BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase its Revenues for Electric Service.	)))	Case No. ER-2014-0258

AFFIDAVIT OF MICHAEL WALTER

STATE OF MISSOURI)
) ss
COUNTY OF ST. LOUIS)

Michael Walter, of lawful age, on his oath states: that he has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 10 pages of Direct Testimony and attached exhibits to be presented in the above case, that the answers in the following Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Michael Walter
Michael Walter

Subscribed and sworn to before me this 2nd day of December, 2014.

Sherrie A. Hall
Notary Public

My commission expires _____

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SHERRIE A. HALL
My Commission Expires
February 27, 2016
St. Louis County
Commission #12308211

Union Exhibit No. 800
Date 2/26/15 Reporter RB
File No. ER-2014-0258

Direct Testimony of Michael Walter
Submitted on Behalf of IBEW Local 1439
Ameren
Case No. ER-2014-0258

Please identify yourself and your job title.

My name is Michael Walter. I am the Business Manager of the International Brotherhood of Electrical Workers Local 1439, AFL-CIO (IBEW Local 1439.) My union represents 703 members, all of whom work in Missouri for Ameren.

Please describe your history with Ameren and IBEW 1439.

I worked for Ameren for almost 17 years, most of the time as a fleet service mechanic. I became a Business Representative for IBEW 1439 in December 1995 and served continuously in that capacity until I became Business Manager in August 2007.

On whose behalf are you presenting this testimony?

I am testifying on behalf of IBEW Local 1439. The other unions at Ameren/MO consist of International Brotherhood of Electrical Workers Locals 2, 702 and 1455, AFL-CIO and International Union of Operating Engineers Local 148, AFL-CIO.

What is the purpose of this testimony?

I support Ameren's petition for a rate increase given the present crucial need to hire and train replacements for the aging workforce and to maintain, repair, replace and increase the capacity of the infrastructure of the transmission and distribution systems.

My purpose is to once again bring to light two main factors related to the safety and reliability of the Ameren/MO electric system and obtain financing to address them. The main factors are interrelated: an aged workforce and an aged infrastructure.

Why do you believe your testimony matters?

We are privileged in Missouri to have a regulated system under the guidance of our Public Service Commission. Local 1439 recognizes this Commission's historic stewardship in serving as monitors of Missouri utility companies and consumers. In past cases, the Commission has open-mindedly considered evidence from both traditional sources and from non-traditional sources like the unions that represent employees at Ameren. With the help of such non-traditional evidence, the Commission has shown the foresight to recognize inevitable and obvious needs for the future. For example, I believe the Commission is largely responsible for recent improvements in Ameren's already strong reliability reflected in Moehn testimony, p. 7, lines 7-10, by mandating tree trimming and inspections. I also commend the Commission for its far-seeing special allocations for workforce training. I hope and believe the Commission will open-mindedly consider such evidence again.

Why do you believe Ameren needs specific financing to address the aging workforce?

Electrical utilities are one of the most capital-intensive businesses, because they require a huge initial capital investment and constant expensive upgrades. Correspondingly, in most cases the workforce requires lengthy, intensive classroom training followed by on-the-job training, and experience to become safe, proficient and professional in these jobs. Continuing advanced training on new technologies and methods is especially true where, as here, new laws result in the introduction of new, environmentally efficient equipment and corresponding increased recordkeeping requirements.

I am proud to say that Ameren and its workforce have teamed up to provide Missouri customers with consistently reliable and inexpensive power for decades. Currently, Ameren's rates are 20% below the national average and the lowest investor-owned rates in the State. *See* Moehn

testimony, p. 11, lines 8-12. Moreover, Ameren is well within the top 10% of power companies in reliability. *See* Moehn testimony, p. 7, lines 8-10.

However, the age of Ameren's infrastructure makes it necessary to replace equipment, wires and cable which have out-lived their anticipated life. The Ameren system has 40-50 year old substations. Much of Ameren's underground system is more than 100 years old. The strains on the system have been accentuated by the ever growing responsibility to improve the electric grid with new "smart grid" technology that is capable of handling more environmentally responsible sources of energy. Recently the PSC mandated inspections of Ameren's physical system. Those inspections have resulted in finding that much of this aging infrastructure needs replacement. In the meantime, the strain on an aging system being used at, near or over capacity requires replacement and that additional maintenance be performed.

Ameren is fortunate to have highly skilled and experienced electrical utility workers who are able to meet these increasing demands. In its ongoing attempt to keep its rates among the lowest in the country, Ameren has cut the maintenance staff in order to fund capital improvements to the infrastructure. In this regard, of the $147,000,000 in savings identified by Michael Moehn at p. 6, lines 16-17, $67,000,000, a significant proportion, resulted from reductions in distribution personnel (employees represented by IBEW 1439) and reductions in power station personnel (employees represented by Operating Engineers 148). *See* Moehn testimony, p. 6, lines 20-23. So the utility workers are meeting the needs of the aging infrastructure despite being short-handed, but only by triaging and addressing issues on a most-needed basis. This process has caused a pile-up of work which will only get worse if attrition issues are not better addressed. Ameren can no longer engage in addition (capital improvements) by subtraction (cutting personnel). Ameren acknowledges continued reductions in operations and maintenance costs are not sustainable. *See* Moehn testimony, p. 15, lines 17-22.

