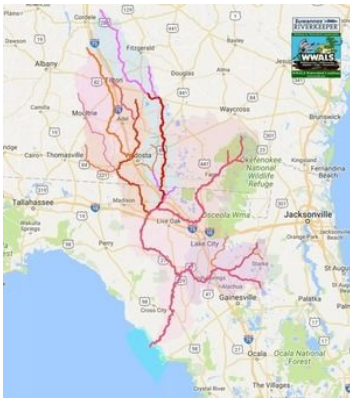
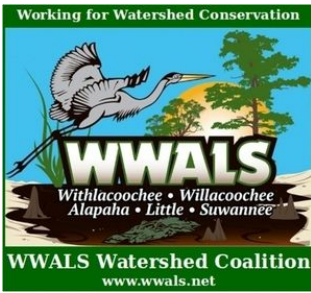


June 10, 2019



PO Box 88, Hahira, GA 31632
850-290-2350

wwalswatershed@gmail.com
www.wwals.net

WWALS Watershed Coalition advocates for conservation and stewardship of the Withlacoochee, Willacoochee, Alapaha, Little, and Suwannee River watersheds in south Georgia and north Florida through education, awareness, environmental monitoring, and citizen activities.



Jason Shaw
Georgia Public Service Commission
244 Washington Street, SW
Atlanta GA, 30334-9052
jshaw@psc.ga.gov

Re: **Georgia Power Integrated Resource Plan (IRP), PSC Docket [42310](#), and August 17, 2018 natural gas explosion in Homerville, GA, Docket [42166](#)**

Commissioner Shaw,

Congratulations again on your appointment to the PSC. Since I last wrote to you about that, February 13, 2019, there have been some developments. In this letter I make some suggestions for the PSC, with rationale, and a list at the end.

PSC staff at the end of March produced a report on the August 17, 2018, explosion in Homerville, GA of natural gas from an Atlanta Gas Light (AGL) pipeline.¹

1) I urge you and the other Commissioners to implement the fines and other actions on AGL as recommended by PSC staff in PSC Docket [42166](#).

As you know, Southern Company, parent of Georgia Power, bought AGL in 2016.²

A few years ago, Georgia Power and Southern Company were leading the southeast in rapidity of solar power deployment. Unfortunately, Georgia Power's most recent Integrated Resource Plan (IRP),³ PSC Docket [42310](#), does not continue that trend.

2) I urge the PSC to require Georgia Power to buy more solar power, as the PSC has done on at least one previous occasion, in 2013, and I believe again in 2015.

In the IRP, Georgia Power asks for a large sum of money to dispose of coal ash. More appropriate would be for the company that produced that ash to pay for its disposal out of some of the profits accrued over all those years of burning coal.

3) I urge the PSC to require Georgia Power to pay for most, if not all, of the cost of disposal of coal ash, in properly lined and otherwise protected landfills, on property owned by Georgia Power, not by shipping it to local landfills.

Coal burning issues go beyond coal ash. Mercury emissions from coal combustion have been linked to atmospheric deposition of this toxic metal and its accumulation at health threatening levels in the tissue of sports fish throughout the region. There are fish consumption advisories due to mercury contamination even in areas as remote as the Okefenokee National Wildlife Refuge, and the Alapaha River. There is consensus that the primary source of the mercury in these fish is from coal combustion for electricity generation.

4) Perhaps the parties responsible should be asked to provide compensation for the negative impacts that mercury emissions have on recreational fishing.

If Georgia Power is in need of further funds, the best way to get them would be to stop throwing cash down the bottomless pit of Plant Vogtle. No other company and no other state is building new nuclear power units. Many other companies and states are closing them down,

¹ "Notice of Probable Violations with Proposed Civil Penalty," Staff, GA-PSC, Docket Filing #176323, Docket: 42166, <http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=176323>

² "The Southern Company acquires AGL Resources for \$12 billion," Jones Day, July 2016, <https://www.jonesday.com/southern-company-to-acquire-agl-resources/>

³ "2019 Integrated Resource Plan," Georgia Power, 31 January 2019, Docket Filing #175473, Docket: 42310, <http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=175473>

and for good reason, from Pilgrim in Massachusetts,⁴ to Duane Arnold in Iowa,⁵ to the iconic Three Mile Island “China Syndrome” plant in Pennsylvania. Nuclear plants, just like coal, cannot compete against the continually decreasing prices of solar and wind power.

