnston, Director of Public Utility Economics of the Center for Economics Research at RTI, gave the final presentation. He presented RTI's "Utility Cost Impacts of Government Tax and Financing Policies" report. Dr.

Johnston began by describing the types of electric utilities (e.g. IOU, etc.) and the types of taxes they pay. He displayed a breakdown of all utility types and how much of each type of tax the utilities pay. He then discussed each type of tax and which utilities pay the tax and which are exempt. The purpose of the report is to discern whether a utility group receives a tax advantage. Dr. Johnston presented each utility's financial and federal power preferences such as tax exempt debt and SEPA power, respectively. Dr. Johnston concluded with a summary of RTI's results. The summary included: (1) distribution of preference value for POUs, COUs and IOUs, (2) tax benefits in terms of dollar value, (3) tax benefits in terms of per unit of sales, (4) tax benefits in terms of share of operating revenue, and (5) tax benefits in terms of net plant in service. A copy of this presentation is attached to the minutes.

November 3, 1999

The first speaker was the Honorable Harlan E. Boyles', North Carolina State Treasurer. The Treasurer gave a presentation regarding the MPA's debt problem. The Treasurer began by outlining the debt problem (including a MPA debt summary) and he then reviewed the Duke/CP&L proposal for solving the MPA debt problem. The Treasurer listed questions/issues he believes need to be resolved by the General Assembly (e.g. Is deregulation inevitable in North Carolina?). The Treasurer concluded his presentation with his observations and suggestions for the Commission's further consideration. These include: (1) MPA debt problem unique; (2) total debt places cities' financial resources as risk; (3) a solution may include charging the NCUC with structuring the electric industry

under restructuring such that rates are affordable, (4) asking the Commission to resolve the MPA debt problem, and (5) using competitive bids on all assets to be sold. A copy of the Treasurer's presentation is attached to the minutes.

Gisele Rankin, of the Public Staff of the North Carolina Public Utilities Commission, gave a presentation on wholesale power. This presentation was made at the request of Senator Cooper and its purpose was to educate the Commission members about the deregulation of the wholesale market and the effect that has had on the electric industry.

Dr. Steve Johnston, Director of Public Utility Economics of the Center for Economics Research at RTI, and Dr. Edward Erickson, Professor of Economics at North Carolina State University, gave a presentation on RTI's "Estimates of the Economic Benefits and Detriments of Electric Industry Restructuring in North Carolina" report. Dr. Johnston gave introductory remarks and Dr. Erickson gave the presentation. Dr. Erickson began by giving the presentation overview and the report's background. He then listed the key points to consider (e.g. measures of economic activity, stranded cost recovery scenario, etc.) Dr. Erickson explained that the report looked at output, employment and income. The study evaluated the benefits and detriments of electric industry restructuring using a reference case that has a start date of retail competition beginning in 2004, stranded costs are recovered over five year period using a uniform surcharge and rates are realigned. Dr. Erickson pointed out that the report also looks at different start dates, the possibility of no stranded cost recovery and no realignment of rates. Dr. Erickson displayed North Carolina's share of U.S. output by industry and the North

Carolina economic development regions. Dr. Erickson showed the projected electric rates through the year 2015 for each customer class (residential, commercial and industrial) under the reference case verses the status quo. He then reviewed the economic impact on jobs/employment under different scenarios. Dr. Erickson concluded with the lessons learned regarding the factors of timing of deregulation, stranded cost recovery, rates realignment, and these factors' impact on jobs. A copy of Dr. Erickson's presentation is attached to the minutes.

Dr. Lee Kindberg, Commission member, gave NC4E's response to RTI's "Estimates of the Economic Benefits and Detriments of Electric Industry Restructuring in North Carolina" report. Dr. Kindberg began by listing the members of NC4E and stating NC4E's legislative principles. She then pointed out NC4E's concerns with the RTI benefits and detriments report (e.g. the report missed lower electric rates as a major benefit of choice, impact on ElectriCities, etc.) Dr. Kindberg then discussed the recovery of stranded costs and that NC4E believes nobody's rates should go up due to restructuring, that the statewide spreading of stranded costs is not likely, and why customer choice is favorable for North Carolina (listing the benefits of customer choice). She reviewed other states' experiences and concluded with NC4E's vision of customer choice and a fair and competitive market. A copy of Dr. Kindberg's presentation is attached to the minutes.

The final presentation was to be made by Dr. John Connaughton, professor of economics at the University of North Carolina at Charlotte. His presentation was

cancelled to due a scheduling conflict but he was to present ElectriCities' response to RTI's "Estimates of the Economic Benefits and Detriments of Electric Industry Restructuring in North Carolina" report. (This presentation was never made at the request of ElectriCities.)

The meeting continued with Mr. Harkrader, Commission member, presenting his request for an environmental effect study. Mr. Harkrader stated that in early October, the North Carolina Solar Energy Association and the Conservation Council of North Carolina wrote a letter to the Cochairs of the Commission requesting that RTI do an independent study of environmental issues concerning North Carolina restructuring. Mr. Steven Rose, Commission Counsel, stated that he had had some discussions with RTI and the Cochairs, and his understanding was that the task order would revolve around the environmental effects of restructuring. A motion authorizing the study carried favorably.

The meeting concluded with a discussion of the future meeting calendar for the Commission. Senator Hoyle stated that it would be in the best interest of the Commission's work to give the interested parties some time to discuss the various MPA debt proposals before the Commission met again.

February 14, 2000

Dr. Steve Johnston, Director of Public Utility Economics of the Center for Economics Research at RTI, gave the first presentation of the meeting. He began by giving a status report on RTI's "Environmental Considerations Associated with Electric Industry Restructuring in North Carolina" report.

Dr. Johnston then presented RTI's "Stranded Cost Estimates for a Restructured Electric Industry in North Carolina (Revised): Addendum to the Final Report". This addendum incorporated CP&L's capital addition estimates to the previously presented RTI stranded cost report. Dr. Johnston presented a series of charts that illustrated that CP&L's stranded cost estimates rose significantly as a result of the addition of the new data.

Dr. Johnston continued with a presentation of RTI's report on "The Duke/CP&L Plan to Resolve the MPA Debt Problem: Comparison of Regulated and Competitive Residential Electric Bills." This report was prepared at the request of Senator Clodfelter and it attempts to add the component of retail competition to the previously presented Duke/CP&L MPA debt proposal. The Duke/CP&L proposal did not incorporate the variable of retail competition and this RTI report merely analyzes the potential future price of power under the Duke/CP&L proposal in a competitive retail electric industry environment. This RTI report does not incorporate stranded cost recovery. A copy of Dr. Johnston's presentation is attached to the minutes.

Mr. Richard W. Hatch, of AARP of North Carolina, and Mr. Rob Schofield, Staff Attorney for the North Carolina Justice and Community Development Center, gave a presentation entitled "Assuring that Residential Consumers Benefit in Electric Industry Restructuring." Mr. Hatch began the presentation by explaining that the presentation was made on behalf of: (1) AARP of North Carolina, (2) the North Carolina Justice and Community Development Center, (3) the North Carolina Consumers Council, and (4) the North Carolina Council of

Churches. Mr. Hatch then detailed the membership of each organization, explained why they were before the Commission, defined the debate, and listed the guiding objectives. He then listed key issues for residential consumers: (1) safety and reliability, (2) universal service, (3) lower total costs, (4) strong and enforceable consumer protections, (5) consumer education, (6) environmental protection, and (7) fair distribution of stranded costs.

Rob Schofield took over the presentation and went through each issue in more detail. He concluded by making recommendations for the Commission's process and he stated that restructuring legislation must benefit all consumers by addressing: (1) service, (2) marketing, (3) billing, (4) consumer education, (5) environmental concerns, and (6) stranded costs. A copy of Mr. Hatch and Mr. Schofield's presentation is attached to the minutes.

Dr. Lee Kindberg, Commission member, made the next presentation. She spoke about consumer protection. Dr. Kindberg repeated NC4E's consumer principles (see earlier presentations). She stated that 24 states have "acted to restructure." Dr. Kindberg then described the approaches taken in other states with regard to consumer protection and deregulation. Dr. Kindberg explained the concept of the standard offer and listed the components of consumer education. She concluded by stating that NC4E's consumer protection goals were that all customers are treated fairly, guaranteed lower rates, and guaranteed access to the benefits of a restructured electric system. A copy of Dr. Kindberg's presentation is attached to the minutes.

Herbert S. Wheary, Manager of Governmental Affairs at Dominion Resources, gave the final presentation of the meeting. He gave North Carolina Power's comments on restructuring. Mr. Wheary began by giving NC Power's views on restructuring (e.g. lead to greater generation efficiency, etc.). He then listed the vital elements of restructuring legislation (e.g. deregulate generation, continued reliability, unbundling, etc.). Mr. Wheary listed consumer protection provisions such as stringent standards for supplier licensing. Mr. Wheary concluded his presentation by stating that: (1) electric restructuring is part of a global trend, (2) major decisions must be made on a state level, (3) NC Power supported Virginia and Ohio restructuring legislation, (4) restructuring legislation should contain provisions regarding phase-in of retail choice, etc., and (5) legislation should contain consumer protection provisions.

The meeting concluded with an update on activities regarding the Duke/CP&L proposal for resolving the MPA debt. Senator Hoyle asked Mr. Tilton, Mr. Terrill, Mr. Priory and Mr. Johnson to speak about their negotiations on the proposal. All four gave a brief update and it was clear that no agreement as to how to deal with the MPA debt had been reached. Senator Hoyle informed the Commission that the Cochairs had asked the four to work on trying to resolve the MPA debt problem but not to formulate a restructuring plan. A restructuring plan would come from the Commission.

March 8, 2000

Senator Hoyle and Representative Smith began the meeting by distributing draft-suggested Commission recommendations. They emphasized that the

recommendation were a starting point for discussions that would hopefully lead to a final set of Commission recommendations. They both explained why they supported recommendations that called for restructuring but stressed that the recommendations were only a starting point. No vote would be taken today and Commission members were encouraged to ask questions and submit comments on the recommendations between now and the next meeting. After Steven Rose, Commission Counsel, explained the recommendations, the Commission had much discussion about the draft-suggested recommendations. The draft-suggested recommendations were as follows:

"The Commission on the Future of Electric Service in North Carolina makes the following recommendations to the 2000 Regular Session of the 1999 General Assembly:

1. Retail Choice. Fully competitive retail electric services will be available to consumers in North Carolina not later than June 30, 2006.

2. Stranded Costs. In order to facilitate the change from a fully regulated environment to one where retail electric competition can flourish, recovery of reasonable potentially stranded costs shall not extend beyond June 30, 2006.

3. Municipal Power Agency Debt. The generation assets of the two municipal power agencies, and the distribution assets of the 51 participating municipalities, will be sold not later than June 30, 2002. The funds realized from those sales will be used to help pay off or defease the bonds of the municipal power agencies simultaneously with the sales.

4. **Recommended Legislation.** This Commission will recommend specific legislative language necessary to accomplish its recommendations to the 2001 General Assembly and, where necessary, the 2003 General Assembly.

5. **Consumer Protection.** This Commission's recommendations to the 2001 General Assembly will address issues of consumer protection. These include safety and reliability, universal service, the ability to aggregate, assurance of fair marketing and servicing practices, and education of consumers.

6. **Environment and Alternative Energy.** This Commission's recommendations to the 2001 General Assembly will address issues of environmental protection and promoting the use of alternative energy sources.

7. **Tax Laws.** The Department of Revenue will recommend to this Commission not later than July 31, 2002 changes needed to the tax laws of the State due to the introduction of a competitive environment for the retail sale of electricity. A goal of these recommendations will be to present options to address tax revenue streams in the state that may be diminished as a result of the introduction of a competitive environment.

8. **Transmission and Distribution.** The North Carolina Utilities Commission will recommend to this Commission not later than July 31, 2002 the structure of a transmission entity and a framework for the regulation of distribution systems that will promote competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. In making this recommendation this Commission recognizes that electric utilities are required by the Federal Energy Regulatory Commission to file by October 15, 2000, plans for

participating in a regional transmission entity for the purpose of developing competitive wholesale generation markets. This Commission further recognizes that the task assigned to the Utilities Commission is very much entwined with the requirements of FERC and that the regional transmission entity developed to comply with the federal requirements will effect the recommendations of the Utilities Commission. This Commission also recognizes that steps taken by electric utilities to effectuate development of the competitive wholesale market, including revising of corporate structures and codes of conduct for corporate affiliates, will also contribute to the transition to a competitive retail market.

9. **Commission Authority.** The authority of this Commission, including its funding authority, will be extended until June 30, 2006 in order to recommend specific legislation, to review activities related to the implementation of these Commission recommendations, and to recommend any additional needed legislation.

Recommendations-C-01."

March 14, 2000

The Cochairs had asked Commission members to submit comments and/or proposals in response to the draft-suggested Commission recommendations. Copies of the comments/proposals are attached to the minutes. Prior to the meeting many Commission members submitted comments and during the meeting all but Commission member Terry Callender (who was not present) presented their comments/proposals. The following is a summary of the comments/proposals:

CP&L – Recommended amending the stranded cost recommendation to allow for the recovery of further stranded costs that may be identified after the Commission's report to the 2000 Session.

Henry Knight/Sheila Ogle – Stated that the issue of stranded costs must be resolved before considering retail choice; residential and small business consumers should be exempt from transition charges; a requirement for a standard offer and a default provider must be included in a final recommendation; the role of the NCUC and public staff must be increased in the areas of licensing market participants, aggregators, and default providers, choosing supplier of standard offer, consumer protection, and consumer education; and recommendations must be included regarding reliability, safety, service standards, licensing standards, aggregation mechanisms, education, fair marketing standards, and other consumer protection provisions.

Duke – Recommended amending the stranded costs section to allow for a transition period to competition, and allow utilities to file, during the transition period, a rate case to increase base rates or to increase stranded cost recovery due to governmental regulations or *force majeure*. Also, Duke recommended amending the transmission and distribution section by adding language explaining that the plans filed for regional transmission entities, as required by FERC, must be implemented by 12/15/2001.

NC4E (Charles McKeller/Lee Kindberg) – Recommended a start date for competition of 1/1/2004; a standard offer to residential customers and small business customers from 1/1/2004-12/31/2008 (but cap rates at 12/31/2003 rate

levels); unbundle bills by 1/1/2002 and unbundle industry one year before competition. In addition, recovery of the stranded costs of the IOUs and NCEMC should include capping their rates until day before competition (12/31/2003). If they need to recover more stranded costs they must have a stranded cost recovery case before the NCUC one year before competition (1/1/2003). If more stranded costs are proven then IOU/NCEMC will have until 6/30/2006 to recover but without increasing rates. Those that file for additional stranded cost recovery are subject to a true-up and if still more stranded costs exist then they have two more years to recover. If over-recovery occurs during the period ending 12/31/2003, ratepayers can initiate a proceeding with NCUC to receive a refund. MPA debt should be recovered through a rate freeze until 12/31/2003 (day before competition) and the liquidation of the MPAs. The generation should be sold to CP&L and Duke (deal agreed to by 1/1/03) and the proceeds applied to the debt. Then apply the funds on hand to debt. The MPAs must pay approximately 1.4 billion towards their debt (can sell their distribution, issue bonds, etc). Finally, revenue bonds must be issued for the remaining debt. MPA cities that fail to produce their share of the 1.4 billion will be billed for the amount due. The State issued revenue bonds will be paid for through a wires charge to CP&L, Duke and MPAs. NC4E recommended amending the first sentence of the Transmission and Distribution recommendation as follows: The NCUC ~~will recommend to this Commission not later than July 31, 2002 the structure of a transmission entity~~ shall develop requirements for a regional transmission organization and a framework for the regulation of distribution systems that will promote

competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. The rest of their recommendations were substantially similar except they move some dates up.

Terry Callender – Stated that the 2006 start date was too late. He recommended determining stranded costs through a regulatory process, including true-ups, and not including capital additions. Mr. Callender discussed the sale of MPAs but made no specific recommendation. Finally, Mr. Callender recommended that NCUC have an increased role.

NCEMC – Recommended reviewing the benefit of deregulation to consumers. NCEMC expressed an interest in buying the MPA distribution system and recommended including NCEMC's stranded costs in any RTC. They further recommended rewriting the stranded cost recommendation to read: "...recovery of reasonable potentially stranded costs is important and must occur. The Commission will recommend specific legislative language to accomplish its recommendations to the 2001 General Assembly." Finally, NCEMC recommended that all legislation be introduced in 2001.

Representative Bonner – Recommended deleting the recommendation regarding the MPA debt and inserting the following language: "At this time, no recommendation is made as to the handling of the municipal power agency debt but a recommendation regarding the debt problem will be made to the 2001 General Assembly."

Representative Owens – Recommended the same change as Representative Bonner but in addition add language that clarifies that these recommendations do not require the MPAs to sell their assets.

Electricities – Recommended that retail choice begin on 1/1/2005. IN addition, ElectriCities recommended amending the stranded costs recommendation in the following way: " ...recovery of reasonable potentially stranded costs shall ~~not~~ extend to 12/31/2004 for utilities utilizing a rate freeze; and, to 12/31/2019 for utilities utilizing an RTC. ~~beyond June 30, 2006.~~" Finally, ElectrCities made two alternate proposals: (1) MPA stranded costs to be recovered as recommended by Commission to 2001 G.A.; or (2) MPA's recover a portion of the MPA debt and do not defease the entire debt.

Richard Harkrader – Recommended that retail competition start no later than 1/1/2004. He questions whether or not capital additions should be included in the stranded cost calculation. Mr. Harkrader states that the MPA cities should have the option of keeping their distribution systems if they are able to pay a substantial amount without using State backed bonds. He also recommends that State backed revenue bonds should be used to retire the remainder of the MPA debt (after the sale of generation) and no interest should be capitalized. Mr. Harkrader recommends that consumer protection should include a standard offer (for the first few years of competition) and disclosure (regarding generation source, what fuels are used, and emissions). He recommends amending the environment recommendation to include a Public Benefit Fund, a Renewable Energy Portfolio Standard, and Net Metering. Finally, Mr. Harkrader recommend

that tax law changes and transmission and distribution issues be addressed by the first Session of the 2001 General Assembly.

March 22, 2000

The Honorable Harlan Boyles, the North Carolina State Treasurer, made the first presentation of the meeting. Treasurer Boyles spoke about the MPA debt problem. Treasurer Boyles stated that retail competition should come at the earliest possible time, a plan for deregulation must include a plan for the payment of the MPA debt, and deregulation should include rate parity from the beginning throughout North Carolina. Treasurer Boyles made more specific recommendations regarding the sale of the MPA generation assets, the sale of the MPA distribution assets, State agency bond issuance, the timing of deregulation and rate parity. A copy of Treasurer Boyles' presentation is attached to the minutes.

The Honorable Bill Holman, Secretary of the Department of Environment and Natural Resources, made a presentation regarding the Governor's Air Quality Plan. Secretary Holman stated that he wanted to make the Commission aware of efforts being made by North Carolina and the EPA to reduce emissions from utility coal-fired power plants, other industrial boilers and cars and trucks. Secretary Holman went on to explain the air quality problems in North Carolina, and he stated that it was important that North Carolina have clean air for health and economic reasons. Secretary Holman explained Governor Hunt's Air Quality Plan and stated that it is focused on reducing emissions from mobile sources and utilities. He also said that the Environmental Management Commission (EMC) is

adopting rules that address power plant emissions. Secretary Holman gave a brief overview of clean air activities in North Carolina. Finally, he distributed a news release that described actions taken the week of March 20, 2000. A copy of Secretary Holman's presentation and news release is attached to the minutes.

After the conclusion of all presentations, the Cochairs distributed revised draft-suggested recommendations. They explained that the revised recommendations attempted to incorporate the comments/proposals made by Commission members at the last meeting. The Cochairs stressed these recommendations are only a starting point in a process that will hopefully lead to a final set of recommendations. Steven Rose, Commission Counsel, explained the changes made to the recommendations. The draft-suggested recommendations were as follows:

"The Commission on the Future of Electric Service in North Carolina makes the following recommendations to the 2000 Regular Session of the 1999 General Assembly:

1. **Retail Choice.** Fully competitive retail electric services will be available to consumers in North Carolina not later than June 30, 2006.

2. **Stranded Costs.** In order to facilitate the change from a fully regulated environment to one where retail electric competition can flourish, recovery of reasonable potentially stranded costs is important and must occur.

With regard to the investor owned utilities, the issue of stranded costs shall be addressed to the extent possible through a rate freeze at current rates until the beginning of retail competition. The rate freeze shall continue until June 30, 2006.

Given the investor owned utilities' continuing obligation to serve, they shall be allowed to file for an increase in rates to reflect the financial impacts of major expenditures incurred between now and June 30, 2006 caused by acts of *force majeure* or of governmental action (legislative, executive or regulatory) having a substantial impact on the utility. In the event these new expenditures are not recovered through that rate case by the time retail competition begins, the investor owned utilities shall be allowed to recover them in a proceeding before the North Carolina Utilities Commission.

This Commission will make further specific recommendations on recovery of stranded costs to the 2001 General Assembly.

None of the recommendations contained in this paragraph is intended to alter the fuel clause adjustment proceedings now permitted by G.S. 62-133.2.

3. **Municipal Power Agency Debt.** At this time no recommendation is made as to the handling of the municipal power agency debt. A recommendation regarding the debt problem will be made to the 2001 General Assembly.

4. **Recommended Legislation.** This Commission will recommend specific legislative language necessary to accomplish its recommendations to the 2001 General Assembly and, where necessary, the 2003 General Assembly.

5. **Consumer Protection.** This Commission's recommendations to the 2001 General Assembly will address issues of consumer protection. These include safety and reliability, universal service, the ability to aggregate, assurance of fair marketing and servicing practices, and education of consumers.

6. **Environment and Alternative Energy.** This Commission's recommendations to the 2001 General Assembly will address issues of environmental protection and promoting the use of alternative energy sources.

7. **Tax Laws.** The Department of Revenue will recommend to this Commission not later than July 31, 2002 changes needed to the tax laws of the State due to the introduction of a competitive environment for the retail sale of electricity. One of the goals of these recommendations will be to present options to address tax revenue streams in the state that may be diminished as a result of the introduction of a competitive environment.

8. **Transmission and Distribution.** The North Carolina Utilities Commission will report to this Commission not later than July 31, 2002 the intended structure of a transmission entity and the intended framework for the regulation of distribution systems that will promote competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. In making this recommendation this Commission recognizes that electric utilities are required by the Federal Energy Regulatory Commission to file by October 15, 2000, plans for participating in a regional transmission entity for the purpose of developing competitive wholesale generation markets. Current FERC regulations require implementation of those plans by December 15, 2001. This Commission further recognizes that the task assigned to the Utilities Commission is very much entwined with the requirements of FERC and that the regional transmission entity developed to comply with the federal requirements will effect the recommendations of the Utilities Commission. This Commission

also recognizes that steps taken by electric utilities to effectuate development of the competitive wholesale market, including revising of corporate structures and codes of conduct for corporate affiliates, will also contribute to the transition to a competitive retail market.

9. **Commission Authority.** The authority of this Commission, including its funding authority, will be extended until June 30, 2006 in order to recommend specific legislation, to review activities related to the implementation of these Commission recommendations, and to recommend any additional needed legislation.

Recommendations-C-05."

Toward the conclusion of the meeting, Representative Smith announced that the Cochairs would take amendments to the draft-suggested recommendations and that all amendments must be submitted by March 27, 2000 at 5:00 p.m. He announced that the next meeting date would be Monday, April 3, 2000.

