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February 27, 2015

Via Federal Express

Ms. Terri Lemoine Bordelon
Docketing Division
Louisiana Public Service Commission
Galvez Building, 12th Floor
602 North Fifth Street
Baton Rouge, Louisiana 70802

Re: LPSC Docket No. R-28271 – Subdocket B – In Re: Re-Study of the Feasibility of a Renewable Portfolio Standard for the State of Louisiana

Dear Terri:

Enclosed please find the original of SWEPCO's Annual Report, for filing in the above referenced docket, along with the requisite copies. We have also enclosed an extra copy of this correspondence which we request you stamp as filed and return to our office in the self-addressed stamped envelope.

As always, we appreciate your continued assistance.

With best regards, we are

Yours very truly,

WILKINSON, CARMODY & GILLIAM

By: Bobby S. Gilliam /CR
Bobby S. Gilliam

BSG/emb
Enclosures

FedEx

BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

Louisiana Public Service Commission
Ex Parte

DOCKET NUMBER R-28271 Subdocket B

In Re: Re-study of the feasibility of implementing a renewable portfolio standard for the State of Louisiana.

ANNUAL REPORT OF SOUTHWESTERN ELECTRIC POWER COMPANY

MAY IT PLEASE THE COMMISSION:

Southwestern Electric Power Company (SWEPCO), respectfully submits this Annual Report to the Louisiana Public Service Commission ("Commission" or the "LPSC") per the requirements of Section 7 of the Commission's General Order No. 12-09-10 (R-28271 – A Subdocket B)(Corrected) dated December 9, 2010 (LPSC G.O. 12-09-10).

Research Component

SWEPCO developed and is promoting a Standard Offer Tariff which became effective with cycle 01, January 2012 billing month, called the Rate For Renewable Energy Pilot Purchases (REP). Tariff REP is applicable to any Seller owning or operating a Qualifying Renewable Generator. New Renewable Resources are eligible electric generation resource options as listed in Section 5.1 and as further defined in Section 5.2, of LPSC General Order No. 12-09-10 (R-28271 – A Subdocket B)(Corrected) dated December 9, 2010 (LPSC G.O. 12-09-10). The Standard Offer Tariff (REP) is on file with the Commission. As of December 31, 2014, SWEPCO has no customers taking service under the Standard Offer Tariff.

Request for Proposal ("RFP") Component

SWEPCO 2011 Renewable RFP

On December 9, 2010, in Docket No. R-28271-A Subdocket B (Corrected), *Re-study of the feasibility of a renewable portfolio standard for the State of Louisiana*, the Louisiana Public Service Commission (Commission or LPSC), approved a Renewable Energy Pilot Program Implementation Plan ("Implementation Plan") for new long-term renewable resources. As part of the Request for Proposal (RFP) Component referred to in the Implementation Plan,

each LPSC jurisdictional utility, including Investor Owned Utilities and Cooperative Electric Utilities were required to conduct RFPs pursuant to the Market Based Mechanism Order (MBM) for new long-term renewable resources. The RFP Component results in data being gathered concerning new renewable energy projects that reasonably can be expected to come on line in the 2011-2014 time-frame. Staff worked with American Electric Power Service Company ("AEPSC") pursuant to the MBM Order to ensure that SWEPCO was furthering the goals of the Implementation Plan throughout the RFP process and to address specific concerns of fairness.

AEPSC issued the RFP on April 11, 2011. Staff and SWEPCO hosted a Bidders Conference/Webinar held in Shreveport, Louisiana on April 28, 2011. At the conclusion of Staff's presentation, AEPSC gave a presentation outlining the RFP and answered questions from prospective bidders along with LPSC Staff. Eighty four people dialed into the Webinar and another thirty participants attended the conference in person.

Throughout the RFP process, interested parties or developers could submit questions to AEPSC via instructions located at the website SWEPCO established for this RFP (www.swepco.com/go/rfp). Responses to submitted questions were posted on the SWEPCO website. Other documents posted on the SWEPCO website included the RFP, with corresponding exhibits, schedules, time-lines and Commission orders and documents related to the RFP process.

All proposals were due on June 15, 2011 (12:00 noon CDT). AEPSC received bids from a total of 46 projects (62 bid variations) from five different States and from eight resource types. In December 2011, the Commission approved a contract for 31 MW of a new renewable wind resource from Flat Ridge 2 Wind Energy LLC. As part of the RFP component, SWEPCO's 2011 Renewable Annual report and its respective highly confidential attachments proved useful to the Commission in determining the types of renewable resources available in the market, in Louisiana, and the price dispersion between competing resources. The Flat Ridge 2 Wind Energy project became commercially operational on December 31, 2012.

Review of the bid results and evaluations took place with the LPSC Staff prior to notifying short-listed bidders and prior to the bid award. Based on the evaluations of the received bids for conforming and non-conforming products and terms, and working directly with the LPSC Staff, AEPSC selected six bidders to be short-listed for further review and evaluation. The winning bidder, after discussing the results with Staff, was awarded on September 23, 2011. AEPSC along with Staff selected the offer, which resulted in the maximum value considering the cost of the capacity and the benefits of energy purchase from the offers received.

As part of the information gathering process requested by the Commission, Highly Confidential Attachments relating to renewable RFP results, short-list results, types of renewable resources bid as well as Louisiana only resources bids, were filed as attachments with the 2011 Annual Report.

Renewable Resource Review

American Electric Power Service Corporation (AEPSC), as agent for SWEPCO has previously reviewed renewable technologies as part of the annual (corporate) Integrated Resource Plan (IRP) development. Several renewable technologies have been analyzed on a generic or "typical" basis. These technologies use rule of thumb cost estimates obtained from publicly available information, published (proprietary) data from the Electric Power Research Institute (EPRI), and AEP internal information. AEP did not reevaluate its internal renewables estimates in 2014 as an update and was not required for IRP purposes.

AEPSC has reviewed biomass, hydroelectric, geothermal, solar PV, solar hot water, concentrated solar, small wind, anaerobic digestion, in a regular effort to determine the efficacy of owning such systems.

With respect to biomass, continuing uncertainty surrounding USEPA regulation of biomass; fuel supply and costs; materials handling; state permitting; combustion challenges (capital costs); and ash disposal have all but eliminated interest in use of biomass as a renewable option.

In the past, many renewable technologies such as solar, hydroelectric, small wind, geothermal and anaerobic digestion technologies, as part of an ownership arrangement, have not proven economical from an ownership arrangement standpoint. However, in 2014, Indiana Michigan Power (I&M), a subsidiary of American Electric Power Company, Inc., applied for and received regulatory approval in early 2015 of the ownership of a Clean Energy Solar Pilot Project (CESPP). The CESPP will provide up to approximately 16 MW of solar generation at up to five (5) separate locations in the I&M service territory. I&M will use this project as an opportunity to study the facets of designing, constructing, and operating utility-scale solar facilities.

AEP New Generation Engineering evaluated a solar hot water installation for an affiliate company in Louisiana as a way to offset water heating needs in 2011 and 2012. Low natural gas prices coupled with a low usage rate make the economics unfavorable, even taking into account the 30% investment tax credit and MACRS depreciation. This scenario is repeated when evaluating other technologies, thus, making it imprudent to install these technologies within the SWEPCO territory on an ownership basis.

Through its involvement in the Electric Power Research Institute (EPRI) and Canada's Centre for Energy Advancement through Technological Innovation (CEATI), AEPSC/SWEPCO stays abreast of renewable technologies and costs.