In 2017, the Mississippi PSC told Southern Company subsidiary Mississippi Power it could not charge any more costs of Kemper “Clean” Coal to its ratepayers, causing that project to cease.⁶ The two nuclear units building at Plant Vogtle are just as much of a bad Big Bet as was Kemper Coal.

5) I urge the PSC to stop more money and renewable energy opportunity costs from being wasted on that years-late and far-over-budget Plant Vogtle project.

Unfortunately, the Kemper coal power plant site merely switched over to natural gas, which is just more stranded assets and renewable energy opportunity costs, similar to Southern Company’s purchase of AGL, including the AGL pipeline of the Homerville explosion..

At the May 22rd Southern Company (SO) Stockholder meeting,⁷ SO CEO Tom Fanning briefly alluded to the Homerville explosion. I clarified for the stockholders that the gas that exploded came from an AGL pipeline. I thanked the CEO of Southern Company Gas, Kimberly S. Greene, for some work she instigated at my request on the other end of that same pipeline, which originates on my property. As she described the result of that work, AGL now has a state-of-the-art pipeline station. As I described it in the stockholder meeting, that is like a gold-plated horse buggy in 1919, after the Model T came out.

The Southern Company Proxy Statement emphasizes a “low carbon future.”⁸ Yet the Annual Report shows Southern Company’s total power mix percentages for coal plus natural gas diminished over the last decade by almost exactly the same percentage as its solar and wind power increased.⁹ As I pointed out to the stockholders, the fossil fuel mix certainly did not decrease because of Plant Vogtle, which still has not delivered any power.

Tom Fanning defended that fossil fuel mix by saying Southern Company had closed many coal plants and natural gas burns cleaner, producing less carbon dioxide. While I thank Southern Company and Georgia Power for closing coal plants, the methane that is most of natural gas is a much worse greenhouse gas than carbon dioxide.¹⁰ That methane leaks far more than the pipeline industry admits,¹¹ all along the line, from fracking, to pipelines, to power plants, to liquid natural gas (LNG) exports, and in LNG liquefaction plants such as the six AGL owns, three in Georgia, and one each in Tennessee, Alabama, and Florida. Of course sometimes that methane explodes, as happened in Homerville. For that matter, part of CEO Fanning’s compensation is now tied to reductions in greenhouse gases (GHG), not just reductions in carbon.

Tom Fanning attempted to justify SO’s purchases of pipeline companies by saying SO needs a bridge to renewable energy. That gave me *deja vu*, since I had not heard anybody say “bridge fuel” for about five years. Sure, ten years ago even Sierra Club was saying that. But

⁴ "You Asked, We Answered: Questions About The Pilgrim Shutdown," Bruce Gellerman, Barbara Moran, and Miriam Wasser, WBUR, 28 May 2019, <https://www.wbur.org/earthwhile/2019/05/28/plymouth-plant-decommissioning-questions>

⁵ "Powering down: Iowa's only nuclear plant nears end; Palo facility can't compete with cheaper sources of energy," Mitchell Schmidt, The Gazette, 5 May 2019, <https://www.thegazette.com/subject/news/powering-down-iowas-only-nuclear-plant-nears-end-20190505>

⁶ "Mississippi Power will stop efforts to complete coal plant," Jeff Amy, Associated Press, 3:56 p.m. CT June 28, 2017, Updated 6:52 p.m. CT June 29, 2017, <https://www.clarionledger.com/story/business/2017/06/28/kemper-coal-power-plant-stop/437150001/>

⁷ "Webcast: 2019 Southern Company Annual Meeting of Stockholders," Southern Company, 22 May 2019, https://players.brightcove.net/18122129001/default_default/index.html?videoId=6039940118001 in "Webcasts & Presentations," Southern Company, accessed 8 June 2019, <https://investor.southerncompany.com/information-for-investors/investor-information/webcasts-and-presentations/default.aspx>

⁸ "Notice of Annual Meeting of Stockholders and Proxy Statement," Southern Company, May 2019, https://www.southerncompanyannualmeeting.com/media/2517/346338-1-_35_southern-company_nps_wr-spread-_r1.pdf

⁹ "Energy for Life, 2018 Annual Report," Southern Company, May 2019, https://www.southerncompanyannualmeeting.com/media/2600/4000_final_so_2018ar_spreads.pdf

