

**BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION
STATE OF GEORGIA**

In Re: Review of Proposed Revisions)	
and Verification of Expenditures)	
Pursuant to Georgia Power Company's)	Docket No. 29849
Certificate of Public Convenience and)	
Necessity for Plant Vogtle Units 3 and 4,)	
Twelfth Semi-annual Construction)	
Monitoring Report)	

**DIRECT TESTIMONY AND EXHIBITS OF GLENN CARROLL
ON BEHALF OF NUCLEAR WATCH SOUTH**

I. INTRODUCTION

1 **Q. Please state your name, profession, and business location.**

2 A. My name is Glenn Carroll. I am coordinator of Nuclear Watch South. My business
3 address is P.O. Box 8574, Atlanta, Georgia 31106.

4

5 **Q. Ms. Carroll, please summarize your educational and professional experience.**

6 A. I have a Bachelors Degree in Visual Art from Georgia State University. I am a self-
7 employed artist and began volunteering with Georgians Against Nuclear Energy (now
8 called Nuclear Watch South) in 1987. In 2000, I became part-time paid coordinator of
9 Nuclear Watch South. My resume is attached as Exhibit #1. During my tenure with
10 Nuclear Watch South, I have conducted several legal interventions before the Nuclear
11 Regulatory Commission in NRC licensing proceedings, including opposition to a
12 Vogtle 1 NRC license amendment request in 1991. I have appeared before the Georgia
13 Public Service Commission multiple times as a public witness. In 2013, I led Nuclear
14 Watch South's intervention on this docket in the 8th Vogtle Construction Monitoring
15 Review (VCMR).

16

1 **Q. Have you previously appeared before the Georgia PSC regarding Vogtle 3 & 4?**

2 A. Yes. I have appeared as a public witness in the Vogtle 3 & 4 hearings on several
3 occasions and conducted cross-examination on two occasions. This is my first
4 appearance on the Vogtle 3 & 4 docket #29849 as an expert witness.

5

6 **Q. What qualifies you to testify as an expert in this case?**

7 A. The evidence I present is basic information that is available and understandable by
8 regular people, therefore does not require specialized expertise.

9

10 **Q. On whose behalf are you testifying in the 12th Semi-Annual Vogtle
11 Construction Review?**

12 A. Consumer advocacy group Nuclear Watch South.

13

14 **Q. What are the issues in this case?**

15 A. First, whether there is any necessity to expand electric generating capacity by
16 continuing construction of Georgia Power's Vogtle 3 & 4 reactors in accordance with
17 O.C.G.A. § 46-3A-7(b). Second, whether the Commission should mothball current
18 Vogtle expansion as more beneficial to Georgia ratepayers than completing unneeded
19 power plants. Third, if the PSC does not mothball Vogtle 3&4 whether it should order
20 additional studies to assess the current economic benefits of continuing Vogtle 3 & 4
21 construction.

22

23 **Q. What is the purpose of your testimony?**

24 A. To support the Commission in its public service and mission to protect Georgia
25 Power ratepayers and to exercise its authority to decertify unneeded power projects by
26 showing why Plant Vogtle expansion is not needed.

27

28 **Q. What information sources do you rely upon in your testimony?**

29 A. Georgia Power data obtained from Georgia Power 2004-2014 annual reports.

1 As shown below, Vogtle 3&4 are not needed and the Commission should immediately
2 move to exercise the responsibility and authority vested in it by Georgia O.C.G.A. § 46-
3 3A-6 to modify Vogtle certification in order to achieve cold shutdown of the Vogtle 3
4 & 4 construction site.

5
6
7 **III. VOGTLE 3 & 4 ARE NOT NEEDED**
8

9 **Q. Please explain the chart titled: Georgia Power Key Financial & Operating Data**
10 **(Exhibit #2)**

11 A. The chart consists of eleven (11) years of data from the period 2004- 2014. The chart
12 is compiled by Steven C. Prenovitz using data obtained from Georgia Power annual
13 reports.

