

Exhibit No.:  
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  
Date Testimony Prepared: April 26, 2013

**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**

1 **DIRECT TESTIMONY**

2 **OF**

3 **CRAIG J. GIESMANN**

4 **CASE NO. EA-2012-0281**

5 **Q. Please state your name and business address.**

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

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

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

11 **Q. What are the duties of your position?**

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

19 **Q. Please describe your educational background and employment experience.**

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

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

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

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

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

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

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

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

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

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

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

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

1                   ○ Many property parcels around the St. Louis Area and surrounding counties  
2                   were studied.

3                   • Transport Labadie CCBs to an independently owned landfill licensed to accept  
4                   CCB material.

5                   ○ Many licensed landfills were reviewed.

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

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

19                  A.     The UWL will be located immediately adjacent to the existing east boundary of  
20                  the Labadie Energy Center. Please refer to Exhibits A, B and C to the Company's January 24,  
21                  2013 Application, each of which is incorporated herein by this reference, which show the exact  
22                  location of the UWL. It should be noted that this area is currently being used for agricultural  
23                  purposes.

1           **Q.     Please describe the proposed UWL.**

2           A.     The new UWL will initially look similar to the existing lined ash ponds at the  
3   Labadie Energy Center. The main difference will be that the waste materials (CCBs) will be  
4   handled dry, as opposed to the current method of wet sluicing. The new landfill will be designed  
5   and constructed in accordance with all current regulations, most notably the Missouri  
6   Department of Natural Resources (MDNR) utility waste landfill regulations codified at 10 CSR  
7   80.010, *et seq.*, and Franklin County's landfill ordinance. The UWL will consist of a geo-  
8   membrane, an additional clay liner, soil berms, and leachate collection and monitoring systems.  
9   Additionally, fabric formed concrete will be installed on the exterior berms to protect against any  
10   flood-induced erosion. The facility will be designed and constructed so that it would not be  
11   impacted by a 500-year flood.

12          **Q.     What is the capacity of the UWL?**

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

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

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

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

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

4 A. The engineering and design work for the new UWL has been completed, and the  
5 Company has submitted to MDNR the design package and all other required materials needed to  
6 obtain the required MDNR Construction Permit. MDNR is scheduled to complete its review and  
7 to issue the Construction Permit in January 2014. The Company has asked the Commission to  
8 issue its Order expanding the plant's certificate of public convenience and necessity by  
9 December 31, 2013, which means upon issuance of the MDNR permit the next month, the  
10 Company would be able to begin construction at the beginning of the 2014 construction season –  
11 approximately March 1, 2014. Construction of the first cell is expected to last from the spring of  
12 2014 through a portion of 2015, at which time a formal Operating Permit will be requested from  
13 the MDNR. As noted, we expect the three additional cells to be added at roughly five year  
14 intervals. The foregoing timeline would enable us to begin depositing CCBs in the new UWL  
15 sometime during 2015, subject to weather disruptions or other unexpected delays.

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

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

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

13 **Q. What is the current Project Cost Estimate?**

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

16 **Q. Does this conclude your direct testimony?**

17 A. Yes, it does.




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,	)	File No. EA-2012-0281
Operate, Maintain, and Otherwise Control and Manage	)	
A Utility Waste Landfill and Related Facilities at its	)	
Labadie Energy Center.	)	

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

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.

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 26<sup>th</sup> day of April, 2013.

Tulsi Sonohue  
Notary Public

My commission expires:

