STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Illinois Power Company	:	
	:	
Proposed general increase in natural gas rates (Tariffs filed June 25, 2004)	:	**ICC Docket No. 04-0476**
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	:	

INITIAL BRIEF OF THE STAFF OF THE ILLINOIS COMMERCE COMMISSION

PUBLIC VERSION

Confidential Information Identified As

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Staff of the Illinois Commerce Commission ("Staff"), by and through its counsel, pursuant to Section 200.800 of the Rules of Practice (83 Ill. Adm. Code 200.800) of the Illinois Commerce Commission's ("Commission"), respectfully submits its Initial Brief in the above-captioned matter.

I. INTRODUCTION

In this proceeding, the Commission is investigating the tariffs filed by Illinois Power Company (the "Company" or "IP") on June 25, 2004, seeking a general increase in gas rates pursuant to Article IX of the Illinois Public Utilities Act ("Act"), (220 ILCS 5/9).

At this time, the only contested revenue requirement issues in this proceeding are the Hillsboro Storage Field Base Gas Inventory adjustment and the Hillsboro Storage Field Used and Useful adjustment which are addressed in Sections II.A and II.B, respectively, of this brief. The previously contested revenue requirement issue were resolved through acceptance of proposals by the parties in testimony and through the "Stipulation Concerning Resolution of Certain Revenue Requirements Issues" that

was entered into between IP and Staff (the "Stipulation") and filed on January 20, 2005. On February 2, 2005, counsel for the Company circulated a partial draft proposed order which covers procedural history, the uncontested/resolved revenue requirements issues, and findings and ordering paragraphs. Staff proposed some minor edits that counsel for the Company has agreed to incorporate, and it is Staff's understanding that the Company will file with its initial brief the partial draft proposed order discussed above and to which all parties agree or have not objected.

Staff and IP also entered into a "Stipulation Concerning Resolution Of Certain Tariff And Rate Related Issues" (the "Tariff Stipulation"), which was filed on e-Docket on February 9, 2005. The Tariff Stipulation states that IP and Staff stipulate that certain outstanding tariff and rate related issues are resolved as set forth in the Tariff Stipulation. The Stipulation covers the resolution of the Critical Day Imbalance Charge, advanced metering and communications equipment, Electronic Metering Equipment Fee, and the Exit Fee. The Tariff Stipulation is addressed in more detail in Section IV below.

II. RATE BASE

A. Hillsboro Storage Field Base Gas Inventory

1. Summary of Issue and Staff's Recommendation

The Commission should deny IP's request to increase its rate base by $10,367,838 to reflect an adjustment to the cost of recoverable[1] base gas for its Hillsboro storage field because IP has failed to establish that its proposed adjustment and resulting rates are just and reasonable. As explained in more detail below, the

[1] Recoverable base gas is also referred to as non-current gas.

proposed adjustment results from the significant metering errors that IP experienced at its Hillsboro storage field from November of 1993 through October of 1999. IP contends that as a result of the metering errors (i) its actual gas inventory at Hillsboro was overstated by 5.8 Bcf[2], (ii) it had withdrawn gas from the Hillsboro storage field in excess of those levels that it maintained in its top gas volumes, and (iii) it had withdrawn gas from its recoverable base gas inventory (the cost of which is treated as part of rate base upon which the Company is entitled to earn its authorized rate of return). Based on its contention that these events resulted in the withdrawal of a specific volume of the Hillsboro storage field recoverable base gas, IP seeks to increase its rate base to reflect the current higher cost of the gas ostensibly used to replenish the recoverable base gas erroneously withdrawn as a result of the metering errors. The Commission should deny IP's request for two major reasons.

First, the methods used by IP to calculate its Hillsboro storage field measurement errors and the resulting actual gas inventory and recoverable base gas withdrawal and injection amounts are simply too speculative and not sufficiently accurate to provide a reasonable basis for an adjustment to and recalculation of the value of recoverable base gas amounts. (*See* Staff Ex. 7.0R, pp. 7-8) Instead, Staff recommends that the Commission continue to use the previously existing base gas inventory value that the Company used prior to making any adjustments to the Hillsboro recoverable base gas inventory, and reject the Company's requested $10,367,838 increase. (*Id*., p. 8)

[2] BCF refers to a volumetric unit of measurement that is equal to 1,000,000 Mcf, where a Mcf refers to 1,000 cubic feet. A Mcf is roughly equivalent to 1 DTH or 10 therms.

IP admits that the 5.8 Bcf inventory adjustment which forms the basis for the $10,367,838 recoverable base gas inventory adjustment value is based, is an estimate. In particular, the Company noted the value is an estimate because there is uncertainty associated with any study or interpretation of a subsurface reservoir, such as Hillsboro storage field. (IP Ex. 17.1, p. 5) Further, the Company noted that no single method of analysis of the volume of working gas in Hillsboro should be considered exact. (IP Ex. 14.1R, p. 27) As explained later in this brief, Staff identified significant problems that call into question the accuracy of all three of the Company's study methods and render such studies unacceptable for purposes of the Company's proposed adjustment. Perhaps most telling is the Company's decision to perform another study in 2005, thus exhibiting its own doubt and lack of confidence regarding the accuracy and reliability of the studies proffered here. (Staff Ex. 7.0R, p. 19) Therefore, Staff does not believe the request of the Company is just and reasonable to ratepayers.

Second, even if the Company had presented a reasonable and reliable estimate of the measurement error, which it has not, it does not follow that the Company should be allowed to increase the value of recoverable base gas included in rate base. In the normal course of events, recoverable base gas injected into a storage field is not withdrawn until the field is retired. (Staff Ex. 17.0 2nd Rev, p. 5) The use of recoverable base gas to serve current load was driven by the measurement errors at the Hillsboro storage field over an extended period of time. Thus, but for the measurement errors, IP would not have used recoverable base gas to serve current load and the issue concerning the appropriateness of IP's proposed increase in the value of recoverable base gas would not exist. IP's failure to maintain its system in such a manner so as to

avoid such measurement errors, or to discover and correct the malfunctioning equipment in a timely manner so as to minimize and eliminate such errors, calls into question the prudence of management's actions. Staff submits that, based on the facts presented in this case, the Company has not established that it acted prudently in connection with the facts and circumstances causing it to withdraw recoverable base gas to serve current load. As such, the Company should not be rewarded for operating errors by increasing the value of recoverable base case included in rate base.

It is not Staff's position that the Company is or must be foreclosed from recovering the actual cost of gas purchased. Rather, as noted above, Staff believes that the appropriate method and vehicle to recover the cost of gas actually purchased is through the Company's purchased gas adjustment ("PGA") clause. That is, the Company could recover the actual costs of gas purchased dollar for dollar (assuming no other issues regarding the prudence of its the Company's gas purchases), but it should not be allowed to leverage its errors into an increased rate base valuation resulting in increased costs to ratepayers over and above the cost of gas used to serve them.

The Public Utilities Act, Section 9-101 requires all rates or other charges for service rendered to be "just and reasonable". In particular, Section 9-101 states:

> All rates or other charges made, demanded or received by any product or commodity furnished or to be furnished or for any service rendered or to be rendered shall be <u>just and reasonable</u>. Every unjust or unreasonable charge made, demanded or received for such product or commodity or service is hereby prohibited and declared unlawful. All rules and regulations made by a public utility affecting or pertaining to its charges to the public shall be <u>just and reasonable</u>. (220 ILCS 5/9-101 (emphasis added))

Staff's review of the circumstances surrounding the Company's determination that 5.8 Bcf is the appropriate inventory correction that is required at its Hillsboro

storage field reveals that the Company's proposed inventory adjustment is suspect and unacceptable for purposes of the Company's proposed adjustment for the reasons enumerated below. As such, Staff recommends the Commission reject the Company's request to treat certain gas purchases as additions to the value of recoverable base gas included in rate base and instead direct the Company to seek reimbursement for the costs incurred as the volumes are actually returned to the Hillsboro storage field through its annual purchased gas adjustment clause reconciliations.

2. Origin of the Requested Adjustment

It is undisputed that the Company's Hillsboro storage field experienced significant metering errors over the period November 1993 through October 1999. IP estimated that the impact of the various measurement errors caused its measurement records to overstate its actual gas inventory at Hillsboro by 5.8 Bcf. IP also determined that as a result of the measurement error, it had withdrawn gas from the Hillsboro storage field in excess of those levels that it maintained in its top gas volumes and had withdrawn gas from its recoverable base gas inventory. According to IP, the impact of this activity was that IP withdrew recoverable base gas that was lower priced then the gas IP placed in the field during the injection season, resulting in IP's request to increase the value of its recoverable base gas inventory at Hillsboro by $10,367,838. (Staff Ex. 7.0R, pp. 7-8)

3. Basis and Deficiencies of IP's Estimated Inventory Correction

The Company based its estimate of a 5.8 Bcf inventory shortfall on three analyses - a volumetric analysis, a metering study, and a reservoir simulation study. The volumetric analysis estimated an inventory shortfall of 8.4 Bcf. The metering study estimated a range for the injection metering error of –7.0% to -22.1% (with the negative

numbers indicative of a shortfall), equivalent to a maximum inventory shortfall of 5.8 Bcf at the -22.1% value. Finally, the reservoir simulation study estimated an inventory shortfall of 5.8 Bcf. (IP Ex. 14.1R, p. 17) The Company indicated it gave primary weight to the reservoir simulation study, but noted that the estimated metering injection error of –22.1% was consistent with a shortfall of 5.8 Bcf. (*Id.*, p. 18).

a) Volumetric Analysis

IP made use of well logs[3] to calculate the volume of gas in place in the reservoir in the fall of 2003. (Staff Ex. 7.0R, p. 14) The Company's volumetric analysis showed an inventory shortfall of 8.4 Bcf. However, IP did note that the there are accuracy limitations from using well logs to make inventory calculations. IP relied upon the volumetric analysis to show that a significant error had occurred. (*Id.*, p. 15) Staff does not dispute that a significant error occurred. However, the well chart shortfall calculation is about 45%[4] greater then IP's proposed adjustment value. Staff agrees with the Company's conclusion that the 8.4 Bcf shortfall is an "inaccurate" value. However, the magnitude of the variance between the "inaccurate" 8.4 Bcf value and the proposed estimated adjustment of 5.8 Bcf raises concerns regarding the accuracy of both values. That is, even though the 8.4 Bcf shortfall is an "inaccurate" value, it demonstrates the potential for the magnitude of the errors the Company is making in assuming the shortfall is 5.8 Bcf.

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[3] A well log measures the hydrogen ion concentration within the well bore. This information provides a saturation value that is used to extrapolate the amount of gas in place at storage fields. (Staff Ex. 7.0R, p. 15.)

[4] (8.4 – 5.8)/5.8 = .448

b) Metering Study

In the spring of 2003 IP determined it was necessary to restate the gas in storage volumes associated with the Hillsboro storage field. One of the means IP used to evaluate the volume adjustment was a metering study. (Staff Ex. 7.0R, pp. 9-10) The metering study involved IP conducting additional review of the information that it had previously received in connection with the Peterson Engineering Study ("Peterson Study") in December 1999. (*Id.*; *see also* IP Ex. 14.1, p. 7)

The Peterson Study reviewed the accuracy of the metering at the Hillsboro storage field in late 1999 and identified two problems. (Staff Ex. 7.0R, pp. 10-11) First, the review determined that two new turbine[5] injection meters that had been installed at the field were over-registering gas injection volumes under certain operating conditions. The turbine meter over-registration was calculated to equal about 1.7% when the compressors were operated at full loading, while an over-registration level of 26% occurred when the compressors were operating at 50% loadings. (Id., p. 11) The Peterson Study also identified an error originating with the orifice[6] meter on the south withdrawal secondary run at the Hillsboro storage field. The error was a result of the orifice opening being smaller then the value stamped on the orifice plate. This improperly sized orifice plate caused the orifice meter to show more gas flow than was actually occurring. (Id,. pp. 10-11)

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[5] A turbine meter consists of a rotor within the gas stream and the speed of the rotor rotation is nominally proportional to the flow. (Staff Ex. 7.0R, p. 10.)

[6] An orifice meter consists of an orifice plate placed within the gas stream and instruments that measure the pressure drop across that plate. The rate of the gas flowing across that plate is inferred from the pressure drop caused by the plate. (Staff Ex. 7.0R, p. 10.)