¹⁰ "Understanding Global Warming Potentials," U.S. EPA, accessed 7 June 2019, <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

¹¹ "The US natural gas industry is leaking way more methane than previously thought. Here's why that matters," Anthony J. Marchese and Dan Zimmerle, The Conversation, 2 July 2018, <http://theconversation.com/the-us-natural-gas-industry-is-leaking-way-more-methane-than-previously-thought-heres-why-that-matters-98918>

the price of solar and wind power has gone down drastically since then, and continues going down. Solar power is less expensive and faster to build than any other source of power, requires less permitting, requires no cooling water,¹² emits no pollutants, and needs no fuel.

Something else has changed. It was 100 degrees for five days out of two weeks in late May and early June in Lowndes County, Georgia, when the typical high during those days is 90. Valdosta, Georgia, spiked to 106, matching its record all-time high, of August 1, 1999. But this wasn't high summer in August: this was still spring, on June 1st. Hurricane Michael devastated the Florida panhandle and southwest Georgia last year. The U.S. midwest is under water again. We don't have time for a "bridge fuel."

No doubt no fuel for solar or wind is of great concern to Georgia Power and Southern Company, since they cannot charge for no fuel. Yet if they don't figure out how to deal with that, somebody else will.

Not only has the price of solar and wind dropped rapidly, battery power has become available sooner and less inexpensively than expected. I mentioned to Tom Fanning that Florida Power & Light (FPL) is building the world's largest battery and shutting down two natural gas power plants. He said that's just current battery technology, and there is research into other means of storage. Indeed, Southern company has been doing such research for at least six years now,¹³ conveniently with no results yet that the company likes.

Meanwhile, SO is content to plunge ahead with the biggest, hardest, most expensive project of them all, new nuclear power units, even after that project bankrupted the company previously in charge of it, and the neighboring state of South Carolina cancelled a very similar project.

It was six years ago, in 2013, that Fanning appointed a tiger team to look into a smart grid to integrate sun and wind power.¹⁴ That team reported to the company in the summer of that year, but its results were never made public.¹⁵ There has been plenty of time for that team or another to report again on fixes to whatever dire difficulties they found the first time.

Meanwhile, Duke Energy is building 74.9 megawatt solar farms in Florida.¹⁶



Photo: John S. Quarterman, 1 June 2019, of Duke Energy Hamilton Solar Farm, Hamilton County, Florida.

Florida Power & Light is also building solar installations of that size all over Florida. FPL's parent company, NextEra Energy, brags in every quarterly earnings statement and SEC report that it is the world leader in solar power, especially since Southern Company sold Gulf Power to NextEra last year.¹⁷

¹² "Ask Georgia Power to conserve our water –WWALS to GA PSC," WWALS Board, 12 June 2013, <http://wwals.net/?p=679>

¹³ "Southern Company Energy Storage Study: A Study for the DOE Energy Storage Systems Program," James Ellison, Dhruv Bhatnagar, Clifton Black, and Kip Jenkins, Sandia National Laboratories Report, SAND2013-2251, March 2013, <https://www.sandia.gov/ess-ssl/publications/SAND2013-2251.pdf>

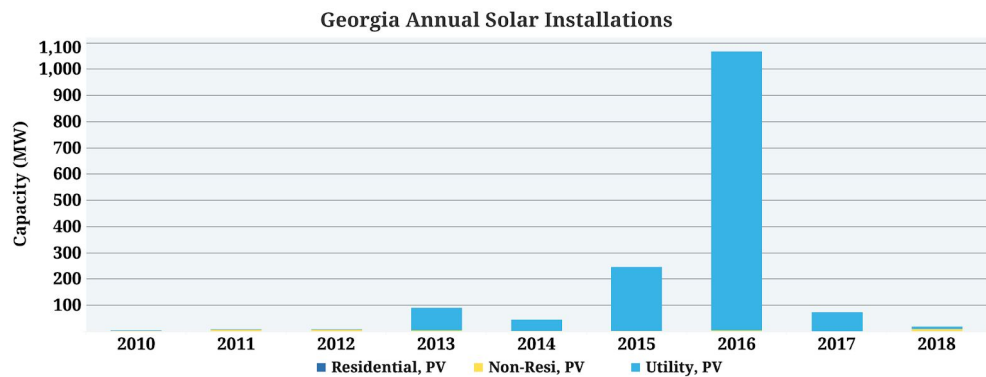
¹⁴ "SO's plan to make the Southeast a net exporter of the energy from solar and wind? –John S. Quarterman @ SO 2013-05-22," John S. Quarterman, LAKE, 8 July 2019, <http://www.l-a-k-e.org/blog/?p=4594>