Moreover, there is every indication that 35% of Ameren's experienced utility workers will be retiring in the next five years. In this regard, IBEW 1439 has conducted an internal review and survey of members, the results of which are attached here as Walters Schedules 1-3. The results reflect that, based on stated retirement plans, several employee categories will lose a majority of

their current workforce in the next five years. For example, Distribution Services[1] will lose 91.67% of the current workforce; Franklin District[2] will lose 64.52%; Substations[3] will lose 60%; Telecommunications[4] will lose 58.82%; and Underground[5] will lose 50%. Schedule 1. The average age of the Distribution employees is 46. Schedule 2. I am also attaching a historical snapshot of the job changes that have occurred over the last five years, and one of the job changes over the last ten years. Schedules 3(a) and 3(b), respectively. This document reflects that no job group has increased, and overall the personnel numbers have decreased by more than 200 workers. Ameren is not even keeping up with attrition. Unless Ameren can start hiring and training their replacements in large numbers now, Ameren's vaunted reliability will not survive. The need for such substantial hiring provides an unprecedented opportunity to increase diversity within the workforce.

As a result of Ameren's penultimate rate case, Case ER-2011-0028, Ameren trained 9 new underground employees. Those employees are now productive members of the Ameren workforce, gaining valuable experience on a daily basis. However, their entrance into the workforce has just stayed even with attrition since that time, and the underground department was already understaffed because Ameren is having to systematically replace its 100-year old underground network, not just maintain it. And as the replacement occurs, the new underground is "smart," requiring a new set of skills from the maintenance employees. Thus, the apprentice class that resulted from Case ER-2011-0028, while necessary, was only a band-aid on the problem. Ameren needs funding for *ongoing* training for all distribution operations personnel.

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[1] This personnel test and repair a variety of technical devices to support the system.

[2] These utility workers largely perform overhead repairman work.

[3] These utility workers repair, maintain, and construct transmission and distribution substations.

[4] These workers repair, maintain and install the Company's internal communications and automatic transmission systems in their entirety. This is highly technical work.

[5] These utility workers repair, maintain and install the entire underground system, which is the mainstay of the electrical service in downtown St. Louis.

In this regard, Ameren and IBEW 1439 have recently entered into discussion about a new class of trainees. But under the current rate structure, Ameren cannot justify the large-scale hiring and training costs because it will be years before it will recover those costs in revenue generated by the new employees. In addition, there must be consideration for the existing regulatory lag. This fact tends to promote a disincentive for investment.

The electric utility industry is one which requires well-trained workers. Training programs have proven to be beneficial. Ameren and its internal workforce have provided a safe and reliable system with some of the lowest rates in the country for over 100 years. The 'baby boomer" crisis is a reality and must also be considered. The method of waiting for an employee of the utility to retire before hiring an untrained replacement is irresponsible and lacking in foresight. We must take advantage of the opportunity to transfer knowledge and experience from senior personnel to junior personnel.

The training process is a long-term commitment. A Relay Technician requires a 2-year Associate's Degree prior to entering the utility training program, which lasts for three years, followed by approximately five years of on-the-job experience before reaching the level of proficiency and confidence. This is a 10-year commitment. The shortest time commitment for IBEW-represented electrical employees is the 5-8 year commitment for Lineman: the Lineman Apprentice program is thirty months and then requires three to five years of on-the-job training and experience. A utility Fleet Mechanic requires prior vocational school, prior experience to qualify for the training program and then a four year company-sponsored training program to reach the top level of the craft. There are numerous classifications required to provide a safe and reliable electric service to the customers.

Ameren's aging workforce is typical of electrical utilities across this nation. See Walters Schedule 4, the 2008 CEWD Survey Results, entitled the "Gaps in the Energy Workforce Pipeline." CEWD is the acronym for the well-respected Center for Energy Workforce Development, which is a multi-partisan group with members including the Edison Electric Institute, the National Rural Electric Cooperative Association and various labor organizations. CEWD predicts that the number of industry employees ready to retire now is 9.9%, up a

percentage point from 2010, and those ready to retire within five years is 15%. (Compare this to the Ameren electrical utility workforce, 35% of which have self-identified as retiring within five years!) It believes "more [employees] are in that critical age and years of service range, which means they could leave at any time." Schedule 4 at 2. It further predicts that "almost 55% of the workforce may need to be replaced in the next 10 years. . . ." Schedule 4 at 3. Based on the self-reporting of Ameren workers, Ameren will experience a much higher rate of retirements in the next 10 years than the 55% predicted nationwide.

To summarize, the purpose of this portion of my testimony is to provide a view of the electric utility's business from the perspective of the union and its workforce. I cannot overemphasize the need for the Missouri Public Service Commission to continue to set mandates or policy which will address the need for the utility company to invest in the workforce and the infrastructure, and to fund these initiatives on an ongoing basis until the goals have been achieved. The current hiring needs also gives the Commission a unique opportunity to encourage additional diversity.

Why is a properly staffed internal workforce efficient?

Ameren has a permanent direct workforce of union and non-union labor and supervisory staff that I am calling its "internal workforce." I use the term "internal workforce" in this testimony generically to refer to the job classifications related to the transmission and distribution system, including Linemen, Technicians, Meter Installers, Substation Mechanics, all support groups and Underground Workers, just to name a few.[6]

The internal workforce takes great pride in the work performed for the employer, Ameren/MO. In many cases, the internal workforce is also a stockholder. This gives the workforce a unique

[6] Ameren also hires "outside contractors" that provide their own labor and supervisory staff. Outside contractors are appropriately used by Ameren for major power plant projects, seasonal work, during extreme power outages and weather conditions that present time-sensitive emergency conditions, when its internal workforce is otherwise overloaded, or when the work requires specialized training or equipment beyond what is available with the internal workforce.

incentive to provide proficient, efficient and safe service. As an Ameren survey shows, when the internal workforce touches the customers in the field, everyone wins. *See* Moehn testimony pp. 9, line 22- p. 10, line 1.