14
15 **Q. What are the key points from the chart in assessing Georgia Power’s need for**
16 **Vogtle reactors 3&4 capacity?**

17 A. The key points are:

18 Line 2 shows volume sales (in Kwh) are flat for the 10 -year period 2004-2014

19 Line 5 shows capacity utilization has declined from 72% to 58% for the period.

20 (Exhibit #2)

21
22 **Q. Does Georgia need the additional capacity from reactors 3&4?**

23 A. No. In the 8th Vogtle Construction Monitoring Review (2013) Mr. Prenovitz’ direct
24 testimony stated:

25 [In] Georgia Power’s first Vogtle expansion certification filing in 2009, the
26 *company forecast the need for an additional 8,000 MW of capacity from 2008-*
27 *2018. [Prenovitz 2009 testimony, Exhibit 5, p.3] That is a 4.1% annual growth*
28 *in capacity, which should be driven by its load forecasts. Since Georgia Power*
29 *forecast a 4.1% annual growth rate in capacity, it is conservative to assume both*
30 *a 3% load and a 2% load growth rate. [emphasis added]*

1 As line 2 shows, Georgia Power's 4.1% forecast in annual growth has not materialized.
2 In historical fact, we find that the past 10 years have seen only a 0.2% growth in
3 Georgia Power's retail market and -0.4% reduction in its wholesale market. In volume
4 sales terms, 2014's net sales of 172,920 kwh-M is lower than 2004's total volume of
5 175,009 kwh-M, down almost 1% for the 10-year period.

6

7 We are more than halfway through the period used by Georgia Power's 2008-2018
8 forecast. The historical contrast between 2008-2014 figures, a six-year span, no longer
9 support Georgia Power's current certificated need. Georgia Power's sales volume has
10 fallen off appreciably from 2008's 182,060 kwh-M total retail and retail/wholesale to
11 2014's total of 172,920 kwh-M, down .98% for the six-year period.

12

13 Indeed, Georgia Power is testifying in the current proceeding that Vogtle 3&4 will not
14 be on-line until 2020, two years beyond the 2018 need claimed in Georgia Power's
15 expansion certificate, which highlights the fact that Georgia Power does not need to
16 new power supply and further supports immediate action by the PSC to modify Georgia
17 Power's Vogtle expansion certificate to mothball construction of Vogtle 3&4.

18

19 **Q. Is Georgia Power fully using its existing capacity?**

20 A. As the Georgia Power Key Financial and Operating Data Chart (exhibit 2) highlights
21 in line 5, Georgia Power's capacity utilization factor declined from 72% to 58% in the
22 period 2004-2014. In the years 2008-2014, capacity utilization declined from 70% to
23 58%.

24

25 **Q. What is the significance to the PSC of these figures?**

26 A. Georgia Power forecasts were for 4.1% annual growth in capacity, but in the key six-
27 year period that coincides with the Vogtle expansion (2008-2014), capacity growth was
28 only 1.09% for the whole six-year period. Because Georgia Power's capacity
29 utilization factor declined from 70% to 58% in the same period, it is clear that
30 expanding Vogtle's capacity is not needed.

1 **Q. Is there anything else the PSC should consider in weighing forecasts against**
2 **historical data?**

3 A. Yes. Southern Company's disclaimer about the reliability of its forecasts,
4 **Cautionary Note Regarding Forward-Looking Statements**, is posted on its website
5 and included in all of its press releases. It is instructive for the PSC as well, stating, in
6 part:

7 Forward-looking information includes, among other things, statements
8 concerning the schedule of completion of construction projects, job creation and
9 projections and benefits to customers. *Southern Company and Georgia Power*
10 *Company caution that there are certain factors that could cause actual results to*
11 *differ materially from the forward-looking information that has been provided.*
12 The reader is cautioned *not to put undue reliance on this forward-looking*
13 *information, which is not a guarantee of future performance and is subject to a*
14 *number of uncertainties and other factors*, many of which are outside the control
15 of Southern Company and Georgia Power Company; accordingly, there can be
16 no assurance that such suggested results will be realized. [excerpt, emphasis
17 added]

18
19 The complete lengthy corporate disclaimer iterates a comprehensive list of potential
20 factors which would negatively affect the outcome of company forecasts, including all
21 of the current experience with Vogtle 3 & 4 construction delays and the changing
22 business climate of energy production. For example here is a small sampling of the
23 foreseeable problems in the disclaimer: *shortages and inconsistent quality of equipment,*
24 *materials, and labor, contractor or supplier delay, non-performance under construction*
25 *or other agreements*. See the full text of Southern Company's forecast disclaimer at:
26 [http://www.southerncompany.com/what-doing/energy-innovation/nuclear-](http://www.southerncompany.com/what-doing/energy-innovation/nuclear-energy/pdfs/Vogtle-Units-3-and-4-FactSheet.pdf)
27 [energy/pdfs/Vogtle-Units-3-and-4-FactSheet.pdf](http://www.southerncompany.com/what-doing/energy-innovation/nuclear-energy/pdfs/Vogtle-Units-3-and-4-FactSheet.pdf)

28
29 Southern Company's forecast disclaimer underscores the need for the PSC to weigh
30 company forecasts with actual company performance data as well as several other

1 external economic and social factors influencing the ongoing necessity of the Vogtle
2 expansion project.

