Georgia Power's Application for

The Certification of Units 3 and 4

At Plant Vogtle

And

Updated Integrated Resource Plan

Docket No. 27800-U

GEORGIA POWER COMPANY

APPLICATION FOR THE CERTIFICATION OF UNITS 3 AND 4 AT PLANT VOGTLE AND UPDATED INTEGRATED RESOURCE PLAN

Docket No. 27800-U

Applicant name, address and principle place of business:

Georgia Power Company
241 Ralph McGill Blvd NE
Atlanta, Georgia 30308

Authorized person to receive notices or communications with respect to application:

Richard A. White, Sr. Regulatory Affairs Representative
Regulatory Affairs, BIN 10230
Georgia Power Company
241 Ralph McGill Blvd NE
Atlanta, Georgia 30308
Voice: 404-506-2393 (or 404-506-6241)
Fax: 404-506-1737

Location for public inspection:

Georgia Power Company
241 Ralph McGill Blvd NE
Atlanta, Georgia 30308

Basis for the Assertion That Redacted Portions of Georgia Power's Application for The Certification of Units 3 and 4 at Plant Vogtle and the Updated Integrated Resource Plan are Protected as Trade Secrets

As part of its application for certification of Units 3 and 4 at Plant Vogtle and updated Integrated Resource Plan ("IRP"), Georgia Power Company ("Georgia Power" or "the Company") submits to the Georgia Public Service Commission ("Commission"): (1) information on the two proposed nuclear generation units to meet the Company's 2016 and 2017 capacity and energy needs, as well as (2) the 2007 Integrated Resource Plan ("IRP") and 2008 IRP update (these items are collectively, "the Documents"). Certain provisions of the Documents are trade secrets of Georgia Power, Southern Company, Westinghouse Electric Company LLC ("Westinghouse") and Stone & Webster, Inc., Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton (collectively the "Co-owners") and their affiliates protected under Commission Rule 515-3-1-.11.

The trade secret provisions of the Documents derive economic value from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from their disclosure or use. Public disclosure of the trade secret information in the Documents could give other utilities and competition of Westinghouse an unfair competitive advantage by showing the Company's costs and forecasted generation needs and could interfere with the Company's ability to negotiate for best cost equipment from vendors. Disclosure could also severely harm Westinghouse and Stone & Webster, Inc, and that harm could in turn impair Georgia Power, the Co-owners and their customers. Additionally, the trade secret portions of the Documents are subject to extensive efforts to maintain their secrecy.

Only select Georgia Power and Southern Company personnel and their legal counsel are granted access to the trade secret portions of the Documents. Those personnel receive access only on a "need to know" basis. If a party outside Georgia Power and Southern Company and their legal counsel are granted access to the trade secret portions of the Documents, the party is required to sign a confidentiality agreement with respect to the trade secret portions of the

Documents. Additionally, access to Georgia Power and Southern Company buildings and files is restricted.

Additional specific bases for asserting that the redacted portions of the Documents are trade secret are set forth below.

I. Proposed Nuclear Generation to Meet the Company's 2016 and 2017 Needs

The information that has been redacted pertaining to the proposed nuclear units to meet the 2016 and 2017 needs contain pricing and terms that are specific to these units. This information is considered confidential and proprietary by the Company and its contractors and not generally known by the public. Revealing these terms would compromise the Company's ability to procure the best cost resources from equipment suppliers or independent power suppliers in future solicitations. In the event such information were released, it is quite likely that suppliers for future generating equipment purchases would use this information to set the floor on negotiated pricing or that bidders in future Request For Proposals would use this information to set the floor in constructing their own bids, thus artificially and inefficiently setting a market price and other generation characteristics for the Company that may not be representative of the best cost or best resource that the market could offer. Furthermore, the parties to current equipment negotiations have agreed to maintain the confidentiality of these terms.

Amongst the items that are redacted are highly sensitive terms, pricing, and indexing in the Engineering, Procurement, Construction ("EPC") agreement that the Company entered earlier this year with Westinghouse and Stone & Webster Inc. for the development of Vogtle Units 3 and 4. Included in the EPC agreement, and therefore also highly confidential, is the construction schedule and its sub-components, portions of which are attached to the Application as Appendix B. Given the highly confidential nature of the protected information in the EPC agreement, access to the trade secret, un-redacted version of the EPC must be limited to a "need to know" basis and will require the execution of additional confidentiality agreements between the Company and the party seeking access to the un-redacted EPC agreement. The Company will make redacted copies of the EPC agreement and Appendix B available to parties that do not enter the necessary additional confidentiality agreements with the Company. The costing, terms

and indexing methodology employed in the EPC agreement are proprietary information that, if publicly available, could be used by Westinghouse's competitors to tailor offerings to other utilities and place Westinghouse at a competitive disadvantage because Westinghouse would not have access to comparable information regarding its competitors' terms, pricing and indexing.

Moreover, public release of the confidential information included in the EPC agreement could have adverse economic consequences for the Company. Public release of the confidential information could make potential vendors unwilling or unable to conduct business with the Company. For many pieces of essential equipment, like the reactor involved in the EPC agreement, there are already very few potential vendors from which Georgia Power might be able to purchase. By causing the vendors' proprietary information to be publicly available, even fewer vendors might be willing to sell to the Company, thus, reducing the opportunity for the Company to purchase the equipment best suited to meeting its customers' needs and potentially compelling the Company to deal with a vendor that does not offer the best cost option. This could cause significant added costs to the Company and ultimately to Georgia ratepayers. Additionally, public release of the EPC agreement would provide competitors of Georgia Power with unfair access to information regarding the Company's costs. Information regarding the costs included in the EPC agreement could be used to assess the costs of energy bid into the wholesale market by Georgia Power. This information could allow the Company's competitors to tailor their wholesale energy bids to undermine the Company's competitive position and consequently to adversely impact the Company's revenues and profits.

II. <u>References to the 2007 IRP and 2008 IRP Update</u>

The 2008 IRP Update includes confidential information related to forecasted demand, plant retirement studies, the Company's resource plan, and the Company's evaluation of coal resources. Disclosure of IRP information to third parties could harm Georgia Power and the other Southern system operating companies and their customers. The IRP is the basis for future generation planning strategies for the Company. The disclosure of such information would generally reveal generation cost projections and could impair the cost-effectiveness of future purchased power. Additionally, the Company's ability to negotiate the optimum price, contract

terms and conditions would be undermined, and the Company would have difficulty in identifying what would otherwise have been the most reliable and cost-effective power for retail customers had the information not been learned by competitors. Finally, disclosure of the IRP to third parties would allow them to benefit from the use of such information, which has been developed at the expense of the Company's customers. Moreover, third parties are not required to provide comparable analyses that they develop.

Additionally, revealing the redacted information in the energy and demand forecast from the 2007 IRP and the 2008 IRP Update would give competitors of Georgia Power a competitive advantage in the marketplace by revealing the Company's prospective growth and load shapes. The information provided constitutes detailed energy usage information regarding specific classes of customers. If revealed to the public, a competitor could use the information to tailor proposals with the intention of targeting certain groups of customers thereby undermining the Company's market position. Such information would assist competitors in undercutting Georgia Power's bids to win both wholesale and retail customers. In addition, such information would reveal the Company's needs in the short-term, thereby potentially harming the Company's ability to make cost-effective sales or purchases of energy on behalf of its customers.

Similarly, revealing the redacted information in the Company's resource plan and retirement studies would give competitors of Georgia Power a competitive advantage in the marketplace by revealing the Company's capacity and energy that might be sold in the wholesale market. If revealed to the public, a competitor could use the information to tailor proposals with the intention of targeting certain groups of customers thereby undermining the Company's market position. Additionally, potential sellers of capacity and energy to Georgia Power could use this information to achieve an unfair negotiating advantage against the Company and its customers because the information could be used to determine whether resources, other than those controlled by the seller, could be used to meet the Company's needs. This could lead to unnecessarily high prices being charged by sellers to Georgia Power and higher costs to Georgia Power customers.

Lastly, revealing the redacted cost information in the coal evaluation conducted by the Company would give competitors of Georgia Power a competitive advantage because it would show the Company's estimation of the cost for a self-build of various forms of coal-fired generation. If revealed to the public, a competitor could use this information to tailor offerings and pricing that would undermine the Company's market position. Further, this information could be used by would-be bidders in future solicitations by the Company for additional generation in order to price bids in an anti-competitive manner relative to a self-build project. Specifically, would-be bidders could price their offerings just below the cost of the self-build even where a competitive bid might be lower, effectively creating a price floor on competitive bids. This would cause unnecessarily high prices to be charged by the sellers to Georgia Power and ultimately would lead to higher prices for Georgia Power customers.

Georgia Power's Application for
Certification of Units 3 and 4 at Plant Vogtle and
Updated Integrated Resource Plan
Docket No. 27800-U

TABLE OF CONTENTS

1. OVERVIEW 1

2. INTRODUCTION 5
   - 2.1 Summary of the Company's Request 5
     - 2.1.1 Vogtle Units 3 and 4 are the Cost-Effective Option to Meet the Company's 2016-2017 Resource Needs 5
       - 2.1.1.1 There is a Need for New Cost-Effective Generation Resources in 2016-2017 6
       - 2.1.1.2 DSM and Renewables Continue to Play an Important Role in a Balanced Supply Portfolio 6
       - 2.1.1.3 There are Benefits from Resource and Fuel Diversity 9
       - 2.1.1.4 The RFP Validated the Benefits of Vogtle Units 3 and 4 10
       - 2.1.1.5 The EPC Agreement and Changes in Federal and State Law Provide Substantial Protection for Customers 12
     - 2.1.2 CWIP in Rate Base Will Benefit Customers 13
     - 2.1.3 Quarterly Monitoring Will Provide Appropriate Commission Oversight 14
     - 2.1.4 The Updated IRP Should be Approved 14
     - 2.1.5 The Installation of Environmental Controls at Plants Branch and Yates is Prudent 15
     - 2.1.6 Coal Evaluation Expenses Should be Deferred for Future Recovery 15
   - 2.2 Conclusion 16

3. CERTIFICATION OF 2016 AND 2017 GENERATION 17
   - 3.1 2016 and 2017 Request for Proposals 17
     - 3.1.1 Issuance of the 2016 and 2017 Request for Proposals 17
     - 3.1.2 Self-Build Evaluation 18
     - 3.1.3 Selection of Winning Technology 18
   - 3.2 2016 and 2017 Capacity Needs Construction Information 20
     - 3.2.1 Cost Benefit Analysis of Capacity Options 20

3.2.2 Description of Vogtle Nuclear Capacity Resource 22
3.2.2.1 Site Selection Analysis 22
3.2.2.2 Description of Fuel Use 23
3.2.2.3 Estimated Annual Costs 23
3.2.2.4 Rates of Escalation of Cost 32
3.2.2.5 Total Estimated Annual Average Cost per kWh 32
3.2.2.6 Equivalent Availability Factors 34
3.2.2.7 Capacity Factors 34
3.2.2.8 Duty Cycle 34
3.2.2.9 Heat Rates and Efficiency 34
3.2.2.10 Unit Lifetime 36
3.2.2.11 Estimated Environmental Impact 36
3.2.2.12 Lead Time 40
3.2.2.13 Potential Socioeconomic Impacts 40
3.2.2.14 Special Design Features 40
3.2.2.15 Necessary Permits 40
3.2.3 Total Cost Estimate 47
3.2.3.1 Identification of Major Contracts 49
3.2.3.2 Cost Expenditure Plan 49
3.3 Costs Associated with Construction 50
3.3.1.1 AFUDC, Ad Valorem, and Sales Tax 50
3.3.1.2 Estimated Revenue Requirements of Ongoing Annual Capital Additions 51
3.3.1.3 Decommissioning/Dismantlement Costs 53
3.3.1.4 Cost of Dedicated Transmission and Distribution Facilities 54
3.3.2 Cost Comparison of Similar Projects 54
3.3.3 Activities Schedule 54
3.3.4 Critical Path Schedule 54
3.3.5 Lead Times for Major Procurement Items 55
3.3.6 Description of Legal Relationship 55
3.3.7 Cost Recovery 55
3.3.7.1 Construction Work in Progress 56
3.3.7.2 Pre-Certification Costs 57
3.3.7.3 Proposed Quarterly Monitoring 60

4. THE 2008 IRP UPDATE 63
4.1 Summary of 2008 Integrated Resource Plan Update 63
4.1.1 Foreword 63
4.1.2 Coal Evaluation Expenses 63
4.1.3 Significant Recent Developments 63
4.1.4 The Supply-Side Plan Overview 64

4.1.5 The Demand-Side Plan Overview 65
4.1.6 The Environmental Plan Overview 66
4.1.6.1 Background 66
4.1.6.2 Plants Branch and Yates 66
4.1.6.3 Plant Hammond 69
4.1.7 The Demand and Energy Forecasts 69
4.1.8 Renewable Resources 69
4.1.9 Conclusion 70
4.2 Georgia Power's Near-Term Action Plan 70
4.3 Budget 2008 Energy Sales and Peak Demand Forecast 71
4.3.1 Economics 71
4.3.2 Forecasts Assumptions and Methods 72
4.3.3 Peak Demand 74
4.3.4 Territorial Demand 75
4.3.5 Retail Energy Sales 76
4.3.6 Wholesale Energy Sales 81
4.3.7 Demand-Side Programs 82
4.4 Supply-Side Plan Update 83
4.4.1 Resource Ledger Update 83
4.4.2 Potential Impacts of Possible Future Carbon Legislation 90
4.4.2.1 The Reference Case 90
4.4.2.2 No Load Growth 92
4.4.2.3 REDACTED/ton CO2 Tax 93
4.4.2.4 REDACTED/ton CO2 Tax 93
4.5 Technology Data Book Update 103
4.6 Renewable Energy Research Plan Update 104
4.6.1 Biomass Overview 104
4.6.2 "Small" Wood Chips Co-firing 106
4.6.3 Switchgrass Co-firing 106
4.6.4 Biomass Re-powering Feasibility Studies 106
4.6.5 Evaluation of Biodiesel as Power Generation Fuel 107
4.6.6 Forest Yield Improvement 107
4.6.7 Advanced Biomass Gasification 107
4.6.8 Offshore Wind Feasibility Study 108
4.6.9 Solar PV Demonstration and Pilot Project 109
4.6.10 Ocean Tidal Demonstration Project 110
4.7 Unit Retirement Study Update 110
4.7.1 Executive Summary 110
4.7.2 Economic Screening Analysis 112
4.7.3 Economic Screening Analysis Overview 114
4.7.4 Detailed Evaluations 118

4.8 Evaluation of Coal Resources 202
4.8.1 Introduction.....202
4.8.2 Supercritical Pulverized Coal 202
4.8.2.1 Commercial Status.....204
4.8.2.2 Representative Plant Design and Performance.....205
4.8.3 Circulating Fluidized Bed.....207
4.8.3.1 Commercial Status.....208
4.8.3.2 Representative Plant Design and Performance.....209
4.8.4 Oxygen Blown IGCC.....210
4.8.4.1 Commercial Status.....212
4.8.4.2 Representative Plant Design and Performance.....214
4.8.5 Air Blown IGCC.....214
4.8.5.1 Representative Plant Design and Performance.....216
4.8.6 Carbon Capture and Sequestration Technology Overview.....217
4.8.7 Conclusions.....218

APPENDICES

APPENDIX A-1: ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT 221

APPENDIX A-2: ENGINEERING, PROCUREMENT AND CONSTRUCTION EXHIBITS 221

APPENDIX B-1: ACTIVITIES SCHEDULE EXECUTIVE SUMMARY 221

APPENDIX B-2: ACTIVITIES SCHEDULE 221

APPENDIX B-3: CRITICAL PATH SCHEDULE 221

APPENDIX B-4: LEAD TIMES FOR MAJOR PROCUREMENT ITEMS 221

1. Overview

Georgia Power Company ("Georgia Power" or the "Company") requests that the Georgia Public Service Commission (the "Commission") do the following:

- Certify the proposed Vogtle Units 3 and 4;
- Approve the 2008 Integrated Resource Plan Update ("Updated IRP");
- Allow Construction Work in Progress ("CWIP") in rate base for the two new Units;
- Institute Quarterly Construction Monitoring and Treatment of Indexed Costs;
- Approve the Company's recommendation to install emissions controls at Plants Branch and Yates; and
- Approve the deferral for later cost recovery of the significant expenses incurred in developing and evaluating coal-fired generation, as required by the 2007 IRP Order.

As presented in this Application, these actions are necessary to meet Georgia's continued growth with safe, reliable and cost-effective energy. In addition to these actions listed above, the Company expects to soon make a request to the Commission to expand the Green Energy program for retail customers interested in purchasing large quantities of renewable energy at prices competitive with bulk renewable energy markets. This expansion of Green Energy will help grow the market for renewable energy in the state and encourage development of additional renewable resources. The Company is also in the final stages of evaluating the potential conversion of Plant Mitchell from coal to 100% biomass fuel and, if the project is deemed viable, will in the very near future request certification by the Commission of the Plant Mitchell biomass conversion project.

The Company's proposed plan continues to rely on a responsible mix of Demand Side Management ("DSM") programs and supply side measures, including renewables, fossil generation and nuclear generation. DSM programs, which include both demand response and energy efficiency, can help customers save money on their energy bills and reduce the need for new power plants. The Company expects to spend approximately $500 million on DSM

programs over the next decade to achieve from 1,900 to 2,200 megawatts ("MW") of demand reduction. However, DSM programs cannot completely eliminate the Company's need for additional power plants. After considering the expected additional demand reductions over the next decade from new and existing DSM programs, the Company still has a demonstrated need for more than 8,000 MW of new or replacement generation.

Renewable energy also has a role in meeting future generation needs. In the last few years, the Company has executed contracts and received notices of intent from developers for additional capacity from renewable generators totaling about 600 MW. If all of this capacity proves viable, it is possible that the Company may spend more than $1 billion on these capacity and energy purchases from renewable generators over the next 10 years. When the capacity from renewable generation is combined with the demand impacts of the Company's DSM programs, somewhere between 11% to 18% of the Company's needs over the next decade may be met with DSM programs and renewable energy. The development and deployment of these resources is only limited by their viability, cost-effectiveness and cost competitiveness.

Along with the Company's desire to cost-effectively expand its DSM programs and to further develop its renewable portfolio, the Company proposes to add Vogtle Units 3 and 4 as a carbon-free source of baseload generation. Vogtle Units 3 and 4 are projected to save customers from $2 billion to more than $6.5 billion dollars when compared to the pulverized coal power plant alternative, and to save from $1 billion to more than $6.5 billion dollars when compared to natural gas-fired CC generation.

Adding nuclear power to the mix of capacity reduces the risk to customers of high natural gas prices and future costs of potential carbon legislation. Natural gas prices have risen more than 400% since 2002 and the future costs of potential carbon legislation are significant for coal-fired power plants. Natural gas generation is more sensitive to fuel price fluctuations than either coal or nuclear generation, with 60% to 80% of the cost of a kilowatt hour ("kWh") from a natural gas plant coming from fuel whereas about 10% of nuclear generation cost is from nuclear fuel.

The state of Georgia and the Company's customers have benefited through the years by having electrical energy prices below the national average. The Company expects that advantage to continue. The low prices are due to maintaining access to energy from a diverse generating fleet, including hydroelectric, coal, nuclear, and natural gas-fired generating resources. By 2016 it will have been over a quarter of a century since the Company added anything other than gas-fired generation to its fleet. In this world economy, neither this Commission nor the Company has any meaningful ability to affect the cost of natural gas. Since fuel costs comprise between 60% to 80% of a gas-fired generator, a large portion of the total cost of a sizable portion of the Company's fleet is driven by the world economy, not by factors within the control of Georgians. The Company is entering an era where new cost-effective non-gas-fired baseload generation is needed to serve customers. The Company submits this plan for approval because it offers the best balanced and reasonable way in which to continue to provide the energy needed to support Georgia's growth.

The decision to approve Georgia Power's Application for certification of Vogtle Units 3 and 4 has impacts beyond the effects on Georgia Power's customers. Because Plant Vogtle is co-owned by Georgia Power, Oglethorpe Power Corporation ("Oglethorpe"), Municipal Electric Authority of Georgia ("MEAG"), and the City of Dalton ("Dalton Utilities"), building and operating Vogtle Units 3 and 4 will provide benefits to all the citizens of the state of Georgia through improved reliability from cost-effective baseload nuclear operations and from increased fuel diversity. A failure to certify this project would mean that Georgia Power's customers could not participate in this project, which the other electric suppliers in Georgia have found to be cost-effective.

[This page intentionally left blank]

2. Introduction

2.1 Summary of the Company's Request

In this filing, the Company requests that the Commission:

- Certify the proposed Vogtle Units 3 and 4;
- Allow CWIP cost recovery in rate base for the two new Units;
- Approve and provide for quarterly construction monitoring and for treatment of indexed costs for the project;
- Approve the Updated IRP as filed;
- Approve the Company's recommendation to install emissions controls at Plants Branch and Yates; and
- Approve the deferral for future cost recovery for the significant expenses incurred in developing and evaluating coal-fired generation, as required by the 2007 IRP Order.

In support of this Application, the Company has provided an Updated IRP, which includes an updated demand and energy forecast, an updated technology data book, an update on the Company's Renewable Energy Plan, an updated Unit Retirement Study, and an evaluation of coal resources. This Updated IRP demonstrates the need for Vogtle Units 3 and 4.

2.1.1 Vogtle Units 3 and 4 are the Cost-Effective Option to Meet the Company's 2016-2017 Resource Needs.

Georgia Power files this Application with the Commission seeking a Certificate of Public Convenience and Necessity to construct and operate two new nuclear power units to be located at the existing Plant Vogtle. The Vogtle Units 3 and 4 facilities will be located on 3,169 acres of land in Burke County, Georgia. The existing Vogtle Units 1 and 2 nuclear units are also located on this site, along with the six unit oil–fired Allen B. Wilson Combustion Turbine ("CT") facility. Vogtle Units 3 and 4 will consist of two Westinghouse AP-1000 reactors, two natural draft cooling towers, intake and discharge structures, a switchyard for transmission access and numerous ancillary structures supporting the power generation process. The new units will

produce approximately 2,200 MW of electric generation with essentially no air emissions and only minimal thermal impact on the Savannah River.

Georgia Power will construct and operate the Units pursuant to the Development Agreement among the co-owners, identified in Section 3.2.3.1. Pursuant to the Development Agreement, Oglethorpe, MEAG, and Dalton Utilities informed Georgia Power that they will maintain the following existing ownership shares in the new Units: Oglethorpe, 30%; MEAG, 22.7%; and Dalton Utilities, 1.6%. Georgia Power's proportionate share is 45.7% and unless stated otherwise in this Application, all costs and savings represent Georgia Power's ownership share. Of particular note, the co-owners independently conducted their own evaluations of their investment in Vogtle Units 3 and 4 and committed to their full participation percentage in the project.

2.1.1.1 There is a Need for New Cost-Effective Generation Resources in 2016-2017.

The state of Georgia continues to grow and attract new residents and businesses. The Company's Updated IRP shows Georgia Power's peak demand is expected to increase at a compound average annual rate of REDACTED or almost REDACTED per year from 2007 to 2017. In fact, over the next decade, the Company expects to add or replace about 8,000 MW of generating capacity to meet load growth and replace expiring Power Purchase Agreements ("PPAs"). In the Commission approved 2007 IRP, the Company identified the need for baseload power in 2016-2017. In order to continue to meet our customers' growing electricity needs in a reliable and economic manner, the Company must build new baseload generation in addition to pursuing cost-effective DSM and renewable portfolios.

2.1.1.2 DSM and Renewables Continue to Play an Important Role in a Balanced Supply Portfolio.

Over the past several years, the Company has emphasized the importance of reducing the need for new generation with cost-effective DSM programs. While significant, the impacts of the Company's DSM programs do not eliminate the Company's need for additional baseload power plants, even though the Company expects to spend approximately $500 million on

eighteen DSM programs over the next decade to achieve considerable demand reduction. DSM does not meet the need for additional baseload generation because the demand reductions are primarily concentrated during periods of peak demand.

Georgia Power continues to be a leader in the industry through its use of Real Time Pricing ("RTP") and other demand response programs, which contribute as much as a 5% reduction in the Company's total peak demand. By 2018, the Company is expecting to achieve approximately 1,900 to 2,200 MW of demand reduction through DSM programs. Even after factoring in the expected impacts of customer participation in DSM programs, more than 8,000 MW of additional and replacement generating capacity is still needed over the next 10 years. Vogtle Units 3 and 4 will fill approximately 1,000 MW of this 8,000 MW need.

Renewable energy will assist in meeting future generation needs. Georgia Power encourages the development of renewable energy resources in Georgia, both through its purchases of electricity from renewable energy producers that are Qualifying Facilities under the Public Utilities Regulatory Policy Act as well as from the Company's own investment in cost-effective renewable energy resources. In fact, when combined with the demand impacts of the Company's DSM programs, approximately 11% to 18% of the Company's generation needs over the next decade may be met with DSM programs and capacity and energy from renewable generation. In the last few years, the Company has executed contracts for almost 150 MW of capacity and energy from renewable generation developers in the state and has received notices of intent from developers for additional capacity and energy from renewable generation of about 450 MW. The recently issued Request for Proposals ("RFP") for the 2013-2014 timeframe offers renewable developers an additional opportunity to help meet the Company's needs. If all of this capacity proves viable, it is possible that the Company may spend more than $1 billion dollars on these capacity and energy purchases from renewable generators over the next 10 years. Additionally, the Company will soon be proposing modifications to the Green Energy program that will grow the market in Georgia for renewable energy credits, thereby encouraging additional renewable energy development.

In the 2007 IRP, the Commission granted the Company's request to pursue up to three renewable generation projects of no more than 30 MW each. While the Company has not yet identified a cost-effective small renewable project, it has pursued the Commission's directive of seeking cost-effective renewable generation. One such project is in the final stages of study and involves the potential conversion of Plant Mitchell to 100% biomass fuel. It appears that Plant Mitchell will have the unique combination of size, location and existing infrastructure that are required for a cost-effective biomass generation project. If implemented, the Mitchell project would be one of the largest biomass projects in the United States. The Company expects to make a decision on the potential Plant Mitchell conversion soon and if the project meets feasibility and economic criteria, then the Company expects to file an amendment to the certificate for Plant Mitchell in the near term to enable the biomass conversion. With the combination of up to 600 MW of capacity and energy purchases from renewable generation and the Plant Mitchell conversion, the Company's portfolio will reflect a sizable amount of capacity from renewable generation.

Two simple facts remain, however: There are limits to the amount of cost-effective DSM programs and renewable energy resources that can be brought online in Georgia over the next decade; and Georgia Power's customer load growth and reliability needs require the Company to self-build baseload generating capacity. The Company has added over 700,000 customers since the last baseload plant was added to Georgia Power's system in 1989.

Baseload nuclear power offers the best solution for customers for many reasons. First, nuclear generation is more cost-effective than competing sources of generation. Second, since 1989 and continuing until 2015 (more than a quarter of a century), Georgia Power's Commission approved generation expansion plan has relied almost exclusively on natural gas as a generation resource. While that was a wise and prudent plan, the Company is concerned with increased reliance on, and with exposing customers to, such volatile and uncertain natural gas prices. Third, nuclear power has an economic advantage over coal for many reasons, but notably due to the increasing risks of carbon legislation, the rising costs of constructing new coal-fired plants, the cost of coal transportation, and the escalating costs for coal due to global demand.

2.1.1.3 There are Benefits from Resource and Fuel Diversity.

When meeting the needs of our customers and the growth of Georgia, the Company has recognized that there is no "either/or" solution; we must pursue and maintain a balance, which includes DSM, price response tariffs, renewables, gas, coal and nuclear. Since 1989, the Company has met customers' needs for additional generating resources almost exclusively from natural gas-fired capacity and DSM, including price response tariffs. Looking to the future, the Company is committed to purchasing or building over 5,000 MW of natural gas-fired capacity for the years 2009 through 2012. Those purchases have already been certified by this Commission. In addition, the Company expects to add more than 3,000 MW of new generating capacity for the years 2013 through 2018. Georgia Power's 2007 IRP highlighted the Company's concern with increasing dependence on natural gas as a fuel source and emphasized the need to diversify the future fuel mix by adding additional cost-effective baseload generating capacity in the 2016 timeframe. The Commission has shared that concern.

Since the approval of the 2007 IRP, fuel costs have continued to climb significantly higher. Oil prices reached record highs in June and July 2008. Spot and future natural gas prices rose to levels previously reached only during periods of extreme weather disruptions, such as Hurricanes Katrina and Rita. With the recent cancellations of large amounts of new coal generation projects in the United States, the pressures on natural gas prices are virtually certain to grow.

Gas-fired capacity now comprises 37% of Georgia Power's capacity mix, up from approximately 7% when the last baseload plant was added in 1989. While gas-fired capacity continues to be a wise and economic choice for certain capacity additions, the increasing dependence on natural gas places significant risks on customers because of the high and volatile natural gas prices. Without the addition of Vogtle Units 3 and 4, natural gas will comprise roughly 49% of the Company's capacity mix by 2017. After adding Vogtle Units 3 and 4, the nuclear percentage of the Company's capacity mix will only grow slightly (10% today compared to about 12% in 2017). Even with the addition of Vogtle Units 3 and 4 to the Company's fleet, natural gas will still fuel about half of the Company's generating capacity by the end of the next decade. Adding new cost-effective nuclear baseload generation will ensure that there remains a

diversity of generation to protect customers from the fuel price volatility associated with natural gas prices.

2.1.1.4 The RFP Validated the Benefits of Vogtle Units 3 and 4.

The Company's 2007 IRP, which was approved by this Commission, identified the need for additional baseload generating units in the 2016-2107 timeframe. An RFP was issued based on that IRP. The RFP was conducted with the active participation of the Commission Staff ("Staff") and the Independent Evaluator ("IE"). No bids were received in response to the 2016 RFP, leaving the Company's proposal to construct Vogtle Units 3 and 4 as the only baseload option resulting from the RFP, which the Company now brings forward to the Commission for certification.

In the Company's 2007 IRP, the Commission ordered the Company to prepare a detailed assessment of coal resources and to develop a backup plan for the next best alternative in the event that nuclear units did not meet expectations. Pursuant to the Commission's Order, the Company pursued two self-build proposals, one for coal and another for nuclear generation. As work progressed on the coal proposal, the Company saw increases in the cost of new coal generation, which, when coupled with the cost risk of potential carbon legislation and the inability to secure fixed pricing for major components, caused the Company to discontinue further work on a coal proposal. The Company chose to offer only a nuclear self-build generation proposal in the 2016 and 2017 RFP and submitted its proposal on May 1, 2008, the same deadline for receipt of bids from the market. As no market bids were received for the 2016 and 2017 RFP, the Company's self-build generation proposal is the basis for this Application.

The key factors driving the selection of a particular type of generating resource, be it natural gas, coal or nuclear capacity additions in Georgia, are the cost of delivered fuel, future costs of complying with environmental controls, and the installed cost of the plant. Since 1989, natural gas has presented a low capital cost but a significant fuel risk for the life of the unit. Coal baseload generation presents a high capital cost and, until recently, a relatively stable fuel cost. But now, coal baseload units have seen escalating fuel costs and may be subject to the need for additional future environmental controls, particularly for carbon dioxide ("CO_2"). Nuclear

energy provides baseload capacity at a relatively high capital cost, with stable fuel costs and generates safe and reliable electricity with no carbon emissions.