These technologies, for the most part, are commercially available, however when the economics are calculated, the cost to own all but wind and limited amounts of solar, are generally prohibitive when compared to one another.

Renewable Resource Type

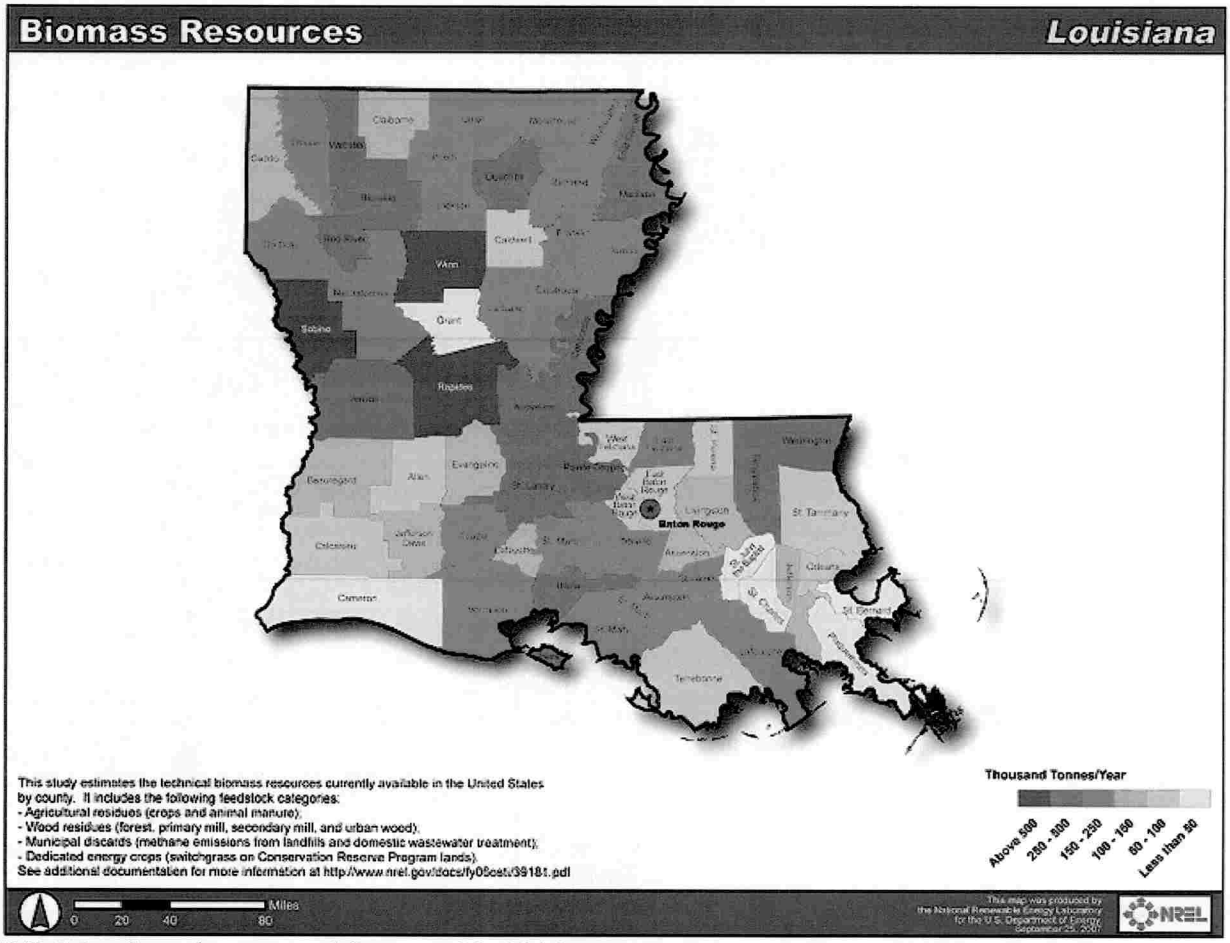
SWEPCO, through its affiliation with its parent company AEP and American Electric Power Service Corporation (AEPSC), has a strong understanding of renewable technologies including, but not limited to, biomass (solid, liquid, and gaseous), solar (PV and thermal, large and small), hydro, wind (large and small), and geothermal, as well as alternative technologies such as fuel cells.

This document discusses the potential renewable resources available within Louisiana. With respect to costs, to fulfill the LPSC requirements regarding cost analyses, AEPSC/SWEPCO reviewed data from the National Renewable Energy Laboratory's (NREL) February 2012 report, Cost and Performance Data for power Generation Technologies.[1] The NREL report provides information from Black & Veatch (B&V or BV) on conventional and renewable generation technologies, using B&V's source data from 2009 and 2010. The report spans energy sources including coal, natural gas, biomass, geothermal, wind, and solar. SWEPCO provides excerpts from that report in its analyses of the corresponding technologies.

Biomass

The NREL biomass resource map shown below is an indicator of potential biomass resources within the state of Louisiana. These resources include crops and animal manure, wood residues, landfill and wastewater treatment plant methane emissions, and dedicated energy crops. The map does not indicate if those potential resources are available, at what price, and in what condition.

[1] National Renewable Energy Laboratory (NREL), Cost and Performance Data for Power Generation Technologies, (Overland Park, KS, Black & Veatch, February 2012).



NREL Map Search, accessed January 22, 2015

AEP conducted several biomass co-fire tests in selected Eastern fleet coal units in order to study the effects of biomass on unit operation, emissions, and costs. All the tests, conducted in 2003 and 2010 at four (4) different generating units, were successful in their objectives; however, with uncertainty in the regulatory and biomass fuel costs and supply arenas, AEP has shelved plans for biomass co-firing at its units in the near term.

SWEPCO's fully-owned facilities in Louisiana (Arsenal Hill, Lieberman, and Stall) are gas-fired units. AEP would not likely consider the facilities for conversion to biomass as conversion costs would be higher than on a unit that currently combusts coal. Other North American utilities have considered co-firing biomass with natural gas, but have not proceeded beyond investigating the feasibility, pending government regulations.

NREL's 2012 report indicates a capital cost range of $600/kW to $1,500/kW to co-fire a unit and approximately $3,800/kW for a 50 MW standalone unit. Co-firing costs are dependent on the percentage co-fired, fuel type, and modifications needed to the unit to accommodate the co-firing.

Contributing to the biomass improbability, wind power purchase agreements have proven to be the more economical choice.

Biodiesel

Depending on the price of biodiesel as compared to No. 2 fuel oil, biodiesel could be used as a supplemental fuel for startup, shutdown, and stabilization, providing renewable credits during unit operation of coal, oil, and/or gas facilities. Minimal modifications to (coal) plant equipment are generally needed for lower % blended fuels. AEP combustion turbine engineers do not recommend use of biodiesel in dual-fuel combustion turbines, citing blade fouling and increased maintenance, so this would not be an early option for SWEPCO in combustion turbine units. For AEP/SWEPCO to consider biodiesel as an option, biodiesel must meet specifications (e.g., flash point, water and sediment, viscosity, sulfur, et.al.), be an economical option, and be available in the needed quantities.

Biogas

Landfill gas and biogas from anaerobic digestion facilities are considered renewable resources. It is difficult to estimate the costs for a biogas facility as the costs are dependent on not only the facility size (landfill acres or animal head (cattle, poultry, swine) but also the combustion technology. AEP/SWEPCO has not conducted specific Louisiana studies for this resource, but rather has only completed generic, high-level analyses.