3
4
5 **IV. CHEAPER TO CANCEL CONSTRUCTION OF**
6 **VOGTLE 3&4 THAN TO COMPLETE**

7
8 **Q. Would it be cheaper for consumers to finish Plant Vogtle 3&4 or to cancel**
9 **construction?**

10 A. It would be cheaper to cancel construction given that Plant Vogtle 3&4 are not
11 needed. Georgia Power testified in the current 12th VCMR that Vogtle expansion is 24
12 to 25% finished. Georgia Power and its partners have spent almost \$6 billion on Vogtle
13 so far (and as has been well publicized, are \$2 billion over budget and three years
14 behind schedule). The cost of the completed project is roughly \$18 billion at present.
15 Although the cost to cancel the construction project is unknown, it is highly unlikely it
16 would exceed the \$12 billion left to be spent on the unneeded, outmoded nuclear power
17 plants under construction today.

18
19 Georgia Power is well protected from financial risk, whether it completes, or cancels
20 construction of Vogtle, by its investment strategy of using public ratepayer and taxpayer
21 money, that is, CWIP-Construction Work in Progress taxes and U.S. Department of
22 Energy loan guarantees. Georgia Power is further protected by generous automatic
23 profits, and Georgia Code O.C.G.A. § 46-3A-6 which allows Georgia Power to recover
24 the cost of shutting down the unneeded nuclear plants at Vogtle 3&4 in rates.

25
26 The mission of the Georgia PSC to ensure “safe, reliable, and reasonably priced ...
27 electricity” compels the PSC to cancel the unnecessary project before more ratepayer
28 money is risked on an unneeded nuclear megaproject. The potential savings to Georgia
29 ratepayers will be billions of dollars compared to the \$12 billion price tag to complete
30 construction of the unneeded nuclear reactors.

31

1 **V. GEORGIA POWER COST-BENEFIT ANALYSIS LEAVES IMPORTANT**
2 **QUESTIONS UNANSWERED, MORE ANALYSIS REQUIRED**

3
4 **Q. Is additional analysis needed to evaluate the economic benefit of completing**
5 **Vogtle 3 & 4?**

6 A. Yes. Georgia Power regularly submits analysis comparing completing Vogtle to
7 canceling Vogtle and beginning a combined-cycle natural gas facility. In updating its
8 analysis to account for delays and cost overruns, the company has failed to account for
9 three significant factors affecting the current construction commitment:

- 10 1) The actual cost to cancel construction
11 2) Economic benefit of Vogtle as a 40-year investment as companion analysis to
12 60-year benefit currently claimed by Georgia Power
13 3) Compare the cost of Vogtle 3&4 to meeting revised power demand forecast with
14 distributed wind and solar generation

15
16 **Q. What is the public benefit of knowing the cost to cancel construction of Vogtle**
17 **3&4?**

18 A. The Georgia PSC cannot make an informed decision or protect the public interest
19 concerning cancelling or continuing Vogtle construction without knowing actual figures
20 of the cost to cancel the construction project at Plant Vogtle. Cost to complete vs. cost
21 to cancel data is important to fulfill the purpose of these periodic Vogtle construction
22 reviews, especially in the rapidly shifting business climate in which these “only-of-a-
23 kind” reactors are being built in Georgia. This information should be researched and
24 reported by either the PSC Staff or by Georgia Power (or both). Only by knowing these
25 figures can the PSC make an informed decision about the wisdom of its continued
26 investment of Georgia ratepayer money in Georgia Power’s nuclear project.

27
28 **Q. Why should Vogtle be considered as a 40-year investment?**

29 A. Vogtle is licensed by the U.S. Nuclear Regulatory Commission (NRC) for 40 years
30 under 10 C.F.R. § 54.17. Vogtle's license will date from the day it enters into

1 commercial service (currently projected to 2020). Although Georgia Power consistently
2 assesses the economic benefit of its Vogtle project to consumers based on its value as a
3 60-year investment, 10 C.F.R. § 54.17(c) states: “An application for a renewed license
4 may not be submitted to the Commission earlier than 20 years before the expiration of
5 the operating license or combined license currently in effect.”

6
7 Georgia Power has defended its 60-year investment basis by reference to the NRC’s
8 history of approving all reactor license extension applications for an additional 20 years.
9 While this may be the case, the oldest currently operating reactor in the U.S. was
10 commissioned in 1969 and has only operated 45 years at the present time. Many
11 reactors have received 20-year license extensions but were forced to shut because it was
12 no longer economical to upgrade and/or operate the old reactors in the modern-day
13 energy market.

14
15 Since Georgia Power cannot even apply for a license extension to Vogtle 3 or 4 before
16 at least 2040, that is, 20 years after it begins operation, the assumption that the plants
17 will be operational for 60 years is hypothetical and unsupported by fact. More realistic
18 analysis of the economic benefits to Georgia Power's customers will be based on
19 Vogtle's actual NRC license and a 40-year operating life.

20
21 The Commission should therefore demand that Georgia Power supply a 40-year
22 economic benefit analysis as companion analysis to the current 60-year analysis.

23
24 **Q. Why should the cost and benefit of Vogtle be compared to new solar and wind
25 generation instead of a combined cycle natural gas plant?**

26 A. Many changes have affected the market place since Georgia Power undertook to
27 certify and construct two additional reactors at Plant Vogtle. First, as already noted, is
28 the reduced volume of Georgia Power's sales since 2008 (a national trend boding ill for
29 Georgia Power's wholesale sales prospects). Secondly, the much hyped "Nuclear
30 Renaissance" which Georgia Power leads, has evaporated, exposing the Georgia project

1 to an inadequate supply chain and reduced industry cover for "first-of-a-kind" now
2 "only-of-a-kind" risky nuclear projects.

3
4 Since 2008, the energy market has changed rapidly with unprecedented increase of solar
5 and wind to the electric grid. Falling prices and revolutionary strides in energy storage
6 coupled with grid computerization and decentralization are transforming utility business
7 models. Solar and wind are cheaper and faster to deploy than nuclear. The PSC should
8 help Georgia Power recalibrate its business model to meet current business conditions.

9
10 Finally, in 2014, the U.S. Environmental Protection Agency (EPA) began a rulemaking
11 to address carbon buildup in the Earth's atmosphere which has been the topic of much
12 discussion by both Georgia Power and the Georgia PSC. The benefits to nuclear utilities
13 in meeting the new EPA regulations is still under review. How the 6% credit for nuclear
14 power in the draft EPA rule applies to Vogtle 3&4 is unclear, subject to revision, and of
15 marginal benefit at best in Georgia Power's enormous portfolio. Solar and wind
16 portfolios, however, carry clear benefits for utilities, consumers, and the environment
17 under the proposed new rule. As an added benefit, solar and wind sidestep altogether
18 the vagaries of the "volatile fuel market" and, unlike, natural gas, carry no carbon
19 penalty.

20
21 Indeed, Georgia is making its mark in expanding both solar and wind sources in
22 Georgia Power's portfolio, and the Georgia PSC has been at the forefront of the
23 accomplishment.

24
25 Georgia Power's pattern of analyzing Vogtle against a combine-cycle natural gas plant
26 has fallen out of step with present day options. In 2015 the relevant marketplace
27 comparison is to compare the benefit of completing Vogtle 3&4 reactors to the cost to
28 cancel Vogtle and supply new market demand with wind and solar power instead.

29
30

1 **VI. CONCLUSIONS & RECOMMENDATIONS**

2
3 **Q. Please summarize your conclusions & recommendations for the Commission.**

4
5 **A. Conclusions**

- 6 • The Georgia Public Service Commission's (PSC) mission is to "exercise its
7 authority and influence to ensure that consumers receive safe, reliable and
8 reasonably priced ... electric service."
9 • The PSC has the authority to cancel Vogtle 3&4 reactors at any time if the
10 certified capacity is no longer needed.
11 • Georgia Power annual report data reveals that the company is overbuilt in a
12 shrinking, shifting market and no longer needs the power from Vogtle 3&4.
13 • The Commission should mothball Vogtle 3 & 4 since it no longer meets the
14 public necessity test. In the absence of company or staff data, it must be
15 assumed it would be cheaper to cancel construction at Vogtle than to spend an
16 additional \$12 billion of Georgia ratepayers' forced investment in an unneeded
17 Georgia Power project. Therefore, cancelling Plant Vogtle is in the public
18 interest and fulfills the PSC's mission to ensure reasonably priced electric
19 service.
20 • If the PSC does not mothball construction at Plant Vogtle immediately, it should
21 require further information to justify continued construction of two unneeded
22 reactors.

