Exhibit No.:
Issue: Transmission Operations
Witness: Richard C. Kreul
Sponsoring Party: UtiliCorp United Inc.
Case No.: EM-2000-292
Date Prepared: June 26, 2000

MISSOURI PUBLIC SERVICE COMMISSION
Case No. EM-2000-292

Surrebuttal Testimony

of

Richard C. Kreul

Jefferson City, Missouri

Exhibit No. 13
Date 7-13-00 Case No. EM2000-292
Reporter mn

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI
SURREBUTTAL TESTIMONY OF RICHARD C. KREUL
ON BEHALF OF UTILICORP UNITED INC.
CASE NO. EM-2000-292

Q. Please state your name and business address.

A. My name is Richard C. Kreul and my business address is 10750 E. 350 Hwy., Kansas City, MO 64138.

Q. Are you the same Richard C. Kreul that previously filed direct testimony in this case?

A. Yes.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to rebuttal testimony filed by Whitfield A. Russell on behalf of Springfield, Missouri City Utilities ("Springfield").

Q. Do you have any overall observations with respect to his testimony?

A. Yes. First, I believe that Mr. Russell has the merger cases confused. Most matters he raises do not pertain to the merger between UtiliCorp United Inc. ("UCU") and St. Joseph Light & Power ("SJLP"). Second, it is my understanding, on advice of counsel, that the subject of his testimony involves matters which are under the jurisdiction of the Federal Energy Regulatory Commission ("FERC").

Q. Why do you believe the subject of his testimony is a FERC issue?

A. The primary issue in Mr. Russell's surrebuttal testimony relates to the adequacy of the transmission systems of the merging companies and the effect of such transmission impacts on competition. Even though the Missouri Public Service Commission

("Commission") has an interest in these issues, it is my understanding that the subjects of transmission and subsequent competitive impact are under the jurisdiction of FERC.

Q. Are there additional subjects in Mr. Russell's surrebuttal testimony to which you wish to respond?

A. Yes. Mr. Russell raises issues regarding Regional Transmission Organizations ("RTOs"). Once again, this issue is currently being addressed by FERC. In these proceedings, UtiliCorp addresses its plans regarding RTOs directly in public filings.

Q. On page 29 of his testimony, Mr. Russell says: *"Our study showed that criteria violations can be expected on the UtiliCorp transmission system under conditions predicted to occur at peak (base case) in both the Summer 2000 and the Summer 2001. In the more stressed case simulating expected levels of heavy north-to-south transfers, violations occurred not only under contingency simulations, but also under pre-contingency situations (normal with all facilities in service)."* How do you respond?

A. The studies performed by UCU do not support this conclusion. And, UCU's studies are superior to the Springfield study for the following reasons: more accurate information and a clear understanding of the facts. The results of the loadflow analysis performed by UCU for the heavy transfer case scenario (pre-contingency) showed zero loading violations and only one voltage violation. The one voltage violation (93% voltage) was for a 69kV bus (Warsaw) that is served radially and certainly has no impact on the interconnected transmission system.

Q. Mr. Russell makes the following statement on page 29 of his testimony: *"the MoPub transmission system...might experience even more criteria violations after UtiliCorp*

integrates the operation of its four pockets of load and generation". How do you respond?

A. In light of the one violation noted on a radial line, it is difficult to reach the same conclusion that Mr. Russell makes. In fact, for this one violation previously noted for the pre-contingency case, the merger of UCU and Empire could actually provide a benefit. The 69kV line that Warsaw is currently located on is a normally open tie with Empire. The interconnection is normally open due to the fact the two systems at this point are 30 degrees out of phase. Following the merger, UCU could decide to move the Warsaw load to the Empire system or to connect the system via a transformer with the appropriate phase shift, thus eliminating the voltage violation.

Q. On pages 30 and 31 of his testimony, Mr. Russell notes alleged loading violations concerning the line from Sibley Generating Station to Duncan (Substation) and from Duncan to Blue Springs East (Substation). How do you respond?

A. UCU is aware that the Sibley to Duncan and Duncan to Blue Springs East line can become slightly overloaded during certain contingencies. UCU currently has an operating procedure in place to reduce the loading on these lines, should these contingencies occur. The operating procedure calls for reduced generation at Sibley and/or increased generation at the Greenwood Energy Center. On a number of occasions, this operating procedure has demonstrated its effectiveness in eliminating the overload situation. There is no reason to believe it will cease to be effective, when the merger is implemented. This operating procedure is effective in eliminating the overload. Obviously, altering UCU's generation dispatch from the most economical is done so at UCU expense and does not provide a limit to other transmission entities. This operating

procedure is also the most economical to UCU's ratepayers. The cost of the altered dispatch is much less than the cost of adding or upgrading facilities.