The internal workforce is specifically trained and tailored to work on the Ameren system. They work on the Ameren system 100% of the time, making them true experts on this particular system. The internal workforce is continually evaluated, trained and tested to meet the high standards required by Ameren and is expected to also meet additional expectations set out by the IBEW and the Local Union Office. Moreover, the internal workforce is readily available to respond to emergencies and immediate customer needs.

You mentioned Ameren's aging infrastructure in your discussion of the aging workforce. Do you have anything more to add about the aging infrastructure?

The increased emphasis on environmentally responsible energy sources overstrains Ameren's aging infrastructure. *See* Moehn testimony, p. 12, lines 6-10, p. 13, lines 10-16. The issue is not whether the energy load will increase, but that it is transferring from one area to another because of new users, and that the demands of those users requires more sophisticated equipment.

Based on the increase in FERC-mandated testing, maintenance and reporting, PSC-mandated inspections, in addition to large-scale testing recently mandated by the PSC, extensive capital improvements seem necessary to keep Ameren's overall system at the current level of safe, reliable, efficient service. Ameren does not have the fat in its budget to independently fund these improvements within a reasonable time frame. *See* Moehn testimony, p. 13, lines 17-18 ("Ameren Missouri faces a bow wave of capital investment needs over the next 15-20 years that will be unprecedented. . . .").

Do you have any recommendations for the Commission?

I have two recommendations.

First, as I stated at the onset, I believe that a rate increase for Ameren is necessary and appropriate. Ameren's preparation to address the present and future work dilemma should be considered in this rate case. As Ameren CEO Michael Moehn testified regarding the reason to replace the aging infrastructure, if Ameren "does not get ahead of this problem . . . it will ultimately affect [its] ability to provide consistently reliable service to [its] customers." Moehn testimony, p. 16, lines 8-10. Ameren should be required to expend a portion of the anticipated rate increase in a manner that will insure long-term efficiency and quality of service by investment and re-investment in its regular employee base: hiring, training and utilizing its internal workforce to maintain its normal and sustained workload. A philosophy of investment in Ameren's internal workforce and infrastructure is the historical underpinning that has allowed Ameren to offer safe, reliable service at one of the lowest rates in the nation to this point. Future attainment of this goal and of long-term quality requires continuation to that philosophy. Ameren has the opportunity to fill good jobs and create more permanent positions for the residents of the State of Missouri.

I request a special rate allocation as in previous cases, with consideration for advanced technical training with expectations and firm guidelines as to the allocation of money to train in specific areas. I ask that the Commission demand that all jobs, internal or outsourced, be filled first within the Ameren/UE service territory, second in the State of Missouri, and third, never be offshore. I recommend that the Commission invest revenue in ongoing training programs, requiring Ameren to induct a class of at least 37 apprentices in various job categories in 2015 and for the next two successive years. This training will cost approximately $11,100,000 per year.

Second, I also ask that the Commission take a good look at the increased loads on equipment and wires from required technological improvements, and at the age and life expectancy of the present infrastructure. I recommend that Ameren be mandated to provide the PSC with quarterly reports on the expenditures allowed and considered in this rate case to replace the current infrastructure. I further recommend that Ameren be mandated to provide the PSC with quarterly reports reflecting the loads on equipment and wires and the optimal replacement of aged cable, wires, poles and equipment. In this regard, I recommend that the Commission issue an

additional special annual rate allocation, in an amount deemed adequate in the discretion of the Commission, which is specifically designated for the purpose of addressing capital improvement needs.

Does that conclude your testimony?

Yes.

Union Exhibit 800-1

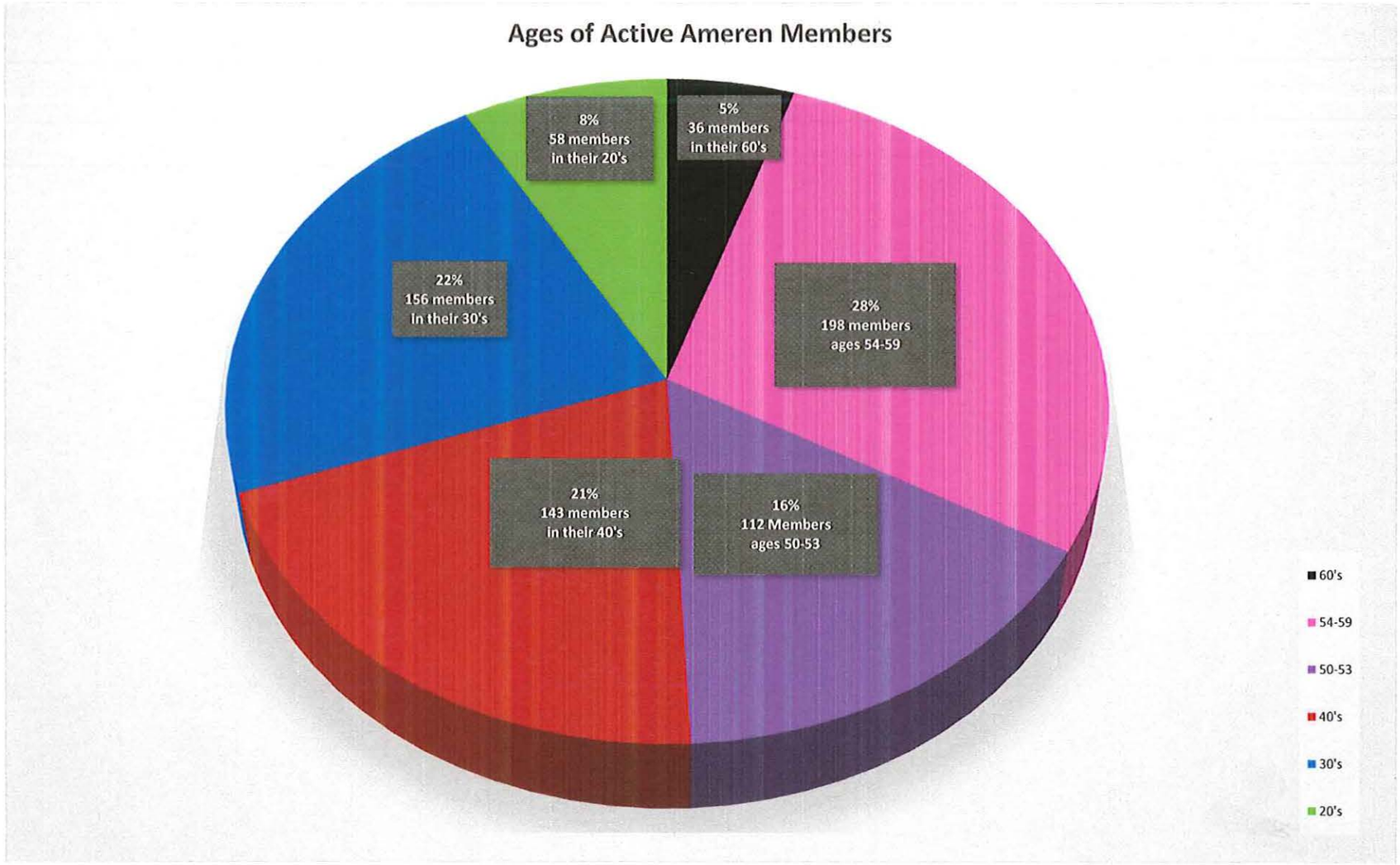
Estimated Retirees From Local 1439
Within the Next 5 Years