IP initially hypothesized that the measurement error associated with the turbine meters and orifice meters offset. Subsequently, IP determined that the injection metering error was much more significant than the withdrawal metering error, and in 2003, IP renewed its review of the metering error at Hillsboro. (*Id.*, pp. 11-12) IP's additional review of the Hillsboro meter error primarily involved reviewing gas measurement estimates obtained from the well charts[7] that were attached to each of the injection wells at Hillsboro.

IP used the individual well charts to make a comparison between the well meters and plant metering to compute a correction factor to apply to plant metering for injection. IP used a "snapshot" of 5 days of well chart information as a proxy for each month's usage. From this proxy IP calculated an average correction factor for each injection season it reviewed. (Staff Ex. 7.0R, p. 12) IP's review calculated the following correction factors for each year studied:

1994	-22.1%
1995	-7.0%
1998	-12.7%
1999	-8.9%

(*Id.*, p. 13)

(1) Concerns with Well Chart Data

Staff based its criticism of the Company's reliance on the well chart data on three concerns. First, the data relied upon by IP, only 5 days of data, or 16.7%, of the month, was insufficient to accurately extrapolate a month's usage. Second, orifice meters at the individual injection/withdrawal wells are not maintained to industry standards so as

[7] A well chart refers to the chart used to record the output from the orifice meters locate at each individual well at Hillsboro. These charts show the various pressure and temperature information that is necessary to calculate the volume of gas being measured by the meter. (Staff Ex. 7.0R, p. 12.)

to provide reliable, accurate readings. Third, IP relied upon incomplete data, as it failed to calculate the correction factor for two of the six years in the time period. Finally, in making its determination IP ignored the correction factors computed for three of the four years.

(a) Limited Number of Days

Staff noted that the correction factors the Company calculated from the well chart data relied upon only 5 days of information per month (16.7% of the month). Staff observed that using only 16.7% of the data to reach a conclusion was not the most accurate means to make an estimate. (Staff Ex. 7.0R, p. 16)

IP argued that using each day in the six-year period to calculate a correction factor would have been an unmanageable task in that using every possible well chart from that period corresponds to over 20,000 charts. (IP Ex. 14.1R, p. 20) IP did concede that using more days, such as 10, would provide a better statistical sample, but argued that the volume of charts for even 10 days would have been unmanageable. (*Id.*, pp 20-21) IP also indicated that there was an additional constraint in that there are only a limited number of days in every month where each of the 14 injection/withdrawal wells had a chart available. Finally, IP noted it had used the vast majority of the data when all 14 charts were available and that for the years 1994, 1995, 1998, and 1999, IP integrated 25%, 15%, 19%, and 15%, respectively, of the number of days on which gas was injected into the field. (IP Ex. 14.3, p. 4)

Notwithstanding IP's claims, even using that maximum amount noted by IP, 25%, still leaves the vast majority of the information, in fact at least 75% of it, unchecked and unknown. Staff does agree that similar to the volumetric analysis, the well chart review

demonstrates that a significant measuring error existed. However, again, the well chart review, because of the limitations associated with the amount of data reviewed, is inadequate to support the Company's claim that 5.8 Bcf of gas is the correct shortfall amount.

(b) Accuracy of Orifice Meters

The well charts are attached to orifice meters that are not set up according to American Gas Association ("AGA") guidelines. The AGA guidelines are requisite when the meters need to have high meter accuracies, such as when the results are used to determine a customer's bill. Further, the Company itself admitted in discovery that the orifice meters at the individual wells were not intended for inventory measurement. Therefore, the correction factors that IP calculated from the well charts are, at best, inexact estimates that should not form the basis for any adjustment. (Staff Ex. 7.0R, pp. 16-17)

The Company -- relying upon the Peterson Study statement that, for injection, the meter runs are in general accordance with the AGA -- concluded that the well metering provided reasonably accurate measurement for estimating over-registration of injections into the Hillsboro storage field. (IP Ex. 14.1R, p. 22) Further, IP attempted to demonstrate, by conducting a review using well charts from the years 2000 and 2002, that the process it used to estimate the injection metering error from the well charts produced acceptable results. IP's analysis showed an error of -.95% for 2000 and –2.7% for 2002 using its in-house program. (*Id.*, p. 24)

However, Staff again identified serious concerns with the Company's 2000 and 2002 review. First, the Peterson Study noted that volumes computed from the well

metering through the Company's in-house integration service should only be considered estimates. (IP Ex. 14.1R, p. 22; Staff Ex. 7.0R, p. 17; Staff Exhibit 17.0 2nd Rev, p. 15) IP's 2000 and 2002 analysis relied upon the in-house integration service, thus relying upon rough estimates. Staff does not believe that IP demonstrates the accuracy of one process by showing that the results from that process are within the range resulting from another process which itself is unreliable because it is based upon mere estimates.

Second, the 2002 value of –2.7% is in excess of the allowed meter accuracy requirements contained in 83 Illinois Administrative Code 500 ("Part 500"), Section 190, Customer Meter Accuracy Requirements. Although Section 500.190 applies to customer meters, not storage field metering, it requires that a meter may not be more than 2% slow. Staff finds the level of error, -2.7%, troubling. (Staff Ex. 17.0 2nd Rev, p. 12)

Further, it is reasonable to assume that IP itself found the continued error troubling since the Company recently replaced the injection plant metering at the Hillsboro storage field, with one of three turbine meters being replaced in 2003, while the other two were replaced in 2004. (*Id.*, p. 13) IP stated the reason for the metering change was due to the reduced maintenance requirements for the replacement meters and that the replacement meters are a newer, more technologically advanced project that <u>provides improved measurement</u> across the entire range of compressor loading steps. (IP Ex. 14.3, pp. 9-10 (emphasis added))

In summary, notwithstanding the Company's statements, IP is attempting to use outputs from meters for the individual/withdrawal wells at Hillsboro, which admittedly were never intended for inventory measurement, to support an inventory adjustment.

Further, IP recently replaced all of the plant meters used for measuring the gas injected into the Hillsboro storage field. Obviously, the Hillsboro storage field had major problems with its inventory measurement that IP failed to locate for a number of years. As such, the values calculated for the measurement error are unreliable and thus, insufficient to support the Company's 5.8 Bcf inventory adjustment amount.

(c) Other Deficiencies

IP's calculation of the inventory adjustment also suffers from several other deficiencies. IP failed to make use of all of the data available to it since the chart data from 1996 and 1997 was available, but not used. In addition, the correction values provided through IP's analysis, with one exception, were not anywhere near the number that IP ultimately determined was the appropriate correction value. (Staff Ex. 7.0R, pp. 16-17)

IP's reliance on the fact that the 22% correction factor[8] that IP selected is well inside the range of difference between the turbine injection meters and the well meters, 1.2% to 32%, in the Peterson Study is misplaced. All of the correction factors that IP calculated from the well chart data fit inside of the extremely broad range provided by the Peterson study. Therefore, the fact that the well chart data also met that criteria is meaningless. (Staff Ex. 17.0 2nd Rev, p. 15)

Further IP indicated that, as of November 2004, IP had injected 2.6 Bcf of gas into Hillsboro without any gas being seen at two key observation wells, Gregg No. 1 and

[8] Depending on the source and circumstances of the discovery information the correction factors calculated from the well chart analysis are referred to in a both positive and negative number format. However, all correction factors calculated (22.1% (1994), 7.0% (1995), 12.7% (1998), and 8.9%(1999)) whether referenced in positive or negative format indicate a natural gas shortfall.

Furness No. 1. From that observation, IP assumed that the correction factors calculated from the 1995 and 1999 chart integration data (-7.0% and –8.9%, respectively) were too low. (IP Ex. 14.1R, pp. 24-25)

Staff also noted that the 1995 and 1999 chart integration results came from the Company's in-house integration service, which was not accurate and the Peterson Study characterized as an estimate. Therefore, IP's claim assumption that that the correction factors calculated from the 1995 and 1999 chart integration data (-7.0% and –8.9%, respectively) were too low, merely confirmed the Peterson's Study comment that IP's use of its in-house program to integrate well charts is not accurate. (Staff Ex. 17.0 2nd Rev, p. 15)

Even assuming IP's claim is correct that the outsourced chart integration provide an accurate correction factor, (Staff does not agree with that assessment), IP made use of this "more accurate" resource for all of its chart integration review only for the years 1994 (calculated a correction factor of -22.1%) and 1998 (correction factor of –12.7%). Using IP's claims, IP only used the accurate method of calculating the error from the well charts for two of the six years (or 33%). Whereas, the percentage (33%) of data sent to the outside chart integration service was higher than the percentage of well charts that IP reviewed (at most 25%), it is still fall far short of an exhaustive review. Further, the metering correction factors calculated from the supposedly more accurate integration method (–22.1% and –12.7%) do not support each other and definitely do not support the selection of one (-22.1%) over the other. (Staff Ex. 17.0 2nd Rev, p. 15) Again, IP has failed to demonstrate why its well chart data supports its claimed inventory adjustment value of 5.8 Bcf.

c) Reservoir Simulation

The final method the Company used to estimate the measurement error at the Hillsboro storage field involved a reservoir simulation model. The Company noted that a 22% correction factor provided the best match to observation well pressures, shut in pressures, flowing pressures, and well log data. The use of a 22% correction factor provided a volume of gas in place in the reservoir of 16.8 Bcf, which was 5.8 Bcf less than the amount IP had on its books. (Staff Ex. 7.0R, pp. 15-16) Staff had two concerns with the use of the reservoir simulator results, namely limitations associated with the model and problems associated with fine-tuning the model based on correlations with historical data that is itself suspect. (*Id.*, pp. 18-19)

(1) Limitation of Reservoir Model

The Hillsboro storage field consists of 5,247 acres, which is approximately 8.2 square miles. IP's Hillsboro storage field has 14 injection/withdrawal wells and several observation wells that create a total of 24 wells. Data from these 24 wells is used in the reservoir simulation model to reach conclusions regarding the operation of the field. Given the sheer size of the field and the limitation of the computer model, which, like every other computer model, is limited to the quality of the inputs, Staff concluded that the outputs from the model should not be used to reach concrete decisions for the rates that IP's customers are charged. (Staff Ex. 7.0R, p. 18)

IP argued that reservoir simulation models are recognized in the natural gas industry as a beneficial tool for realizing the full potential of underground storage fields in terms of volume and withdrawal rates, optimizing the design of underground storage facilities, including the number of wells, and optimizing the operation of the underground storage facilities. (IP Ex. 17.1, pp. 13-14) IP also indicated that reservoir simulation

evaluations are also used to assess the proved reserved volumes associated with reservoirs. These reservoir certifications adhere to the standards defined by the Society of Petroleum Engineers ("SPE") and the Securities and Exchange Commission ("SEC") and are used by companies and financial institutions as the basis for investing hundreds of millions of dollars. (*Id.*, p. 13)

However, the standards of the SPE and SEC are not relevant for setting rates. IP discussed how reservoir simulation models are used to meet government disclosure requirements or for investors to use in determining whether or not to invest in the company. However, the Commission is making ratemaking decisions for ratepayers who have no, or very little, choice about how IP manages its operations. Instead, the Commission is charged with ensuring that just and reasonable rates are charged to captive customers. Nothing about this argument changes the fact that IP's number is an estimate. As such, the value is not sufficiently reliable to be used for ratemaking purposes. (Staff Ex. 17.0 2nd Rev, pp. 18-19)

In addition, IP's discussion centered on proven reserves, which refers to production reservoirs[9]. The analysis discussed by IP provides an estimate of the total gas in the production reservoir. (Staff Ex. 17.0 2nd Rev, pp. 19-20) However, there is a distinction between a production reservoir and an aquifer storage facility, such as Hillsboro, which did not originally contain natural gas. When it was developed, the utility requested the Commission's permission to develop the reservoir. In developing the reservoir a known volume of gas was injecting into the reservoir, then a known amount

[9] A production facility refers to a natural gas reservoir located in the production area whose purpose is to provide daily supply capacity to the interstate pipeline system. These reservoirs are produced (gas withdrawn) until the reservoir is depleted. (Staff Ex. 17.0 2nd Rev, p. 19.)

was withdrawn and injected into the reservoir every year. In IP's case with the Hillsboro storage field, the volume maintained is no longer a known value due to the various reasons discussed in the case.