Q. On page 31 of his testimony, Mr. Russell notes another section of lines that experienced overloads during single contingencies: *"Another group of lines collectively experienced overloading during single line contingencies. These were KCPL's 161kV lines from LR STH to Lake Road, LR STH to Sparta, and Sparta to Nashua. These lines overloaded to 109% of emergency rating during the single outage of...UtiliCorp's lines. They also experienced overloadings during a single outage of...<three of UtiliCorp's lines>, at about 101% of emergency ratings."* How do you respond?

A. Mr. Russell shows his lack of knowledge regarding the transmission system in this area by referring to three lines that do not exist. The busses that Mr. Russell refers to (LR STH and Sparta) are fictional busses that do not exist in the current transmission system. These busses were added by UCU to the load flow models in its transmission study for the purposes of studying transmission interconnection options that were not selected as the preferred option.

More importantly, Kansas City Power & Light Company's ("KCPL") line (LR - Nashua) that Mr. Russell is referring to is a known problem for the area, loaded to 97% of emergency rating at normal peak. Nearly any contingency near this area causes flows on this line to exceed its rating. Currently, KCPL's practice is to open the line when a contingency occurs that would cause it to overload.

Q. On page 31 of his testimony, Mr. Russell answers the question as if UCU has reported these constraints and proposed future reinforcements. He notes UCU's intention to

construct a new power plant and transmission upgrades in the Pleasant Hill area. How do you respond?

A. Once again, I believe that Mr. Russell is a bit confused. The generation to be added at Pleasant Hill, MO and associated transmission system upgrades are not in any way related to the transmission constraints cited by Mr. Russell. While a portion of the Pleasant Hill plant is designated for native load for a period of time, this power plant (referred to as the Aries Plant) is a merchant energy plant. The transmission upgrades mentioned by Mr. Russell are to accommodate the additional generation from the Aries Plant.

Q. On page 32 of his testimony, Mr. Russell describes some violations that would occur following the addition of the new generation: *"Our study of contingencies revealed several criteria violations. The 161kV lines from Pleasant Hill to Lake Winnebago and from Lake Winnebago to Hook Road experienced overloading during the outage of the 161kV line from Greenwood to Lee's Summit."* How do you respond?

A. All the lines noted by Mr. Russell are being upgraded, thus no longer a problem.

Q. On page 9 of his testimony, Mr. Russell makes the following comment: *"Applicants assert that the existing KCPL 161 kV line connecting SJLP's Lake Road generating to KCPL's Nashua Substation (near MoPub's Nashua Substation) is unreliable but is an important feed into Lake Road and the St. Joseph load center. Yet Applicants' studies demonstrate that whether it is purchased from KCPL and upgraded or replaced by Applicants' own 161kV line, that line remains overloaded and has to be taken out of service under heavy transfer conditions."* How do you respond?

A. The results of the UCU analysis (provided to Mr. Russell) regarding the UCU and SJLP Interconnection Study indicates that the preferred alternative *eliminates* any overloading of this line and *does not* have to be opened during heavy load periods. To quote the document (pages 34 and 35):

"1. Reliability Enhancement - The increased transmission capacity between Lake Road and Nashua ***will allow this line to remain closed*** *during heavy load periods,* ***increasing the reliability*** *at both Lake Road and Nashua."*

"2. Increased Transfer Capability - This line is a limiting facility for certain ATC and transfer calculations. Upgrading the capability of this line will result in ***an increased regional ATC*** *of approximately 700 MW."*

Q. On page 10 of his testimony, Mr. Russell comments, *"Applicants present no analysis of an obvious alternative that mitigates the reliability problem: constructing and operating their new line in parallel with KCPL's existing line."* How do you respond?

A. Again, Mr. Russell makes a statement that is contrary to the information provided to him by UCU in the UCU - SJLP Interconnection Study. The alternative that Mr. Russell is looking for is described in Option 2-B described in this report. To quote the report on page 21, *"Option 2-B involves constructing a new 161kV line (estimate and model used 1192 ACSR) in parallel with the existing LR - Nashua line."* Also, it is important to note that Mr. Russell's "obvious alternative" did not fare as well as UCU's preferred alternative either from a reliability or economic standpoint. From a reliability standpoint, this alternative suffers from an outage of the new parallel line. The existing line reverts back to heavy loading for this contingency.

Q. On page 19 of his testimony, Mr. Russell makes the following comments, *"Springfield is concerned that internal dispatch of the merged company that is unpredictable as to magnitude, direction and duration will 'soak up' ATC without warning to other transmission users."* and *"This needless loss of ATC will harm other Missouri utilities, power marketers and their customers."* How do you respond?