April 3, 2000

Amendments to the draft-suggested recommendations (version –07 which differs from version –05 in that it has a technical change) were received by the Cochairs by March 27, 2000. These amendments were mailed to all Commission members prior to this meeting and handed out to all Commission members at this meeting. Copies of these amendments can be obtained from the Commission Clerk, Dee Bagley. However, please note that these amendments were not necessarily taken up at this meeting. Many alternate and compromise amendments were offered at this meeting and they are attached to the minutes.

Senator Hoyle began the meeting by explaining that first amendments would be introduced and explained but no vote taken. After all amendments had been introduced votes would be taken on each amendment. Finally, staff would roll the amendments into the draft-suggested recommendations and the Commission could vote on the recommendations as a whole.

The first amendment was offered by the Cochairs on behalf of NC4E (Commission members Charles McKeller and Lee Kindberg) and Duke and CP&L. This was a substitute perfecting amendment to that of NC4E's original amendment. Steven Rose, Commission Counsel, explained that the amendment affected recommendations one and two concerning the start date of retail choice and the recovery of stranded costs, respectively.

Commission members Sheila Ogle and Henry Knight offered the second amendment. Their amendment was the same as the amendment they submitted March 27, 2000. The amendment added a preamble and amended recommendation number one (start date of retail choice), two (stranded cost recovery), three (MPA debt problem), five (consumer protection), and six (environment).

Senator Odom offered the third amendment. This was an amendment to recommendation number six which concerns environmental recommendations. Commission member Richard Harkrader did not present his proposed amendments and instead accepted Senator Odom's amendment as an acceptable compromise.

Commission member Terry Callender was called on to present his amendment. This was the same amendment he had submitted by March 27, 2000.

He withdrew his amendment in favor if the Cochair's amendment concerning the first recommendation (start date of retail choice), but he asked that the Cochair's amendment regarding the second recommendation (regarding the recovery of stranded costs) be amended as follows: that the word "current" be replaced with "March 31, 2000", keep the bottom line on the first page, and that the last sentence in that paragraph be stricken and the rest kept intact.

Senator Hagan and Representative Jarrell were called on to present their amendment. This was the same amendment they had submitted by March 27, 2000. They too withdrew their amendment in favor of the Cochair's amendment. They went on to explain that the reason for their amendment was in response to the disappointment that the Commission had not been able to come to a compromise agreement over the MPA debt problem.

Jesse Tilton offered a perfecting amendment to recommendation number three (MPA debt problem) in light of the withdrawal of Senator Hagan and Representative Jarrell's amendment..

At this point in the meeting the Commission took up each amendment and voted on them individually. First, the Cochairs' amendment passed unanimously, as did two additional perfecting amendments to the Cochairs' amendment. The first perfecting amendment was offered by NCEMC and second by CP&L. Duke and NC4E suggested some changes to NCEMC's amendment, which were accepted.

Second, Senator Odom's amendment to recommendation number six (concerning the environment and alternate energy) passed unanimously.

Third, Representative Jarrell and Senator Hagan offered an amendment to recommendation number three (MPA debt problem) that clarified Representative Owens' suggestion made at the March 14, 2000 meeting. This was the first time the Commission had seen this amendment. This amendment passed unanimously.

Fourth, Commission members Henry Knight and Sheila Ogle withdrew the amendments they had presented earlier in the meeting and in its place Senator Odom offered an amendment pertaining to recommendation number five (consumer protection). This was the first time the Commission had seen this amendment. This amendment passed unanimously.

The staff was asked to roll the amendments into version –07 of the recommendations and return with a final document for the Commission to vote on. The staff did so and the Commission voted unanimously in favor of the following recommendations (version –08):

COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA

COMMISSION RECOMMENDATIONS

April 3, 2000

The Commission on the Future of Electric Service in North Carolina makes the following recommendations to the 2000 Regular Session of the 1999 General Assembly:

1. **Retail choice.** Fully competitive retail electric service will be available to all consumers in North Carolina as of January 1, 2006. Additionally, this Commission will recommend to the 2001 General Assembly an interim plan to

permit some customers to choose their electric supplier beginning on January 1, 2005. This plan will include these provisions:

a) Up to fifty percent (50%) of each power supplier's customer load, equally proportioned among customer classes, may choose an alternative electric supplier beginning January 1, 2005. The North Carolina Utilities Commission (NCUC) will establish the rules for implementation of this recommendation.

b) Customers eligible to choose an alternative supplier as of January 1, 2005 will receive a "shopping credit" that is the equivalent of the then current, competitive market price for that class of customer (e.g. residential, commercial, industrial) as established by the NCUC, and will pay its incumbent power supplier an appropriate transition charge.

2. **Stranded Costs.** In order to facilitate the change from a fully regulated environment to one where retail electric competition can flourish, recovery of reasonable potentially stranded costs is important and must occur.

With regard to the investor owned utilities, the issue of stranded costs shall be addressed to the extent possible through a rate freeze at current rates as of March 31, 2000. The rate freeze shall continue until December 31, 2004, unless, during the rate freeze period, the utility chooses to lower its rates or modify its rate design with the approval of the NCUC.

The investor owned utilities shall initiate a proceeding before the NCUC to:

a) establish rates for the period January 1, 2005 through December 31, 2005;

b) establish remaining stranded cost recovery charges, if any; and,

c) take such other actions required to effectuate customer choice.

If any investor owned utility is awarded additional stranded cost recovery after December 31, 2004, the NCUC shall initiate a one-time true-up of such utility's remaining stranded costs by July 1, 2007. That proceeding will adjust prospectively the continuing level of stranded cost recovery as appropriate.

This Commission will make further specific recommendations on recovery of stranded costs of other electric suppliers to the 2001 General Assembly. In making such recommendations, this Commission will consider competitive generation costs for the various power suppliers.

None of the recommendations contained in this section is intended to alter the fuel clause adjustment proceedings now permitted by G.S. 62-133.2.

3. **Municipal Power Agency Debt.** At this time no recommendation is made as to the handling of the municipal power agency debt. A recommendation regarding the debt problem will be made to the 2001 General Assembly. Nothing in this recommendation is intended to preclude the municipalities from being able to sell or retain their electric distribution systems by making a payment to the MPA debt equivalent to the appraised value of the distribution system.

4. **Recommended Legislation.** This Commission will recommend specific legislative language necessary to accomplish its recommendations to the 2001 General Assembly and, where necessary, the 2003 General Assembly.

5. **Consumer Protection.** This Commission's recommendations to the 2001 General Assembly will address issues of consumer protection. These issues include:

a) Safety and reliability;

b) Universal service;

c) Ability to aggregate;

d) Measures to ensure that a competitive generation market will be established and all classes of customers have bona fide choices of electric generation suppliers;

e) Adequate safeguards to protect all consumers from abuse, misinformation, and fraud;

f) A form of "standard offer service" whereby all consumers can make the passive choice of staying with their current supplier at competitive rates. The rates for such standard offer service shall be subject to regulation by the NCUC. The allocation of any type of deregulation fees or costs, if any, shall be determined by the NCUC;

g) Requirements to ensure that the citizens of North Carolina will have adequate levels of power for growth and emergency conditions in the future;

h) A comprehensive consumer education program;

i) Disclosure requirements.

Additional issues of consumer protection will be addressed in the Commission's recommendations to the 2001 General Assembly.

6. **Environment and Alternative Energy.** This Commission's recommendations to the 2001 General Assembly will consider issues of environmental protection and promoting the use of alternative energy sources, including but not limited to the following:

a) A public benefit fund to address low income, renewable energy and energy efficiency issues which may not be met in a deregulated market place;

b) A requirement for energy suppliers to include a small percentage of renewable electricity in the power they sell in North Carolina to encourage a robust green energy market and a minimum of clean energy generation in North Carolina;

c) Disclosure of information about generation fuel sources on consumers' bills so they will have the necessary information to make an informed choice on the products;

d) A procedure for customer choice for renewable energy (green energy) whether the cost is higher or lower;

e) Appropriate studies of potential regulatory issues relating to air quality issues which may arise as a result of electric restructuring;

f) Options for identification of an appropriate entity to encourage and hasten the development of less expensive and more efficient

methods of electric generation, distribution, and use of electricity by all citizens in the state;

g) Any additional issues of environmental protection and promotion of the use of alternative sources of energy which may require legislative consideration.

7. **Tax Laws.** The Department of Revenue will recommend to this Commission not later than July 31, 2002 changes needed to the tax laws of the State due to the introduction of a competitive environment for the retail sale of electricity. One of the goals of these recommendations will be to present options to address tax revenue streams in the state that may be diminished as a result of the introduction of a competitive environment.

8. **Transmission and Distribution.** The North Carolina Utilities Commission will report to this Commission not later than July 31, 2002 the intended structure of a transmission entity and the intended framework for the regulation of distribution systems that will promote competition in the sale of electricity while assuring reliable electric service at reasonable rates to all consumers in North Carolina. In making this recommendation this Commission recognizes that electric utilities are required by the Federal Energy Regulatory Commission to file by October 15, 2000, plans for participating in a regional transmission entity for the purpose of developing competitive wholesale generation markets. Current FERC regulations require implementation of those plans by December 15, 2001. This Commission further recognizes that the task assigned to the Utilities Commission is very much entwined with the requirements of FERC and that the

regional transmission entity developed to comply with the federal requirements will effect the recommendations of the Utilities Commission. This Commission also recognizes that steps taken by electric utilities to effectuate development of the competitive wholesale market, including revising of corporate structures and codes of conduct for corporate affiliates, will also contribute to the transition to a competitive retail market.

9. **Commission Authority.** The authority of this Commission, including its funding authority, will be extended until June 30, 2006 in order to recommend specific legislation, to review activities related to the implementation of these Commission recommendations, and to recommend any additional needed legislation.

Recommendations-C-08

May 16, 2000

The Final Draft Report was distributed to the Commission members. Steven Rose, Counsel for the Commission, explained changes made to the report. A motion to approve the report passed unaminously.

Senator Hoyle stated that the Cochairs will try to schedule a meeting within two weeks of adjournment of the General Assembly. He explained that this is a report, not legislation. The only legislation to result from this report will be to extend the life of the Commission until 2006 and to extend the Commission's funding.

Steven Rose stated that the report will be reprinted and made available, and that copies will be available to the public and be posted on the General Assembly homepage.

PART IV

INTRODUCTION TO RESEARCH TRIANGLE INSTITUTE REPORTS (TASKS)

The Study Commission contracted with the Research Triangle Institute to do a series of studies. The following is a listing of these studies:

1. Task 1 - Public Hearings (Part of the Project Management and General Support Task)
2. Task 2 , Vol. 1 - Rate Comparisons
3. Task 3, Vol. 1 - State and Local Tax Considerations in Electric Industry Restructuring
4. Task 3, Vol. 2 - State and Local Tax Considerations in Electric Industry Restructuring: Model Specification
5. Task 4, Vol. 1 - Policy Options for North Carolina's Municipal Power Agencies: Analysis of Options for Resolving Stranded Cost Issues
6. Task 4, Vol. 2 - Stranded Cost Estimates for a Restructured Electric Industry in North Carolina: Analysis of Options for Resolving Stranded Cost Issues: Options and Issues
7. Task 4, Vol. 3 - Stranded Cost Estimates for a Restructured Electric Industry in North Carolina: Analysis of Options for Resolving Stranded Cost Issues: Estimates of Stranded Costs and Recovery Options

8. Task 4, Vol. 3, Addendum - Stranded Cost Estimates for a Restructured Electric Industry in North Carolina (revised) - Analysis of Options for Resolving Stranded Cost Issues: Estimates of Stranded Costs and Recovery Options
9. Task 5, Vol. 1 - Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina: Overview of Methodology and Summary of Results
10. Task 5, Vol. 2 - Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina: Detailed Results—Sensitivity Analyses Final Report
11. Task 6 - Reliability Considerations in Electric Industry Restructuring
12. Task 7 - Summary of Written Public Comments
13. Task 8 - Comparisons of Government Tax, Financing, and Preference Power Policies by Utility Type: Utility Cost Impacts of Government Tax and Financing Policies
14. Task 9 - Environmental Considerations Associated with Electric Industry Restructuring in North Carolina (not released at the time of publication of this Commission report).

The chart on page 105 presents the expenditures on the RTI's task reports as of January 1, 2000. The following section is a summary of each study, with the exception of Task 9. These studies can be found at http://www.rti.org and in the Legislative Library on the 5th floor of the Legislative Office Building.

Cumulative Invoice History (1/5/98 - 1/31/00)

Task		Updated As Of (Last mo. for which project was revlewed)	Cumulative Amount ($ amount of ALL invoices through most recent one)
001	Project Management and General Support (includes Public Hearings Report)	Jan-00	$325,726.72
002	Comparisons of Electric Rates	Jan-00	$64,141.58
003	State and Local Tax Considerations in Electric Industry Restructuring: Phase I	Jan-00	$26,164.70
032	State and Local Tax Considerations in Electric Industry Restructuring: Phase II	Jan-00	$106,919.99
004	Analysis of Options for Resolving Stranded Cost Issues: Phase I	Jan-00	$32,459.54
042	Analysis of Options for Resolving Stranded Cost Issues: Phase II	Jan-00	$282,341.35
005	Analysis of Economic Benefits/Detriments from Electric Industry Restructuring - Phase I	Jan-00	$24,369.01
052	Analysis of Economic Benefits/Detriments from Electric Industry Restructuring - Phase II	Jan-00	$174,695.67
006	Reliability Considerations in Electric Industry Restructuring - Phase I	Jan-00	$16,748.66
062	Reliability Considerations in Electric Industry Restructuring - Phase II	Jan-00	$92,167.99
007	Summarize Written Public Comments	Jan-00	$8,937.31
008	Cost Impacts of Government Tax and Financing Policies	Jan-00	$63,394.59
009	Environmental Considerations Associated with Electric Industry	Jan-00	$30,554.00
Grand Total			$1,248,621.11

Task 1: Public Hearings

Final Report

October 1998

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by:

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Overview

North Carolina citizens were most concerned about

- assurance of fairness and equity among all customer classes,
- reliability of the power supply,
- universal access to electric energy and assignment of responsibility to provide it,
- stranded investment costs and benefits, and
- customer choice of electric providers.

The Legislative Study Commission on the Future of Electric Service in North Carolina hosted eight public hearings across the state over a 3-month period in early 1998. Approximately 1,850 people attended these hearings. The Commission gathered public comments on restructuring the electric utility industry as part of its mission to recommend whether North Carolina should restructure, and if so, how. Although many stakeholder groups were well represented at these hearings, many speakers were private citizens who felt compelled to express their concerns. The average citizen was not underrepresented at these hearings. For example, parents spoke about the need for customer choice to reduce their electric bills. Young people wanted the public to be more aware of our dependence on fossil fuels and the need for renewable energy sources. Senior citizens wanted their investments in utilities to be protected.

This executive overview discusses the topics most frequently mentioned at the eight public hearings. It also indicates some regional patterns that were evident from examining the topics raised at the hearings. Citizens frequently commented on the Commission's study process itself, so we include a brief discussion of those comments. Finally, many attendees and members of the Commission noted that the public needs to be better educated about this issue. Many people were confused about which portion of the electric utility industry was the subject of discussion at these hearings.

1. MOST FREQUENTLY MENTIONED TOPICS

Approximate Number of Attendees and Number of Speakers:
- Asheboro: 250, 36
- Elizabeth City: 300, 27
- Wilmington: 300, 56
- Gastonia: 250, 44
- Statesville: 175, 32
- Boone: 125, 30
- Asheville: 200, 37
- Raleigh: 250, 63

North Carolina citizens had comments about most of the topics listed in Senate Bill 38. Based on comments heard at the eight public hearings held across the state, citizens were most concerned about five topics listed in the bill:

- assurance of fairness and equity among all customer classes,
- reliability of the power supply,
- universal access to electric energy and assignment of responsibility to provide it,
- stranded investment costs and benefits, and
- customer choice of electric providers.

Table 1 is a matrix showing the topics raised most frequently at each hearing. Assurance of fairness and equity, reliability, and stranded costs were mentioned at every hearing. Universal access and customer choice were mentioned at most hearings.

1.1 ASSURANCE OF FAIRNESS AND EQUITY AMONG ALL CUSTOMER CLASSES

Most speakers wanted assurance that all customer classes would receive fair treatment. Many people assumed large users would benefit more than residential users and small businesses.

Most people wanted all citizens to receive service at a reasonable cost. Several speakers wanted assurance that after restructuring residential customers and small businesses would receive equal treatment compared to large industrial users. Many citizens feared big businesses would be able to negotiate low rates while smaller users would have to compensate by paying higher rates. At all of the hearings,

people cited examples of restructuring of other industries, such as telecommunications, airline, and cable, where large users benefited more than small users. At two hearings, citizens suggested that the state open up competition in the residential market first to see how it worked, then extend it to other customers if residential users benefited from competition. Small business people, representatives of local Chambers of Commerce, and proponents of downtown revitalization efforts asked the Commission to consider the impact of restructuring on small businesses.

In contrast, large users who primarily supported restructuring claimed all customer classes would be treated fairly. Several representatives of large companies said they supported restructuring only if everyone would benefit. They said residential customers would receive lower rates because they would be able to choose providers.

Table 1. Main Topics Mentioned by North Carolina Citizens at the Eight Public Hearings[a]

Topics in Senate Bill 38	Asheboro	Elizabeth City	Wilmington	Gastonia	Statesville	Boone	Asheville	Raleigh
Assurance of Fairness	1	1	1	1	1	1	1	1
Reliability	1	1	1	1	1	1	1	1
Fair Treatment								
Universal Access	1	1			1	1	1	1
Reciprocity								
Stranded Costs	1	1	1	1	1	1	1	1
State/Fed Jurisdictions								
Environmental Impact	1						1	
Tax Revenues	1	1			1		1	
Alternative Forms								
Obligation to Serve								
Subsidies/Tax Preferences	1							
Customer Choice	1	1	1	1	1		1	1

(continued)

Table 1. Main Topics Mentioned by North Carolina Citizens at the Eight Public Hearings[a] (continued)

Topics in Senate Bill 38	Asheboro	Elizabeth City	Wilmington	Gastonia	Statesville	Boone	Asheville	Raleigh
Unbundling Low-Income Customers								1
Renewable Energy	1		1			1		
State/Local Expenditures								
Economic Development			1	1	1		1	1
Municipal Utilities/ Co-ops								
Anticompetitive Conduct								
Other								

[a]A blank cell does not necessarily indicate that a topic was not mentioned at all at the hearing. It only indicates that it was not mentioned by a significant number of people.

1.2 RELIABILITY OF POWER SUPPLY

In general, residential and small business customers and farmers were most concerned about receiving reliable service.

North Carolina citizens were satisfied with the reliable service they have now. They wanted the Commission to assure them that their reliable service would not decline but would be maintained or improved. Citizens from the coast to the mountains recounted stories of quick response by their power providers after storms knocked out their power. They were concerned that power providers located in other states would not care about circumstances in North Carolina.

Farmers stressed their need for reliable service; a power outage can mean a significant loss of income for them when crops or livestock are damaged. Small business owners face the same predicament if they lose power. The same is true for the state's tourist attractions, which bring in thousands of dollars a day. Advocates for the disabled stressed the need for reliable service for this population.

In addition, citizens raised the issue of future capacity. They talked about the need for a back-up power system. Some people said the state needs to ensure generating capacity for 10 to 20 years down the road.

Many citizens, particularly senior citizens, were concerned about how response to outages would be handled. They wondered whom they would call if they needed repairs or had problems with their service.

1.3 UNIVERSAL ACCESS TO ELECTRIC ENERGY AND ASSIGNMENT OF RESPONSIBILITY TO PROVIDE IT

Rural residents did not want to be left with few choices while urban areas experienced significant benefits of restructuring.

Many of the hearings were located in predominantly rural areas, and citizens in these areas voiced the same concern: will rural areas be left behind as they were in the 1930s when the investor-owned utilities did not believe it was cost-effective to provide power in these areas? Many people told stories about the formation of ElectriCities and the local co-ops to provide power to these areas. They did not want to be left with few choices while urban areas experienced significant benefits of restructuring. They feared power providers would think they cannot make money serving rural areas.

1.4 STRANDED INVESTMENT COSTS AND BENEFITS

ElectriCities members, as well as other citizens, asked the Commission to spread stranded costs over all ratepayers. They emphasized that their small communities would not be able to pay the portion of the debt they owe.

Many people were uncomfortable with the uncertainty surrounding the stranded cost issue. Many speakers served by ElectriCities members advocated uniform recovery of stranded costs from all electric ratepayers. They hoped the Commission would not require them to pay their entire debt. They stated that their communities would go bankrupt if they had to pay this debt, thus lowering the state's bond rating. They claimed the 51 ElectriCities members helped the investor-owned utilities provide low-cost power to their customers over the years, so ratepayers in cities across the state actually benefited from this arrangement. These speakers said that, because ratepayers across the state benefited, they should also share the responsibility for paying the debt.

On the other hand, many people who spoke about the stranded cost issue did not want these costs spread across all ratepayers. They did not want to pay a debt that they did not incur. Many people pointed out that they were not even born at the time the ElectriCities debt was incurred.

1.5 CUSTOMER CHOICE OF ELECTRIC PROVIDERS

In general, across all of the hearings, large power users and solar energy advocates favored customer choice.

In general, across all of the hearings, large power users and solar energy advocates favored customer choice. They said customers will be able to choose lower-cost providers and providers who use renewable energy. Several people noted that North Carolina has some of the highest electricity rates in the southeastern United States. They claimed these high rates hurt senior citizens and low-income consumers. Supporters of customer choice said schools will save money that they can use to buy much-needed supplies. Hospitals will save money and pass on these savings to customers.

Some issues were not mentioned by citizens at any of the hearings:

- clarification of state and federal jurisdictions;
- functional unbundling of electric power generation, transmission, and distribution services;
- impact of competition on the energy expenditures by state and local government; and
- prevention of anticompetitive or discriminatory conduct or the unlawful exercise of market power.

Representatives of the Solar Energy Association spoke at most of the hearings and advocated accepting the portfolio standard that the North Carolina Energy Policy Advisory Board adopted in 1990, which stipulates 20 percent of our energy source will be renewable by 2010.

Large industrial users said they need lower rates to be competitive in their markets. Many of them compete with companies located elsewhere in the United States and abroad who pay lower rates for their electricity. They said companies may base location decisions on electricity rates, and North Carolina may lose business if it does not restructure soon. They believed customer choice would mean increased competitiveness, more jobs, and heightened economic development for the state.

In particular, Elizabeth City area citizens supported customer choice. Speakers at this hearing said they pay some of the highest electric rates in the state. Many people at this hearing noted a significant rate difference within their community because they purchase power from different providers and could not change providers to get a lower rate. Some of these citizens were angry because they cannot choose providers—they wanted to be able to shop for lower rates.

