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Issues: *Stipulation And Agreement Regarding Fuel and Purchase Power Expense*
Witness: *Cary G. Featherstone*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY IN SUPPORT OF THE STIPULATION AND AGREEMENT REGARDING FUEL AND PURCHASE POWER EXPENSE

CARY G. FEATHERSTONE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2001-299

Jefferson City, Missouri
May 2001

DIRECT TESTIMONY IN SUPPORT OF

STIPULATION AND AGREEMENT REGARDING

FUEL AND PURCHASED POWER EXPENSE

CARY G. FEATHERSTONE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2001-299

Q. Please state your name and business address.

A. Cary G. Featherstone, 3675 Noland Road, Independence, Missouri.

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

A. I am a Regulatory Auditor with the Missouri Public Service Commission (Commission).

Q. Are you the same Cary G. Featherstone who has previously filed direct and surrebuttal testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to provide support for the Stipulation And Agreement Regarding Fuel and Purchased Power Expense (Stipulation And Agreement, Stipulation or Agreement). This Stipulation was filed with the Commission on May 14, 2001 by the Empire District Electric Company (Empire or Company), the Office of Public Counsel (Public Counsel) and the Staff of the Missouri Public Service Commission (Staff). All parties to this case, with the exception of intervenor Praxair, Inc. (Praxair), support the Stipulation. Praxair indicated on May 10, 2001, that it would

not be a signatory to this Agreement. On May 18, 2001, Praxair requested a hearing indicating that it opposed this Agreement.

Q. What is the Stipulation on fuel and purchased power?

A. This Stipulation describes an approach that allows higher fuel and purchased power prices to be used in determining interim rates in this case that will be subject to refund with interest. The amount of the fuel and purchased power costs that are in interim rates and subject to the true-up process is called the Interim Energy Charge. Specifically, the Agreement envisions that base amount of fuel and purchased power costs are established in permanent rates, with an additional amount of fuel and purchased power costs set in interim rates. Paragraph 4 of the Stipulation states the following:

> The signatories agree that resolution of the fuel and purchased power expense issues in this case has been achieved as between themselves by the inclusion of a specific amount in the cost of service on a permanent (i.e., not subject to refund) basis and by the inclusion of another additional amount on an interim and subject to true-up and refund basis. The specific amount to be included in the Missouri jurisdictional cost of service on a permanent basis is $91,599,932. This figure is meant to encompass all retail Missouri jurisdictional charges accumulated in the FERC account numbers 501, 547 and 555 and will be updated in the August 2001 true-up portion of this case. The other portion, referred to herein as an "Interim Energy Charge," is explained in more detail herein and generally is designed to attempt to address the potential volatility in natural gas and wholesale electricity prices. This Interim Energy Charge ("IEC") will be reflected separately on all Empire Missouri rate schedules. The revenue from the IEC will be collected on an interim and subject to true-up and refund basis under the terms of this Agreement. This Agreement does not attempt to determine the rate design or the overall revenue requirement in this case.

Q. How did Staff determine fuel and purchased power costs for fuel expenses in prior Empire rate cases?

A. Staff traditionally has used actual fuel and purchased power prices to determine the level of fuel expenses included in the development of the revenue requirement. Fuel costs include the cost of coal, oil and natural gas. Staff witness V. William Harris identifies the reasons Staff used actual historical averages for these costs in his direct and surrebuttal testimonies filed in this proceeding. Fuel costs also include the amounts for purchased power. Staff witness Leon Bender determined the amounts of purchased power costs in his direct and surrebuttal testimonies filed in this case.

The development of the fuel and purchased power costs typically has relied substantially on the actual historical information on the generating facilities and their operational costs. It is very difficult to predict or forecast future costs, especially for fuel. Because of the volatility in prices, it is even more difficult to predict the prices for fuels burned in the Company's generating facilities and the cost of energy purchased through the interchange markets, either through a capacity agreement or spot purchase.

Q. Is the cost of natural gas difficult to forecast?

A. Yes. Along with purchased power costs, the volatility in natural gas costs is probably the most difficult to predict with any certainty. Natural gas markets have historically been quite volatile, but in the recent past they have been even more volatile. No one can predict with a reasonable degree of certainty, the natural gas prices that utilities will pay in the future to fuel their power generating facilities.