23
24 **Recommendations**

- 25 • The total costs to cancel or defer construction of Vogtle 3&4 reactors should be
26 compiled and reported by either Georgia Power and/or the PSC Staff.
27 • Based on NRC licensing rules, Georgia Power should produce realistic
28 economic benefit analysis of Vogtle as a 40-year investment as companion
29 analysis for its hypothetical 60-year benefits.

1 • The energy market has changed at the same time that EPA climate rules are
2 coming to bear. Comparisons of Vogtle expansion to a combined cycle natural
3 gas facility are outdated. The cost to complete, and also the cost to not complete,
4 Vogtle 3&4 should be compared to the cost of meeting Georgia Power revised
5 energy forecasts with distributed solar and wind generation.

6

7 **Q. Ms. Carroll, does this conclude your testimony?**

8 A. Yes.

GLENN CARROLL



████████████████████
DECATUR, GEORGIA 30030

404-378-9542

PROFESSIONAL

Nuclear Watch South (formerly GANE-Georgians Against Nuclear Energy), coordinator, 2000-present.

Glenn Carroll Graphics, freelance design studio, 1987-present.

Dorey Publishing, art director, 1984-1987.

Creative Loafing, design, page layout, typesetting, 1982-1984.

EDUCATION

Georgia State University, Bachelor of Visual Arts, cum laude, 1982.

Vera Jernigan Green Memorial Art Award for Painting, 1981-1982.

HONORS and ACHIEVEMENTS

Environment

Concept development/graphic artist/webmaster for Nuclear Watch South (formerly GANE). 1987-Present.

Nipponzan Myohoji Atlanta Dojo, Corrigan Peacemaker Award, 2015. *Presented to Glenn Carroll and Nuclear Watch South.*

Legal opposition to MOX plutonium fuel factory construction at Savannah River Site before the Nuclear Regulatory Commission, resulted in upgraded security and seismic standards, 2000-2015.

Georgia WAND (Women's Action for New Directions), Environmental Activist Award, 2011.

Tides Foundation Jane Bagley Lehman Award for Excellence in Public Advocacy, 2007/2008.

Georgia Environmental Council Special Achievement Award, 1996.

Legal intervention before Nuclear Regulatory Commission resulted in removal of nuclear fuel from Georgia Tech's reactor for 1996 Olympics, 1994-1996. Reactor permanently shut July 1997.

Legal intervention before Nuclear Regulatory Commission resulted in necessary repairs and upgrades to emergency diesel generators at Nuclear Plant Vogtle, 1990-1992.

Board of Directors, Campaign for a Prosperous Georgia, 1987-1990.

Art

Silver August Turner Memorial Award, Decatur Arts Alliance Visual Arts Exhibition, 1998.

Merit Award, Festival 94, Dalton, Georgia Creative Arts Guild, 1994.

Merit Award, Festival 92, Dalton, Georgia Creative Arts Guild, 1992.

Purchase Award, Jubilee for the Arts, Marietta, 1986.

Art Editor of *The Review*, Georgia State University art and literature magazine, 1981-1982.

Conceived and curated *Review Show*, multi-media student art show, Urban Life, Georgia State, 1982.

SOLO EXHIBITIONS

2000. *10 Years of Work for the Earth*, The Final Touch Gallery, Decatur, Georgia.

1999. *Ghost Medicine*, The Lay Institute of Faith and Life, Columbia Theological Seminary, Decatur, Georgia.

1998. *Vacation in Creation*, Seven Stages, Atlanta, Georgia.

1998. *Creation Chapel*, The Art Place - Mountain View, Marietta, Georgia.

1995. Exhibit of paintings concurrent with Northeast Asian Arms Control Project. Center for International Strategy, Technology and Policy; Georgia Institute of Technology, Atlanta, Georgia.