(2) Fine-Tuning of Model

Storage reservoir models are created, corrected, and fine-tuned by conducting matches with historical information from the field in question. However, IP admitted to multiple problems at the Hillsboro storage field, especially in areas of gas measurement since 1994. This creates a problem in that the model is attempting to obtain a correlation to a specific set of data when the validity of the data itself is, at best, uncertain. (Staff Ex. 7.0R, pp. 18-19)

IP attempted to address this shortcoming by isolating the gas volumes as an unknown and using the remaining database of information to resolve the problem and arrive at an estimate of the total gas inventory. (IP Ex. 17.1, p. 14) IP also indicated that the simulation model was calibrated and matched against data collected during the entire life of the storage field, from 1974 forward. (IP Ex. 17.6, p. 6) Finally, IP noted that the model was also calibrated, or matched, against the gas saturation data from the fall 2003 neutron logs and gas-water contact levels from the fall 2003 neutron logs. (*Id.*, p. 7) Although these actions represent attempts to address the shortcomings with its model, they do not provide a basis for changing Staff's finding that the reservoir simulation model is unreliable for purposes of IP's proposed adjustment. (*See* Staff Ex. 17.0, 2nd Rev, pp. 21-22)

The fact remains that the Company has very little data regarding the behavior of the Hillsboro storage field once all or even a portion of the gas from the measurement error is replaced. In other words, IP has begun the process of returning gas to the

Hillsboro storage field and has no data regarding whether there are or will be any changes in behavior of the Hillsboro storage field as the inventory is increased. Therefore, until the gas is returned, the model itself will have very little if any data associated with the higher inventory volumes to form a basis for its predictions. (Staff Ex. 17.0 2nd Rev, p. 21) Further model refinements will occur as additional data becomes available from the increased inventory levels, and this refinement could impact the amount of gas the Company ultimately determines to replace in the Hillsboro storage field. (*Id.*, p. 22) Therefore, in light of the circumstances, a projection of a large volume of gas lost that will be returned to the field over a significant time period, the use of a reservoir simulation model is not reliable enough to provide data that is determinative and reasonable for ratemaking purposes.

d) Other Concerns

In addition to the specific concerns that involved the Company's evaluation methods for determining the inventory adjustments at Hillsboro, Staff also noted two other more general concerns. Specifically, Staff was concerned that the Company assumed a constant correction factor and that the Company may alter the injection volumes in the future after further studies of the storage facility.

(1) Constant Correction Factor

IP's use of a constant correction factor for all of the months over the time period the errors existed is inappropriate. Whatever the correct factor is, it most certainly fluctuated from month to month because it is a function of the operating loading of the Hillsboro storage field compressors. (Staff Ex. 7.0R, pp. 17-18)

IP conceded that the compressor loading is dependent on a number of factors such as suction pressure, outlet pressure, required hourly throughput, and the number of compressors on line, all of which can change on a daily basis, depending on the system requirements on that day. However, IP maintained that using an average of the daily data was appropriate. (IP Ex. 14.1R, p. 26)

In support of the use of the average, IP noted it created a scenario with a "stepped profile" of correction factors to evaluate the impact of the total working gas volume by using the 1994 and 1998 correction factors. The 1994 value was used until 1998, when that correction factor was used for the remainder of the review. That analysis calculated a volumetric correction of 5.2 Bcf instead of 5.8 Bcf. IP concluded that the 5.2 Bcf correction was not significantly different than the results obtained using the constant correction factor. (*Id.*)

Staff, however, draws a different conclusion. The Company's statements actually provided support for Staff's concerns. Namely, there are a multitude of factors that impact the loading rate (and thereby the measurement error) of the compressors at the Hillsboro storage field. Further, making any changes in the assumption of the constant correction factor could have an impact on the volume and value of gas assumed to make up the measurement error. In particular, Staff noted the value difference between 5.8 Bcf and 5.2 Bcf (.6 Bcf) using $5.00/Mcf gas cost amounted to $3,000,000. (Staff. Ex. 17.0 2nd Rev, p. 17) Obviously, a constant value is not accurate and making any adjustment to that value has the potential for a large economic impact. Staff's review indicated that assuming the metering correction factor was a constant amount for the whole period in question is unreasonable and counter to the information

the Company reviewed, such as the varying correction factors indicated by the well chart data review.

(2) IP's Plan to Conduct an Additional Study

Finally, IP has not yet drawn a final conclusion regarding the inventory adjustment. In fact, IP plans on conducting another study in the summer of 2005 to determine if any adjustments are appropriate to the Company's estimate of a 5.8 Bcf inventory adjustment. The Company also indicated that as a result of the 2005 study, it could determine that the projected 2006 injection of 1.6 Bcf could be adjusted. (Staff Ex. 7.0R, p. 19)

4. IP's Proposed Adjustment Is Inappropriate Under The Facts Of This Case

Even if there was an appropriate basis to determine the appropriate amount of an adjustment (and there is not), IP's proposed adjustment should be rejected under the facts of this case. Under normal circumstances, recoverable base gas injected into a storage field is withdrawn when the storage field is retired. (Staff Ex. 17.0 2nd Rev, p. 5) The facts of this case do not present a situation where the events causing the premature withdrawal of recoverable base gas were clearly beyond a utility's control – such as an unexpected and unforeseeable default by a gas supplier or an unexpected and unpredictable increase in demand due to abnormally cold weather. Rather, it is undisputed that the premature withdrawal of recoverable base gas occurred because of significant metering **errors** that caused IP to mistakenly believe it had more gas in storage than was actually contained in storage at the Hillsboro storage field. In other words, the most charitable characterization that can be made of the present situation is that the premature withdrawal of recoverable base gas occurred because of gas

measurement errors that took place over an extended period of time (i.e., a mistake of fact).

Staff submits that even if the record indicated that IP had no responsibility whatsoever for these metering errors (and the record does not so indicate), it would be inappropriate to transform these errors into increased costs for ratepayers. Yet, this is exactly what IP seeks by its request to increase rate base by more than $10 million. While a withdrawal and replacement of base gas that occurs in the normal course of business may establish a legitimate basis to increase the value of base gas, such a situation is not presented in the instant case. Where a withdrawal of base gas occurs – as it did here -- because of a significant mistake, it is just and reasonable to reject an adjustment that would alter the status quo and put the utility and its ratepayers in a position different than the position they would have occupied without the mistake. Had a metering error not occurred, IP would not have withdrawn its recoverable base gas and IP's ratepayers would have continued to pay rates based on the original cost of the recoverable base gas in the Hillsboro storage field. Similarly, IP would have recovered the cost of gas prudently purchased to serve customer demand through its PGA clause. As explained in Section II.A.5 below, this is exactly what Staff proposes – that IP recover the cost of replacement gas otherwise prudently purchased through its PGA clause.

Moreover, the relevant facts demonstrate that IP has failed to establish that it acted prudently in connection with the measurement errors that caused it to prematurely withdraw recoverable base gas from the Hillsboro storage field. As mentioned above in Section II.A.3.b), one cause of the measurement errors was an accuracy problem

resulting from the orifice opening being smaller then the value stamped on the orifice plate utilized on IP's withdrawal meters. As discussed in more detail in Section II.B.4.d)(2) below (regarding Staff's proposed used and useful adjustment), the metering errors related to the orifice meters would have been discovered shortly after their installation if the Company had followed some basic industry standards. Significantly, the orifice meters at the Hillsboro storage field's North and South metering runs had not been pulled and inspected since their original installation, a period spanning six years. (*See* Staff Ex. 7.0R, p. 46-47) IP's failure to inspect its orifice meters more often than once every six years – and thereby prevent the discovery of this problem -- clearly contributed to the measurement errors that drove the need to use recoverable base case to serve current load. Similarly, as discussed in Section II.B.4.d)(4) below, IP's load forecasting and dispatch group failed to notice the variance between the volume of gas received from the pipelines and the amount measured at its Hillsboro storage field (on average, an extra Bcf of gas every year for 6 years). Under these facts, it is clear that the Company has not established that it acted prudently in connection with the withdrawal of recoverable base gas resulting from the measurement errors.

Finally, as explained in Section II.A.5 below, the rejection of the Company's proposed adjustment does not mean that IP is or must be foreclosed from recovering 100% of the cost of gas prudently purchased. Rather, Staff's position here is that the Company may not recover the cost of replacement gas through an adjustment to rate base. Rather, recovery of the cost of gas prudently purchased is more appropriately made through the Company's PGA under the facts of this case.

5. Recovery of the Cost of Replacement Base Gas Through The PGA Is The Appropriate Cost Recovery Mechanism

Rather than increase the Company's rate base by increasing the value of the recoverable base gas amounts for IP's Hillsboro storage field by $10,367,838 (thereby increasing the amount to be collected through base rates), the Company should seek recovery of the gas costs associated with returning the recoverable base gas inventory at the Hillsboro storage field through its PGA clause. IP should be allowed to recover its prudently incurred costs associated with the gas volume actually replaced at the field to return the Hillsboro storage field inventory to its appropriate levels through the PGA. Allowing recovery in this fashion would assure that ratepayers are only paying for the amount of gas that the Company actually replaces in the Hillsboro storage field, versus an estimated value that could change in the future. (Staff Ex. 7.0R, p. 20) Further, this approach places ratepayers in the same position they would have occupied had IP not experienced significant metering errors at the Hillsboro storage field, and prevents IP from converting the measurement errors it contributed to into unnecessary increased costs for ratepayers.

6. Conclusion

The Company requested that the Commission approve a $10,367,838 increase to the recoverable base gas amounts for its Hillsboro storage field. (*Id.*, p. 7) Staff's review of this request indicates that the methods used to calculate the proposed increase value are not sufficiently accurate to form a reasonable basis for recalculation of the value of recoverable base gas amounts. Further, the value is dependent upon the assumed volume of gas shortfall that occurred at the Hillsboro storage field, for which IP has admitted it has only an estimate. Until all of this shortfall gas is replaced,

no one will know with certainty the actual total volume of gas missing from the Hillsboro storage field and the related withdrawal of recoverable base gas. Finally, under the facts of this case, the Company's conduct in connection with the measurement errors cannot be found to be prudent. Accordingly, the Company's proposed adjustment would result in rates that are not just and reasonable. Therefore, Staff recommends that the Commission reject the Company's request and instead direct the Company to seek recovery of the gas costs associated with the gas volumes replaced at the Hillsboro storage field through the PGA.

B. Hillsboro Storage Field Used and Useful Status

Staff's testified that the Hillsboro storage field is not operating in the same manner that it was when IP expanded the field and placed the costs associated with the expansion into its base rates in its last rate case, Docket No. 93-0183. (Staff Ex. 7.0R, p. 21) Staff determined that given the manner that the Company is currently operating the Hillsboro storage field it is no longer 100% used and useful at providing service to the Company's customers. Staff calculated a used and useful percentage for the field to equal 53.44% and recommend the Commission use this value to set the Company's rates in this proceeding. (Staff Ex. 17.0 2nd Rev, p. 24)

1. Used and Useful Requirements

Section 9-211 of the Act contains the used and useful requirements regarding utility rates. Section 9-211 of the Act states as follows:

> The Commission, in any determination of rates or charges, shall include in a utility's rate base only the value of such investment which is both prudently incurred and used and useful in providing service to public utilities customers. (220 ILCS 5/9-211)

The Act also provides a definition of used and useful in Section 9-212 that states:

> A generation or production facility is used and useful only if, and only to the extent that, it is necessary to meet customer demand or economically beneficial in meeting such demand. (220 ILCS 5/9-212)

Further, the Company has an obligation to its customers to provide "…adequate, efficient, reliable, environmentally safe and least-cost public utility services which accurately reflect the long-term cost of such services and which are equitable to all citizens." (220 ILCS 5/1-102) As part of that obligation, the Company is responsible for maintaining its storage fields in an appropriate manner. As enumerated below, the Company failed to maintain its Hillsboro storage field in an appropriate manner. Ratepayers should not be required to continue paying for the Hillsboro storage field as if it were operating at 100% used and useful when, in reality, the Hillsboro storage field is not and has not been so operating for quite some time.