Work Group	Total in Group - 2014	Retire in 1 Year	Retire in 2 Years	Retire in 3 Years	Retire in 4 Years	Retire in 5 Years	Total Retirees	Total Left in Work Group after 5 Yrs	% of Work Group to Retire in 5 Years
Bldg. Service	37	2	3	1	0	0	6	31	16.22%
Dist. Serv.	12	3	2	2	1	3	11	1	91.67%
Fleet Service	29	1	0	0	0	3	4	25	13.79%
Franklin	31	5	5	5	5	0	20	11	64.52%
Gardeners	8	0	1	0	2	0	3	5	37.50%
Jefferson	49							34	30.61%
Bailey		2	2	0	0	0	4		
House Springs		3	3	3	2	0	11		
Meter Install.	28	0	4	1	2	0	7	21	25.00%
Overhead	155							111	28.39%
Berekely		1	1	3	1	0	6		
Dorsett		2	3	4	2	0	11		
Ellisville		1	1	1	3	0	6		
Geraldine		3	1	3	0	3	10		
Mackenzie		5	3	2	0	1	11		
Relay	27	3	1	0	2	0	6	21	22.22%
St. Charles	32	0	4	2	1	2	9	23	28.13%
St. Francois	20	0	1	2	0	2	5	15	25.00%
Stores	82	7	10	5	8	5	35	47	42.68%
Substations	35							14	60.00%
North		1	3	2	1	0	7		
South		1	4	4	1	4	14		
Telecommunications	17	4	3	0	1	2	10	7	58.82%
Transmission	27	3	0	0	0	3	6	21	22.22%
Trav. Operators	14	2	4	0	0	0	6	8	42.86%
Trouble	42	1	2	2	1	3	9	33	21.43%
Underground	36	4	5	3	3	3	18	18	50.00%
	681								
Total to Retire		54	66	45	36	34	235	446	34.51%
Total % by Year		7.93%	9.69%	6.61%	5.29%	4.99%			

This spreadsheet does not include figures for 1439 South members nor the Sub-Storeroom Keeper in Keokuk. (22 members)

Prepared 10/2014 through contact with eligible members

Union Exhibit 800-2



Prepared 9/2014 with data dated 7/1/2014

Union Exhibit 800-2

IBEW Local 1439
Membership by Age

Members in Their:	Total Number	Percentage of Active
60's	36	5.12%
54-59	198	28.17%
50-53	112	15.93%
40's	143	20.34%
30's	156	22.19%
20's	58	8.25%
	703	100%

Average Age of Active Members = 46 yrs old

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
METER READING								
Spec.Meter Reader	0	0	0	0	0	0	0	0%
Meter Reader	0	0	0	0	0	0	0	0%
TOTAL IN SEN.DIV.	**0**	**0**	**0**	**0**	**0**	**0**	0	0%
BUILDING SERVICE - Maintains all Buildings and Facilities								
Bldg.Serv.Mech.Ldr.-Ill							0	0%
Bldg.Serv.Mech.Leader	6	7	7	7	7	6	0	0%
Bldg.Serv.Mechanic or Office Bldg Mech	12	9	9	6	5	10	2	20%
Bldg.Serv.Painter or Painter Ldr	2	2	1	0	2	2	0	0%
Window Blind Repairman	1	1	1	1	1	1	0	0%
Illumination Srvcman or Installer or Ldr	6	4	3	2	4	4	2	50%
Janitor	0	0	0	26	26	27	-27	-100%
Porter or Porter Working Foreman	10	14	26	13	13	12	-2	-17%
TOTAL IN SEN.DIV.	**37**	**37**	**47**	**55**	**58**	**62**	-25	-40%
DIST-UNDERGROUND - Maintains, Inspects & Constructs entire Underground Distribution System, including network in downtown St. Louis								
Cable Splicer - Leader	4	4	3	3	3	3	1	33%
Cable Splicer	3	3	4	5	5	5	-2	-40%
UG Const.Mech.Leader	3	3	3	5	5	5	-2	-40%
UG.Const. Mechanic	3	3	4	4	4	4	-1	-25%
UG System Util.Worker or System Ldr	3	8	7	15	14	14	-11	-79%
UG System Journeyman	8	2	3	5	2	3	5	167%
UG System Trainee	10	0	8	0	3	3	7	233%
General Dist.Mech.Leader	1	1	1	1	1	1	0	0%
General Dist. Mechanic	1	2	2	3	2	2	-1	-50%
TOTAL IN SEN.DIV.	**36**	**26**	**35**	**41**	**39**	**40**	-4	-10%
DIST. OVERHEAD - Maintains, Inspects & Constructs Entire Overhead Distribution System								
Overhead Repairman	57	55	50	52	48	48	9	19%
Lineman	91	110	102	94	70	71	20	28%
Apprentice Lineman/Banked Apprentice/Groundman	1	2	15	52	102	99	-98	-99%
SLD/Truck Dr-Oper/Laborer	6	7	8	8	14	15	-9	-60%
TOTAL IN SEN. DIV.	**155**	**174**	**175**	**206**	**234**	**233**	-78	-33%