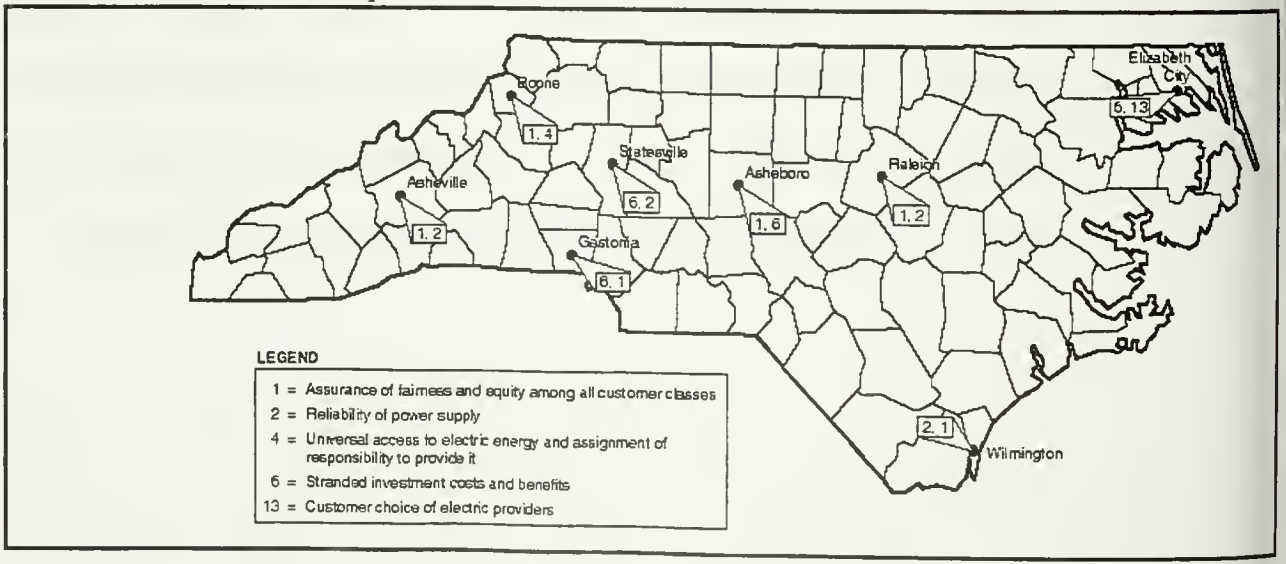
2. REGIONAL PATTERNS

ElectriCities members were concerned about having to pay the $6 billion debt associated with stranded costs. Wilmington area citizens were worried about reliability and the restoration of power after storms. Citizens in other parts of the state wanted to know that all customer classes would be treated fairly.

Figure 1 illustrates the location of each hearing and the two most frequently mentioned topics at each. Some regional patterns are evident from this map. Attendees at the hearings in Elizabeth City, Gastonia, and Statesville most frequently mentioned stranded costs in their comments. These cities and nearby communities are ElectriCities members and are concerned about large debt repayments. They made the case that they will go bankrupt if forced to pay this debt, thus damaging the State's bond rating. They asked the Commission to recommend uniform recovery of stranded costs.

Citizens in the Wilmington area mentioned reliability most often, perhaps because these coastal communities are more frequently affected by power outages from severe storms than other parts of the state. Several speakers told stories of prompt service after

Figure 1. Location of Eight Public Hearings and the Two Most Frequently Mentioned Topics at Each



Hurricane Fran and other recent storms. They wanted assurance that they would receive the same level of service when the industry is restructured. They were not convinced that out-of-state providers would address their problems in a timely manner.

North Carolina citizens at the remaining hearings most frequently mentioned assurance of equity and fairness among all customer classes. Many speakers were residential and small business customers who were afraid large users would benefit more from restructuring. They were concerned that they would not have the bargaining power that large users would have to negotiate low rates.

---

3. THE LEGISLATIVE STUDY COMMISSION'S PROCESS

Across the state, people wanted the Commission to study all of the issues, gather information, and take its time in determining a course of action.

Most people urged the Commission to gather all of the facts and study the issues carefully. Many speakers asked the Commission to study the experiences of other states that have restructured their electric utility industries and to learn from their mistakes. However, other people urged the Commission to act swiftly so that South Carolina and Virginia would not implement a plan before North Carolina decides on a plan.

Some citizens favored some type of restructuring of the industry but not necessarily complete restructuring. Several citizens wanted the opportunity to comment on a set of recommendations developed by the Commission before it presents them to the General Assembly. A couple of people wanted to vote on a plan.

Citizens mentioned topics not explicitly listed in Senate Bill 38, such as consumer protection, impact on investor-owned utilities' stock value, the annoyance of telemarketers, corporate citizenship, line safety, and utilities expanding into other markets. They hoped the Commission would consider these topics in its discussions.

4. EDUCATING THE PUBLIC

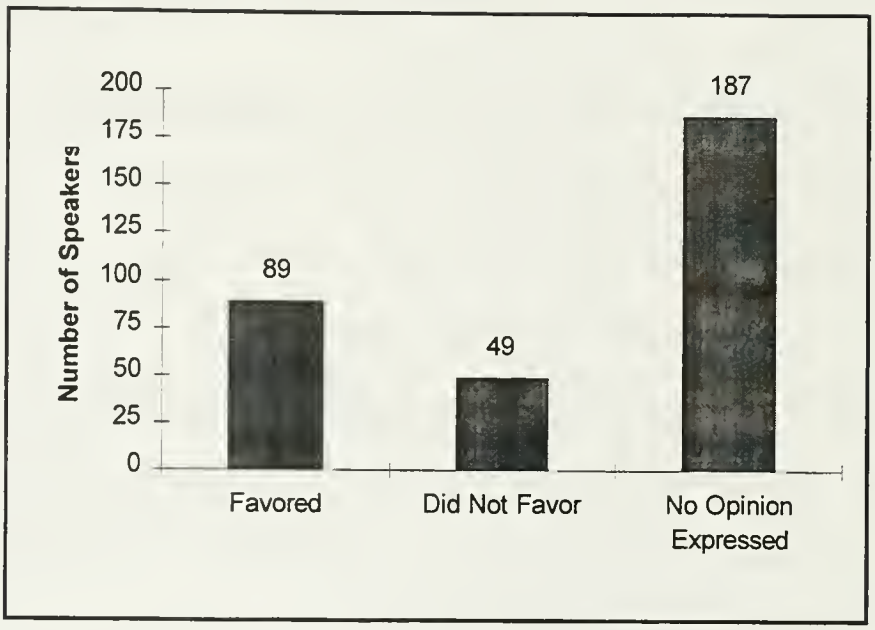
The lack of understanding of the issues was apparent at these eight hearings. Citizens do not completely understand that only the generation portion of the electric utility industry is the subject of the restructuring discussion.

Some speakers at these hearings noted that many citizens did not seem to understand the part of the electricity industry that was being discussed at these hearings on restructuring. Many people did not seem to realize the Commission is studying restructuring of the generation portion of the industry only; the transmission and distribution systems would remain regulated. This misunderstanding seemed to fuel the concern about reliability. Citizens were not sure whom they would call when they lost their power. They were concerned about the possibility of having to call someone located in another state who might not understand the urgency of the problem.

5. CONCLUSIONS

Many people expressed serious concerns about restructuring, without expressing a definite opinion either "for" or "against" it. Those people favoring restructuring were straightforward in their comments; they stated explicitly that they supported restructuring and customer choice. Figure 2 lists the breakdown of those that favored, did not favor, or had no opinion about restructuring.

Figure 2. Number of Speakers Expressing an Opinion about Restructuring



Task 2, Vol. 1: Rate Comparisons

Final Report

July 1998

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by:

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report presents comparisons of electric rates in North Carolina as of 1996 and industry recruitment results as of 1997. The material in this report was developed pursuant to Task Order Authorization #2 between Research Triangle Institute (RTI) and the Study Commission on the Future of Electric Service in North Carolina. The Study Commission is investigating whether retail electric competition should be introduced in North Carolina and, if so, when and how.

The rate comparisons are based on broad averages and thus are referred to as "average rates." An average rate for a particular group of customers is computed by dividing their total electric bills by their total electric usage (in kilowatt-hours, or kWh). An individual customer is offered a rate schedule, not an average rate. When interpreting average rate results, it is important to keep in mind that

- an average rate is a result of how many kWh the customers (i.e., a group) choose to consume under their rate schedules and
- a particular customer's electric bill-to-usage ratio may fall to either side of this average rate.

The rate comparisons are based primarily on 1996 data from the U.S. Department of Energy, Energy Information Administration (EIA). These data are used for the inter- and intrastate comparisons by electricity provider group and customer class in Section 3. More detailed comparisons—comparisons by usage level—are presented in Section 4. The comparisons in Section 4 are based on

data provided by the North Carolina Public Staff, who collected these data to supplement the EIA data.

In this report, we compare three groups of electric providers:

1. Investor-owned utilities (IOUs), who are regulated by the North Carolina Utilities Commission (NCUC): In North Carolina, the major IOUs are Carolina Power & Light, Duke Power (now including Nantahala Power and Light), and North Carolina Power.
2. Publicly owned utilities (POUs), also called municipal electric utilities, or munis: State utility commissions traditionally do not regulate POUs, and North Carolina is no exception. North Carolina's POUs include
    - 19 towns and cities that jointly own a portion of Duke's Catawba Plant through their participation in North Carolina Municipal Power Agency #1 (NCMPA1);
    - another 32 towns and cities that jointly own portions of four CP&L plants (two nuclear, two coal) through their participation in Eastern North Carolina Municipal Power Agency (ENCMPA); and
    - another 20 towns and cities that own their electric distribution systems, and some of whom own generation but are not members of a municipal power agency (MPA).

    All 71 of these towns and cities, plus three university-based systems, are members of ElectriCities.

3. Customer-owned utilities (COUs), also called rural electric cooperatives, or co-ops: State utility commissions traditionally do not regulate COUs, and North Carolina is no exception. North Carolina's COUs include

    - 27 co-ops who are members of the North Carolina Electric Membership Corporation (NCEMC),
    - another co-op whose service area is fully within North Carolina, and
    - another four co-ops whose service areas fall partially within North Carolina.

The average electric rate for all electricity provider groups and customer classes in North Carolina in 1996 was approximately 5 percent below the national average. However, our average electric rate was approximately 9 percent above the average for the Southeastern U.S. (nine states). The only Southeastern state with a higher average electric rate than North Carolina was Florida.

In 1996, North Carolina's average electric rate was higher than the average electric rate in the Southeastern U.S. primarily because our POU and COU rates are higher than their counterparts in these states, and many of our electric customers (approximately 23 percent) are served by POUs and COUs. Breaking this down by type of electricity provider, we see that

- the average electric rate for IOUs in North Carolina was 15 percent below the U.S. average for IOUs and within 1 percent of the Southeastern U.S. average for IOUs;

- the average electric rate for POUs in North Carolina was 31 percent above the U.S. average for POUs and 33 percent higher than the Southeastern U.S. average for POUs; and
- the average electric rate for COUs in North Carolina was 28 percent higher than the U.S. average for COUs, and it was also 28 percent higher than the Southeastern U.S. average for COUs.

When we look at the 1996 data by customer class, we see the following:

- North Carolina's average electric rate for industrial customers was 4 percent above the U.S. average and 17 percent above the Southeastern U.S. average. Our average industrial rate was the second highest in the Southeast.
- Our average electric rate for residential customers was 4 percent below the U.S. average, but 10 percent above the Southeastern U.S. average. Our average residential rate was the highest in the Southeast.
- Our average electric rate for commercial customers was 16 percent below the U.S. average and within 1 percent of the Southeastern U.S. average.

These results by customer class, especially the residential results, are influenced strongly by the higher average electric rates of POUs and COUs relative to their counterparts elsewhere and their 23 percent share of kWh sales in North Carolina.

Within North Carolina, the 1996 data reveal the following:

- The average electric rate for our 51 MPA member cities was 44 percent above the average rate for our IOUs; the average rate for our 20 munis that

are not MPA members was also higher than the average rate for our IOUs, but by a smaller amount.

- The average electric rate for our 27 co-ops that are members of NCEMC was 43 percent higher than the average rate for our IOUs; the average rate for our five co-ops that operate wholly or partially in North Carolina but are not members of NCEMC was also higher than the average rate for our IOUs, but by a smaller amount.

The average electric rate for MPA member cities was higher in 1996 than the average rate for IOUs primarily because of their past investment in generation. The average rate for COUs was higher than the average rate for IOUs primarily because of the small average number of customers COUs serve per mile of distribution line and because of the low load factor (average power use relative to peak power use) of the customers COUs serve. COU customers are primarily residential customers.

When we view these 1996 data by customer class, we find that

- POU and COU average rates were consistently above IOU average rates for each of the three customer classes, and
- these rate disparities were higher for MPA member cities and NCEMC member co-ops than for the other munis and co-ops.

Electricity rates can affect industry recruitment. However, electricity costs are only one of many factors in the site selection process. The importance of electricity costs in the site selection process increases as

- the importance of electricity costs in the total cost structure increases and
- the size of electric rate disparities increases.

Electricity rates tend to have more effect on site selection for electricity-intensive industries such as manufacturing of cement, industrial inorganic chemicals, and nonferrous metals. However, site selection of all industries is affected by electricity prices to some extent.

We examined data from *Site Selection* magazine's New Plant Database for 1997 to see if North Carolina's electricity prices had a noticeable effect on industrial recruitment. The detail in these data is limited, but the data suggest that our higher average electric rates compared with other states in the Southeast have not had a noticeable effect on new plant siting and expansion at the statewide level as of 1997. To illustrate this point, North Carolina

- led the nation over the 1995 to 1997 period in the number of new and expanded facilities per capita, up from fifth in this category over the 1994 to 1996 period;
- led the nation over the 1995 to 1997 period in jobs in new and expanded facilities per capita and led the nation in this category over the 1994 to 1996 period too; and
- ranked eighth in the nation over the 1995 to 1997 period in investment in new and expanded facilities per capita, up from tenth in this category over the 1994 to 1996 period.

These comparisons were made over 3-year periods to smooth out the effect of yearly values that tend to be less stable.

These statewide results may "mask" the effect of rates on industrial recruitment and expansion within the state, especially when the rate disparities are large. These effects may be larger

- at state and electricity provider (IOU, COU, POU) service area boundaries and
- for industries that are more electricity intensive.

The data did not support an analysis of these issues within the state, nor did they support an analysis of the effect of electricity rates on industry retention and closings. No suitable data sets are currently available to support these analyses. The findings for new and expanded industry at the statewide level are all that can be supported by available data at this time.

Task 3, Vol. 1:

State and Local Tax Considerations in Electric Industry Restructuring

Final Report

September 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by:

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report describes how retail competition in the electricity industry may affect the tax revenues of state and local government in North Carolina. In particular, we examine the potential effects of retail competition on North Carolina tax revenues for each of the following four taxes:

- corporate income tax,
- property tax,
- gross receipts tax, and
- sales tax.

Altogether, remittances of these four taxes by electricity suppliers accounted for about $634 million in 1997 tax revenues in North Carolina. Roughly one-third of this total was from the gross receipts tax, slightly less than one-third was from the sales tax, and about one-sixth each was from property and corporate income taxes. Those revenues are ultimately spent by all three levels of North Carolina government, accounting for about 3.25 percent of total state tax revenues, 2.25 percent of county tax revenues, and 6.9 percent of municipal tax revenues.

In Volume 1, we review all North Carolina taxes that may be affected by retail competition and provide our quantitative estimates of potential changes in tax revenues for the same set of assumptions that we used in our companion reports on stranded costs and benefits and detriments. We refer to this set of assumptions as the "reference case," and this is consistent with other RTI reports to the

Legislative Study Commission on the Future of Electric Service in North Carolina ("Study Commission"). The key elements of the reference case are as follows:

- start date of retail competition = January 1, 2004
- benchmark market-clearing price of power under competition = intermediate estimate as reported in *Stranded Cost Estimates for a Restructured Electric Utility Industry in North Carolina, Volume 3—Task 4* (RTI, 1999)
- discount rate = cost of equity for investor-owned utilities (IOUs), cost of debt for other utilities—used to compute the discounted present value of annual stranded costs
- capital additions to preserve capacity and efficiency ratings of existing generation are included as potential stranded costs

All projections of tax revenues in this report cover the period from the assumed start date for competition through 2015.

The Executive Summary of Volume 2 presents an intuitive summary of the modeling techniques and assumptions used in our projections of tax revenue changes; the remainder of Volume 2 describes our modeling approach at a more technical level that requires familiarity with the logic and algebra of microeconomic theory. To avoid confusion and to keep our presentation simple, we have presented quantitative results only for the reference case. However, our model is capable of producing a full set of alternative tax projections for a wide variety of alternative assumptions.

Throughout this report we have focused solely on the prospective changes in tax revenues from electricity suppliers due to retail competition. We have not attempted to estimate changes in taxes that could be attributed to changes in the number and type of jobs or facilities in North Carolina due to changes in electricity prices. These secondary effects would tend to reduce our estimates of tax losses.

Certain restructuring options could also affect tax revenues. For example, in our report, *Policy Options for North Carolina's Municipal Power Agencies* (RTI, 1999), we discussed Divestiture and Dissolution options. Both would involve the transfer of assets from entities that are exempt from certain taxes to others that may not be exempt. For example, IOUs could acquire properties now held by the municipal power agencies (MPAs) and begin paying taxes that are not paid by the power agencies. Such a transfer could reduce the tax losses discussed in this report, since we assume no ownership changes for this analysis.

E.1 Issues affecting future North Carolina Tax Revenues

The two most important policy decisions affecting North Carolina tax revenues are those relating to the recovery of stranded costs and the establishment of nexus. Therefore, we have considered tax revenue consequences under all four possible outcomes regarding these issues. These outcomes constitute the four policy cases that we review in this report and detail for our modeling approach in Volume 2:

- Case 1: No Nexus, No Recovery of Stranded Costs

- Case 2: Nexus, No Recovery of Stranded Costs
- Case 3: No Nexus, Recovery of Stranded Costs
- Case 4: Nexus, Recovery of Stranded Costs

All projections of tax revenues in this report assume that tax policies in North Carolina remain unchanged, except for the establishment of nexus. However, as discussed further below, several tax policy changes could be implemented to offset any tax losses.

Stranded cost recovery decisions can affect North Carolina tax revenues in three significant ways. First, the aggregate amount of stranded costs significantly affects the difference between current electricity prices and competitive prices, so the amount of stranded costs affects the amount of potential price reductions under competition. Those price changes significantly affect electricity revenues and, hence, revenue-based tax proceeds. Second, stranded costs may affect property tax revenue because of the way in which utility property is appraised for tax purposes, as discussed in Section 2.2. Third, the state's decision on the recovery of stranded costs would have critical tax revenue implications, because stranded cost recovery payments are presumed to be taxable. Therefore, recovery of stranded costs would automatically offset part of the tax losses that would otherwise occur during the transition period.

Retail competition would likely introduce new electricity suppliers to North Carolina, some of them located in other states. Whether these out-of-state providers will be liable to pay North Carolina taxes remains an issue, generally

described as the nexus issue. Nexus refers to the authority of a state to levy taxes on any out-of-state seller, historically based on physical presence (that is, an out-of-state provider's having sufficient property, employees, or other presence in a state to justify taxation). However, an exact legal definition of physical presence has not been established for the purpose of taxing electricity sales. As detailed in Volume 2, the existence of nexus would affect the competitive price of electricity and, therefore, the amount of stranded costs. As a result, revenues from the gross receipts tax, sales tax on electricity, and corporate income tax would be higher with nexus than without it. Therefore, North Carolina has an obvious incentive to establish nexus or to implement alternative tax policies that have the same effect as nexus.

Table E-1 summarizes the potential impact of retail competition on North Carolina tax revenues for each of the four cases we considered in this report. We assume that stranded cost recovery payments are taxable, so income taxes and sales and gross receipts taxes increase when stranded costs are recovered. For all taxes, the smallest negative effects occur when both nexus and stranded cost recovery are assumed to exist.

Table E-1. Percentage Change in North Carolina Taxes Remitted by Electric Utilities: Retail Competition for the Period 2004–2015[a]

Case[b]	Potential Change in Tax Remittances (%)				
	Gross Receipts Tax	Sales Tax on Electricity	Corporate Income Tax	Property Tax	Total
Case 1: No Nexus, No Recovery	–18.22%	–18.22%	–30.3%	–10.71%	–18.7%
Case 2: Nexus, No Recovery	–10.88%	–10.88%	–10.97%	2.71%	–8.95
Case 3: No Nexus, Recovery	–9.98%	–9.98%	–9.39%	–10.71%	–10.01
Case 4: Nexus, Recovery	–6.14%	–6.14%	–5.66%	2.71%	–4.82

[a]Percentage changes in the *discounted present value* of annual tax remittances.

[b]Recovery refers to stranded cost recovery.

The effect of competition on the aggregate revenue from all four types of taxes will likely vary significantly from one policy case to another, although we project that total tax revenues will decline in all cases. Without nexus or stranded cost recovery (Case 1), total North Carolina tax revenues from electric utilities may decline by nearly 19 percent; with nexus and stranded cost recovery (Case 4), tax revenue losses are substantially reduced (to about 5 percent).

Because sales and gross receipts taxes account for almost two-thirds of taxes remitted by electric utilities, they also account for most of the projected tax losses. They account for 70 to 90 percent of the projected aggregate tax revenue losses depending on the policy scenario. The projected percentage losses are identical for these taxes because both are collected as a percentage of electricity revenues.

The projected percentage changes in tax revenues from one policy to another are greatest for the corporate income and property taxes. In fact, establishing both retail competition and nexus may increase property tax revenues as shown in Table E-1. Essentially, this increase would be due to increases in the market value of existing North Carolina generating plants, as competitive electricity

prices begin to rise above the plant costs that utilities could otherwise recover in the prices charged under regulation.

Table E-2 summarizes the potential impact of retail competition on North Carolina tax revenues by government entity. As shown in Table E-2, municipalities are likely to suffer the highest proportionate tax revenue losses under retail competition because of the impact on property taxes and municipal proceeds of gross receipts tax collections. In this model, projected changes in county tax revenues are strictly dependent on changes in property tax proceeds, and thus (like property taxes themselves), are assumed to be unaffected by stranded cost recovery. Any county-level tax revenue impacts from property tax reassessments will be widespread. Counties that depend more heavily on utility property taxes, especially counties that have a large apportionment of the assessed value of utility properties, and counties that are served by utilities with large stranded costs, may experience much greater than average effects due to these reassessments. Finally, tax revenues to the state of North Carolina are projected to decline by

Table E-2. Percentage Change in Total Tax Receipts, By Government Entity: Retail Competition for the Period 2004-2015[a]

Case[b]	Municipal	County	State
Case 1: No Nexus, No Recovery	–1.17%	–0.24%	–0.75%
Case 2: Nexus, No Recovery	–0.59%	0.06%	–0.38%
Case 3: No Nexus, Recovery	–0.70%	–0.24%	–0.34%
Case 4: Nexus, Recovery	–0.32%	0.06%	–0.21%

[a]Percentage changes in the *discounted present value* of annual tax receipts.

[b]Recovery refers to stranded cost recovery.

about 0.8 percent, 0.4 percent, 0.3 percent, and 0.2 percent for Cases 1 through 4, respectively.

E.2 Tax Policy Options

If retail competition reduces electricity prices in North Carolina and there are no changes in tax policies, there will be commensurate reductions in state and local tax bases. Several tax policy options are available to lawmakers:

- no change,
- allow stranded cost recovery,
- change tax rates, and
- restructure existing taxes.

The relative attractiveness among these options depends on the resolution of the nexus issue.

We have projected that average electricity prices are likely to decline under retail competition. Unless the state implements offsetting tax policies, revenues from electricity-related taxes are also projected to decline due to the loss of dollar sales (see Section 4). Thus, even though the state does have the option of leaving current tax policies in place, the likely consequence is that state, county, and municipal governments would experience tax revenue shortfalls unless some policies are changed.