An example of the volatility of natural gas prices can be seen by comparing the recent natural gas prices identified by Empire witness Stan M. Kaplan. The following table illustrates the wide fluctuations in the natural gas markets:

Date Month/Year	Kaplan's Schedule SMK-3 Empire's Interim Filing	Kaplan's Schedule SMK-4 Empire's Rebuttal Filing	Wall Street Journal May 21
March 2001	$5.51	----	----
April	$5.48	----	----
May	$5.45	$4.55 (cash price)	$4.15 (cash price)
June	$5.46	$4.48	$4.113
July	$5.48	$4.55	$4.193
August	$5.50	$4.62	$4.275
September	$5.47	$4.66	$4.305
October	$5.48	$4.70	$4.343
November	$5.56	$4.88	$4.523
December	$5.66	$5.05	$4.703

[Source: Stan M. Kaplan's rebuttal schedule SMK-4 filed on May 3, 2001, in Case No. ER-2001-299; Empire's interim case SMK-3 filed in February 2001 in Case No. ER-2001-452 and May 22, 2001 issue of The Wall Street Journal]

The above amounts represent the natural gas prices only and do not reflect any transportation charges necessary to deliver the fuel to Empire's generating units. The above illustrates the significant increase in this fuel from historical levels of between $2 and $3 per MMBtu (delivered costs) and also shows the vast fluctuations in the recent prices. While Empire witness Kaplan predicts higher natural gas prices from the actual historical levels incurred by Empire, the current market prices do show some signs of retreating from the unprecedented levels of the past winter.

Q. When Staff filed its direct case in April 2000, did it believe the use of actual fuel and purchased power cost components were reasonable?

A. While Staff has used historical averages in the past, because of the extreme volatility in the natural gas markets during the past several months, Staff has

been less confident about using historical levels to develop prices for natural gas costs. In the early 1980s, the Commission authorized the use of a forecasted fuel mechanism for several electric utilities that had been exposed to escalating fuel costs. This mechanism was used to address extraordinary circumstances and Staff believed that a similar approach could be used to address the unprecedented, volatile and extremely high costs of natural gas today.

Staff, early in the audit of Empire, believed that it would be advisable to attempt to develop an alternative approach to address the unprecedented and extreme volatility found in the natural gas market. Staff approached Empire to see if it had any interest in developing a mechanism that would be subject to a true-up audit with rates subject to refund with interest. The Company indicated that it would like to examine the possibility of developing such an approach.

Q. Why wasn't this approach identified in Staff's direct filing?

A. Staff believed that a base rate using historical averages could be used in its initial direct filing but wanted to seek input from the parties toward developing a forecasted fuel mechanism. Staff believed that rather than filing its position on forecasted fuel as a direct case, it would be better to have a free and open discussion during the prehearing conference among all of the parties to see if a consensus could be achieved on this issue. During the prehearing conference held during the week of April 16th, all the parties participated and provided input in the development of what became known as the "Interim Energy Charge." During the prehearing conference, Empire, Public Counsel and Staff reached an agreement in principle identifying a base and forecasted rate for all fuel and purchased power costs. The interim amount would be

subject to a true-up audit to reflect actual cost levels, with a refund provision with interest for any over-collection. Subsequent to the prehearing conference, the parties engaged in intense negotiations which resulted in the Agreement that was filed with the Commission on May 14th. Empire, Public Counsel and Staff signed the Agreement. Prexair is not a signatory to the Agreement and has indicated it will oppose the use of the Interim Energy Charge as developed by the signatories.