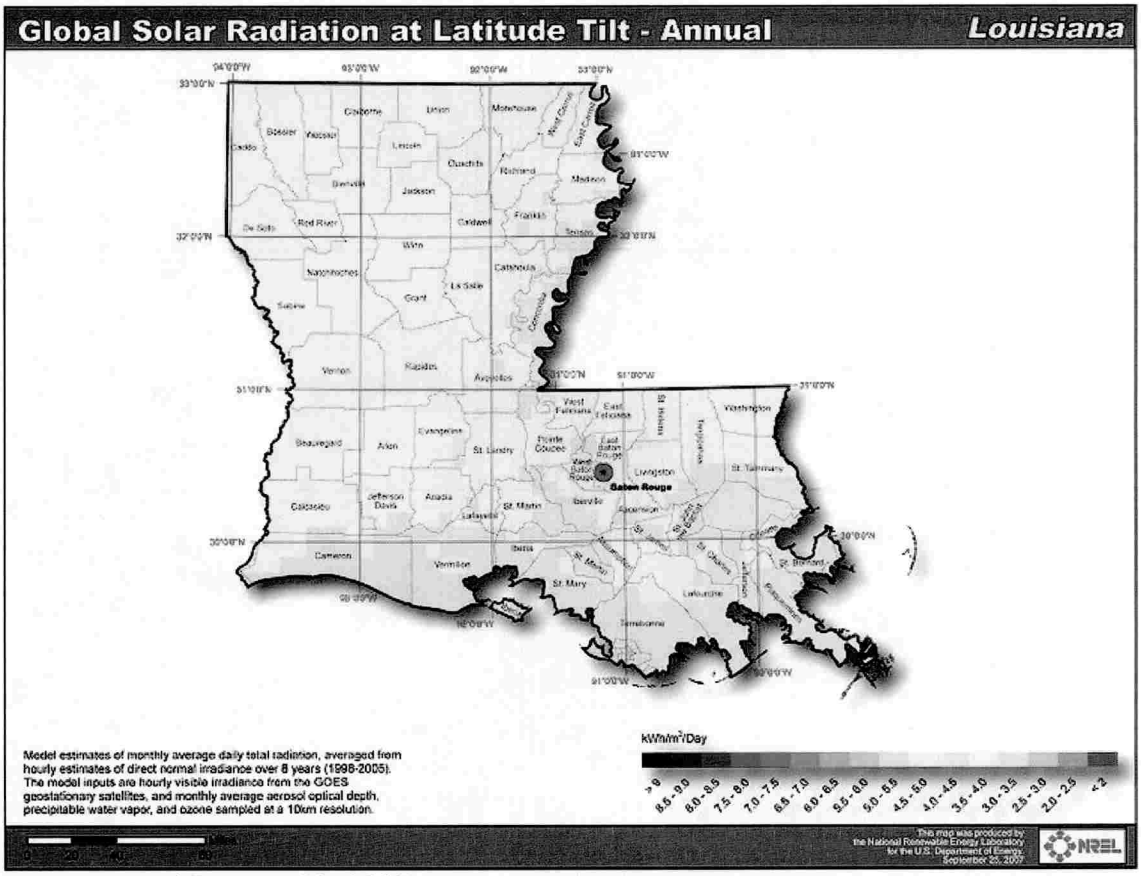
Solar

AEP investigated augmenting a (coal) steam cycle using a solar thermal system in Texas in 2009, where the solar insolation is comparable to that in Louisiana. Land was available at the plant site for the installation that would provide approximately 16 MWe to the plant. Based on model inputs, a 15.5% capacity factor, and increased O&M for the parabolic troughs to supply the steam, the proposed installation did little to help the economics and resulted in an increased levelized cost of electricity.

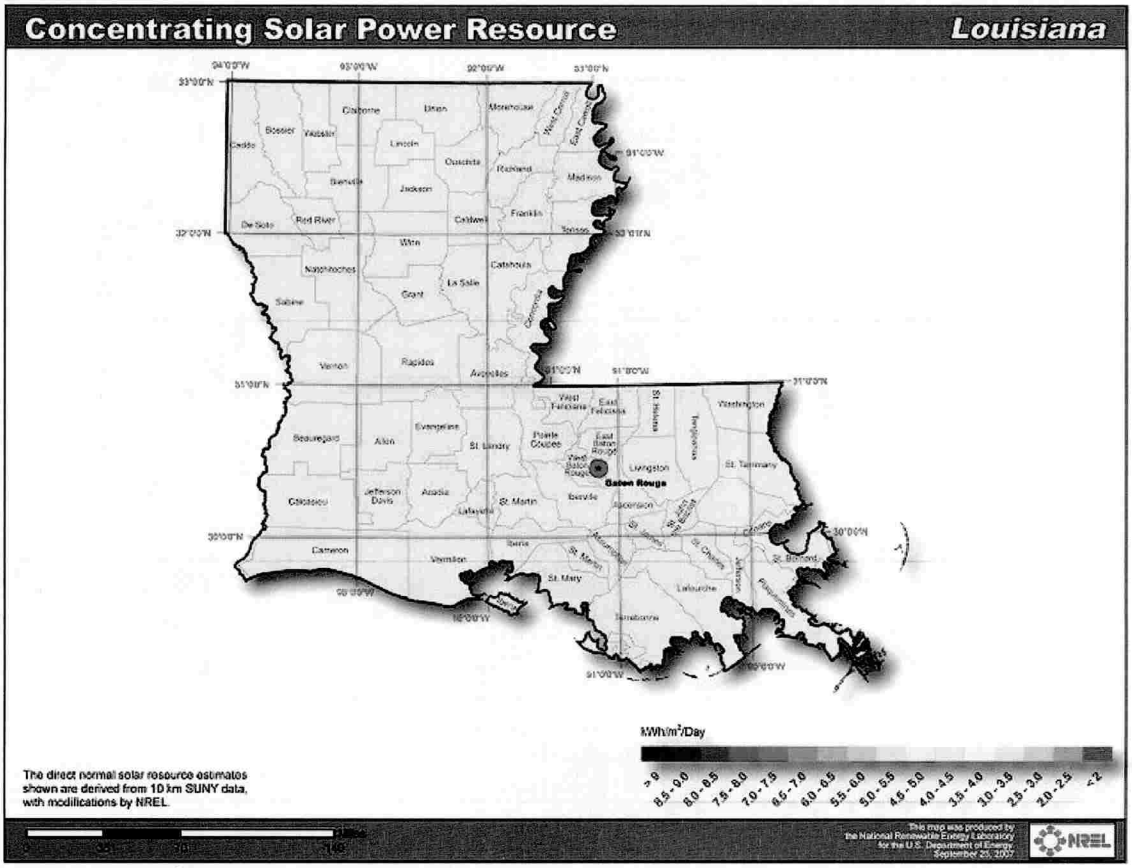
In NREL's solar thermal model (100 to 200 MW with and without storage), capital costs range from $4,500 to $6,000/kW. NREL's 2012 report, using one data point for 2010 cost projections, shows approximately $5,000/kW for a concentrating solar plant without storage and $7,060/kW including storage.[2]

Solar resources in Louisiana are considered good as shown in the following two maps.

[2] NREL B&V report, Tables 26 and 27



NREL, accessed January 22, 2015



NREL, accessed January 22, 2015

Hydro

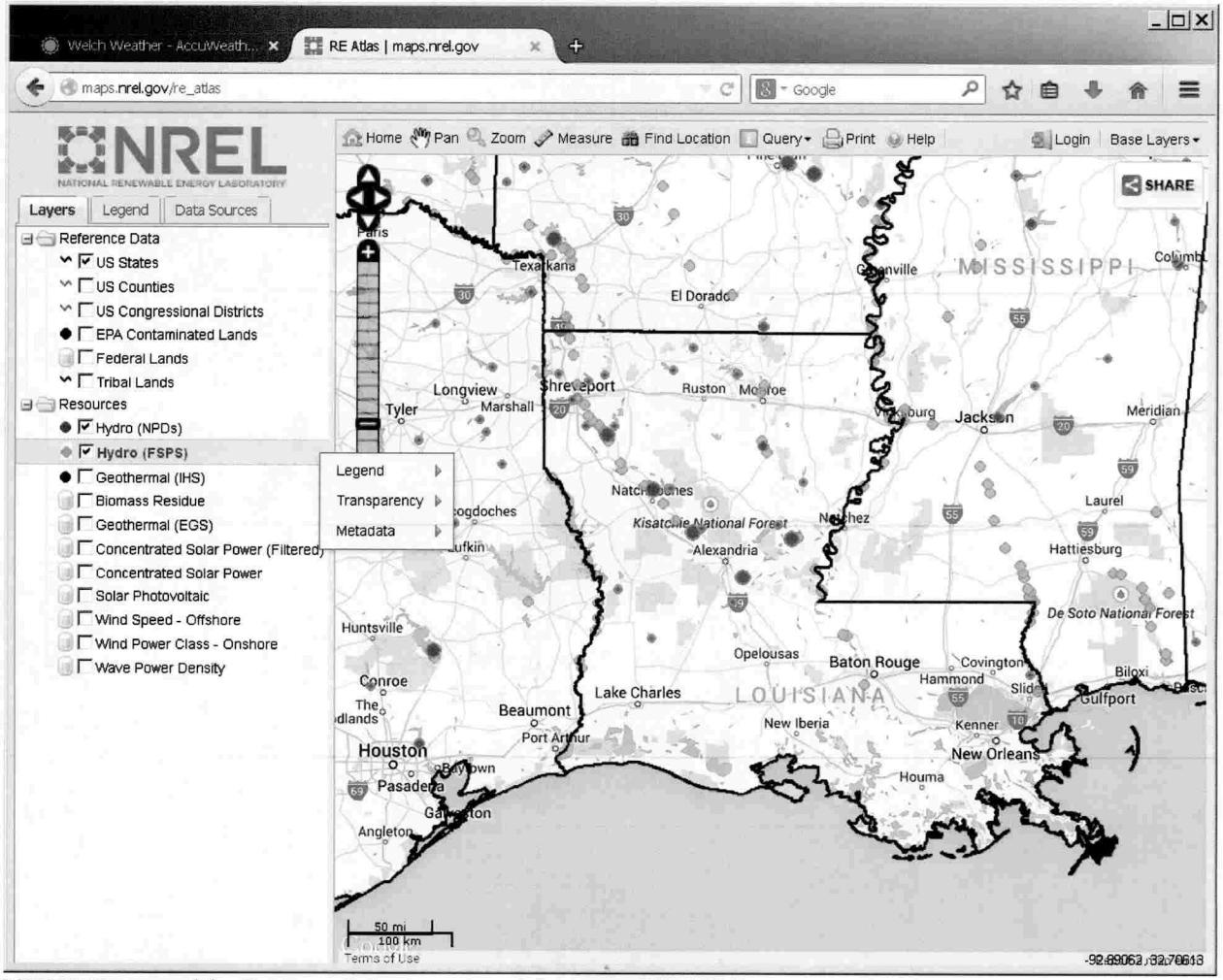
Parent company AEP owns and operates over 800 MW of hydroelectric facilities in other states that it serves, but does not own or operate hydro in Louisiana, and has not conducted any hydro studies in the SWEPCO area.

Kinetic and low-head hydro technologies are in development and under construction, but not yet commercial, thus providing capital and cost of electricity numbers is premature. AEP follows development of these technologies through participation in Centre for Energy Advancement through Technological Innovation (CEATI), however, without commercial deployment, there is minimal interest within AEP for installing these technologies. Contributing to the challenges associated with hydroelectric facilities, including location and costs, environmental permitting is difficult.

As a budgetary estimate, AEP uses $4,500/kW for a run-of-river hydro cost, including dam construction, of which dam construction would be difficult to undertake due to definitions of renewable hydro and permitting concerns.[3] NREL's 2012 report estimates a 500 MW hydro at $3,500/kW and pumped storage slightly lower at $2,230/kW (+50%).

[3] Section 242(b) of the 2005 Energy Policy Act definitions: (b) DEFINITIONS.—For purposes of this section:

Using an NREL RE Atlas map for hydro estimations, it appears that there are several Louisiana sites that could be feasible for low head hydro. AEP/SWEPCO has not investigated these sites to determine if hydro is in place at these locations, evaluated the actual feasibility and viability of these sites, or conducted any other research with respect to these potential sites.



NREL Renewable Energy Atlas, accessed January 22, 2015

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(1) QUALIFIED HYDROELECTRIC FACILITY.—The term "qualified hydroelectric facility" means a turbine or other generating device owned or solely operated by a non-Federal entity which generates hydroelectric energy for sale and which is added to an existing dam or conduit. (2) EXISTING DAM OR CONDUIT.—The term "existing dam or conduit" means any dam or conduit the construction of which was completed before the date of the enactment of this section and which does not require any construction or enlargement of impoundment or diversion structures (other than repair or reconstruction) in connection with the installation of a turbine or other generating device.

Querying the NREL database, these potential hydro resources could range in output from 1 MW up to 28 MW, with an average of 3 MW. Detailed studies would need to be undertaken to determine the feasibility and economics of each site.

A check of FERC's hydrokinetic permit list on January 22, 2015, does not show any permits in Louisiana. The Issued and Pending Hydrokinetic Projects Maps, found at http://www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics.asp, also do not show any hydrokinetic projects in Louisiana.