1994. *Time Distance Shielding*, Richards Gallery, Georgia Tech Theatre for the Arts, Atlanta, Georgia.

1993. *Show for the End of Time*, Callanwolde Fine Arts Center, Atlanta, Georgia.

SELECTED GROUP EXHIBITIONS

2013. 100 @ 100 Juried Alumni Art Exhibit, Ernest G. Welch School of Art & Design, Georgia State University, Atlanta, Georgia.
2001. *K(now)l(edge)*, Emory University School of Law, Atlanta, Georgia (*with Tom Ferguson and Ruth Laxson*).
2000. *The Millenium: The End? The Beginning? or More of the Same?*, Georgia Perimeter College, Clarkston, Georgia (*with Michael Murrell, Bruce Bobick and OHM*).
1999. *A Southern Palette*, Food Business, Decatur, Georgia.
1998. *Meeting Places*, The Lay Institute of Faith and Life, Columbia Theological Seminary, Decatur, Georgia.
1998. *16th Annual September Competition*, Alexandria Museum of Art, Alexandria, Louisiana.
1998. *Decatur Arts Alliance Visual Arts Exhibition*, Dana Fine Arts, Agnes Scott College, Decatur, Georgia. *Silver Award*.
1998. *Women's Altars and Feminine Images of God in Art*, Blue Angel Gallery, Gainesville, Georgia.
1998. *Festival 98*, Creative Arts Guild, Dalton, Georgia.
1997. *Faith and Doubt*, The Lay Institute of Faith and Life, Columbia Theological Seminary, Decatur, Georgia.
1997. *Paperworks 1997*, Coastal Center for the Arts, St. Simons Island, Georgia.
1997. *Festival 97*, Creative Arts Guild, Dalton, Georgia.
1996. *Summerfest 96*, Greater Hall Arts Council Gallery, Gainesville, Georgia.
1994. *Festival 94*, Creative Arts Guild, Dalton, Georgia. *Merit Award*.
1993. *Artstravaganza*, Association for Visual Arts National Juried Exhibition, Chattanooga, Tennessee.
1993. *Best of the Best*, Dogwood Festival Fine Art Show, Atlanta, Georgia.
1992. *Festival 92*, Creative Arts Guild, Dalton, Georgia. *Merit Award*.
1992. *Alternative Views of Columbus*, Arts Exchange, Atlanta, Georgia.
1990. *The Earth Factory Show*, Atlanta, Georgia.

SELECTED REVIEWS and MEDIA REFERENCES

- Decatur Woman's Battle Cry is 'No Nukes, Y'all'* by Andrew Caulthen, **The Champion FreePress**, 9/5/14 (photo).
- Federal Government Backs \$6.5 Billion Loan for Plant Vogtle* by Glenn Carroll, **Atlanta Progressive News**, 2/20/14.
- Older Activists, Younger Crowd Team to Fight Nukes* by Melanie S. Welte, AP wire service, 2010 (photos).
- Anti-Nuclear Activists Mobilize to Oppose Obama-Funded Construction of Georgia Nuke Plants* Interview with Amy Goodman, **Democracy Now!** 2/24/10
- This Is the Time to Reject Nuclear Arms* by Glenn Carroll, **Atlanta Journal & Constitution**, 3/3/08.
- We Don't Need More Bombs; Plutonium Is Too Dangerous* by Glenn Carroll, **Augusta Chronicle**, 7/5/03.
- Local Artist Finds Muse in Atomic Activism* by Bret Duchon, **The DeKalb Neighbor**, 1/26/00 (photos).
- Decatur Artist Blends Spirituality, Environmentalism into Her Work* by Hervey Paen, **Atlanta Journal-Constitution**, 1/20/00 (feature photo).
- Viewing Crises at the Millennium*, art review by Jerry Cullum, **Atlanta Journal-Constitution**, 1/14/00 (photo).
- Use More Caution with Nuclear Waste* by Glenn Carroll, **Atlanta Journal-Constitution**, 10/10/99 (photos).
- Week at a Glance*, feature photo promoting Decatur Arts Festival, **Creative Loafing**, 5/29/99.
- Alumni Profile: Glenn Carroll, Painter and Activist* by Joan Tysinger, Georgia State University School of Art and Design's **FineLine**, May, 1999 (photos).
- Ghost Medicine*, feature photo on cover of "Faith & Values," **Atlanta Journal-Constitution**, 4/10/99.
- Pinestraw Politics* by Jeremy Arieih, feature photo and story promoting *Ghost Medicine*, **Creative Loafing**, 3/27/99.
- Ghost Medicine* by Christina Kline, feature photo and story, **Atlanta Press**, 3/19/99.
- September Competition* by Alice B. Story, feature photo, **The Town Talk**, Alexandria-Pineville, La., 8/20/98.
- Week at a Glance*, feature photo promoting *Vacation in Creation*, **Creative Loafing**, 5/30/98.
- Tech Decides Not to Restart Reactor* by Charles Seabrook, **Atlanta Journal-Constitution**, 7/10/97.
- Tech Reactor Down, Not Out* by Greg Land, **Creative Loafing**, 12/9/95.
- Tech Exhibit Gives Activist a Soapbox* by Holly Crenshaw, **Atlanta Journal-Constitution**, 3/3/94.
- Forget the Flowers . . . Carroll's Subject is Nuclear Energy* by Tom Moore, **The Mountain Mirror**, February 1994.
- Artist Uses Paper Works and Imagery as Activism*, review by Jerry Cullum, **Atlanta Journal-Constitution**, 10/1/93.
- Decatur Resident Aims to Educate Public through Art* by Marnie Dwiggin, **The DeKalb Neighbor**, 9/8/93.

