Exhibit No.:	
Issue:	System Support Agreement
Type of Exhibit:	Supplemental Rebuttal
Witness:	Daniel I. Beck
Sponsoring Party:	MoPSC Staff
Case No.:	EM-96-149

MISSOURI PUBLIC SERVICE COMMISSION

POLICY & PLANNING DIVISION

UNION ELECTRIC COMPANY

CASE NO. EM-96-149

SUPPLEMENTAL REBUTTAL TESTIMONY

OF

DANIEL I. BECK

Jefferson City, Missouri
May, 1996

****Denotes Proprietary Information****

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Exhibit No. 12
Date 9-5-96 Case No EM-96-149
Reporter KF

SUPPLEMENTAL REBUTTAL TESTIMONY

OF

DANIEL I. BECK

UNION ELECTRIC COMPANY

CASE NO. EM-96-149

Q. Please state your name and business address.

A. My name is Daniel I. Beck and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. Are you the same Daniel I. Beck who has previously filed rebuttal testimony in this case?

A. Yes, I am.

Q. What is the purpose of your supplemental rebuttal testimony?

A. The purpose of my supplemental rebuttal testimony is to address the revisions that Union Electric (UE) and Central Illinois Public Service (CIPS) are proposing to the 30 year System Support Agreement (SSA) filed on November 7, 1995 in the instant case.

Q. Has this alternative to the 30 year SSA been filed in this case?

A. Yes. On May 10, 1996 UE witness Maureen A. Borkowski filed supplemental direct testimony regarding the SSA.

Q. Was the alternative SSA addressed by Ms. Borkowski in her supplemental direct testimony the same option that you referred to in your rebuttal testimony as the 10 year SSA?

A. Yes. This SSA would have a 10 year term and would provide the same energy and capacity for the first 5 years as the original 30 year SSA. During the last 5 years of the 10 year SSA, the contract capacity and energy would be phased out in equal increments.

The supplemental direct testimony of witness Borkowski also pointed out that two provisions in the 30 year SSA would not be part of the 10 year SSA. These provisions deal with the reduction in contract capacity and energy due to loss of load and due to the retirement of any UE generating units.

Q. Is this 10 year SSA option still conditioned by UE on the Missouri Commission's and the Illinois Commerce Commission's acceptance of (1) the proposed revisions just noted by you and (2) the SSA rates which are set by the Federal Energy Regulatory Commission (FERC)?

A. Yes. Both this Commission and the Illinois Commerce Commission (ICC) must accept the terms of the 10 year SSA and the resulting rates as determined by FERC. UE also pointed out the fact that both Commissions would retain the right to participate in the FERC rate setting process.

Q. Did UE perform any analysis of the economic impact of this 10 year option?

A. Yes. The purpose of this analysis was to quantify the economic effect on Missouri ratepayers for the 30 year SSA and the 10 year SSA. UE designed two alternative resource plans for Missouri; one plan included the 30 year SSA and the other plan included the 10 year SSA. UE's analysis showed that the present value of revenue requirements (PVRR) of the 10 year SSA plan is $30 million to $50 million less than the 30 year SSA plan on a cumulative basis through the year 2010. Simply put, the cost of generation resources to serve Missouri ratepayers would be $30 million to $50 million less for the 10 year SSA plan than for the 30 year SSA plan..

Q. Your rebuttal testimony stated that both the 30 year SSA and 10 year SSA were contracts between UE and CIPS to supply energy and capacity for UE's current Illinois customers. Does the 10 year SSA plan result in benefits to the Missouri jurisdiction?

A. Yes. Under UE's analysis, Missouri would benefit from the availability of the capacity which was originally acquired by UE to meet the needs of its Illinois retail customers. For the first 5 years of both SSAs, the Missouri jurisdiction would see no costs or benefits from either plan. However, as the Missouri jurisdiction continues to experience load growth, UE's analysis shows that the Missouri jurisdiction will benefit from the 10 year SSA plan by utilizing the returned capacity instead of purchasing new combustion turbine (peaking) capacity.

Q. What is the importance of UE's PVRR calculations to Missouri ratepayers?

A. PVRR is a measure of the total cost that Missouri ratepayers would have to pay for electricity over the next ten years under two sets of assumptions. First, in both the 10 year and 30 year SSA plans, UE has made certain assumptions regarding load growth, the cost of new plants, and the operation and maintenance costs for both existing and new plants. The only sensitivity analysis that UE performed in its study was to consider two different estimates ($375/kW and $432/kW) for the installed cost of a new combustion turbine (CT; CTs are used as peaking units). The range of $30 million to $50 million in PVRR difference is the result of the two different estimates for the cost of this new peaking unit. Second, both resource plans make the assumption that wholesale and retail regulation will continue in its current form where UE has an exclusive franchise to serve its existing customers.