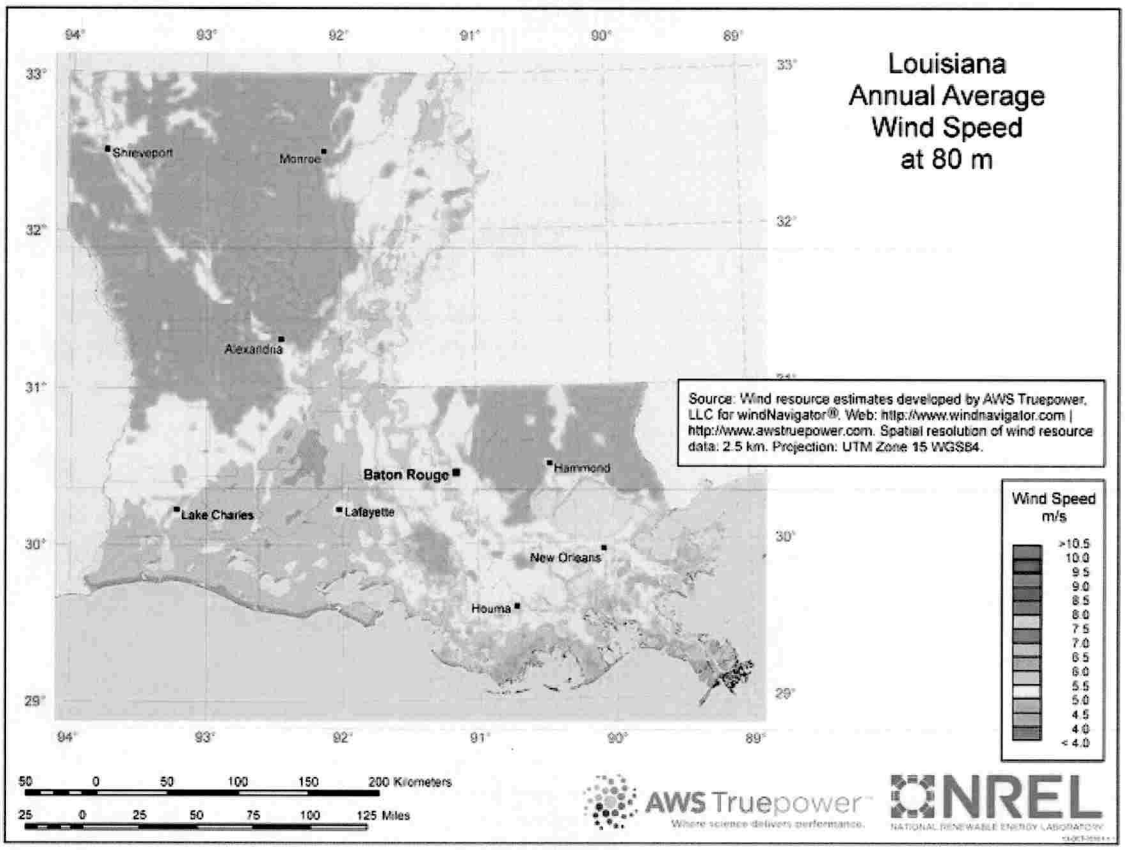
With respect to technology, Verdant Power successfully tested and still plans to install 30 hydrokinetic turbines in the East River in New York City. The turbines, which will provide a total of approximately 1 MW, should be installed by 2015. No cost data has been located regarding this technology. AEP will monitor information on this technology for consideration as a generating technology. Verdant's website, accessed January 22, 2015, had no updates on the project.

Wind

Parent company AEP is a strong proponent of large wind, as evidenced by 1,993 MW of power purchase agreements delivering renewable energy to AEP in 2014. Effective January 1, 2016, one power purchase agreement's term will expire (151 MW), however, three other power purchase agreements (599 MW) will begin deliveries to Public Service Company of Oklahoma (see Attachment 1). Large wind resources and capital costs have been extensively documented. With incentives, large wind is the most popular and economical renewable resource. Unfortunately, as shown in the NREL wind resource maps, Louisiana does not appear to have wind resources to support multi-megawatt wind installations.

While large wind may not be feasible in Louisiana, small wind could be installed, however, on a cost of electricity basis, small wind is generally considered cost prohibitive due to low capacity factors.

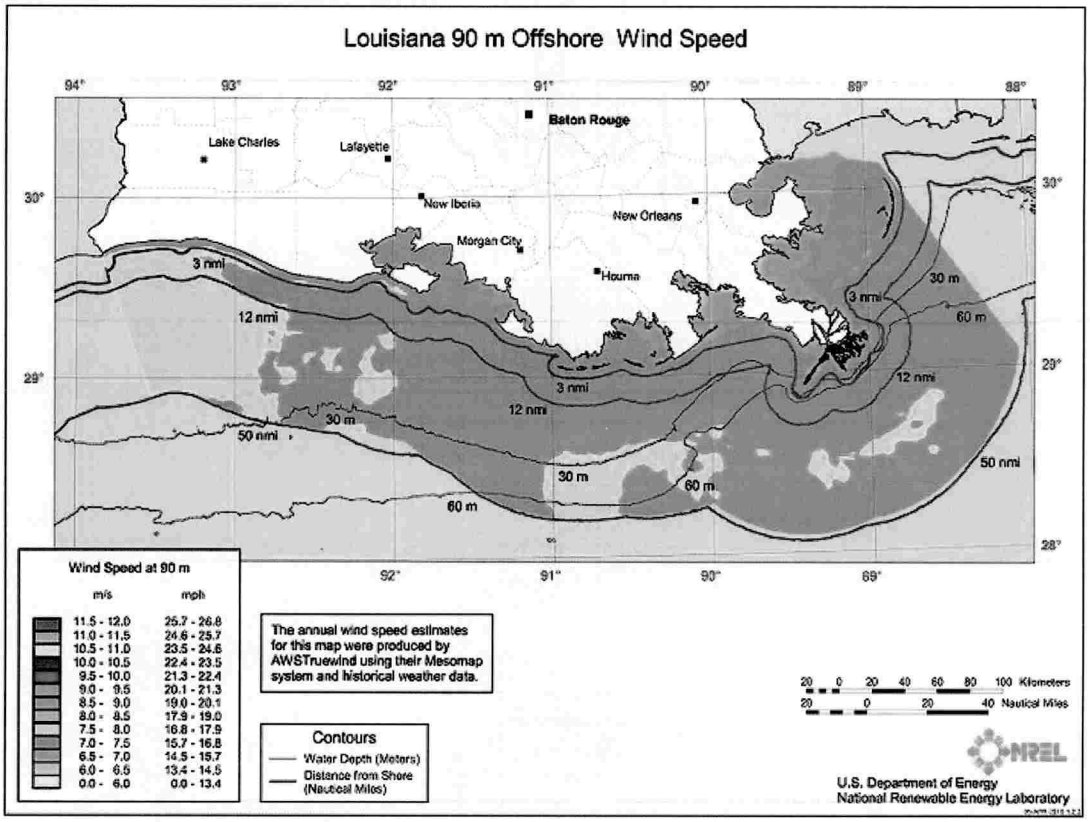
Wind turbine siting is coming under some scrutiny owing to bird and bat migratory paths and habitats. In an ideal situation, large wind farms should be located near adequate transmission lines, minimizing not only the construction costs, but also right of way needed for the transmission access.



NREL, accessed January 22, 2015

NREL's 2012 report does not include wind speed assumptions as part of the cost estimates. For onshore technologies, B&V estimated capital costs at $1,980/kW +25%; offshore costs are $3,310 +35%. EPRI's 2014 Wind Energy Technology Guide[4] shows a capital cost range of $1,850/kW to $2,500/kW dependent on onshore location (2012 US$).