One option for policy change is to allow stranded cost recovery—a decision that has critical implications for mitigating tax shortfalls that may be created by retail competition. Tax law suggests that revenue from stranded cost recovery surcharges would be taxed just like any other component of electric utility revenues. Thus, gross receipts and sales taxes would be levied on recovery

surcharges. In addition, revenue from stranded cost recovery would contribute to the utilities' income, and any resulting profits would be subject to the state income tax. Therefore, stranded cost recovery would have the effect of mitigating some tax revenue losses during the transition period. This is the case, whether nexus is established or not, since recovery surcharges are applied to all customers regardless of whether they buy power from in-state or out-of-state generators.

The state could also offset projected tax losses by increasing the rates of one or more of the taxes considered in this report. But this option is practical only if nexus is established. Because gross receipts and sales tax on electricity account for the largest share of tax revenue, these tax rates would likely be the most prominent candidates for change.

Tax restructuring options include introducing an entirely new tax or applying a surcharge on an existing tax. Two of the most promising options for offsetting potential revenue losses are (1) a consumption tax, also referred to as an excise tax; and (2) an electricity surcharge, which is a tax based on dollar sales. However, as is the case for changes in tax rates, an electricity surcharge is practical only if nexus is established.

A consumption (excise) tax is a new tax that is designed to recover equivalent tax revenues under retail competition, but in a more uniform way than is possible with sales or gross receipts taxes. This tax would be levied on kilowatt hours instead of dollar sales and would be collected by the North Carolina entities that sell electricity at the retail level (i.e., distributors). It would be collected

regardless of whether those distributors purchase their bulk power from in-state or out-of-state generation companies.

In summary, our analysis suggests that if the state can establish nexus and ensures full recovery of stranded costs, losses of total tax revenues related to electricity will be fairly modest, about 5 percent. This would amount to an overall loss of about 0.2 percent in total tax receipts in North Carolina. If nexus is established (Cases 2 and 4), the most promising tax option for offsetting potential tax revenue losses may be to change existing tax rates. In all cases, tax revenue losses will be decreased if the state allows stranded cost recovery whether or not nexus can be established. If North Carolina cannot establish nexus, a consumption or excise tax appears to be the preferred option for offsetting potential tax revenue losses. The recent adoption of a consumption tax on natural gas in North Carolina provides an important precedent, suggesting that in the absence of nexus such a tax will be an effective measure for offsetting other tax losses due to retail competition.

Task 3, Vol. 2:

State and Local Tax Considerations in Electric Industry Restructuring

Model Specification

Final Report

September 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by:

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

To estimate the effect of retail competition on North Carolina tax revenues, we consider four cases:

1. Case 1: No Nexus, No Recovery of Stranded Costs
2. Case 2: Nexus, No Recovery of Stranded Costs
3. Case 3: No Nexus, Recovery of Stranded Costs
4. Case 4: Nexus, Recovery of Stranded Costs

Case 1 assumes that nexus is not established, leaving out-of-state providers untaxed, and that stranded costs are not recovered. Case 2 assumes that nexus is established, meaning that out-of-state providers are subject to North Carolina taxes, and that stranded costs are not recovered. Case 3 assumes that nexus is not established but that stranded costs are recovered. Case 4 assumes that nexus is established and that stranded costs are recovered. For each of these cases, we developed algorithms to estimate the potential effect of retail competition on tax revenues for four separate taxes: the gross receipts tax, the sales tax on electricity, the corporate income tax, and the property tax.

This volume presents a technical description of our modeling approach. It is written for technical reviewers who are familiar with microeconomic theory and modeling. Our conceptual method is based on the theory of microeconomics and finance. That theory implies that an incumbent utility, or future buyers of its plants, will be profoundly influenced by economic, as opposed to accounting, costs. Total plant costs equal the sum of variable and fixed costs. Variable costs are those that change when the amount of plant output changes, whereas fixed

costs do not change with output. The underpinning theory for our model states that all existing power plants will continue to be operated so long as the competitive price of electricity exceeds the variable costs of plant operation. The theory anticipates that market outcome regardless of whether the incumbent utility incurs accounting losses at those plants due to their high fixed costs, as long as the plants can still cover their variable costs.

The theory also suggests that the competitive price of electricity will be completely determined by the anticipated full production costs (i.e., by the sum of fixed and variable costs that are *anticipated*) for potential new market entrants. Potentially, North Carolina taxes represent part of the variable costs that new entrants would incur. Therefore, their costs will be higher if they are taxed in North Carolina (nexus Cases 2 and 4) than if they are not (no nexus Cases 1 and 3). As a result, we assume that the competitive market price of electricity would be higher with nexus than without by an amount equal to the cost of tax liabilities per kWh sold in North Carolina. This representation of the electricity market causes lower estimates of stranded costs under nexus. This happens because out-of-state suppliers are not able to avoid North Carolina taxes under nexus, and therefore cannot discount their electricity prices by the amount of taxes avoided. As a result, competitive prices must be higher under nexus, resulting in lower stranded costs (losses) to North Carolina suppliers.

Our model calculates electricity sales and tax revenues for every year from a projected start date of retail competition through the year 2015. It draws key input values from separate analyses that are reported in our stranded cost report

(RTI, 1999). All of these key inputs are data time series for the entire projection period. The key inputs are as follows:

- total stranded costs with and without nexus for each of the incumbent electricity suppliers in North Carolina and for each of three different start dates for retail competition—2002, 2004, and 2006;
- annual kWh sales that each incumbent supplier expects to deliver from their existing plants during each year of the projection period;
- total annual kWh sales that each incumbent supplier expects to serve during the projection period, including the added load to be served by new plants; these sales projections assume that current regulation remains in place during the entire projection period;[6]
- total (fully embedded) costs per kWh for generation services from the existing plants owned by the incumbent suppliers—these unit costs include the hypothetical projected costs of relevant tax payments assuming that current regulation remains in place for the entire projection period; and
- retail prices for electricity under retail competition for each year of the projection period; our reference case for the tax model uses the intermediate price series, but our model also calculates results for the other price series in our stranded cost report.

[6]By current regulation, we mean the cost-based rate regulation imposed on electric utilities by the North Carolina Utilities Commission.

The last two items in this list represent projected revenues attributed to existing plants under regulation and under competition (Case 1: no nexus, no recovery), respectively. Because we know the rates for each type of tax in North Carolina, we are able to compute the competitive market price for electricity under nexus (Case 2: nexus, no recovery). We estimate Case 2 prices by inflating the Case 1 price series; the inflation factor is a multiplier that includes the cost of taxes to be paid under nexus. We estimate that competitive prices would be about 7 percent higher with nexus (Case 2) than without nexus (Case 1).

To keep the modeling and presentation of tax consequences as simple as possible, our reference case assumes that stranded costs would be recovered by imposing a uniform surcharge on all electricity sales in North Carolina. The uniform surcharge would be defined as a fixed dollar amount per kWh sold (e.g., 50¢/kWh). However, our tax model explicitly incorporates two other policy alternatives for stranded cost recovery. One alternative creates four separate uniform tax rates based on four stranded cost pools. One pool combines the stranded costs of Carolina Power & Light and the North Carolina Eastern Municipal Power Agency. Another combines the stranded costs of Duke Power Company and the North Carolina Municipal Power Agency #1. In addition, both North Carolina Power and the electric membership cooperatives are maintained as two separate pools. The model then computes four separate uniform surcharges—one for each of these four pools—and projects tax consequences based on those surcharges. Finally, the model computes five independent uniform surcharges—

one for the North Carolina municipal power agencies combined, one for the electric cooperatives, and one for each of the IOUs.

The retail price for electricity with stranded cost recovery is assumed to include the uniform stranded cost surcharge. Without nexus but with recovery (Case 3), the retail price is assumed to be the sum of the price in Case 1 plus a stranded cost surcharge. Similarly, with both nexus and recovery (Case 4), the retail price is assumed to be the sum of the price in Case 2 plus an appropriate surcharge.

The surcharge amounts for Cases 3 and 4 are different for two reasons. First, total stranded costs are lower with nexus (Case 4) than without (Case 3), as mentioned above. Second, we assume that the total quantity of electricity sales is sensitive to price, so a higher price will cause kWh sales to contract.[7] This will, in turn, require a further increase in the surcharge rate to recover the fixed amount of stranded costs.

The remainder of this Executive Summary provides intuitive descriptions of our tax revenue projections for each type of North Carolina tax potentially affected by competition.

Gross Receipts and Sales Taxes

Our baseline estimates of all taxes assume that regulation is continued—the status quo. First, we calculate total projected revenues under regulation using the

[7]See the discussion in Volume 1, Section 3.1 on future electricity prices for a summary of the relationships among changes in electricity prices, quantity sold, and revenues. Our model represents price sensitivity by a parameter called demand elasticity

regulated price series and the projected quantity series that includes projected new load growth under regulation. Both gross receipts and sales taxes are simple .multiples of those revenue levels.

For all four of our policy cases we simply recalculate total electricity revenues using the appropriate price and quantity estimates that are derived as described in this volume. In Cases 3 and 4, the retail prices include the taxable surcharges for stranded cost recovery. Consequently, the losses of tax revenues are lower in those cases.

Property Taxes

Property tax collections on existing generation facilities may decline under competition because revenues attributable to plants may fall. This can happen because "revenue" to a plant under regulation equals the sum of operating costs and the portion of plant fixed costs recovered in regulated rates; but under competition revenue equals the competitive price times output. Projected revenue under competition may be smaller than under regulation causing the projected value of the generation facility to decline. We estimate those changes in plant values for power plants that are already operating in North Carolina. However, we do not estimate property value increases that might derive from new market entrants that build generating facilities in North Carolina or from other newcomers whose arrival is attributable to retail competition.

We project the change in value in North Carolina generation properties as follows. First, we decompose total stranded costs and deduct the part that is associated with generation facilities from the current values of those properties.

This yields two alternative values for generating facilities in North Carolina—one associated with the no nexus Cases 1 and 3 and the other associated with the nexus Cases 2 and 4. Because stranded costs are lower under nexus, property values are higher in Cases 2 and 4 than in Cases 1 and 3. We calculate total property tax collections by multiplying the North Carolina property tax rates within the counties times the adjusted property values.

Income Taxes

As is the case for other taxes, we project income tax revenues for the incumbent suppliers under the status quo, using the key input values mentioned above. Then we compute alternative projections for each of the policy cases.

In all cases we assume that the income to incumbent suppliers will decline under competition by the amount of lost revenues. The decline in income is projected to be greater during than after the transition period. The reason is that we make an assumption about tax write-offs associated with regulatory assets. Specifically, we assume that the total amount of regulatory assets—worthless assets in a competitive environment—is written off during the transition period.[8]

We assume in all policy cases that the incumbent utilities realize an increase in income from the sale of transmission and distribution services. This is due to the increased level of kWh sales in North Carolina caused by lower electricity prices. As the electricity price falls, kWh sales will increase. Even if out-of-state

[8]We do not assume write-downs or accelerated write-offs of the book value of existing generation plants. Instead we assume that those plants will continue to be depreciated under their current depreciation schedules. Any acceleration in those write-offs would further reduce income tax revenues.

suppliers make those kWh sales, they will be forced to purchase transmission and distribution services from North Carolina providers who will earn income on the distribution services they provide. In nexus Cases 2 and 4, there is a second source of increased taxes on the income from the increased sales—the income associated with the generation services that supply the extra kWh sales in excess of the amount that would be consumed under regulation.[9]

Finally, even more income is realized in the recovery Cases 3 and 4. Stranded cost payments are subject to tax and will generate additional income tax revenue along with increases in sales and gross receipts revenues.

[9]As discussed in Section 3.1 of Volume 1, kWh sales are likely to increase when electricity prices decline, even though total electricity revenues are likely to decline at the same time.

Task 4, Vol. 1:
Policy Options for North Carolina's Municipal Power Agencies

Analysis of Options for Resolving Stranded Cost Issues

Final Report

March 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by:

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

The evolution of North Carolina's two municipal power agencies (MPAs), the North Carolina Eastern Municipal Power Agency (NCEMPA) and the North Carolina Municipal Power Agency 1 (NCMPA1) is attributable to institutions and forces that took shape nearly a century ago. In the late 1800s and the early part of this century, North Carolina municipalities built their own power supply systems. Gradually, they sold their generation plants and started purchasing bulk power from other companies, while still continuing to operate their local distribution systems. Many North Carolina cities eventually sold their distribution systems to the investor-owned utilities (IOUs) in North Carolina, completely leaving the power supply business. However, 74 cities in North Carolina, representing about 11.5 percent of the state's population, currently remain in the power supply business.

In the 1970s, when fuel and electricity prices were escalating at double-digit rates, 51 of those cities—now representing about 9 percent of North Carolina's population—concluded that they could better control their costs if they purchased their own generation capacity. At the same time, IOUs were seeking ways to complete their new plant construction programs without incurring all of the oncoming cost increases due to spiraling interest rates and construction costs.

Supported by state legislation and authorized by a statewide voter referendum, those 51 cities combined forces to jointly purchase and operate generation facilities. Thirty-two cities in eastern North Carolina joined to form NCEMPA and purchase capacity jointly with Carolina Power and Light Company (CP&L).

Nineteen cities in western North Carolina formed NCMPA1 to purchase capacity jointly with Duke Power Company (Duke Power). Other participants in that purchase included the North Carolina Electric Membership Corporation (NCEMC), representing most electric cooperatives in North Carolina.

The decision was ill fated from the beginning. The MPAs struck deals prior to construction of major new nuclear facilities only a short time before the disaster at the Three Mile Island plant in Pennsylvania. After that incident, federal regulators vastly changed construction requirements and regulations that contributed to construction cost overruns. In addition, customers' energy conservation measures lowered the cities' need for new generation capacity compared to their earlier expectations. The MPAs suffered other adversities too, like changes in federal accounting rules that lowered their revenues from the sale of unneeded power to CP&L and Duke Power.

Technology and fuel costs changed as well. In the years following MPA nuclear plant acquisitions, the industry witnessed considerable improvements in and cost reductions for conventional generation technologies, especially gas-fueled plants. In addition, during the years following the deregulation of natural gas supplies, the nation experienced steadily declining fossil fuel prices. Both factors have considerably lowered the cost of power from new generation plants. At this time, new plants can deliver power at prices that are more than 30 percent below the current costs of power from MPA generation facilities.

Even more unsettling is the fact that the retail cost of power from MPA generation facilities is expected to rise by more than 30 percent within the next 15

years. Much of that cost increase is due to the ultimate effects of debt that was accumulated, in part, to offset past MPA operating deficits and due to some plant operating cost increases.

In retrospect, the MPAs clearly pursued an undiversified and aggressive investment strategy that failed. They chose to invest almost exclusively in nuclear plants and purchased excess generation capacity in anticipation of future growth that occurred much slower than expected. At the same time, the IOUs managed to diversify their generation mix away from nuclear plants, compared to their initial expansion plans. They did so, in part, by selling the MPAs a portion of their nuclear plants. This turned out to be a good business decision for the IOUs because it lowered their generation costs in succeeding years. Had fossil fuel prices, inflation, and plant construction costs continued their rapid escalation beyond the late 1970s, the MPA strategy would have been far superior. That did not occur.

As a consequence, North Carolina's two MPAs together have total liabilities of about $5.8 billion, well in excess of any reasonable market value of the assets they hold. Even if their generation capacity is assumed to have a market value equal to the values (net of past depreciation) that the MPAs show in their financial statements, they have a combined net worth of about –$3.4 billion. Their net worth is more negative if likely market values for generation assets are taken into account. Even so, the 51 member cities are fully obligated to collect the revenue required to repay all MPA debt, and the state of North Carolina is obligated to

ensure that they do so. So the MPAs are certainly expected to continue meeting their debt payments.

Thus, the burden of all this debt falls on the retail customers in the 51 cities that are members of the MPAs. Each of those cities owns a fixed share of MPA debt. Because of variations in economic growth since the formation of the MPA and other factors, there is wide variation in the debt burden per capita among the 51 cities. The average debt amount is about $8,500 per person and about $15,900 per customer in those cities. Revenues from the sale of electricity by the member cities secure this debt. The Local Government Commission (LGC) of the state of North Carolina has statutory authority to assume full control of the finances of any member city that defaults on its debt service payments.

Fortunately, the state of North Carolina and the stakeholders affected by the MPA debt problem have a large number of reasonable options for resolving this problem, even though all the options will require considerable sacrifice. Each option imposes a burden on all stakeholders, but the burden to individual stakeholders varies significantly from one option to another.

We have identified four policy options that we call the Status Quo, Debt Relief, Divestiture, and Dissolution. The Status Quo maintains current institutional arrangements and management of the assets now controlled by the MPAs and their member cities. It is a policy that portends increasingly difficult circumstances for the MPA member cities in the years ahead, particularly if and when the state moves to retail competition for generation services.

Each of the other three policy options that we have offered represents a full menu of variations. Each option has a large number of attributes, and each attribute can be selected from among several alternatives. For example, Divestiture calls for the sale of MPA generation assets and could require any of a number of financing alternatives, cost-sharing arrangements for the payment of MPA debt remaining after the asset sales, and methods of payment of those assigned cost shares.

The three alternative policy options are qualitatively different from each other in terms of the institutional arrangements and control of the electric system assets now owned by the MPAs and their member cities. Variations of the Debt Relief policy are closest to those that have been advanced by ElectriCities (e.g., electricity surcharges and price freezes). None of the Debt Relief options involve much change in the ownership and control of MPA and member city assets, except for possible changes in the governance of the MPAs.

To provide a full view of possible alternative policies, we did not restrict our attention to those that preserve the MPAs or member city ownership of their electric systems. Accordingly, we examined the Divestiture option, which entails the disposition of all MPA generating assets as well as fundamental changes in the role and operations of the MPAs. Beyond that, we examined the Dissolution option, which would involve the disposition of both the MPA generating assets and most or all of the member city electric systems.

Our review of the four policy options uses three levels of exposition. First, we provide a fairly comprehensive, but general, discussion of the four options. That

discussion describes many alternative potential sources of revenue to retire the MPA debt and characterizes several possible variations of the features that could be incorporated into the three policies that represent alternatives to the Status Quo.

Our second level of exposition develops and illustrates a structure for completing a *qualitative* analysis of the three policy alternatives. First, we define specific versions of each of the three policy alternatives—Debt Relief, Divestiture, and Dissolution. One or more of these versions may, with some added refinement, be sensible options for further examination. Then we identify seven groups of affected stakeholders:

1. member cities,
2. MPAs,
3. IOUs,
4. electric cooperatives and other electric suppliers,
5. the state of North Carolina,
6. MPA bondholders, and
7. the federal government.

Each of the organizations in this list of stakeholders represents both the organization and all the individuals they serve or employ. For each of these stakeholder groups, we qualitatively detail the prospective advantages and disadvantages to them of implementing each policy alternative. We recommend this model of qualitative analysis for any other policy variations that the Study Commission and stakeholders may wish to consider.

Our third level of exposition provides a *quantitative* analysis of the possible implementation of the three specific policy alternatives. In the quantitative analysis, we show how each of the policies could be structured and how the costs would vary for each of the major stakeholders.

Although the MPA debt problem may seem overwhelming, it is encouraging that the state has a large number of reasonable policy options to resolve the problem, as identified in this report. Some of the options that we identify seem more politically balanced than others in terms of the relative sacrifices required of the various stakeholder groups. But we do not advocate any of the alternative policies. Instead, we have sought to identify a rich set of options and demonstrate methods for analyzing them. The most important part of any future analyses is to determine carefully the advantages and disadvantages, both qualitatively and quantitatively, for each of the policy options within each stakeholder group. It is the role of the Study Commission and the major stakeholders to weigh these advantages and disadvantages and to choose a policy option that, in their judgment, maximizes fairness to all the citizens of North Carolina and enhances the efficiency of electric service delivery in the state.

Task 4, Vol. 2:

Stranded Cost Estimates for a Restructured Electric Industry in North Carolina

Analysis of Options for Resolving Stranded Cost Issues

Options and Issues

Final Report

August 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report presents background information on stranded costs, nationally and in North Carolina. It discusses key items that must be considered in estimating stranded costs and key policy decisions that affect stranded costs and the way they are recovered.

This volume builds on Volume 1, an analysis of policy options for North Carolina's municipal power agencies (MPAs), by extending the stranded cost issue to the other North Carolina utilities with major investments in generating assets. It is a precursor to Volume 3, which incorporates the methodologies discussed in this volume. The information contained in this report reflects data and developments through the summer and fall of 1998.

The stranded costs topic is one in a series of studies being conducted by Research Triangle Institute (RTI) for the Commission on the Future of Electric Service in North Carolina (the Commission) on the overall topic of restructuring North Carolina's electric utility industry. The entire series of studies is designed to assist the Commission in decisions on whether to introduce electric retail competition into North Carolina and if so, when and how.

Several key policy issues affect our estimates of stranded costs for North Carolina utilities. It is not possible to estimate stranded costs without some assumptions about the outcome of policy deliberations on these issues. Rather than predict these policy outcomes, we make suggestions and assumptions in this volume and then present estimates of stranded costs in Volume 3. The estimates of stranded costs in Volume 3 embody these suggestions and assumptions. We

also estimate how sensitive the stranded cost results are to changes in these assumptions about policy outcomes.

The notion of stranded costs is unique to public utilities. It is based on investments and other commitments these utilities have made pursuant to their obligation to serve their customer base. Costs associated with these commitments that may not be able to be recovered in a competitive electricity market are referred to as "stranded." Examples of commitments that can lead to stranded costs include the following:

- past investments in generation that cannot be fully recovered in a competitive environment;
- continuing obligations associated with these generating facilities that cannot be avoided except at greater expense, for example, payments to the nuclear decommissioning trust fund and investments (such as steam generator replacements) to maintain (but not upgrade) the capacity and efficiency rating of these generating facilities ("cap adds") during their design life;
- past contracts for the purchase of power from independent power producers (IPPs) and nonutility generators (NUGs) pursuant to the 1978 Public Utilities Regulatory Policy Act that stipulate a higher price of power than the price of power that prevails in a competitive environment;
- agreements ("regulatory assets") made with regulators or customers to undertake public policy programs, such as energy conservation program

investments that are capitalized and then depreciated over the equipment or program life; and

- agreements (also called "regulatory assets") made with regulators or customers to protect customers from major cost disturbances, such as delaying the recovery of costs for new, expensive generating facilities and power purchases, thereby protecting customers from "rate shock."

In short, stranded costs are simply costs that are uneconomic (i.e., noncompetitive) in a competitive environment. This is a particular issue in the electric utility industry because of the large size and long lifetime of industry commitments.

In a sense, stranded costs associated with retail customers (customers who consume power and do not resell it) are applicable more investor-owned utilities (IOUs), because IOUs are subject to a mandated obligation to serve within their retail franchise area. This requirement is part of the franchise agreement under which they operate, and the North Carolina Utilities Commission (NCUC) oversees this aspect of their operation and regulates their rates and service practices. However, it is common to extend the term "stranded costs" to the uneconomic costs of other utilities, even though their retail rates and service practices are not regulated by a state regulatory authority. These other utilities have traditionally understood that they have a similar obligation to serve their customers and have made large, long-term commitments. This is particularly the case in North Carolina, where the two MPAs and North Carolina Electric

Membership Corporation (NCEMC) have co-invested with Carolina Power & Light (CP&L) and Duke in major generating assets.