2. Historical Hillsboro Orders

The Company received a certificate of public convenience and necessity for its expansion of the Hillsboro storage field. The Commission's Order in that proceeding noted the following:

> Mr. Brodsky testified that the Project will increase the total working gas inventory of the Hillsboro Storage Field from 3.1 billion cubic feet ("BCF") to 7.6 BCF, the injection rate to the Storage Field from 13,000 thousand cubic feet ("MCF")/day to 40,000 MCF/day, and the withdrawal or delivery rate from 50,000 MCF/day to 125,000 MCF/day. The Project is intended to increase Illinois Power's total storage capability by 42 percent, and to increase its total peak day storage withdrawal capability by 14 percent. Estimated gas-in-place after the Hillsboro Storage Field expansion will be 21.7 BCF, consisting of 7.6 BCF of inventory gas and 14.1 BCF of base gas. (Order, Ill. C.C. Docket No. 91-0499, p. 3 (October 21, 1992))

The Company also received Commission authority to expand the Hillsboro storage field and to recover the cost of that expansion through its rates. In particular, the Commission stated as follows in its Order in Docket No. 93-0183:

> IP is expanding the capacity of its Hillsboro storage field in Montgomery County by 4.5 BCF and the daily withdrawal rate at the field by 75,000 million cubic feet ("MCF"). IP is also constructing a 62-mile pipeline from Hillsboro to Decatur and additional transmission facilities from Hillsboro to the Metro-East Area. The IP witnesses indicated in their rebuttal testimony that the Hillsboro Project was placed in service on August 31, 1993, with the exception of two new delivery/control stations being constructed near Arthur, Illinois, to enhance interconnections with major pipeline suppliers in the area. (Order, Ill. C.C. Docket No. 93-0183, p. 8 (April 6, 1994))

The same Order also stated:

> …Finally, the Commission concludes that the Hillsboro Project will provide substantial net economic and other benefits to IP's customers; that the project is necessary in order for IP to provide adequate, efficient and reliable service to its customers at lowest cost, and that it should be considered used and useful upon being placed into operation. (*Id.*, pp. 11-12)

As a result of these orders the Company, with Commission approval, conducted an extensive expansion of the Hillsboro storage field to increase its peak day capability (now rated at 125,000 Mcf/day), and the volume of inventory maintained in the field, (7.6 Bcf of inventory gas and 14.1 Bcf of base gas). Further, the Commission had found the field to be 100 percent used and useful based upon those values in the Company's last rate case. (Staff Ex. 7.0R, p. 24)

Staff made a comparison of the current operation of the storage field to post-expansion levels at the Hillsboro storage field. Staff demonstrated, as reflected on Table 1 below, that the Hillsboro storage field has not operated near the levels discussed in Docket Nos. 91-0499 and 93-0183 since it was placed into service for the winter season of 1993-1994. Further, using the Company's measurement error

estimate of 5.8 Bcf, the gas volumes that IP maintains in Hillsboro working gas (7.6 Bcf – 5.8 Bcf = 1.8 Bcf) is less then the 3.1 Bcf that IP maintained at Hillsboro prior to the expansion of the field. (Staff Ex. 7.0R, p. 25)

Table 1

Winter Season	Peak Day Rating 93-0183	Peak Day Rating Actual	Percentage Of 93-0183 Rating	Volume to Cycle 93-0183	Actual Volume Cycled	Percentage of 93-0183 Rating
1993-1994	125,000	125,000	100.00	7,600,000	7,583,611	99.78
1994-1995	125,000	125,000	100.00	7,600,000	5,951,065	78.30
1995-1996	125,000	125,000	100.00	7,600,000	4,937,930	64.97
1996-1997	125,000	125,000	100.00	7,600,000	4,291,916	56.47
1997-1998	125,000	125,000	100.00	7,600,000	4,230,985	55.67
1998-1999	125,000	125,000	100.00	7,600,000	4,099,140	53.94
1999-2000	125,000	100,000	80.00	7,600,000	3,050,370	40.14
2000-2001	125,000	100,000	80.00	7,600,000	2,916,351	38.37
2001-2002	125,000	100,000	80.00	7,600,000	2,759,938	36.31
2002-2003	125,000	100,000	80.00	7,600,000	2,576,839	33.91
2003-2004	125,000	125,000	100.00	7,600,000	2,616,540	34.43

(*Id.*)

It is undisputed that the Hillsboro storage field, for the time period indicated in Table 1, has not operated in a manner consistent with the claims the Company made and the Commission relied upon in previous Commission Orders. Therefore, Staff recommends that Commission consider the manner the Hillsboro storage field is operating and find the field less than 100% used and useful.

3. Used and Useful Calculation

Staff calculated a 53.44% used and useful value for the Hillsboro storage field. Staff's calculation results from splitting the benefit associated with the Hillsboro storage field into two components – peak day capacity and seasonal price variation. (Staff Ex. 7.0R, p. 25; Staff Ex. 17.0 2nd Rev, p. 24) Staff selected those components because

they matched the information that the Company provided to the Commission in Docket No. 93-0183 to support its decision to expand the Hillsboro storage field. (Staff Ex. 7.0R, p. 26) Specifically, the Commission's Order from Docket No. 93-0183 noted that IP witnesses had testified that:

> the estimated gas cost savings during the first year after the Hillsboro project is in service are $15.3 million. IP witness Kistenfeger sponsored the calculation of IP's final estimate of gas cost savings, summarized on IP Exhibit 7.8, which consist of $13,599,000 due to savings in pipeline CD charges; $997,500 of savings due to increased purchases of gas during the summer, at lower prices than available during the winter; and $720,000 due to increased pipeline competition in the Metro-East area. (Order, Ill. C.C. Docket No. 93-0183, pp. 8-9 (April 6, 1994))

Staff did not account for increased pipeline competition in the analysis because a portion of IP's original Hillsboro Expansion Project was to construct a 62-mile pipeline to connect its Decatur and Metro-East territories. The construction of this pipeline allowed the Company to access additional suppliers and to increase competition between the interstate pipelines. The Hillsboro storage field itself has no, or very little, impact on this portion of the benefit. Therefore, Staff's analysis focused on the two benefits that are directly attributable to the storage field, the peak day capacity and seasonal price variation. (Staff Ex. 7.0R, p. 26)

a) Peak Day Value

Staff determined the benefit associated with the peak day capacity of the Hillsboro storage field by comparing the value of the post-expansion capacity of Hillsboro, 125,000 Mcf/day, to the price that IP paid for pipeline capacity and the gas supply reservation costs associated with a swing[10] contract for the same amount in

[10] A swing contract is one where the utility can nominate any volume for delivery between zero and the contract maximum.

2003. (Staff Ex. 7.0R, p. 27) Staff's review determined that the Hillsboro storage field provides a peak day capacity benefit of ***BEGIN CONF XXXXX. END CONF*** (Staff Ex. 17.0 2nd Rev, p. 29)

The Company disputed Staff's peak day capacity value by indicating that Staff's assumption for the peak day capacity benefit was not representative of the cost that the Company would expect to incur to replace that capacity. In particular, the Company indicated the Hillsboro storage field is used to displace the capacity costs from both the Natural Gas Pipeline Company of America ("NGPL") and Panhandle Eastern Pipe Line Company ("PEPL"), but Staff's analysis only took into account the NGPL contract. The Company determined a different capacity value amount of ***BEGIN CONF XXXXX END CONF*** and indicated this value was a conservatively low price assumption. (IP Ex. 13.1R, pp. 24-25)

However, while the Hillsboro storage field may displace capacity from both the NGPL and PEPL systems, the Company has overstated the peak day value of the Hillsboro storage field. In particular, the NGPL capacity rate that was used came from a recent contract that the Company signed with NGPL for a large amount of capacity (the NGPL contract was for ***BEGIN CONF XXXXX END CONF*** per day). This level of capacity is close to the peak day capacity rating for the storage field (125,000 Mcf). (Staff Ex. 17.0 2nd Rev, p. 30)

Further, if the Company were to actually replace the capacity from the Hillsboro storage field, then it is a reasonable assumption that the Company would select the lowest cost option. The Staff review indicated the PEPL capacity is not the lowest cost option. In particular, the PEPL capacity is actually the most expensive transportation

supply option on the Company's system. (Staff Ex. 17.0 2nd Rev, p. 30) Therefore, it is not reasonable to assume that the Company would select that capacity.

Next, Staff noted that if the Company were to purchase a significant amount of capacity off of the PEPL system or any other interstate pipeline system, the Company should obtain more of a discount then it currently receives from those pipelines. This viewpoint is also consistent with the testimony that IP and Ameren filed in its recent merger proceeding, Docket No. 04-0294. That testimony, Applicants' Ex. 43.0, page 4, line 101, indicated that ". . . with the proposed acquisition of IP, Ameren will greatly increase negotiating leverage with the interstate pipelines on behalf of IP due to the size and scale of the firm transportation and storage capacities held by all Ameren affiliates negotiating as a combined group." Therefore, Staff's valuation of the peak day capacity of the Hillsboro storage field is representative of the value it provides to the Company. (Staff Ex. 17.0 2nd Rev, pp. 30-31)

Finally, the Company claimed that the contractual price that Staff relied upon to price the peak day capacity value of the Hillsboro storage field falls short of representing the full cost to replace the storage field's peak day capacity because it does not include any costs associated with getting gas from the producing regions to the Company's service area. (IP Ex. 13.9R, p. 10) However, Staff noted that in a previous Commission proceeding, Docket No. 01-0701, Staff determined the annual value associated with 25,000 Mcf/day increment of capacity on the Company's system to equal $900,000. If this same value is applied to the Hillsboro peak day capacity level of 125,000 Mcf/day, it is equivalent to $4,500,000. Obviously, the peak day value that Staff assigned to the Hillsboro storage field (***BEGIN CONF XXXXX END CONF***) in this proceeding

is more consistent with the value from that prior case versus the Company proposed value of ***BEGIN CONF XXXXX END CONF***.

The Company also stated that there may not be sufficient capacity on NGPL or PEPL to replace the full amount of the Hillsboro storage field capacity. (IP Ex. 13.1R, p. 13) Staff noted it was not aware of whether or not there currently exists sufficient surplus pipeline capacity to replace the Hillsboro storage field. However, it is a moot point. The Company has missed the point of the exercise for valuing the Hillsboro storage field. Staff's analysis attempted to determine, in theory, what value the field's peak day capacity provides the Company. To conduct that analysis, Staff used the most relevant example of IP purchasing a significant amount of capacity. Staff considers the cost to IP of purchasing a significant amount of capacity to be the truest measure of the value of the peak day capacity of the Hillsboro storage field. (Staff Ex. 17.0 2nd Rev, p. 31-32)

b) Seasonal Value

Staff calculated the benefit associated with the seasonal savings associated with the Hillsboro storage field by determining the amount of seasonal savings that would result from price variations between summer injections and winter gas prices assuming the full 7.6 Bcf of inventory is cycled from the Hillsboro storage field each year. This analysis compared the Company's weighted average cost of gas in storage for the past five winter seasons to the weighted average price of commodity gas purchased by the Company for the same time period. From this analysis, Staff determined the average per unit savings achieved by month associated with the Company having natural gas storage. Staff then applied the monthly per unit savings and multiplied those values by

the volume of gas that the Company withdrew from Hillsboro in the winter season of 1993/1994 (the only occasion where the Company actually cycled 7.6 Bcf from Hillsboro). Staff determined the savings associated with cycling the full 7.6 Bcf of inventory averaged out to ***BEGIN CONF XXXXX. END CONF*** (Staff Ex. 7.0R, pp. 27-28)

Staff used the five-year period for its seasonal analysis in order to eliminate any year-to-year variation that might exist due to extreme weather conditions or other unexpected factors during the five-year review period. Staff's analysis assumed the Hillsboro storage field would cycle 7.6 Bcf because the Company had indicated it expected to cycle 7.6 Bcf from the Hillsboro storage field in a normal year. Further, IP's base rates, going forward, are being based on a normalized 2003 test year.