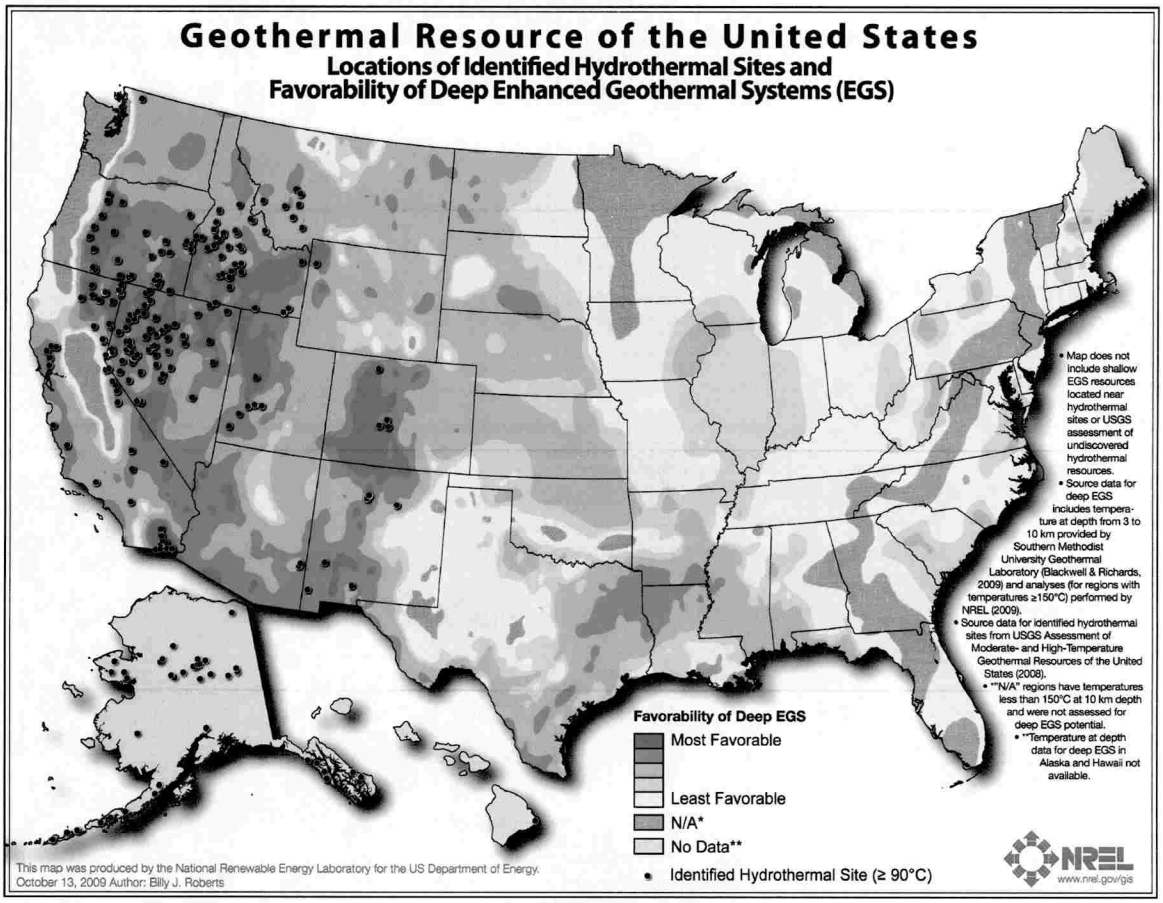
[4] Wind Energy Technology Guide, EPRI, Palo Alto, CA: 2014. 3002001637.



NREL, accessed January 22, 2015

Geothermal

AEP follows geothermal development through publicly available sources. With current technologies and costs, AEP generally deems geothermal as a less popular and less feasible renewable, owing to the higher costs associated with well development for enhanced geothermal, in addition to siting constraints (i.e., having the geothermal resource available). AEP's position on geothermal is to "wait and see" and the lack of geothermal proposals in response to the LaREPP is indicative that the resources, costs, and/or technologies are not yet ready for deployment in Louisiana.

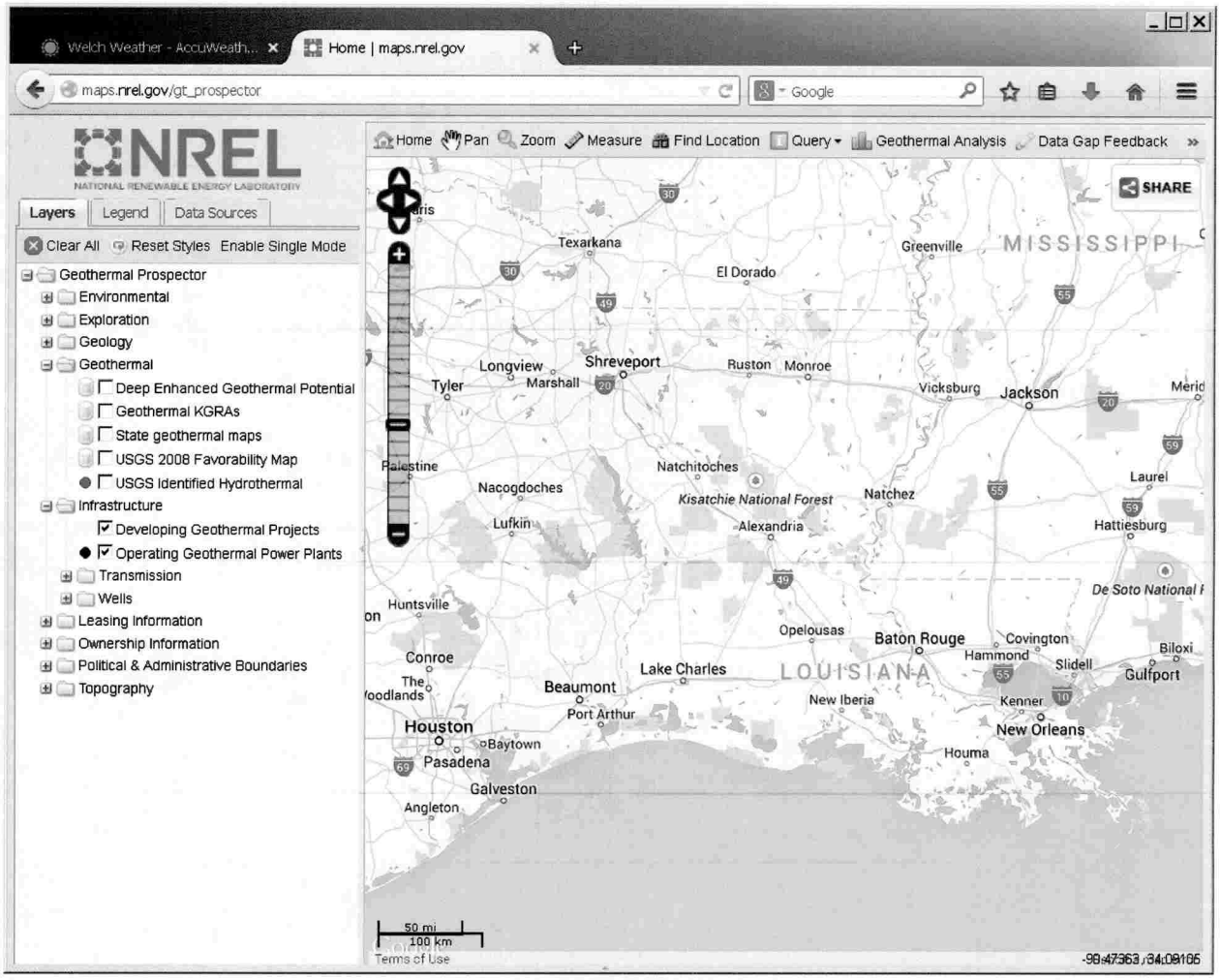


Using a similar NREL database (beta) for geothermal, there does not appear to be an adequate heat source with current technologies and costs that indicates Louisiana to be a reasonable geothermal location for power generation. This does not preclude the use of geothermal heat pumps for heating and cooling.

AEP's October 2011 investigation into a new geothermal technology (not specific to Louisiana) revealed that in several years single well geothermal technology could potentially be ready for commercial application in new, depleted, or abandoned oil and gas fields, with individual wells yielding 0.5 to 1 MWe apiece. Costs for this newer technology have not been provided, as the technology is not yet developed, and is only in conceptual form. Well development costs typically range from $5 million to $10 million per well and must be taken into account when performing economic analyses, as these are usually not included in the equipment costs.