The remainder of my supplemental rebuttal testimony is divided between a review of assumptions made by UE which affected its calculation of PVRR and a consideration of what deregulation of wholesale and retail sales may mean for UE's SSA proposals.

UE'S RESOURCE PLAN ASSUMPTIONS

Q. Do you agree with UE assumption that the installed cost of a CT is uncertain?

A. Yes. I also believe that the installed cost of a CT could go even lower than UE has estimated. A lower installed cost for a new CT would reduce the advantage of the 10 year SSA over the 30 year SSA. The reason for this is that any load growth that cannot be met by existing generation requires the addition of new generation. In the 30 year SSA plan, more new generation is needed than in the 10 year SSA plan. This is because the generation sold as a wholesale transaction to serve CIPS's (formerly UE's) Illinois customers is released back to UE in increasing increments over the last 5 years of the 10 year SSA plan, and is therefore available to serve Missouri load growth. Thus, in the 30 year SSA plan, UE must add more new generation than in this 10 year SSA. The generation chosen by UE in the 30 year SSA plan to serve Missouri load growth is new combustion turbines.

Q. Does your belief that the cost of a new combustion turbine could be lower than what UE has assumed cause you have to doubts concerning the projected lower cost to Missouri ratepayers of the 10 year SSA plan compared to the 30 year SSA plan?

A. No. To put this in perspective, if all other assumptions made by UE in its PVRR calculation were held constant, the installed cost of a new CT would have to be lower than to $268 per kW in 1996 dollars to result in the 30 year SSA plan costing less to Missouri ratepayers than the 10 year SSA plan. I believe that it is very unlikely that the installed cost of a CT will be lower than $300 in 1996 dollars in the future, and therefore, I do not believe that the cost of a new CT is likely to go as low as $268 per kW in 1996 dollars.

Q. Are any of UE's other assumptions subject to uncertainty?

A. Yes, all assumptions about the future are to some degree uncertain. However, for purposes of this analysis, UE did not quantify the risks of any other uncertainty. I believe that the primary reason that UE did not quantify the risks of any other uncertainty was the limited time and human resources available between the time that the ICC staff filed its testimony rejecting the 30 year SSA and the date UE filed of the 10 year SSA alternative. However, the mere fact that the uncertainties were not quantified does not reduce the risks associated with the 10 year SSA or mean that they are not significant.

Q. Has the Commission addressed the uncertainty regarding electricity utility resource planning?

A. Yes. In the Commission's Electric Utility Resource Planning Rules, 4 CSR 240-22, a methodology has been defined that provides guidelines for resource planning. Rule 4 CSR 240-22.070, Risk Analysis and Strategy Selection, states as its purpose:

> This rule requires the utility to identify the critical uncertain factors that affect the performance of resource plans, establishes minimum standards for the methods used to assess the risks associated with these uncertainties and requires the utility to specify and officially adopt a resource acquisition strategy.

This rule outlines a method for identifying which uncertain factors are critical and for assessing the impact of the critical uncertain factors that were identified. I do not believe that UE has identified the critical uncertain factors related to the 10 year SSA and, therefore, UE has not assessed the impact of the critical uncertain factors .

Q. In your opinion, are there any uncertain factors other than the cost of a new CT that are likely to be critical?

A. Yes. Based on my judgment and experience, the uncertainty associated with the load forecast appears likely to be significant and therefore the load forecast likely qualifies as a critical uncertain factor.

In UE's 1995 Resource Plan, filed with this Commission in Case No. EO-94-178 on July 10, 1995 and also filed with the ICC, UE estimated that the load forecast for the next 20 years is expected to grow by 1%. However, UE also estimated due to economic and demographic factors that there is a 15% probability that the load forecast could experience no growth and a 15% probability that UE could experience a growth rate of 1.8%. This means that by 2002, the first year of the 5 year phase out, the load growth could be approximately 400 MW below or 400 MW above UE's base load forecast. The need for the capacity that would be returned to UE through the 10 year SSA could almost be eliminated if load growth does not occur or could be double that returning from the 10 year SSA if high load growth of 1.8% occurs.

The importance of the level of the load forecast is highlighted by the fact that while UE used a 15% reserve margin for 1996 and 1997, UE used an 18% planning reserve margin for all subsequent years. The reserve margin is the amount of capacity beyond the projected peak demand that the utility must have to ensure reliability. This 3% difference in reserve margin equates to over 200 MW of capacity. Although the Ill-Mo interconnection pool encourages the use of an 18% planning reserve margin for long range planning, the Ill-Mo interconnection pool requires that a 15% reserve margin is maintained by UE to meet the current demand. Utilities commonly use the 15% reserve margin for short-term planning (one to two years into the future).