The Company disputed Staff's calculation and instead contended that the appropriate calculation would be to compare the cost of gas when it is injected into the storage field to the price of spot gas at the time of withdrawal using future prices and not historical prices. The Company's calculation determined a future seasonal price difference of $.84 per unit that resulted in a savings benefit of $6,400,473. (IP Ex. 13.1R, p. 13 and IP Ex. 13.4) Staff noted that its seasonal savings benefit resulted from the actual historical seasonal savings value that the storage field has provided to ratepayers on a monthly basis. Since the Company selected a historical test year in this docket, the use of historical information is more appropriate, while the use of future forecasted information, such as that used by the Company, is obviously not a known and measurable value. (Staff Ex. 17.0 2nd Rev, pp. 32-33)

The Company also indicated that Staff's analysis used an inappropriate comparison of the weighted average cost of gas to spot purchases. However, Staff made use of the available information to develop a reasonable proxy of the seasonal value of the storage field. Further, Staff noted that it had requested from the Company in discovery an estimate of the savings that resulted from the operation of the company-owned storage fields from the prior five years. However, at that time the Company simply indicated it had not performed this calculation. (*Id.*, p. 33) The Company is now criticizing Staff's calculation after refusing to conduct it own calculation, and fails to provide any alternative calculation that relies upon actual historical data. Staff's seasonal savings comparison is the only value provided that is based upon the actual price of gas that the Company experienced for gas inventory and winter purchases and therefore, it is the appropriate value to use.

c) Three Year Period

Staff's used and useful calculation used a three-year period to review the Hillsboro storage field's peak day and seasonal activity. Staff selected the three-year average for the peak day capacity and the working gas inventory because the Commission has historically used a three-year average of a facility's capacity in reaching its used and useful determinations in the past. (Staff Ex. 7.0R, p. 29) Staff's analysis used the three-year average for the amount of peak day capacity and working gas inventory that was available to ratepayers for the winter seasons 2001-2002, 2002-2003, and 2003-2004. (Staff Ex. 17.0 2nd Rev, p. 28) Staff noted these three periods are the most recent periods where actual operating results are available from the Hillsboro storage field. (Staff Ex. 7.0R, p. 30)

The Company disputed the time periods Staff used in its used and useful analysis. The Company argued that if a used and useful calculation is conducted, then the appropriate time periods are the winter seasons of 2003-2004, 2004-2005, and 2005-2006. The Company also stated its three year periods are more appropriate because the Commission has more typically used three year periods consisting of the year prior to the order, the year of the order, and the year following the order. (IP Ex. 13.1R, p. 10)

However, the Commission's used and useful calculation has not always followed the pattern noted by the Company. In particular, Staff indicated the Commission in its February 24, 1993, Revised Order on Remand from Docket Nos. 87-0427/87-0169/88-0219/88-0253/90-0169 Consolidated made use of a three-year average that centered on the test year. Obviously, the Commission can use its discretion to select the appropriate used and useful period to review based upon the circumstances surrounding the calculation. (Staff Ex. 17.0 2nd Rev, pp. 27-28)

Further, this docket can be distinguished from past cases involving a used and useful analysis where the issue was whether to place a new facility into base rates. In this proceeding, the Hillsboro storage field is already included in base rates and was previously found fully used and useful. Unlike those prior cases, the unique issue presented here is the extent to which subsequent operations have rendered an existing facility less than 100% used and useful. This appears to be a case of first impression. Staff has been unable to identify a previous docket where the Commission faced this situation. Clearly, the Commission has the discretion to select the most appropriate time periods to base any used and useful calculation it deems appropriate. The

Company's proposal relies upon a projection of future Hillsboro storage field operations that obviously is subject to uncertainty; while Staff's analysis uses the most recent actual data available to account for the actual operation of the Hillsboro storage field. Under these facts, the three-year period Staff proposes is clearly appropriate.

d) Used and Useful Calculation

Staff used the combined value of the peak day savings and seasonal gas costs savings associated with the Hillsboro storage field (***BEGIN CONF XXXXX END CONF***), to determine what percentage value each component provided to ratepayers. This comparison resulted in a determination that 35.83% of the value was derived from peak day benefits and 64.17% of the value was derived from a seasonal gas cost benefit. (Staff Ex. 17.0 2nd Rev, Schedule 17.01 2nd Rev; Staff Ex. 17.0 2nd Rev, Schedule 17.03 2nd Rev) Staff's calculation used the 35.83 and 64.17 values as allocation percentages to determine the appropriate weighting to provide the lost peak day capacity and lost seasonal inventory delivery within the used and useful calculation.

e) Alternative Used and Useful Calculations

The Company also provided information for a potential alternative means of determining any used and useful calculation. In particular, the Company noted that in the original order that placed the Hillsboro storage field into rate base (Docket No. 93-0183), the peak day capacity value of Hillsboro accounted for 93% of the projected savings, while seasonal savings value accounted for only 7%. The Company then used those values as the allocation percentages and made calculations under varying assumptions and years to calculate different used and useful values. (IP Ex 13.1R, page 14)

This appears to be an attempt by the Company to show that its used and useful calculation was consistent with the savings assumptions from over ten years ago when the Hillsboro storage field was expanded. This approach ignores reality by suggesting that the natural gas industry has been static over the last ten years. Instead, it is obvious that many changes have occurred over the last ten years, including the apparent reduction to the cost of peak day transportation capacity. Therefore, the reliance on recent actual data, which is used in Staff's analysis, is the preferable option. (Staff Ex. 17.0 2nd Rev, pp. 34-35)

4. Overall Storage Concerns

Staff also raised several overall concerns regarding the manner that the Company has operated its natural gas storage fields in the recent past. Staff considered these concerns relevant to the used and useful discussion because the Company has the responsibility to maintain the capabilities of its storage facilities. Staff's review of the below information indicates the Company has failed in that responsibility. These concerns also indicate that the Company's actions, or lack thereof, exacerbated or contributed to the problems faced at the Hillsboro storage field. As such, this information has a direct bearing on the used and useful determination within the instant proceeding.

In particular, Staff raised four areas for concern regarding the Company's storage operations. First, since it is uncommon for a utility to reduce the peak day capacity of its storage fields, the Company's past reduction of the peak day capacity of both of its largest storage fields is indicative of storage operation problems. Second, the Company has reduced the manpower levels associated with the oversight of its storage fields.

Third, the Company has reduced its capital spending at the storage fields below historical levels. Finally, Staff provides several examples where the Company's ability to properly identify the root cause of storage problems and, therefore, its ability to correct those problems, is inadequate.

a) Reduction in Peak Day Capacity

Staff witness Mr. Lounsberry testified that the Hillsboro storage field was rated at 125,000 Mcf/day until it was reduced to 100,000 Mcf/day in the fall of 1999. The Hillsboro storage field was just recently returned to the 125,000 Mcf/day capacity rating in the fall of 2003. The Company had also reduced the peak day capacity rating of the Shanghai storage field by 25,000 Mcf/day for the winter season of 2001-2002. (Staff Ex. 7.0R, p. 32 and IP Ex. 13.1R, pp. 21-22) The reduction of the peak day capacity at a storage field is a rare event. Staff witness Mr. Lounsberry noted that during his 15-year tenure at the Commission, there was only one other utility that reduced the peak day capacity of one of its storage fields, and that occasion resulted from the purposeful reduction in inventory at the field. The Company's reduction of the peak day ratings at its two largest storage fields reflects negatively on its management or oversight over those facilities. (Staff Ex. 7.0R, p. 32)

The Company expressed surprise that Staff was concerned that it had experienced a deliverability decline at its two largest storage fields. In particular, the Company indicated that deliverability decline has been reported to be the most common problem in the gas storage industry. In particular, the Company relied upon a press release regarding a U.S. Department of Energy study on storage fields, which indicated that one of the primary reasons for initiating the project was that gas storage well and

fields often suffer a decline in productivity after several years of withdrawal and injection cycling. (IP Exhibit 17.1, page 18)

It is true that storage well and field deliverability declines are not uncommon in the industry. In fact, Staff noted that the Company and every other storage operator in the State of Illinois and likely the United States knows of the potential for storage deliverability decline. However, the Company was the only storage field operator in the state to experience problems to such a degree that it needed to reduce the peak day capacity rating at its two largest storage fields. Staff witness Mr. Lounsberry testified that it is not unreasonable to expect that every storage operator in Illinois has experienced some problems at their fields over the past 15 years, but that the Company was the only utility to reduce the peak day capacity of its fields as a result. (Staff Ex. 17.0 2nd Rev. pp. 37)

The Company was unique among all Illinois gas utilities in that the significant problems at its storage fields required the reduction in peak day capacity at two of them. As Staff indicates below, this occurred in large part due to the manner that the Company operates, reviews, and oversees its storage operations and its ability, or inability, to properly conduct root cause analyses of problems at its storage fields.

b) Manpower

Staff witness Mr. Lounsberry testified that the number of storage field operators that the Company has maintained has more or less remained stable since 1991; however, the Company significantly reduced the number of storage field supervisors from three or four supervisors from 1991 through November of 1995 to two persons at

the end of 1995 and finally dropping to one person at the beginning of 2000. (Staff Ex. 7.0R, p. 34)

The Company in 1995 and continuing through early 2000 implemented a review of its storage field operations to assure the continuance of safe, reliable and efficient operations. As a result of this review, the Company determined that its storage field operations could be conducted in a safe, reliable and efficient manner with one supervisor and by modifying the responsibilities of the operators and changing work practices. (*Id.*, pp. 34-35)

The Company noted that its storage fields have an excellent safety record. Further, the Company noted that its decision to institute a self-directed work team philosophy caused a reduction in supervisory personnel it also empowered the work teams at each storage field to do what its members deem necessary to provide safe and reliable service from the storage fields. (IP Ex. 13.1R, pp. 20-21)

Staff does not dispute the information the Company provided; however, these facts do not explain why the Company did not discover its problems at its various fields earlier or why the Company is the only Illinois utility experiencing these significant storage field operating problems. (Staff Ex. 17.0R 2nd Rev, p. 40) Staff considers the reduction in management oversight at its storage fields a factor in the Company's inability to conduct thorough root cause analyses and was thus also a factor in its decision to reduce the peak day capacity at two of its largest storage fields.

c) Capital Expenditures

The Company's capital expenditure budget for storage operations indicated a significant drop in the amount of money being allocated. Mr. Lounsberry testified that

the capital expenditure amounts for storage projects for the years 2002 through 2004 combined were less than the amount that the Company spent in either 2000 or in 2001. The years 2002, 2003, and 2004 account for three of the four lowest capital expenditure levels for gas underground storage plant for the Company since 1995. (Staff Ex. 7.0R, pp. 35-36)

This information is indicative of the Company being reactive rather than proactive when determining when to make upgrades or other improvements at its storage fields. A potential reason for a utility to behave in this fashion is that a utility will not earn a return on its investments for improvements or upgrades at its storage facilities until it requests and receives a natural gas rate increase from the Commission. In contrast, increased gas supply costs, unless deemed imprudently incurred, are automatically passed through to customers through the PGA. So the Company could attempt to increase its gas operations profitability by reducing the amounts spent on its capital expenditures for its storage operations. (*Id.*, p. 36)

Staff's concern is also consistent with information Staff received from an outside resource. In particular, Staff noted that ***BEGIN CONF **D**D**[11] XXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX

[11] Items marked **D**D** pertain to information for which Ameren has asserted a privilege and for which a separate confidentiality agreement has been signed by some of the parties.

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The Company's witness disputed Staff's claims and indicated that he was not aware of any capital projects that were viewed as necessary or desirable that were omitted from the Company's five-year plan due to the lack of adequate capital budget. Further, the Company witness indicated that during his tenure in his present position there was not any requested project that was rejected by management due to capital budget limitations. Finally, the Company indicated that Staff had failed to identify any storage field projects that the Company should have implemented that have not been implemented. (IP Ex. 13.1R, pp. 23-24)

Although Staff was not in possession of any detailed information regarding the Company's natural gas storage budgeting procedures, that fact in and of itself does not detract from the concern that the Company was being reactive rather than proactive when determining when to make upgrades or other improvements at its storage fields. The critical fact remains that IP's capital expenditures levels have been reduced over the same time period that the Company experienced problems at its two largest storage fields. The Company would have the Commission believe that this is a coincidence. However, Staff considers the unwillingness of the Company to perform capital projects as further indication that the reduction in peak day capacity at the storage fields and the reduction in capital expenditures is not a coincidence.

d) Identification of Problems

Staff also raised a concern about the Company's inability to identify and therefore correct various problems associated with its storage fields. The Company's inability to identify and correct problems with the storage fields contributes significantly to the Company's inability to adequately maintain its Hillsboro storage facility. The following scenarios are representative of the Company's inability to identify problems; (1) IP's investigation into an incident on December 16, 2000, that completely shut down the storage field for a short time and further reduced its peak day capacity for about one month after the accident; (2) IP's various investigations and actions from the meter review study as well as the Peterson Engineering Study (for both the injection and withdrawal metering accuracy at the Hillsboro storage field; and (3) IP's ability to track its gas usage.