While not the most comprehensive map, the take-away from the NREL GT Prospector map is that there do not appear to be locations within Louisiana which show – based on NREL's geothermal potential map and the USGS 2008 favorability map – a potential geothermal site that can be used for much, if any, electricity production. Geothermal development in the United States has historically been located in the West where well temperatures are more conducive to power generation. That is reflected in NREL's Geothermal Power Generation map.

NREL's GT Prospector was queried January 22, 2015 for favorable areas and developing and operating plants. As seen on the following map, there are no sites within Louisiana currently meeting the criteria for geothermal power production.



The Geothermal Energy Association (GEA, http://geo-energy.org/plants_dev.aspx#Louisiana, website is no longer accessible for non-member access (January 22, 2015) and other inquiries were unsuccessful at locating any new data on developing or operating projects in Louisiana.

NREL's B&V report from 2012 estimated 2010 costs for an enhanced geothermal plant at $9,900/kW.

In spite of the lack of data, AEP's position remains that until technologies and costs align such that geothermal is a feasible renewable in the AEP service territory, AEP will continue to monitor and evaluate the state of geothermal activities through industry relationships.

Costs and Job Creation

To provide a general indication of electricity costs from renewables, AEP has previously relied on several sources of information. AEP did not reevaluate its internal renewables estimates in 2014 as an update was not required for IRP purposes. The U.S. economic slowdown, coupled with lower prices for solar components, continuing government incentives, would likely offset any inflationary increases. AEP has determined that since it is utilizing PPAs for renewables, those cost of electricity numbers are the current and better indicators of costs to the utility as they reflect actual projects and can take advantage of financial incentives. AEP's previously supplied estimates, which were provided in the 2012 filing and have not been revised, are high level economic evaluations and not specific to location and do not include accelerated depreciation or other incentives.

Job creation varies by technology:

Biomass jobs will vary based on the combustion arrangement and equipment installation. Most biomass jobs are created on the fuel supply side (logging and processing). In its estimates, AEP does not add staff to account for additional fuel handling requirements, but assumes existing personnel can manage those tasks.

AEP's biodiesel experience is similar in that existing personnel can manage the various tasks associated with co-firing biodiesel and no new jobs would be created at the facility. Any created jobs would be located at the biodiesel facility itself and/or in association with transportation.

AEP's evaluations of biogas (anaerobic digestion) assumes that the facility is located "on the farm" where the manure is located and that maintenance is performed either by the farmer or by an existing AEP employee or contractor on an as-needed basis. The Company's evaluations do not add direct staff as part of the O&M costs.

Solar photovoltaic fares worse with fewer jobs created due to fewer moving parts requiring maintenance. Published information seems to indicate a trend toward part-time or on-call maintenance, depending on the plant situation. Concentrating solar jobs also vary by technology type and plant size. AEP's solar evaluations do not account for job creation as the modeled systems are relatively small.

Hydro jobs also vary by technology type and plant size. AEP's existing hydro facilities employ over 75 persons to maintain and operate over 65 individual units at 17 plant locations in 5 states, comprising over 850 MW. Personnel are often shared among the locations and assigning an employee number per megawatt is difficult. New installations would be evaluated on a case-by-case basis to determine staffing levels.

One Northern Arizona University study listed a wind O&M rule of thumb as 2 to 10 jobs per 100 installed MW. AEP has previously used 1 O&M job for every 10 MW. Construction jobs were listed as 1 job for every 1 to 10 MW.

AEP does not have experience with geothermal related jobs and has not explored job creation aspects of this technology.

Unfortunately, job creation for renewables is driven more on the manufacturing side of the business, such as from photovoltaic panel and wind turbine manufacturing, rather than facility operations. Historically, renewable installations have not created a significant numbers of jobs. The jobs which are created, are typically on the construction side, and are temporary.

As requested by the Commission, SWEPCO provides the following due diligence regarding coal, natural gas, and nuclear generating technologies. AEP, as agent for SWEPCO, reviews these conventional generation technologies as part of the Integrated Resource Planning (IRP) process in a regular effort to determine the efficacy of potentially building and owning such systems to meet generation demand. AEP/SWEPCO evaluates industry-accepted technologies and forecasted generation needs to determine acceptable generation technologies.

Through parent company AEP's involvement in organizations such as CEATI and EPRI and subscriptions to industry publications, AEP is able to glean data on conventional generation such as heat rate, O&M costs, emissions rates, control technologies, and operating parameters so as to develop technology and cost estimates for these technologies. This process is similar to the renewable technology reviews the Commission is familiar with from these annual report submittals.

- Base load pulverized coal plants utilizing PRB or lignite, fully controlled (e.g., SCR, FGD, et.al.), with nominal ratings of 620 to 750 MW, have installed costs ranging from approximately $2,750/kW to $3,200/kW. The baseload coal plants have an assumed 85% capacity factor.
- Intermediate load (60% capacity factor) natural gas combined cycle plants of 300 MW to 780 MW, depending on the configuration, have estimated installed costs of $1,210/kW to $2,200/kW.
- Peaking combustion turbines or aero-derivative machines (90 MW to 420 MW and capacity factors of 3 to 30%) range in capital costs from $800/kW up to $2,000/kW, again depending on the configuration.
- Nuclear is also an option AEP and SWEPCO monitor as part of the generation potentials. Cost evaluations for a greenfield advanced boiling water reactor of approximately 1,600 MW came in just under $6,500/kW. The nuclear assessment assumes a 90% capacity factor and fuel cost less than that of both coal and natural gas. TVA's Watts Bar Unit 2, a 1,150 MW Westinghouse pressurized water reactor under construction at an existing nuclear site, is estimated to come in at the budgeted $4 to $4.5 billion. www.tva.gov, accessed January 28, 2015

More stringent coal plant emissions limits and the requirement for pollution control equipment, uncertainty around greenhouse gas emissions from coal plants, and O&M costs above that of natural gas plants (in part due to materials handling, landfill

requirements, larger water treatment systems, etc.) all play a part in the higher cost of electricity from a coal plant, as compared to a natural gas facility.

In all the evaluations, natural gas combustion turbines and combined cycle plants provide the lowest cost of electricity as compared to the coal and nuclear options. AEP and other utilities are seeing this result in many of the evaluations conducted across the country. Lower cost natural gas options are a result of the low price of natural gas as a fuel; reduced emissions from natural gas as compared to coal; and less equipment needed to run the natural gas plants and thus lower O&M costs (e.g., no materials handling, no baghouse or precipitator, no landfill costs). With respect to nuclear, the new facilities are currently under construction and until completed, capital and O&M costs are at best, engineering estimates.