Stranded costs in North Carolina are primarily the result of investments in large, expensive generating assets that were made during the 1970s and 1980s when the forecasted growth rate in electricity usage was much larger than it is now. Electricity growth rates in the 1950s and 1960s were also large, but the fixed costs associated with the generating assets brought into service during these time periods are essentially recovered now, so they are not a major contributor to stranded costs. The other key contributors to stranded costs are the continuing commitments associated with existing generation assets, particularly nuclear generation, and with obligations undertaken to protect customers from major cost disturbances. Unrecovered costs associated with purchases of "above-market" power from IPPs and NUGs and with social and conservation programs are not major contributors to stranded costs in North Carolina.

The most direct way to estimate stranded costs is the market valuation approach. This approach relies primarily on data from utility sales of generation assets and purchased power contacts. At the time the data were collected for this study, there were few asset sales of this type in the U.S. As time passes, however, more sales have transpired and the market valuation approach has more data to rely upon.

Two categories of methodologies can be used to estimate stranded costs: "top-down" and "bottom-up" methodologies. The "top-down" category includes straightforward methods with simple data requirements that reflect the traditional

cost recovery process under regulation. This process allows utilities to recover their recurring expenses and depreciable fixed costs through rates charged to customers. The "bottom-up" category includes methodologies that are also used in regulatory proceedings, but they are more detailed and complex and have more extensive data receipts. This category includes models that combine production cost simulations –with financial analyses. Research Triangle Institute (RTI) applied both types of methodologies in this study. An overview of the two Excel spreadsheet models we used is presented in Volume 3.

Because several key assumptions and policy choices affect stranded costs, we discuss each of them in this volume. They are as follows:

1. start date of retail competition;
2. whether nexus is established for tax purposes;
3. the price of retail power in a competitive environment;
4. the discount rate used to convert a utility's stream of annual stranded costs into a lump sum value (net present value) at the start date of retail competition;
5. the length of the analysis period, which we believe should extend through the design life of existing generating assets, but which policymakers may choose to restrict to shorter time horizons. For example, policymakers may choose to end the analysis period once annual "negative" stranded costs begin to appear (i.e., whenever the projected regulated price of power falls below the projected competitive price power); and
6. whether "cap adds" are included in stranded costs.

We also discuss several key policy issues related to the recovery of stranded costs. These include the following:

1. whether all or a fraction of stranded costs should be recovered through rates as rate surcharges,
2. the time period over which stranded costs should be recovered through rates,
3. how stranded costs recovered through rates should be allocated to customer classes,
4. how to recover these stranded costs through rates, and
5. how to establish "true up" mechanisms to reconcile projected with actual stranded costs.

These choices can have incentive and disincentive effects, and they can affect economic efficiency and stranded cost recovery itself. We discuss these effects in this report.

This report contains several bibliographic references to other reports on the subject of stranded costs and their recovery. These references are intended to provide the reader with a presentation of key issues and a gateway to the literature on this subject. It also sets the context for stranded cost estimation and recovery, providing the reader with a discussion of a wide range of stranded cost issues before we present our estimates of these costs in Volume 3.

Task 4, Vol. 3:

Stranded Cost Estimates for a Restructured Electric Industry in North Carolina

Analysis of Options for Resolving Stranded Cost Issues

Estimates of Stranded Costs and Recovery Options

Final Report

August 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report presents estimates of stranded costs for the following six North Carolina electric utilities that have major investments in generation assets:

- Carolina Power and Light (CP&L),
- Duke Power (Duke),
- North Carolina Power,
- North Carolina Eastern Municipal Power Agency (NCEMPA),
- North Carolina Municipal Power Agency #1 (NCMPA1), and
- North Carolina Electric Membership Corporation (NCEMC).

This report is Volume 3 on the topic of stranded costs. Volume 1 presents and discusses policy options for resolving North Carolina's two municipal power agencies' (MPAs') issues. Volume 2 presents background information on stranded costs, methodological issues involved in how they are estimated, policy issues involved in how they are estimated, and policy issues involved in how they are to be recovered. All three volumes are interrelated. For example, estimates of stranded costs in Volume 3 have been incorporated into Volume 1, and the reference case defined in Volume 2 is the basis for the estimates of stranded costs in Volume 3.

The stranded costs topic is one in a series of studies being conducted by Research Triangle Institute (RTI) for the Commission on the Future of Electric Service in North Carolina (the Commission) on the overall topic of restructuring North Carolina's electric utility industry. The entire series of studies is designed

to assist the Commission in decisions on whether to introduce electric retail competition into North Carolina and if so, when and how.

The notion of stranded costs is unique to the public utility industry. It is based on investments and other commitments these utilities have made pursuant to their obligation to serve their customer base, which is a statutory obligation for investor-owned utilities (IOUs). Costs associated with these commitments that may not be able to be recovered in a competitive electricity market are referred to as "stranded." Stranded costs are an important issue to the electric utility industry because of the large size and long lifetime of industry commitments, coupled with regulatory ratemaking practice of spreading recovery of these costs over extended periods.

Retail operations of IOUs are subject to a statutory obligation to serve within their retail franchise area. This requirement is part of the franchise agreement under which they operate, and the North Carolina Utilities Commission (NCUC) oversees this aspect of their operation and regulates their rates and service practices. The term "stranded costs" can extend to other electric utilities, even though their retail rates and service practices are not regulated by a state regulatory authority, because these other electric utilities have traditionally assumed an obligation to serve and have made large, long-term commitments. This is particularly the case in North Carolina, where the two MPAs and NCEMC have co-invested with CP&L and Duke in major generation assets.

This report contains a discussion of previously published estimates of stranded costs, including estimates made by Moody's, Prudential, Smith Barney, Standard

and Poor's, and Resource Data International (RDI). These estimates vary widely, and are based on different methodologies. They are also reported for a utility's entire service area, rather than for the North Carolina jurisdictional level. As a result, they are used as a backdrop for our estimates, but we did not incorporate any of these estimates into our results.

We developed and used two techniques to estimate stranded costs. One was the Enhanced Revenues Lost (ERL) model, an Excel spreadsheet model that reflects the cost recovery process under retail rate regulation prior to netting out the market-clearing price of power. This model is very easy to use. The second technique we used was the Oak Ridge Financial (ORFIN) model. The ORFIN model is also an Excel spreadsheet model. It is a financial analysis and production cost model, and it incorporates more generating unit and financial detail than ERL. RTI coordinated the work of our project consultants, Dr. Eric Hirst and Mr. Stanton Hadley, in the development of data for the ORFIN model, and in the preparation of stranded cost estimates with this model.

To develop the data for these models, in the spring of 1998 we submitted a data request to the six utilities for key data on generation and fuel, power purchases, and other long-term commitments that could lead to stranded costs. Data from the three IOUs were provided to us and shared with our project consultants under terms of a confidentiality agreement. This agreement prevented us from sharing the data with other parties. RTI and our project consultants carefully reviewed the data provided by all six utilities. We worked with these utilities to ensure that each submission was internally consistent and that we were

correctly interpreting the data. At no time were data from one utility shared with another utility. Neither RTI nor our project consultants audited the data provided by these utilities to guarantee their accuracy.

Results from both models were checked for consistency. The stranded cost results from both models showed the same pattern but the estimates did not line up exactly because of inherent but small differences in the two modeling approaches and differences in the data provided for the two models.

Because several key assumptions and policy choices affect stranded costs, we developed a reference case as a "benchmark" for reporting our stranded cost results. We then tested the sensitivity of these results to variations in the key assumptions and policy choices.

We defined the reference case as follows:

- retail competition begins in 2004;
- nexus is established for tax purposes;
- the competitive price of power at the retail level in North Carolina follows the intermediate price projection we developed;
- the cost of equity is used to convert the stream of annual stranded costs for IOUs to a lump sum value (net present value [NPV]) at the start of retail competition, whereas the cost of borrowed funds is used to make this conversion for the other utilities;
- the analysis period extends through the year 2020, and if "negative" annual stranded costs occur during this period (i.e., if their projected

regulated price of power falls below the projected competitive price of power), these negative annual stranded costs were incorporated into the net present value estimate; and

- planned investments to maintain the capacity and efficiency ratings of existing generation through their design life (referred to as "cap adds") were included in the analysis. We understand that the cap adds data provided to us do not include repowering or life extension investments.

The competitive price of power does not include transmission and distribution cost because

- we assume these costs will continue to be regulated, and
- consistent with this assumption, the data on generation-related costs provided by the utilities did not include transmission and distribution costs.

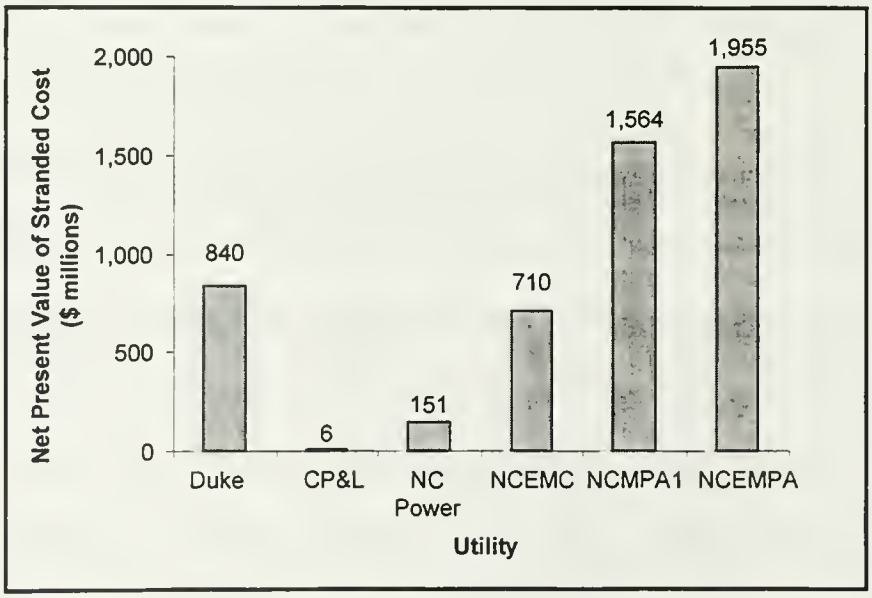
The reference case is described in this volume, and the rationale for it is developed in Volume 2. It is presented as a convenient way to summarize and present our results, *not* because it is our forecast or prescription for the future. The future is always uncertain, and we use the reference case as a convenient benchmark to help illustrate how future uncertainties can affect the reference case stranded costs.

The ERL estimate of statewide stranded costs for the reference case is $5.1 billion, and it is discussed in Section 4.1. This estimate includes stranded costs for all six utilities combined. It assumes retail competition begins in 2004, and the

other assumptions in the reference case hold. The two MPAs represent approximately two out of every three dollars of this stranded cost estimate. Reference case stranded costs for each of the six utilities are presented in Figure ES-1.

Figure ES-1 shows the dominance of the two MPAs in North Carolina's stranded costs. Duke's and NCEMC's stranded costs are larger than North Carolina Power's and CP&L's. CP&L's stranded costs are the smallest of all, because their estimate includes several years of negative annual stranded costs during the 2011 through 2020 time period.

gure ES-1. Stranded sts by Utility for the ference Case[a] (ERL)



[a]Where reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

These stranded cost estimates are sensitive to all the reference case assumptions, but to varying degrees. Two assumptions that have large effects on the results and that have emerged as being particularly contentious are

1. removing cap adds from the reference case, and
2. removing negative stranded costs from the reference case.

Table ES-1 shows the effects on the ERL model results of removing cap adds. It also shows the effect of reducing the analysis period so that the analysis stops when a utility's regulated price of power is equal to the competitive price of power (thereby removing "negative" stranded costs from the results).

As the table shows, removing cap adds lowers stranded costs, particularly for Duke. The cap adds results reflect interesting variations in the cap adds submissions by the utilities. For example, the Duke submission indicated continuous and large cap adds throughout the analysis period, whereas the CP&L submission indicated a pattern of cap adds similar to Duke's during the early years, but much lower cap adds during the later years.

Table ES-1. Effect of Removing Cap Adds and Negative Stranded Costs from the Reference Case, in Millions of $ (ERL)

	Utility					
Case	**Duke**	**CP&L**	**NC Power**	**NCEMC**	**NCMPA 1**	**NCE A**
Reference	840	6	151	710	1,564	1,955
Reference, Without Cap Adds	–757	–946	151	699	1,409	1,852
Reference, Without Negative Stranded Costs	919	688	177	795	1,564	1,955
Reference, Without Cap Adds and Without Negative Stranded Costs	117	319	177	784	1,409	1,852

Table ES-1 also shows that removing negative stranded costs from the results increases stranded costs, particularly for CP&L. This result is directly related to the result that CP&L is projected to incur negative stranded costs earlier than the other utilities, based on the data provided to us by the utilities.

While we offer the comparison in Table ES-1 for illustration, we strongly prefer to continue the analysis period through 2020 to capture as much of the stranded cost effects (both positive and negative) of long-lived existing generating units as we can. We recognize that forecasts, especially over such long time horizons, include uncertainties. We also recognize that these uncertainties grow with time. Similarly, data provided by the utilities for the near term include more certainty than data provided for the long term. We did not try to account for these uncertainties in our analysis, because they are extremely difficult, if not impossible, to quantify, and any quantification of uncertainty would itself be contentious. We strongly suggest that the best way to deal with uncertainties is to put into place a "true-up" system (as discussed in Volume 2) to accompany the recovery of any estimate of stranded costs.

ORFIN stranded cost results for the reference case are presented and discussed in Section 4.2. These results total 5.8 billion at the statewide level, which is less than 14 percent above the ERL results at the statewide level. The ORFIN results indicate the same ranking of stranded costs by utility as do the ERL results. Stranded costs for five of the utilities are positive, but they are slightly negative (–$202 million) for CP&L. The pattern of results by utility that is obtained by removing cap adds and negative stranded costs is the same as in the ERL results.

A key finding from the sensitivity analyses is that the MPA results are the least sensitive to changes in key assumptions and policy choices. In other words, MPA stranded costs are the most intransigent of all. By contrast, IOU stranded costs are very sensitive to these changes, particularly so for CP&L.

The stranded cost results are most sensitive to changes in the competitive price of power. Small changes in this price series, which sets a price benchmark in each year from which stranded costs are computed, can have a large effect on stranded costs. This is particularly true for utilities whose generation assets stranded costs are a large share of their total stranded costs. The relationship between stranded costs and the competitive price of power is an inverse one: reductions in the competitive price of power increase stranded costs, and vice versa.

Stranded costs are also very sensitive to the outcome of the nexus issue (i.e., whether state tax authority can extend to out-of-state electricity providers). If this authority cannot be extended (i.e., there is no nexus for tax purposes), stranded costs rise from the reference case.

This rise is steeper if the tax recovery strategies discussed in our tax considerations report (RTI, 1999b) are not adopted. Our stranded cost estimates for the no nexus case illustrate how large these costs can be for incumbent utilities in North Carolina if no tax recovery strategies are adopted. These estimates are included in Section 4.3.

The effect on stranded costs of a no nexus outcome is related to the competitive price of power effect, because no nexus means that out-of-state electricity providers can charge less, and so the competitive price of power will be lower. This outcome has more effect on the IOUs than on the other utilities.

The start date of retail competition has a large effect on the reference case too. Later start dates reduce stranded costs. The primary reasons for this are twofold:

1. there are fewer years in the annual stream of stranded costs, and
2. the years that are removed from the calculation of stranded costs are years in which those costs are typically positive.

The effect of later start dates of retail competition on stranded costs is more pronounced for the IOUs, and it is virtually nonexistent for the MPAs.

The results for IOUs are also sensitive to whether "cap adds" are included in the analysis. IOUs were the only utilities that provided these estimates. If cap adds are not included in the analysis, IOU stranded costs fall sharply, especially for Duke.

Another policy choice that is reflected in the reference case is the discount rate used to convert a utility's annual stream of stranded costs into a lump sum value (net present value) at the start date of retail competition. This is primarily an issue for the IOUs, but the results are not as sensitive to this issue as they are to the other key assumptions and policy choices we examined.

The issue of how stranded costs should be recovered is separate from the issue of how to estimate stranded costs. We present a discussion of some key stranded cost recovery policy choices in Volume 2. In Section 5 of this volume, we illustrate how utility rates might increase if a policy decision is made to recover reference case stranded costs entirely through surcharges on rates.

Stranded costs recovery results are presented for a 5-year recovery period for the reference case under three scenarios. These results show that under a uniform recovery scenario (i.e., stranded costs for all utilities are combined and then recovered from all ratepayers) the annual rate surcharges are smallest. If each

utility is responsible for recovering its own stranded costs, however, the surcharges would rise for the MPAs and NCEMC, and fall for the IOUs. The increase is particularly steep for the MPAs, because they have large stranded costs and a small sales base over which to spread them. In fact, a mathematical solution for the rate surcharges for NCMPA1 is infeasible for this scenario—the 5-year recovery time period is simply too short as noted in Volume 1 of RTI's stranded cost reports (RTI, 1999a).

We also explored a third scenario, in which CP&L's and NCEMPA's stranded costs are combined and recovered from their total customer base. In this scenario, Duke's and NCMPA1's stranded costs are combined and recovered from their total customer base, North Carolina Power recovers its own stranded costs, and NCEMC recovers its own stranded costs. The rate surcharge results for this scenario fall between those for the other two scenarios.

We also examined how these rate surcharges are affected by an unfavorable outcome on the nexus issue and by an expansion of the stranded cost recovery period to 10 years. The results are very sensitive to both of these changes. Under all three scenarios, an unfavorable outcome on the nexus issue increases the rate surcharges, and an expansion of the recovery period reduces them.

For the reader's convenience, we have summarized the key stranded cost issues in the last section, Section 6. The list is too long to repeat in this Executive Summary. The length of the list, and the contentiousness of many of these issues, offer a lively agenda for Commission consideration.

Task 4, Vol. 3, Addendum:

Stranded Cost Estimates for a Restructured Electric Industry in North Carolina *(Revised)*

Addendum to Final Report

Analysis of Options for Resolving Stranded Cost Issues

Estimates of Stranded Costs and Recovery Options

Final Report

December 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Addendum

The purpose of this addendum is to incorporate revised estimates of capital additions ("cap adds") provided by Carolina Power and Light (CP&L) into the stranded cost estimates RTI presented in its Task 4, Volume 3 report. The Commission on the Future of Electric Service in North Carolina (Commission) approved a request by CP&L on October 13, 1999, to submit revised estimates of cap adds to RTI.

Cap adds are investments made by electric utilities to maintain the capacity and efficiency ratings of generating plants within their original design life. They do not include investments to increase these ratings or to extend the service life of these plants.

The revised cap adds data have been presented under terms of a confidentiality agreement between CP&L and RTI. Data provided by all three investor-owned utilities (IOUs) to RTI to support its stranded cost estimates were provided under terms of confidentiality agreements.

The revised cap adds data provided by CP&L extend from 2004 until 2017. They reflect investments in major components, such as boilers at fossil-fueled plants and steam generators at pressurized water reactor plants, turbine generators, condensers, superheaters, and coal pulverizers. These types of investments are not included in a utility's annual fixed operating and maintenance (fixed O&M) expenses, which CP&L and the other utilities provided to support our original stranded cost estimates.

CP&L's revised cap adds data reflect environmental expenditures to comply with existing environmental laws and regulations, such as the routine renovation and replacement of existing environmental control equipment and facilities due to normal wear and tear. They also include capital expenditures on projects to comply with anticipated evolving and new environmental regulations regarding NO_X, SO_2, toxic releases, particulates, opacity, and mercury.

These "new compliance" capital expenditures represent approximately 47 percent of total cap adds. They have been submitted on a basis that is consistent with earlier cap adds submissions by Duke. They do not reflect capital expenditures that would be required if existing fossil fuel-fired plants that are now "grandfathered" under current environmental regulations (e.g., NO_X regulations) were to lose that status and be required to comply with requirements for new facilities.

Consistent with the methodology used to estimate stranded costs in the earlier effort, these cap adds do not contribute to stranded costs until after the assumed start date of retail competition. Also consistent with the earlier effort, the annual revenue requirements associated with these cap adds are used to estimate stranded costs, not the annual investments themselves. The annual revenue requirements reflect project expenditures (including financing) that are eligible for recovery through rates over time once the projects are completed. Whereas annual capital expenditures tend to rise until the year 2009 and then decline, annual revenue requirements rise continuously through 2015.

The new stranded cost estimates with CP&L's revised cap adds data are presented in the figures and tables that follow. We present seven figures and two tables, and all are revisions to figures and tables in Section 4 of our original Volume 3. The seven figures are revisions to Figures 4-1 through 4-7 in that volume. The first four figures display stranded cost results with the Enhanced Revenue Lost (ERL) model, and the last three display results with the Oak Ridge Financial (ORFIN) model. We did not revise the sensitivity analysis figures (Figures 4-8 through 4-16), because the insights from those sensitivity analyses have not changed.

The two tables are revisions to Tables 4-2 (ERL) and 4-3 (ORFIN) in Volume 3. We did not revise Table 4-1 because that table is simply a statement of assumptions in the reference case, and those assumptions have not changed. Revised Tables 4-2 and 4-3 employ the same methodology used in Volume 3, and the only difference is that CP&L's revised cap adds data have been incorporated into these tables. Both tables display stranded cost results with and without cap adds. Both also display the results of extending the analysis period though 2020, versus terminating the analysis period when the projected competitive price of power equals the regulated price of power.

Consistent with the methodology employed in the earlier effort, in those cases where the design life of a generating plant (e.g., Harris) extends beyond 2020, the post-2020 balances are brought forward to 2020 and included in the extended analysis period results. The regulated and competitive prices of power are prices

for the generating component of power seen by the retail customer; no transmission and distribution (T&D) charges are included in these prices.

The revised results for the reference case indicate that CP&L's stranded costs increase to approximately $1 billion (ERL) and $0.9 billion (ORFIN). Recall that the reference case assumes a start date of retail competition in 2004, and this stranded cost estimate is the net present value of stranded costs at the beginning of 2004.

As a result of these new cap adds data for CP&L, CP&L's stranded costs in the reference case have increased by approximately $1 billion in ERL and $1.1 billion in ORFIN; the ERL and ORFIN estimates are now much closer than they were previously. Also, the CP&L stranded cost results are above those of Duke in both models.

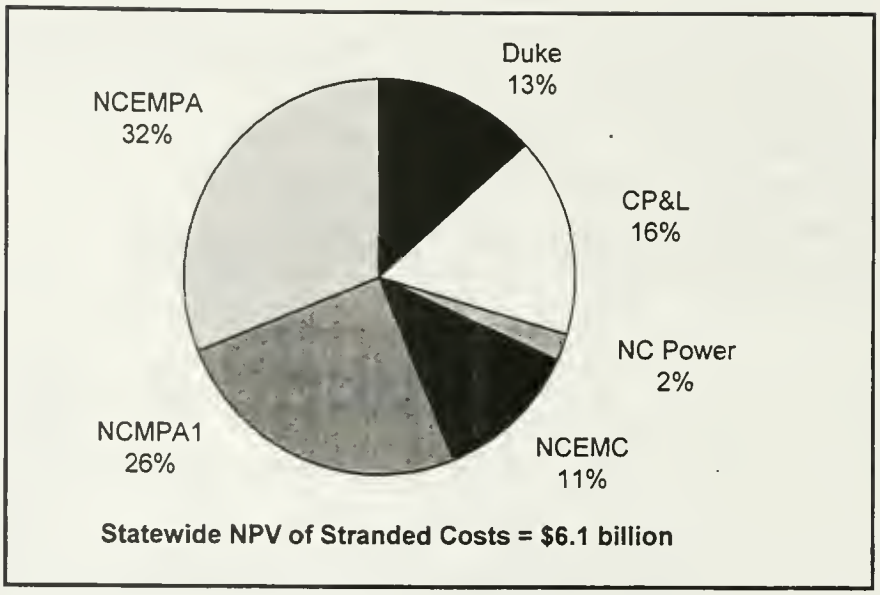
Focusing on the ERL results, statewide stranded costs in the reference case have increased from $5.1 billion to $6.1 billion, and CP&L's share of these costs has risen from approximately zero previously to 16 percent with the new data. CP&L's stranded costs are now higher than all except the two municipal power agencies (MPAs). The stranded costs for the two MPAs combined are between three and four times those of CP&L and are almost 60 percent of statewide stranded costs.

