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Issue(s): Labadie Energy Center Expansion
Witness: Craig J. Giesmann
Sponsoring Party: Union Electric Company
Type of Exhibit: Direct Testimony
Case No.: EA-2012-0281
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MISSOURI PUBLIC SERVICE COMMISSION

Case No. EA-2012-0281

DIRECT TESTIMONY

OF

CRAIG J. GIESMANN

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI

St. Louis, Missouri
April, 2013

DIRECT TESTIMONY

OF

CRAIG J. GIESMANN

CASE NO. EA-2012-0281

Q. Please state your name and business address.

A. Craig J. Giesmann, Union Electric Company d/b/a Ameren Missouri Power Operation Services, 3700 South Lindbergh, Sunset Hills, Missouri 63127.

Q. By whom are you employed and in what capacity?

A. I am employed by Union Electric Company d/b/a Ameren Missouri (Ameren Missouri or Company) as Managing Supervisor of Hydro Engineering.

Q. What are the duties of your position?

A. My primary responsibilities are overall coordination and multi-disciplinary design of new project installations, maintenance projects, and dam safety projects for the Ameren Missouri hydro-electric fleet, as well as major ash pond and utility waste landfill projects at Ameren Missouri. My group assists the Dam Safety and Hydro Licensing groups in implementing required project modifications necessary for dam safety and continued licensing of Ameren Missouri's dams and levees. I report directly to the Director of Dam Safety, Hydro, and Civil Engineering.

Q. Please describe your educational background and employment experience.

A. I received my Bachelor of Science degree in Civil Engineering from the University of Missouri-Rolla, now referred to as the Missouri University of Science and Technology (UMR), in 1996. I am a licensed professional engineer in the States of Missouri and Illinois. Immediately after graduation from UMR, I began my career with George Butler

Associates, a mid-sized engineering consulting firm based in Kansas City, Missouri, working on various civil/structural projects throughout Missouri and Kansas. In 1997, I began my employment with Union Electric Company as an engineer in the Civil-Structural Design Group of the Engineering and Construction Department. In 2004, I transferred to the New Generation and Environmental Projects Department as a Project Engineer. In 2006, I became the Project Manager of the Taum Sauk Upper Reservoir Rebuild Project and assumed my current position with Ameren Missouri as Managing Supervisor of Hydro Engineering. I assumed responsibility for the utility waste landfill project discussed in this testimony in 2011.

Q. What is the purpose of your direct testimony in this proceeding?

A. The purpose of my direct testimony is to provide details of Ameren Missouri's expansion of its Labadie Energy Center plant site to at this time accommodate a new Utility Waste Landfill (UWL) to be used in connection with the operation of the plant.

Q. Why is Ameren Missouri planning a new Utility Waste Landfill for the Labadie Energy Center?

A. The Labadie Energy Center first began operation in 1970 pursuant to a certificate of public convenience and necessity issued by the Commission in 1966 before the plant was constructed. The initial design and construction of the plant included provisions for waste impoundments to hold the various coal combustion byproducts (CCBs) that inevitably are produced when generating electricity from coal. These impoundments (ash ponds) were initially built and additional storage ponds were also installed as the initial ponds filled to capacity. Several years ago, the Company recognized that the existing ash ponds would fill to capacity long before the plant's economic usefulness would end. Consequently, the Company began studying various alternatives to provide storage for future CCBs when the current facilities fill to

capacity. The rate at which storage capacity within the ponds is consumed is influenced both by the electricity demands in the region and the Company's ability to recycle these materials as a Portland cement replacement, for use in road construction, and for other beneficial uses, but current estimates indicate that the UWL will be needed by approximately 2016. Several alternatives were considered and the option to build a new UWL on property adjacent to the plant was chosen. The existing ash impoundments are continuing to fill to capacity, and the Company is taking the steps necessary to ensure this new UWL is built in a timely manner so that it will be available when it is needed.

Q. How important is the Labadie Energy Center to the Company's ability to provide electric service at just and reasonable rates?

A. The Labadie Energy Center is the Company's largest power plant, providing approximately 40 percent of the energy consumed by its customers each year. Labadie is also the Company's most economical coal-fired plant.

Q. You earlier mentioned various alternatives that were studied in order to address the fact that the existing ash ponds would reach capacity in a few years. Can you please elaborate on the alternatives that were reviewed?

A. The Company engaged a consulting engineering firm (Reitz & Jens Consulting Engineers) to assist it in evaluating the various alternatives for disposal of CCBs. Reitz & Jens and Company engineers worked together to study alternatives which resulted in the following options:

- Purchase *adjacent* property and pursue construction of a new UWL.
- Purchase *off-site* property and pursue construction of a new UWL.

- Many property parcels around the St. Louis Area and surrounding counties were studied.

- Transport Labadie CCBs to an independently owned landfill licensed to accept CCB material.
  - Many licensed landfills were reviewed.

The Company considered 22 sites across the region – two as far as northern Kentucky. For each site, 23 variables were analyzed, including size, topography, geology, wetlands, seismicity, transportation accessibility, and availability of on-site soils necessary for construction. After reviewing the options for CCB disposal, it was determined that the best alternative was to acquire property adjacent to the plant and pursue construction of a new UWL in close proximity to the Labadie Energy Center. This alternative minimized environmental and land use impacts, as well as costs associated with transportation. Furthermore, use of this site minimizes operational and developmental costs, which in turn minimizes the rate impact of handling the CCBs generated by the plant. The site is both geologically and topographically suitable for a utility waste landfill, as determined by the team of engineers mentioned above. It is being designed to meet all regulatory requirements, including protection to withstand flood events. The appropriateness of the site for a UWL is subject to and was approved by MDNR.