Q. Is the Staff questioning the use of the 18% planning reserve margin for long range planning?

A. No. However the Staff is concerned about committing to resources that will not be available for 5 to 10 years (the returned capacity from the 10 year SSA) based on the 18% planning reserve margin. When I refer to "committing to resources", I am trying to distinguish the activities associated with planning to purchase from the actual commitment with another party to make that purchase.

Q. Why would a planning reserve margin be different than the pool required reserve margin?

A. I believe that the difference is mainly due to the fact that it is easier to scale back plans than it is to meet needs which were not planned for. Therefore, the 18% planning reserve margin is used to determine the timing of the next generating capacity addition to ensure that UE does not find itself short of capacity.

Q. Has Staff performed any analysis that might quantify the effects of a 15% reserve margin used for both short-term and long-term planning?

A. Yes. Staff used the spreadsheets that UE provided and assumed a 15% reserve margin for all years. For the 30 year SSA plan, the number of CTs needed to meet the lower reserve margin was reduced substantially. For the 10 year SSA plan, the number of CTs needed to meet the lower reserve margin was only reduced by one unit, which is all that it could have been reduced by because the original plan to meet the 18% reserve margin only contained one CT to be added. The comparison of the resulting estimates of PVRR show that when a 15% reserve margin is used, the PVRR from the 10 year SSA plan exceeds the PVRR of the 30 year SSA plan by approximately $30 million on a cumulative basis through the year 2010 rather than the $30 million in benefits on a cumulative basis through the year 2010 when an 18% reserve margin is used.

Q. Are there any factors that might offset the higher cost of the 10 year SSA plan under the assumption of a 15% reserve margin?

A. Yes. The most obvious factor is that during the phase-out years of the 10 year SSA, the 10 year SSA plan would have an average of 198 MW of excess capacity while the 30 year plan would have an average of 64 MW of excess capacity. If the excess capacity for each plan were sold on the open market at the price of a CT, the higher cost of the 10 year SSA plan over the 30 year SSA plan would likely be substantially reduced and possibly even reversed.

Additional revenues from energy sales that will likely be available from the returned units could also reduce the higher cost of the 10 year SSA plan under the assumption of a 15% reserve margin. UE expects that future needs will be for peaking capacity and since much of the returning capacity from the 10 year SSA plan will be base load, UE has the potential to earn additional profits on energy sales from this capacity. These additional profits from energy sales could be realized even if capacity sales are not made.

Q. Did you quantify the revenues and profits from capacity and energy sales that might offset the higher cost of the 10 year SSA plan under the assumption of a 15% reserve margin?

A. No, I did not attempt to quantify the revenues and profits from any capacity and energy sales.

Q. Is UE asking the Commission to commit to the capacity that is returning during the phase out of the 10 year SSA to meet the load growth of the Missouri jurisdiction?

A. Although UE's testimony did not specifically ask for this commitment, the work papers that document UE's analysis of the 10 year SSA plan lead Staff to believe that UE is implying that this commitment is being asked for in seeking the Commission's approval of the 10 year SSA plan.

Q. Would you recommend that the Commission commit to a preapproval of the capacity that is returning during the phase out of the 10 year SSA to meet the load growth of the Missouri jurisdiction?

A. No, I cannot make this recommendation for several reasons. First, in its review of electric resource plans, the Commission does not preapprove the utility's decisions to acquire resources. Second, the preapproval of the capacity that is returning during the phase out of the 10 year SSA would be equivalent to using a 5 year lead time to commit to peaking capacity that normally would not require more than 3 years lead time. Third, UE has not conducted a complete analysis of the risks involved with the 10 year SSA. Until a risk analysis is performed that meets the Commission's standard as specified in 4 CSR 240-22.070, I do not believe that a recommendation should be made. Finally, if the type of analysis performed by UE has been very convincing with respect to the future benefits for Missouri retail ratepayers, I may have waived my other concerns in order to provide those customers with overwhelming benefits. However, my analysis of the benefits from the 10 year SSA indicate that there is substantial likelihood for both negative as well as positive benefits.

Q. Would you oppose UE's entering a 10 year SSA agreement with CIPS if the risks of the returning capacity were accepted by UE?

A. If UE wants or is willing to take on those risks, then I would not oppose the 10 year SSA. Taking on the risks of the 10 year SSA means that if the market price for electricity is lower than UE's embedded average costs, then Missouri retail customers would not be charged more than market price for electricity. It also means that if the market price for electricity is higher than UE's embedded average costs, Missouri retail customers would still pay market price for the returned capacity and UE and potentially UE's Illinois retail customers would benefit from having generation, the embedded cost which is below its market value.