As part of the RFP process, the Company conducted an extensive economic evaluation of the alternatives to Vogtle Units 3 and 4. This evaluation considered the available alternative generating technologies and the main risk factors facing the decision, primarily the future costs of fuel and carbon legislation. The alternative technologies included the baseload generating plant options of pulverized coal and Integrated Gasification Combined Cycle ("IGCC"), as well as the alternative to continued and growing reliance on natural gas with Combined Cycle ("CC") units. These alternative technologies were evaluated with varying fuel forecasts to represent the range of possible future fuel costs. The Company also evaluated these alternative technologies and possible future fuel costs within the context of three possible cost scenarios to comply with potential future CO_2 legislation. In all, the economic evaluation considered 10 possible cases comprising combinations of fuel forecasts and potential carbon control cases. This review was consistent with that used by the IE.

The results of this economic evaluation demonstrate the cost-effectiveness of the Vogtle Units 3 and 4 across a broad range of possible future costs and risks. Adding Vogtle Units 3 and 4 is the cost-effective choice when compared to natural gas and coal alternatives within the most likely fuel and carbon cost cases. The addition of nuclear power to the Company's mix of capacity beginning in 2016 and 2017 is cost-effective and also reduces the risks to customers of uncertain future costs of natural gas and likely costs from carbon legislation. The cost-effectiveness of Vogtle Units 3 and 4 is enhanced by the potential Federal Production Tax Credits, which are a part of a broader effort on the part of the Federal government to encourage new nuclear plant construction in the United States through changes in the Nuclear Regulatory Commission ("NRC") licensing process, the Federal Energy Policy Act of 2005 ("EPACT 2005") loan guarantees, and other incentives.

2.1.1.5 The EPC Agreement and Changes in Federal and State Law Provide Substantial Protection for Customers.

The Company's Engineering, Procurement and Construction ("EPC") agreement, executed in March, with Westinghouse Electric Company LLC and Stone & Webster, Inc. (the "Consortium") provides significant protection to customers from the risks of construction. The EPC agreement results in a sharing of risks where appropriate and provides incentives to the Consortium to stay on schedule and on budget. The use of indexing for certain materials and labor allows for an appropriate sharing of risks between the Company and the Consortium while allowing the Consortium to offer an attractive price with a reduced need to include contingencies for future commodity and labor price increases. A redacted version of this agreement is attached to this Application for certification as Appendix A-1, and the EPC agreement exhibits are provided in Appendix A-2.

Georgia Power and the state of Georgia have benefited historically from the safe, reliable, and economic operations from Georgia Power's existing fleet of nuclear power plants, Plant Vogtle Units 1 and 2 and Plant Hatch Units 1 and 2. Both of these plants operate at very high capacity factors and provide low-cost energy to Georgia Power customers and the citizens of Georgia. While the existing nuclear plants have been good for the Company, there are many ways that the environment for nuclear power plant development is different and more favorable from the industry experience of the 1970's and 1980's when Plants Hatch and Vogtle were built. These differences offer important protections to Georgia Power customers from the risks of long-lead time construction projects, such as for nuclear power plants.

Since the 1980's, the NRC, through rulemaking, has revised the licensing and approval process for constructing and operating new nuclear power plants. Certification of standard designs, whereby basic safety issues of an essentially complete nuclear power plant design are examined by the NRC, independent of a specific site for the plant, can be pursued well in advance of the start of construction. Also, the NRC's regulations allow for early site approval that establishes the suitability of the site and addresses the environmental impacts of construction and operation of the plant in advance of the start of construction. Once issued, this site approval

would remain in effect for 20 years. NRC regulations also allow a single license proceeding for both construction and operation of a power reactor in advance of the start of construction.

The pre-approval and streamlined NRC licensing regulations reduce the Company's risk of schedule delays and corresponding cost increases. The AP-1000 design includes proven nuclear and steam production technology, which is very similar to the design of the existing units 1 and 2 at Plant Vogtle. The AP-1000 also includes a new design approach to safety systems, relying on natural forces such as gravity and convection for emergency cooling rather than a series of complex, redundant pumps, motors, and backup equipment that, if required, would have added substantial capital and operating costs. These NRC-approved safety systems will be effective and less costly. The new safety system results in lower costs due to the fact that fewer pumps, pipes, wire and other materials are needed. Also, the modular design and construction of the units promise to lead to lower costs as the design has already been certified by the NRC.

The Georgia Integrated Resource Planning Act ("Act") provides customers with significantly more protections than existed prior to 1991. The Act and Commission Rules on new supply-side capacity resources provide an improved framework for decision-making and cost-control for new generating plants. This request for Vogtle Units 3 and 4 will be the first use of the Act for a long lead time, high capital cost baseload generating resource. The statute and rules allow the Commission to review the plans and budget prior to start of construction. The statute also provides for construction monitoring, which allows the Commission to review expenditures as they occur and to get frequent updates on the progress of construction.

2.1.2 CWIP in Rate Base Will Benefit Customers.

In this Application, the Company is also requesting CWIP in rate base during construction to reduce the in-service cost of Vogtle Units 3 and 4. This is consistent with the regulatory treatment of new nuclear projects in neighboring states of Florida, Mississippi, South Carolina, Virginia and Louisiana. The principal reasons these states encourage the use of CWIP in rate base is because it lowers the in-service cost of the units and protects the financial integrity of the utility, all to the advantage of customers. If granted in this case, the certified cost and the

expected in-service cost of Vogtle Units 3 and 4 will be reduced from $6,446,564,927 to $4,529,363,139. CWIP in rate base will dramatically decrease the financing cost because the Company will be able to recover financing costs as they are incurred, rather than capitalizing an Allowance for Funds Used During Construction ("AFUDC") for future recovery. CWIP in rate base will also allow lower future financing and depreciation costs (and thus lower revenue requirements and lower base rates after the Units are placed into service) and the ability to maintain the Company's healthy, lower-risk investment profile, which is a benefit for customers. Georgia Power's proposal is to include CWIP related to Vogtle Units 3 and 4 in rate base to set the rates that would be effective January 1, 2011 when the current accounting order will be reviewed and rates subject to change. The Company would recover CWIP through a new base rate tariff, similar to the current Environmental Compliance Cost Recovery tariff ("ECCR").

2.1.3 Quarterly Monitoring Will Provide Appropriate Commission Oversight.

The Company is proposing a quarterly monitoring system in order to provide the Commission with sufficient information that it can rely on to confirm that the standards of convenience and necessity continue to be met in compliance with the certificate for Vogtle Units 3 and 4 and that the construction is in compliance with the EPC agreement. This quarterly reporting system will ensure that the Commission receives the most up-to-date construction information. This system has worked well in the current Plant McDonough self-build construction project.

2.1.4 The Updated IRP Should be Approved.

Georgia Power is requesting that the Commission approve the Updated IRP. The Company has filed an updated Near-term Action Plan, a revised Electric Demand and Energy Forecast, a revised Fuel Forecast, a Resource Ledger Update, a Technology Data Book Update, an Energy Research Plan Update, updated Retirement Study and the Evaluation of Coal Resources. This updated information provides a sound basis for the Company's plans, detailed in this filing, to

provide a reliable and economic supply of energy through a diverse fuel mix in combination with renewables and DSM.

2.1.5 The Installation of Environmental Controls at Plants Branch and Yates is Prudent.

The Company plans to add Selective Catalytic Reduction systems ("SCRs"), and flue gas desulfurization systems (commonly referred to as "Scrubbers") to be constructed at Plant Branch Units 1 though 4 and Plant Yates Units 6 and 7, as required by the Georgia Rule for Multipollutant Control for Electric Utility Steam Generating Units ("Georgia Multipollutant Rule"). The in-service dates of these controls begin in the Fall of 2013. The Company will begin making expenditures on these projects beginning as early as 2009. The Updated Retirement Study supports the continued operation of these units by showing significant benefits to customers under the current economic climate and environmental regulations. These benefits are detailed in the Updated IRP. However, these benefits may not be realized if potential future carbon legislation imposes a cost substantially greater than the Company has currently modeled in its analysis. For this reason, the Company is requesting that the Commission make a finding that the decision to install the SCRs and Scrubbers at Plants Branch and Yates is prudent.

2.1.6 Coal Evaluation Expenses Should be Deferred for Future Recovery.

In the 2007 IRP, the Commission directed the Company to conduct a detailed assessment of coal and to "develop a back up plan with a clear timeline so that there are no delays in acquiring an alternative base-load resource in the event that nuclear units do not meet expectations." The Company performed this assessment, and the resulting report is found in Section 4.8. Coal-fired generation turned out to be the third best choice for new generation, behind both nuclear and natural gas. In doing this assessment, the Company incurred significant expenses and asks that the Commission allow the Company to defer these costs for recovery in the Company's next base rate case pursuant to an amortization schedule determined to be appropriate by the Commission in that case.

2.2 Conclusion

Based upon this Application and supporting documents, the Company requests that the Commission grant the requests set forth herein and find that they provide the most economic and cost-effective options to meet the Company's resource needs and that they are in the best interests of the Company's customers.

3. Certification of 2016 and 2017 Generation

3.1 2016 and 2017 Request for Proposals

3.1.1 Issuance of the 2016 and 2017 Request for Proposals

As required by the Commission's Rule governing RFPs, the Company, through the IE, issued the 2016 and 2017 RFP in November 2007. The RFP documents were drafted by the Company with input from potential bidders, the Staff and the IE over a period of eight months. Three drafts of the RFP and corresponding PPA were posted on the IE website: the first draft on August 24, 2007; the second draft on September 21, 2007, and the final draft on November 26, 2007. The Commission approved the final draft RFP, with conditions, on November 6, 2007. Subsequent discussions with the Staff and IE resulted in the Company submitting amended RFP and PPA documents that were approved by the Commission on April 1, 2008. A Bidders' Conference was held on September 13, 2007. Potential bidders and other interested parties were also invited to provide comments or ask questions through the IE website. The Company received six comments/questions from the Bidders' Conference, nine comments to the second draft of the RFP and PPA documents, and one question from a potential bidder during April 2008.

The IE issued four reports on the RFP process, the draft RFP and PPA documents, the handling of comments and questions, and the Company's establishment and compliance with Standards of Conduct in regards to the separation of personnel working on the Company's Bid Evaluation Team, the Company's Self-Build Proposal Team, and the Company's affiliates at Southern Power. The IE issued a report on August 24, 2007 on the first draft RFP documents. A second report was issued on October 26, 2007 on the final draft RFP documents. Supplemental Comments to this report were issued on November 1, 2007. The fourth report was issued on March 21, 2008 and discussed the amended RFP documents, which were subsequently approved by the Commission on April 1, 2008.

The 2016 and 2017 RFP was designed to secure for customers the benefits of baseload capacity and energy. Features incorporated into the pro forma PPA to encourage bidders to bid included extensive change of law provisions intended to balance the needs of bidder/plant

owners to recover costs of complying with future laws with protecting customers from uneconomic plant modifications. The PPA also incorporated the use of indexing to encourage bidders to offer their best price by mitigating the risk from future commodities/construction cost escalations and to reduce the bidders' need to add costs for contingencies to account for these risks. The RFP was also designed to provide a fair comparison to the Company's anticipated self-build proposal for new nuclear units at Plant Vogtle.

3.1.2 Self-Build Evaluation

There were no bids submitted to compete with the Company's self-build proposal. Nevertheless, the Company conducted a self-build economic evaluation, which considered the available baseload power technology options (nuclear, pulverized coal and IGCC), and natural gas-fired CC in lieu of comparing Vogtle Units 3 and 4 to bids from the market. These generation technology alternatives were evaluated considering the costs and benefits as well as the major risk factors. These risk factors included the risk of capital cost/construction cost escalation, fuel price and volatility risk, and the future cost of potential carbon legislation. The economic analysis incorporated these risk factors by employing a matrix approach such that four fuel price forecasts were used in combination with three different assumptions for the future cost of potential carbon legislation. This resulted in a matrix of results to show a range of possible future outcomes.

The evaluation methodology is consistent with the methodology that was approved by the IE for evaluation of bids to compare to the Company's self-build proposal. The IE and the Staff participated with the Company in a collaborative effort to review these economic evaluations and to create cost-effectiveness studies to understand the possible impacts of changes in assumptions. The summary of selected results is shown in Section 3.2.1.

3.1.3 Selection of Winning Technology

The Westinghouse AP-1000 is the only new generation nuclear design that is currently certified by the NRC. This is an important consideration in meeting the Company's need for

baseload generation in the 2016-2017 timeframe. The most competitive generation alternative to pursuing Vogtle Units 3 and 4 is a natural-gas-fired CC plant. Coal-fired generation would be a third best choice. Vogtle Units 3 and 4 are cost-effective when compared to natural-gas-fired generation under a broad range of assumptions. As shown in Table 3.2.1-1 below, Vogtle Units 3 and 4 provide customers with savings over the life of the plant in the range of $1 billion to more than $6.5 billion for the most likely fuel price forecasts and potential costs of future carbon legislation.

Construction of a coal-fired baseload power plant includes very similar risks of construction cost escalations as with the Vogtle project. Reported costs of other utilities' efforts to build coal-fired power plants have escalated significantly over the past few years, as commodities and labor costs have increased. Coal-fired power plants also have the added risk of potential future carbon legislation. When evaluating Vogtle against the pulverized coal alternative, customers save from $2 billion to more than $6.5 billion over the likely fuel and carbon cases.

The Company's need for baseload power was approved in the 2007 IRP. There are significant risks to customers of not pursuing this baseload capacity option at this time, mainly those of additional exposure to increasing and volatile natural gas prices if a gas-fired alternative is chosen instead, or with very similar construction cost risks if a coal-fired alternative is pursued with the additional risk of future costs from carbon legislation.

The RFP process ensured fair and equal treatment of all market participants. The use of the IE website for questions and comments regarding this RFP further ensured that the process was not only fair and equitable, but also transparent to all. The IE and Staff were involved throughout the process; from the development of the RFP and pro forma PPAs through the review of the Company's self-build proposal and evaluation of alternatives. The "REPORT OF THE INDEPENDENT EVALUATOR, 2016 - 2017 RFP, RE: DRAFT RFP DOCUMENTS – March 21, 2008" stated that the RFP was fair:

> In light of the long lead time needed for the construction of baseload capacity, we believe the proposed RFP requirements are reasonable, fair, and appropriate. We

> believe [Georgia Power] gave full consideration to each comment by bidders. We did not identify any bias towards or against any bidder by the Company. The IE believes the solicitation can be conducted fairly using the proposed documents developed by [Georgia Power]. We recommend that the Commission accept the RFP documents and permit the solicitation to proceed according to schedule.

3.2 2016 and 2017 Capacity Needs Construction Information

3.2.1 Cost Benefit Analysis of Capacity Options

The relative economics for Vogtle Units 3 and 4, when compared to the gas-fired alternative, vary depending on the assumptions for future fuel prices and potential cost of future carbon legislation. When one uses the most likely cases involving some form of future carbon legislation and mid-fuel forecasts or higher, Vogtle saves customers from REDACTED to REDACTED. In the less likely cases of no future carbon legislation and mid to low fuel prices, natural gas CC generation would save customers from REDACTED to REDACTED. Given the impacts of the potential future costs of carbon legislation on future fuel prices, there is very little likelihood that future natural gas prices will be "low" over the forecast period if any legislation passes that result in costs for CO_2 emissions, therefore, no cases with a combination of carbon costs and low fuel prices were included. At the same time, construction of a gas-fired power plant to meet the specific capacity needs in 2016 and 2017 has significant risks, as the continued reliance on natural gas-fired generation increases customers' exposure to increasing and volatile natural gas prices. The fuel price cases represent a wide range of possible future fuel prices. The "High Fuel," "Mid Fuel," and "Low Fuel" price forecasts were developed for Southern Company by Energy Ventures Analysis, Inc. ("EVA"), an external modeling and consulting company used by Southern Company Services, Inc. ("SCS"). The "SCS 2009 Fcst" is the Company's expected fuel forecast. The potential costs for future carbon legislation were developed by Southern Company. The "REDACTED CO_2" case and the "REDACTED CO_2" case assumed the costs to comply will equal REDACTED and REDACTED per ton respectively in 2008 dollars with costs beginning in REDACTED and escalating at REDACTED above inflation until REDACTED when carbon costs escalate with general inflation rates.

Table 3.2.1-1 Relative Savings of Vogtle Units 3 and 4 versus CC

(Net present value of lifetime costs of CC minus Vogtle 3 and 4)

Fuel \ CO_2	\$0 CO_2	REDACTED CO_2	REDACTED CO_2
High Fuel	REDACTED	REDACTED	REDACTED
SCS 2009 Fcst	REDACTED	REDACTED	REDACTED
Mid Fuel	REDACTED	REDACTED	REDACTED
Low Fuel	REDACTED	REDACTED	REDACTED

The relative economics of Vogtle Units 3 and 4 were compared to coal-fired alternatives, including pulverized coal plants and an IGCC plant. When comparing the costs of Vogtle Units 3 and 4 with estimates of the costs to build and operate coal alternatives in Georgia, there are significant savings to customers. As seen in Table 3.2.1-2 below, Vogtle provides savings over pulverized coal of a range of REDACTED to REDACTED over the likely fuel and carbon cases. When compared to an IGCC plant located in Georgia, Vogtle saves customers from REDACTED to REDACTED over the likely fuel and carbon cases (see Table 3.2.1-3 below). There are significant rail transportation costs for bringing Powder River Basin ("PRB") coal to an IGCC plant located in Georgia.

Table 3.2.1-2 Relative Savings of Vogtle Units 3 and 4 versus Pulverized Coal

(Net present value of lifetime costs of Pulverized Coal minus Vogtle 3 and 4)

Fuel \ CO_2	\$0 CO_2	REDACTED CO_2	REDACTED CO_2
High Fuel	REDACTED	REDACTED	REDACTED
SCS 2009 Fcst	REDACTED	REDACTED	REDACTED
Mid Fuel	REDACTED	REDACTED	REDACTED
Low Fuel	REDACTED	REDACTED	REDACTED

Table 3.2.1-3 Relative Savings of Vogtle Units 3 and 4 versus IGCC

(Net present value of lifetime costs of IGCC minus Vogtle 3 and 4)

Fuel \ CO_2	\$0 CO_2	REDACTED CO_2	REDACTED CO_2
High Fuel	REDACTED	REDACTED	REDACTED
SCS 2009 Fcst	REDACTED	REDACTED	REDACTED
Mid Fuel	REDACTED	REDACTED	REDACTED
Low Fuel	REDACTED	REDACTED	REDACTED

For the purposes of the cost benefit studies shown above, the Company assumed Vogtle Units 3 and 4 would qualify for REDACTED of the maximum Production Tax Credits available for certain new nuclear units that come online within a specified timeframe.

3.2.2 Description of Vogtle Nuclear Capacity Resource

The Vogtle nuclear resource will be two Westinghouse AP-1000 reactors. The Westinghouse AP-1000 is a two-loop pressurized water reactor ("PWR") that uses a simplified approach to safety. The AP-1000 has a nominal net electric output of approximately 1,100 MW.

3.2.2.1 Site Selection Analysis

The site for Vogtle Units 3 and 4 is located on 3,169 acres of land in Burke County, Georgia situated on a bluff along the Savannah River. The existing Vogtle 1 and 2 nuclear units are also located on this site, along with the six unit oil-fired Allen B. Wilson CT facility.

Site selection for Vogtle Units 3 and 4 was based on a comparative analysis of potential nuclear generation sites. This comparison was based on site specific life cycle economics and site specific issues and risks that could impact feasibility or cost of a potential project. The site selection process considered geotechnical, hydrological, transmission, engineering and construction, land and land availability, environmental, and socioeconomic factors as well as life cycle operation and maintenance impacts to determine the preferred site. The site selection process also included a detailed alternate site assessment conducted in accordance with the National Environmental Policy Act ("NEPA") requirements to confirm that no obviously

superior alternative exists to the preferred site. This analysis is described in the Final Environmental Impact Statement ("FEIS"), to be issued by the NRC in August 2008 as NUREG 1872.

Vogtle is the preferred location due to a number of factors including the presence of the existing infrastructure (Vogtle Units 1 and 2), land availability, water supply, transmission access, emergency planning, and favorable socioeconomic climate. Siting Units 3 and 4 at an existing nuclear generation facility has distinct advantages in the nuclear licensing process and leverages existing economies of scale in a number of areas, including construction and emergency planning.

The benefits of using the existing Vogtle site include: additional use of an existing generation site; availability of existing cleared land and site infrastructure (rail, roads, etc.); ability to interconnect to existing transmission infrastructure; and an existing emergency planning process. The socio-economic climate is very favorable towards nuclear generation and local community support is strong. Other sites considered did not offer the same level of technical, environmental, or socio-economic advantages as the Vogtle site.

3.2.2.2 Description of Fuel Use

Vogtle Units 3 and 4 are nuclear generating stations and will use nuclear fuel.

3.2.2.3 Estimated Annual Costs

The tables in the following sections reflect the estimated annual costs of only Georgia Power's ownership share for both traditional and CWIP in rate base cost recovery.

The returns assumed in the traditional cost recovery case during the construction period are based on Georgia Power's embedded total cost of capital used to compute AFUDC rates in accordance with the Federal Energy Regulatory Commission ("FERC") requirements. Returns following the commercial in-service dates in the traditional case, as well as those in the CWIP in rate base case, are based on Georgia Power's marginal total cost of capital. Any net present

value calculations should assume a discount rate consistent with the debt rates used in the models.

Annual Depreciation

Estimated annual depreciation of Georgia Power's ownership share on the capital investment is shown below in both traditional and CWIP in rate base cost recovery. The values are given in nominal dollars.

Table 3.2.2.3-1 Annual Depreciation

Year	Estimated Annual Depreciation Traditional	Estimated Annual Depreciation CWIP In Rate Base
2008	REDACTED	REDACTED
2009	REDACTED	REDACTED
2010	REDACTED	REDACTED
2011	REDACTED	REDACTED
2012	REDACTED	REDACTED
2013	REDACTED	REDACTED
2014	REDACTED	REDACTED
2015	REDACTED	REDACTED
2016	REDACTED	REDACTED
2017	REDACTED	REDACTED
2018	REDACTED	REDACTED
2019	REDACTED	REDACTED
2020	REDACTED	REDACTED
2021	REDACTED	REDACTED
2022	REDACTED	REDACTED
2023	REDACTED	REDACTED
2024	REDACTED	REDACTED
2025	REDACTED	REDACTED
2026	REDACTED	REDACTED
2027	REDACTED	REDACTED
2028	REDACTED	REDACTED
2029	REDACTED	REDACTED
2030	REDACTED	REDACTED
2031	REDACTED	REDACTED
2032	REDACTED	REDACTED
2033	REDACTED	REDACTED
2034	REDACTED	REDACTED
2035	REDACTED	REDACTED
2036	REDACTED	REDACTED
2037	REDACTED	REDACTED
2038	REDACTED	REDACTED
2039	REDACTED	REDACTED
2040	REDACTED	REDACTED
2041	REDACTED	REDACTED
2042	REDACTED	REDACTED
2043	REDACTED	REDACTED
2044	REDACTED	REDACTED
2045	REDACTED	REDACTED
2046	REDACTED	REDACTED
2047	REDACTED	REDACTED
2048	REDACTED	REDACTED
2049	REDACTED	REDACTED
2050	REDACTED	REDACTED
2051	REDACTED	REDACTED
2052	REDACTED	REDACTED
2053	REDACTED	REDACTED
2054	REDACTED	REDACTED
2055	REDACTED	REDACTED
2056	REDACTED	REDACTED
2057	REDACTED	REDACTED
2058	REDACTED	REDACTED
2059	REDACTED	REDACTED
2060	REDACTED	REDACTED
2061	REDACTED	REDACTED
2062	REDACTED	REDACTED
2063	REDACTED	REDACTED
2064	REDACTED	REDACTED
2065	REDACTED	REDACTED
2066	REDACTED	REDACTED
2067	REDACTED	REDACTED
2068	REDACTED	REDACTED
2069	REDACTED	REDACTED
2070	REDACTED	REDACTED
2071	REDACTED	REDACTED
2072	REDACTED	REDACTED
2073	REDACTED	REDACTED
2074	REDACTED	REDACTED
2075	REDACTED	REDACTED
2076	REDACTED	REDACTED
2077	REDACTED	REDACTED

Annual return and income taxes on capital investment

Estimated annual returns on Georgia Power's ownership share of capital investment are shown below. The values are given in nominal dollars.

Table 3.2.2.3-2 Annual return and income taxes on capital investment

Year	Annual Return Traditional	Annual Return CWIP In Rate Base
2008	REDACTED	REDACTED
2009	REDACTED	REDACTED
2010	REDACTED	REDACTED
2011	REDACTED	REDACTED
2012	REDACTED	REDACTED
2013	REDACTED	REDACTED
2014	REDACTED	REDACTED
2015	REDACTED	REDACTED
2016	REDACTED	REDACTED
2017	REDACTED	REDACTED
2018	REDACTED	REDACTED
2019	REDACTED	REDACTED
2020	REDACTED	REDACTED
2021	REDACTED	REDACTED
2022	REDACTED	REDACTED
2023	REDACTED	REDACTED
2024	REDACTED	REDACTED
2025	REDACTED	REDACTED
2026	REDACTED	REDACTED
2027	REDACTED	REDACTED
2028	REDACTED	REDACTED
2029	REDACTED	REDACTED
2030	REDACTED	REDACTED
2031	REDACTED	REDACTED
2032	REDACTED	REDACTED
2033	REDACTED	REDACTED
2034	REDACTED	REDACTED
2035	REDACTED	REDACTED
2036	REDACTED	REDACTED
2037	REDACTED	REDACTED
2038	REDACTED	REDACTED
2039	REDACTED	REDACTED
2040	REDACTED	REDACTED
2041	REDACTED	REDACTED
2042	REDACTED	REDACTED

Year	Annual Return Traditional	Annual Return CWIP In Rate Base
2043	REDACTED	REDACTED
2044	REDACTED	REDACTED
2045	REDACTED	REDACTED
2046	REDACTED	REDACTED
2047	REDACTED	REDACTED
2048	REDACTED	REDACTED
2049	REDACTED	REDACTED
2050	REDACTED	REDACTED
2051	REDACTED	REDACTED
2052	REDACTED	REDACTED
2053	REDACTED	REDACTED
2054	REDACTED	REDACTED
2055	REDACTED	REDACTED
2056	REDACTED	REDACTED
2057	REDACTED	REDACTED
2058	REDACTED	REDACTED
2059	REDACTED	REDACTED
2060	REDACTED	REDACTED
2061	REDACTED	REDACTED
2062	REDACTED	REDACTED
2063	REDACTED	REDACTED
2064	REDACTED	REDACTED
2065	REDACTED	REDACTED
2066	REDACTED	REDACTED
2067	REDACTED	REDACTED
2068	REDACTED	REDACTED
2069	REDACTED	REDACTED
2070	REDACTED	REDACTED
2071	REDACTED	REDACTED
2072	REDACTED	REDACTED
2073	REDACTED	REDACTED
2074	REDACTED	REDACTED
2075	REDACTED	REDACTED
2076	REDACTED	REDACTED
2077	REDACTED	REDACTED

Estimated income taxes on Georgia Power's ownership share of capital investment are shown below. The values are given in nominal dollars.

Table 3.2.2.3-3 Estimated Income Taxes

Year	Income Taxes Traditional	Income Taxes CWIP In Rate Base
2008	REDACTED	REDACTED
2009	REDACTED	REDACTED
2010	REDACTED	REDACTED
2011	REDACTED	REDACTED
2012	REDACTED	REDACTED
2013	REDACTED	REDACTED
2014	REDACTED	REDACTED
2015	REDACTED	REDACTED
2016	REDACTED	REDACTED
2017	REDACTED	REDACTED
2018	REDACTED	REDACTED
2019	REDACTED	REDACTED
2020	REDACTED	REDACTED
2021	REDACTED	REDACTED
2022	REDACTED	REDACTED
2023	REDACTED	REDACTED
2024	REDACTED	REDACTED
2025	REDACTED	REDACTED
2026	REDACTED	REDACTED
2027	REDACTED	REDACTED
2028	REDACTED	REDACTED
2029	REDACTED	REDACTED
2030	REDACTED	REDACTED
2031	REDACTED	REDACTED
2032	REDACTED	REDACTED
2033	REDACTED	REDACTED
2034	REDACTED	REDACTED
2035	REDACTED	REDACTED
2036	REDACTED	REDACTED
2037	REDACTED	REDACTED
2038	REDACTED	REDACTED
2039	REDACTED	REDACTED
2040	REDACTED	REDACTED
2041	REDACTED	REDACTED
2042	REDACTED	REDACTED

Year	Income Taxes Traditional	Income Taxes CWIP In Rate Base
2043	REDACTED	REDACTED
2044	REDACTED	REDACTED
2045	REDACTED	REDACTED
2046	REDACTED	REDACTED
2047	REDACTED	REDACTED
2048	REDACTED	REDACTED
2049	REDACTED	REDACTED
2050	REDACTED	REDACTED
2051	REDACTED	REDACTED
2052	REDACTED	REDACTED
2053	REDACTED	REDACTED
2054	REDACTED	REDACTED
2055	REDACTED	REDACTED
2056	REDACTED	REDACTED
2057	REDACTED	REDACTED
2058	REDACTED	REDACTED
2059	REDACTED	REDACTED
2060	REDACTED	REDACTED
2061	REDACTED	REDACTED
2062	REDACTED	REDACTED
2063	REDACTED	REDACTED
2064	REDACTED	REDACTED
2065	REDACTED	REDACTED
2066	REDACTED	REDACTED
2067	REDACTED	REDACTED
2068	REDACTED	REDACTED
2069	REDACTED	REDACTED
2070	REDACTED	REDACTED
2071	REDACTED	REDACTED
2072	REDACTED	REDACTED
2073	REDACTED	REDACTED
2074	REDACTED	REDACTED
2075	REDACTED	REDACTED
2076	REDACTED	REDACTED
2077	REDACTED	REDACTED

Operation and Maintenance Costs

The operation and maintenance ("O&M") costs over the life of the facility are shown below. O&M costs are not affected when CWIP in rate base is chosen instead of a traditional cost recovery. The values below are in nominal dollars.

Table 3.2.2.3-4 O&M Costs

Year	Total O&M Excluding Fuel
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED

Year	Total O&M Excluding Fuel
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED
2053	REDACTED
2054	REDACTED
2055	REDACTED
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

Nuclear Fuel

The costs of nuclear fuel over the life of the facility are shown below. Nuclear fuel costs are not affected when CWIP in rate base is chosen instead of a traditional cost recovery. The values below are in nominal dollars.

Table 3.2.2.3-5 Nuclear Fuel

Year	Nuclear Fuel
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED

Year	Nuclear Fuel
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED
2053	REDACTED
2054	REDACTED
2055	REDACTED
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

Estimated Insurance

Estimated annual costs of Nuclear Electric Insurance Limited insurance on Georgia Power's ownership share of Vogtle 3 and 4 are shown below. The values are given in nominal dollars. Insurance costs are not affected when CWIP in rate base is chosen instead of a traditional cost recovery. These costs are also included in the O& M table above.

Table 3.2.2.3-6 Estimated Insurance

Year	Insurance
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED

Year	Insurance
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED
2053	REDACTED
2054	REDACTED
2055	REDACTED
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

Estimated Waste handling and disposal

The day to day costs of waste handling and disposal are included in the fixed O & M costs detailed earlier in this section. Additionally, as required by the Federal Nuclear Waste Policy Act, owners and generators of spent nuclear fuel are required to pay a fee of 1 mill (0.1 ¢) per kWh of electricity generated and sold.