¹⁵ "Slight changes at Southern Company @ SO 2014-05-28," John S. Quarterman, LAKE, 29 May 2014, <http://www.l-a-k-e.org/blog/?p=9177>

¹⁶ "Duke opens Hamilton Solar Power Plant," Suwannee Democrat, 10 January 2019, https://www.suwanneedemocrat.com/news/duke-opens-hamilton-solar-power-plant/article_634e6dfe-14f6-11e9-8e66-0bee3a0e1252.html

¹⁷ "NextEra adds to Florida portfolio with Gulf Power purchase," Tampa Bay Times, 2 January 2019, <https://www.tampabay.com/florida-politics/buzz/2019/01/02/nextera-adds-to-florida-portfolio-with-gulf-power-purchase/>

Two years ago, at the 2017 Stockholder Meeting, Tom Fanning said, “Solar panels, heck yeah!” And proceeded to say Southern Company was decreasing its capital expenditures (capex) on renewables from \$2.5 billion to \$1.5 billion.¹⁸ Which means that the 10% increase in renewable energy mix in the past decade mostly happened before 2018, and Georgia is already lagging behind again.



Graph: SEIA, whose state rankings use data from several quarters back.

In 2018, Georgia made the top 10 solar states for total deployed solar power, up from #22 in 2017 to #10 in 2018.¹⁹ Back in 2016, Georgia was even briefly #6, and this Georgia solar boom is widely, and correctly, I think, attributed to the Georgia PSC requiring Georgia Power to buy more solar power.²⁰

We see in the above graph what happened when the PSC’s solar requirement lapsed. As Tom Fanning announced at Stockholder Meetings, Southern Company renewable energy budgets went way down. Georgia Power being the biggest part of Southern Company, Georgia solar deployments went down with that budget. While Georgia was standing still, other states continued to deploy solar power, and by Q4 2018 Georgia had dropped to #11²¹ Georgia lags behind not just obviously sunny places like California, Arizona, Nevada, Texas, and Florida, but even behind North Carolina, New York, New Jersey, and snowy Massachusetts, which has almost 2.5 GW already deployed.²²

We need solar power now in Georgia, for reduced power bills, for rural jobs, for fewer greenhouse gases, for no cooling water, and for profit. In the 2019 IRP, Georgia Power proposes only 1 gigawatt (GW) of new renewable energy, mostly solar power, by 2024. That’s not much, considering that Georgia has about 1.5 GW of solar power already deployed:²³ Another 1 GW would only get Georgia by 2024 to where cold Massachusetts is now.

Overall U.S. solar power deployment has been more than doubling every two years for the past decade.²⁴ By that nationwide rate, Georgia Power should have at least 12 GW by 2024. Since 12 minus 1.5 is 10.5, a reasonable requirement for the PSC to make would be to **replace the IRP’s 1 GW figure with 10.5 GW. Even better, round 10.5 GW up to 12 GW by 2024 so Georgia could pull ahead again.**

Five years ago, in 2014, that SO started a research project on offshore wind.²⁵ Where are the results of that research? While Georgia has none, wind projects are being built offshore in

¹⁸ "Video: Solar panels, heck yeah! –Tom Fanning, CEO, at SO stockholder meeting 2017-05-24," John S. Quarterman, LAKE, 29 June 2017, <http://www.l-a-k-e.org/blog/?p=18717>

¹⁹ "Solar Power in Georgia 2018 – How Are We Doing? Georgia Cracks the Top 10 for Solar Capacity," Coastal Solar Energy Solutions, accessed 8 June 2019, <https://coastalsolar.com/solar-power-georgia-industry/>

²⁰ "How Georgia Became a Top 10 Solar State, With Lawmakers Barely Lifting a Finger," James Bruggers, inside climate news, 14 June 2018, <https://insideclimatenews.org/news/14062018/georgia-solar-power-renewable-utility-scale-clean-energy-investments-2018-election>