(1) Hillsboro Incident

It is undisputed that on December 16, 2000, the Company was forced to shut down its Hillsboro storage field because a produced water tank at the field exploded, launched 275 feet, and landed on the field's regulator building causing extensive damage. As a result of the explosion the Company hired Packer Engineering ("Packer") to conduct an investigation into the incident to determine, if possible, the origin and cause of the explosion. Packer issued a report ("Packer Report") on February 14, 2001, regarding its investigation. (Staff Ex. 7.0R, pp. 38-40)

Staff's review of this event lead to the conclusion that the Company failed to properly investigate the root cause of the problems at the Hillsboro storage field. In particular, Staff noted that it took Staff's prompting five months after the incident for the Company to determine the produced water tank should have had sufficient relief

capacity to vent pressurized gas once it entered the produced water tank from the separator. Staff concluded that the Company's inability to make this basic discovery was a reflection of the poor management oversight the Company had over the safe, reliable, and efficient operation of its storage fields. (*Id.*, p. 45-46)

The Company disagreed with Staff's assessment and noted that it promptly hired Packer to conduct an investigation and that the Packer report concluded that the failure of the emergency relief on the produced water tank caused the explosion. (IP Ex 14.1R, p. 29) The Company also indicated that it disagreed with Staff's claim that the Company did not know about the relief capacity of the produced water tank because the Packer Report discussed this topic in its Engineering Analysis. (IP Ex 14.1R, p. 31)

Staff agreed with the Company that it promptly hired Packer for the purpose of determining the origin and cause of the explosion of the produced water tank. Staff also agreed that the Company implemented several corrective actions as a result of the Packer Report. (Staff Ex. 17.0 2nd Rev, p. 43) However, Staff disputes the Company's claims that it knew about the relief capacity from the Packer Report and was proactive in its root cause analysis. Staff reviewed the Packer Report and noted that it does mention that under normal conditions the 24-inch manway provides adequate relief capacity. However, Staff's observations regarding the timing of the Company's realization that the combined relief capacity associated with the 6-inch and 3-inch openings in the produced water tank were sufficient to relieve the pressure buildup were based on a response to a Staff data request in a separate proceeding made after Packer Engineering issued its report. This specific information was not discussed in the Packer Engineering Report; therefore, notwithstanding the Company's contention to the

contrary, Staff's determination that the Company was not aware of this fact until Staff requested it is supported by the facts and remains unchanged. (Staff Ex 17.0 2nd Rev, pp. 43-44)

Staff also noted that Packer Engineering only determined the cause of the produced water tank explosion. Staff has seen no indication that the Company followed up with any review to determine what set of events allowed or caused the separator to release high pressure gas into the produced water tank in the first place. In fact, Staff noted that the Company had indicated in prior proceedings that "The contributing factors that resulted in the over-pressurization of Tank 402 are still being investigated. IP hasn't established a "position" on what caused the over-pressurization…" (Staff Ex 7.0R, pp. 41-42) Staff considers the factors that lead to the over-pressurization of the produced water tank as the real root cause problem with the Hillsboro Incident; however, Staff noted that it had not seen any indication that the Company had conducted any further studies regarding that topic. (Staff Ex. 17.0 2nd Rev, p. 44) Therefore, Staff's conclusion that the Company failed to properly investigate the root cause of the produced water tank explosion is unchanged.

(2) Hillsboro Storage Field Withdrawal Metering

The Company did not place a high priority on accurate measurement for natural gas withdrawals from the Hillsboro storage field immediately after the 1994 expansion of the field. In fact, Staff's review indicated that had the Company followed some basic industry standards, the Company would have found the meter accuracy problem with its withdrawal meters shortly after they were installed. This failing is yet another example of the Company's failure to meet its obligation to provide its customers with safe, efficient and reliable service.

The Company had Peterson Engineering conduct a review of its Hillsboro Storage field's metering. As a result of its investigation, Peterson Engineering issued the Peterson Study in 2000. The Peterson Study noted several problems with the metering used to measure the withdrawals from the Hillsboro storage field. In particular, the Peterson Study noted that the orifice plates associated with the orifice meters at the Hillsboro storage field's North and South metering runs had not been pulled and inspected since their original installation. The Peterson Study also noted that there was an incorrectly sized orifice plate installed for the orifice plate at one location because the plate size stamped on the orifice plate was incorrect. (Staff Ex. 7.0R, p. 46)

The Peterson Study found that the Company had not thoroughly inspected its orifice meters, used to measure its withdrawals from the Hillsboro storage field, for over 6 years, from 1993 through 1999. This practice was inconsistent with the Commission's requirements for those types of meters. (*Id.*, pp. 46-47)

In particular, Staff noted that 83 Illinois Administrative Code Part 500, "Standards of Service for Gas Utilities" ("Part 500")[12] contains the Commission's requirements for meter testing. Section 500.180 (c) contains the rules that apply to orifice meters. These rules indicate the following:

> Each utility furnishing metered gas service through orifice type meters (flow meters) shall provide and have available an instrument for checking the diameter of the orifice, a water column for testing the pressure differential recorder, and a mercury column or an approved dead weight gauge tester for testing the static pressure recorded so that the utility will be capable of determining the accuracy of these orifices and recorders to within one-half of one percent. The orifices of these meters in service shall be inspected and calibrated at least annually, and the pressure

[12] Code Part 500 standards do not apply to utility storage fields.

> instruments shall be calibrated at least monthly, which tests shall be in lieu of the requirements set forth in Section 500.210.

Staff testified that had the Company conducted an annual inspection of an orifice meter in a manner consistent with the Part 500 requirements, the Company would have physically removed, inspected, and measured (verification of plate diameter) the orifice plate. Through that process, the Company would have found the primary problem with its metering used to measure its gas withdrawals from the Hillsboro storage field. Therefore, if the Company's maintenance standards for storage field orifice meters were consistent with the minimum requirements under Part 500 for customer load orifice meters, the problem with the incorrectly stamped orifice plate would have been found within one year, or in 1994, of the meter being set. Specifically, this problem would have been identified in 1994 (one year after installation) rather than 1999 (six years after installation), and the Company would have found the error rather than an outside entity. (*Id.*, p. 48)

One of the reasons that Part 500 requires an annual inspection of the orifice meter is to ensure the orifice plate is clean and free of defects. In fact, the Peterson Study noted that the AGA Report #3[13] states that "the plate shall be clean at all times and free from accumulations of dirt, ice, and other extraneous material", "the upstream edge of the orifice plate bore shall be square and sharp", and "upstream and downstream edges of the orifice plate bore shall be free from defects visible to the naked eye, such as flat spots, feathered texture, roughness, burrs, bumps, nicks, and notches." (*Id.*, p. 49)

[13] AGA Report #3 contains the guidelines for the installation of orifice meters.

Finally, the Peterson Study indicated that when the orifice plates were pulled and cleaned during the plant visit, the plant personnel reported that the South Field Primary Orifice Meter was very dirty and that the other plates were dirty to a lesser degree. The Peterson Study had also noted that dirty plates can introduce significant metering errors, which can have a negative or a positive bias. The Peterson Study recommended that the orifice plates be pulled, inspected, cleaned, and replaced, as necessary, at least annually and after process upsets and changes to ensure metering accuracy. (Id)

The Company indicated that its review of the relevant section of Part 500 revealed it was obsolete and in need of updating, and that some of its requirements are unreasonable and inapplicable to current metering technology or would be unreasonable if applied to current technology. The Company also indicated that it annually calibrated the differential transmitters for each meter fitting, calibrated the pressure transmitters for each pipeline, and check the calibration of the resistant temperature detectors. Finally, the signal tubing between the orifice fitting and the differential transmitter was checked for fluids. (IP Exhibit 14.1R, pp-34-35)

Although Section 500.180 provision contains somewhat dated language, this does not mean its requirements are not valid. In fact, Staff, through its enforcement of Part 500, ensures every Illinois utility follows the intent of the requirements contained in that section. Further, Staff noted that the AGA does provide some basic guidance for orifice meter maintenance. Specifically, AGA Gas Measurement Manual, Orifice Meters, Part No. Three, contains under “Inspection Schedules” the following information:

> The continued accuracy of an orifice meter state depends on keeping all of the station in proper operating condition. This depends on establishing and maintaining a fixed routine of inspection. Obviously, some items in a station should be inspected more often then others. Moreover, the inspection schedule for any station will depend upon many factors such as the importance of the station, the size in terms of gas flow, the location, the several types of equipment, company policies, etc. Therefore, the following is offered only as a guide to a minimum inspection schedule.
>
> Primary Element
>
> Orifice meter tubes should be removed annually for internal inspection and cleaning. This need may be satisfied by inspection caps where these are installed. Orifice plates should be removed and examined at least every three months. (Staff Ex. 17.0 2nd Rev, p. 46)

The AGA measurement manual supports Staff's contention that the Company did not place a high priority on accurate measurement for withdrawals from the Hillsboro storage field immediately after the expansion of the field. The post-expansion volume of gas that the Company wanted to cycle from the Hillsboro storage field was 7.6 Bcf. Given the large volume of gas that would pass through the meter, Staff finds it reasonable to expect that the Company would operate under inspection and testing guidelines more stringent then used by the Company at that time. (*Id.*, pp. 46-47) The Company's failure to conduct any inspection of the orifice plate even though the AGA guidelines specifically recommend it, Code Part 500 requires it for custody transfer meters, and the Peterson Study also recommended it, indicates a failure by the Company to seriously consider meter accuracy at the Hillsboro storage field.

(3) Hillsboro Injection Metering Review

Staff's review indicated the Company initially made a significant error when reviewing the injection meter accuracy problems that occurred at its Hillsboro storage field. After the Company received the Peterson Study, it concluded that the measurement errors that incurred during injection and withdrawal basically offset each

other. In particular, the Company estimated a 937,000 Mcf overstatement for withdrawals and an overstatement of 997,000 Mcf on injections, which, when combined, resulted in a net difference of 60,000 Mcf. In short, the Company's original estimate would require a 60,000 Mcf reduction in the inventory volume in order for Hillsboro's records to be accurate. (Staff Ex. 7.0R, p. 50)

However, the Company as a result of a more thorough review now estimates that the injection overstatement was 5.8 Bcf or 5,800,000 Mcf. This value is almost 97 times larger than the original net number that IP calculated and is almost 6 times larger than the Company's original estimate for the total overstatement of the injection volume. Staff considers this "error" as yet another example of IP not fully investigating a problem at its storage facilities. (*Id.*)

Staff noted that the Company provided information about the use of the well charts to estimate the volume of injection overstatement and to determine a correction factor to use on the metering. In fact, the Company had about 1500 of the 1994 well chart data integrated in the mid-1990s. When the Company calculated the 22.1% correction factor for the year 1994 in its 2004 "Hillsboro Storage Field Deliverability Study Final Report", IP used the integration data from 624 of those charts to calculate that correction factor value. Therefore, in 1999 when the Company initially determined the metering errors offset each other, the Company was already in possession of information that disputed that conclusion. This information lends further support for the conclusion that IP failed to fully investigate the injection metering problem at its Hillsboro storage field. (Staff Ex. 17.0 2nd Rev, pp. 47-48)

(4) Gas Dispatch Tracking

Staff also raised a concern with the fact that the Company's storage fields mis-measured a significant amount of gas for an extended period of time, yet the Company's dispatch facility failed to notice the variance. The Company tracks the volume of gas received from the pipelines through its SCADA/EMS systems. The Company noted it tracks about 95-98% of the total gas it receives from the pipelines through this system. The Company had estimated the following net measurement errors numbers, shown in Table 2, for its Hillsboro and Shanghai storage fields:

Table 2
Estimated Measurement Error

	Hillsboro	Shanghai	Total
1994	-1,518,536	0	-1,518,536
1995	-1,065,769	-51,771	-1,117,540
1996	-933,890	-181,759	-1,115,649
1997	-784,504	-184,229	-968,733
1998	-869,654	-182,597	-1,052,251
1999	-734,089	-143,220	-877,309
Total	-5,906,442	-743,576	-6,650,018

(Staff Ex. 7.0R, pp. 51-52)

Staff's concern was that even through the Company experienced some significant measurement errors, which primarily occur during the injection months when gas usage is the lowest, its load forecasting and dispatch group failed to notice an extra Bcf, on average, of gas entering its system every year for 6 years. Again, this is another example of the Company's failure to adequately oversee its operations.