Estimated Property Taxes

Estimated annual ad valorem/property income taxes on Georgia Power's ownership share of capital investment are shown below. Ad valorem/property taxes are not affected when CWIP in rate base is chosen instead of a traditional cost recovery. The values are given in nominal dollars.

Table 3.2.2.3-7 Estimated Property Taxes

Year	Ad Valorem/Property Taxes
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED

Year	Ad Valorem/Property Taxes
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED
2053	REDACTED
2054	REDACTED
2055	REDACTED

Year	Ad Valorem/Property Taxes
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED

Year	Ad Valorem/Property Taxes
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

3.2.2.4 Rates of Escalation of Cost

All costs, including capital costs, O&M costs that are variable and related to fuel, O&M costs that are variable and unrelated to fuel, and O&M costs that are fixed, are escalated per an assumed inflation rate of REDACTED. The inflation rate is based on a forecast of Economy.com's March 2008 forecast of CPI: Urban Consumer - All Items.

3.2.2.5 Total Estimated Annual Average Cost per kWh

The values below are in nominal dollars.

Table 3.2.2-5 Total Estimated Annual Average Cost per kWh

Year	Total Estimated Annual Average Cost Per KwH-Traditional ($/KWH)	Total Estimated Annual Average Cost per kWh - CWIP ($/KWH)
2016	REDACTED	REDACTED
2017	REDACTED	REDACTED
2018	REDACTED	REDACTED
2019	REDACTED	REDACTED
2020	REDACTED	REDACTED
2021	REDACTED	REDACTED
2022	REDACTED	REDACTED
2023	REDACTED	REDACTED
2024	REDACTED	REDACTED
2025	REDACTED	REDACTED
2026	REDACTED	REDACTED

Year	Total Estimated Annual Average Cost Per KwH-Traditional ($/KWH)	Total Estimated Annual Average Cost per kWh - CWIP ($/KWH)
2027	REDACTED	REDACTED
2028	REDACTED	REDACTED
2029	REDACTED	REDACTED
2030	REDACTED	REDACTED
2031	REDACTED	REDACTED
2032	REDACTED	REDACTED
2033	REDACTED	REDACTED
2034	REDACTED	REDACTED
2035	REDACTED	REDACTED
2036	REDACTED	REDACTED
2037	REDACTED	REDACTED
2038	REDACTED	REDACTED
2039	REDACTED	REDACTED
2040	REDACTED	REDACTED
2041	REDACTED	REDACTED
2042	REDACTED	REDACTED
2043	REDACTED	REDACTED
2044	REDACTED	REDACTED
2045	REDACTED	REDACTED
2046	REDACTED	REDACTED
2047	REDACTED	REDACTED
2048	REDACTED	REDACTED
2049	REDACTED	REDACTED
2050	REDACTED	REDACTED
2051	REDACTED	REDACTED
2052	REDACTED	REDACTED
2053	REDACTED	REDACTED
2054	REDACTED	REDACTED
2055	REDACTED	REDACTED
2056	REDACTED	REDACTED
2057	REDACTED	REDACTED
2058	REDACTED	REDACTED
2059	REDACTED	REDACTED
2060	REDACTED	REDACTED
2061	REDACTED	REDACTED
2062	REDACTED	REDACTED
2063	REDACTED	REDACTED
2064	REDACTED	REDACTED
2065	REDACTED	REDACTED
2066	REDACTED	REDACTED
2067	REDACTED	REDACTED
2068	REDACTED	REDACTED
2069	REDACTED	REDACTED
2070	REDACTED	REDACTED
2071	REDACTED	REDACTED
2072	REDACTED	REDACTED
2073	REDACTED	REDACTED
2074	REDACTED	REDACTED
2075	REDACTED	REDACTED
2076	REDACTED	REDACTED
2077	REDACTED	REDACTED

3.2.2.6 Equivalent Availability Factors

The typical annual average outage time is approximately REDACTED. This includes regular refueling outages of REDACTED duration every 18 months and a forced outage rate of 11 days per year. In addition, major equipment maintenance outages of REDACTED duration are expected every REDACTED. The resultant typical annual average availability factor is approximately REDACTED.

3.2.2.7 Capacity Factors

The typical annual average capacity factor is expected to be approximately REDACTED. As the units are planned for baseload operation, the expected average capacity factor does not vary over the life of the plant, with the exception of major equipment maintenance outages of REDACTED duration every REDACTED.

3.2.2.8 Duty Cycle

Though the Units are designed to allow load following (a dispatched generator that would cycle up and down throughout the day), they are anticipated to operate as baseload with no cycling. Each Unit is projected to start approximately REDACTED times annually. The expected equivalent full load hours of economic operation per year is REDACTED based on an average plant availability factor of approximately REDACTED in a typical year.

3.2.2.9 Heat Rates and Efficiency

Heat rate is a measure of a plant's efficiency expressed in terms of the ratio of heat input to electrical power output. The Westinghouse AP-1000 operates most efficiently at its rated full-power capability and is expected to be operated near this value. The amount of thermal heat input from the reactor is expected to be constant throughout the year while the gross electrical output will vary with condenser backpressure, which varies with atmospheric conditions. Using predicted design values from the AP-1000, Toshiba supplied turbine-generator, the predicted gross heat rate at rated full-power

capability and a summertime temperature of 95°F is expected to be at or below 9,644 Btu/kWh for Vogtle Units 3 and 4.

Table 3.2.2.9-1

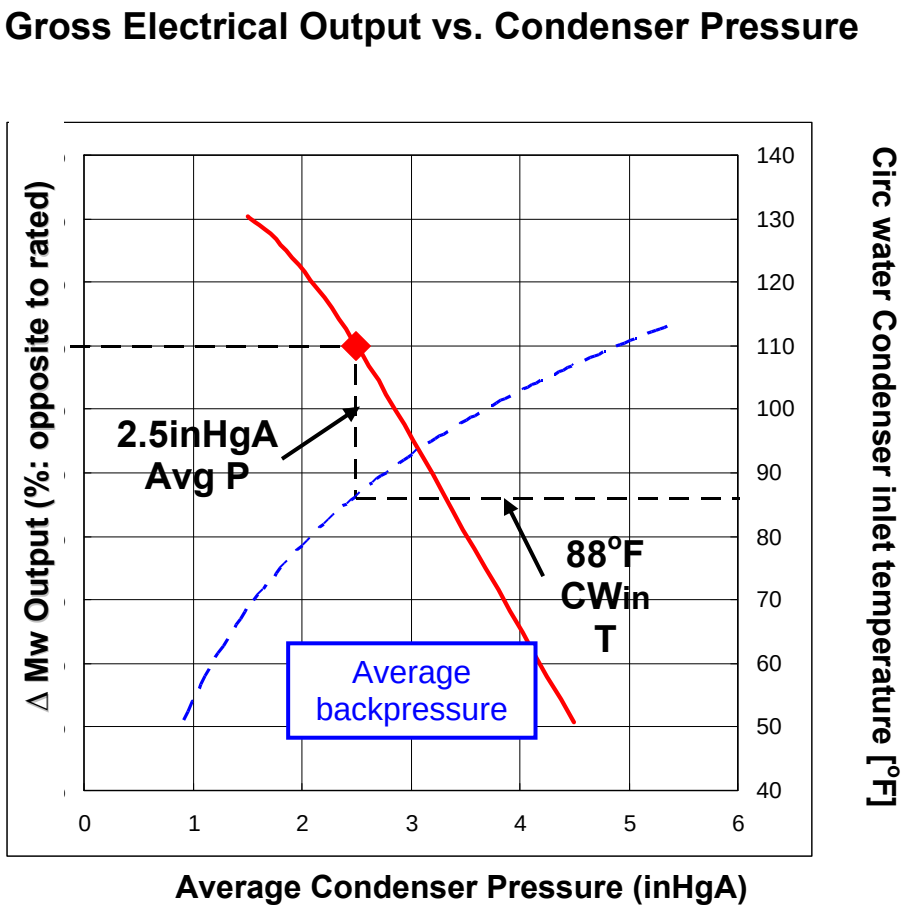
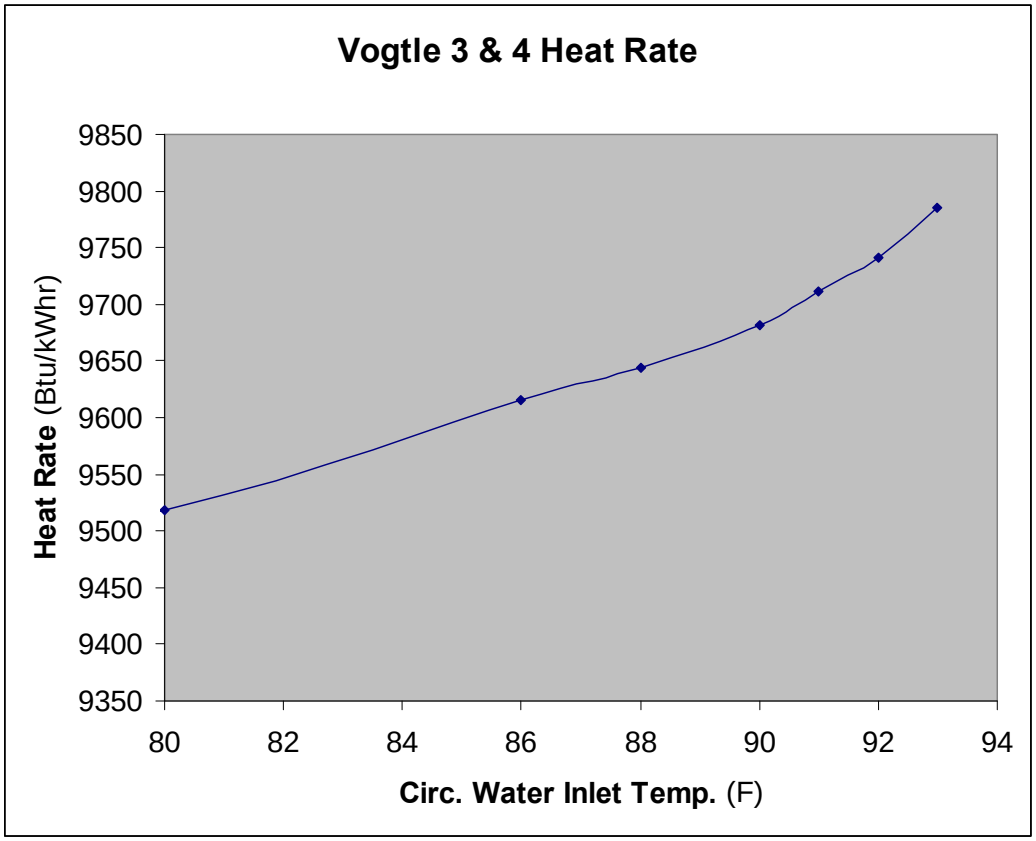


Table 3.2.2.9-2 Heat Rate Curve



3.2.2.10 Unit Lifetime

The engineering design life and the proposed accounting life are 60 years. Once granted, the NRC operating license will be for the first 40 years of operation. It is anticipated that a 20 year license extension would be requested from the NRC during the initial 40 years of operation.

3.2.2.11 Estimated Environmental Impact

The Vogtle site infrastructure improvements will consist of two Westinghouse AP-1000 reactors, two natural draft cooling towers, intake and discharge structures, a switchyard for transmission access and numerous ancillary structures supporting the power generation process. The Units will produce approximately 2,200 MW of electric generation with essentially no air emissions and only minimal thermal impact on the Savannah River.

In accordance with Rule 515-3-4-.07 Supply-Side Resource Certificate Filing Requirements and Procedures, Amended, Subsection 3(xi), the following information must be included in this Application.

The estimated environmental impact, including specific emission, production, or usage data for each of the following categories:

- Pounds of sulfur dioxide per MMBTU
- Pounds of oxides of nitrogen and nitrous oxides per MMBTU
- Pounds of CO_2 per MMBTU
- Pounds of Volatile organic hydrocarbons per MMBTU
- Pounds of carbon monoxide per MMBTU
- Pounds of particulates/air toxics per MMBTU
- Pounds of methane per MMBTU
- Pounds of chlorofluorocarbons, halogens, and other ozone depleting substances per MMBTU
- Tons per year of solid waste (ash, Scrubber sludge, high and low-level nuclear waste
- Gallons per year of water impacts or use (water input, water output, receiving water impacts
- Tons per year of spent nuclear fuel
- Acres of land use
- Pounds of hydrogen sulfides per MMBTU
- Pounds of ammonia per MMBTU

Many of the above parameters reflect impacts associated with air emissions from fossil-fueled generating units. Since the new Units will be nuclear, the following information reflects emissions and discharges that are normally associated with nuclear generation. Only those parameters that are applicable to nuclear are addressed. Section

3.2.2.11 presents values based on two AP-1000 units and do not reflect the Company's ownership share. All values represent an average year.

Air Pollutants

The units produce no measurable air pollutants during facility operation. The facility does have standby diesel generators and the emissions associated with operation and testing of this equipment are small. Emission data for existing pollutants is provided in the table below:

Table 3.2.2.11-1

Pollutant	**Discharge lbs/year**
Particulate	< 810 lbs./yr
Sulfur oxides	<2505 lbs./yr
Carbon monoxide	<1030 lbs./yr
Hydrocarbons	<611 lbs./yr
Nitrogen Oxides	<12,140 lbs./yr

Table 3.2.2.11-2

Solid Waste (Non-radioactive) Generated per Year	
Waste	**Quantity**
Scrap metal	288 tons
Light bulbs	13 drums
Capacitors	25 drums
Batteries	48 pallets

Table 3.2.2.11-3

Low-Level Radioactive Solid Waste Produced per Year	
Wet Wastes	**Quantity**
Resins	800 ft^3
Chemical	700 ft^3
Mixed liquid	15 ft^3
Dry Wastes	**Quantity**
Compactible dry waste	9500 ft^3
Non-compactible	468 ft^3
Mixed solid	5 ft^3

Table 3.2.2.11-4

Estimated Water Use		
Parameter	**Average value**	**Maximum value**
Water withdrawal	37,224 gpm	57,784 gpm
Consumptive Use	27,924 gpm	28,904 gpm
Discharge (blowdown)	9,300 gpm	28,880 gpm
Blowdown temperature	--------	91° F[1]
Groundwater used	762 gpm	3,140 gpm

Spent Fuel/High–level waste

The total amount of spent fuel and high level waste is based on a generic AP-1000 design. It is estimated that two AP-1000 units will generate approximately 82.6 tons of high level waste and spent fuel per year. After being removed from the spent fuel pool, this material will be stored on site in an Interim Spent Fuel Storage Installation until an offsite high-level waste facility is developed.

[1] The new Vogtle units will employ natural draft closed cycle cooling towers. Based on EPA CORMIX modeling, the thermal plume associated with the Vogtle discharge is extremely small, less than 1000 ft2 at the maximum delta T case.

Land Use

The total area of the Vogtle site is 3,169 acres. Approximately 320 acres will be included in the Vogtle Unit 3 and 4 footprint.

In summary, the environmental impacts associated with the construction and operation of Vogtle Units 3 and 4 are generally small and the associated impact on the surrounding environment should also be small. The NRC will release NUREG 1872 FEIS for the Vogtle Unit 3 and 4 Early Site Permit in August 2008. A detailed analysis of environmental impacts associated with Vogtle Units 3 and 4 will be presented in the FEIS.

3.2.2.12 Lead Time

See schedule in Appendix B-4.

3.2.2.13 Potential Socioeconomic Impacts

Average construction employment is projected to be approximately 1,800 personnel. During peak employment periods, employment is expected to grow to approximately 3,400 personnel. Permanent staff is estimated at 820 personnel.

3.2.2.14 Special Design Features

The AP-1000 PWR works on the simple concept, that in the event of a design-basis accident (such as a coolant pipe break); the plant is designed to achieve and maintain safe shutdown conditions without any operator action and without the need for electrical power or pumps. Instead of relying on active components, such as diesel generators and pumps, the AP-1000 relies on the natural forces of gravity, natural circulation and compressed gases to keep the core and containment from overheating.

3.2.2.15 Necessary Permits

Listed below is the table of necessary permits.

Table 3.2.2.15 Necessary Permits

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
FEDERAL				
NRC	10 CFR 52, Subpart C or 10 CFR 50.10(e)(3)	Combined Operating License ("COL") or Limited Work Authorization ("LWA")	Safety-related construction for a nuclear power facility.	REDACTED
U.S. Army Corps of Engineers ("USACE")	Federal Clean Water Act (33 U.S.C. 1251 et seq.) ("CWA")	Section 404 Permit	Disturbance or crossing wetland areas or navigable waters.	REDACTED
USACE	33 CFR 323	Dredge and Fill Discharge Permit	Construction/ modification of intake/ discharge to Savannah River.	REDACTED
USACE	Rivers and Harbors Act	Section 10 Permit	Barge slip modification impacts to navigable waters of the U.S.	REDACTED
U.S. Department of Transportation ("USDOT")	49 CFR 107, Subpart G	Certificate of Registration	Transportation of hazardous materials.	REDACTED
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit	Adverse impacts on protected species and/or their nests. For site and rail corridor upgrade[2].	REDACTED

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
Federal Aviation Administration	49 USC 1501 14 CFR 77	Construction Notice	Notice of erection of structures (>200 feet high) potentially impacting air navigation.	REDACTED
STATE				
Georgia Department of Natural Resources ("GDNR")	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	Confirm site construction or operation would not affect protected historic resources.	REDACTED
GDNR	CWA	Section 401 Certification	Compliance with water quality standards.	REDACTED
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4-10	Depredation Permit	Adverse impacts on state designated protected species and/or their habitat. For site and rail corridor[2].	REDACTED
GDNR	Federal Clean Air Act ("CAA"), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit	Construction air emission sources.	REDACTED

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
GDNR	CWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit	Regulates limits of pollutants in liquid discharge to surface water	REDACTED
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Developments	Discharge storm water from site during construction	REDACTED
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	Discharge storm water from linear construction sites (e.g., roadways, transmission line and rail corridor)	REDACTED
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Revision of existing permit to operate a public water system	Operate a public, non-transient, non-community water system.	REDACTED
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	Modification of Existing Permit to Use Groundwater	Consumptive use of 100,000 gallons per day or more of groundwater.	REDACTED

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.09	Permit to Withdraw Groundwater	Dewater for foundation if needed for more than 60 days.	REDACTED
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.14	Certification of Abandoned Wells	Abandoned wells have been filled, plugged and sealed.	REDACTED
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit	Permission to conduct land disturbing activities of one acre or larger, or within 25 feet any state waters.	REDACTED
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-6 et seq.), GA Rules and Regulations 391-3-7-.05	State Waters Buffer Variance	Land disturbing activities within the 25 ft state waters buffer	REDACTED
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit	On-site disposal of solid waste consisting of construction and demolition debris.	REDACTED
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit	Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	REDACTED

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit	Operation of air emission sources.	REDACTED
Georgia Public Service Commission ("GPSC")	GA Public Utilities Act (O.C.G.A. Section 46-3-1 et seq.), GA Rules and Regulations 515-3-4-.07	Certificate of Public Convenience and Necessity	Present and future public convenience and necessity require the operation of such equipment or facility.	REDACTED
GPSC	GA Radiation Control Act (O.C.G.A. 31-13-1 et seq.), GA Rules and Regulations 391-3-17-.06	Revision of existing General Permit – Transportation of Radioactive Materials	Transportation of radioactive materials in the State of Georgia.	REDACTED
Georgia Department of Transportation ("GDOT")	23 CFR 1.23	Permit	Utility right-of-way easement.	REDACTED
State of Tennessee Department of Environment and Conservation Division of Radiological Health	Tennessee Department of Environment and Conservation Rule 1200-2-10.32	Revision of existing Tennessee Radioactive Waste License-for-Delivery	Transportation of radioactive waste into the State of Tennessee.	REDACTED
State of Utah Department of Environmental Quality Division of Radiation Control	R313-26 of the Utah Radiation Control Rules	Revision of existing General Site Access Permit	Transportation of radioactive materials into the State of Utah.	REDACTED

Agency	Authority	Requirement	Activity Covered	Date Needed (Expected Receipt Date)
COUNTY				
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit	All land disturbing activities within the boundaries of Burke County.	REDACTED
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-336	Building Permit	Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.	REDACTED
Various county offices responsible for land disturbing activities	Jefferson, Warren, and McDuffie County Ordinances	Land Disturbing Activity Permit	Land disturbing activities within county boundaries for transmission line corridor.	REDACTED

3.2.3 Total Cost Estimate

The Company projects a total in-service cost of $4,529,363,139 if CWIP is granted and $6,446,564,927 if its CWIP request is denied for the proposed Units 3 and 4. This cost includes the Georgia Power ownership share of the capital cost for both Units but excludes the initial fuel load, which will be recovered as a fuel expense. This cost reflects the Georgia Power ownership share of 45.7% of proposed Units 3 and 4 and is based upon the projected costs for these Units that include both fixed escalation and indexed components of the costs in accordance with the price adjustment provisions of the EPC agreement the owners have entered into with the Consortium as well as those construction, management and interconnection costs that are the responsibility of the owners. The indexed portion of these costs will be adjusted in accordance with their compounding periods throughout the construction of the Units, and the Company will report these changes to the Commission through the quarterly monitoring reports.

The Company has projected the in-service costs as required by the Commission's Order in Docket No. 25610-U. As explained below, while the Company has an in-service cost, for purposes of this certification, it must be recognized that this proposed cost is based on a projection of the indices in the EPC agreement. But in certifying the EPC agreement, the Commission will be certifying use of the indices as they actually perform, not as they are now projected to perform. The indices utilized in the EPC agreement and being applied to owners' direct costs may fluctuate in a manner that may result in a value higher or lower than the in-service cost projected in this filing. Ultimately, certification of Vogtle Units 3 and 4's in-service costs will require approval of the indexing structure and indices utilized within the EPC agreement and applied to owners direct cost. Resulting changes in the in-service dollar amount caused by fluctuations in these approved indices is contemplated by this Application. However, these changes will be reviewed by this Commission in the Company's quarterly monitoring reports.

To derive the non-fuel portion of the in-service cost, the Company reviewed the historical growth trends of both the Handy Whitman index (Total Plant All Steam for the South Atlantic Region) and various local union labor contracts. The Company also reviewed the economic outlook and considered likely trends in the cost of finished goods as well as consulted with its labor experts to get their seasoned judgment regarding future potential union labor rates given the large number of construction projects that will be underway in Georgia and the southeast between now and 2017. Lastly, the Company considered the forecast of Handy Whitman and union labor that was provided by Moody's Economy.com. For its cost-estimate, the Company utilized an average annual escalation of REDACTED for each indexed component. The Company then applied this escalation factor to the applicable compiled unescalated "Firm Price" portion of the EPC agreement price as well as the applicable construction and management costs borne by the owners. These cost breakdowns were as contemplated by the 2016 RFP. In addition, the fixed, non-indexed portion of both the EPC agreement price and the owners' construction and management costs were added to the indexed components and modeled in the traditional cost recovery fashion using the Company's projected cost of debt and current Commission approved return on equity ("ROE") to calculate the revenue requirements associated with these costs.

An additional REDACTED of initial fuel core cost will be incurred. The initial fuel core cost represents the Company's projected cost to procure, convert and process the initial core of fuel for Vogtle Units 3 and 4. The Company utilized current nuclear fuel cost projections and modeled the pre-Commercial Operation Date ("COD") procurement, processing, and conversion costs in a manner consistent with previous cost recovery for expenses of this nature. As with the Units 3 and 4 capital costs, the Company's projected cost of debt and Commission current approved ROE was used to calculate the revenue requirements for this initial fuel core. As was done with the initial core costs for previous nuclear units, the Company requests that it be allowed to accumulate AFUDC on all costs associated with the initial core starting with the cost to procure the "yellow cake" raw material.

3.2.3.1 Identification of Major Contracts

The major contracts are:

The Plant Vogtle Owners Agreement Authorizing Development, Construction, Licensing and Operation of Additional Generating Units among Georgia Power, Oglethorpe, MEAG and Dalton Utilities, as amended on April 21, 2006 (the "Development Agreement").

The Plant Alvin W. Vogtle Additional Units Owners Participation Agreement among Georgia Power, Oglethorpe, MEAG and Dalton Utilities, dated April 21, 2006.

The EPC agreement between Georgia Power, for itself and as Agent for Oglethorpe, MEAG and the Dalton Utilities and the Consortium as Contractor For Units 3 and 4 at the Vogtle Electric Generating Plant Site in Waynesboro, Georgia, dated April 8, 2008.

3.2.3.2 Cost Expenditure Plan

The costs below reflect Georgia Power's ownership share of Vogtle Units 3 and 4 and are shown in thousands of nominal dollars. These costs include both the capital and non-capital costs during the construction period.

Table 3.2.3.2-1 Cost Expenditure Plan

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EPC		R	E	D	A	C	T	E	D	
Owners' Cost		R	E	D	A	C	T	E	D	
Start Up & Testing		R	E	D	A	C	T	E	D	
Interconnect		R	E	D	A	C	T	E	D	
Ad Valorem		R	E	D	A	C	T	E	D	
Totals		R	E	D	A	C	T	E	D	

Table 3.2.3.2-2 Pre-COD Fuel Expenditures

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pre COD Fuel		R	E	D	A	C	T	E	D	
Totals		R	E	D	A	C	T	E	D	

The components of planning, licensing, and contingency are included in the Owner's Cost line in Table 3.2.3.2-1. Amounts already spent pursuant to Docket No 22449-U are included as a lump sum value in the 2008 Owners' Cost in Table 3.2.3.2-1.

3.3 Costs Associated with Construction

All costs are included in Table 3.2.3.2-1.

3.3.1.1 AFUDC, Ad Valorem, and Sales Tax

Ad Valorem Taxes are included in Table 3.2.3.2-1 above. AFUDC is listed in Table 3.3.1.1-1 and Table 3.3.1.1-2 below. Sales taxes are included in the costs of the Cost Expenditure Plan in Table 3.3.1.1-3 below. Permitting and licensing costs are included in the Owner's Cost in the Cost Expenditure Plan in Table 3.2.3.2-1 and Table 3.3.1.1-4.

Table 3.3.1.1-1 AFUDC on Construction Costs (thousands of nominal $)

AFUDC		
	Traditional	**CWIP**
2008	REDACTED	REDACTED
2009	REDACTED	REDACTED
2010	REDACTED	REDACTED
2011	REDACTED	REDACTED
2012	REDACTED	REDACTED
2013	REDACTED	REDACTED
2014	REDACTED	REDACTED
2015	REDACTED	REDACTED
2016	REDACTED	REDACTED
2017	REDACTED	REDACTED

Table 3.3.1.1-2 AFUDC on Pre COD Fuel (thousands of nominal $)

AFUDC on Pre COD Fuel	
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED

Table 3.3.1.1-3 Sales Tax (thousands of nominal $)

Annual Sales & Use Taxes	
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED

Table 3.3.1.1-4 Annual Licensing & Permitting Costs (thousands of nominal $)

Annual Licensing & Permitting Costs	
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED

3.3.1.2 Estimated Revenue Requirements of Ongoing Annual Capital Additions

The table below reflects the estimated revenue requirements for Ongoing Annual Capital Additions. These values are in nominal dollars.

Table 3.3.1.2 - Estimated Ongoing Annual Capital Additions

Year	Ongoing Capital Additions Traditional
2008	REDACTED
2009	REDACTED
2010	REDACTED
2011	REDACTED
2012	REDACTED
2013	REDACTED
2014	REDACTED
2015	REDACTED
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED

Year	Ongoing Capital Additions Traditional
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED
2053	REDACTED
2054	REDACTED
2055	REDACTED
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

3.3.1.3 Decommissioning/Dismantlement Costs

The decommissioning and dismantlement costs are shown below. These values are in nominal dollars.

Table 3.3.1.3 Decommissioning/Dismantlement Costs

Year	Decommissioning Expenses
2016	REDACTED
2017	REDACTED
2018	REDACTED
2019	REDACTED
2020	REDACTED
2021	REDACTED
2022	REDACTED
2023	REDACTED
2024	REDACTED
2025	REDACTED
2026	REDACTED
2027	REDACTED
2028	REDACTED
2029	REDACTED
2030	REDACTED
2031	REDACTED
2032	REDACTED
2033	REDACTED
2034	REDACTED
2035	REDACTED
2036	REDACTED
2037	REDACTED
2038	REDACTED
2039	REDACTED
2040	REDACTED
2041	REDACTED
2042	REDACTED
2043	REDACTED
2044	REDACTED
2045	REDACTED
2046	REDACTED
2047	REDACTED
2048	REDACTED
2049	REDACTED
2050	REDACTED
2051	REDACTED
2052	REDACTED

Year	Decommissioning Expenses
2053	REDACTED
2054	REDACTED
2055	REDACTED
2056	REDACTED
2057	REDACTED
2058	REDACTED
2059	REDACTED
2060	REDACTED
2061	REDACTED
2062	REDACTED
2063	REDACTED
2064	REDACTED
2065	REDACTED
2066	REDACTED
2067	REDACTED
2068	REDACTED
2069	REDACTED
2070	REDACTED
2071	REDACTED
2072	REDACTED
2073	REDACTED
2074	REDACTED
2075	REDACTED
2076	REDACTED
2077	REDACTED

3.3.1.4 Cost of Dedicated Transmission and Distribution Facilities

The cost of the dedicated transmission and distribution facilities are shown in Table 3.2.3.2-1 under the interconnect category.

3.3.2 Cost Comparison of Similar Projects

There have been no AP-1000 units completed in the United States in the past five years.

3.3.3 Activities Schedule

A summary of the Activities Schedule is provided in Appendix B-1. A complete Activities Schedule is provided in Appendix B-2.

3.3.4 Critical Path Schedule

The construction Critical Path schedule is provided in Appendix B-3. The following are other key milestone dates for the Vogtle Units 3 and 4:

- Early Site Permit ("ESP") filed with the NRC on August 15, 2006
- LWA submitted to the NRC on August 16, 2007
- COL application filed with NRC on March 31, 2008
- Application for certification filed at Commission on August 1, 2008
- Commission Certification Decision March 2009
- LWA issued by NRC in September 2009
- COL issued by NRC in September 2011
- Construction and First Concrete – REDACTED
- Fuel load, startup and testing – REDACTED
- Vogtle Electric Generating Plant Unit 3 Commercial Operation Date – April 1, 2016
- Vogtle Electric Generating Plant Unit 4 Commercial Operation Date – April 1, 2017

3.3.5 Lead Times for Major Procurement Items

The Lead Times for Major Procurement Items is provided in Appendix B-4.

3.3.6 Description of Legal Relationship

Southern Nuclear Company ("SNC") is an affiliate of the Company that provides services as a contractor and subcontractor at cost to Georgia Power, including licensing, design, construction management and contracting services. SNC acts as the agent of Georgia Power.

SCS is a system service company that provides engineering, power system operations, accounting, human resources, and other administrative and support services at cost to Southern Company and its subsidiaries, including SNC and the Company.

3.3.7 Cost Recovery

Georgia Power proposes to place the investment associated with the construction of Plant Vogtle Units 3 and 4 in rate base and will reflect the expenses associated with the units in its retail cost of service. Regulatory treatment for these units will be consistent with the current treatment of Georgia Power's existing owned retail generation facilities, except that the Company requests that the Commission allow CWIP in rate base during construction so that the in-service cost of these Units can be certified at a lower amount.