As before, stranded costs for the two MPAs decline more slowly with time than do the stranded costs of CP&L and the other utilities. Also as before, removal of cap adds has a major impact on both Duke's and CP&L's stranded costs, and terminating the analysis when the projected competitive price of power

equals the regulated price of power has more effect on CP&L's stranded costs than on Duke's.

Between the dates of the original data submission by CP&L (mid-1998) and the submission of these revised cap adds estimates, CP&L has undertaken actions to reduce its stranded cost exposure. One such action was cited by Mr. William Johnson in his presentation to the Commission on October 13, 1999. In Docket No. E-2, Sub 737 before the North Carolina Utilities Commission (NCUC), CP&L applied for approval of accelerated cost recovery of its nuclear generating assets. The NCUC approval is recorded in its Order of December 22, 1998, entitled "Order Approving Accelerated Cost Recovery of Nuclear Generating Facilities." The accelerated cost recovery of up to $117 million annually on a North Carolina retail jurisdictional basis will take place during January 1, 2000, through December 31, 2004. Furthermore, the Order says " CP&L's application further states that this accelerated cost recovery would be accomplished through existing customer rates, and CP&L would not seek to increase electricity rates due to these increased expenses." This action will help mitigate the stranded cost estimates presented in this addendum.

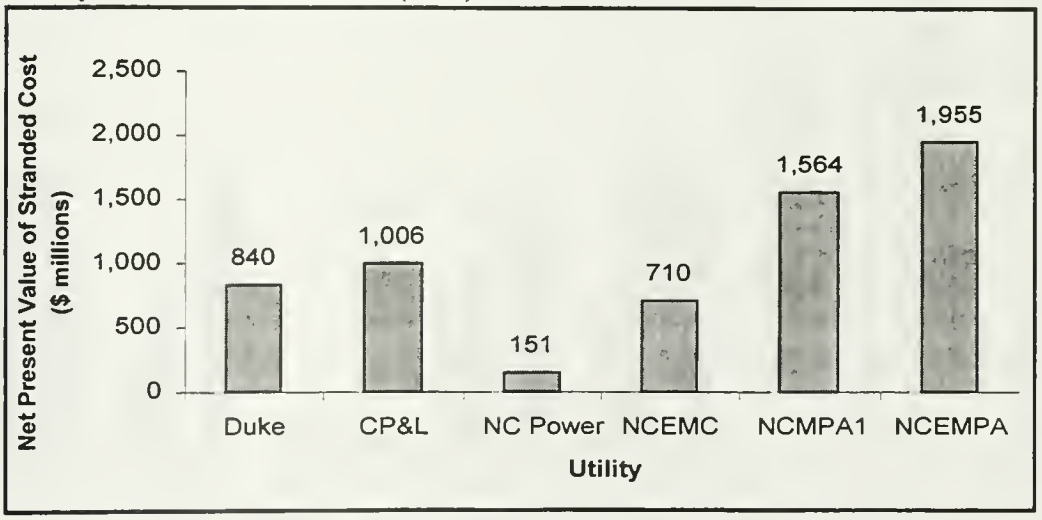
Addendum Figure 1 (Revised[a] Figure 4-1 in original report). Statewide Stranded Costs for the Reference Case (ERL)[b]



[a]Revised to reflect revised cap adds data provided by CP&L.

[b]Reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

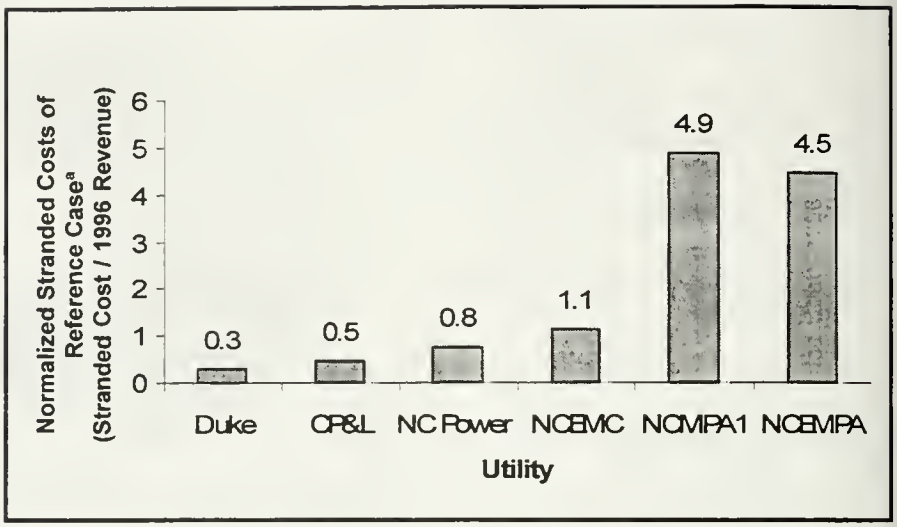
Addendum Figure 2 (Revised[a] Figure 4-2 in original report). Stranded Costs by Utility for the Reference Case (ERL)[b]



[a]Revised to reflect revised cap adds data provided by CP&L.

[b]Reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

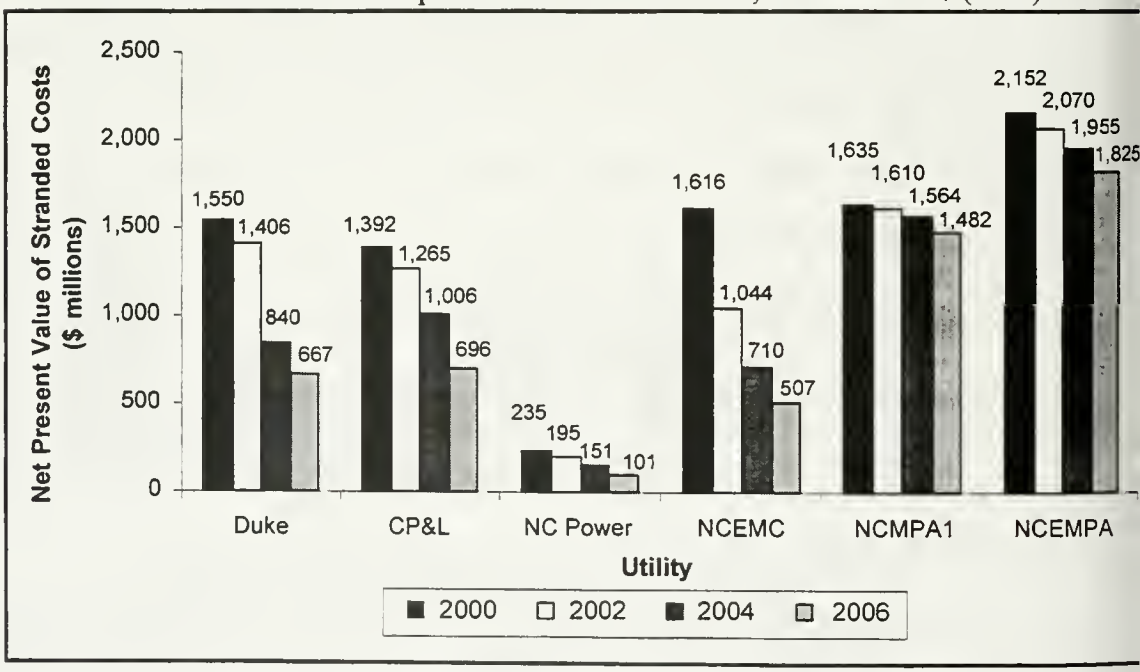
Addendum Figure 3 (Revised[a] Figure 4-3 in original report). "Normalized" Stranded Costs by Utility for the Reference Case[b] (ERL)



[a]Revised to reflect revised cap adds data provided by CP&L.

[b]Reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

Addendum Figure 4 (Revised[a] Figure 4-4 in original report). Effect of Changing the Start Date of Retail Competition on Stranded Costs, in Million of $ (ERL)



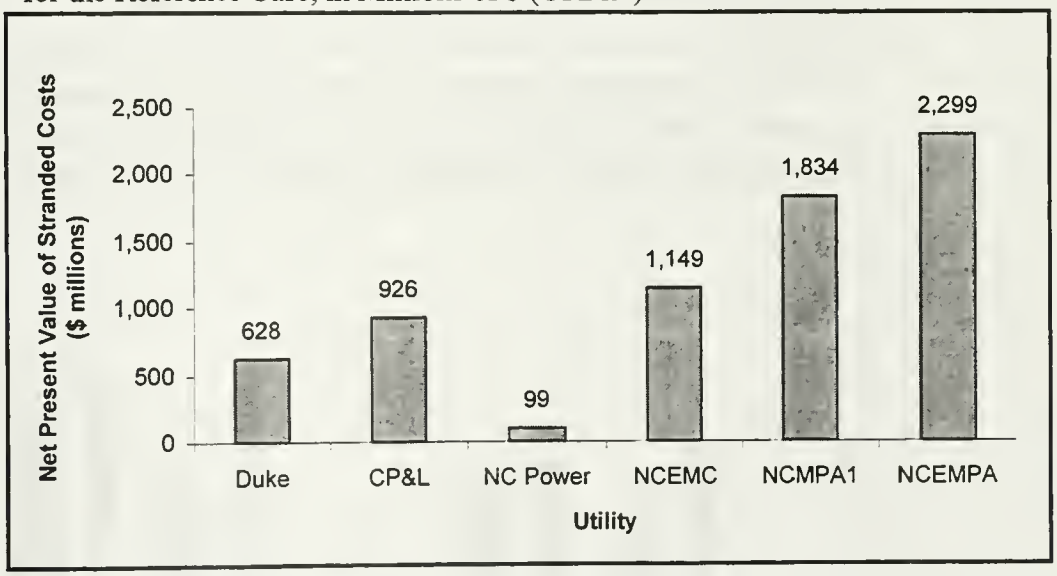
[a]Revised to reflect revised cap adds data provided by CP&L.

Addendum Table 1 (Revised[a] Table 4-2 in original report). Effect of Removing Cap Adds and Negative Stranded Costs from the Reference Case, in Millions of $ (ERL)

	Utility					
Case	Duke	CP&L	NC Power	NCEMC	NCMPA 1	NCEMP A
Reference	840	1,006	151	710	1,564	1,955
Reference, Without Cap Adds	–757	–946	151	699	1,409	1,852
Reference, Without Negative Stranded Costs	919	1,340	177	795	1,564	1,955
Reference, Without Cap Adds and Without Negative Stranded Costs	117	319	177	784	1,409	1,852

[a]Revised to reflect revised cap adds data provided by CP&L.

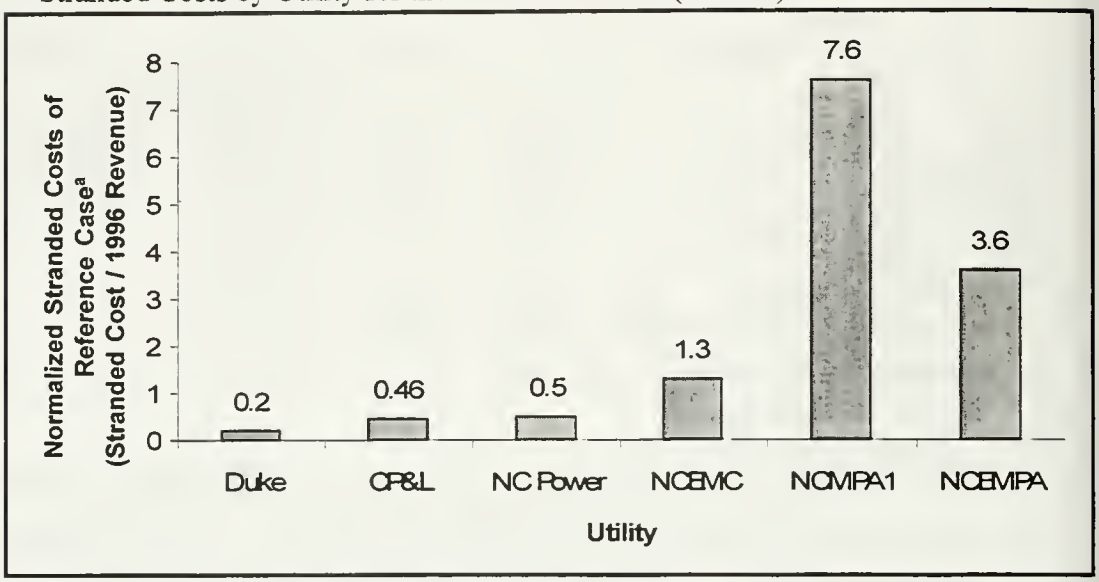
Addendum Figure 5 (Revised[a] Figure 4-5 in original report). Results by Utility for the Reference Case, in Millions of $ (ORFIN)[b]



[a]Revised to reflect revised cap adds data provided by CP&L.

[b]Reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

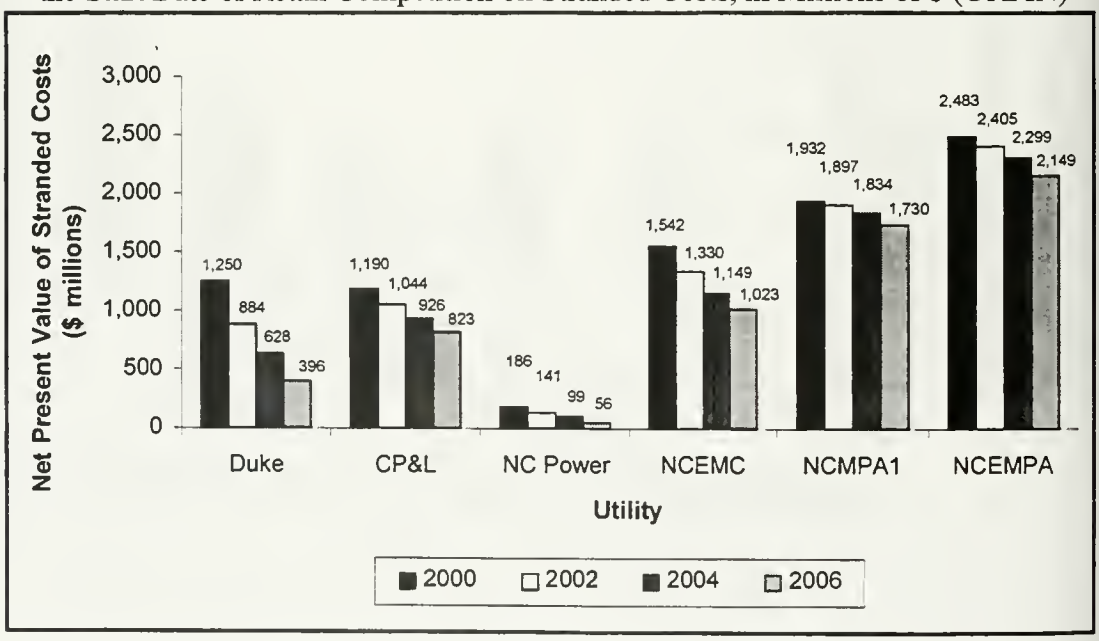
Addendum Figure 6 (Revised[a] Figure 4-6 in original report). "Normalized" Stranded Costs by Utility for the Reference Case[a] (ORFIN)



[a]Revised to reflect revised cap adds data provided by CP&L.

[b]Reference case assumes the 2004 start date of retail competition, intermediate price series, inclusion of negative stranded costs, and the nexus scenario.

Addendum Figure 7 (Revised[a] Figure 4-7 in original report). Effect of Changing the Start Date of Retail Competition on Stranded Costs, in Millions of $ (ORFIN)



[a]Revised to reflect revised cap adds data provided by CP&L.

Addendum Table 2 (Revised[a] Table 4-3 in original report). Effect of Removing Cap Adds and Negative Stranded Costs from the Reference Case, in Millions of $ (ORFIN)

	Utility					
Case	Duke	CP&L	NC Power	NCEMC	NCMPA 1	NCEMPA
Reference	628	926	99	1,149	1,834	2,299
Reference, Without Cap Adds	–1,150	–806	90	1,149	1,640	2,127
Reference, Without Negative Stranded Costs	724	986	116	1,149	1,847	2,299
Reference, Without Cap Adds and Without Negative Stranded Costs	353	93	108	1,149	1,161	2,127

[a]Revised to reflect revised cap adds data provided by CP&L.

Task 5, Vol. 1:
Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina

Overview of Methodology and Summary of Results Final Report

Final Report

October 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report describes the results of a study conducted to estimate the economic benefits and detriments of restructuring the North Carolina electric utility industry. Restructuring refers to opening the generation portion of the electric industry to competition.

The material in this report was developed pursuant to Task Order Authorization #5 between Research Triangle Institute (RTI) and the Study Commission on the Future of Electric Service in North Carolina. The Study Commission is investigating whether or not to restructure the North Carolina electric utility industry, and several ancillary questions related to that question.

We assume in our reference case that restructuring will begin in 2004. However, because other start dates are possible too, we have included the years 2002 and 2004 in our analysis, and the results for these dates are presented in Volume 2. The sensitivity of our reference case results to other key assumptions are also presented in Volume 2.

The reference case in this study is tied to the reference case we defined for our stranded cost study (RTI, 1999d, Vol. 3). As we note in that report, stranded costs are very sensitive to several key assumptions. We showed how widely stranded costs can vary with changes in those assumptions. Wide variations in stranded costs from the reference case can lead to wide variations in economic benefits and detriments.

Under restructuring, we assume that rate of return regulation—with allocated and protected service territories and rate bases—no longer exists for electricity

generation. That is, customers are free to buy electricity from competitive electric service providers. We assume that the elimination of protected service territories applies to all electric service providers currently operating in North Carolina. Those providers are: investor owned utilities (IOUs), municipal electric utilities, and electric membership cooperatives. This assumption is critical to our estimation of statewide and regional economic benefits and detriments. As part of our sensitivity analyses, we also use our economic model to evaluate the benefits and detriments of restructuring if it began in 2002 or 2006.

The measures of economic benefits and detriments used in this study are changes in economic output, employment, and earnings. These measures are estimated for the total state, seven economic development regions within the state, and 31 business, industry, and government groups. The 31 business, industry, and government groups cover all of the private- and public-sector economic activity in the state.

Economic benefits and detriments occur under restructuring because of differences between

- the estimated prices of electricity under restructuring, and
- the projected prices of electricity with no changes in the current method of regulating the electric industry in North Carolina (i.e., continued rate base/rate of return regulation and franchised service territories).

The methodology we use to estimate the economic benefits and detriments of electric industry restructuring captures the effect on both producers and consumers.

We create a reference case in which electricity market restructuring is assumed to commence in 2004. In our reference case, we assume 100 percent recovery of stranded costs over a 5-year period. This reference case is neither a policy recommendation nor a policy prediction. It is simply an analytical convention to facilitate presentation of our modeling results.

In our reference case, we estimate economic benefits and detriments for the 2004 through 2015 period. We do not generate estimates for years beyond 2015 because the forecasts of North Carolina output, income, and employment we used in this study ended in 2015. These forecasts were based on data prepared by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. We used the same forecast horizon in our tax considerations study.

We used a longer horizon (through 2020) for the reference case in our stranded cost study because we had forecasts of the market-clearing (competitive) price of power through 2020, and because several utilities have generating units whose whole expected lifetime extends until at least 2020. In our analysis of stranded costs, several utilities are anticipated to have negative stranded costs from 2015 through 2020. If negative stranded costs are excluded, our stranded cost estimates are larger, and the estimates of economic benefits in this report will be smaller.

Our stranded cost estimates do not include transition costs (e.g., for new equipment and software) associated with restructuring retail electric markets. These transition costs can be substantial. Were we to attempt to quantify these costs and include them in the economic benefits and detriments analysis, our estimates of benefits from restructuring would be reduced. On the other hand, if mitigation actions are taken which reduce stranded cost benefits from our estimates of restructuring would be increased.

In addition to our reference case, we examine seven other illustrative restructuring scenarios with hypothetical starting dates of 2002, 2004, and 2006. Taken all together, the eight scenarios are designed to offer alternative estimates of the benefits and detriments of restructuring. In six of these scenarios, we incorporate the recovery of stranded costs into our modeling. Therefore, these six scenarios recover 100 percent of stranded costs through a uniform surcharge (in ¢/kWh) on electricity prices over a 5-year recovery period. Two of the eight scenarios contain *no* recovery of stranded costs through electricity prices. The sensitivity analyses yield the expected results. If North Carolina accelerates restructuring with 100 percent recovery of stranded costs, the economic impacts are increased. This includes both economic benefits and economic detriments. If North Carolina approaches restructuring so as to limit the impacts (both benefits and detriments), the time it takes to transition to a restructured electricity market is extended. The general results of these sensitivity analyses are discussed in the text of this volume and presented in more detail in Volume 2.

The most prominent result of our analysis is the relatively modest impact of electricity market restructuring on employment in North Carolina. The net changes in employment are a useful summary measure of the balance between economic benefits and economic detriments. As expected, the general effect is a net positive gain in employment, but the size of this gain is not large relative to the overall base of employment in North Carolina. In our reference case, the average annual net employment change over the 2004 through 2015 period is a gain of 1,100 jobs per year. For any scenario, the total cumulative employment effects are relatively small when compared to a North Carolina employment base that averages 5,100,000 jobs over the period.

This average annual net gain in employment over the 2004 through 2015 period has a negative and a positive component. During the 5-year recovery period for stranded costs (2004 through 2008), the employment effect is an average annual loss of jobs of about 4,400 per year. This is not job loss in the sense of workers seeking but not finding work. Instead, it is a reduction in the amount of job growth that is projected in the base case. During the 7-year period that follows stranded costs recovery (2009 through 2015), there is an average annual gain of jobs of about 5,500 per year.

The average annual employment gain of 1,100 jobs per year is equal to 0.02 percent of the projected average annual North Carolina employment base of 5,100,000 jobs over the 2004 through 2015 time horizon.

Employment effects from electric industry restructuring are not uniformly distributed around the state. Because they have the largest employment bases, the

Carolinas Partnership region (Charlotte area), Piedmont-Triad, and Research Triangle taken together experience about two-thirds of the total statewide employment gains or losses. However, an important determinant of a region's employment gain or loss due to electric industry restructuring is the electricity intensiveness of the industrial base in that region. Because their industrial bases are more electricity intensive, the Carolinas Partnership and Piedmont-Triad regions experience a greater relative share of employment gains and losses than the Research Triangle.

Task 5, Vol. 2:

Estimates of the Benefits and Detriments of Electric Industry Restructuring in North Carolina

Detailed Results—
Sensitivity Analyses
Final Report

Final Report

October 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

In Task 5 of Research Triangle Institute's (RTI's) project to investigate the restructuring of North Carolina's electric utility industry, we estimate the economic benefits and detriments of restructuring the electric utility industry. This volume is the companion to Volume 1, which provided an overview of the study's methodology and a summary of results. Volume 2 describes the sensitivity analyses we conducted to test the sensitivity of our reference case results to alternative assumptions.