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
DIST.OPER.TROUBLEMEN - Emergency Response & Maintenance of Entire Overhead & Residential Underground Distribution System								
Line Troublemen	42	44	47	40	50	51	-9	-18%
METER TEST & INSTALLATION - Maintains & Installs all Metering Devices, Including Test & Repair of Devices in Meter Lab								
Meter Standards Tester	4	4	4	4	4	4	0	0%
Power Meterman	9	8	7	8	5	5	4	80%
Apprentice Power Meterman	2	2	4	4	6	6	-4	-67%
Meter/Wire Installer 1 OR Meter Stock Ctrl	1	1	2	3	2	2	-1	-50%
Meter/Wire Installer 2 OR Meter Laborer	1	1	2	1	2	2	-1	-50%
Meter Repairman	5	5	5	4	4	4	1	25%
Elec.Meter Installer 2	6	7	8	9	10	10	-4	-40%
Shop Meterman	0	0	0	1	1	1	-1	-100%
TOTAL IN SEN.DIV.	**28**	**28**	**32**	**34**	**34**	**34**	-6	-18%
TELECOMMUNICATIONS - Maintains & Installs all Internal Communication Systems, Including Automated Switching Controls								
Comm. Technician	17	16	14	18	17	17	0	0%
STORES - All Aspects of Supply Chain & Delivery to Support all Transmission & Distribution Operations								
Elec.Mech Leader	0	0	0	1	0	1	-1	-100%
Stores Mech-Mach.	0	0	0	0	1	1	-1	-100%
Stores Mech-Metal Wk./Wldr/Wldr Appr	0	0	0	2	3	3	-3	-100%
Stores Mech-GenMtce	1	0	2	2	2	2	-1	-50%
SSK - 2168,2152,2151,2146,2138, 2141	0	0	1	4	4	4	-4	-100%
SubStorermKpr-Rel.	4	3	2	3	3	3	1	33%
SubStorerm Keeper	4	4	4	0	1	1	3	300%
SubStorerm Keeper-Callaway	2	1	2	2	1	1	1	100%
Rec&ShipClrk.Gen. Whse	0	0	0	0	0	0	0	#DIV/0!
Stores Elec. Mech./Apprentice	2	1	4	5	6	7	-5	-71%
Sr. Asst. Storekeeper-Callaway	4	4	4	4	5	5	-1	-20%
Asst. Storekeeper -Callaway	4	4	4	4	4	4	0	0%
Stores Painter	0	0	0	1	1	1	-1	-100%
Sr.Asst. Storekeeper-Lab.	3	3	3	3	3	3	0	0%
Sr.Asst.Storekpr.-Relief	12	10	10	10	9	9	3	33%

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
STORES (Cont'd)								
Asst. Storekeeper	20	20	20	22	21	21	-1	-5%
Sr.Asst.Storekpr. Dorsett	1	1	1	1	1	1	0	0%
" " Rush Island	2	2	2	2	1	1	1	100%
" " Meramec	1	1	1	1	1	1	0	0%
" " Gratiot	0	0	0	0	1	1	-1	-100%
" " Sioux	2	2	2	2	2	2	0	0%
StoresAsst.Mech.Unassig/Assn				1	1	1	-1	-100%
Heavy Hauler	6	6	6	6	6	6	0	0%
Heavy Hauler-Rel.	2	1	1	1	1	1	1	100%
Trail.Trac.Oper.-Night	0	1	1	1	1	1	-1	-100%
Crane Rel&Yd.EquipOpr.	1	1	1	1	1	1	0	0%
Stock Clerk, District Stock Clerk	5	5	5	3	5	3	2	67%
Material Driver Oper.	2	2	3	3	3	4	-2	-50%
Truck Driver	0	0	0	1	1	1	-1	-100%
Transformer Repairman/Asst. Trans.Rep.	0	0	0	8	8	8	-8	-100%
Pole Yard Helper & Leader	1	1	1	1	1	1	0	0%
Salvage Mechanic & Salvageman	0	0	0	0	0	0	0	0%
Laborer or Porter/Utility Worker	3	5	5	4	7	7	-4	-57%
TOTAL IN SEN.DIV.	**82**	**78**	**85**	**99**	**105**	**106**	**-24**	-23%
SUBSTATION - Maintains, Inspects & Constructs all Distribution & Transmission Substations								
Elec.Mech/Mob.CraneOper	0	0	0	0	0	0	0	0%
Electrical Mechanic & Elec Mech Leader	30	27	27	38	38	37	-7	-19%
Elec.Mech.Apprentice	3	5	4	4	7	7	-4	-57%
Equp.Oper.Deliveryman	2	2	2	2	2	2	0	0%
TOTAL IN SEN. DIVISION	**35**	**34**	**33**	**44**	**47**	**46**	-11	-24%
DIST.SERV/SUB.OPER. - Maintains, Inspects, Installs, Repairs & Switch all Devices Related to Overhead, Underground, Dist. & Transmission Operations								
Sub. Traveling Operator	14	13	10	15	19	19	-5	-26%
Service Tester	2	2	2	5	5	5	-3	-60%
Dist. Service Tester & Asst.	7	8	10	10	10	10	-3	-30%
Sub. Trav. Serviceman	0	2	5	0	0	0	0	0%
Distribution Serviceman & System Tech	3	1	2	2	0	0	3	0%
Gardener	8	8	6	8	9	9	-1	-11%
TOTAL IN SEN.DIVISION	**34**	**34**	**35**	**40**	**43**	**43**	-9	-21%