3.3.7.1 Construction Work in Progress

Under traditional ratemaking, the Company would include the total plant cost in base rates following commercial operation of the plant. In the case of Vogtle Unit 3, that would be in 2016, and in 2017 for Unit 4. In the meantime, AFUDC would be applied during the construction period to allow the Company to defer its financing costs for later recovery. Recovery of the AFUDC is deferred during the construction period, added to the ultimate cost of the plant and recovered from customers over the useful life of the plant (40-60 years in the case of a nuclear generating plant). It is important to recognize, however, that these financing costs are incurred by the Company in "real time" during the construction phase and well before 2016.

As an alternative, most neighboring states have recognized that it is a benefit to customers when rates are set to recover financing costs during the construction period. Florida, South Carolina, Mississippi, Louisiana and Virginia are but a few of the states that allow CWIP in rate base. Since Georgia competes with those states for growth, there is no reason to allow customers in those states to have advantages Georgians do not.

By including CWIP in rate base, customers pay for the financing cost of the project when those costs are incurred and while the plant is being built, instead of paying a larger amount of compounded interest later. In addition, the overall financial health of the Company, as viewed by the financial community, is improved because cash flows during construction are increased. As a result, the risk of a credit rating downgrade is greatly reduced with the use of CWIP in rate base. For Georgia Power, CWIP in rate base results in lower interest costs of approximately REDACTED a year as compared to what could occur if the Company's debt was downgraded. Current customers get the current benefit of lower financing costs for all of the Company's operations, which results in rates lower than they would have been.

CWIP also allows for rate stability. "Rate shock" is avoided by incurring small rate increases every year during construction rather than one large increase when the plant goes into service. Moreover, total rate increases required to cover the cost of the plant when it goes into service will be nearly 3% lower. The cost of the plant when it goes into service will be approximately $2 billion or 30% lower.

Georgia Power proposes to include the CWIP related to Vogtle Units 3 and 4 in rate base to set the rates that would be effective January 1, 2011 when the current accounting order will be reviewed per Docket No. 25060-U. Georgia Power recommends implementing a separate base rate tariff, similar to the ECCR tariff established in Docket No. 25060-U.

This new tariff would be designated as the Nuclear Construction Cost Recovery rate, or NCCR. The construction costs would be included in periodic status reports for the Commission's review, as detailed in section 3.3.7.3 below. The NCCR tariff would be calculated consistent with the traditional regulatory computation of rate base multiplied by the Company's weighted average cost of capital. The amount of CWIP in rate base will be based on calendar year budgeted expenditures and adjusted annually. Differences between actual and forecasted costs, once approved by this Commission, would be trued-up in the subsequent period. AFUDC would be applied to under-recovered costs, with any over-recoveries returned to customers with interest.

The Company projects a total in-service cost of $6,446,564,927 for proposed Vogtle Units 3 and 4 without CWIP in rate base. The expected total in-service cost with CWIP in rate base is $4,529,363,139.

3.3.7.2 Pre-Certification Costs

The nature of constructing long lead time projects like Vogtle Units 3 and 4 necessitates a schedule that requires that several steps be taken years in advance of the intended COD of the units. In the present case, certain pre-construction activity includes the management and work that must be done by the co-owners to obtain an ESP and COL from the NRC for Vogtle Units 3 and 4. In the absence of the co-owners taking such action the nuclear option would not be available now to meet customers' needs identified in the 2016 and 2017 timeframe.

In the current environment of high natural gas prices and looming CO_2 regulations, the loss of the nuclear option to meet customers' needs is an unacceptable result. Most recently, the Commission recognized the value of preserving nuclear as an option by taking the steps necessary to ensure the ESP and COL activities could be pursued by the co-owners. In 2006, the Commission issued its Final Order in Docket No. 22449-U ("Accounting Order") approving

Georgia Power's request for an accounting order to book ESP and COL costs to FERC Account 183. Like the ESP and COL activities, there are other local activities that are being undertaken at the site to ensure that the Vogtle project is available in 2016 and 2017 when it is needed.

Prior to the issuance of the certificate, the co-owners and the Consortium will have to undertake area clean-up activities, demolition and relocation activities, and other activities at the site required to ensure that the Vogtle Units can meet a 2016/2017 COD. Table 3.3.7.2 includes a list of activities required to be conducted prior to March 2009. Georgia Power will have additional labor costs for project management during this period prior to the certification decision to manage the efforts described above.

The Company is aware that O.C.G.A.§ 46-3A-3 provides in applicable part that "no utility shall commence construction of an electric plant…without having first obtained from the commission a certificate that public convenience and necessity requires, or will require, such construction….". Construction is defined as the clearing of land, excavation, or other substantial activity leading to the operation of an electric plant other than planning, land surveying, land acquisition, subsurface exploration, design work, licensing or other regulatory activity, contracting for construction, or environmental protection measures and activities associated therewith.

The Company has filed this Application for certification to undertake the substantial construction project necessary to build Vogtle Units 3 and 4. The site prep work currently being done does not implicate the definition of construction contained in the statute. This work is primarily the work necessary to ensure that, should the Commission issue a certificate for Vogtle Units 3 and 4; the major project work can get underway without risk of substantial delay.

For example, as part of area clean-up activities, the Company will be preparing storage and work areas, procuring storage containers, relocating tools and other equipment, and moving fences to access the site. Other activities will involve demolition and relocation and as expected, will require that some existing buildings be removed to allow for activity on the site and some interim storage facilities be constructed to replace existing buildings that are demolished. These activities are less than 0.3% of the total project costs for Vogtle Units 3 and 4 and the Company's ownership interest of that cost is 45.7% or $13.2 million. Relative to total cost of the

Vogtle project this prep work is not substantial, but failure to perform this work on the current schedule could result in a substantial delay in the COD for Vogtle Units 3 and 4. Below is a list of activities that will be taking place during the period that the Commission will be considering the Company's Application. The timing and dollars expended in 2008 and 2009 are also included.

Table 3.3.7.2 Site Preparation Costs

Description	Total Projection x$1,000
Area Clean-Up Activities	
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
Demolition and Relocation Activities	
REDACTED	REDACTED
REDACTED	REDACTED
Other Activities	
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
REDACTED	REDACTED
Total	$ 13,152

In addition, much like the ESP activities, these activities listed above will further preserve nuclear as an option whether or not the Commission certifies new nuclear to meet the 2016 and 2017 needs. The ESP has a 20 year life, and the site prep work being done will further perpetuate the availability of the Vogtle site for consideration as a site for a future nuclear facility. This cost of creating substantial long life value is anticipated to be recovered as part of the certified cost of Vogtle Units 3 and 4. If Vogtle Units 3 and 4 are not certified, then the prudently incurred cost for site prep work should be recorded in Account 183 until such time that work is stopped, such cost will then be deferred until the Company's next rate case to be recovered.

Although the Company is not expressly asking that this interim site prep work be certified in advance of the certification of Vogtle Units 3 and 4, because the Company does not believe interim certification is necessary to perform the work, if the Commission were to determine that a certificate is necessary for this preliminary work, the Company would request that the Commission immediately grant a certificate for the site prep activities to allow the Company to continue the work necessary to ensure that Vogtle Units 3 and 4 are available to meet the needs in 2016 and 2017. Part of the process of providing adequate, reliable and economical utility service is ensuring that the most economical options are available when needed. The prep work at the Vogtle site is in the public interest, and if an interim certificate is deemed to be needed by the Commission, an interim certificate should be issued to allow for this work to proceed on schedule.

3.3.7.3 Proposed Quarterly Monitoring

O.C.G.A. § 46-3A-7 and Commission Rule 515-3-4.07(2)(b) contemplate that once a certificate is issued for a self-build unit, the Commission will continue to monitor the project throughout its construction phase. The Commission is currently monitoring the construction of the McDonough project pursuant to those provisions. The Company proposes a Construction monitoring process for Vogtle Units 3 and 4. This would recognize the EPC agreement as the governing agreement for the construction of the facility and be designed to provide the Commission sufficient information to confirm at regular intervals that the facility is being constructed consistent with that agreement and the certificate issued by the Commission.

The Company will file a report with the Commission quarterly. This report will include data sufficient for the Commission to confirm that the standards of public convenience and necessity are being met and that Vogtle Units 3 and 4 will result in an economic and reliable resource and in accordance with the certificate. The quarterly report will include the following information:

1. Current project additions to CWIP and AFUDC (if applicable) for the quarter;
2. Total construction cost to date and total AFUDC base (if applicable)
3. Critical path activities for the quarter;
4. Project milestone events and other activities for the quarter;
5. Any variances between projected schedule and current project schedule that impacts project completion schedule;

6. Procurement status of significant components;
7. Status of all required federal, state, and local licenses and permits;
8. Summary of owner's major contracts including scope of work. The EPC agreement is deemed summarized pursuant to this Application.
9. An updated forecast of the completed cost of the project.

The Company further proposes that in any quarter in which the forecasted completed cost of the project changes such that it increases relative to previous projections and differs from the expected cost of the project (either $6,446,564,927 or $4,529,363,139 depending on CWIP treatment) by more than 5%, or the projected COD approved in the certificate changes, the Commission may hold a hearing to review the new projection before approving the report or allowing the report to be approved.

Beginning in the third quarter of 2009, the quarterly report will be submitted to the Commission each quarter after the deadline for filing the Company's financial statements with the Securities and Exchange Commission (40 days after the end of the quarter and 60 days after the end of the year). The Commission shall have 180 days to review the quarterly report and to verify and approve expenditures included in the report. Pursuant to the certified schedule and the Commission Rules, the Commission will also, within 180 days approve, disapprove, or modify any proposed revisions to the project included in the report, as provided in the certified schedule and the Commission Rules. If the Commission fails to act within 180 days after the filing of the quarterly report, the expenditures and any proposed revisions to the project included within the quarterly report shall be deemed approved by operation of law in accordance with O.C.G.A. § 46-3A-7(b) and (c).

Pursuant to O.C.G.A. § 46-3A-7 and the Commission Rules, before any expenditure or revision can be disapproved, the Company must have a right to a hearing on the particular expenditure or revision being proposed for disapproval. Such hearing shall be limited to the particular expenditure and or revision at issue and will not be deemed to require an amendment or modification to the certificate. This process of monitoring will provide oversight and periodic review as this substantial project moves forward.

The EPC agreement contains indexes associated with the cost of plant construction, and under the terms of the EPC agreement these indexes result in adjustments to a portion of the payments from the Company to the Consortium. While the cost that the Company has requested to be certified by the Commission is a fixed number based on a forecast of these indexes between now and 2017, it is likely that the actual index values will track either higher or lower than the forecast. In any period when the actual index values differ from the forecast, the cost of the Vogtle project will either rise or fall, depending on whether the actual index values are greater or less than the forecast of the indexes. The actual values of the indexes have the potential to change every six months, and each time they increase or decrease relative to the forecast, the change in the indexes will result in a change in the projected in-service cost of the project, thereby leading to the potential for the projected in-service cost of the project to change frequently. In the event that the total projected in-service cost as reported in any quarter is more than 5% greater than the then certified in-service cost, the quarterly report which includes the revised forecast shall be deemed an application to amend the certificated amount of the facility to meet the new forecast. The Commission may initiate a hearing to amend the certificate in such a case. If no action is taken by the Commission within 180 days of the filing of the quarterly report including the revised forecast, such forecast is deemed approved by operation of law.

4. The 2008 IRP Update

4.1 Summary of 2008 Integrated Resource Plan Update

4.1.1 Foreword

The state of Georgia continues to attract new residents and businesses. Along with this beneficial growth comes an increasing demand for electricity. Through the IRP process, Georgia Power plans for the future energy needs of its retail and requirements wholesale customers. As shown in this Updated IRP, the Company anticipates that customer growth will result in a need for approximately REDACTED per year of new generating capacity. Additionally, expiring PPAs over the planning period add to the resource needs. Over the next decade, the updated forecast shows the Company's generation additions and replacements are projected to total more than 8,000 MW.

This filing provides updates to parts of Georgia Power's 2007 IRP. These updates include: (1) the Near-term Action Plan; (2) revised electric demand and energy forecast, (3) revised fuel forecast, (4) Supply-Side Plan Update, (5) Technology Data Book Update, (6) Renewable Energy Research Plan Update, (7) Unit Retirement Study and (8) Evaluation of Coal Resources.

4.1.2 Coal Evaluation Expenses

In its 2007 IRP Order, the Company was directed by the Commission to conduct a detailed assessment of coal-fired generation and to "develop a back up plan with a clear timeline so that there are no delays in acquiring an alternative base-load resource in the event that nuclear units do not meet expectations." After having done so, the Company now requests proper regulatory treatment of the significant expenses incurred in complying with that order. Specifically, the Company requests that the Commission authorize the Company to defer the $1.6 million it spent in completing the detailed assessment of coal and the work completed toward the self-build proposal until the next base rate case.

4.1.3 Significant Recent Developments

Since the approval of the 2007 IRP, capital and fuel costs have continued to ascend

significantly. In July 2008, oil prices reached record highs. The actual and forecasted prices for natural gas have reached levels only seen during periods of extreme weather disruptions, such as during the aftermath of Hurricanes Katrina and Rita. Due to the significant changes in the fuel markets, the Company has updated its fuel forecast. The updated fuel forecast reflects changes in both the short-term and long-term outlook for fuel prices.

Another significant developing issue for the Company is the potential for CO_2 regulation. The potential costs for controlling CO_2 emissions may be considerable. The key issues associated with the cost of a CO_2 emissions reduction policy include: the amount of CO_2 reductions that are required; natural gas prices; electricity demand; the role of non-emitting generation, including nuclear and renewable power; and the availability and cost of carbon capture and sequestration technology. Due to rising capital, fuel and potential CO_2 costs, many utilities that previously announced the addition of future coal-fired baseload power plants to their generating fleet have halted the projects before, or even during, actual construction. This cancellation of new coal-fired generation is virtually certain to place upward pressure on the price of natural gas since most of the energy that would have been generated from these plants by coal will now likely be generated by additional natural gas plants.

4.1.4 The Supply-Side Plan Overview

Georgia Power is responsible for serving its retail and wholesale customers' demand and energy needs. The Company has already committed to purchasing or building over 5,000 MW of natural gas-fired capacity for the years 2009 through 2012. In addition, the Company will need to add more than 3,000 MW of new generating capacity for the years 2013 through 2018.

The Company's 2007 Integrated Resource Plan has been updated to include the following:

- **2010** - Exelon Heard contract begins (942 MW); Dahlberg contract begins (292 MW); Wansley 6 contract begins (561 MW);
- **2011** - McDonough 1 retirement (258 – 52.1 wholesale sales for net of 205.9 MW); McDonough 4&5 self-build (1,682 MW)
- **2012** - McDonough 2 retirement (259 – 53.2 wholesale sales for net of 205.8 MW); McDonough 6 self-build (841 MW)

Georgia Power requests that the Commission approve the Updated IRP's retirement study and the Company's recommendation to install environmental upgrades on Plants Branch and Yates. The decision of whether to control these units must be made by early 2009 in order to allow adequate lead-time to design, procure and construct the environmental controls.

4.1.5 The Demand-Side Plan Overview

This plan also calls for about 1,900 to 2,200 MW of DSM programs by 2018 to reduce demand for electric energy. As a reference point, 1,000 MW is about the generation capacity of a large coal, nuclear or natural gas-fueled power generating unit, even though 1,000 MW of DSM does not reduce energy usage over a year by as many kWh as would be generated by 1,000 MW of coal or nuclear capacity over the same time period.

The Company has incorporated the new DSM programs approved as part of the 2007 IRP into the Budget 2008 Load and Energy Forecast. The Company made external adjustments to the energy and peak demand forecasts for the Home Performance with Energy Star, Electric Water Heater Blanket, Refrigerator Recycling and Commercial Tax Credit programs. Additional assumptions were made regarding customers' adoption of energy efficient lighting, including compact fluorescent lights beyond the scope of the program approved in the 2007 IRP, These additional energy efficiency lighting assumptions were also applied as external adjustments to the energy and peak demand forecasts.

Other conservation measures undertaken by customers, whether explicitly induced by a marketing program or proactively undertaken by a customer for some other reason will become embedded in the historical energy data and will be implicitly propagated through the forecast.

An additional type of demand side impact considered in the residential end-use models for the Budget 2008 forecast is an assumption that energy efficiency standards will continue to be adjusted, resulting in increased energy efficiency levels. These efficiency standards represent the continuing trend of increasing end-use efficiency driven in part by programs such as ENERGY STAR®.

4.1.6 The Environmental Plan Overview

4.1.6.1 Background

In the 2007 Rate Case, the Company presented evidence of the construction program being undertaken by the Company to install emissions equipment at fossil fuel plants throughout the system. These efforts are being made to reduce emissions and to comply with environmental regulations. The Company has made compliance with emissions standards one of its highest priorities. As a result, Georgia Power now generates more electricity with less regulated emissions compared to 1990, when the Clean Air Act Amendments went into effect. The Company continues to improve Georgia by protecting the environment through ensuring compliance with state and federal environmental laws governing the operations of plants.

Georgia Power is currently installing substantial emission control equipment at Plants Bowen, Hammond, Scherer, and Wansley, to comply with changing environmental regulations. These very capital intensive and complex projects were approved during the 2007 IRP and Rate Case and cost for these projects are currently being recovered through the ECCR. The ECCR rider has been developed by the Commission to collect $222.3 million annually between January 1, 2008 and December 31, 2010. The rider includes recovery of the budgeted projects at Plants Bowen, Hammond, Scherer and Wansley that will be conducted during the term of the current rate order.

National and state environmental policies continue to drive investment decisions in new emissions equipment. In particular, the Georgia Multipollutant Rule has prescriptive equipment installation requirements for the continued operation of the Company's fossil fuel fleet. As a result, the Company continues to contemplate the installation of Scrubbers, baghouses and SCRs on existing units. Ultimately, it is the Company's objective to ensure that the most economic and reliable resources are available to meet customer's needs when called upon.

4.1.6.2 Plants Branch and Yates

In the near-term, the Company will be required to make a decision to install SCRs and Scrubbers at Plant Branch Units 1, 2, 3 and 4 and at Plant Yates Units 6 and 7 in order to comply with the Georgia Multipollutant Rule. The current Environmental Compliance Strategy ("ECS") provides that by the Fall of 2014, SCRs and Scrubbers will be installed on Plant Branch Units 1,

2, 3 and 4 and Plant Yates Units 6 and 7. The cost for the installation of this equipment is detailed below in Tables 4.1.6.2-1 and 4.1.6.2-2:

Table 4.1.6.2-1 Plant Branch Units 1, 2, 3, and 4
In-service capital costs are in (2008$)

Control	Cost	In-Service Date
SCR	REDACTED	Fall 2013, Spring 2014, Fall 2014
Scrubber	REDACTED	Fall 2013, Fall 2014
Total	REDACTED	REDACTED

Table 4.1.6.2-2 Plant Yates Units 6 and 7
In-service capital costs in (2008$)

Control	Cost	In-Service Date
SCRs	REDACTED	Fall 2014
Scrubber	REDACTED	Fall 2014
Total	REDACTED	REDACTED

The Company's 2008 Economic Retirement Study evaluated the economic benefits of retiring Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7 and the cost of replacing those units with the lowest cost option. The Company performed economic screening analysis and a detailed evaluation of the Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7. The detailed evaluation focused on comparison of continued unit operation with replacement by gas-fired CC generation. Also, the evaluation incorporated the 2008 Energy Budget with updated fuel and emissions forecast provided by EVA as well as updated fuel costs and potential carbon costs developed by the Company. These updated assumptions surrounding coal and gas prices, capacity costs, and environmental capital resulted in a lessening of the number of economic retirements as compared to the 2007 Energy Budget that was included in the 2007 IRP.

This evaluation supports the continued operation of Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7. Both Plant Branch and Plant Yates Units 6 and 7 provide significant benefits to customers. Continuing to operate Plant Branch and Plant Yates Units 6 and 7 will provide customers cost savings as compared to the best available alternative option. The economic evaluations indicate that customers will save approximately REDACTED by continuing to operate Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7, rather than

replacing them with CC generation. In addition, the continued operation of Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7 will help maintain fuel diversity of the system.

In order to continue to operate Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7 the Company will need to begin making capital expenditures as early as 2009 and 2010, respectively. Given the evidence presented in the 2008 Economic Retirement Study supporting the continued operation of Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7 the Company requests a finding by the Commission that a decision to install SCRs and Scrubbers to preserve the continued operations of these plants beyond 2014 is prudent and in the public interest.

The Company is not requesting that the cost expended for the installation of SCRs and Scrubbers at Plant Branch Units 1, 2, 3 and 4 and Plant Yates Units 6 and 7 be recovered through the ECCR under the current rate order that extends through December 31, 2010. However, the Company does expect to recover this cost in a subsequent rate proceeding and will defer the cost expended during this period for recovery in that case.

Over the next three years, the Company will invest approximately an additional $1.6 billion in additional environmental controls on Plants Bowen, Hammond, Scherer and Wansley. These environmental control investments will ensure customers are served by diverse fuel sources and realize continued value from the Company's existing coal generation resources.

4.1.6.3 Plant Hammond

The low river water flows last year resulted in high river water temperatures in the vicinity of the Plant Hammond water discharge. As a response, the Company put temporary cooling towers at Plant Hammond to help mitigate the impact of Plant Hammond's water discharge on river temperatures. Temporary cooling towers bring the temperature down five to seven degrees. In the summer of 2008, temporary cooling towers were utilized at Plant Hammond. In the future, the Company will continue to monitor situaions such as Plant Hammond's impact on river temperatures and will take necessary action.

4.1.7 The Demand and Energy Forecasts

A territorial peak demand of 17,975 MW was set on August 9, 2007 for Georgia Power's service territory. By 2012, weather normal peak demand is expected to grow to REDACTED and then to REDACTED in 2017. Peak demand is expected to grow at a compound average annual rate of REDACTED or REDACTED per year from 2007 to 2017.

A detailed discussion of the revised territorial energy and demand forecasts is set forth in Section 4.3.

4.1.8 Renewable Resources

As discussed in the 2007 IRP, Georgia Power is currently evaluating the feasibility of converting Plant Mitchell from coal to wood biomass generation, a renewable resource. Based on Commission approval of the research plan in the 2007 IRP, the Company has completed a Phase I technical and economic feasibility study of the potential biomass conversion. The Phase I study indicated that the conversion of Plant Mitchell to wood biomass is technically feasible, appears to be cost-effective and has several significant benefits. Again, based on Commission approval of the 2007 IRP research plan, a subsequent, more detailed, Phase II Study is nearing completion. If the Phase II study confirms the conclusions of the earlier Phase I study and the decision to proceed with the conversion of Plant Mitchell is made, the Company will likely make a certification application in the coming weeks to convert Plant Mitchell from coal to biomass. The COD for the conversion and re-powering would likely be in 2011.

In addition to considering the conversion of Plant Mitchell to biomass, the Company is also working to help grow the renewable resource base in Georgia. The Company will file for approval to modify the Green Energy program in a manner that is expected to expand the voluntary purchases of renewable energy by retail customers that are high volume energy users. Expansion of this program will meet the needs of customers and encourage additional renewable generation development in the state. These high volume energy using customers have a need to buy large quantities of renewable energy at a price competitive with the bulk renewable energy markets and the program to be proposed will enable them to do so. Simultaneously, the modifications that will be proposed to the Green Energy program will grow the market in Georgia for renewable energy credits, thereby encouraging additional renewable energy development.

4.1.9 Conclusion

The Updated IRP incorporates updates in a number of assumptions based on trends and information about the outlook for the economy, fuel prices, capital costs, and other important factors. The updated information provides a sound basis for the Company's plan to provide a reliable and economic supply of electric energy through a diversified set of generation and DSM resources.

4.2 Georgia Power's Near-Term Action Plan

The Near-Term Action Plan for supply capacity is shown below.

- For the 2012 capacity needs, Georgia Power anticipates securing firm energy in the short-term market as needed.
- Georgia Power expects to execute QF agreements with QFs that provided notices of intent for the QF proxy contract and will also execute QF agreements with QFs that want a standard peaker QF contract.
- For the 2013–2014 needs, Georgia Power has initiated an RFP to meet the capacity and energy needs.
- In approximately one year, Georgia Power will review its needs and determine how to address 2015 needs.

Table 4.4.1-6 below in the Supply-Side Plan shows the Load versus the Existing Capability for Georgia Power and confirms the supply needs identified in the near-term action plan.

4.3 Budget 2008 Energy Sales and Peak Demand Forecast

The Budget 2008 Energy Sales and Peak Demand Forecast is for Georgia Power including the former Savannah Electric and Power Company ("Savannah Electric") and is referred to as Georgia Power Company or the Company. Unless otherwise noted all data, figures and statistics contained within this document include both the legacy Georgia Power and the former Savannah Electric.

A twenty-year forecast of energy sales and peak demand was developed to meet the planning needs of the Company. The Budget 2008 Forecast includes the retail classes of residential, commercial, industrial, MARTA, governmental lighting, and the wholesale class the City of Hampton. The baseline forecast was started in the Summer of 2007 and completed in the Winter of 2007.

The growth of Georgia's economy has begun to slow. It is expected to remain positive and outpace the nation over the next several years. Growth has averaged over three percent for the past three years and population growth continues to be in the top five in the nation.

Economic growth in the state has translated into growth of energy sales for Georgia Power Company. Weather normal energy sales for 2007 are 3.1% more than they were in 2006. The residential and commercial classes have increased 4.6% and 4.4% respectively, while the industrial class grew at a much slower 0.4% between 2006 and 2007. Projections of economic growth and energy sales growth follow the trends that have been experienced in the recent past. Total energy sales are projected to increase an average of REDACTED per year over the next ten years (2007-2017). With residential energy sales growing an average REDACTED per year, commercial growing REDACTED per year and industrial growing a modest REDACTED per year.

4.3.1 Economics

Georgia continues the transformation from a manufacturing based economy to a globally based commercial and service driven economy. Continued growth in population, tourism,

personal income and housing affordability indicate a favorable economy for Georgia.

Looking forward through 2009, economic growth in Georgia is expected to track closely to the national economy. Moody's Economy.com ranks Georgia REDACTED in the nation for expected growth.

Employment in Georgia has reversed the job losses at the beginning of the decade. From 2001 to 2003 the state lost 104,000 jobs. In 2004, this trend reversed as 55,000 jobs were created. Job growth estimates for 2005 are that employment grew around 2.5% or approximately 97,000 net new jobs. In the near term (2007 to 2010), around REDACTED new jobs per year or a total of REDACTED jobs are projected to be added in the state.

Georgia's projected employment growth supports migration, which in turn drives the projected population growth. Population growth in Georgia has and is expected to continue to exceed that of the nation. In the forecast, Georgia population is expected to increase REDACTED per year through 2010, while population in the entire nation is expected to increase by less than REDACTED per year.

Overall, Georgia's economy is expected to fare better than the nation as a whole during the current economic slowdown. While it is unlikely to experience growth like that of the late nineties, growth is expected to be solid as we approach the next decade.

4.3.2 Forecasts Assumptions and Methods

The Budget 2008 forecast assumptions were developed based on a joint effort by Georgia Power and SCS. Major assumptions include the economic outlook for the U.S. and the state, energy prices, and market profiles for class end uses.

The economic forecast for Budget 2008 was provided by Moody's Economy.com, a national provider of economic data and forecasts.

Retail prices for electricity and natural gas were considered in developing the forecast. The

long-term forecasting models incorporate these retail energy prices when modeling the choices and efficiency decisions of consumers and decision-makers. The end-use models used to develop the long-term forecast are based on projections of several economic variables, historical load data, and industry standards for electrical equipment.

The long-term models for the major classes are end-use models. The Residential End-Use Energy Planning System ("REEPS") model is used for the residential class, Commercial End-Use Model ("COMMEND") is used for the commercial class, and Industrial End-Use Forecasting Model ("INFORM") is used for the industrial class. Governmental lighting, MARTA, and wholesale sales are forecasted using econometrics, time series methods and information from Georgia Power field personnel.

Short-term energy projections are based on linear regression models developed for the various energy classes. Both the short-term and the long-term energy models are based on "normal" weather, the fifteen-year average of Cooling Degree Days and Heating Degree Days.

The forecast is developed through careful consideration and methodical organization. The economic forecast gives a description of the economy for the next 20 years. This description defines many elements of the economy such as gross product, population, employment, and industrial shipments. Key demographic and economic variables have been demonstrated to be significant indicators of energy consumption. Price projections of the alternative fuels that energy consuming devices use to support a consumer need, business purpose, or industrial process are developed so that device choice through consumer behavior can be modeled.

The model results of the short-term and long-term methods are integrated into a unified forecast. In the Budget 2008 forecast, the short-term forecast results were used for 2008 through 2010 and long term from 2011 to 2027.

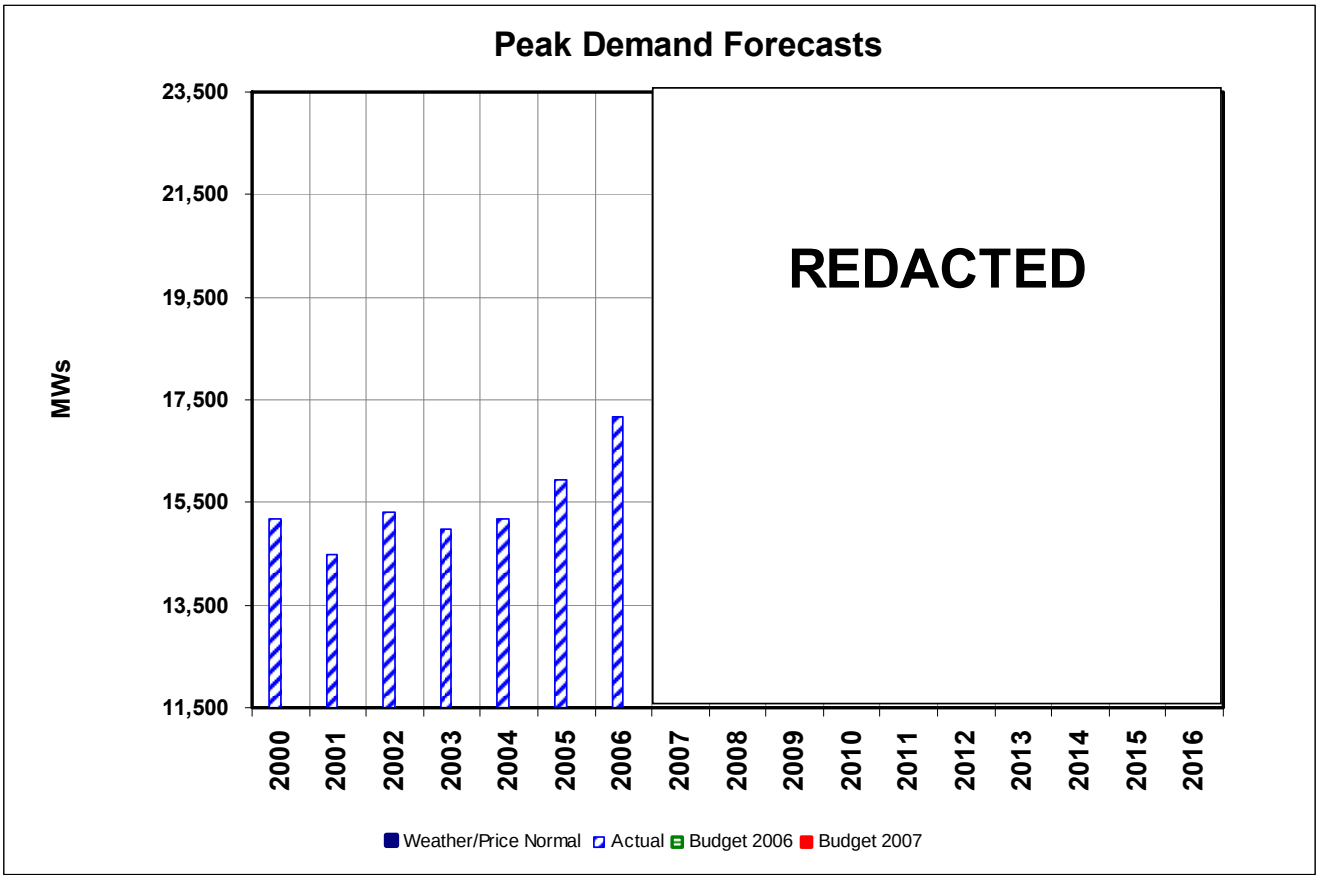
Table 4.3.2 Georgia Power Budget 2008 Load & Energy Forecast Annual Summary

Year	Retail Sales (GWh)						Wholesale Sales (GWh)	Territorial Requirements (GWh)	Territorial Supply (GWh)	Peak Demand (MW)
	Res.	Com.	Ind.	Gov. Lighting	MARTA	Total Retail	Hampton			
2007	REDACTED									
2008										
2009										
2010										
2011										
2012										
2013										
2014										
2015										
2016										
2017										
2018										
2019										
2020										
2021										
2022										
2023										
2024										
2025										
2026										
2027										

4.3.3 Peak Demand

A territorial peak demand of 17,975 MW was set on August 9, 2007 for the Georgia Power service territory. By 2012, weather normal peak demand is expected to grow to REDACTED and then to REDACTED in 2017. Table 4.3.3 shows the comparison of the Budget 2008 and the Budget 2007 peak demand forecasts. Peak demand is expected to grow at a compound annual growth rate ("CAGR") of REDACTED or REDACTED per year from 2007 to 2017.