We define economic benefits and detriments in terms of North Carolina output, employment, and earnings. An increase in any of these measures as a result of restructuring is an economic benefit. A decrease in any of these measures as a result of restructuring is an economic detriment. We estimated changes in all three measures—output, employment, and earnings. We chose to present statewide net changes in employment as the best summary measure of the economic benefits and detriments of restructuring the North Carolina electricity industry. The changes in output and earnings move in the same direction as the changes in employment.

The basic results are framed in terms of our reference case. We define the reference case as follows:

- restructuring is assumed to commence in 2004,
- a uniform ¢/kWh surcharge on electricity prices recovers 100 percent of stranded costs over a 5-year recovery period, and

- rates are realigned so that rates by customer class more closely track the incremental costs of serving each class.

This reference case is established to simplify the presentation of results, not as a set of policy prescriptions. The principal feature of the rates realignment is that industrial rates decline and residential rates increase. Rates realignment occurs as a result of the action of competitive market forces in a restructured market.

To conduct the sensitivity analyses of our reference case results to alternative assumptions, we ran seven alternative sensitivity scenarios for comparison to the reference case. The seven alternatives differ with respect to

1. whether stranded costs are recovered,
2. whether rates realign, and
3. when restructuring commences.

Taken together, the scenarios are designed to offer a range of alternative estimates of the benefits and detriments of restructuring.

Economic benefits and detriments occur as a result of differences in electricity prices between any given policy scenario and the base case. The largest prices differences are for industrial customers. Price reductions for residential and commercial customers are relatively modest. In fact, under the restructuring assumed in the reference case, prices for residential customers are lower than those in the base case of no institutional change in only three of the 12 years analyzed.

Cumulative net changes in employment over the time period 2004 through 2015 are a useful summary measure of the balance between economic benefits and economic detriments. The year 2015 is used as an endpoint because we used U.S. Department of Commerce projections of economic activity as trend projections in our analysis, and 2015 was the last year in those projections.

For any scenario, the total cumulative employment effects are relatively small when compared to a North Carolina employment base that averages 5,100,000 jobs over the 2004 through 2015 period. Comparison of sensitivity scenario A with the reference case indicates that a large portion of the estimated economic benefits are due to the effects of rates realignment. Rates realignment would be a result of restructuring, but rates realignment could also be accomplished by regulatory innovation and initiative without restructuring. Average annual net employment changes range from

1. job gains of 14,300 under a scenario (scenario B) that assumes no stranded cost recovery, no rates realignment, and restructuring begins in 2002 to
2. job losses of 3,800 under a scenario (scenario E) that assumes 100 percent recovery of stranded costs, no rates realignment, and restructuring begins in 2002.

The most prominent result of our analysis is the relatively modest impact of electricity market restructuring on employment in North Carolina. As expected, the general effect is a net positive gain in employment, but the size of this gain is not large relative to the overall base of employment in North Carolina. In our

reference case, the average annual net employment change over the 2004 through 2015 period is a gain of 1,100 jobs per year compared to the base case.

Task 6

Reliability Considerations in Electric Industry Restructuring

Final Report

March 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

Reliability is a major concern in the electric utility industry. Reliability is generally considered to have two components: adequacy and *security*. Adequacy refers to the need to ensure that customer demand can be met. Adequacy is a long-run concept. Security refers to the system's ability to react to and withstand disturbances. Security is a short-run concept.

Unlike most products, electricity cannot be stored in large quantities in an economical manner. As a result, electricity has to be produced and delivered on demand. The operating capability of the generation, transmission, and distribution systems must be sufficient to meet constantly changing customer demands (loads) at all times.

Another distinguishing characteristic of electricity supply systems is the high degree of interdependence between generation and transmission. As a result of this interdependence, disturbances in generation may lead to transmission problems. For example, a major generation unit outage can quickly lead to an overload condition on the transmission system, which may result in transmission outages and loss of delivered power. Similarly, disturbances in transmission may lead to generation problems. For example, a transmission outage from adverse weather or an overload condition may quickly lead to generation outages and loss of delivered power. Currently system protection features are built in to limit the extent of disturbances and the possibility of equipment damage.

Also, electric power systems are designed with a very high degree of interconnection between neighboring areas to provide reliable and efficient

electrical service. In the U.S., electric systems are alternating current (AC) systems, which require synchronous (in phase) operation of all generators within a synchronous area. There are four such areas within the U.S. (North Carolina is in an area that includes the eastern U.S.). A major disturbance, such as the loss of a generating unit, will affect all other units within the synchronous area to varying degrees, depending on the size of the unit and distance from the disturbance. Transmission systems are the superhighways that deliver electrical energy to substations and direct-serve customers, and that deliver emergency generating capacity from other locations within a synchronous area.

These facets of electrical systems,

1. the lack of large-scale, economically efficient storage;
2. the interdependence between generation and transmission; and
3. the physics of power flows within and among interconnected systems, in which amounts and paths of power flows change instantaneously in response to changed supply and demand conditions,

place a premium on careful planning and rapid response operation to maintain system reliability. Careful planning, whether under regulatory oversight or not, is required several years in advance—at least 2 to 3 years to plan and install peaking units (smaller units that serve peak demands of customers), 8 to 12 years to plan and install baseload units (larger units that run continuously as long as they are available), and 4 to 10 years to plan and install transmission facilities. Rapid response operation must occur within seconds or minutes of changes in system conditions.

These considerations lead to questions of whether electric service reliability will be maintained in North Carolina. Reliability may potentially be affected by changes at the bulk power (wholesale) level and by changes at the retail level. Wholesale power moves along transmission lines to customers who resell that power, whereas retail power moves along transmission and distribution lines to ultimate customers (end users). Changes in the regulation of wholesale power by the Federal Energy Regulatory Commission (FERC) are underway, and their effects on reliability have yet to be fully revealed. Recent events—particularly the failure of a supplier to deliver wholesale power (although no firm power retail customers were curtailed) and the concurrent price spike in Midwestern wholesale markets in late June 1998, and the blackouts on the West Coast in 1997—have increased concerns about reliability.

If the retail electric industry is not restructured (i.e., if franchised monopolies continue to operate), wholesale power reliability problems are an issue for the monopoly provider. They are only a problem for the retail customer if the monopoly provider cannot absorb and manage these reliability problems. However, if the retail electric industry is restructured, retail customers may be more exposed to wholesale power reliability problems.

This report discusses reliability issues associated with emerging wholesale market competition and reliability issues that may arise if retail market competition occurs. It discusses the roles of FERC, the North American Electric Reliability Council (NERC), and NERC's constituent regional electric reliability councils (such as the Southeastern Electric Reliability Council, or SERC) as they

relate to electric system reliability. This report discusses potential mechanisms to help ensure continued generation, transmission, and distribution system reliability under wholesale and retail competition. It also discusses the traditional role of the North Carolina Utility Commission (NCUC) in maintaining reliability, particularly through its integrated resource planning process.

Reliability issues arise at both the planning (long run) and operational (short run) levels. Reliability issues at the planning level include both "resource adequacy" and "system security" issues. Resource adequacy is concerned with whether sufficient generation, transmission, and distribution capacity is planned and built in time to meet load growth. System security is concerned with hourly and "real time" (instantaneous) coordination, communication, and control of generation, transmission, and distribution systems among system participants (e.g., owners, operators, and users). System security issues apply at the operational as well as the planning level.

Resource adequacy and system security can affect reliability for the electric retail customer, whose concerns are with how frequently outages occur, how difficult it is to report outages, and how quickly service can be restored. Resource adequacy and system security can also affect long-term economic growth in North Carolina.

Over the past quarter century, in the integrated resource plans (IRPs) they file with the NCUC, investor-owned utilities (IOUs) have addressed generation and transmission resource adequacy. Traditionally, these plans include the following:

1. forecasts of kW load and kWh energy for the next 10 years;
2. reductions to these forecasts as a result of electricity conservation and load management programs;
3. the amount, type, and timing of additional generating capacity needed to economically serve these "managed" load and energy requirements and to provide a reserve margin to cover uncertainties in load and resource availability; and
4. transmission plans for the next 5 years.

The NCUC issues Certificates of Public Convenience and Necessity for generation resources it approves. Transmission resources above 161 kV are subject to a certification process. Distribution resources are neither included in the IRP process nor subject to a certification process.

The generation and transmission resource planning environment is changing. FERC, which regulates IOUs in wholesale power markets, has issued Orders 888 and 889 to implement portions of the 1992 Energy Policy Act (EPAct). These Orders mandate open-access, nondiscriminatory transmission service (888) and open, real-time information systems (889) in wholesale power markets.

Generation and transmission providers are considering proposed new structures for generation and transmission resource planning and operation as a result of these FERC actions to foster wholesale market competition. For example, these providers are considering an independent system operator (ISO) structure to operate (but not own) transmission systems of ISO participants. It is difficult to predict exactly what structures will be put into place, where and when

they will be put into place, how they will interact, and what their effect on the reliability of electric service will be. Key concerns include the following:

1. Whether remuneration will be adequate to encourage transmission expansion in a timely manner.
2. Whether generation reserve margins and generation fuel mix (diversity in fuels used) will be maintained in a restructured environment.
3. Whether increased power flows over broader areas can be coordinated adequately among participants.
4. Whether electricity suppliers, system operators, and customer loads will communicate and respond during regional or local system emergencies.
5. Whether new players can deliver as promised under current contracts.
6. Whether cost and risk responsibility can be assigned to minimize dispute possibilities.
7. Whether restructuring, and the associated unbundling (separation) of generation as a competitive function from the regulated functions of transmission and distribution, will result in a loss of economies of scope across functions and higher transactions costs.[10]

The addition of retail competition to wholesale competition may add the following concerns to the above list:

[10]Economies of scope occur when the total costs of performing several functions is lower if they are performed by a single entity than if they are performed by separate entities. Economies of scope are not to be confused with economies of scale, which refers to costs per unit of output that fall as output (i.e., scale of operation) increases.

1. There is likely to be an even greater concern with the adequacy of remuneration and its impact on generation and transmission expansion, generation and transmission reserve margins, and generation fuel mix.
2. There will be a competitive disincentive for sharing critical planning information among suppliers and between suppliers and transmission operators, especially regarding plans for new generation (e.g., type, timing, and location).
3. There will be many more combinations of electricity suppliers, transmission service providers, and customer loads, increasing the complexity of system operation, accounting and billing services, customer services (e.g., to explain bill components), and supplier services (e.g., to explain payments made to them).
4. There are likely to be even greater increases in power flows over broader areas, which will present an additional challenge to system coordination and associated costs.
5. There is likely to be increased concern with "delivery as promised" contracts and dispute resolution.
6. There could be difficulties in outage reporting and service restoration.

Some of these concerns (e.g., the last three) are concerns that may apply only to the transition period to retail competition, rather than the end state of retail competition.

The movement to wholesale market competition, the possibility of retail competition, and uncertainties about how the key concerns will be resolved are all

affecting resource adequacy now and will continue to do so in the future. For example, for North Carolina IOUs,

- planned generation reserve margins are being reduced (from 20 percent in the 1970s to approximately 13 percent today);
- generation capacity planning is more flexible and less certain—future capacity requirements are cited in IRPs, but utilities are uncertain whether they will build plants or buy power to meet these requirements; and
- generation capacity construction programs are increasingly relying on gas-fired units (e.g., gas-fired combustion turbine and combined-cycle units) that are smaller than coal and nuclear units in service now, in response to uncertainties about the future, financial pressures, and environmental concerns.

These changes may not necessarily result in a future reliability problem. Indeed, some of them (e.g., more size diversity in the existing generation system) can enhance reliability. To some extent, all of these changes simply reflect a response to changed supply and demand conditions. Reliance on competitive markets for reliability services and a wide array of customer rates might enhance reliability in the future.

The definition of retail competition and the decision of whether to adopt retail competition are matters of policy. For purposes of this study and other studies RTI is conducting for the Commission on the Future of Electric Service in North Carolina (the Study Commission), retail competition is defined as competition in

generation and customer services. We make the assumption that transmission and distribution will continue to be regulated.

In weighing the potential benefits and risks of restructuring, the Study Commission must recognize the potential risks to reliability of electric service, identify those that can be managed at the state level, and consider ways to manage them. To help with this process, we offer the following recommendations for the Study Commission's consideration and potential delegation to other entities (e.g., the NCUC):

Generation and Transmission

1. Consider requiring that all entities supplying electricity to North Carolina retail customers be certified by the NCUC. Certification requirements might include financial viability, demonstrated performance in power supply (e.g., no firm power curtailments), and a minimum level of generation reserves. Noncompliance with the certification process or failure to maintain the minimum generation reserve requirements would be subject to financial penalties, decertification, and denial of rights to provide service.
2. Consider formation of a regional transmission organization (RTO), e.g., a transmission company (Transco) that owns and operates a regional transmission system or an ISO that only operates the system.
3. If an RTO is established, consider a multistate (regional) process to review applications for inter- and intrastate transmission

enhancements, and an associated approval process that recognizes the economic and environmental interests of each state in the region.

4. Continually monitor generation and transmission investments and their implications for reserve margins and generation fuel mix. Consider methods to maintain minimum reserve margins and generation fuel mix if market failures occur.

Distribution

1. Provide adequate and timely compensation to distribution companies. Recognize that a result of separating generation and transmission from distribution is that the distribution systems will no longer have the financial resources available from the generation and transmission businesses to cover shortages of funds and short-term cost deficits for distribution operation.
2. Establish a system whereby distribution companies are provided with timely and complete access to customer data for planning and operation. Information concerning past use and future customer requirements must continue to be available to the distribution system even when customers are supplied by others to help ensure reliable distribution service and to plan for future requirements.
3. Establish clear communication procedures for customers to contact their distribution companies for service restoration. Customer confusion about who is responsible when their service is interrupted should be avoided.

4. Preserve existing distribution company customer communications and advisory services. Past procedures under which distribution system representatives met with larger customers to stay abreast of their current and future service requirements should be continued.

5. Permit customer rate options in the level of reliability of service, at least for large commercial/industrial customers. Arrangements for backup and supplementary power that are currently available to customers who have their own generation should be continued.

6. Clarify customer curtailment practices during supply shortages. As customers begin to select different suppliers, only those customers should be curtailed whose supplier is unable to provide the needed power. In the past, customer curtailments during periods of power shortages were based on minimizing the impact on the community.

7. Allow distribution companies the authority to modify service to customers with equipment that has impacts on the quality of service provided by the companies to other distribution customers. Power quality problems (e.g., voltage surges or dips, harmonics) can affect customer equipment performance and lead to outages on the distribution side of the meter, which other customers may see as a reliability problem emanating from the distribution company. Past practices permitting distribution companies to control the use of certain types of equipment that affect the quality of service to other customers should be continued.

8. Establish policies for handling customer revenue, particularly if payments for distribution service are obtained by power suppliers. (Collection of payments for distribution service by power suppliers could delay payment to the distribution company and could result in nonpayment if the power supplier has financial problems.)

If these recommendations are implemented, major reliability concerns with industry restructuring may be reduced. Reliability levels may change over time in response to changed supply and demand conditions, even in the absence of industry restructuring. Whether they change further with industry restructuring is still an open question, but any changes may be minimized by implementing the above recommendations.

Task 7

Summary of Written Public Comments

Final Report

January 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

The material in this report was developed pursuant to Task Order Authorization #7 between Research Triangle Institute (RTI) and the Study Commission on the Future of Electric Service in North Carolina. The Study Commission is investigating the basic question of whether retail competition in the electricity industry should be introduced in North Carolina and several ancillary questions related to that basic question.

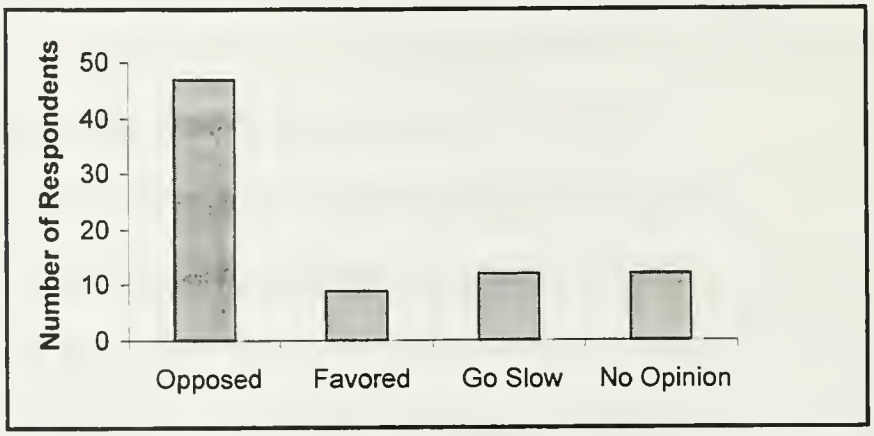
In January 1998, the Study Commission issued a public request for written comments and asked respondents to comment on a number of issues and specific questions relating to possible changes in the way electric utility services are provided in North Carolina. The 119 responses received by the Study Commission total over 550 pages and range in length from one page to many pages. Table ES-1 shows the breakdown of the submissions by type of respondent and the way the responses are organized in this report. The responding organizations include providers of electric service, electricity-using corporations, governmental agencies, and other organizations.

Sixty-eight of the 80 private individual respondents (85 percent) expressed an explicit opinion either in favor of or in opposition to institutional changes in electricity supply or on the pace of the proposed institutional change. Of these 68 respondents, the most frequent response was to oppose restructuring (49 percent) (Figure ES-1).

Table ES-1. The Breakdown of Responses

	Total	Specifically Addressed the Study Commission's 11 Questions	Specifically Addressed the 21 Issues of Senate Bill 38
Private individuals	80	4	None
Organizations	39	12	2
Total	119	16	2

Figure ES-1. Private Individual Respondents' Positions on Restructuring



One issue related to restructuring that private individual respondents were concerned about was reliability. The 26 private individual respondents (33 percent) who addressed reliability were primarily concerned about where to get service in case of an ice storm or a hurricane. Some of the organizational respondents stated that reliability is also very much a question of timely and adequate additions to generating capacity.

Seventeen private individual respondents (21 percent) specifically offered the opinion that restructuring will mainly benefit large industrial users. Twenty-five private individual respondents (31 percent) specifically offered the opinion that restructuring may cause higher prices for residential customers.

In many responses, the question of what to do about stranded costs was conspicuous by its absence. Only eight of the private individual respondents (10

percent) mentioned stranded costs. Question #6 posed by the Study Commission specifically addressed stranded costs and asked:

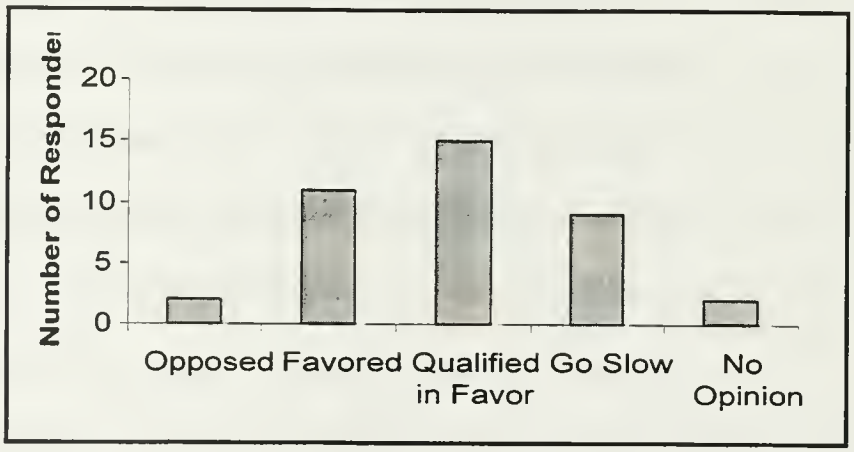
> If the current North Carolina electric suppliers were unable to recover the costs of existing plants and, as a result, ended up with stranded investment, how should these costs be recovered and what limitations should be placed on such recoveries?

Of the 39 organizational responses, 12 were organized according to the list of Study Commission questions and therefore specifically addressed Question #6. Of the remaining 27 organizational responses, only seven addressed stranded costs. Thus a total of 19 organizational respondents (49 percent) addressed stranded costs. Several of the 12 organizational respondents who specifically addressed Question #6 commented that the stranded cost question must be addressed and resolved before North Carolina can make the transition to retail competition.

Although the general thrust of the 39 organizational responses favored restructuring electricity markets to allow for retail competition, the responses were not unanimous and had many caveats and qualifications. Their consensus seemed to be that North Carolina should not wait until Congress acts and that all customer classes should have the benefit of choice. There was not consensus about whether restructuring should be phased-in and, if so, which customer class should be first. There was general consensus that pilot programs designed to provide guaranteed savings offer little information of real value.

Figure ES-2 presents organizational respondents' positions on restructuring. A "qualified in favor" response means that the respondent said, "We are in favor of restructuring, but...," where the qualifications in the "but" were specific and substantial (e.g., either for or against recovery of stranded costs). A "go slow" response means that the respondents' principal message was to consider restructuring very carefully, but they did not offer an explicit recommendation either for or against restructuring.

FigureES-2. Organizational Respondents'Positions on Restructuring



The responses from organizations were more mixed on the question of restructuring than the responses from private individuals. Twenty-six of the 39 organizational respondents (67 percent) favored restructuring, yet most of them (15 of the 26) added strong qualifications.

Champion, DuPont, Enron, NC^{4}E, and the North Carolina Solar Energy Association were confident that customer load aggregation opportunities and efficiency gains will provide direct benefits to all customers under retail choice. Carolina Power & Light (CP&L), Duke Power, ElectriCities, North Carolina

Power, the North Carolina Public Staff, and the Southern Environmental Law Center cautioned that there are no such guarantees and that residential and rural customers are the least likely to benefit from retail competition. They noted that alternative suppliers may not need to solicit some customers, and these customers will likely have a regulatory-defined standard offer from a designated supplier of last resort. The American Association of Retired Persons (AARP) advocated a mandated percentage rate reduction for small, rural residential customers and others who take the standard offer from the supplier of last resort.

Organizational respondents generally agreed that social and environmental programs can and should be continued in a restructured electricity market, but they did not agree about how this should be done. Some (e.g., Champion) opposed building subsidies into electricity prices. Others (e.g., AARP and NC^{4}E) recommended a "systems benefit charge." It was generally agreed that the agencies that set environmental policy should continue to do so and that electricity market restructuring is not inconsistent with sound environmental policy. The disagreement about how social and environmental programs should be funded includes differences in how low-income customer assistance, energy conservation and efficiency, and renewable energy resource efforts should be provided and funded.

Some organizational respondents view the trend toward gas-fired generation as an increase in fuel diversity that will have environmental benefits. Several respondents noted that maintaining adequate system reserve margins is a key

aspect of maintaining reliable electric service. Some of these respondents (e.g., Duke and the Public Staff) observed that maintaining adequate reserve margins, at least at the beginning of restructuring, will require regulatory oversight and intervention.

The Study Commission question concerning differences between municipal electric utilities and rural electric cooperatives, on the one hand, and investor-owned utilities (IOUs), on the other hand, is reflected in a number of the issues identified in Senate Bill 38—the bill that established the Study Commission and its duties. CP&L and Duke provided supplemental materials that addressed the Senate Bill 38 issues, including public power vs. IOU differences, and also responded to the Study Commission question addressing this issue. ElectriCities addressed the specific Study Commission question, and the North Carolina Electric Membership Corporation (NCEMC) addressed these issues in more general comments.

CP&L and Duke recommended equalizing prospective tax, regulatory, and financing arrangements between public power and IOU suppliers and giving public power customers access to competitive markets. ElectriCities also recommended equalizing tax burdens and advocated reform of open meeting laws and public bidding laws so that municipal systems can operate on a more business-like basis.