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
SYSTEM RELAY SERVICES - Maintains, Inspects, Tests & Calibrates all Relays in Substations & Power Plants								
System Technician	11	10	6	8	10	11	0	0%
System Tech./Tester in Training	3	6	7	11	10	10	-7	-70%
System Tester & Jr Sys. Tstr	12	14	15	13	12	12	0	0%
Asst. Relay Tester	1	1		1	1	1	0	0%
Station Meter Test	0	0	0	0	0	0	0	0%
TOTAL IN SEN. DIVISION	**27**	**31**	**28**	**33**	**33**	**34**	-7	-21%
MOTOR TRANSPORTATION - Maintains, Inspects, Repairs Entire Fleet								
Automotive Mechanic	22	22	23	24	23	23	-1	-4%
Sr. Auto. Mech or Sr. Auto Mech Ldr	6	7	5	8	7	6	0	0%
Auto. Mechanic Leader	1	2	1	1	1	1	0	0%
Auto. Mechanic Helper				2	1	1	-1	-100%
TOTAL IN SEN. DIVISION	**29**	**31**	**29**	**35**	**32**	**31**	-2	-6%
FRANKLIN - Regional District: Overhead & Underground Distribution								
Overhead Repairman	8	8	9	10	11	11	-3	-27%
Line Troubleman	7	7	7	7	7	7	0	0%
Lineman	10	13	16	13	16	16	-6	-38%
Elec. Mechanic & Elec Mech Ldr	4	4	4	3	2	2	2	100%
Elec.Mech.Appr.	0	0	0	2	2	2	-2	-100%
Appr. Lineman	0	0	0	0	0	3	-3	-100%
Service Lineman Driver	2	2	2	2	2	2	0	0%
TOTAL IN SEN.DIVISION	**31**	**34**	**38**	**37**	**40**	**43**	-12	-28%
JEFFERSON - Regional District: Overhead & Underground Distribution								
Elec. Mechanic & Elec Mech Ldr	5	6	6	6	6	6	-1	-17%
Electrical Mech. Appr.					0		0	0%
Line Troubleman	8	8	5	10	11	11	-3	-27%
Overhead Repairman	10	12	12	13	12	13	-3	-23%
Lineman	21	22	20	24	28	28	-7	-25%
AC Meter Tst.Mo/Iowa	0	0	0	0	0	0	0	0%
Apprentice Lineman	0	0	0	0	0	0	0	0%
Service Lineman Driver	3	3	3	3	3	3	0	0%

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
JEFFERSON (Cont'd)								
Night Storeroom Attendant	0	0	0	0	0	0	0	0%
Power Meterman	2	1	1	1	1	1	1	100%
Elec. Meter Instl. Grade 2	0	1	1	1	1	1	-1	-100%
Janitor/Laborer	0	1	1	1	0	0	0	0%
TOTAL IN SEN.DIVISION	**49**	**54**	**49**	**59**	**62**	**63**	**-14**	-22%
ST. CHARLES - Regional District: Overhead & Underground Distribution								
Elec. Mechanic & Elec Mech Ldr	5	6	6	6	6	5	0	0%
Elec.Mech.Appr.	0	0	0	0	0	1	-1	-100%
Line Troubleman	5	5	5	5	5	5	0	0%
Overhead Repairman	7	8	8	9	8	9	-2	-22%
Lineman	14	11	13	11	10	10	4	40%
SLD & Elec Meter Installer 2				1	1	1	-1	-100%
Power Meterman	1						1	0%
Elec. Appl. Serviceman	0	0	0	2	2	2	-2	-100%
Janitor/Office Bldg. Mech.	0	0	4	1	1	1	-1	-100%
Apprentice Lineman	0	0	0	0	0	0	0	0%
TOTAL IN SEN. DIVISION	**32**	**30**	**36**	**35**	**33**	**34**	-2	-6%
ST.FRANCOIS/RIVERMINES - Regional District: Overhead & Underground Distribution								
Overhead Repairman	5	5	5	5	5	5	0	0%
Line Troubleman	5	5	5	5	4	4	1	25%
Lineman	4	4	4	5	7	7	-3	-43%
Appr.Lineman	0	0	0	0	0	0	0	0%
Janitor/Porter	1	0	0	1	1	1	0	0%
Elec. Mechanic & Elec Mech Ldr	5	6	6	6	5	5	0	0%
Elec.Mechanic Appr.					1	1	-1	-100%
TOTAL IN SEN.DIVISION	**20**	**20**	**20**	**22**	**23**	**23**	-3	-13%
EAST ST. LOUIS								
Porter/Janitor	0	0	0	0	0	0	0	0%
TOTAL IN SEN DIVISION	**0**	**0**	**0**	**0**	**0**	**0**	0	0%