Table 4.3.3 Peak Demand Forecast

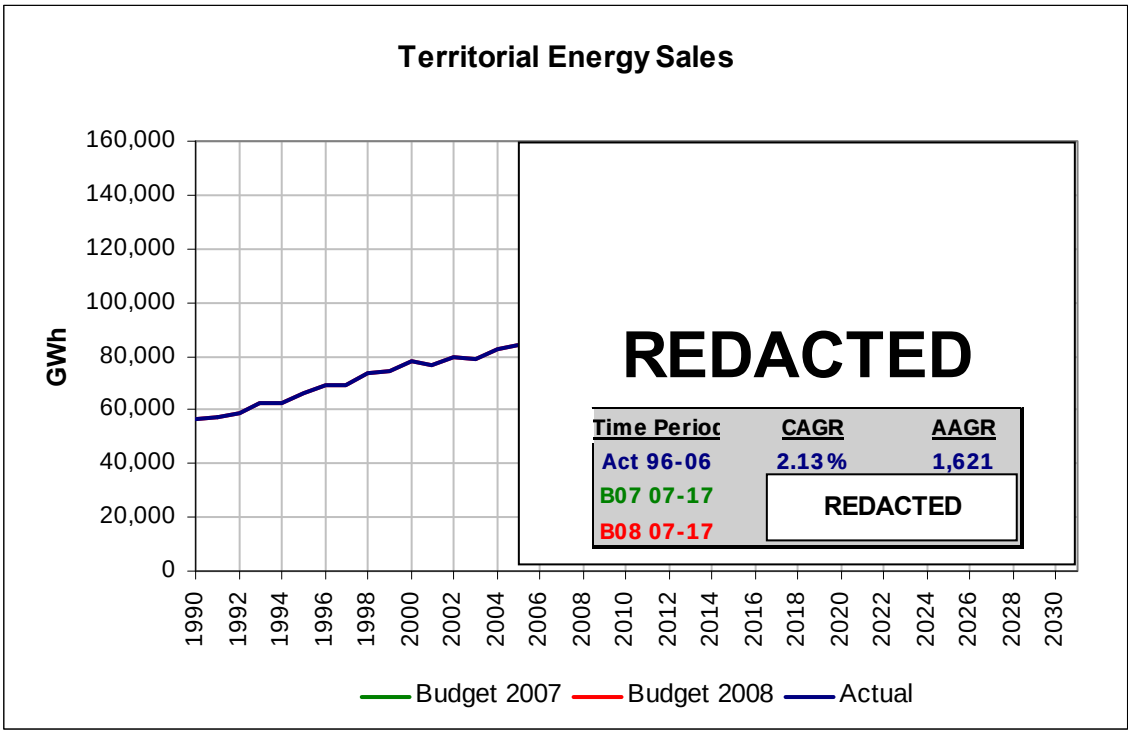


The peak demand forecast for Budget 2008 is adjusted for the impacts of the RTP rates customer response, expected cogeneration, IRP specified DSM programs and additional assumptions for compact fluorescent lights ("CFLs").

4.3.4 Territorial Demand

In absolute terms, the amount of GWh growth can be seen as the average annual growth rate ("AAGR"). The historical period from 1996 to 2006 saw an average growth of 1,621 GWh per year. Budget 2008 anticipates an average growth of REDACTED per year from 2007 - 2016, while Budget 2007 predicted REDACTED.

Table 4.3.4 Territorial Energy Sales

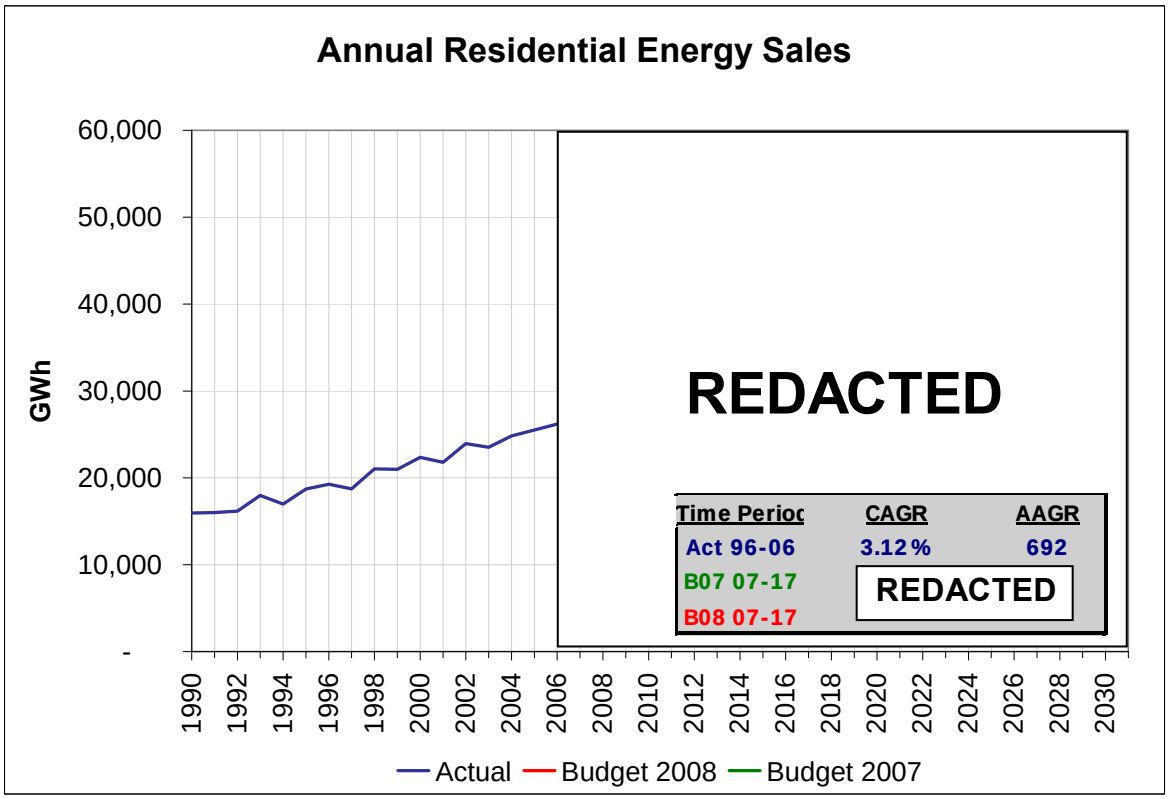


4.3.5 Retail Energy Sales

Residential

Budget 2008 residential energy sales projections are similar to Budget 2007 projections through 2012. In the short term, Budget 2008 projections are slightly higher than Budget 2007, slightly lower in the medium term and lower in the long term. Table 4.3.5-1 shows the comparison of Budget 2008 with the Budget 2007 residential energy forecast.

Table 4.3.5-1 Residential Energy Forecast



The Budget 2008 residential energy forecast projects a continued increase in both the number of customers and use per customer over time. Increases in the number of customers are similar to Budget 2007, and continues to be driven by Georgia's strong net migration into the state. Use per customer continues to rise due to larger homes and increased plug load (home computers, home theater, etc.). Increases in use per customer are tempered by new DSM programs, adoption of CFLs and other efficient lighting technologies, increases in appliance efficiencies and progression of efficiency standards.

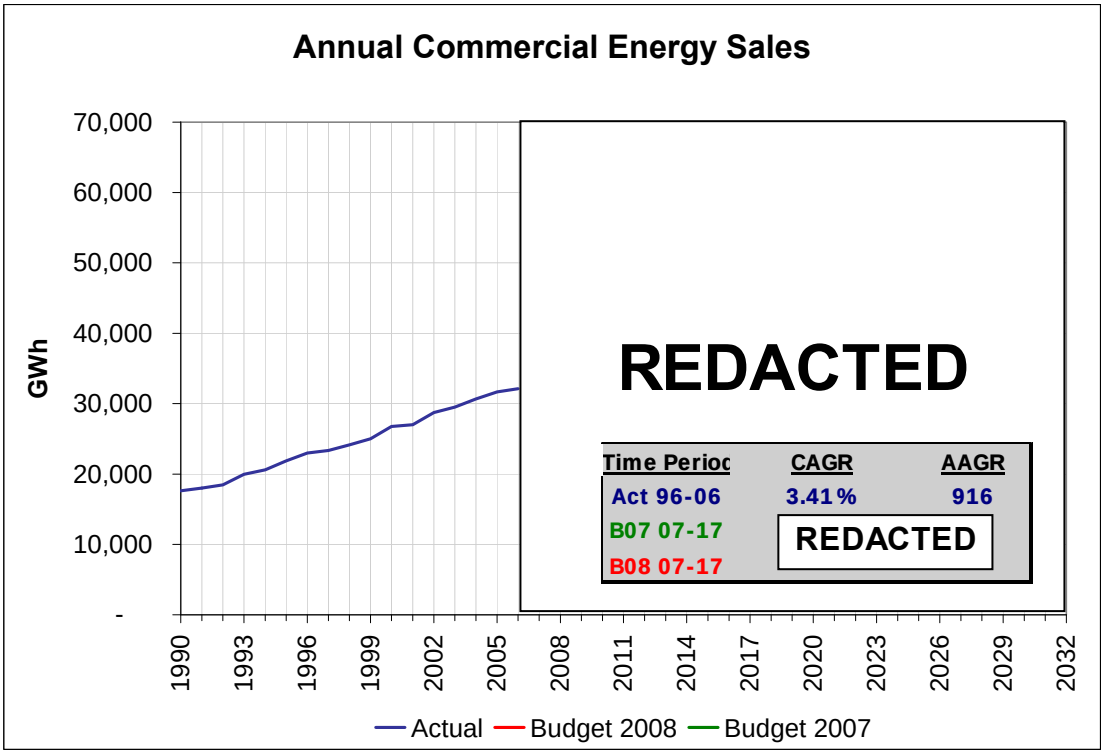
Commercial

The Budget 2008 commercial energy forecast shows a decline over the Budget 2007 forecast. Savannah Public Authority was moved into the commercial class for Budget 2008 and is included in the Budget 2007 figures shown here for comparison. Sales to the commercial class remain strong but are projected to grow at a slightly lower rate than the previous forecast. This can be seen in Table 4.3.5-2.

As the economy in Georgia continues to expand and jobs continue to be created, sales to the commercial class continue to grow at a steady albeit slightly slower pace. During the economic expansion in the late nineties (1995-2000) sales to the commercial class increased at an average

annual rate of 5.3%. As the economy cooled off, 2000 – 2002 sales to the commercial class increased at an average annual rate of just 1.8%. As the state moved to economic expansion between 2002 and 2005, the commercial class did well posting average annual growth of 3.0%. In the Budget 2008 forecast, sales are expected to grow at a similar rate over the next 10 years with average annual growth of REDACTED reflecting the moderation of the current economic expansion.

Table 4.3.5-2 Commercial Energy Forecast

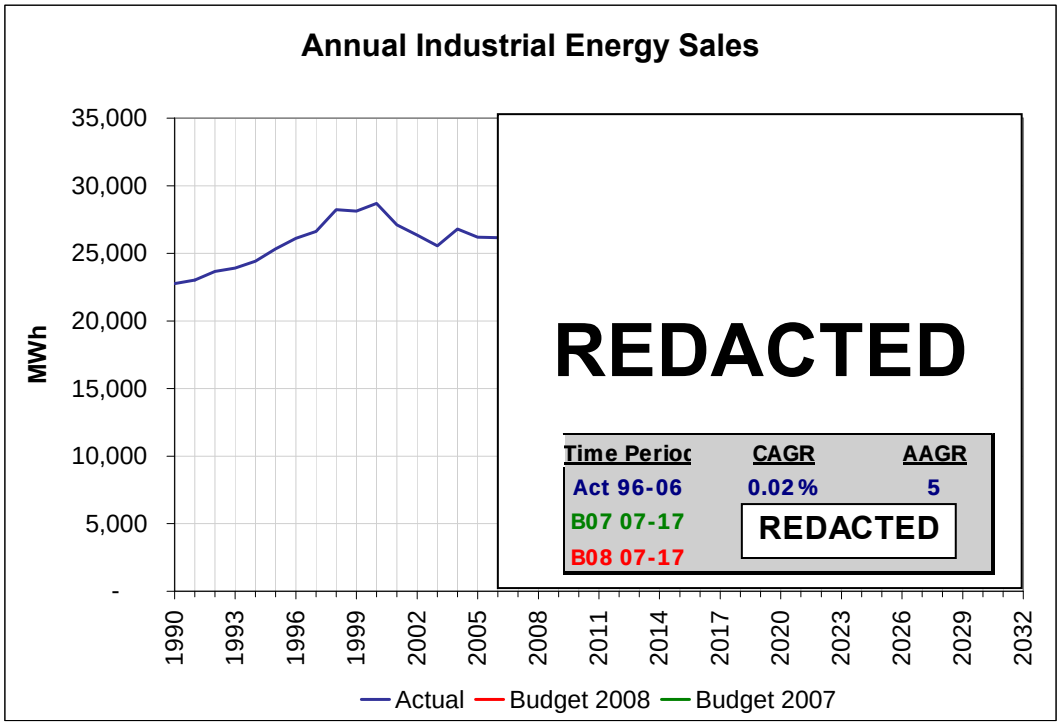


Industrial

Growth in Georgia Power's industrial class energy sales since the 1990-1991 recession has been steady and moderate until 2000. By 2003, industrial energy sales had declined by about 7.7% from its 2000 levels. In 2004, Georgia Power saw the first increase in industrial sales since 2000, with a one-year increase of 2.5%. However challenges continue, and textiles, one of Georgia's largest industrial segments, has seen several large customers move operations off shore for lower labor costs. The pulp and paper industry continues to experience overcapacity driven by weak domestic demand for corrugated boxes. The growth seen in the industrial class in Budget 2008 over Budget 2007 can primarily be attributed to the addition of a single

customer, ERCO Worldwide. Table 4.3.5-3 shows a comparison of the Budget 2008 and Budget 2007 forecasts.

Table 4.3.5-3 Industrial Energy Forecast

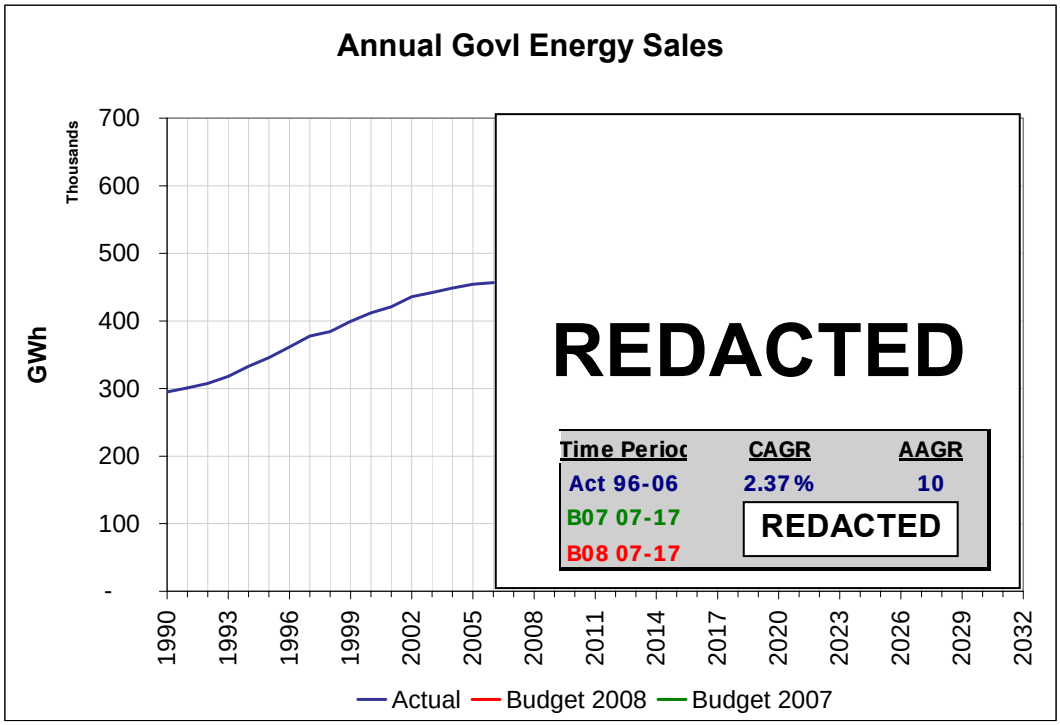


Georgia Power Company's industrial sales are expected to decline through 2008. From 2007 through 2017, the industrial sector is expected to grow at an average annual rate of about REDACTED.

Other Retail: Governmental Lighting, and MARTA

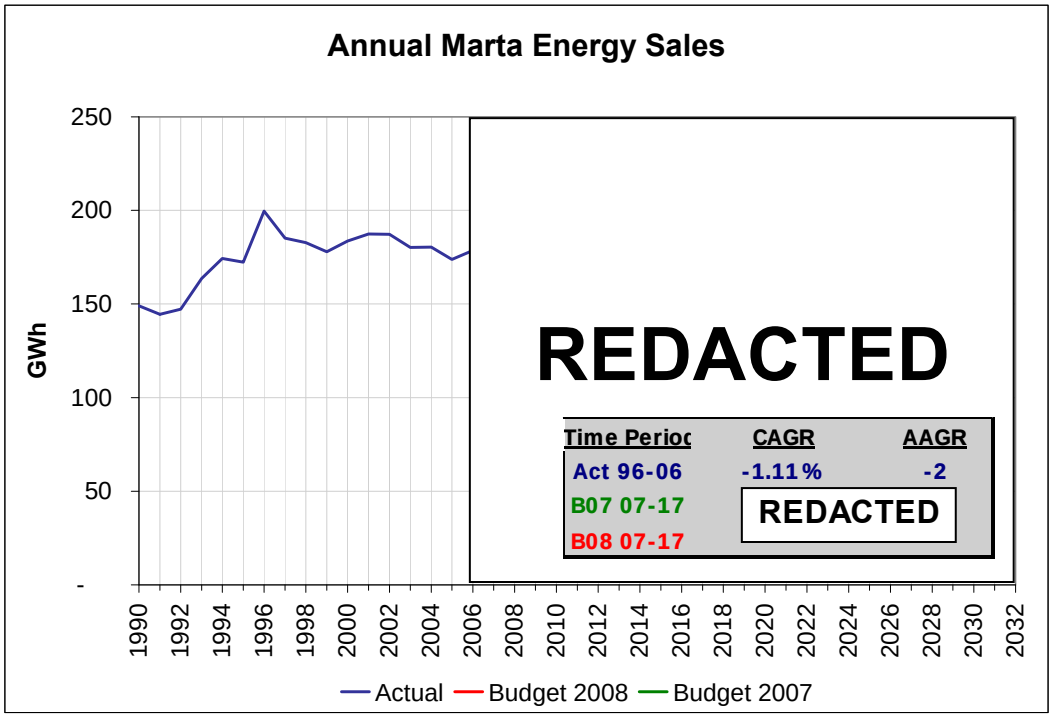
The Budget 2008 governmental lighting forecast is significantly lower than Budget 2007. The new model for governmental lighting sales more accurately reflects the history over the last 3 years. Table 4.3.5-4 shows a comparison of the two forecasts for governmental lighting.

Table 4.3.5-4 Governmental Lighting Energy Forecast



The Budget 2008 MARTA forecast is still declining but at a much more moderate rate than Budget 2007. Continued high gas prices have slowed the declines in MARTA ridership that were driving the previous forecast. Table 4.3.5-5 shows a comparison of the two forecasts for MARTA.

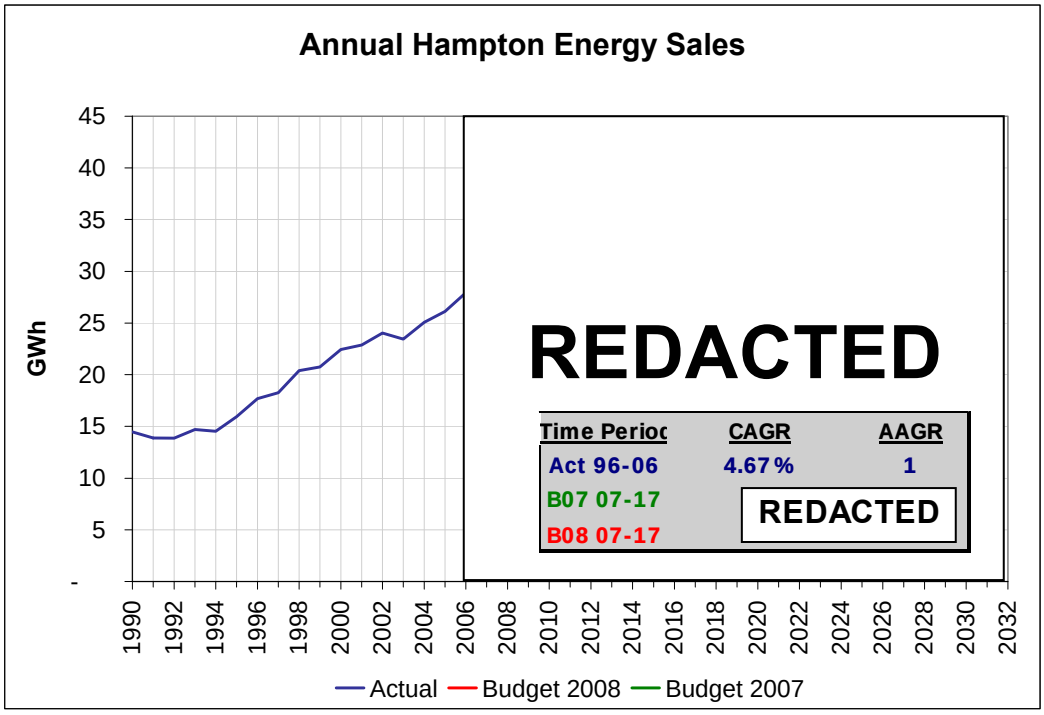
Table 4.3.5-5 MARTA Energy Forecast



4.3.6 Wholesale Energy Sales

Georgia Power serves the City of Hampton as a requirements wholesale customer. Hampton has shown strong growth within the city limits. This growth is anticipated to slow in the future because the city is nearing its population density maximum. Table 4.3.6 shows comparisons of the two forecasts.

Table 4.3.6 Hampton Energy Forecast



4.3.7 Demand-Side Programs

Georgia Power offers marketing programs to promote energy savings to residential customers and encourage use during off-peak months. Some of these programs have existed for more than a decade and the benefits from the programs are embedded in Georgia Power's historical load and energy sales. Therefore, the forecasts produced by using historical energy data and the embedded energy effects have the embedded effect of these historical programs propagated throughout the forecast.

New demand side programs approved as part of the 2007 IRP have been incorporated into Budget 2008. External adjustments to the energy and peak demand forecasts were made for the Home Performance with ENERGY STAR®, Electric Water Heater Blanket, Refrigerator Recycling and Commercial Tax Credit programs. Additional assumptions regarding customer's adoption of energy efficient lighting, including compact fluorescent lights beyond the scope of the program approved in the 2007 IRP, were also applied as external adjustments to energy and peak demand.

Other conservation measures undertaken by customers, whether explicitly induced by a marketing program or proactively undertaken by a customer for some other reason will become embedded in the historical energy data and will be implicitly propagated through the forecast.

An additional type of demand side impact considered in the residential end-use models for the Budget 2008 forecast is an assumption that efficiency standards will continue to be adjusted, resulting in increased energy efficiency levels. These efficiency standards represent the continuing trend of increasing end-use efficiency driven in part by programs such as ENERGY STAR®.

4.4 Supply-Side Plan Update

4.4.1 Resource Ledger Update

This section includes the primary drivers influencing the changes in the 2008 IRP update when compared to the 2007 IRP.

Table 4.4.1-1 Commodity Coal

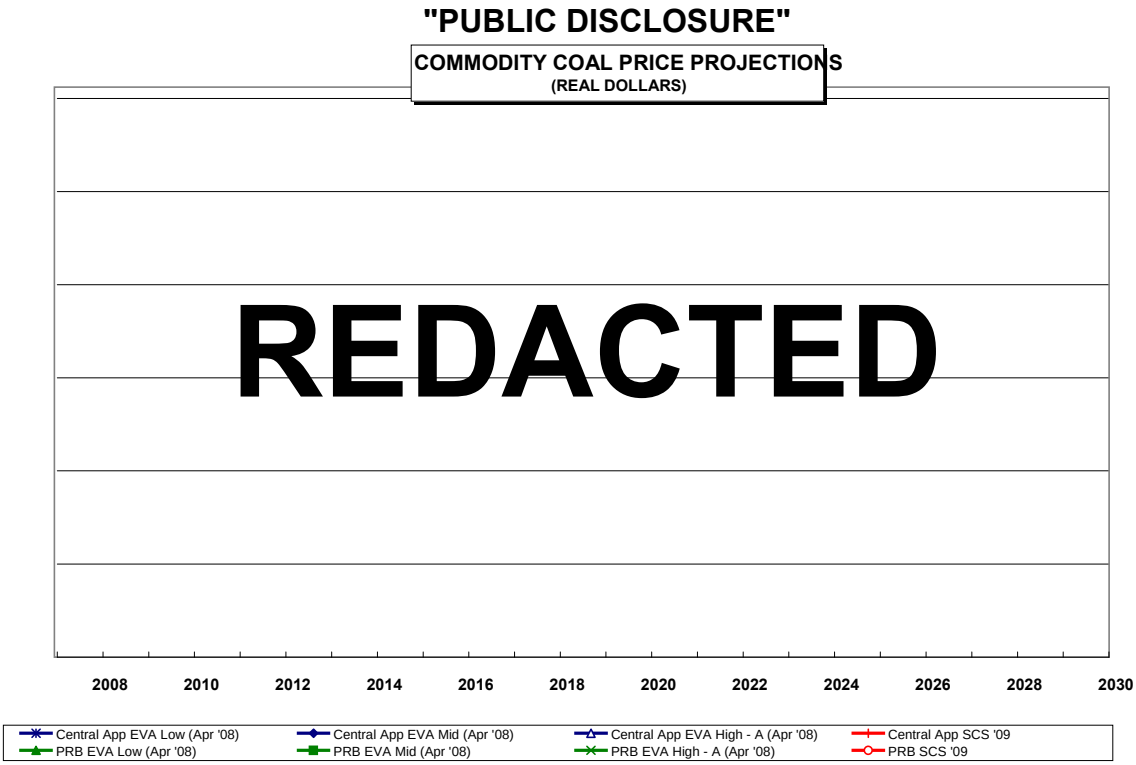


Table 4.4.1-2 Delivered Coal Price Projections

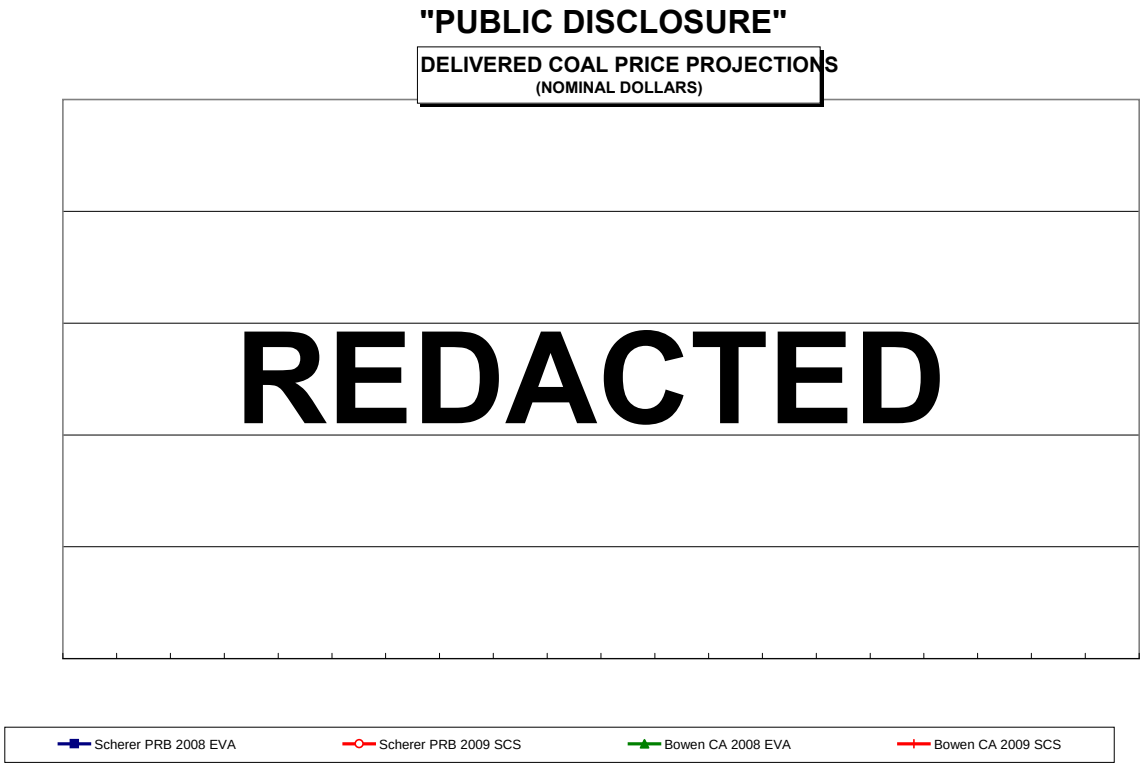


Table 4.4.1-3 Commodity Gas Price Projections

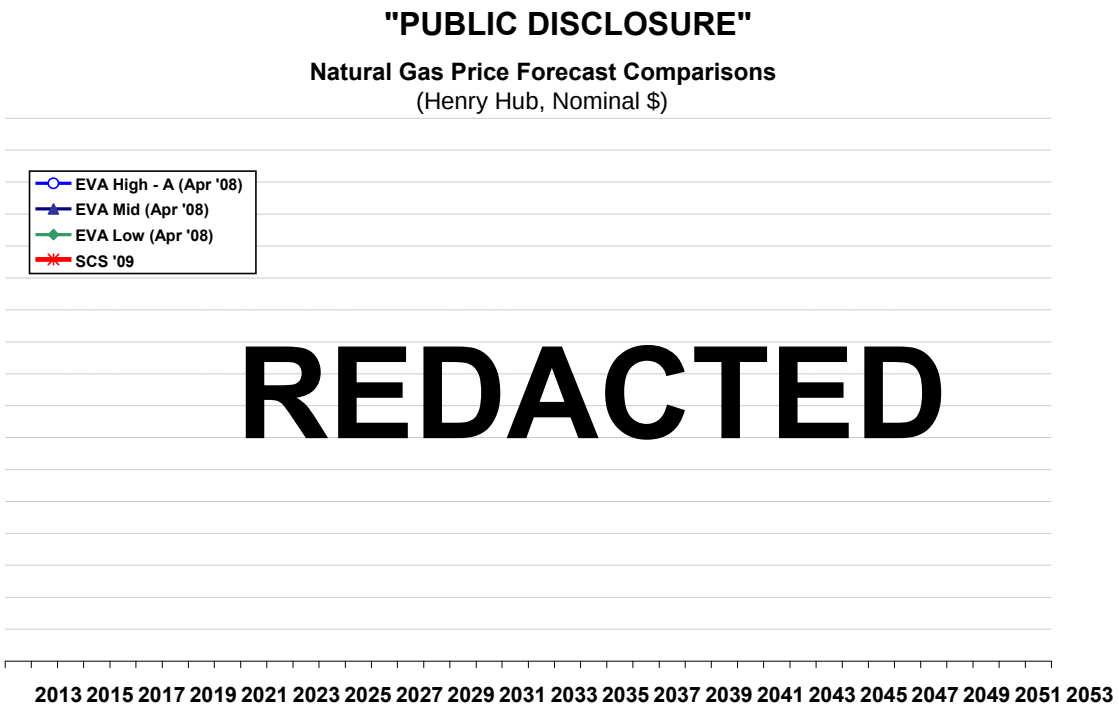


Table 4.4.1-4 Updated IRP Technology Data Book Busbar Cost Screening

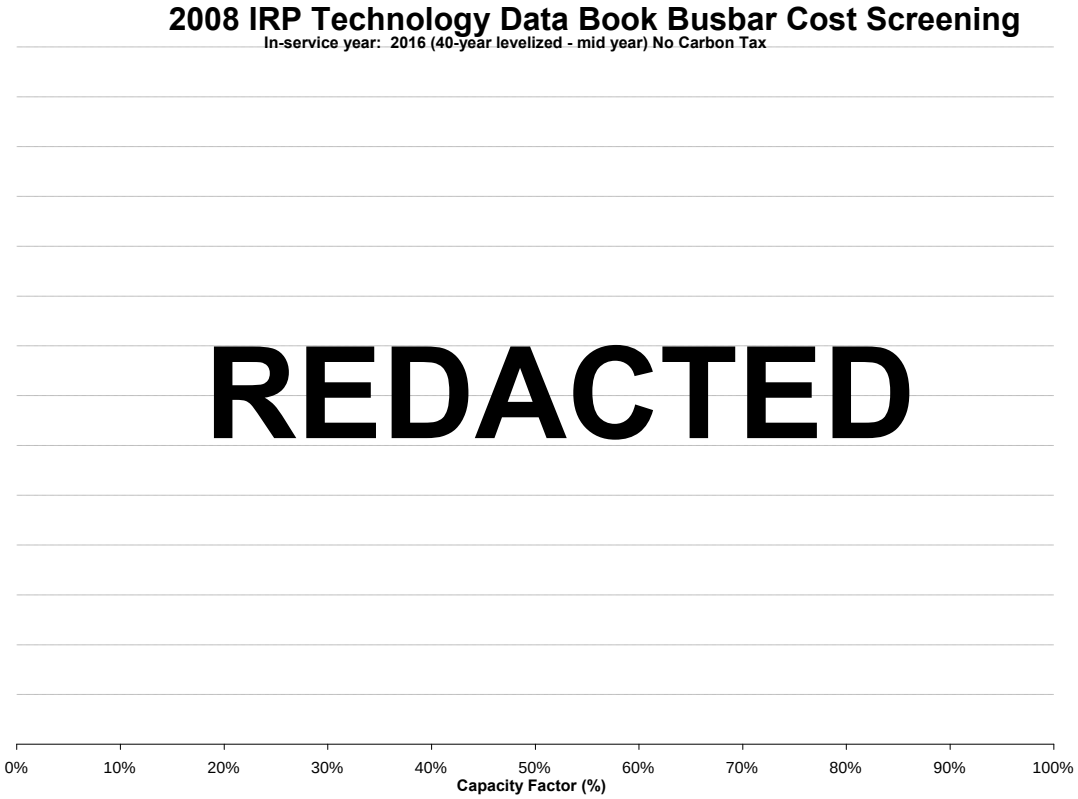


Table 4.4.1-5 **Data Assumption Replacement**

Overnight versus Installed Costs

Indicative Overnight Cost (2008$)	Spring '08 (Total $)	Spring '08 ($/kw)
CT-7FA	"REDACTED"	"REDACTED"
CC-F	"REDACTED"	"REDACTED"
CC-G	"REDACTED"	"REDACTED"
PC	"REDACTED"	"REDACTED"
PC w CCS	"REDACTED"	"REDACTED"
AB-IGCC	"REDACTED"	"REDACTED"
OB-IGCC	"REDACTED"	"REDACTED"

Indicative Installed Cost (2016$)	Spring '08 (Total $)	Spring '08 ($/kw)
CT-7FA	"REDACTED"	"REDACTED"
CC-F	"REDACTED"	"REDACTED"
CC-G	"REDACTED"	"REDACTED"
PC	"REDACTED"	"REDACTED"
PC w CCS	"REDACTED"	"REDACTED"
AB-IGCC	"REDACTED"	"REDACTED"
OB-IGCC	"REDACTED"	"REDACTED"

Escalation Assumptions	Spring '08
2008	"REDACTED"
2009	"REDACTED"
2010	"REDACTED"
2011	"REDACTED"
2012	"REDACTED"
2013	"REDACTED"
2014	"REDACTED"
2015	"REDACTED"
2016	"REDACTED"
2017	"REDACTED"
2018	"REDACTED"
2019	"REDACTED"
2020*	"REDACTED"

*Escalation held at "REDACTED" for 2020 and beyond

Table 4.4.1-6

Assuming No New Demand Side Programs or Supply Side Resources(MW)							
Year	Peak Demand (A)	Existing & Committed Capacity (B)	UPS (C)	Net Purchases (D)	Active DSOs (E)	Total Existing & Committed Capacity	Reserve Margin (%)
2008	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2009	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2010	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2011	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2012	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2013	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2014	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2015	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2016	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2017	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2018	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2019	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2020	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2021	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2022	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2023	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2024	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2025	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2026	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2027	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"

Notes
(A) Territorial Load requirements less Passive DSOs
(B) Includes McDonough units 1 & 2 retirements and the Commision approved McDonough units 4, 5 & 6
(C) Unit Power Sales of Plant Scherer capacity
(D) Includes territorial and imported power purchases
(E) Values stated in combustion turbine equivalence terms

Table 4.4.1-7 Discount and Inflation Rates

Component	Cost
Discount Rate	"REDACTED"
Long-Term Inflation Rate	"REDACTED"
Variable O&M	"REDACTED"
Fixed O&M	"REDACTED"

Table 4.4.1-8 Direct Spending Curves

Year	CT	CC	Base Coal	Base Nuclear
1	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
2	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
3	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
4	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
5	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
6	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
7	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
8	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
9	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
10	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
11	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
12	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Total	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"

Table 4.4.1-9 Real Escalation Assumptions

Real Escalation Assumptions	
2008	"REDACTED"
2009	"REDACTED"
2010	"REDACTED"
2011	"REDACTED"
2012	"REDACTED"
2013	"REDACTED"
2014	"REDACTED"
2015	"REDACTED"
2016	"REDACTED"
2017	"REDACTED"
2018	"REDACTED"
2019	"REDACTED"
2020	"REDACTED"

4.4.2 Potential Impacts of Possible Future Carbon Legislation

4.4.2.1 The Reference Case

In response to the Commission's order to evaluate the potential impacts on customer rates of pending CO_2 abatement legislation, the following reference case, as shown in Table 4.4.2.1, was used forming the basis for such evaluation. The reference case was allowed to optimize starting in year 2007. Based on the assumptions, the CT technology and the CC technology comprised the majority of the new capacity added during the study period except for the inclusion of Vogtle nuclear Units 3 and 4 with assumed commercial operation commencing in 2016 and 2017 respectively. The PROVIEW generic unit slice or block size in this case and all the sensitivity cases discussed is 300 MW.

The reference case was used to evaluate two potential CO_2 tax levels:

- REDACTED (2008$) CO_2 tax
- REDACTED (2008$) CO_2 tax

In each CO_2 sensitivity case, the start year for the tax is REDACTED and escalates REDACTED above inflation through the end of the model planning period.

Table 4.4.2.1 Reference Case

	Incremental 300 MW Blocks				Cumulative 300 MW Blocks			
Year	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL
2008								
2009								
2010								
2011	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2012	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2013	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2014	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2015	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
2016	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
2017	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2018	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2019								
2020								
2021								
2022								
2023								
2024								
2025								
2026								
2027								
Total								

Note: Vogtle Units 3 and 4 were already embedded in the above case and are therefore not shown.

4.4.2.2 No Load Growth

For the no load growth case, the load forecasts were held constant at 2008 levels throughout the study period. As shown in the following table, no load growth yields no capacity additions over the model planning period.

Table 4.4.2.2 No Load Growth

	Reference Case				No Load Growth				Difference in Slices Sensitivity –Reference Case			
Year	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL
2008												
2009												
2010												
2011	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2012	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2013	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2014	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2015	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
2016	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
2017	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2018	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												
Total												

4.4.2.3 REDACTED /ton CO_2 Tax

To evaluate the effects of potential federal or state regulations requiring reductions in CO_2 emissions, a CO_2 dispatch penalty (tax) was added to the assumptions used in the reference case. Specifically, a CO_2 dispatch penalty of REDACTED per ton (2008$) was used starting in REDACTED.

As shown in the following table, this sensitivity resulted in one (1) slice of CT being replaced by one (1) slice of CC generation over the model planning period.

Table 4.4.2.3 CO_2 Tax - REDACTED **per ton beginning in** REDACTED **escalating at** REDACTED **above inflation**

	Reference Case				(REDACTED)/ton CO2 tax beginning (REDACTED) esc at (REDACTED) above inflation				Difference in Slices Sensitivity –Reference Case			
Year	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL
2008												
2009												
2010												
2011	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2012	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2013	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2014	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2015	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
2016	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
2017	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2018	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												
Total												

4.4.2.4 REDACTED /ton CO_2 Tax

To evaluate the effects of potential federal or state regulations requiring reductions in CO_2 emissions, a CO_2 dispatch penalty (tax) was added to the assumptions used in the reference case. Specifically, a CO_2 dispatch penalty of REDACTED per ton (2008$) was used starting in REDACTED.

As shown in the following table, this sensitivity resulted in four (4) slices of CT being replaced by four (4) slices of CC generation over the model planning period.

Table 4.4.2.4 REDACTED **per ton beginning in** REDACTED **escalating at** REDACTED **above inflation**

	Reference Case				(REDACTED)/ton CO2 tax beginning (REDACTED) esc at (REDACTED) above inflation				Difference in Slices Sensitivity –Reference Case			
Year	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL	CT	CC	NUCL	COAL
2008												
2009												
2010												
2011	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2012	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2013	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2014	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2015	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
2016	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**T**
2017	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**E**
2018	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												
Total												

Table 4.4.2.5 Impact of Potential CO_2 Legislation

	Sensitivity Description	Real Levelized ¢/KWH	Percent Above Reference	Levelized ¢/KWH	Percent Above Reference	2009 - 2010 Marginal Costs		Total 18 Yr. Change above No Growth (000's)	Percent Above Reference	Total 18 Yr. NPV Dollars to No Growth (000's)	Percent Above Reference
						Flat Shape **	System Shape **				
0	Reference Case	REDACTED		REDACTED		REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
1	No Load Growth after 2008	na	na	na	na	na	na	na	na	na	na
2	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation)	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
3	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation)	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
4	(REDACTED) /ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation) - Allocated allowances decline to 50% by 2028	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
5	(REDACTED) /ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation) - Allocated allowances decline to 50% by 2028	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
6	(REDACTED) /ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation) - Zero allocated allowances	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
7	(REDACTED) /ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above inflation) - Zero allocated allowances	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Note 1: Plan for 2010 through 2028
Note 2: Assumes CO_2 tax begin in (REDACTED)
Note 3: Assumes baseline CO_2 emission levels as the (REDACTED)
*Note 4: **Flat and System marginal costs are discounted at the Base Case cost of capital*

Table 4.4.2.6

0 Plan : Reference Case above No Load Growth after 2008

REDACTED

Table 4.4.2.7

2 Plan : (REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above No Load after 2008

REDACTED

Table 4.4.2.8

3	Plan :	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) above No Load after 2008

REDACTED

Table 4.4.2.9

4	Plan :	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) - Allocated allowances decline to 50% by 2028 above No Load after 2008

REDACTED

Table 4.4.2.10

5	Plan :	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) - Allocated allowances decline to 50% by 2028 above No Load after 2008

REDACTED

Table 4.4.2.11

6	Plan :	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) - Zero allocated allowances above No Load after 2008

REDACTED

Table 4.4.2.12

7	Plan :	(REDACTED)/ton CO2 tax (starting in (REDACTED) esc at (REDACTED) - Zero allocated allowances above No Load after 2008

REDACTED

4.5 Technology Data Book Update

Table 4.5.1 Technology Data Book Update

Data Assumptions for Technology Screening Economics
Year 2008 Dollars

		Pulverized Coal CAPP	Pulverized Coal CAPP w CCS	Oxygen Blown Integrated Gasification CC	Air Blown Integrated Gasification CC	FA-Technology CT 4 Units Dual Fuel	Combined Cycle - F	Combined Cycle - G
		PC - CA	**PC - CA w CCS**	**IGCC - OB**	**IGCC - AB**	**CT - 4, FA**	**CC-F**	**CC-G**
(2007$) **Total**	$/kW	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Capacity:	MW	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Heat Rate:	Btu/kWh	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Fixed O&M:	$/kW-yr	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Variable O&M:	mills/kWh	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
SO_2:	lbs/MBtu	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
NO_X:	lbs/MBtu	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"
Mercury:	lbs/Tbtu	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"	"REDACTED"

4.6 Renewable Energy Research Plan Update

The number of renewable energy projects on Georgia Power's system is increasing given the higher avoided energy costs driven by rising fuel costs. As can be seen below, there has been a significant increase in firm capacity under contract from renewable generators over the past several years.

Time Period	Firm Capacity from Renewable Generators
• Prior to 2005	1 MW
• 2005	8 MW
• 2008	136 MW
• Beyond 2008, based on notices of intent	Approximately 600 MW

Georgia Power has increased its emphasis on helping potential renewable developers evaluate and pursue projects. This increased emphasis includes both workshops and website resources for potential renewable developers.

4.6.1 Biomass Overview

The scope of Southern Company's biomass testing program has included investigation of co-firing various types of biomass at our existing pulverized coal power plants. With increased fuel costs, lowest cost options of renewable energy generation were sought. In response, several studies have been conducted by Southern Company and Georgia Power into the cost-effectiveness of different co-firing technologies.

In general, there are two forms of co-firing. Co-milling involves treating the biomass as if it were coal, mixing the material with the coal and passing it through the coal handling system and coal burners. The other technology is direct injection, in which the biomass is processed to a fine sawdust-like material and blown directly into the furnace through its own dedicated burners. Co-milling requires less capital but is limited to only low percentages of biomass. Its success depends on the individual power plant design, on the form of biomass as fuel, and on the percentage co-fired. The maximum co-milling energy percentage will typically be about 1% to 5% by energy input. In testing at Southern Company plants, sawdust and sander dust worked fairly well, as did finely chipped tree trimming waste. Less success was achieved with large

wood chips due to their fibrous nature. Cubes of switchgrass manufactured to overcome handling issues milled and burned well, but were expensive to produce and caused storage issues.

Direct injection is generally capable of co-firing higher percentages of biomass. It is possible to achieve 10% or greater co-firing by the direct injection method. However, capital equipment is required and the biomass (wood or grass) must be reduced to a small size, which can further add to costs. However, fairly promising results have been obtained in Southern Company power plant tests conducted on direct injection of switchgrass.

In addition to the biomass handling, feeding, and capital cost issues mentioned above, there are other key technical hurdles that must be overcome before biomass could be co-fired on significant scale. Biomass materials have concentrations of certain minerals that are potentially adverse to operation of pollution control equipment located at many power plants. Southern Company is currently pursuing Research and Development ("R&D") to better define the harmful effects of these minerals. Furthermore, many plants sell, rather than store, fly ash for use in the concrete industry. However, the ASTM specifications for fly ash in cement do not recognize anything but fly ash from coal. As a result, there are serious concerns about the ability to sell fly ash that contains wood ash.

The current financial projections show that co-firing biomass is typically not yet economical with conventional coal-based power generation. Because a given volume of biomass contains much less energy than the same volume of coal, the transportation costs for biomass versus coal are much greater. This not only adversely affects the economics of biomass power generation, but also limits the amount of biomass that can be transported to a given location. We estimate that the Company could realistically co-fire biomass in the range of 30 to 80 MW at selected units if the economics were favorable.

Southern Company will continue to conduct a significant R&D program in biomass co-firing with the goal of solving the key technical issues and improving the economics. Southern Company is actively engaged in addressing the technical issues and economic barriers that will permit increased use of this native resource for future power generation.

4.6.2 "Small" Wood Chips Co-firing

Southern Company has begun a new R&D project with significant co-funding from the U.S. Forest Service to test small wood chips (i.e., 1/2 inch and less) in co-firing applications. Alabama Power Company ("Alabama Power") and SCS are participants in the project involving multiple partners, including Auburn University, the University of Alabama and the U.S. Forest Service. The project will explore the feasibility of using woody biomass as an energy source by blending it with coal. Southern Company conducted preliminary co-firing tests of about 1,000 tons of small wood chips at a small 70 MW Alabama Power unit in Fall 2007 and Spring 2008. The biomass was harvested from a forest near Heflin, Alabama. These initial tests were successful in demonstrating the technical viability of co-firing small wood chips in a pulverized coal boiler. Based on these positive results, it is anticipated that the process will be scaled up and will result in co-firing small wood chips at much larger pulverized coal units.

4.6.3 Switchgrass Co-firing

Testing of switchgrass provided by the University of Tennessee continues at an Alabama Power facility. The objective of the tests is to determine if lower Nitrogen Oxide ("NO_X") emissions are obtained by co-firing "winter" harvest switchgrass compared to "green" harvest switchgrass.

4.6.4 Biomass Re-powering Feasibility Studies

Southern Company initiated work on a feasibility study to understand the technical, environmental, and cost issues associated with retrofitting a Georgia Power pulverized coal unit for 100% biomass firing. The study will define the required equipment modifications, performance, environmental emissions, and costs associated with retrofitting the coal unit. The Electric Power Research Institute ("EPRI") is collaborating with SCS in co-funding the study. Comprehensive financial analyses will be performed to determine the economic viability of the biomass conversion. The project began in November 2006 and will conclude by August 2008 with delivery of a final engineering design/cost report.

4.6.5 Evaluation of Biodiesel as Power Generation Fuel

In 2007, the University of Alabama tested biodiesel as a possible fuel for power generation. Diesel fuel and biodiesel were tested using a bench-scale combustor using a preset blending matrix. Optimum air-to-fuel ratios were determined for good fuel burnout and flame stability. Emissions in the combustor were also measured. A final report on test results has been presented. Potential power plant applications of bio-diesel include boiler light-off oil, flame stabilization oil, and oil in peaking CT. Further work has been proposed to examine the potential of preheating vegetable oil, which is a feedstock to biodiesel, and using it in a combustor and as a boiler start-up fuel.

4.6.6 Forest Yield Improvement

The supply chain for woody biomass to energy offers significant opportunities for yield improvement. Southern Company will work closely with the Herty Advanced Materials Development Center to improve forest yields. A series of development activities are proposed to deliver a targeted 25% energy yield improvement per acre over current average baselines. The development activities will focus on the major supply chain inputs, they will include:

- Dense plantings of short rotation tree crops
- Single pass whole tree harvest and understory harvest
- Biomass densification for decreased transport cost
- Fuel quality upgrading, homogenization, and resizing to improve combustion efficiency

These yield improvement activities will be carried out with a view to maximized sustainability and low environmental impact.

4.6.7 Advanced Biomass Gasification

Utility studies have determined that pressurized (i.e., about 500 psi) biomass gasification for power generation in large-scale (i.e., greater than 50 MW) CC applications can be competitive when compared to other low-cost renewable options. However, there are significant technical

issues associated with feeding biomass and with subsequent cleanup of the synthesis gas ("syngas"). These technical challenges will be addressed in a future collaborative research project to develop biomass gasification as a power generation option. Partners with Southern Company in this research project include EPRI. It is anticipated that biomass gasification CC could produce power at efficiencies of about 40% as compared to the current combustion-based biomass efficiencies in the 26% to 30% range. The project will provide new test results allowing development of preliminary process designs and economics for future commercial scale plants. Bench scale and pilot plant testing of pressurized biomass gasification will be performed at Auburn University (fluid bed gasifier) and the University of North Dakota Energy & Environmental Research Center (transport gasifier), respectively. The projects will test the properties of a biomass feedstock, research existing technologies that can size and dry the fuel, and identify fuel preparation requirements for each feedstock to assure reliable operation of the pressurized feed injection systems. The gasifiers will be operated in air-blown and oxygen-blown modes to represent a range of process conditions. Emissions and performance of the gasifiers and several downstream syngas cleanup systems will also be documented during these tests. Based on the performance and emissions data, costs and economics will be estimated for commercial scale pressurized biomass gasification in power generation applications.

4.6.8 Offshore Wind Feasibility Study

The final report has been completed for the Southern Company and Georgia Tech's Strategic Energy Institute feasibility study on locating wind turbines off the coast of Savannah, Georgia. This report is available on the Southern Company website (http://www.southerncompany.com/planetpower/index.asp).

The goal of the "Southern Winds" project was to determine if offshore wind power is an efficient and cost-effective renewable energy option for power generation. Based on the initial feasibility work, it was concluded that wind data at the exact height of a potential offshore wind turbine and in the location for a potential wind farm needs to be collected for a minimum of three years and analyzed before the economic feasibility could be completed. This resulted in the application to the Minerals Management Service ("MMS") for leases off the coast of Georgia for the placement of an offshore meteorological tower. The nominations for the leases have been

accepted and the process has now begun to take place with MMS in order to obtain the leases. The exact procedure has not been established because of this being one of the first nominations accepted. Also, the lease terms have not been agreed upon by the parties. The Company believes that MMS will require an Environmental Assessment ("EA") to be conducted before a lease for an offshore meteorological tower is granted. After the EA is conducted and the lease terms are agreed upon, a lease will be granted for the placement of the offshore meteorological tower. Once granted, Georgia Power will evaluate the potential placement of metrological towers at the research site locations.

4.6.9 Solar PV Demonstration and Pilot Project

In general, photovoltaic ("PV") technology performs well and is very reliable in clear and dry climates such as found in the western United States. The performance of a PV module as well as its reliability is a function of its temperature and the amount of sunlight that a module receives. As the temperature of the module decreases, its performance increases. Also, the energy produced by a module is directly proportional to the amount of direct sunlight the module receives. In the southeast U.S., the climate is generally hot and humid, which is the opposite of the ideal performance conditions for a PV module. The module temperature is higher and clouds and haze resulting from the humidity reduce the amount of sunlight that reaches the surface of the module.

The expected performance and reliability of PV technology are lower in the southeast United States compared to other parts of the U.S. Recent advances in PV technology may help decrease this gap somewhat. Georgia Power is conducting a small demonstration project of concentration PV systems in order to evaluate and compare their performance characteristics. The Company will select seven PV technologies to be evaluated and install the technologies on the roof-top of the Georgia Power Company headquarters building in Atlanta. The Company demonstration project will:

1. Determine efficiency of various PV systems and urban environments;
2. Determine the effect of clouds/weather; and
3. Determine the solar intensity.

The size of the project will be approximately 35 kW. This demonstration project will help the Company to determine if PV technology can perform well under the conditions found in the southeast United States.

The objective of this project is to evaluate and compare the performance of "cutting-edge" PV technologies as they emerge in the marketplace. A weather station will be located adjacent to the PV installation in order to characterize the performance of the equipment with respect to temperature and irradiance. This demonstration project will cost approximately $400,000. Based on the results from this demonstration project, a larger PV research project could subsequently be developed continuing the evaluation of emerging solar technologies.

4.6.10 Ocean Tidal Demonstration Project

Ocean tidal and current resources along the coast of Georgia as well as available technologies are currently being evaluated. Based on this information, a small-scale ocean tidal demonstration project might be proposed. The environmental issues for this type of project will first be considered before a project is fully developed.

4.7 Unit Retirement Study Update

4.7.1 Executive Summary

This section summarizes the methodology, major assumptions, and key results of the 2008 Georgia Power Economic Retirement Study. The unit retirement study was performed using two levels of detail: an economic screening analysis on all fossil units and a more detailed evaluation of current replacement costs. The first section (Economic Screening Analysis) includes a discussion of the methodology, sensitivities and summary of the results of economic screening analysis. The second section (Detailed Evaluation) includes a discussion of the methodology and the results of the detailed evaluation of certain units.

The economic screening analysis compares spot market replacement of a unit with the incremental cost of continued operation of the existing generating unit. The replacement costs include the CT capacity cost and System marginal energy costs. Results of the study are

summarized in terms of the "net contribution of continued operation," which is the net present value of the difference in future replacement (2008-2037) costs and future incremental operating costs. The analysis was performed across 10 sensitivities that captured possible variations in the operating environments.

The screening analysis indicated no candidates for retirement, except for Kraft Units 1 and 4. These units require only minimal capital and O&M costs to maintain for system reliability purposes. If any major capital expenditure is required in the future, these units will be reevaluated for potential retirement. Given these issues, no detailed study was performed at this time.

The detailed evaluation focuses on a comparison of continued unit operation with replacement by a CC. The detailed evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital and other fixed costs are captured in the comparison analysis to help determine the most economical option.

Detailed Evaluations were performed on Plant Branch, Plant Yates Units 6 and 7 and Plant Gaston Units 1 through 4. These units were selected due to the state requirement of controls at Branch and Yates and anticipated requirements in Alabama impacting Plant Gaston Units 1-4.

The economic evaluations indicate that customers will save approximately REDACTED million by installing environmental controls and continuing to operate Plant Branch and Yates Units 6 and 7, rather than replacing them with a CC. Georgia customers will save an additional REDACTED to REDACTED (50% of total savings) by continuing to operate and controlling Plant Gaston Units 1-4.

Given this evidence and the need to maintain fuel diversity for our customers, Georgia Power recommends and asks the Commission to approve the decision to install environmental controls on these units.

Table 4.7.1 summarizes the detailed evaluation results for the generating units under a range of likely fuel and CO_2 impacts.

Table 4.7.1
Summary of Detailed Evaluation Results
Net Contribution in millions of 2008$

Generating Unit	Net Contribution	Economic Retirement Date
Branch 1 and 2	REDACTED	N/A
Branch 3 and 4	REDACTED	N/A
Branch 1 - 4	REDACTED	N/A
Yates Units 6 and 7	REDACTED	N/A
Gaston Units 1 - 4	REDACTED	N/A

4.7.2 Economic Screening Analysis

Scope and Limitations

The purpose of the screening analysis was to identify fossil generating units that could be near term candidates for economic improvement or replacement. The retirement study was a screening level analysis and did not include detailed modeling of replacement costs or detailed transmission (engineering) estimates that would be required in a definitive retirement analysis. Although this study includes information related to projected economic retirement dates, this study will not be used to revise existing unit retirement dates.

Assumptions/Changes

Fuel Prices

The screening analysis is based on the 2008 Energy Budget with updated fuel and emissions forecasts provided by EVA. There have been significant changes in assumptions surrounding coal and gas prices, capacity costs, and environmental capital when compared to the 2007 Energy Budget that was used in the 2007 IRP. These changes have a significant affect on the economics of coal units across the system, which has resulted in less base-case unit retirements than was previously documented.

One major change in assumptions is the fuel forecast, specifically the natural gas price forecast. Figures 4.7.2-1 and 4.7.2-2 show the changes in coal and gas prices from the 2007 IRP

to the 2008 update, specifically for Branch and Yates. Currently, natural gas price projections are more that REDACTED per MMBTu higher in the long-term greatly increasing the margin between natural gas and coal prices, which in general causes coal units to look more economically favorable.