Q. Please explain why it became necessary to develop the Interim Energy Charge.

A. Just as fuel prices were uncertain in the 1980s, they have become even more volatile and less predictable in the recent past. Initially, Staff was interested in developing a forecasted fuel process that identified natural gas as the only fuel source that would form the basis for the forecasted fuel mechanism. After extensive discussions with the parties, it became apparent that a broader forecasted fuel mechanism would be necessary because of the interrelationship between gas prices and wholesale electricity prices for purchased power. With the unprecedented and extraordinary high natural gas prices that have been experienced during much of the latter part of year 2000 and the early part of 2001, it became apparent that using a traditional and historical approach to determine fuel prices in this rate case needed modification. A major contributing factor to the decision to depart from using historical costs only to determine the basis of the fuel prices used for fuel expense was the plant addition of State Line Combined Cycle Unit. The State Line Combined Cycle Unit is expected to be in service in June 2001. This generating facility will burn only natural gas and therefore represents a significant increase to Empire's fuel burn using natural gas. Empire's exposure to the increase in

natural gas fuel burn comes at a time that natural gas fuel prices have risen substantially. This has placed significantly more risk on Empire than on any of the other electric utilities operating in the state of Missouri.

An example of the risk to Empire is a comparison of the fuel burns for natural gas if the Combined Cycle is operating and when the Company operated without that unit. Without the Combined Cycle, Empire's natural gas fuel burn is approximately 21 percent and increases to almost 34 percent when that unit is considered in the fuel mix comparing Empire's three fuel sources — coal, oil and natural gas. When comparing the total fuel burns including purchase power, the generation from natural gas is 9 percent without the Combined Cycle Unit increasing to over 21 percent when that unit becomes operational. Another way of identifying the significance that the Combined Cycle Unit has on the operations of Empire is to compare the total generation from natural gas prior to the operations of that unit with the burns after the unit becomes operational. Empire burned, in the fuel runs developed in this case for natural gas, 6.4 million MMBtus without the Combined Cycle. When the Combined Cycle Unit is operating, that amount increases to 12.3 million MMBtus. This represents almost a doubling of the natural gas Empire will burn in its generating units as a direct result of bringing the Combined Cycle Unit into operation. This is a significant increase in the reliance on natural gas as a fuel source at a time when price for that fuel is at an all time high.

Q. Does the natural gas market have an effect on the prices paid for purchased power?

A. Yes. Equally important are the effects high natural gas prices have had on the purchased power market. With escalating natural gas prices, the purchased power

costs have also increased. There is a relationship between gas costs and purchased power costs. However, if a forecasted fuel process was used that did not include purchased power costs, the utility could potentially benefit from forecasting natural gas only. The forecasted natural gas prices may make the purchased power prices more economical, giving the utility an incentive to purchase power and not generate power by purchasing natural gas. In other words, the utility could "game" or benefit from such a situation. The inclusion of purchased power costs along with the other fuel cost components in the forecast fuel process will significantly reduce the risk of the process being taken advantage of. It is not the intent that either the utility or its customers unduly benefit from the forecast fuel process. This fuel and purchased power mechanism cannot be used to allow utilities to reap windfall profits, nor can this process allow customers to unduly benefit from being totally insulated from the rising fuel and purchased power costs.

Q. Has the Combined Cycle Unit increased the risk to Empire with respect to its use of natural gas as a fuel source?

A. Yes. The increased risk to Empire can be illustrated by the shift in natural gas fuel cost on a pre- and post-Combined Cycle Unit basis. Using the natural gas burn volumes developed by the fuel model, an amount between $20 and $30 million was estimated to be the swing from the base and forecast levels. If the estimates for natural gas fuel cost are missed by this amount, the potential for Empire either to receive a windfall or to incur shortfall in costs would be substantial. If Empire over-collected in its fuel cost by this estimate, the customers would be paying significantly greater rates than they should. On the other hand, if the forecast in fuel cost was under-stated, then Empire would under-collect its fuel cost in rates resulting in a significant shortfall. If these

shortfalls were on the order of the $20 to $30 million, that would wipe out an entire year of net earnings for the Company. In the year 2000, Empire had a net income of $23.6 million and in 1999 its net income was $22.2 million. The greater reliance on natural gas with the unprecedented high cost of that fuel places Empire in a difficult situation. It was believed that some type of forecasted mechanism was necessary to protect both the customers and the Company during this extraordinary period of high natural gas fuel cost.