Q. UE witness Borkowski stated that UE and CIPS are willing to consider a shorter term for the SSA. Is your view of a shorter term for the SSA likely to be the same as your view of the 10 year SSA?

A. Yes. A shorter term SSA would likely increase the excess capacity that already averaged 198 MW for the phase-out period of the 10 year SSA under the assumption of a 15% reserve margin. However, I am willing to consider any proposal that might be made.

UE'S INDUSTRY STRUCTURE ASSUMPTIONS

Q. What assumption does UE's comparison of the 10 year SSA resource plan to the 30 year SSA resource plan make regarding the structure of the electric industry?

A. It is only in the context of embedded cost regulation that a comparison of PVRRs is meaningful. Therefore, both of UE's resource plans implicitly assume that the charges to ratepayers (wholesale and retail) will continue to be based on embedded costs at least to the year 2010.

Q. In your opinion, is the assumption of continued embedded cost regulation for both wholesale and retail customers to the year 2010 realistic?

A. No, this assumption regarding the structure of the electric industry has become less and less likely in recent years. Two recent events have highlighted the fact that this assumption is not realistic. First, in its recent Order 888, the FERC has given transmission open access to all wholesale customers. This means that UE's Missouri wholesale customers will be able to contract with providers of generation other than UE. Second, there is current legislation being discussed in the U.S. Congress that would require the deregulation of retail sales. Regardless of what Congress may do, retail competition may occur by other means. In the event of deregulation of retail sales, this Commission would have to address the question of stranded cost recovery of retail assets. Generation capacity returned to Missouri through the 10 year SSA resource plan would represent, if not needed and cost effective to meet UE's retail demand, an addition to "stranded costs" which would need to be addressed.

Q. What do you mean by stranded costs?

A. In the event of the competitive generation of electricity, a market price will be determined. If this market price is below the embedded average cost of electricity for the utility, and if customers buy from the utility at market price, then a portion of the utility's embedded average cost would not be recovered. This unrecovered difference between embedded cost and market price is called the utility's stranded costs.

Q. Is it likely that UE will have stranded generation costs?

A. The likelihood of UE having stranded generation costs depends on the probability assigned to various estimates for the competitive price of electricity. One possible estimate for competitive energy cost would be obtained by pricing energy at UE's short-run marginal cost and including the cost of capacity with reserves at the price of a combustion turbine.

Q. Have you made this type of estimate?

A. Yes, I have made a fairly rough calculation of UE's estimate of the cost of a combustion turbine ranges from slightly over ** ** to slightly less than ** **. From the workpapers supporting Ms. Borkowski's supplemental direct testimony, the embedded cost of UE's current generation capacity (including reserves) is slightly under ** **, but UE's average energy costs range from ** ** lower than its marginal energy costs. Applying this difference as an offset to UE's embedded generation capacity cost would reduce these costs from ** ** to between ** **.

Q. Given the possibility of stranded costs associated with the generation that UE built to serve Illinois retail ratepayers, what is your recommendation on the 10 year SSA plan?

A. Missouri retail ratepayers should not bear any risk of the stranded costs associated with generation built to serve UE's Illinois retail ratepayers. If UE's stranded generation costs turn out to be positive, then Missouri retail ratepayers should not have to bear the burden of those costs. Therefore, I recommend that if the Commission accepts the 10 year SSA plan, that it be subject to the condition that Missouri retail ratepayers be held harmless for any stranded generation costs associated with the return of UE generation capacity from the phase out of the sale of capacity and energy to CIPS.

Q. Does the Staff have any other specific conditions that should be required by the Commission, should the Commission decide to accept the 10 year SSA?

A. Yes. In my rebuttal testimony I identified 5 conditions for the approval of the Joint Dispatch Agreement. The first 4 conditions were intended to cover the 30 year SSA, but my rebuttal testimony may not be completely clear regarding this. These 4 conditions in addition to the above condition should apply to the 10 year SSA.

Q. Does this complete your supplemental rebuttal 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 for an order authorizing: (1) certain merger transactions involving Union Electric Company; (2) the transfer of certain assets, real estate, leased property, easements and contractual agreements to Central Illinois Public Service Company; and (3) in connection therewith, certain other related transactions.	)	CASE NO. EM-96-149

AFFIDAVIT OF DANIEL I. BECK

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Daniel I. Beck, of lawful age, on his oath states: that he has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 14 pages of testimony to be presented in the above case, that the answers in the attached written 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.

Daniel I. Beck

Daniel I. Beck

Subscribed and sworn to before me this 21st day of May, 1996.

Rosemarie Riedl

Notary Public

ROSEMARIE RIEDL
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY

My commission expires MY COMMISSION EXPIRES JUNE 1, 1997