NCEMC recommended not placing impediments on the ability of customers to join together, or aggregate, into new organizations if restructuring occurs. ElectriCities recommended that municipal systems have the same opportunities to

serve customers outside their territories as IOUs and power marketers would have in a restructured environment.

A diverse set of respondents (e.g., Pee Dee Electric Membership Cooperative, the Public Staff, and North Carolina Power) recommended that expanded wholesale competition could be a good substitute for retail competition and would generate approximately the same benefits at considerably less cost. A number of respondents (e.g., DuPont and NC^{4}E) observed that regulators could define expanded wholesale competition to allow large industrials to negotiate bilateral power supply agreements with any supplier. However, the Public Staff does not propose to extend wholesale competition to industrial users under either its incremental wholesale competition approach or its full wholesale competition approach.

A variety of respondents suggested other initiatives short of retail competition. They include allowing bilateral contracts as a step toward expanded wholesale competition, reforming the fuel adjustment clause to allow better pass through of savings to customers, unbundling bills, creating easier to use time-of-use rate schedules, and developing concrete planning and organizational steps toward creation of an independent system operator (ISO).

Finally, many respondents commented on the continued role of the North Carolina Utilities Commission (NCUC) in a regime of customer choice and retail competition. Respondents indicated that the NCUC must regulate the distribution system, make provisions for a supplier of last resort, license approved suppliers, provide consumer education, enforce codes of conduct, oversee and enforce

competition among suppliers, and protect the interests of North Carolina citizens. Respondents concluded that the NCUC should continue to have a significant role, but that its functions would change considerably.

Task 8

Comparisons of Government Tax, Financing, and Preference Power Policies by Utility Type

Utility Cost Impacts of Government Tax and Financing Policies

Final Draft Report

September 1999

Prepared for:

Legislative Study Commission on the
Future of Electric Service in North Carolina
300 N. Salisbury Street
Suite 545
Raleigh, NC 27603-5925

Prepared by

Research Triangle Institute
Center for Economics Research
Research Triangle Park, NC 27709

Executive Summary

This report describes the results of a comparative study of the different types of benefits and preferences electric power providers in North Carolina receive under governmental tax, financing, and power purchase laws and policies. It provides an overview of the tax and policy benefits and preferences of these providers. It also provides estimates of the value of these benefits and preferences to electric power provider groups in North Carolina and the effect they had on average costs of power in 1997.

The material in this report was developed pursuant to Task Order Authorization #8 between Research Triangle Institute (RTI) and the Study Commission on the Future of Electric Service in North Carolina. The Study Commission is investigating whether or not retail electric competition should be introduced in North Carolina, and if so, when and how.

For this comparative study, RTI categorized electric power providers in North Carolina into the following three groups:

1. investor-owned utilities (IOUs), which include Carolina Power & Light, Duke Power, and North Carolina Power (operated in North Carolina by Virginia Electric and Power Company);
2. publicly owned utilities (POUs), which include the 19 municipal electric utility members of North Carolina Municipal Power Agency #1 (NCMPA1)

and 32 members of North Carolina Eastern Municipal Power Agency (NCEMPA);[11]

3. customer-owned utilities (COUs), which include the 27 co-op members of the North Carolina Electric Membership Corporation (NCEMC).[12]

Each of the three power provider categories operates pursuant to federal and state tax laws and to federal and state regulatory, financing, and power purchase policies. These laws and policies have different impacts on each category's tax reporting and accounting results, as well as on costs of service and customer rates.

This study provides two comparative analyses to estimate the value of these impacts for 1997. First, IOUs receive benefits (as do all for-profit U.S. corporations) under the U.S. Tax Code that effectively reduces their current income tax payments. These Tax Code benefits include the investment tax credit, accelerated tax depreciation allowance, and availability of tax-exempt financing for pollution controls. Thus, this study measures the relative magnitude of these benefits to IOUs by comparing their current situation to one without them.

Second, this study measures the relative magnitude of tax and policy benefits to POUs and COUs compared to the current situation for IOUs in North Carolina.

---

[11]In fact, there are 71 municipally owned utilities in North Carolina, plus three utilities that are part of the University of North Carolina system. Of these 74 utilities, 51 are members of the MPAs and jointly own generation resources.

[12]In fact, there are 28 co-ops located in North Carolina, with another four co-ops headquartered outside the state but with multistate service territories that include North Carolina. Of the 28 in North Carolina, all but French Broad are members of NCEMC and have invested in electricity generation.

Specifically, POUs benefit from the following preferences that are not available to IOUs:

1. exemption from federal and state income taxes;
2. exemption from local property and fuel sales taxes;
3. access to capital at low interest rates, due to POUs' authority to issue tax-exempt bonds; and
4. access to subsidized, low-cost federal preference power.

Similarly, COUs benefit from the following preferences relative to IOUs:

1. exemption from federal and state income taxes;
2. access to capital at below-market rates; and
3. access to low-cost federal preference power.

The POU preferences are available to all municipal electric utilities in the U.S., and the COU preferences are available to all rural electric co-ops in the U.S.

The approach in this study is based on commonly accepted accounting principles and statistical techniques used to estimate these values for 1997.

As described in this report, aggregate benefits to IOUs, which are available through the U.S. Tax Code to all for-profit U.S. corporations, totaled $775 million in 1997. POUs and COUs (which are not for-profit U.S. corporations) receive tax, financing, and federal power preferences that IOUs do not, and POUs receive more of these preferences than COUs. The aggregate value of these preferences in 1997 totaled $248.8 million for POUs and $87.2 million for COUs.

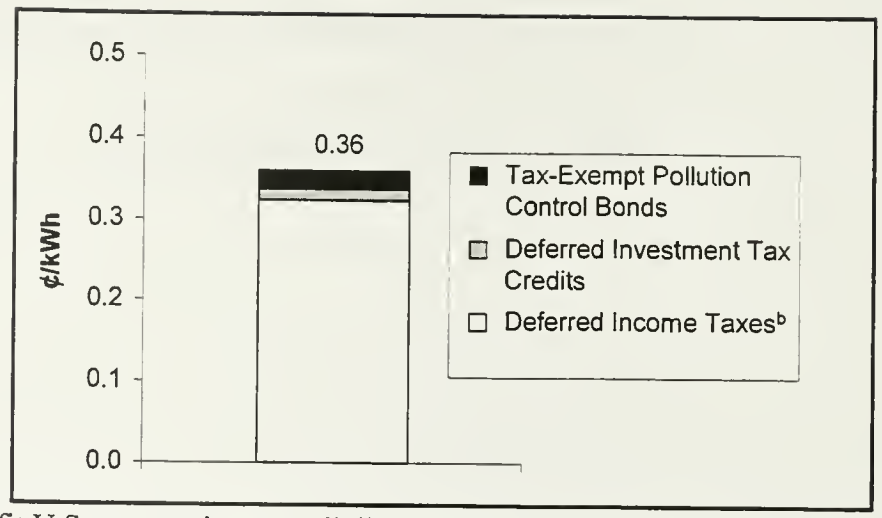
Differences in the value of benefits and preferences must be adjusted to account for differences in the size of the providers. One way to adjust for size

differences is to divide the aggregate results by retail kWh sales. These adjusted results are presented in Figures ES-1 and ES-2, and are summarized as follows:

- The estimated value of the tax benefits to IOUs, by virtue of their being for-profit U.S. corporations, was 0.36¢/kWh sold in 1997. As shown in Figure ES-1, the accelerated tax depreciation allowance accounted for 90 percent of this total value, or 0.32¢/kWh.
- The estimated value of the tax and policy preferences for POUs was 2.37¢/kWh sold in 1997; this estimate incorporates transfers municipal electric utilities that are members of North Carolina's two municipal power agencies (MPAs) made to their city operating budgets in 1997. As shown in Figure ES-2, financial preferences accounted for roughly 84 percent of this total value, or 1.98¢/kWh.
- The estimated value of the tax and policy preferences for COUs was 0.76¢/kWh sold in 1997. As shown in Figure ES-2, financial preferences accounted for roughly 59 percent of this total value, or 0.45¢/kWh.

The POUs' exemption from federal and state income taxes, exemption from local property and fuel sales taxes, and authority to issue tax-exempt bonds are extended to all municipal electric utilities in the U.S. Similarly, it is important to note that the tax and policy preferences for POUs and COUs are not available to IOUs. The estimates of benefits for IOUs are presented to show that they too receive some benefits through the U.S. Tax Code, but these are benefits received by all for-profit U.S. corporations. If POUs and

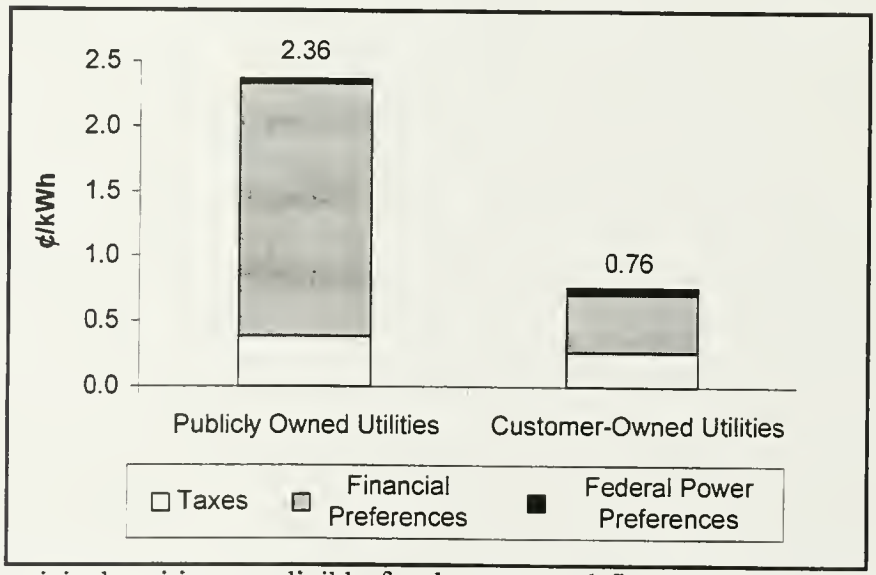
Figure ES-1. Summary of Total Value of Tax Benefits[a] for IOUs: 1997



[a]All for-profit U.S. corporations are eligible for these benefits under the U.S. Tax Code.

[b]Resulting from accelerated depreciation.

Figure ES-2. Summary of Total Value of Preferences for POUs and COUs (per unit of electric sales): 1997



Note: All municipal entities are eligible for these tax and financial preferences under the U.S. Tax Code.

COUs were for-profit U.S. corporations, they too would be subject to federal income taxation, and they would receive the same tax "benefit" received by all for-profit U.S. corporations under the U.S. Tax Code. Thus, the various

preferences given to the POUs and COUs are not directly comparable to the tax benefits received by the IOUs.

PART V

RECOMMENDED LEGISLATION

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1999

H D

HOUSE DRH5009*-LBZ181A(5.3)

Short Title: Extend Electric Study Funds. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO EXTEND THE FUNDING OF THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. Section 10.1 of S.L. 1997-483, as amended by Section 6.1 of S.L. 1999-395, reads as rewritten:

"Section 10.1. Notwithstanding G.S. 62-302(d), for ~~all expenses during the 1997-98, 1998-99, and 1999-2000 fiscal years of~~ the Study Commission on the Future of Electric Service in North Carolina, established in S.L. ~~1997-40,~~ 1997-40, as amended by S.L. 1999-122, all expenses incurred through June 30, 2006, shall be reimbursed from funds in the Utilities Commission and Public Staff Fund. There is allocated initially one hundred thousand dollars ($100,000) from the Utilities Commission and Public Staff Fund to the General Assembly for the purpose of enabling the Study Commission on the Future of Electric Service in North Carolina to organize and begin its work. Upon the certification of the need for additional funds by the cochairs of the Study Commission on the Future of Electric Service in North Carolina for the work of the Commission, the Utilities Commission shall transfer the additional funds from the Utilities Commission and Public Staff Fund to the General Assembly for that purpose."

Section 2. This act becomes effective July 1, 2000.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1999

S D

SENATE DRS3913*-LBZ181A(5.3)

Short Title: Extend Electric Study Funds. (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO EXTEND THE FUNDING OF THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. Section 10.1 of S.L. 1997-483, as amended by Section 6.1 of S.L. 1999-395, reads as rewritten:

"Section 10.1. Notwithstanding G.S. 62-302(d), for ~~all expenses during the 1997-98, 1998-99, and 1999-2000 fiscal years of~~ the Study Commission on the Future of Electric Service in North Carolina, established in S.L. ~~1997-40,~~ 1997-40, as amended by S.L. 1999-122, all expenses incurred through June 30, 2006, shall be reimbursed from funds in the Utilities Commission and Public Staff Fund. There is allocated initially one hundred thousand dollars ($100,000) from the Utilities Commission and Public Staff Fund to the General Assembly for the purpose of enabling the Study Commission on the Future of Electric Service in North Carolina to organize and begin its work. Upon the certification of the need for additional funds by the cochairs of the Study Commission on the Future of Electric Service in North Carolina for the work of the Commission, the Utilities Commission shall transfer the additional funds from the Utilities Commission and Public Staff Fund to the General Assembly for that purpose."

Section 2. This act becomes effective July 1, 2000.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1999

H D

HOUSE DRH7290*-LBZ180(5.3)

Short Title: Extend Electric Service Comm. (Public)

Sponsors: Representative

Referred to:

A BILL TO BE ENTITLED

AN ACT TO EXTEND THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. Section 4 of S.L. 1997-40 reads as rewritten:

"Section 4. The Commission shall make a report to the 1998 Regular Session of the 1997 General Assembly, which may contain recommendations, and shall report the results of its study and its recommendations to the 1999 General Assembly. ~~The Commission shall terminate upon filing its final report.~~ The Commission shall report periodically thereafter and shall terminate June 30, 2006."

Section 2. This act becomes effective May 1, 2000.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1999

S D

SENATE DRS7728*-LBZ180(5.3)

Short Title: Extend Electric Service Comm. (Public)

Sponsors: Senator

Referred to:

A BILL TO BE ENTITLED

AN ACT TO EXTEND THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. Section 4 of S.L. 1997-40 reads as rewritten:

"Section 4. The Commission shall make a report to the 1998 Regular Session of the 1997 General Assembly, which may contain recommendations, and shall report the results of its study and its recommendations to the 1999 General Assembly. ~~The Commission shall terminate upon filing its final report.~~ The Commission shall report periodically thereafter and shall terminate June 30, 2006."

Section 2. This act becomes effective May 1, 2000.

Appendix A

GENERAL ASSEMBLY OF NORTH CAROLINA
1997 SESSION

S.L. 1997-40
SENATE BILL 38

AN ACT TO ESTABLISH THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. The Study Commission on the Future of Electric Service in North Carolina is created. The Commission shall consist of 23 voting members as follows:

(1) Six members of the Senate to be appointed by the President Pro Tempore of the Senate;
(2) Six members of the House of Representatives to be appointed by the Speaker of the House of Representatives;
(3) The Chief Executive Officer of the North Carolina Electric Membership Corporation or the Chief Executive Officer's designee;
(4) The Chief Executive Officer of ElectriCities of North Carolina or the Chief Executive Officer's designee;
(5) The Chief Executive Officer of Duke Power Company or the Chief Executive Officer's designee;
(6) The Chief Executive Officer of Carolina Power and Light Company or the Chief Executive Officer's designee;
(7) Two residential consumers of electricity, one to be appointed by the President Pro Tempore of the Senate and one to be appointed by the Speaker of the House of Representatives;
(8) One commercial consumer of electricity to be appointed by the President Pro Tempore of the Senate;
(9) Two industrial consumers of electricity, one to be appointed by the Speaker of the House of Representatives and one to be appointed by the President Pro Tempore of the Senate;
(10) One member of the environmental community to be appointed by the Governor; and
(11) One person representing a nationwide electric power marketer to be appointed by the Speaker of the House of Representatives.

The President Pro Tempore of the Senate and the Speaker of the House of Representatives shall each designate a cochair from the General Assembly membership serving on the Commission. The Commission shall meet upon the call of the cochairs. A majority of the Commission shall constitute a quorum for the transaction of business.

Section 2. The Commission shall examine the cost, adequacy, availability, and pricing of electric rates and service in North Carolina to determine whether legislation is necessary to assure an adequate and reliable source of

electricity and economical, fair, and equitable rates for all consumers of electricity in North Carolina. The Commission shall gather data and other information as may be necessary to accomplish the purposes of the Commission, including testimony at public hearings, and shall work cooperatively with other boards, commissions, and entities, taking advantage of their resources and activities for the provision of useful information and insight. In the course of its study, the Commission shall seek input and advice from the Attorney General, the North Carolina Utilities Commission, and the Public Staff of the Utilities Commission. The Commission shall also obtain guidance by reviewing electric utility restructuring experiments conducted in other states.

In the course of its study and in making its recommendations, the Commission shall fully address the following issues:

(1) Assurance of fairness and equity among all customer classes;
(2) Reliability of power supply;
(3) Fair treatment of competing power providers;
(4) Universal access to electric energy and assignment of responsibility to provide it;
(5) Reciprocity between states;
(6) Stranded investment costs and benefits;
(7) Clarification of State and federal jurisdiction;
(8) Environmental impact of restructuring;
(9) Impact of competition on tax revenues;
(10) Alternative forms of regulation;
(11) Obligation to serve and the obligation to receive service;
(12) Ways to eliminate or equalize subsidies and tax preferences;
(13) Customer choice of electric providers;
(14) Functional unbundling of electric power generation, transmission, and distribution services;
(15) Impact of competition on service to low-income consumers;
(16) Impact of competition on renewable energy, conservation, and efficiency programs;
(17) Impact of competition on the energy expenditures by State and local government;
(18) Impact of competition on economic development;
(19) Impact of competition on municipal electric utilities and rural electric cooperatives;
(20) Prevention of anticompetitive or discriminatory conduct or the unlawful exercise of market power; and
(21) Other relevant and appropriate subjects.

Section 3. The Commission may contract for consultant services as provided by G.S. 120-32.02. Upon approval of the Legislative Services Commission, the Legislative Services Officer shall assign professional and clerical staff to assist in the work of the Commission. Clerical staff shall be furnished to the Commission through the offices of the House of Representatives and Senate Supervisors of Clerks. The Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission. The Commission, while in the discharge of official duties, may exercise all the powers provided under the provisions of G.S. 120-19 through G.S. 120-19.4, including the power to request all officers, agents, agencies, and departments of the State to provide any information, data, or documents within their possession, ascertainable from their records, or otherwise available to them, and the power to subpoena witnesses.

Members of the Commission shall receive per diem, subsistence, and travel allowances as follows:

(1) Commission members who are members of the General Assembly at the rate established in G.S. 120-3.1;

(2) Commission members who are officials or employees of the State or of local government agencies at the rate established in G.S. 138-6; and

(3) All other Commission members at the rate established in G.S. 138-5.

Section 4. The Commission shall make a report to the 1998 Regular Session of the 1997 General Assembly, which may contain recommendations, and shall report the results of its study and its recommendations to the 1999 General Assembly. The Commission shall terminate upon filing its final report.

Section 5. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 22nd day of April, 1997.

s/ Dennis A. Wicker
President of the Senate

s/ Harold J. Brubaker
Speaker of the House of Representatives

s/ James B. Hunt, Jr.
Governor

Approved 2:55 p.m. this 30th day of April, 1997

Appendix B

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1999

SESSION LAW 1999-122
HOUSE BILL 778

AN ACT TO ADD SIX MEMBERS TO THE STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. Section 1 of S.L. 1997-40 reads as rewritten:

"Section 1. The Study Commission on the Future of Electric Service in North Carolina is created. The Commission shall consist of ~~23~~ 29 voting members as follows:

(1) ~~Six~~ Nine members of the Senate to be appointed by the President Pro Tempore of the Senate;
(2) ~~Six~~ Nine members of the House of Representatives to be appointed by the Speaker of the House of Representatives;
(3) The Chief Executive Officer of the North Carolina Electric Membership Corporation or the Chief Executive Officer's designee;
(4) The Chief Executive Officer of ElectriCities of North Carolina or the Chief Executive Officer's designee;
(5) The Chief Executive Officer of Duke Power Company or the Chief Executive Officer's designee;
(6) The Chief Executive Officer of Carolina Power and Light Company or the Chief Executive Officer's designee;
(7) Two residential consumers of electricity, one to be appointed by the President Pro Tempore of the Senate and one to be appointed by the Speaker of the House of Representatives;
(8) One commercial consumer of electricity to be appointed by the President Pro Tempore of the Senate;
(9) Two industrial consumers of electricity, one to be appointed by the Speaker of the House of Representatives and one to be appointed by the President Pro Tempore of the Senate;
(10) One member of the environmental community to be appointed by the Governor; and
(11) One person representing a nationwide electric power marketer to be appointed by the Speaker of the House of Representatives.

The President Pro Tempore of the Senate and the Speaker of the House of Representatives shall each designate a cochair from the General Assembly membership serving on the Commission. The Commission shall meet upon the call of the cochairs. A majority of the Commission shall constitute a quorum for the transaction of business."

Section 2. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 20th day of May, 1999.

s/ Marc Basnight
President Pro Tempore of the Senate

s/ James B. Black
Speaker of the House of Representatives

s/ James B. Hunt, Jr.
Governor

Approved 3:30 p.m. this 28th day of May, 1999

Appendix C

PART X.----STUDY COMMISSION ON THE FUTURE OF ELECTRIC SERVICE IN NORTH CAROLINA REIMBURSEMENT OF EXPENSES (Bond; Dickson)

Section 10.1. Notwithstanding G.S. 62-302(d), all expenses during the 1997-98 and the 1998-99 fiscal years of the Study Commission on the Future of Electric Service in North Carolina, established in S.L. 1997-40, shall be reimbursed from funds in the Utilities Commission and Public Staff Fund. There is allocated initially one hundred thousand dollars ($100,000) from the Utilities Commission and Public Staff Fund to the General Assembly for the purpose of enabling the Study Commission on the Future of Electric Service in North Carolina to organize and begin its work. Upon the certification of the need for additional funds by the cochairs of the Study Commission on the Future of Electric Service in North Carolina for the work of the Commission, the Utilities Commission shall transfer the additional funds from the Utilities Commission and Public Staff Fund to the General Assembly for that purpose.

Appendix D

PART VI.-----FUTURE OF ELECTRIC SERVICE FUNDING CONTINUATION (H.B. 777 - McComas; S.B. 266 - Hoyle)

Section 6.1. Section 10.1 of S.L. 1997-483 reads as rewritten:

"Section 10.1. Notwithstanding G.S. 62-302(d), all expenses during the ~~1997-98 and the 1998-99~~ 1997-98, 1998-99, and 1999-2000 fiscal years of the Study Commission on the Future of Electric Service in North Carolina, established in S.L. 1997-40, shall be reimbursed from funds in the Utilities Commission and Public Staff Fund. There is allocated initially one hundred thousand dollars ($100,000) from the Utilities Commission and Public Staff Fund to the General Assembly for the purpose of enabling the Study Commission on the Future of Electric Service in North Carolina to organize and begin its work. Upon the certification of the need for additional funds by the cochairs of the Study Commission on the Future of Electric Service in North Carolina for the work of the Commission, the Utilities Commission shall transfer the additional funds from the Utilities Commission and Public Staff Fund to the General Assembly for that purpose."

Section 6.2. This Part is effective retroactively to June 30, 1999.