A. While it is difficult to estimate the impact of Available Transmission Capacity ("ATC") for every line and situation, several things regarding ATC are known. After the completion of the upgrade to the LR-Nashua line and the construction of the Nevada - Asbury line, ATC's in these regions will be increased, allowing for more firm and non-firm transmission transactions (by all entities). Also, assuming a change in internal dispatch at peak (not necessarily a valid assumption), it is not known whether this change will reduce area ATC. If the change in internal dispatch reverses other flows of native or firm nature, area ATC could actually increase.

Q. On page 19 of his testimony, Mr. Russell outlines his proposed conditions for the merger. Point "b" of his merger conditions requests that the merged companies be required to reserve transmission capacity on the relevant OASIS for purposes of carrying out any internal dispatch. How do you respond?

A. This is an unreasonable request. This condition proposed by Mr. Russell would be extremely difficult to maintain given the hourly nature of generation dispatch. UCU would (in effect) be required to request transmission in varying amounts on an hourly basis in order to economically dispatch the combined systems.

Q. On pages 27-28 of his testimony, Mr. Russell comments that, *"Despite its clear intention to alter dispatch through internal integration of its four separate load pockets, UtiliCorp*

did not provide post-merger load flow cases that reflected altered dispatch as we requested in our original Data Request EDSPR-28." He also states: *"Any transmission system analysis of the post-merger conditions based on the pre-merger dispatch of the Applicants generator capacity will not address, let alone answer, this question."* How do you respond?

A. A post-merger dispatch is not necessary to analyze the transmission system of the merged companies. It's important to remember that a transmission system analysis looks at the estimated system conditions for the one hour that occurs at the system peak. Apparently, Mr. Russell's assumption is that for a summer peak case (as was used in these analyses) the post-merger generation dispatch will vary wildly from the current dispatch of the three separate companies (pre-merger dispatch). This is simply is not a reasonable assumption.

Q. Why?

A. Economic dispatch of generating units is based upon a loading order that demands lower cost generation to be loaded before higher cost generation. During non-peak times, there is a possibility of altered dispatch between the post-merger company and the pre-merger companies. Excess generation in one area can be used to offset more expensive generation in another.

Because none of the involved merging companies have excess generation capacity at peak, the post-merger peak dispatch will not vary significantly from the pre-merger peak dispatch. At peak, all of the available base load generation is on-line and at full output (for both post- and pre-merger conditions), and intermediate cost generation is on-line and likely near full-output (for both post- and pre-merger conditions). The only available

generation for transfer between the companies is likely to be peaking generation, which is provided by only the smallest units. Even then, it is likely that these units are dispatched in similar order for post- and pre-merger conditions.

Q. On pages 33-34 of his testimony, Mr. Russell attempts to show that future flows between the post-merger companies will have a negative impact on the transmission system. He attempts to show that curtailed deals between the current pre-merged companies won't be curtailed after the merger, and this will have a significant impact on the transmission system. *"I analyzed the SPP OASIS curtailment log that contains data on each transaction curtailed in the period from August 28, 1998 to March 31, 2000, (Schedule WAR-4). There are several curtailments of transactions involving the Applicants that may not have been imposed if Applicants had been merged...Two schedules - both from SJLP to MPS (MoPub) in the amount of 10 MW were fully curtailed...A schedule from SJLP to MIPS in the amount of 50 MW was curtailed by 32 MW..."* He also states: *"A repeat of these transactions and conditions after Applicants have merged would almost certainly impose higher costs on entities other than the Applicants because the transactions would be native load network service transactions between Applicants and would neither be reported on an OASIS nor be curtailed.* How do you respond?

A. I do not agree with his conclusions. Two important points need to be made here. First, for a span of approximately 19 months, Mr. Russell was only able to find 52 MW's of total curtailed activity between the pre-merged companies. This is hardly significant curtailed activity that would impose meaningful if even measurable costs on other entities.

Second, Mr. Russell makes the point that these transactions would not have been curtailed in a post-merger scenario. However, without knowing the underlying conditions of the sale, this is not necessarily true. For example, consider a case where SJLP purchases power from the north (use NPPD for this example) and resells it to the south, UtiliCorp's Missouri Public Service ("MPS") operating division, as could very likely have been the case in the 52 MW's of curtailment pointed out by Mr. Russell. Line-loading relief is called for and the SJLP-MPS schedule is curtailed. In the post-merger situation, this would be an NPPD-MPS transaction (no purchase and resale by SJLP). This schedule will load the transmission system in exactly the same way as the pre-merger schedule. If line-loading relief is necessary, this transaction will be curtailed in the same manner as the previous SJLP-MPS schedule. So, there's no difference in the pre-merger and post-merger scenario.