Figure 4.7.2-1 Plant Branch Fuel Price Comparison

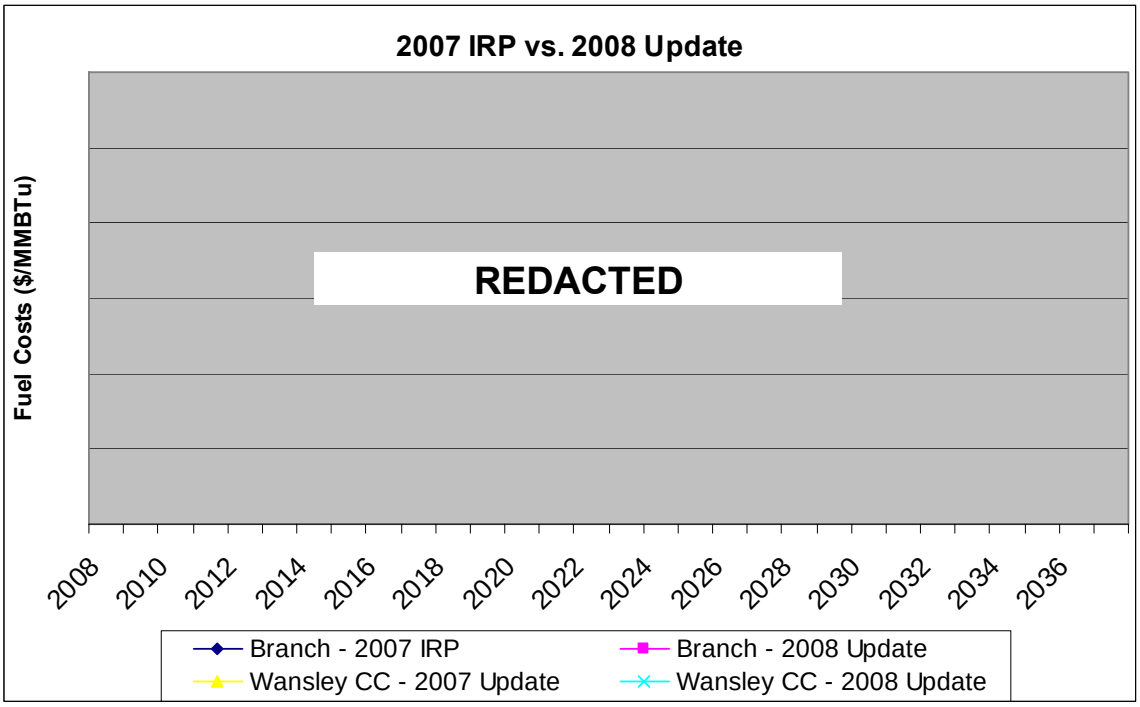
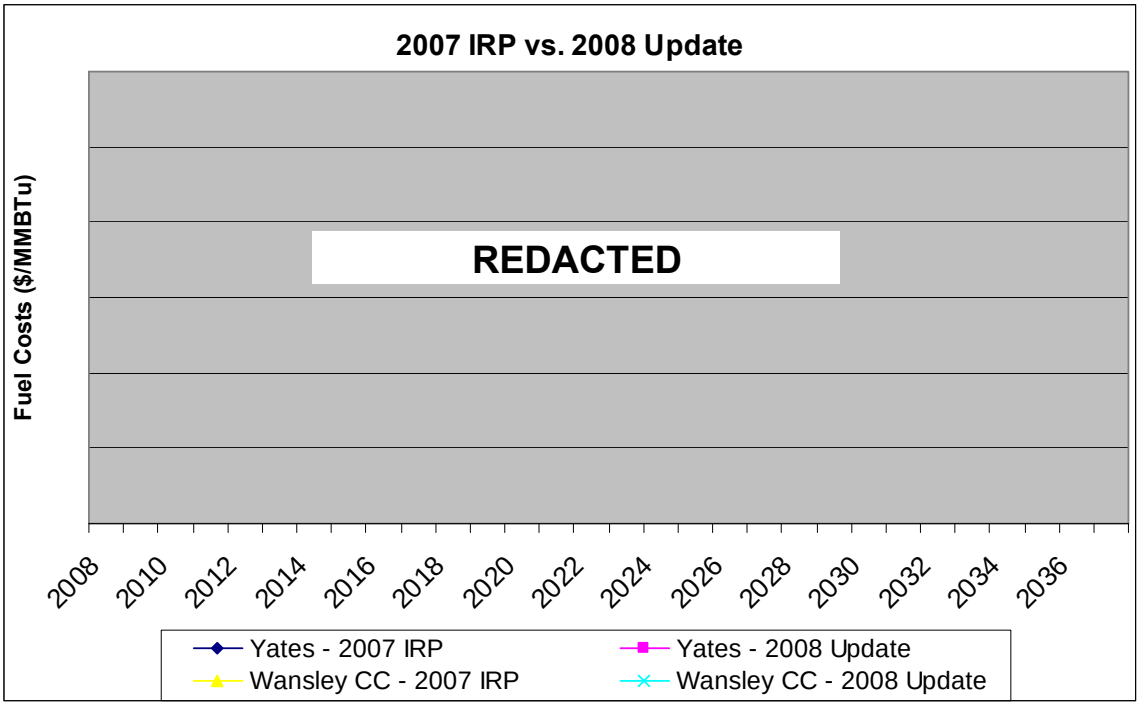


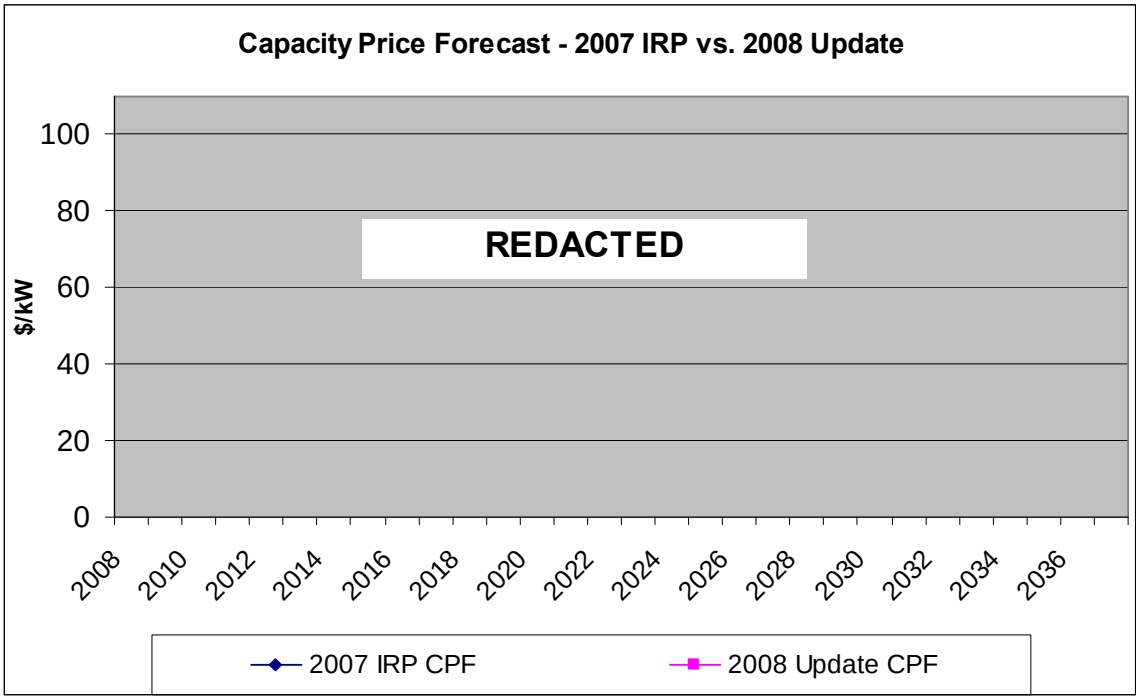
Figure 4.7.2-2 Plant Yates Fuel Price Comparison



4.7.3 Economic Screening Analysis Overview

The screening analysis uses the capacity cost of a CT to value generating units (discussed in the methodology section of this document). The retail capacity price forecast ("CPF") has increased considerably from the 2007 IRP. Specifically, the long run cost of capacity is much higher due to increases in technology costs for a CT. Therefore, coal units have a much greater capacity benefit when compared to replacement costs. Figure 4.7.3-1 illustrates the CPF comparison.

Figure 4.7.3-1 Capacity Price Forecast Comparison



Methodology

The economic screening analysis focuses on a comparison of the benefits of continued operation (avoided cost benefits) and the incremental cost of operation (incremental costs) over a 30-year period from 2008 to 2037. The net present value of the difference between unit benefits and costs was calculated on a $/kW basis to determine the overall net contribution of continued operation. Annual differences between benefits and costs were also present-valued and accumulated to determine an economic retirement date.

Avoided Cost Benefits

Avoided cost benefits include capacity benefits and energy benefits. Replacement capacity costs were based on a peaking capacity price forecast that assumes short-term purchases from the market until 2014 and the economic carrying cost of a self-build CT thereafter.

Energy benefits were developed using the Strategist® model. The avoided energy cost for each unit was calculated using the lambda duration curve methodology. This methodology simplifies avoided energy cost calculations for use in screening potential retirement candidates. The lambda duration curve methodology assumes that each generating unit avoids system energy

costs equal to the average of the highest hourly system lambdas during the total number of hours the generator is projected to operate in a year. The lambdas are then adjusted to cap them at the replacement energy cost of a new gas-fired CT.

Incremental Costs

Incremental costs included fuel, O&M, capital, and emissions costs (NOx, sulfur dioxide ("SO_2"), and CO_2) necessary for continued operation of the facility. Mercury allowances were not included in the Strategist® model due to the Clean Air Mercury Rule being vacated. The Strategist® model provided annual fuel costs and emissions costs based on the economic operation of the unit in each scenario for the years 2008-2037.

O&M includes labor, materials, overhead costs, and the costs of engineering and support services requested by the plant. Five-year projections of unit incremental O&M costs were obtained from the 2007 Budget process. The incremental costs for the remaining years (2012-2037) were calculated using a moving average of the projections for the first five years and escalating the resulting value at inflation. Environmental O&M for all scheduled environmental controls is also included.

The incremental capital costs for each unit for years 2008-2037 are based on capital expenditures projected by each generating plant. These projected capital expenditures were necessary to keep the units running through the analysis period at the current level of operation. All environmental control capital for all scheduled environmental projects is also included.

Sensitivities

In order to capture variations in the operating environments that would affect the retirement dates of the units, ten cases were developed around uncertainty in fuel prices and CO_2 legislation. Table 4.7.3-2 illustrates the assumptions used in the ten cases.

Table 4.7.3-2 Cases

No CO_2 High Fuel	Mid CO_2 High Fuel	High CO_2 High Fuel
No CO_2 SCS '09	Mid CO_2 SCS '09	High CO_2 SCS '09
No CO_2 Mid Fuel	Mid CO_2 Mid Fuel	High CO_2 Mid Fuel
No CO_2 Low Fuel	X	X

The CO_2 prices for the mid and high cases were REDACTED/Ton and REDACTED/Ton (2008$) starting in REDACTED escalating at REDACTED above inflation.

The fuel price cases utilized variations in gas and coal prices based on a low, middle, and high forecast as well as the SCS 2009 budget fuel case.

Summary of Study Results

The screening level results assume the following environmental controls under the May 6th, 2008 Environmental Strategy:

- Bowen 1-2, 4: Scrubber
- Branch 1-4: Scrubber, SCR
- Gaston 1-4: Scrubber, SCR
- Scherer 1-3: Scrubber, SCR, baghouse
- Wansley 1-2: Scrubber
- Yates 6-7: Scrubber, SCR

Attachment A summarizes the costs and benefits of continued operation of each of the units for all ten cases over the 30-year period (2008-2037). The calculated retirement date for each sensitivity and the unit's capacity are also shown for each unit. A description of each line item included in the evaluation is included on Attachment B.

4.7.4 Detailed Evaluations

Methodology

The detailed evaluation focuses on a comparison of continued operation with unit replacement by a CC. The detailed evaluation also includes more refined production cost modeling and cost implications to the transmission system. Changes in production cost, capital and other fixed costs are captured in the comparison analysis to help determine the most economical option. The system production costs are generated with the Strategist® model using a thirty-year period (2008 through 2037) with the updated 2008 EVA published forecasts for Fuel and Allowances. Fixed costs associated with the continued operation for the existing generating Units are based on projections of annual O&M and the net present value of the revenue requirements associated with incremental capital investment necessary to keep the Unit operational over the 30-year evaluation period. Replacement costs, installation capital, fixed O&M, and continue to operate capital, are site specific and developed by SCS engineering. The net present value of the difference between replacement cost and Unit operational cost is calculated to determine the overall net contribution. The annual cost difference is present-valued and accumulated to determine an economic retirement date. The units analyzed and the dates utilized in the retirement detailed analyses were determined based on the units impacted by the May 6, 2008 Environmental Strategy control deadlines and time required for replacement CCs to be built.

As with the Screening Analysis, the Detailed Analysis also incorporated seven sensitivities in order to capture variations in the operating environments that would affect the retirement dates of the units. The ten cases were developed around uncertainty in fuel prices and CO_2 legislation. Table 4.7.3-2 illustrates the assumptions used in the ten cases.

The CO_2 prices for the mid and high cases used were REDACTED/Ton and REDACTED/Ton (2008$) starting in REDACTED escalating at REDACTED above inflation.

The fuel price sensitivities utilized variations in gas and coal prices based on a low, middle, and high forecast.

Assumptions for Plant Branch, Plant Yates and Plant Gaston

The detailed analysis is based on the 2008 Energy Budget with updated fuel and emissions forecasts provided by EVA. There have been significant changes in assumptions surrounding coal and gas prices, capacity costs, and environmental capital when compared to the 2007 Energy Budget that was included in the 2007 IRP. These changes have a significant affect on the economics of coal units across the system, which has resulted in less base-case unit retirements than was previously documented. Fuel assumption changes are detailed in section 4.7.2. Corresponding to the increase in capacity costs, environmental control costs and CC costs have also increased due to increases in commodity and labor costs.

Table 4.7.4-1 CC Replacement Capital (2008 Overnight $/kW)

	2007 IRP	2008 Update
Branch (2 unit)	REDACTED	REDACTED
Yates	REDACTED	REDACTED
Gaston (2 unit)	REDACTED	REDACTED

Table 4.7.4-2 Estimated Environmental Control Capital Costs

	2007 IRP	2008 Update
Branch SCRs	REDACTED	REDACTED
Branch Scrubbers	REDACTED	REDACTED
Yates SCRs	REDACTED	REDACTED
Yates Scrubber	REDACTED	REDACTED
Gaston SCRs	REDACTED	REDACTED
Gaston Scrubber	REDACTED	REDACTED

Plant Branch Steam Units 1, 2, 3 and 4

The purpose of the detailed evaluation is to determine the economic benefits of retiring Plant Branch Units 1, 2, 3 and 4 between 2014 and 2015 and replacing the units with the lowest cost option. This analysis includes a more detailed determination of changes in system energy costs and projections of unit operational characteristics. The evaluation also includes estimates of transmission cost implications associated with a potential retirement. It was assumed, in this study, that the replacement CC would be placed on the Branch Plant site. Due to the requirements dictated by the Georgia Multipollutant Rule three options were analyzed: 1)

Retiring and replacing Branch Units 1 and 2 with 1 2x1 MHI 501 G CC in January 2015, avoiding the Branch 1 and 2 Fall 2014 SCRs and combined Fall 2014 Scrubber installations; 2) Retiring and replacing Branch Units 3 and 4 with 1 2x1 MHI 501 G CC in January 2014, avoiding the Branch 3 Fall 2013 and Branch 4 Spring 2014 SCRs and the combined fall 2013 Scrubber installations; and 3) Retiring and replacing all of the Branch Units with 2 2x1 MHI 501 G CCs as prescribed in options 1 and 2.

Background

The four Plant Branch Units are steam units having a combined capacity of 1,546 MW with coal-fired boilers, which were all installed between 1965 and 1969 in order to meet baseload requirements.

The May 6, 2008 ECS includes SCRs and Scrubbers on all Branch coal units by the fall of 2014 to comply with the Georgia Multipollutant Rule requirements. In-service capital costs (2008$) for installing new environmental controls are presented below:

Table 4.7.4-3 Plant Branch Estimated Environmental Control Capital Costs

Control	**Cost**	**In-Service Date**
SCR	REDACTED	Fall 2013, Spring 2014, Fall 2014
Scrubber	REDACTED	Fall 2013, Fall 2014
Total	REDACTED	

Results

An economic evaluation of the CC replacement option was performed to compare customer costs over a thirty-year period 2008-2037. The evaluation assumes the May 6, 2008 Southern Company environmental strategy is implemented. The CC replacement option is compared back to the cost of continuing operation of Branch, fully controlled with SCRs and Scrubbers.

Table 4.7.4-4 summarizes the additional fuel (System Production Cost), capital, and O&M costs for the CC replacement option for one case (mid fuel and no CO_2). The CC replacement for option 3 is projected to cost customers REDACTED over the thirty-year period.

Table 4.7.4-4 Net Replacement Costs

Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Branch 12 (Dec 2014) Mid Fuel REDACTED CO2-Branch Mid Fuel REDACTED CO2 Base Case	Branch 34 (Dec 2013, May 2014) Mid Fuel REDACTED CO2-Branch Mid Fuel REDACTED CO2 Base Case	Branch 1-4 (Dec 2013, May 2014, Dec 2014) Mid Fuel REDACTED CO2-Branch Mid Fuel REDACTED CO2 Base Case
GENERATION UNIT COSTS AND BENEFITS			
System Production Cost	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION			
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**

Attachment C summarizes the costs and benefits of continued operation of each of the Plant Branch options for all ten cases over the 30-year period (2008-2037).

Transmission and Dismantlement Cost Assumptions

Transmission Cost Estimates

A transmission study was performed on the different options. The 2008 overnight costs varied from REDACTED to REDACTED and incorporated improvements of multiple 230 kV, 161 kV and 115 kV line re-conductors, as well as, replacement of equipment at multiple substations.

For Option 1 the 2008 overnight costs are REDACTED and include the follow improvements:

- REDACTED
- REDACTED
- REDACTED

- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED

For Option 2 the 2008 overnight costs are REDACTED and included the following improvements:

- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED

For Option 3 the 2008 overnight costs are REDACTED and included the following improvements:

- REDACTED
- REDACTED
- REDACTED
- REDACTED

- REDACTED
- REDACTED
- REDACTED
- REDACTED

Generic non-grid related interconnect costs are incorporated in the replacement CC site costs specific for a brownfield site. The costs include the collector bus, breakers and interconnecting line costs beyond the high side of the generator step-up transformer ("GSU").

Dismantlement Costs

Dismantlement cost estimates for the Branch Units are based on a 2008 study. The results of that study indicated that for option 1, closure of the Branch Units 1 and 2, is projected to cost REDACTED in 2008$. For option 2, closure of the Branch Units 3 and 4 is projected to cost REDACTED in 2008$. For option 3, closure of the entire plant site is projected to cost REDACTED in 2008$ due to the requirement to close the Ash Pond.

Plant Yates Steam Units 6 and 7

The purpose of the detailed evaluation was to determine the economic benefits of retiring Plant Yates Units 6 and 7 and replacing the Units with the lowest cost option. One option was evaluated for Plant Yates, retiring Units 6 and 7 in June 2015 and replacing them with 1 2x1 GE 7FA CC. June 2015 is the date by which Plant Yates Units 6 and 7 must be controlled, as determined by the Georgia Multipollutant Rule. This option assumed the replacement capacity to be installed on the Yates Plant site and avoids the construction of the SCRs and Scrubber.

Background

Plant Yates Units 6 and 7 are both coal-fired boilers. Below is a summary table of the capacities and in-service dates.

Table 4.7.4-5 Capacity and In-Service Date

Control	Capacity	In-Service Date
Yates 6	347	1974
Yates 7	345	1974
Total	692	

The May 6, 2008 ECS includes SCRs and Scrubbers on Plant Yates Units 6 and 7 by the fall of 2014 to cover the Georgia Multipollutant Rule requirements. In-service capital costs (2008$) for installing new environmental controls are presented below:

Table 4.7.4-6 Estimated Environmental Control Capital Costs

Control	Cost	In-Service Date
SCRs	REDACTED	Fall 2014
Scrubber	REDACTED	Fall 2014
Total	REDACTED	

Results

An economic evaluation of the CC replacement option was performed to compare customer costs over a thirty-year period 2008-2037. The evaluation assumes the May 6, 2008 Southern Company environmental strategy is implemented.

Table 4.7.4-7 summarizes the additional fuel (System Production Cost), capital, and O&M costs for the CC replacement option for one of the cases (mid fuel and no CO_2). The CC replacement for Plant Yates Units 6 and 7 retirements is projected to cost customers REDACTED over the thirty year period.

Table 4.7.4-7 Net Replacement Costs

Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Yates 6&7 (June 2015) Mid Fuel REDACTED CO2-Yates Mid Fuel REDACTED CO2 Base Case
GENERATION UNIT COSTS AND BENEFITS	
System Production Cost	REDACTED
Replacement Capacity Cost	REDACTED
Continue-to-Operate Capital	REDACTED
Replacement Continue-to-Operate Capital	REDACTED
Replacement Capital	REDACTED
Environmental Capital	REDACTED
Fixed O&M	REDACTED
Environmental O&M	REDACTED
Replacement Fixed O&M	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**
TRANSMISSION	
Net System Improvements & Credits	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**

Attachment C summarizes the costs and benefits of continued operation of Plant Yates for all ten cases over the 30-year period (2008-2037).

Transmission and Dismantlement Cost Assumptions

Transmission Cost Estimates

A transmission study was performed and the result was that a second REDACTED kV transformer would need to be installed at REDACTED substation. The 2008 overnight cost estimated for this project would be REDACTED.

Generic non-grid related interconnect costs are incorporated in the replacement CC site costs specific for a brownfield site. The costs include the collector bus, breakers and interconnecting line costs beyond the high side of the GSU.

Dismantlement Costs

Dismantlement cost estimates for the Yates Units are based on a 2008 study. The results of that study indicated that for Plant Yates Units 6 and 7, the projected cost is REDACTED in 2008$.

Plant Gaston Steam Units 1, 2, 3, and 4

The purpose of the detailed evaluation was to determine the economic benefits of retiring Plant Gaston Units 1, 2, 3 and 4 and replacing the Units June 2015 with the lowest cost option. This analysis includes a more detailed determination of changes in System energy costs and projections of Unit operational characteristics. The evaluation also includes estimates of transmission cost implications associated with a potential retirement. One option was evaluated for Plant Gaston, retiring Units 1, 2, 3 and 4 June 2015 and replacing them with 2 2x1 GE 7FA CC. This option assumed the replacement capacity is installed on the Gaston Plant site and avoids the construction of the SCRs and Scrubber.

Background

The four Plant Gaston Units are 255 MW steam units with coal-fired boilers having a combined capacity of 1,020 MW. They were installed between 1960 and 1962 in order to meet baseload requirements. These units are operated for the benefit of Georgia Power and Alabama Power. This evaluation includes benefits and costs associated with the entire plant.

The May 6, 2008 ECS includes SCRs and a single vessel Scrubber for all the Plant Gaston coal units by spring 2016 to cover acid rain SO_2, PM 2.5 State Implementation Plan requirements. In-service capital costs (2008$) for installing new environmental controls are presented below:

Table 4.7.4-8 Estimated Environmental Control Capital Costs

Control	Cost	In-Service Date
SCRs	REDACTED	Fall 2014, Spring 2015, Fall 2015, Spring 2016
Scrubber	REDACTED	Fall 2014
Total	REDACTED	

Results

An economic evaluation of the CC replacement option was performed to compare customer costs over a thirty year period 2008-2037. The evaluation assumes the May 6, 2008 ECS is implemented. The CC replacement option is compared back to the cost of continuing operation of Plant Gaston Units 1, 2, 3 and 4, fully controlled with SCRs and Scrubbers.

Table 4.7.4-9 summarizes the additional fuel (System Production Cost), capital, and O&M costs for the CC replacement option. The CC replacement option is projected to cost customers REDACTED over the thirty year period.

Table 4.7.4-9 Net Replacement Costs

Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Gaston 1-4 (June 2015) Mid Fuel REDACTED CO2-Gaston Mid Fuel REDACTED CO2 Base Case
GENERATION UNIT COSTS AND BENEFITS	
System Production Cost	REDACTED
Replacement Capacity Cost	REDACTED
Continue-to-Operate Capital	REDACTED
Replacement Continue-to-Operate Capital	REDACTED
Replacement Capital	REDACTED
Environmental Capital	REDACTED
Fixed O&M	REDACTED
Environmental O&M	REDACTED
Replacement Fixed O&M	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**
TRANSMISSION	
Net System Improvements & Credits	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**

Attachment C summarizes the costs and benefits of continued operation of Plant Gaston for all ten cases over the 30-year period (2008-2037).

Transmission and Dismantlement Cost Assumptions

Transmission Cost Estimates

A transmission study was performed and the result was that no transmission improvements were attributable to the retirement of Plant Gaston Units 1, 2, 3 and 4. A transmission study sensitivity based on capacity reserved in OASIS not being built was analyzed and included in the financial analysis. If that were to happen, the Plant Gaston retirements would then be responsible for the following transmission improvements at a cost of REDACTED (2008 overnight cost):

- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED

Generic non-grid related interconnect costs are incorporated in the replacement CC site costs specific for a brownfield site. The costs include the collector bus, breakers and interconnecting line costs beyond the high side of the GSU.

Dismantlement Costs

Dismantlement cost estimates for the Plant Gaston Units are based on a 2008 study. The results of that study indicated that for Plant Gaston Units 1, 2, 3 and 4, the projected cost is REDACTED in 2008$.

Attachment A
Economic Screening Analysis - Boulevard Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	Mid Fuel - NO CO2	Mid Fuel - REDACTED CO2	Mid Fuel - REDACTED CO3	Low Fuel - NO CO2	High Fuel - NO CO2	High Fuel - REDACTED CO2	High Fuel - REDACTED CO3	SCS 09 Fuel - NO CO2	SCS 09 Fuel - REDACTED CO2	SCS 09 Fuel - REDACTED CO3
Avoided Cost Based Benefits										
Energy	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Capacity Benefit	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Cost Benefits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Incremental Costs										
Fuel	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
NOX	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
CO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
HG	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Capital Expenditures	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Contribution	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
MW Capacity	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Cont in K$	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Economic Retirement Date	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Attachment A
Economic Screening Analysis – Boulevard Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Boulevard Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Bowen Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Bowen Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Bowen Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Bowen Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Branch Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Branch Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	Mid Fuel - NO CO2	Mid Fuel - REDACTED CO2	Mid Fuel - REDACTED CO3	Low Fuel - NO CO2	High Fuel - NO CO2	High Fuel - REDACTED CO2	High Fuel - REDACTED CO3	SCS 09 Fuel - NO CO2	SCS 09 Fuel - REDACTED CO2	SCS 09 Fuel - REDACTED CO3
Avoided Cost Based Benefits										
Energy	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Capacity Benefit	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Cost Benefits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Incremental Costs										
Fuel	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
NOX	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
CO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
HG	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Capital Expenditures	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Contribution	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
MW Capacity	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Cont in K$	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Economic Retirement Date	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Attachment A
Economic Screening Analysis – Branch Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Branch Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Gaston Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	Mid Fuel - NO CO2	Mid Fuel - REDACTED CO2	Mid Fuel - REDACTED CO3	Low Fuel - NO CO2	High Fuel - NO CO2	High Fuel - REDACTED CO2	High Fuel - REDACTED CO3	SCS 09 Fuel - NO CO2	SCS 09 Fuel - REDACTED CO2	SCS 09 Fuel - REDACTED CO3
Avoided Cost Based Benefits										
Energy	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Capacity Benefit	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Cost Benefits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Incremental Costs										
Fuel	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
NOX	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
CO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
HG	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Capital Expenditures	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Contribution	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
MW Capacity	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Cont in K$	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Economic Retirement Date	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Attachment A
Economic Screening Analysis – Gaston Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Gaston Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Gaston Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Hammond Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Hammond Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Hammond Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Hammond Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Kraft Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Kraft Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Kraft Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Kraft Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 5

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 6

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 7

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh CT Unit 8

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McIntosh Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Diesel Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 3A

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	Mid Fuel - NO CO2	Mid Fuel - REDACTED CO2	Mid Fuel - REDACTED CO3	Low Fuel - NO CO2	High Fuel - NO CO2	High Fuel - REDACTED CO2	High Fuel - REDACTED CO3	SCS 09 Fuel - NO CO2	SCS 09 Fuel - REDACTED CO2	SCS 09 Fuel - REDACTED CO3
Avoided Cost Based Benefits										
Energy	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Capacity Benefit	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Cost Benefits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Incremental Costs										
Fuel	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
NOX	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
CO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
HG	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Capital Expenditures	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Contribution	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
MW Capacity	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Cont in K$	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Economic Retirement Date	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Attachment A
Economic Screening Analysis – McManus Unit 3B

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 3C

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4A

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4B

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4C

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4D

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4E

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – McManus Unit 4F

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Mitchell Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Mitchell Unit 4A

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Mitchell Unit 4B

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Mitchell Unit 4C

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Scherer Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Scherer Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Scherer Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wansley Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wansley Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Diesel Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Unit A

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Unit B

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	Mid Fuel - NO CO2	Mid Fuel - REDACTED CO2	Mid Fuel - REDACTED CO3	Low Fuel - NO CO2	High Fuel - NO CO2	High Fuel - REDACTED CO2	High Fuel - REDACTED CO3	SCS 09 Fuel - NO CO2	SCS 09 Fuel - REDACTED CO2	SCS 09 Fuel - REDACTED CO3
Avoided Cost Based Benefits										
Energy	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Capacity Benefit	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Avoided Cost Benefits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Incremental Costs										
Fuel	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
NOX	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
CO2	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
HG	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Capital Expenditures	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Contribution	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
MW Capacity	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Net Cont in K$	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Economic Retirement Date	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

Attachment A
Economic Screening Analysis – Wilson Unit C

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Unit D

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Unit E

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Wilson Unit F

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 1

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 2

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 3

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 4

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 5

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 6

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment A
Economic Screening Analysis – Yates Unit 7

NPV 2008-2037 in 2008 $/kW

July 2008 Screening Level Results

Generating Unit	***Mid Fuel - NO CO2***	***Mid Fuel - REDACTED CO2***	***Mid Fuel - REDACTED CO3***	***Low Fuel - NO CO2***	***High Fuel - NO CO2***	***High Fuel - REDACTED CO2***	***High Fuel - REDACTED CO3***	***SCS 09 Fuel - NO CO2***	***SCS 09 Fuel - REDACTED CO2***	***SCS 09 Fuel - REDACTED CO3***
Avoided Cost Based Benefits										
Energy	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Capacity Benefit	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Avoided Cost Benefits	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Incremental Costs										
Fuel	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
SO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
NOX	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
CO2	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
HG	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
O&M	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Capital Expenditures	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Total	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Contribution	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
MW Capacity	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Net Cont in K$	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*
Economic Retirement Date	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*	*REDACTED*

Attachment B
Economic Screening Analysis – Evaluation Description

Economic Screening Analysis
NPV 2008 -2037 in 2008 $/kW

Generating Unit	*Description*
Avoided Cost Based Benefits	
Energy	The value of System lambda (marginal energy costs) during the hours the unit is running
Avoided Capacity Benefit	The projected value of peaking capacity based on the long-term cost of a new CT
Avoided Cost Benefits	Total Avoided Costs
Incremental Costs	
Fuel	The fuel cost to operate the existing unit
SO2	The cost of SO2 emissions based off of SO2 allowance costs and unit emissions
NOX	The cost of NOX emissions based off of NOX allowance costs and unit emissions
CO2	The cost of CO2 emissions based off of CO2 penalties and unit emissions
HG	The cost of HG emissions based off of HG allowance costs and unit emissions
O&M	The fixed and variable O&M costs (including environmental) to operate the unit
Capital Expenditures	The cost of all continue to operate and environmental capital associated with the unit
Total	Total Incremental Costs
Net Contribution	Avoided Cost Benefits minus Incremental Costs
MW Capacity	Average Net Generating Capacity
Net Contribution in Thousands of Dollars	Net Contribution in Thousands of Dollars

Attachment C
Economic Retirement Study Sensitivities
Detailed Evaluation based on Strategist® results
(Millions of 2008 Dollars)

Branch 1 and 2 Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Low Fuel No CO2	Mid Fuel No CO2	SCS Fuel No CO2	High Fuel No CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO2	High Fuel REDACTED CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO3	High Fuel REDACTED CO2
GENERATION UNIT COSTS AND BENEFITS										
System Production Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION										
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
Economic Retirement Year	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**

Attachment C
Economic Retirement Study Sensitivities
Detailed Evaluation based on Strategist® results
(Millions of 2008 Dollars)

Branch 3 and 4 Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Low Fuel No CO2	Mid Fuel No CO2	SCS Fuel No CO2	High Fuel No CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO3	High Fuel REDACTED CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO3	High Fuel REDACTED CO2
GENERATION UNIT COSTS AND BENEFITS										
System Production Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION										
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
Economic Retirement Year	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**

Attachment C
Economic Retirement Study Sensitivities
Detailed Evaluation based on Strategist® results
(Millions of 2008 Dollars)

Branch 1 thru 4 Customer Costs for Generation Options Relative to Continued Operation NPV 2008-2037 in Millions	Low Fuel No CO2	Mid Fuel No CO2	SCS Fuel No CO2	High Fuel No CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO3	High Fuel REDACTED CO2	Mid Fuel REDACTED CO2	SCS Fuel REDACTED CO3	High Fuel REDACTED CO2
GENERATION UNIT COSTS AND BENEFITS										
System Production Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION										
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
Economic Retirement Year	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**

Attachment C
Economic Retirement Study Sensitivities
Detailed Evaluation based on Strategist® results
(Millions of 2008 Dollars)

Yates 6 and 7 **Customer Costs for Generation Options** **Relative to Continued Operation** **NPV 2008-2037 in Millions**	**Low Fuel No CO2**	**Mid Fuel No CO2**	**SCS Fuel No CO2**	**High Fuel No CO2**	**Mid Fuel REDACTED CO2**	**SCS Fuel REDACTED CO2**	**High Fuel REDACTED CO2**	**Mid Fuel REDACTED CO2**	**SCS Fuel REDACTED CO3**	**High Fuel REDACTED CO2**
GENERATION UNIT COSTS AND BENEFITS										
System Production Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION										
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
Economic Retirement Year	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**

Attachment C
Economic Retirement Study Sensitivities
Detailed Evaluation based on Strategist® results
(Millions of 2008 Dollars)

Gaston 1 - 4 **Customer Costs for Generation Options** **Relative to Continued Operation** **NPV 2008-2037 in Millions**	**Low Fuel No CO2**	**Mid Fuel No CO2**	**SCS Fuel No CO2**	**High Fuel No CO2**	**Mid Fuel REDACTED CO2**	**SCS Fuel REDACTED CO2**	**High Fuel REDACTED CO2**	**Mid Fuel REDACTED CO2**	**SCS Fuel REDACTED CO2**	**High Fuel REDACTED CO2**
GENERATION UNIT COSTS AND BENEFITS										
System Production Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capacity Cost	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Continue-to-Operate Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental Capital	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Environmental O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Replacement Fixed O&M	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL EXCLUDING TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
TRANSMISSION										
Net System Improvements & Credits	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
TOTAL WITH TRANSMISSION (NPV M$)	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**
Economic Retirement Year	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**	**REDACTED**

4.8 Evaluation of Coal Resources

4.8.1 Introduction

With coal being a major fuel and energy resource for the United States and with the demand for base load capacity increasing the interest in coal-fired generation technologies is obvious. During the last five years a significant number of coal-fired projects have been announced. However, even more recently, a significant number of these projects have been delayed or cancelled due to the regulatory uncertainty around the issue of CO_2 emissions and other air quality concerns. In addition, the significant increase during the last several years in the capital cost associated with the installation of new generation projects has hindered project development efforts.