Q. How will the Interim Energy Charge work?

A. The Interim Energy Charge requires the establishment of a base amount for fuel and purchased power cost that would be set as part of permanent rates. The Interim Energy Charge then identifies an amount of fuel and purchased power cost above the base cost and up to a "forecasted" price that would be subject to refund. This interim charge would be in effect for a period of up to 24 months from the effective date of the rates determined in this case. At the conclusion of this period, a true-up audit would be performed to identify actual cost for fuel and purchased power to determine if Empire over- or under-collected amounts during this period. If the Company over-collected its actual cost for fuel and purchased power up to the interim amount, then it would refund to its customers with interest. Of course, if Empire under-collected costs associated with fuel and purchased power, the Company would not have to refund any amounts. Staff witness James C. Watkins testimony also provides support for how the Interim Energy Charge is intended to work.

Q. Is there an advantage to adopting the Interim Energy Charge?

A. Yes. The Interim Energy Charge alleviates the need to pinpoint fuel prices used in the development of fuel and purchased power cost. Because any amounts over-collected are subject to refund with interest, the pressure to predict price increases for the fuel components at Empire is significantly reduced. A good deal of the risk of missing the forecast is neither on the Company nor on its customers. Staff believes that it is a distinct advantage to be able to have a mechanism that allows recovery of any over-collection of costs back to Empire's customers. In essence, this approach provides a "safety net" for both Empire and its customers if the cost levels are missed. Staff does not believe this mechanism is appropriate for normal economic circumstances and still supports the use of actual historical information. But when we see dramatic cost volatility, such as those seen recently in the natural gas industry, and the potential impact is so great on a particular Company, this type of approach can be used effectively.

Q. Have forecasted fuel mechanisms been used in past cases?

A. Yes. Forecasted fuel with a true-up provision was used in several electric cases in the early 1980s. This process was developed as a result of high fuel prices which came about from the two oil embargoes in the 1970s. The forecasted fuel mechanism was developed and used as a means of addressing the rising fuel prices that the electric utility industry was experiencing. There were two significant features that enabled the forecasted fuel mechanism to work: 1) the forecasted fuel prices and resulting fuel burns were developed in the context of a rate case; and 2) there was a true-up audit of the forecasted fuel prices with a refund provision.

Several forecasted fuel true-up cases were used in the 1980s. Kansas City Power and Light Company (KCPL) was the first utility to use this process. In each of KCPL's

rate cases in 1981, 1982 and 1983, the forecasted fuel process was used. The following table identifies the rate cases where forecasted fuel was used along with the associated forecasted fuel true-up case number:

	Rate Case	Forecasted Fuel True-up Case
Kansas City Power and Light	ER-81-42	----
	ER-82-66	EO-83-9
	ER-83-49	EO-84-4

In fact, Empire used this process in one of its rate cases in the early 1980s. Several other utilities used this process during the high inflationary period of the early part that decade, as well.

Q. How did the forecasted fuel process work?

A. A forecasted level of fuel prices for coal and natural gas was determined in the rate case. The period of the forecast fuel prices was six months after the operation of law date of the rate case. When actual fuel prices became known, the Staff did a true-up audit to determine if the utility over- or under-collected in the forecasted fuel mechanism. The forecasted fuel cost was subject to refund with an interest provision for any amounts over-collected by the company. The tariffs filed by the Company in the rate case were identified with a "subject to refund" provision. If the company over-collected any dollar amounts up to the forecasted fuel price, the customers received a credit to their bills. The company was allowed to keep any amounts that were under-collected up to the forecast amount. Any amount that the company under-collected over the forecast level was absorbed by them. The forecasted fuel price set a maximum and minimum fuel price in rates. The base or permanent rates contained the base fuel price and the amount that was subject to refund was set at the forecasted fuel price. Fuel prices were set at the base

level and the true-up could not go below that level once these fuel prices were set in the rate case.

Q. Previous forecasted fuel true-ups appear to only have included forecasts for coal and natural gas costs. How do the signatory parties propose that the mechanism be used in this case?