Q. Where exactly will the new Utility Waste Landfill be located?

A. The UWL will be located immediately adjacent to the existing east boundary of the Labadie Energy Center. Please refer to Exhibits A, B and C to the Company's January 24, 2013 Application, each of which is incorporated herein by this reference, which show the exact location of the UWL. It should be noted that this area is currently being used for agricultural purposes.

Q. Please describe the proposed UWL.

A. The new UWL will initially look similar to the existing lined ash ponds at the Labadie Energy Center. The main difference will be that the waste materials (CCBs) will be handled dry, as opposed to the current method of wet sluicing. The new landfill will be designed and constructed in accordance with all current regulations, most notably the Missouri Department of Natural Resources (MDNR) utility waste landfill regulations codified at 10 CSR 80.010, *et seq.*, and Franklin County's landfill ordinance. The UWL will consist of a geo-membrane, an additional clay liner, soil berms, and leachate collection and monitoring systems. Additionally, fabric formed concrete will be installed on the exterior berms to protect against any flood-induced erosion. The facility will be designed and constructed so that it would not be impacted by a 500-year flood.

Q. What is the capacity of the UWL?

A. The UWL will be a large facility that (when fully constructed) will be comprised of four different cells with a combined ash capacity of approximately 15.5 million cubic yards. It is estimated that the four cells will be constructed over a period of 15-20 years (construction of one cell every five years, approximately), with construction of the first cell scheduled to begin in early 2014.

Q. Over what period of time will the UWL meet the Company's ash disposal needs at Labadie?

A. The UWL is expected to meet the Company's ash disposal needs at the Labadie Energy Center for approximately 24 years at current and estimated future disposal rates, meaning it will allow the handling of the CCBs produced by Labadie until approximately 2040, which also approximately coincides with the retirement dates used in setting the Company's

Commission-approved depreciation rates for Labadie. Once the UWL has been filled to capacity, it will be capped and closed in accordance with all applicable landfill regulations.

Q. What is the current schedule for construction of the new UWL?

A. The engineering and design work for the new UWL has been completed, and the Company has submitted to MDNR the design package and all other required materials needed to obtain the required MDNR Construction Permit. MDNR is scheduled to complete its review and to issue the Construction Permit in January 2014. The Company has asked the Commission to issue its Order expanding the plant's certificate of public convenience and necessity by December 31, 2013, which means upon issuance of the MDNR permit the next month, the Company would be able to begin construction at the beginning of the 2014 construction season – approximately March 1, 2014. Construction of the first cell is expected to last from the spring of 2014 through a portion of 2015, at which time a formal Operating Permit will be requested from the MDNR. As noted, we expect the three additional cells to be added at roughly five year intervals. The foregoing timeline would enable us to begin depositing CCBs in the new UWL sometime during 2015, subject to weather disruptions or other unexpected delays.

Q. Besides the MDNR Construction and Operating Permits you just described, what other permits and approvals are necessary?

A. The zoning of the area in question allows use of the land for power plant purposes, including construction and operation of a UWL, subject to certain Franklin County permitting requirements included in a 2011 Franklin County zoning ordinance amendment. Under the Franklin County requirements, the County's Independent Registered Professional Engineer must approve the design and construction documents for the UWL prior to its construction. The Company has requested approval from the County's Independent Registered

Professional Engineer, who has provided preliminary approval of the design of the UWL and has indicated that final review and approval will occur concurrently with MDNR's review of the MDNR Construction Permit application. Upon completion of the construction, the Company will then apply for its Franklin County operating license, which is renewable annually thereafter (an operating permit cannot be obtained until construction is complete). As noted in the Company's Application, intervenors Labadie Environmental Organization and others challenged the County's adoption of these permitting requirements in the Franklin County Circuit Court. The Circuit Court ruled against the plaintiffs in a Judgment dated January 1, 2013, and they have appealed the Circuit Court's Judgment to the Missouri Court of Appeals. Counsel advises me that the Company is confident that Franklin County's adoption of the zoning amendment, including the permitting regulations, was entirely within the County's authority and will be upheld by the Court of Appeals, just as it was by the Circuit Court.

Q. What is the current Project Cost Estimate?

A. The estimated cost of the initial construction, including the first cell is approximately $27 million.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain, and Otherwise Control and Manage A Utility Waste Landfill and Related Facilities at its Labadie Energy Center.	)	File No. EA-2012-0281

AFFIDAVIT OF CRAIG J. GIESMANN

STATE OF MISSOURI)
) **ss**
CITY OF ST. LOUIS)

Craig J. Giesmann, being first duly sworn on his oath, states:

1. My name is Craig J. Giesmann. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as Managing Supervisor of Hydro Engineering.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 7 pages, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Craig J. Giesmann

Subscribed and sworn to before me this 26th day of April, 2013.

Notary Public

My commission expires:

Julie Donohue - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #13753418
My Commission Expires 1/15/2017