Q. On page 33 of his testimony, Mr. Russell comments, *"I analyzed the load flow data of each Applicant, and performed load flow analyses. However, it appears that St. Joseph L&P reports the same value for both normal and emergency line ratings. This made contingency analysis meaningless."* How do you respond?

A. This is not an accurate statement. The fact that SJLP chooses to not rate their facilities any higher for emergency than normal ratings does not in any way restrict the ability to perform contingency analysis.

Q. Why?

A. Contingency analysis is the process of removing a facility or facilities from the transmission system and observing the system result. In SJLP's case, a line would show an overload at its normal rating as opposed to a slightly higher emergency rating. In fact,

this would be the more conservative approach, identifying potential overloads before they reach emergency status.

Mr. Russell is implying that the mere fact that SJLP's normal and emergency ratings are not different makes contingency analysis meaningless. This is simply not true.

Q. Please explain.

A. If SJLP rated all of its facilities at 100.01% for emergency ratings, the ratings would be different than the normal ratings (and apparently allow Mr. Russell to continue his analysis), but would not provide results any more accurate than having the normal and emergency ratings the same.

Mr. Russell concedes this on page 31 (lines 4-14) of his testimony when he is discussing the "LR - Nashua" line. This line is modeled with identical normal and emergency ratings.

Q. On page 44 of his testimony, Mr. Russell comments that *"Some voltages in the Empire area are more than 10% below nominal in the SPP base case load flow."* How do you respond?

A. This is not an accurate statement. Again, it appears that Mr. Russell does not have his facts straight. A look at the Southwest Power Pool ("SPP") 2001 Summer Peak model reveals that the lowest bus voltage in the Empire system is 92% (8% below nominal) and this occurred on a 34kV bus. Five busses in the Empire System exhibited bus voltages below 95% (but still above 90%) and these were all 34kV busses. No busses at 69kV or above exhibited bus voltages less than 95%.

Q. On page 44 of his testimony, Mr. Russell comments that the current SPP standard is to maintain within plus or minus 5% of nominal when more probable contingencies occur. Is this the current SPP standard?

A. Yes. However, it is important to note that SPP is in the process of changing this standard to 10%.

Q. On page 45 of his testimony, Mr. Russell makes the following recommendation: *"I recommend that Applicants commit to establish and implement a single standard for transmission system design and operation for the entirety of the merged company and to comply with the Southwest Power Pool Criteria."* How do you respond?

A. We will comply with the criteria for planning, design, and operation of the RTO that we join. In our filed May 19, 2000 comments to FERC, we indicated that there are two viable choices: the Midwest ISO or the SPP RTO. Our intent as a merged company is to comply with the RTO to which we become a member.

Q. In his testimony, Mr. Russell makes repeated references to UCU's lack of commitment to build facilities as noted in their interconnection studies. Is UCU committed to building these facilities?

A. As stated in my direct testimony, UCU originally wanted to pursue all available options, including the possibility of obtaining network service from SPP. UCU is now committed to building the necessary facilities to interconnect the merged company as described in the UCU - SJLP Interconnection Study and the UCU – Empire Interconnection Study.

Q. Does this conclude your surrebuttal testimony?

A. Yes it does.

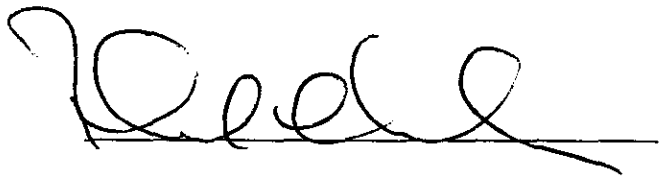
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Joint Application of UtiliCorp United Inc. and St. Joseph Light & Power Company for Authority to Merge St. Joseph Light & Power Company with and into UtiliCorp United Inc., and, in Connection Therewith, Certain Other Related Transactions.	)))))))	Case No. EM-2000-292

County of Jackson)
)
State of Missouri)

AFFIDAVIT OF RICHARD C. KREUL

Richard C. Kreul, **being first duly sworn,** deposes and says that he/she is the witness who sponsors the accompanying testimony entitled surrebuttal testimony; that said testimony was prepared by him/her and or under his/her direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he/she would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his/her knowledge, information, and belief.



Subscribed and sworn to before me this 20th day of June, 2000.

Linda C. Howell
Notary Public

Linda C.Howell
Notary Public-Notary Seal
State of Missouri
Jackson County
My Commission Expires: May4, 2004

My Commission expires:

May 4, 2004