A. While forecasted fuel was previously developed to include only coal and natural gas, the Stipulation reached between the signatory parties in the current Empire rate case relates to all components of fuel cost and purchased power costs. Just as the forecasted fuel mechanism in the 1980s relied on inputs and assumptions developed during the course of the respective rate cases, the fuel components in the interim energy provision have been established during the course of the audit in this case. Even though the Company and Staff have developed two different fuel models with two different sets of assumptions, the resulting overall outputs of the fuel runs were very close to one another. These models formed the basis of the amount determined as the base rate of $20 per megawatt hour. Staff developed two different fuel models. The first fuel model was a business-as-usual model using the inputs of Empire's historic generation without the State Line Combined Cycle Unit in operation. This model also the capacity purchased power agreements that were in effect during the year 2000 but will expire May 31, 2001. The second fuel run that Staff developed included the results of State Line Combined Cycle as though it had been operated for a full year. Also, the capacity purchase agreements that will expire May 31 were not included in this fuel run. Certain assumptions were made with respect to the level of natural gas prices as a model input. This fuel run produced an amount in excess of $25 per megawatt hour and formed the

basis of the forecasted level that was used to determine the $5 per megawatt hour increment of 1/2¢ per kilowatt hour. The forecasted level of $25 per megawatt hour, represents 2-1/2¢ per kilowatt hour. The base and forecast equate to 2¢ per kilowatt hour and 2-1/2¢ per kilowatt hour with a 1/2¢ increment which is the amount that is subject to refund with an interest provision.

Q. Were other costs added to the amounts identified above?

A. Yes. The $20 per megawatt hour base amount and $25 per megawatt hour interim amount were determined utilizing the fuel models developed by Staff witness Bender. In addition, demand charge costs for the capacity agreement with Western Resources, Inc. had to be added to these amounts. In addition, Staff had to factor-up the Missouri jurisdictional retail loads used in the fuel model with line losses. Reflecting these components results in the Total Company amounts of $23.37 per megawatt hour base and $28.37 per megawatt hour interim rate found in Exhibit A attached to the Stipulation. The $23.37 per megawatt hour base amount represents 2.52¢ per kilowatt-hour on a Missouri retail basis and the $28.37 per megawatt hour interim amount represents 3.06¢ per kilowatt-hour on a Missouri retail basis. The results in the Interim Energy Charge provision of .54¢ per kilowatt-hour are identified on Exhibit A attached to Stipulation.

Q. How will the true-up process work?

A. The forecasted fuel mechanism in this case will have a true-up provision to actual fuel cost incurred by the Company and identified through a true-up process. The true-up process will begin after the expiration of the Interim Energy Charge, which will occur no later than 24 months from the operation of law date in Case No. ER-2001-

299. All the components of fuel cost and purchased energy will be examined during this true-up. The price of fuel and the operations of the generating units will be reviewed, along with purchased power cost, to identify an actual level of prudently incurred fuel cost to be used to compare to the forecasted level to determine any over- or under-collection. To the extent that the Company over-collects in any amount above the $23.37 per megawatt base level up to the $28.37 per megawatt hour interim level, those dollars will be returned to Empire's customers. The $23.37 per megawatt level is set as the base rate and no over-collection will occur below that amount. If the true-up results in an under-collection, then Empire is not obligated to return any amount of money to its customers.

Any amount of money that is over-collected in rates, down to the $23.37 per megawatt base level will be returned to Empire's customers with interest. The interest rate will be the prime interest rate identified in the Wall Street Journal as of the last month of the forecasted fuel process.

Q. Should the Commission adopt the Interim Energy Charge?

A. Yes. Staff recommends the Commission adopt the Interim Energy Charge identified in the Stipulation filed with the Commission on May 14, 2001 and use this process to determine the fuel and purchase power expense levels in this rate case. This mechanism should be used for the purposes of this case only. Any future use of this type of process will be considered on a case-by-case basis.

Q. Does this conclude your testimony?

A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of the Empire District Electric Company for a General Rate Increase	)))	Case No. ER-2001-299

AFFIDAVIT OF CARY G. FEATHERSTONE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Cary G. Featherstone, being of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 14 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Cary G. Featherstone

Subscribed and sworn to before me this 22nd day of May 2001.

TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004