Prepared 9/2014 with data dated 7/1/2014

5 Year Overview in Overhead, Substations, Relay, Telecommunications, Transmission, Trouble, Dist. Service, Regional Headquarters and 1439 South

Union Exhibit 800-3a-f

	2014	2013	2012	2011	2010	2009	Gain/Loss	Percent
IOWA OH SERV OPER.								
Sub-Store.Keeper-Keokuk	1	1	1	1	1	1	0	0%
TOTAL IN SEN DIVISION	**1**	**1**	**1**	**1**	**1**	**1**	0	0%
TRANSMISSION - Maintains, Inspects & Constructs Transmission in Missouri								
Linemen	**27**	**26**	**28**	**25**	**26**	**25**	2	8%
1439 South Did Not Exist Prior to 1993 (formerly Ark-Mo)								
1439 SOUTH EMPLOYEES - Regional District: Overhead & Underground Distribution								
Senior Lineman	4	4	5	6	6	7	-3	-43%
Jrny. Serviceman or Shift Serviceman	7	7	6	8	6	8	-1	-13%
Journeyman Lineman	9	5	9	9	9	8	1	13%
Apprentice Lineman	1	1	1	1	4	5	-4	-80%
TOTAL IN SEN DIVISION	**21**	**17**	**21**	**24**	**25**	**28**	-7	-25%
TOTAL AMEREN EMPLOYEES								
REPRESENTED BY LOCAL 1439	**703**	**715**	**753**	**848**	**902**	**914**	-211	-23%

Prepared 9/2014 with data dated 7/1/2014

Center For ENERGY Workforce Development

Gaps in the Energy Workforce Pipeline
2013 Survey Results

Background

The fifth "Gaps in the Energy Workforce Pipeline" survey conducted by CEWD once again revealed a common story: the energy industry workforce is getting older and there are a large number of employees who are set to retire in the next five to 10 years. But, the 2013 survey also shows the progress electric and natural gas utilities are making to bring in younger workers and fill the gaps left by experienced, skilled workers.

There is a distinct difference in forecasting potential retirements and other attrition and in predicting the number of positions that will be filled, the skill levels required to fill them, and the size of the pipeline of workers currently being trained to fill the positions. CEWD has spent considerable time since the last survey defining the Essential Elements of Strategic Workforce Planning, which will help utilities assess not just the number of employees who are projected to leave, but the resource and skill levels required to staff the changing organization requirements for the future.

Industry Game Changers

- *Grid Modernization*
- *Generation Mix / Carbon Management*
- *New Build*
- *Regulation / Policy Changes*
- *Aging Workforce*
- *Mergers / Acquisitions*
- *Significant Organization Decisions*
- *Adoption of New Technology*

Key among the steps in identifying the true gap in the workforce is the idea of identifying the workforce implications of relevant "Game Changers" in the industry. CEWD has identified eight key Game Changers that have implications for the future workforce and impact the decisions utility executives make on replacing those who are leaving and creating new jobs for the skilled workers being educated in community colleges and universities. The CEWD survey provides data at the national level on one of the Game Changers—aging workforce—and provides additional data on changes in normal attrition and the timing of potential employee exits. It is critical, however, to consider the impact of the other Game Changers when forecasting workforce development needs at a state or regional level.

CEWD again focused on the four key job categories that are considered critical to the industry: Lineworkers, Technicians, Plant Operators, and Engineers. However, in the current data, the categories were broken down more finely to distinguish between employees in Electric Transmission, Distribution, and Generation, and Natural Gas Transmission, Distribution, and Generation. The survey collected data on the age and years of service of current employees as well as data on the actual rate of retirements and other types of attrition. The data was used to forecast patterns of retirement and attrition over the next 10 years within each of the job categories.

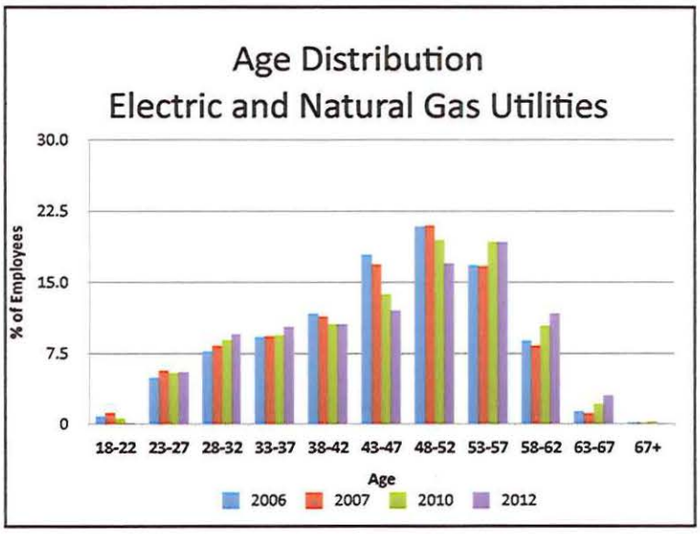
2013 Survey Findings

In 2013, Electric and Natural Gas Utilities across the country completed a detailed survey on the workforce size, age, and years of service, along with actual and projected hiring and attrition rates of the existing generation, transmission, and distribution workforce. The survey requested actual data as of December 31, 2012, and projected data throught 2018. The information collected from industry was supplemented with data from Economic Modeling Specialists International (EMSI). The data collected from utilities represent about two-thirds of the total employee population of the industry.