The Company indicated that this 1 Bcf of gas would equate to about 4,000 Mcf per day assuming an equal injection pattern throughout the injection season. The

Company then indicated that during the shoulder months of April, May, October and November the purchase volume runs around 300,000 – 400,000 Mcf. Next, the Company stated that a 4,000 Mcf error during that time period would not stand out as a significant error. (IP Ex 13.1R, pp. 24-25)

The Company over simplifies the problem. The Company had provided the daily throughput volumes for IP's system for the period July 7, 2003 through July 13, 2003. This data indicated that the system throughput for non-transportation customers was about 294,874 therms. The 4,000 Mcf/day value provided by the Company is roughly equivalent to 40,000 therms/day, which means that the Company during the summer months was seeing a customer load forecasting error for its customers in excess of 13%. Staff noted that it would expect a utility to be aware of errors of that magnitude regarding its forecasting and dispatch. (Staff Ex 17.0 2nd Rev, p. 49)

Further, Staff considers the 4,000 Mcf/day value to be an understatement. In particular, Table 2 shown above shows and error in excess of 1.5 Bcf, whereas the 4,000 per day value is based on an average assuming the same injection rate for the whole summer. Further, Staff would expect the injection rate for a storage field to vary from an average value throughout the injection season. Therefore, Staff considers is 13% error to be an extremely conservative value.

5. Conclusion

The above information demonstrates that the Company's actions over several years contributed to the problems that it encountered at the Hillsboro storage field. The Company's poor oversight did not allow it to properly identify and act upon the various problems facing its storage operations. The Company's inability, or more accurately,

unwillingness to operate its storage in a safe, reliable, and efficient manner also causes its ratepayers to incur additional costs. Therefore, IP should be held accountable for its actions, or lack thereof, and the Hillsboro storage field should be found to be only be 53.94 percent used and useful in this proceeding.

6. Company Efficiency Claims

In an attempt to dispute Staff's overall conclusions, the Company provided IP Exhibit 17.2 and IP Exhibit 17.3. IP Exhibit 17.2 is a comparison of the various performance parameters of U.S. aquifer gas storage reservoirs assuming the Company had its full 7.6 Bcf of gas within the field. The Company took the information and ranked the fields based on their ratio of working gas to base gas inventory. In particular, the Company claimed that the higher the ratio, the more efficient the storage field. Next, IP Exhibit 17.3, took the same ratios, but used the Company's latest estimated inventory level for the Hillsboro storage field. The Company noted that even using the lower inventory level, IP's ratio ranking was still "more efficient" then nine other Illinois/Indiana aquifer storage fields. The Company concluded that IP Exhibit 17.2 and 17.3 showed that the Company had done a commendable job keeping the field operating as efficiently as it has. (IP Ex 17.1, pp. 19-20)

However, the "efficiency" (ratio of working gas to base gas) of a particular field is largely dependent on the geology and physical characteristics of the reservoir itself. The utility itself has only a limited impact on this value unless it experiences a problem. This fact is shown in the Company's analysis when IP's actions (measurement error causing drastic reduction in working gas inventory) caused its efficiency rating to drop. (Staff Ex. 17.0 2nd Rev. p. 38)

Staff's review also noted that IP Exhibit 17.2 shows that the utility that operates the top rated field in Illinois (Nicor with the Troy Grove field) also operates many of the fields shown toward the bottom of the list. Staff noted that Nicor's overall storage management should not differ significantly from field to field. Therefore, something else, such as the geology and physical characteristics of the reservoir itself, is being shown on this Exhibit, not any true measure of efficiency. (Staff Ex. 17.0 2nd Rev, p. 38)

III. COST OF SERVICE, REVENUE ALLOCATION AND RATE DESIGN

A. Cost of Service Study ("COSS")

There are real and important differences between the Company and Staff on cost of service and rate design issues in this case. With respect to costs, Staff's cost study incorporates a more reasonable allocation methodology than IP's study and, unlike the Company's study, is open, transparent and verifiable. In this regard, the Company's study presents problems in terms of both confidentiality and accessibility. With respect to rate design, both parties favor cost-based rates. However, the Staff-proposed rates are based upon a more reasonable cost foundation and should be adopted in this proceeding.

1. Allocation of Transmission and Distribution ("T&D") Plant – Average and Excess versus Average and Peak Allocation Method

Staff's proposal to allocate T&D plant according to the Average and Peak ("A&P") method should be adopted in this proceeding. The A&P method most accurately reflects the underlying cost of service. The Company endorsed the A&P method in rebuttal. Only the Illinois Industrial Energy Cunsumers ("IIEC") supports an alternative approach.

IP initially proposed to use the Average and Excess (A&E) allocator for T&D costs. The A &E allocator has two components. One component takes into account average demands for both individual customer classes and for the system as a whole. The second component reflects class and system peak demands, actually the excess of peak demands over average demands. The average component allocates system average demand by the ratio of average demand for individual classes to the sum of the average demands for all rate classes. The excess of system peak over average demand is allocated according to each class' share of the excess noncoincident demands of all rate classes. (Staff Ex. 6.0, p. 7)

Company witness Althoff presented two arguments for the A&E. One is that it was approved in the Company's previous gas case, Docket No. 93-0183. Second, she contended that the A&E incorporates non-coincident demands the Company uses for T&D planning. (IP Ex. 5.1, p. 7).

Staff refuted the Company's initial arguments for the A&E, identifying two key problems with the allocator. One is the reliance on noncoincident peak demands to allocate the excess component. The T&D allocator should incorporate coincident peak demands instead because distribution investment is driven by the need to meet demands when the system as a whole, rather than individual rate classes, reaches its peak. If individual class noncoincident peak demands diverge from the system peak, cost allocation will diverge from cost causation. (Staff Ex. 6.0, p. 7)

Second, the Excess component incorrectly focuses on the difference between peak and average demands, rather than the peak demands themselves, to allocate costs. Costs are driven by peak demands, rather than the excess of peak demands

over average demands. The A&E's focus on excess demands diverges from cost causation. (Staff Ex. 6.0, p. 8)

The A&P allocator also consists of two components. The first component, average annual demands, is the same as the A&E. However, the A&P employs an alternative approach to allocate the difference between system peak and average demands based on class contributions to peak demand, rather than the excess non-coincident peak demands employed by the A&E. (Staff Ex. 6.0, pp. 9-10)

The two components of the A&P recognize that transmission and distribution plant investment is driven by two key factors. The average demand component reflects the role of year-round demands in shaping transmission and distribution investments. The coincident peak component recognizes that the system must be designed to: (1) meet peak demands, not just for individual classes, but for the system as a whole; and (2) meet full peak demands, rather than the excess of peak over average demands. (Staff Ex. 6.0, pp. 9-10)

Precedent also favors the A&P despite Ms. Althoff's argument to the contrary. Since the A&E allocator was approved more than a decade ago in IP's rate case, the Commission has consistently chosen the A&P to allocate T&D costs for gas utilities. The Commission reaffirmed that position this year by choosing the A&P methodology over the A&E methodology for the AmerenCIPS and AmerenUE gas companies (Order, Dockets Nos. 02-0798, 03-0008, 03-0009 (Cons.), p. 98 (October 22, 2003)). (Staff Ex. 6.0, p. 9) Thus, recent precedent indicates the Commission currently favors the A&P over the A&E.

Further bolstering the argument is the fact that the Company accepted the A&P in rebuttal testimony. This provides yet one more reason why the Commission should reaffirm its longstanding support for the A&P allocator in this case.

The only advocate of the A&E method following rebuttal testimony was IIEC witness Rosenberg. In response to Staff's argument that the system is built to meet system peak demands, rather than class non-coincident demands as assumed by the A&E, Dr. Rosenberg agrees that the system is "designed to meet the peak demand on any given day." (IIEC Ex. 2.1, p. 2) However, he refers to Company witness Althoff's claim that the system also considers non-coincident peak demand in system design. (*Id.*) Dr. Rosenberg does not appear comfortable with the concept that non-coincident peak demands drive system costs because he readily suggests that the Commission might want to discard both the A&E and A&P in favor of a coincident peak allocator. (IIEC Ex. 2,1, p. 3)

Dr. Rosenberg has placed himself in an untenable position. He cannot support two allocators based on conflicting principles at the same time. The A&E method he endorses is based on noncoincident demands, while the Coincident Peak allocator he suggests reflects coincident peak demands. So, the question, which Dr. Rosenberg fails to answer, is whether the allocator for T&D costs should be based on coincident or non-coincident peak demands.

Dr. Rosenberg then presents a lengthy argument criticizing the A&P for using both average and peak demands to allocate costs. He contends that the peak component contains both average and excess demands and, therefore, the A&P double-counts average demands. (IIEC Ex. 2.1, p. 4) Dr. Rosenberg goes on to criticize

the reliance on average demands to allocate T&D costs, arguing that average demands have no impact on the overall allocation of costs. (IIEC Ex. 2.1, p. 6)

Dr. Rosenberg's argument is misplaced. The A&P does not double-count average demands. Instead, it recognizes the two key factors that drive T&D investment: (1) the need to meet peak demands and (2) the role of year-round demands in shaping transmission and distribution investments. (Staff Ex. 6.0, p. 10) The A&P consists of two components to reflect these two concerns.

2. Allocation of Cost of Services

Staff's proposed services allocator should be approved in this proceeding. The Staff approach greatly improves upon both the services allocator in IP's filing and the revised allocator proposed by the Company in rebuttal.

IP's original services allocator was sponsored by Company witness Althoff. She offered little explanation for the allocator in her direct, stating only that "[t]he Services allocation factor is based on the type and size of facilities installed by service classification." (IP Ex. 5.1, p. 7)

IP's approach was more fully explained by Staff witness Lazare who stated that the Company allocated costs for its 413,449 retail customers based on a sample of 16,273 service lines. Those lines were divided up by pipe size and material (steel or plastic) and unit costs were estimated for each. Then the Company factored in the number of customers and average service line length for each class to generate an overall cost of services for each class. These costs provided the foundation for the Company's original service allocator. (Staff Ex. 6.0, p. 11)

Two key assumptions drove the allocation of services costs. One is that residential customers have a much higher ratio of steel to plastic services than non-residential customers. Second, the Company assumed that steel services are far more costly than plastic services. For example, IP estimated steel costs to be more than five times higher than plastic for all service lengths under 3 inches in diameter - which comprise more than 99% of the service lines in IP's sample. (Staff Ex. 6.0, p. 12) Since IP's allocator assigns a significantly higher proportion of steel service lines to residential customers, that raises their share of the services allocator.

These key assumptions governing the Company's services allocator were called into question by subsequent data from the Company. The Company's assumptions concerning the breakdown of steel and plastic services for the system as a whole and for individual rate classes was called into question by data from IP's Annual Report to the US Department of Transportation. IP's services allocator assumed that more than 80% of service lines on its system are made of steel. However, the report to the US Department of Transportation concludes quite differently that steel accounts for less than 40% of the service lines in place, less than half the share assumed by IP's services allocator. (Staff Ex. 6.0, p. 13)

The Company's report for the US Department of Transportation also raises questions about the breakdown of services by material among rate class. It suggests that IP does not know the breakdown of steel services among rate classes. Of the 159,135 steel services identified in this report, 8,723 are determined to be 1 inch or less; 1,409 between one and two inches; 64 between 2 and four inches; 7 over four inches and 148,932 of unknown size. (Staff Ex. 16.0, p. 14) So, more than 93% of the

steel services identified in the report to the US Department of Transportation are of unknown size. This would indicate that IP does not know whether Residential customers have a higher or lower proportion of steel services than other classes.

The report similarly raises questions about the breakdown of plastic service lines among rate classes for the services allocator. The allocator assumes that 94% of plastic services exceed one inch in diameter. However, IP's report to the Department of Transportation identifies 94% of the known plastic services as less than an inch in diameter. Again, the Department of Transportation report calls into question the data underlying IP's services allocator. (Staff Ex. 6.0, p. 14)

There were also problems with the relative cost data supporting IP's services allocator. The Company's assumption that steel costs far more than plastic conflicts with the relative cost of steel and plastic pipes at the distribution level. Data supplied by IP shows that unit costs for distribution pipes are higher for plastic than for steel. The average price is $7.32/ft. for all plastic pipes two inches or less and $3.67 for similar-sized steel. For all pipes up to 8 inches the averages are $8.35 and $6.45 for plastic and steel, respectively. The issue IP leaves unresolved is why plastic pipe should be more costly at the distribution level, but steel suddenly becomes far more costly when the pipe reaches the customers' premises. (Staff Ex. 6.0, p. 15)

The weight of the evidence indicates that the Company's effort to divide up services between steel and plastic to allocate costs is completely unjustified. Therefore, Staff has developed an alternative allocator, which removes the distinctions between steel and plastic in the Company's approach. The Staff allocator seeks to retain as

closely as possible the other cost relationships that govern IP's services allocator. (Staff Ex. 6.0, pp. 16-17)

Company witness Althoff tries to argue that if Staff finds the cost support for IP's services allocator to be faulty, then the Staff allocator should be suspect as well because it relies on similar data. (IP Ex. 5.10, p. 17) Staff cannot vouch for the Company-supplied data that serves as the foundation for its services allocator. Nevertheless, the Staff-proposed allocator eliminates the most obvious problems associated with the IP allocator and, therefore, represents an improvement on the Company approach. As a result, Staff is proposing the most reasonable services allocator for this proceeding.