This evaluation of coal resources was prepared in response to the Commission's order in the 2007 IRP requiring that the Company perform a detailed assessment of coal and provide a brief description of the various coal-fired generation technologies that are currently being developed for near term deployment. The current commercial status for each technology is discussed and representative performance and cost data is provided. Since the 2007 IRP Commission Order, the Company has worked with Shaw Engineering to develop a generic and site specific supercritical pulverized coal proposal, and developed a generic cost estimate based on a potential IGCC project in Kemper County, Mississippi. The knowledge and insight gained from these activities are incorporated into this coal resource evaluation and the updated Technology Data Book.

The technologies reviewed in this report include Supercritical Pulverized Coal, Circulating Fluidized Bed, Oxygen Blown IGCC, and Air Blown IGCC.

4.8.2 Supercritical Pulverized Coal

In a pulverized coal-fired plant, the coal is finely ground and injected through burners into the boiler with combustion air. These coal particles ignite and the resulting heat is used to generate steam in the furnace boiler tubes, which is further heated in the superheater section of

the boiler. This high pressure steam drives a steam turbine generator. The low pressure steam exiting the steam turbine is condensed and the condensate is pumped back to the boiler for conversion to steam after being routed through a series of heat exchangers.

The flue gas from the boiler passes through various air quality control equipment to remove particulates, SO_2, and NO_x prior to being exhausted to the atmosphere.

Pulverized coal units can be classified as either subcritical or supercritical. This designation refers to the main steam pressure generated and utilized by the power cycle. Subcritical refers to steam pressures below ~3200 psi (typically 2400 psi). Subcritical pulverized coal units have efficiencies between 33% to 37% (HHV) depending upon various design factors, coal quality, and location.

Plant efficiency can be increased by designing the plant for higher steam pressure and temperatures. In the supercritical PV plant, the steam pressure is typically increased to ~3500+ psi with steam temperatures of >1050°F. This results in a plant efficiency range from 37% to 40% (HHV).

This level of supercritical steam pressure and temperatures represent a mature technology with adequate experience of a large number of plants operating reliably while burning a wide range of coals. Supercritical pulverized coal units at these steam conditions represent a very well known technology with demonstrated performance and high reliability.

With the interest in increasing plant efficiency in order to reduce air quality emissions and to reduce the carbon dioxide emissions, the industry continues to move to higher steam pressures and, particularly higher temperatures. Recent advances in boiler and steam turbine materials have made these moves possible. Utilization of these more advanced steam conditions is sometimes referred to as “ultra-supercritical” or “ultra-critical.” However, there is a disconnect in the industry about the nomenclature of conventional supercritical steam cycles versus designs that contemplate the aforementioned higher pressures and temperatures.

One definition of ultra-supercritical is any main steam condition over 3,600 psia and approaching 1,100°F. Another definition of ultra-supercritical is over 3,600 psia and 1,100°F or more. Others refer to 1,100°F as "advanced supercritical," which acknowledges the improvement in cycle efficiency and higher demands for metallurgy. However, the material requirements for these advanced steam conditions were achieved without a step-change in metallurgy. The next progression in metallurgy will be a step-change that will require intensive collaboration by dozens of industry participants. Southern Company Engineering and Construction Services refers to what will be feasible with future advancements as "Ultra-Supercritical."

With regard to future "Ultra-Supercritical" technology designs, current materials development programs have targeted steam cycle conditions of >5000 psi and temperatures of 1300°F. These conditions would increase the efficiency to the 44% to 46% (HHV) range. However, further material advances and demonstration are needed particularly to better understand the various manufacturing, construction and repair issues.

While the supercritical pulverized coal process represents a known technology at a capital and operating cost lower than most coal-fired processes, a concern with this technology is the potential for future carbon capture. Carbon capture technologies applied to a pulverized coal unit are expected to have more significant cost and performance impact than carbon capture for IGCC plants.

Several carbon capture technology development and demonstration projects are being planned for application to supercritical pulverized coal ("PC") plants.

4.8.2.1 Commercial Status

The first supercritical coal-fired units in the United States began operation in the late 1950s and early 1960s. Supercritical units had widespread deployment between 1967 and 1976 when 118 units totaling more than 78,000 MW were installed. Due to the reliability problems with many of these plants, subcritical units once again became more popular in the late 1970s.

However, since the early 1980s, advancements in materials for boilers and steam turbines, better plant control systems, and better understanding of the supercritical cycle water chemistry improved the reliability of supercritical coal units. These and other improvements have resulted in an increase in the number of new plants employing supercritical steam cycles around the world. Much of this increase in deployment of supercritical plants occurred in Europe and Japan where higher fuel cost was a driver in the utilization of supercritical technology due to the increase in efficiency.

With the favorable international experience with recent supercritical units, their better environmental performance, and the relatively small capital cost difference between subcritical and supercritical plants, this technology is once again finding significant applications for deployment.

Two supercritical units have become operational in the United States since 2000. Seven additional units are under construction or have obtained environmental permits. In addition to these, nine additional units are in various stages of project development. In the midst of this activity, a number of potential supercritical coal-fired projects have been cancelled during the past two years due to regulatory uncertainty associated with the carbon dioxide issue and rising capital costs.

4.8.2.2 Representative Plant Design and Performance

A representative supercritical, pulverized coal-fired unit is a nominal 800 MW plant based upon a sliding pressure, single reheat pulverized coal boiler operating at 3,850 psig, 1055°F main steam temperature with 1,075ºF reheat steam driving a 3600 rpm turbine generator. Plant cost basis and features include:

- Pulverized coal fired, single reheat boiler with SCR system
- Tandem-compound, four flow condensing steam turbine generator
- Dry flue gas desulfurization (“DFGD”) and fabric filter system
- Wet flue gas desulfurization (“WFGD”) system

- Material handling systems for fuel, limestone, gypsum, and ash and all associated appurtenances
- Eight stages of regenerative feedwater heating with one heater above the reheat point ("HARP") cycle.
- Surface condenser
- Mechanical draft cooling tower

The facility also includes the following support systems and infrastructure:

- Railroad facilities
- Single shell stack
- Demineralized water system
- Condensate storage and transfer system
- Closed cooling system
- Fire protection system
- Instrument and compressed air system
- Plant drains and wastewater treatment system
- Potable water and sanitary waste system
- Plant DCS

The base design is designed for PRB fuel along with the capability of burning bituminous coal.

Table 4.8.2.2-1 Expected Unit Performance
(New and Clean Conditions)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

Table 4.8.2.2-2 Expected Unit Performance
(Including Degradation)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

4.8.3 Circulating Fluidized Bed

Coal-fired power plants based upon fluidized bed combustion are very similar to other Rankine cycle technologies such as PC plants. The major difference is related to the boiler design. Instead of feeding pulverized coal into the boiler, the fuel is injected into the furnace and suspended (or fluidized) by primary air. Secondary air is added above the bed for combustion control. As the solids (fuel) mix and travel up the furnace they are combusted and some small particles of unburned fuel exit out the top of the furnace with the flue gas and into the cyclone (or solid separator). These particles are then collected in the cyclone separator and returned back to the furnace and mixed with incoming fuel. The recirculation for some particles can be between 10-50 times. Crushed limestone is typically fed into the boiler and mixed with coal to form the "fluidized bed" of solids. The limestone undergoes calcination to produce lime ("CaO"). In the furnace the SO_2 formed by the combustion of coal is reacted with the CaO to form $CaSO_4$. This byproduct is collected downstream of the furnace in a baghouse along with the other particulate matter in the flue gas.

Similar to a conventional PV plant, heat in the boiler is transferred to water in boiler tubes generating steam. The steam cycle and other plant systems are similar to other conventional PC plants. A comparison of circulating fluidized bed ("CFB") plants to PC plants is as follows:

- Combustion Temperatures - The lower combustion temperature (800-900° C versus 1300-1400° C for a PC plant) results in a reduction in NOx formation and creates the ability to capture SO_2 with limestone injection.
- Fuel Flexibility – CFB Technology can burn a wider range of fuels such as bituminous and subbituminous coal, anthracite, lignite, waste coal, pet coke, and biomass. CFB

Plants are well suited for low rank coals with high ash content and/or high moisture content.

- Size – Generally, the maximum unit size for a CFB boiler is 250-300 MW whereas with a PC boiler, the size can be much larger and more suited to large utility applications. Recent CFB projects have utilized two 300 MW CFB boilers supplying steam to a single 600 MW steam turbine. Manufacturers are developing designs for CFB boilers in the 400-600 MW range.
- Byproduct Utilization – The waste products from a CFB generally have no market value whereas the ash and gypsum from a PC unit may have byproduct market value. In addition, the volume of solid waste from a CFB is typically larger than from a PC unit.
- Emissions – CFB and PC units can obtain similar emission rates. Due to the lower NOx formation and control of SO_2 by injecting limestone into the furnace, the CFB unit requires less expensive post combustion control equipment than a PC.
- Heat Rate – For similar fuels and steam temperatures, PC units typically have a slightly lower heat rate. All CFB units currently in operation operate at subcritical steam conditions. The world's first supercritical CFB plant is currently under construction in Poland.
- Reliability / Availability – Similar for both CFB and PC with a historical data advantage for PC units.
- Capital Cost – Typically, the capital cost for a CFB unit is similar to a PC unit for lower capacity systems (<300 MW). For larger units, PC tends to be more economical due to the economies of scale (single vs. multiple furnaces).
- Operation and Maintenance – Similar for both with an operating cost advantage for the PC due to the lower limestone requirements for SO_2 control.

4.8.3.1 Commercial Status

CFB plants are considered a mature technology. In the United States, several dozen plants are operational. Most of these began operation in the late 1980's and 1990's.

Eight CFB Plants have become operational since 2000. Planned new units include 14 units that have been permitted and are near or under construction. Another 11 units have been announced.

Current advancement in CFB Technology is focused in the following areas:

1. Scale-up of CFB size and capacity

2. Introduction of supercritical technology to CFB designs
3. Reduction of air quality emissions by additional air quality control equipment.

Increase in size and capacity - several CFB boiler suppliers have developed designs in the 450-600 MW range for a single CFB boiler. The largest single boiler CFB unit in the world is the 460 MW Lagisza Plant in Poland. This unit is scheduled for commercial operation in 2009.

Supercritical CFB technology – all CFB plants currently in operation are based upon sub-critical steam temperatures and pressures. Since most of the existing CFB plants burn low rank/low cost fuels, the economics did not justify the extra capital cost associated with a design to accommodate supercritical steam conditions. With the current interest in increasing efficiency to reduce CO_2 emissions, CFB suppliers have developed designs that adapt supercritical technology to CFB units. The previously mentioned Lagisza Plant in Poland will be the first supercritical CFB unit in operation.

Post combustion air quality control equipment – several recent and planned CFB projects have incorporated additional air quality control equipment to further reduce NOx and SO_2 emissions. One such facility is the East Kentucky Power Cooperative's E.A. Gilbert Unit 3. This 268 MW unit is equipped with selective non-catalytic reduction ("SNCR") equipment for additional NOx reduction. The design also incorporates Alstom's Flash Dryer Absorber ("FDA") system for additional SO_2 removal. The FDA system uses the alkalinity in the flue gas particulate from the CFB to remove sulfur dioxide.

Potential carbon capture technologies for CFB plants should be similar to technologies being developed for PC plants. However, Southern Company is currently not aware of any carbon capture demonstration projects planned for CFB applications.

4.8.3.2 Representative Plant Design and Performance

A representative CFB plant is a 600 MW unit operating at 2400 PSIG, 1050°F reheat steam. Plant features and cost basis include:

- Two (2) sub-critical, single reheat circulating fluidized bed boilers with SNCR
- Air quality control system including pulse jet type fabric filters and polishing SO_2 Scrubbers
- One (1) reheat condensing steam turbine generator set
- Surface condenser
- Multiple cell mechanical draft cooling tower
- Seven (7) stages of regenerative heating consisting of two(2) stages of high – pressure closed feedwater heaters
- One (1) open deaerating heater
- Four (4) low-pressure closed feedwater heaters
- Single chimney shell with dual flue liners
- Coal unloading and reclaim system
- Makeup water treatment system
- Wastewater treatment and discharge systems
- Fly ash and bottom ash storage
- Ash Conveying
- Fire protection system
- Instrument/service compressed air systems
- Potable water system and service water system

Table 4.8.3.2 Expected Unit Performance:

	Net Plant Heat Rate (HHV)BTU/KW-HR	Net Unit Output KW
VWO – Lignite Coal	REDACTED	600,000
VWO – PRB Coal	REDACTED	600,000
VWO – Central Appalachian Coal	REDACTED	600,000
VWO – Illinois Basin Coal	REDACTED	600,000

4.8.4 Oxygen Blown IGCC

For coal-fired power generation application, gasification consists of Oxidizing coal at high temperatures to produce synthesis consisting primarily of hydrogen and carbon monoxide. Currently, there are four main types of gasifiers:

- Entrained flow
- Transport bed

- Fluidized bed
- Fixed bed

Most of the currently planned IGCC projects utilize entrained flow gasifiers. Although relatively new technology compared to fixed bed or fluidized bed gasifiers, entrained flow gasifiers have been operating on coal since the 1980's in chemical production and since the mid 1990's to generate electricity.

In the oxygen blown IGCC process, an air separation unit ("ASU") supplies a large volume of oxygen to the coal gasifier. The oxygen is obtained by compressing and cleaning air and then stripping this air of CO_2. The oxygen and nitrogen that remains are separated by a cryogenic process. The oxygen is compressed and transported to the gasifier. Ground coal is delivered to the gasifier either dry or as a wet slurry depending upon the specific gasifier design.

Syngas from the gasifier is cooled and cleaned in a variety of heat exchangers, filters, and Scrubbers based upon the technology supplier's process design. In this process step particulates, sulfur and other trace elements are removed. Cleaned syngas is then delivered to gas turbine for combustion.

The CC portion of the IGCC process is similar to a CC plant that burns natural gas. The hot exhaust from the gas turbine passes through a heat recovery steam generator ("HRSG") where it produces steam that drives a steam turbine. Electricity is generated from both the gas and steam turbine generators. However, differences do exist due to the degree of integration between the gasification process and the CC process. Feedwater and steam from the CC system are integrated with the gasification system's gas cooling process. In addition, air is extracted from the gas turbine compressor to supply a portion of the high pressure air to the oxygen plant. Nitrogen from the oxygen plant may be mixed with the syngas to minimize NOx formation in the gas turbine.

The main interest and drivers associated with the development of IGCC technology and projects include the following:

- Air Quality Emissions: One of the primary advantages of IGCC plants is the reduced air emissions compared to PC plants. While the syngas from a gasifier contains pollutants, the syngas is produced at high pressures resulting in a more compact/dense gas allowing pollutants to be removed in a more cost-effective manner than with a PC plant. The more significant differences in emissions are related to sulfur dioxide, particulate matter, and carbon dioxide.
- Carbon Dioxide: Due to the higher efficiency of the IGCC process, the carbon dioxide emissions are less for most IGCC processes. However, the major benefit is associated with the potential for carbon dioxide capture. Due to its higher concentration, most studies indicate that it should be significantly less expensive to capture CO_2 from an IGCC plant than from a PC plant. In addition to the capital cost, the performance impacts associated with the reduction in output and efficiency for carbon dioxide capture should be significantly less for IGCC than PC.
- Heat Rate: While the heat rate and efficiency of various IGCC processes differ based upon the specific design, most studies comparing the efficiency of IGCC and PC indicate a lower heat rate (higher efficiency) for IGCC plants.
- Water Requirements: The water requirements for an IGCC plant are less than that required by a PC plant.
- Land Requirements: An IGCC plant does not require as large of an area for solid waste disposal as a PC plant.

4.8.4.1 Commercial Status

Worldwide, approximately eighteen IGCC plants have been built. Seven of these were coal-based, one was petcoke fired, and ten were oil based. Two of the coal based IGCC plants were small demonstration projects which have been decommissioned (Cool Water in California and the Dow Chemical Plaquemine Plant in Louisiana). Another small demonstration project in Nevada was not successful. The other four coal-based IGCC plants are commercial scale, oxygen blown, entrained flow gasification demonstration projects in Florida, Indiana, Spain, and the Netherlands.

Currently, there are four suppliers of oxygen blown, entrained flow gasification technology:

- General Electric ("GE"), which purchased the Texaco gasification technology from Chevron Texaco in 2004. This process is utilized at the 250 MW Polk Power Station (Florida) and has been operational since 1996.
- ConocoPhillips ("COP"), which licenses the E-Gas technology that was developed by Dow. ConocoPhillips purchased this technology from Global Energy in 2003. This process is utilized at the Wabash River IGCC facility in Indiana. This 250 MW plant began operation in 1996.
- Shell, which developed its gasification technology with Prenflo. This process is utilized at the Nuon Buggenum 253 MW plant in the Netherlands which began operation in 1993. The Shell process is also utilized at the Puertollano Plant in Spain. This 330 MW plant is the world's largest coal-based IGCC plant in operation.
- Siemens Power Generation ("SPG"), which purchased the GSP gasification technology from Sustec in 2006.

While a few projects have recently been canceled, over thirty potential, domestic IGCC projects have been announced. The status of some of the more viable projects is as follows:

- Duke Energy, Edwardsport, Indiana – Permits issued and construction initiated. This 630 MW facility will utilize the GE technology. The planned commercial operation date is in 2012.
- American Electric Power, Meigs County, Ohio – The Ohio power siting board has approved the location. A previously issued cost-recovery order has been sent back to the PUC by the Courts. This 630 MW facility will utilize the GE technology. The planned commercial operation date is in mid-2012.
- American Electric Power, Mason County, West Virginia – A Certificate of Public Convenience and Necessity has been issued for AEP's Mountaineer Project. This 630 MW facility will utilize the GE technology. The planned commercial operation date is in mid-2012.

4.8.4.2 Representative Plant Design and Performance

A representative oxygen blown IGCC plant is a nominally rated 630 MW plant based on a power cycle utilizing two GE7FB, nominal 230 MW, advance design industrial CT generators, two natural circulation HRSGs, a single condensing reheat steam turbine generator and associated support systems. Coal gasification is accomplished using two (50%) oxygen-blown GE entrained flow, radiant syngas cooler plus quench, slagging gasifier trains. Traditional (cold) sulfur removal is employed, and nitrogen injection is used for NO_x control. The unit is designed for dual fuel operation with coal-derived syngas as the primary fuel and natural gas as the startup and backup fuel. The performance and costs are based upon utilizing a high sulfur Illinois Basin coal.

Table 4.8.4.2-1 Expected Unit Performance
(New and Clean Conditions)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

Table 4.8.4.2-2 Expected Unit Performance
(Including Degradation)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

4.8.5 Air Blown IGCC

In an air blown IGCC plant, coal is gasified with air and the resulting syngas, consisting primarily of hydrogen and carbon monoxide is cooled, cleaned, and then fired in a gas turbine. The syngas cleaning consists of removing particulates and “washing” to remove sulfur and other trace elements. The cooled, clean, and desulfurized syngas is reheated and delivered to the gas turbines. The hot exhaust from the gas turbine passes through a HRSG where it produces steam that drives a steam turbine. Electricity is generated from both the gas and steam turbine generators. By removing emission forming constituents from the syngas under pressure prior to combustion in the gas turbines, an IGCC plant can achieve very low air emission levels.

The air blown IGCC processes avoid the capital cost and higher auxiliary power consumed by the air separation unit (oxygen plant) associated with oxygen blown IGCC processes.

Current suppliers of air blown IGCC gasifiers include Mitsubishi Heavy Industries ("MHI") and Kellogg, Brown & Root ("KBR"). The MHI gasifier is an entrained flow, dry coal feed, two-stage, air-blown gasifier with a membrane waterwall. It is also classified as a slagging gasifier with burners.

A 250 MW IGCC demonstration plant equipped with a MHI gasifier began operation in 2007 in Nakoso, Japan. In this plant, enriched air is added to the first stage (combustion zone) of the gasifier. The enriched air is a mixture of air and oxygen from a relatively small air separation unit, whose primary purpose is to supply nitrogen for coal transport. The facility includes a syngas cooler, hot gas filter, char recycle, and gas treatment system utilizing COS hydrolysis and MDEA acid gas removal system. The gas turbine is a MHI 701DA gas turbine with an output of approximately 130 MW.

Future technology development activities by MHI include increasing the overall IGCC plant efficiency and capacity by using their "F" or "G" class gas turbines.

The KBR Transport Integrated Gasification ("TRIG") process is being developed in conjunction with Southern Company. This air blown gasifier uses fluid bed technology and produces a dry ash product. The gasifier mixes high pressure air, steam, and ground dried coal to produce the syngas. This process eliminates the need for the ASU and uses less water than several other IGCC processes because a slurry feed is not required.

Some of the KBR gasifier design features that result in increased reliability and reduced O&M cost are as follows:

- Non slagging design (longer refractory life)
- No burners

- Dry, coarse coal feed with less drying than other dry-feed gasifiers

This process is uniquely cost effective among IGCC processes when using high moisture, high ash, low rank coals such as PRB and lignite.

The TRIG gasification technology is under further development at Southern Company's 38 tpd Power Systems Development Facility. The first commercial unit is being designed for the Kemper County, MS Gasification Project. This project is a 2X1 train (600 MW) that will use locally mined lignite as the primary fuel. Commercial operation of this plant is planned for 2013.

The IGCC process advantages previously mentioned for oxygen blown IGCC plants when compared to pulverized coal equally apply to the air blown IGCC plants as well.

4.8.5.1 Representative Plant Design and Performance

A representative air blown IGCC plant is a nominally rated 600 MW plant based on a power cycle utilizing two GE7FA 197 MW each advanced designed industrial CT generator sets, two natural circulation HRSG with integral deaerators, and a single condensing reheat steam turbine generator set and associated support systems. Coal gasification is accomplished using two air-blown transport gasifiers. Sulfur is removed from the syngas at near ambient temperatures by the CrystaSulf process. Ammonia, mercury, and other contaminants are also removed from the syngas at low temperature before it is combusted in the gas turbines. NOx can be controlled without the use of an SCR in the HRSG. Although an SCR is an option for lower NOx emissions. The unit is designed for dual fuel operation with syngas derived from PRB coal as the primary fuel and natural gas as the startup and backup fuel.

Table 4.8.5.1-1 Expected Unit Performance
(New and Clean Conditions)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output, KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

Table 4.8.5.1-2 Expected Unit Performance
(Including Degradation)

	Net Plant Heat Rate (HHV) BTU/KW HR	Net Unit Output KW
Peaking Condition	REDACTED	REDACTED
Average Annual Conditions	REDACTED	REDACTED

4.8.6 Carbon Capture and Sequestration Technology Overview

Combustion of carbon-containing fossil fuels releases carbon dioxide ("CO_2"), water ("H_2O") and heat. The amount of CO_2 formed is directly related to the carbon content in the fuel. For every pound of carbon in the fuel that is combusted, 3.7 pound of CO_2 is produced. Plant efficiency greatly influences the CO_2 emissions per unit of electricity output, with higher efficiencies resulting in lower CO_2 emission rates. However, large CO_2 emission reductions will require capturing and storing CO_2 in underground geologic formations.

There are two primary configurations for capturing CO_2 from power plants: post-combustion capture and pre-combustion capture. Post-combustion capture involves removal of CO_2 from the flue gas after the combustion process; whereas pre-combustion capture removes CO_2 from a gas stream (IGCC synthesis gas) before it is combusted.

Capturing CO_2 effectively and economically in a post-combustion configuration is challenging due to the large gas flow, low CO_2 concentrations, and the presence of other contaminants/pollutants. The primary existing technology for post-combustion CO_2 removal from flue gas is solvent-based absorption. In addition to increased costs, solvent absorption processes involve a significant energy penalty. Solvents are also generally sensitive to the presence of various substances in the flue gas such as SOx, NOx, particulates, acid gases, mercury, and other trace materials. DOE has estimated that adding post-combustion CO_2 capture to a new supercritical PC plant would increase capital cost by over 80% and decrease efficiency by about 30%, resulting in an 81% increase in cost of electricity produced by the new plant.

Pre-combustion CO_2 capture specifically targets IGCC processes where coal is oxidized (gasified) in the reduced environment of a gasifier to produce syngas that consists primarily of

hydrogen and carbon monoxide. Unlike the low concentration and lower pressure of the CO_2 in flue gas for post-combustion capture processes, CO_2 in syngas is at high pressure and higher concentrations, which allows for more efficient capture. To accomplish CO_2 capture in an IGCC process, a water-gas-shift ("WGS") reactor is added upstream of the CT. The WGS reactor utilizes water in the gas to convert the carbon monoxide to carbon dioxide and produce more hydrogen. The CO_2 is then separated from the syngas for further processing, while the hydrogen gas is sent to the turbine. If high CO_2 removal is required, then multiple WGS reactors in series are necessary. DOE has estimated that adding CO_2 capture to an IGCC plant would increase capital cost by over 35% and decrease efficiency by about 19%, resulting in a 36% increase in cost of electricity produced by the new plant.

There are some emerging technologies which may potentially offer economic alternatives for CO_2 removal in post and pre-combustion processes. These emerging technologies include advanced solvents, solid sorbents, adsorption, membrane technologies, and oxy-fuel combustion. Though they hold promise, most of these emerging technologies are still in the early stage of the development process.

After CO_2 is captured and removed it must be processed to proper conditions (pressure, temperature, and composition) for pipeline transportation and ultimate underground injection/sequestration. Significant uncertainties remain regarding CO_2's subsurface behavior and ultimate fate in sequestration applications, legal liability issues, and transportation logistics.

4.8.7 Conclusions

Each of the coal-fired generating technologies reviewed has distinct advantages and disadvantages when considering a coal-fired project. The most significant of these appear to be the following:

Supercritical Pulverized Coal – A major advantage of this technology is that it represents a mature, well demonstrated technology when burning a wide range of coals. A fairly high degree of fuel flexibility can be incorporated into the plant design. Large unit capacity designs

are available resulting in an associated economy of scale in regards to capital cost. When carbon capture is not included, the supercritical PC plant has a cost advantage over IGCC in most applications.

The most significant disadvantage for this technology is related to the regulatory uncertainty surrounding the carbon issue. This is currently resulting in significant barriers associated with project permitting. In addition, carbon capture technologies have not been adequately demonstrated and are expected to have a more significant impact on the cost and performance of a PC unit than an IGCC unit.

Circulating Fluidized Bed – The major advantage associated with this technology is the wide range of low rank, poor quality coals and waste coals that can be burned. In addition, a very wide range of fuels can be incorporated into a specific plant design. Disadvantages include the smaller plant capacity (compared to PC) and the lack of demonstrated operating experience with CFBs incorporating supercritical steam cycles. Operating at subcritical steam conditions results in a lower plant efficiency. This leads to a corresponding increase in emissions. The CFB technology is faced with the same issues related to carbon dioxide as the PC technology.

Oxygen Blown IGCC – The major advantage for this technology is the lower emissions of a number of air pollutants. In addition, the carbon dioxide emissions are lower. While carbon capture technologies have not been adequately demonstrated, the incorporation of this technology should have less impact to the plant cost and performance than with the PC or CFB technologies. A disadvantage of this technology is the more limited number of operating plants and the higher capital cost (without carbon capture). In addition, this process does not appear to be as well suited for the lower rank coals such as PRB and lignite.

Air Blown IGCC – In addition to the advantages mentioned for the oxygen blown IGCC technology compared to PC and CFB, the air blown IGCC technology has some cost and O&M advantages when compared to the oxygen blown IGCC technology. This technology is better suited for low rank coals such as PRB and lignite than bituminous coals. A current disadvantage of this technology is the lack of commercial scale operating facilities.

[This page intentionally left blank]

APPENDICES

Appendix A-1: Engineering, Procurement and Construction Agreement

See separate notebook containing the redacted "Engineering, Procurement and Construction Agreement between Georgia Power Company, for Itself and as Agent for Oglethorpe Power Corporation (An Electric Membership Corporation), Municipal Electric Authority of Georgia and The City of Dalton, Georgia, Acting By and Through Its Board of Water, Light and Sinking Fund Commissioners, as Owners and a Consortium Consisting of Westinghouse Electric Company LLC and Stone & Webster, Inc., as Contractor for Units 3 and 4 at the Vogtle Electric Generating Plant Site in Waynesboro, Georgia dated as of April 8, 2008" otherwise referred to as the "EPC" agreement.

Appendix A-2: Engineering, Procurement and Construction Exhibits

See separate notebook containing the redacted exhibits to the EPC agreement.

Appendix B-1: Activities Schedule Executive Summary

[REDACTED IN ITS ENTIRETY]

Appendix B-2: Activities Schedule

[REDACTED IN ITS ENTIRETY]

Appendix B-3: Critical Path Schedule

[REDACTED IN ITS ENTIRETY]

Appendix B-4: Lead Times for Major Procurement Items

[REDACTED IN ITS ENTIRETY]