²¹ "Georgia Solar, Data Current Through: Q4 2018," SEIA, accessed 8 June 2019, <https://www.seia.org/state-solar-policy/georgia-solar>

²² "Top 10 Solar States," SEIA, accessed 7 June 2019, <https://www.seia.org/research-resources/top-10-solar-states-0>

²³ "Solar State By State," SEIA, accessed 7 June 2019, <https://www.seia.org/states-map>

²⁴ "Electric Power Monthly, Data for March 2019," U.S. Energy Information Administration, 24 May 2019, https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_1_01

²⁵ "Georgia Power studying possible wind turbines on Georgia’s coast or off Tybee’s shore," Corey Dickstein, Savannah Now, 20 June 2014, <https://www.savannahnow.com/news/2014-06-20/georgia-power-studying-possible-wind-turbines-georgias-coast-or-tybees-shore>

places much more difficult than the Georgia Bight, such as the typhoon-riddled Pacific Ocean off Japan. In 2011, an offshore wind farm withstood the same typhoon that devastated the Fukushima Daiichi nuclear reactor.²⁶ This year, Japan added a law promoting offshore wind.²⁷

6) I urge the Georgia PSC to promote wind by demanding Georgia Power get on with it.

It seems convenient that Southern Company deems too hard and in need of further research or of further subsidy by the ratepayers or the taxpayers everything except those projects that are already so subsidized: natural gas pipelines and power plants, and nuclear power plants. Plant Vogtle has the gravy train of Construction Work in Progress (CWIP) charges billed to Georgia Power customers for years now with no electricity to show for it. That one at least is visible on power bills, as “Nuclear Construction Cost Recovery Rider.” The hidden CWIP for natural gas power plants is not so visible.²⁸

(I am happy to say that I, personally, do not pay anything on my electric bill to support Plant Vogtle construction, because my utility is Colquitt EMC, which is one of four EMCs that never bought into the new nukes at Plant Vogtle, considering it a bad business deal.)

Maybe it is a hard problem to integrate solar, wind, and storage with microgrids into a composite grid that will enable shutting down the rest of the coal plants, with natural gas to follow. Or maybe it is not that hard, considering that Tom Fanning said in this year’s Stockholder Meeting that Southern Company leads in microgrids. Also, Stanford Professor Mark Z. Jacobson and his research team have spent years spelling out how to do it, including for Georgia.²⁹ Hard or not, as Tom Fanning frequently reminds us, Southern Company has the biggest private utility research and development operation in the country. Let’s see SO’s R&D results on a smart renewable energy grid.

Or we can wait for FPL or Duke or a smart EMC to do it instead.

As the electric utilities’ own think tank, Edison Electric Institute (EEI), warned them all back in 2013, solar and batteries could lead to many customers generating their own power and using the grid only as a backup, which could cause “irreparable damages to revenues and growth prospects” of the incumbent utilities.³⁰ EEI even made an analogy with what happened to the telephone companies when they tried to ignore the Internet: many of them went bankrupt, and it took years to sort out the mess. After discussing that EEI report with Tom Fanning at the 2013 Stockholder Meeting, I discussed with the PSC, on June 18, 2013, the similarities of the Internet growing like compound interest and solar power deployment doing

²⁶ "RECENT DEVELOPMENT AND CHALLENGES OF WIND TURBINE TECHNOLOGY," Chuichi Arakawa, JST Japan & Denmark embassy, Fukuoka, 2012, http://www.jst.go.jp/sicp/ws2012_denmark/presentation/presentation_16.pdf

²⁷ “Offshore wind farms in Japan turn viable with new law,” Yukinori Hanada and Nana Shibata, Nikkei Asian Review, 14 February 2019, <https://asia.nikkei.com/Business/Business-trends/Offshore-wind-farms-in-Japan-turn-viable-with-new-law>

²⁸ "Georgia Power, Get the Facts, Investing in Georgia’s Energy Future:" Georgia Power, accessed 22 October 2012, no longer online, but recorded by LAKE, <http://www.l-a-k-e.org/blog/?p=396>. "The Georgia Public Service Commission (PSC) voted Dec. 21 to approve a plan that will increase Georgia Power’s base rates about 10 percent beginning Jan. 1, 2011 to recover the costs of investments in cleaner generation sources, power lines, smart grid technologies, environmental controls and energy efficiency programs to meet current and future customer demand. Beginning Jan, 1, 2011:

Additional increases are as follows

YEAR	MONTHLY DOLLAR INCREASE	PERCENTAGE INCREASE
2011	\$10.76	10%
2012	\$3.09	2.6%
2013	\$1.48	1.2%

For business customers, the average increase will range from about 7 percent to 8.7 percent....