Respectfully submitted,

WILKINSON, CARMODY & GILLIAM

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ELECTRIC POWER COMPANY

Brandon Bradford
Regulatory Consultant
SOUTHWESTERN ELECTRIC
POWER COMPANY

Attachment 1

AEP Renewable Energy Summary

Project	State	RTO	MW Under Contract	MW Under Contract & Delivering Energy				
				2012	2013	2014	2015	2016
AEP Ohio								
Fowler II	IN	PJM	50	50	50	50	50	50
Fowler II	IN	PJM	50	50	50	50	50	50
Wyandot (Solar)	OH	PJM	10.1	10.1	10.1	10.1	10.1	10.1
Timber Road	OH	PJM	54.5	0.0	54.5	54.5	54.5	54.5
Timber Road	OH	PJM	44.5	0.0	44.5	44.5	44.5	44.5
		AEP Ohio total =	**209.1 MW**	110.1	209.1	209.1	209.1	209.1
Appalachian Power Company (APCO)								
Camp Grove	IL	PJM	75	75	75	75	75	75
Fowler III	IN	PJM	99	99	99	99	99	99
Grand Ridge II	IL	PJM	51	51.0	51.0	51.0	51.0	51.0
Grand Ridge III	IL	PJM	49.5	49.5	49.5	49.5	49.5	49.5
Beech Ridge	WV	PJM	100.5	100.5	100.5	100.5	100.5	100.5
		APCO total =	**375.0 MW**	375.0	375.0	375.0	375.0	375.0
Indiana Michigan Power Company (I&M)								
Fowler I	IN	PJM	100	100	100	100	100	100
Fowler II	IN	PJM	50	50	50	50	50	50
Wildcat	IN	PJM	100	0	100	100	100	100
Headwaters	IN	PJM	200	0	0	0	200	200
		I&M total =	**450**	150.0	250.0	250.0	450.0	450.0
Kentucky Power Company (KPC)								
ecoPower (biomass)	IN	PJM	58.5	0	0	0	0	0
		KPC total =	**58.5**	0.0	0.0	0.0	0.0	0.0
Public Service Company of Oklahoma (PSO)								
Weatherford	OK	SPP	147	147	147	147	147	147
Blue Canyon II	OK	SPP	151	151	151	151	151	0
Sleeping Bear	OK	SPP	95	94.5	94.5	94.5	94.5	94.5
Blue Canyon V	OK	SPP	99	99.0	99.0	99.0	99.0	99.0
Elk City	OK	SPP	98.9	98.9	98.9	98.9	98.9	98.9
Minco	OK	SPP	99.2	99.2	99.2	99.2	99.2	99.2
Balko	OK	SPP	199.8	0	0	0	0	199.8
Seiling	OK	SPP	198.9	0	0	0	0	198.9
Goodwell	OK	SPP	200	0	0	0	0	200.0
		PSO total =	**1,288.5 MW**	689.8	689.8	689.8	689.8	1,137.3
Southwestern Electric Power (SWEPCO)								
Majestic	TX	SPP	79.5	80	80	80	80	80
Majestic II	TX	SPP	79.6	80	80	80	80	80
Flat Ridge 2	KS	SPP	31	0.0	31.0	31.0	31.0	31.0
Flat Ridge 2	KS	SPP	77.8	0.0	77.8	77.8	77.8	77.8
Canadian Hills	OK	SPP	100.45	0.0	100.5	100.5	100.5	100.5
Canadian Hills	OK	SPP	52.8	0.0	52.8	52.8	52.8	52.8
Canadian Hills	OK	SPP	48.0	0	48	48	48	48.0
		SWEPCO total =	**469.2 MW**	159.1	469.2	469.2	469.2	469.2

TOTAL REPAs Under CONTRACT =	**2,850 MW**
Short-term REPAs (Blue Canyon II) =	**-151 MW**
TOTAL LONG-TERM REPAS UNDER CONTRACT =	**2,699 MW**

(Blue Canyon II contract expires on 12/31/15)

	2012	2013	2014	2015	2016
TOTAL MW UNDER CONTRACT & DELIVERING ENERGY =	1,484	1,993	1,993	2,193	2,641

- Project currently under development

Cost Item	Unit	Combustion Turbine	Combustion Turbine	Combined Cycle	Biomass (CFB)	Wind	Solar PV	Note Section
Lead- Time	Years	3	3	5	5	3	3	
Overnight Cost (2014, $)	$ / kw	$815	$815	$1,349	$4,000	$1,800	$1,800	**Note 2**
Fixed O&M (2014, $)	$ / kw-yr	$12.22	$12.22	$12.04	$104.00	$52.00	$20.00	**Note 2**
Variable O&M (2014, $)	$ / MWh	$8.85	$1.50	$3.07	$5.17	$0.00	$0.00	
Heat Rate	Btu / kWh	12,323	12,323	6,960	13,500	N/A	N/A	
Capacity Factor	%	3%	25%	60%	80%	40%	20%	
Fuel Cost (Levelized, 2014)	$ / mmBtu	$6.72	$6.72	$6.72	$4.07	$0.00	$0.00	
Useful Life	Years	30	30	30	30	20	25	**Note 1**
Tax Life	Years	20	20	20	7	5	5	**Note 1**
Capital Structure Debt	%	50.50%	50.50%	50.50%	50.50%	50.50%	50.50%	**Note 1**
Capital Structure Equity	%	49.50%	49.50%	49.50%	49.50%	49.50%	49.50%	**Note 1**
Debt Cost	%	5.95%	5.95%	5.95%	5.95%	5.95%	5.95%	**Note 1**
Equity Cost	%	11.15%	11.15%	11.15%	11.15%	11.15%	11.15%	**Note 1**
Tax Rate	%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	**Note 1**
Inflation Rate - Capital	%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Inflation Rate - O&M	%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
MWh per MW (Annual Production)	MWh	263	2,190	5,256	7,008	3,504	1,752	
Levelized Cost (2014$)	$ / MWh	$584.42	$148.10	$93.14	$160.90	$88.38	$116.67	
Levelized Cost (Overnight, 2014$)	$ / MWh	$568.68	$146.21	$90.43	$155.46	$85.77	$112.88	

Note 1

AEP Utilizes the following Capital Carrying Charge Structure for COE Evaluatios.

Investment Life	20	25	30	30
Tax Life	5	5	7	20
Return (Pretax WACC) (1)	8.52%	8.52%	8.52%	8.52%
Depreciation (2)	3.02%	2.19%	1.67%	1.67%
FIT (3) (4)	0.27%	0.18%	0.33%	1.61%
Property Taxes, General and Admin Exp.	1.43%	1.43%	1.43%	1.43%
Total	13.24%	12.32%	11.95%	13.23%

(1) Based on a 100% (as of 12/31/2012) and 0% incremental weighting of capital costs
(2) Sinking Fund annuity with R1 Dispersion of Retirements
(3) Assuming MACRS Tax Depreciation
(4) @ 35% Federal Income Tax Rate

Note 2: Solar PV Capital and O&M have been updated based on additional data received in 2014, but after the 2014 submittal. AEP's 2015 fundamentals and review of the EPRI Studies Tech Assessment Guide have not been updated for 2015, thus all other figures match the 2014 submittal.

Additional Notes

Source: Results of AEP analysis based on EPRI studies & Tech Assessment Guide (CC & CT Only); Industry Data; AEP Experience; Recent Acquisitions and recent solicitations.

1. Cost of Electricity (COE) are 1st year estimates only in US $ for the year unit is placed in service these are used for economic comparison and not for financial analysis.

2. Total Plant Investment Cost includes Total Plant Cost (Engineer, Procure and Construct plant plus owner's direct costs) plus cost estimates for infrastructure, interconnections, transmission lines and upgrades.
3. Fuel projections based on LTF_FT_2013H1_Base_Nominal_2013_09_27.xlsx from FEL and the Fundamental Analysis Group.
4. Analysis applies AEP operating company carrying charges and discount rates.
5. Levelized costs for CC, CT and Biomass include Carbon Tax Estimate beginning in 2022.
6. Solar includes 30% ITC in Year 1
7. Levelized costs and Fuel projections based on 2014 in service.
8. COE values for Wind exclude the production tax credit.