Workforce Demographics

The change in the total number of employees in the industry is leveling off, but there are still fewer employees than in 2010. In 2010, EMSI calculated approximately 525,000 employees while in 2012, there are approximately 517,000. Almost 40%, or 204,000, of the employees in the industry are in the job categories considered critical, and there were changes in the number of employees in each of those job categories:

- Engineers decreased by 3.2%
- Plant / Operators decreased by 2.3%
- Lineworkers and Technicians decreased by about 1.4% each



Overall, the industry has continued to mature with more employees than in previous surveys over the age of 53. But the survey also showed an increase in employees under the age of 37, indicating a steady increase in hiring younger workers. The average age continues to increase and has gone from 45.7 in the 2006 survey to 47.2 at the end of 2012. In looking at the more defined breakdown of critical jobs, Lineworkers and Engineers are the youngest, and Electric Transmission and Distribution Technicians are the oldest.

Clearly the retirement wave has begun. CEWD calculates a percentage of workers who are "Ready Now," ready to retire over the next five years, and ready to retire over the next 6-10 years. This percentage of "Ready Now" has increased by a full percentage point from 8.9% in 2010 to 9.9% in 2012. Those ready to retire in the next five years remains steady at around 15%, and the number of workers potentially ready to retire in the next 6-10 years has decreased by almost 3% from 16.4% to 13.5%. This change shows that older workers have begun to leave and more are in that critical age and years of service range, which means they could leave at any time.

Industry Demand

For the industry as a whole, almost 55% of the workforce may need to be replaced in the next 10 years, down from previous estimates and reflecting the progress of workforce development efforts across the industry. This includes all jobs in the company, such as supervision, clerical, accounting, and information technology, as well as the key job categories.

Almost half of the skilled Technicians and Engineers in the industry may need to be replaced in the next 10 years, with the potential for the next five years estimated at 36%. Technicians and Plant Operators have the highest potential percentage of replacements. Attrition for other reasons, such as separating from the company, transferring to other jobs, or promotions within the company, total approximately 11% of employees in these job categories. The normal attrition rate for utilites is historically low, ranging between 2-3% a year for most job categories. In 2013, the survey forecasts that the rate of retirements will increase above normal attrition and continue to rise during the forecast period.

	Potential Replacements 2013 - 2017		Potential Replacements 2018 - 2022	
Job Category	Potential Attrition & Retirement	Estimated Number of Replacements	Potential Retirement	Estimated Number of Replacements
Lineworkers	32%	24,100	14%	10,300
Technicians	41%	28,300	14%	10,100
Plant Operators	42%	14,900	13%	4,600
Engineers	34%	9,200	12%	2,900
Total	**36%**	**76,500**	**14%**	**27,900**

Totals exclude Nuclear

More critical than the number of potential retirements, however, is the forecast for hiring. As the economy began to improve, so did the number of employees hired to replace those leaving and, in 2012, companies replaced nine out of 10 workers, showing a steep increase from 2009 and 2010. This is reflected in the growing number of younger workers across the companies. The forecasts for hiring remain steady at the 2012 rates for the rest of the decade.

In 2013, CEWD launched a nationwide effort, Troops to Energy Jobs, to increase the percentage of veterans in the utility workforce. As part of the 2013 survey, companies were asked to identify the current percentage of veterans in the workforce. Although the percent can vary significantly by job category and company, overall, survey respondents reported around 6% of their current workforce are military veterans.

Companies also reported a strategic focus on increasing the diversity of the applicant pool and of hires. Companies are working on a variety of strategic initiatives to change the demographic makeup of the employee population to more closely reflect the communities they serve.

Conclusions and Recommendations

Specific recommendations for building the future energy workforce pipeline include:

- Support existing efforts to balance the supply and demand for workers by developing programs that can be scaled as demand increases and decreases.
- Continue to build partnerships with those in the education, labor, and government sectors to develop secondary and postsecondary programs specific to skilled energy positions.
- Use the Energy Industry Competency Model developed for generation, transmission, and distribution to create programs that will reduce the skill gaps in applicants and provide quantifiable benefits to the companies.
- Create industry-recognized credentials that will allow students to demonstrate the skill level attained.
- Continue to develop mature workforce planning strategies, utilizing the CEWD Essential Elements of Strategic Workforce Planning Model.

Survey Methodology

The Gaps in the Energy Workforce Pipeline survey was sent to all CEWD, Edison Electric Institute, and American Gas Association members asking them to provide data on actual and forecasted hires and attrition (both retirement and other attrition), age and years of service of the current workforce, number of employees in specific positions (Lineworkers, Electric and Gas T&D Technicians, Non-nuclear Generation Operators, Technicians, and Engineers), and total number of employees. The survey was administered by Vemo and all company data is confidential.

The survey did not include data on nuclear positions; that information is collected in a separate survey conducted by the Nuclear Energy Institute. Shareholder-owned electric companies from across the country responded to the survey. Information on electric cooperatives was provided by the National Rural Electric Cooperative Association. The companies who responded to the survey collectively represent approximately two-thirds of the total electric and natural gas utility workforce.

Members of CEWD may view survey details at www.cewd.org.

Formed in March 2006, the Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric natural gas and nuclear utilities and their associations—Edison Electric Institute, American Gas Association, Nuclear Energy Institute, and National Rural Electric Cooperative Association. CEWD was formed to help utilities work together to develop solutions to the coming workforce shortage in the utility industry. It is the first partnership between utilities, their associations, contractors, and unions to focus on the need to build a skilled workforce pipeline that will meet future industry needs.

701 Pennsylvania Ave., NW, Washington, DC 20004-2696 • 202-638-5802
www.cewd.org
www.getintoenergy.com

For information, please contact us at staff@cewd.org