Nuclear Watch South Exhibit #2

Docket #29849

S.C. Prenovitz
Updated April, 2015
Doc # 29849

GA Power-- Key Financial & Operating Data
2004 -- 2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	'10-Yr **Annual Growth rate (%) 2004-14
1. Revenue (\$-M)	\$5,728	\$7,076	\$7,246	\$7,572	\$8,412	\$7,692	\$8,349	\$8,800	\$7,998	\$8,274	8,988	4.6%
2. Volume (Kwh-M)- Retail	82,327	83,412	84,556	86,084	84,305	81,346	87,160	84,299	81,742	81,180	83,740	0.2%
Volume (Kwh-M)- Ret&Whol	92,682	99,034	100,705	101,854	97,755	89,058	92,822	88,829	85,276	84,705	89,180	-0.4%
3. Price-- total Retail (Kwh-cts)	6.22	7.27	7.34	7.55	8.64	8.50	8.73	9.61	9.01	9.39	9.84	4.7%
Price-- total Ret&Whol (cts)	5.98	6.93	6.96	7.18	8.30	8.33	8.66	9.54	8.99	9.35	9.66	4.9%
*Price-- Residential (cents)	7.66	8.73	8.80	9.10	10.03	10.22	10.44	11.91	11.60	12.00	12.35	4.9%
4. Capacity (MW)	14,783	15,995	15,995	15,995	15,995	15,995	15,992	16,588	17,984	17,586	17,593	1.8%
5. Capacity Utilization (%)	72%	71%	72%	73%	70%	64%	66%	61%	54%	55%	58%	----
6. Net Plant in Service (\$-M)	\$11,464	\$12,027	\$12,936	\$13,315	\$14,874	\$15,627	\$16,431	\$17,508	\$18,813	\$19,162	\$19,861	5.7%
**7. Cost of Fuel (cents-Kwh)												
Coal	NA	[1.91]	2.58	2.87	3.44	4.12	4.53	4.70	4.63	4.92	4.52	7.3%
Nuclear	NA	[0.47]	0.47	0.51	0.51	0.55	0.66	0.78	0.87	0.91	0.90	8.5%
Gas	NA	[14.03]	5.76	6.28	6.90	5.30	5.75	4.92	3.02	3.33	3.67	-5.5%
8. Cost KW (embedded) -\$	\$775	\$752	\$809	\$832	\$930	\$977	\$1,027	\$1,055	\$1,046	\$1,090	\$1,129	4.8%
9. Vogtle 3&4 Cost KW (\$-est)	(Budget \$14.1 B, \$14.9 B)					\$6,409	\$6,409	\$6,409	\$6,773	?	?	----
Vogtle Capacity = 2,200 MW						2,200	2,200	2,200	2,200	2,200	2,200	----

*Residential rates: Excludes impact of-- CWIP, Environmental, & Municipal fees

** Annual growth rates for Cost of Fuel --over 8 year period, beginning in 2006

Sources: GA Power Annual Reports-- 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014