Cleaner Natural Gas Generation—To ensure adequate and cleaner energy when our customers need it. At Plant McDonough, coal-fueled units are being replaced with natural gas units. The new units will produce enough electricity to power 625,000 homes. This change will ensure reliability of electric service to north Georgia while reducing the environmental impact of the plant on the local community."

²⁹ "Abstracts of 18 Peer-Reviewed Published Journal Articles From 2009-2018 by 96 Co-Authors Forming the Scientific Basis of 100% Clean, Renewable Wind-Water-Solar (WWS) All-Sector Energy Roadmaps for Towns, Cities, States, Countries, and the World," Mark Z. Jacobson, Stanford University, 17 September 2018, <https://web.stanford.edu/group/efmh/jacobson/Articles/I/100Pct-WWS-Papers.pdf>

³⁰ "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business," EEI, January 2013, <http://www.l-a-k-e.org/topics/solar/2013-01-01--eei-disruptive-challenges/>

the same, because of the continually dropping price of solar power.³¹

Well, solar and wind costs have continued going down. As I and Jon Wellinghoff, the then-Chair of the Federal Energy Regulatory Commission (FERC), separately predicted back in 2013 using FERC data,³² U.S. solar power is still on track to produce more electricity than any other source by 2023. The state of Georgia should not have to get left behind if Georgia Power and Southern Company think foresight means looking to past mistakes such as natural gas as a “bridge fuel” or sinking more money into Plant Vogtle. The PSC can fix that.

I would like to thank Tom Fanning for his continued hospitality at Stockholder Meetings, and his willingness to patiently listen to all sorts of viewpoints, and to respond. One of his repeated responses to different speakers this year was that the amount of solar power Georgia Power would buy would be decided in the PSC IRP process. So in this letter I am taking up his suggestion of appealing to the PSC.

To collect all my suggestions in one place, I urge the PSC to:

- 1. Implement staff’s recommended fines and other actions related to the Homerville explosion of natural gas from an Atlanta Gas Light (AGL) pipeline.** See PSC Docket [42166](#).
- 2. Once again require Georgia Power to buy more solar power than it requested in its IRP, to a significant number such as 12 gigawatts by 2024.** See PSC Docket [42310](#) for this and the following suggestions.
- 3. Require Georgia Power to pay for most, if not all, of the cost of disposal of coal ash,** in properly lined and otherwise protected landfills, on property owned by Georgia Power, not by shipping it to local landfills.
- 4. Ask the parties responsible for airborne mercury into our rivers to provide compensation for the negative impacts that mercury emissions have on recreational fishing.**
- 5. Stop any more money and renewable energy opportunity costs from being wasted on the years-late and far-over-budget Plant Vogtle nuclear power project.**
- 6. Promote wind by demanding Georgia Power get on with it.**

The PSC has the power and the responsibility to steer the utilities to renewable solar, wind, and storage energy on a smart grid now, for reliable, dependable, sustainable power for Georgia. I look forward to seeing that happen. I urge you and the other Commissioners to make that happen.

I’d also like to ask you for a meeting in your PSC district, to discuss these and other matters, with WWALS and other interested parties. Valdosta or Tifton are centrally located, and would be good for such a meeting. Or perhaps Lakeland. Or Homerville, site of that AGL pipeline explosion. People from as far away as Atlanta are interested in meeting with you.

Thank you for the opportunity to submit these comments.

John S. Quarterman,
Suwannee RIVERKEEPER®
229-242-0102
contact@suwanneeriverkeeper.org

³¹ "The cloudy day doesn't last for an entire month –John S. Quarterman @ GA PSC 2013-06-18," John S. Quarterman, LAKE, 29 June 2013, <http://www.l-a-k-e.org/blog/?p=4411>

³² "Solar will overtake everything –FERC Chair Jon Wellinghof," John S. Quarterman, LAKE, 22 August 2013, <http://www.l-a-k-e.org/blog/?p=5257>