In rebuttal, Company witness Althoff acknowledged problems with its proposed allocator and sought to explain how they arose. She contended that the problem lay with service lines the Company originally classified as having diameters of "zero" inches that were not appropriately factored into the allocation process. Ms. Althoff then "corrects this problem" in a revised allocator she offers in rebuttal. That allocator revises the distribution of services between steel and plastic but maintains the assumptions of IP's original allocator that steel is far more costly than plastic. (IP Ex. 5.6, pp. 15-16)

At the same time, Ms. Althoff sought to buttress in rebuttal the Company's assumption of significantly higher costs for steel over plastic with the contention that steel prices significantly exceed plastic prices on the current market. (IP Ex. 5.6, pp. 15-16)

Staff has two sets of concerns with IP's revised allocator. First, Staff does not share Ms. Althoff's confidence that the problem has been corrected. The Company's poor track record on this issue makes it difficult to have confidence in the current numbers. (Staff Ex. 16.0, p. 3)

Second, Staff has concerns about the cost distinctions Ms. Althoff continues to make between steel and plastic service. In arguing that steel services are more costly, Ms. Althoff focuses her discussion solely on the prices of the materials, rather than the much higher installed costs of steel and plastic services, which include capitalized labor. For example, Ms. Althoff identifies $3.69 in steel costs and $1.06 in plastic costs for a foot of 3 inch pipe, with a difference between the two of $2.63/ft. However, she assumes installed costs (including capitalized labor) for steel and plastic of $32.63 and $11.45 per foot, respectively. (Staff Ex. 16.0, p. 4) This amounts to a difference of $21.18 in installed cost for steel and plastic. Although Ms. Althoff explains the $2.63 difference in material prices, she has failed to support the remaining difference of $18.55 in the Company's calculation of steel and plastic costs. Thus, the Company's assumptions concerning price differences between steel and plastic remain largely unsupported. (Staff Ex. 16.0, p. 4)

Ms. Althoff also errs in focusing her discussion solely on current prices. The large majority of services on the IP system are many years old and the capital cost of those services reflects the material costs at the time of installation. Those costs are not impacted by recent price trends for materials. Thus, the allocation of services should not be solely governed by the current relationship between steel and plastic material costs. (Staff Ex. 16.0, p. 5)

Ms. Althoff returns to this issue of steel versus plastic costs in surrebuttal. Specifically, she replies to Staff's argument that the Company has not justified its assumptions that steel is significantly more costly to install than plastic. Ms. Althoff presents a breakdown of the relative costs to install steel and plastic and then identifies specific factors that she claims drives the much higher cost of steel over plastic. The higher costs for steel include the need for cathodic protection and welding; shorter lengths and a heavier weight. (IP Ex. 5.10, p. 9)

Ms. Althoff's argument suffers from two shortcomings. First, this argument supporting higher steel labor costs fails to explain why unit costs for plastic costs are higher than for steel at the distribution level. (Staff Ex. 6.0, p. 15) Second, the labor costs presented in Ms. Althoff's surrebuttal testimony do not make sense from a common sense standpoint. For example, she identifies a unit labor cost of $8.10/ft. for ¾ inch steel; $13.89 for 1 inch steel and $13.89 again for 1 ¼ inch steel. (IP Ex. 5.10, p. 9) It is not clear why 1 inch steel should be so much more costly to install than ¾ inch steel given that the costs of installing 1 and 1 ¼ steel are the same. The discrepancies are more pronounced for plastic. The installation costs range from $2.00 to $2.78 per foot between ½ and 2 inch pipe. However, in going to the next increment, 3 inch pipe, the installation costs jumps to $9.51 per foot. (IP Ex. 5.10, p. 9) Why labor costs should jump so dramatically is not explained. These discrepancies undermine confidence in the accuracy of IP's services cost estimates.

Ms. Althoff also seeks to justify in surrebuttal the Company's use of current costs to develop an allocator for historical services costs. She argues that it eliminates concern about varying inflation impacts for different type of plant. (IP Ex. 5.10, p. 11)

Nevertheless, the Company has failed to establish that the current relationship between steel and plastic costs existed during the historical period when services were installed. If the cost relationships between steel and plastic differed in the past then the use of current costs will distort the allocation process. Ms. Althoff also cites the precedent of previous cases on this issue. (IP Ex. 5.10, p. 11) If the Company employed a deficient services allocator in the past, precedent should not permit IP to use this same deficient approach in current and future cases.

In sum, the Company's revised allocator continues to rely on unreliable data and flawed assumptions. As such, the Company's revised services allocator would be a step back rather than an improvement upon the Staff proposed allocator. Staff's proposed services allocator should be adopted in this proceeding.

3. Use of Staff Cost of Service Study versus IP Cost of Service Study

The Staff cost of service study should serve as the foundation for ratemaking in this case for two reasons. First, the Staff study incorporates a more reasonable cost allocation methodology than the Company study. Second, the Staff study is open and accessible, in contrast to IP's cost study, which raised both confidentiality and accessibility issues.

IP's cost study is ill-suited to the free exchange of information required by the ratemaking process. IP relies on a copyright-protected study from a third party and outside users must sign a confidentiality agreement to receive a copy of the model. The copy that Staff initially received did not allow full access to the study. Certain formulas in the study were hidden from the user impeding efforts to determine whether the model did, in fact, produce the claimed results. As a result, securing a functional study

required considerable time and energy that would have been better invested in reviewing the Company's costing and rate proposals in this case. (Staff Ex. 6.0, pp. 17-18)

The regulatory process must ensure that the rates customers pay are just and reasonable. To make that determination, regulators and intervenors need full and unimpeded access to the underlying costs that support proposed rates. The limited and incomplete cost study initially provided by IP in this case makes it difficult for regulators to meet this objective. The Company's action adds complexity and delay that serve to undermine and compromise the review process. This makes it difficult for Staff to verify that the Company's proposed rates are, indeed, just and reasonable. (Staff Ex. 6.0, p. 18)

Staff proposes two remedies for this problem. First, Staff has developed an alternative cost of service study to use for ratemaking in this case. The Staff study offers the clear advantage of being more straightforward and transparent than the Company study. No confidentiality statements need to be signed to receive a copy, and the study itself is fully functional with all cells and formulas directly accessible to the user. In contrast to the Company study, the Staff study facilitates a more open and thorough regulatory process. (Staff Ex. 6.0, p. 19) In addition, the Staff study reflects a more reasonable allocation methodology and it should be used for ratemaking in this proceeding.

For the long term, Staff recommends that the Commission order IP to present a non-copyright-protected cost-of-service study in future gas cases. This requirement should not be unduly burdensome considering that other Ameren affiliate gas

companies are able to sponsor non-copyrighted cost studies in their rate proceedings. (Staff Ex. 6.0, p. 19)

In rebuttal, Company witness Ms. Althoff responded to Staff's criticisms of the Company study. She argued that requiring confidentiality agreements to be signed before receiving a cost study was not burdensome. Nor, was she troubled that Staff had to request a second copy to be able to see how the Company study actually worked. And while it took a full six weeks to receive a transparent copy of the study, Ms. Althoff sees a silver lining, stating "Staff still had ten weeks in which to perform their review." (IP Ex. 5.6, p. 19)

Staff disagrees. Ten weeks is insufficient to effectively perform a full review of the Company's complicated cost study with a maze of formulas and calculations consuming almost 2,000 lines of an Excel spreadsheet. The study must be reviewed thoroughly because it plays a critical role in the case, serving as the foundation for revenue allocation and rate design. Limiting the available review time clearly impedes Staff's ability to verify the results obtained. (Staff Ex. 16.0, p. 6)

In surrebuttal, Ms. Althoff seeks to put the onus on Staff for the delay in receiving a fully transparent copy of IP's cost of service study. If Staff had moved more quickly to identify the deficiencies in the Company's first study, it would have had more time to review a fully functioning model. (IP Ex. 5.10, p. 12) This is truly a case of blaming the victim for the problem. If the problem lies with the Company's failure to provide a fully transparent model, then the burden should be on IP, rather than Staff, to devise a solution.

Ms. Althoff even sought to argue that a model with hidden formulas does not constitute an incomplete model because it contains all the cost data required to develop a cost of service study. (IP Ex. 5.6, p. 20; IP Ex 5.10, p. 12) If the only purpose of the model was to transform a set of inputs into outputs, then Ms. Althoff's statement might have some validity. If the purpose is to verify the accuracy of the results, then a model with hidden formulas falls short of the mark.

Ms. Althoff also seeks to justify the use of the Company's study because it satisfies the Part 285 minimum filing requirements. If Staff has an issue, she suggests, it is with the Part 285 requirements, rather than the Company study. (IP Ex. 5.6, p. 20) This argument should be rejected. Just because the Company meets the minimum filing requirements that does not guarantee its proposals will be adopted in the Commission's final order. They must meet the Commission's just and reasonable standard for ratemaking. By that standard, the Company study falls short.

It is true that the Company has provided similar confidential cost studies in past proceeding and Staff has jumped through all the necessary hoops to secure copies of the study without raising objections to the Company's approach. Over time, Staff has found the experience to be burdensome and has finally concluded that an alternative approach is necessary. Staff's concerns about the Company's approach should be considered on their merits and not solely on whether Staff has made similar objections in the past. Limiting parties to arguing only their past positions would make it difficult for the regulatory process to develop and evolve. Further, there is no legal requirement so limiting parties or the Commission, as Commission decisions do not have a *res judicata*

effect in later proceedings before it. (See *United Cities Gas Co. v. ICC*, 163 Ill.2d 1, 22-23 (1994); *Illinois American Water Co. v. ICC*, 772 N.E. 2d 390, 395 (2nd Dist. 2002))

4. Allocation of Overall Revenue Requirement to Customer Classes and Rate design

The key difference between Staff and the Company concerning the allocation of the revenue requirement and the design of rates concerns the cost foundation to be used for this phase of the process. As has been well documented in this proceeding, the Staff model provides the most reasonable cost foundation to use. (Staff ex. 6.0, p. 20)

The class revenue allocation and rate design issues between the Company and Staff are a matter of cost because both Staff and Company have based their allocation of the revenue requirement and rate design on the underlying cost of service. Differences in the allocation of the cost of service lead to different revenue allocations and rate designs proposed by the Company and Staff. (Staff Ex. 6.0, pp. 21-22)

Thus, the argument concerning revenue allocation and rate design is an extension of the argument on cost issues. The same arguments that favor Staff's proposed allocation of the cost of service provide the basis for adopting Staff's proposed revenue allocation and rate design in this proceeding.

5. Development of Rates and Charges - Adjusting Rates to Meet the Final Revenue Requirement

The Commission should employ Staff's proposed method of adjusting rates to meet the final revenue requirement adopted by the Commission in this proceeding. Staff proposes to make the adjustment process as simple and transparent as possible. That entails taking the rates Staff proposed in rebuttal and prorating them on an equal

percentage basis to produce the revenue requirement adopted by the Commission. Adoption of this approach is predicated on the Commission acceptance of Staff's proposed cost of service and rate design in this case. If the Commission were to request changes in the Staff cost study, Staff witness Lazare explained in rebuttal the additional steps necessary to develop final rates. (Staff Ex. 16.0, pp. 12-13) The Staff proposals in each instance seek to minimize the steps necessary to develop final rates in this proceeding, and to give as clear a picture as possible of what the final rates might be.

In contrast, the Company's proposal to adjust rates to the approved revenue requirement is complicated and difficult to follow. Company witness Jones explains in almost two full pages of testimony how the adjustment process would be made. (IP Ex. 7.19, pp. 27-29) First, the Company would rerun its cost of service study. Then it would implement a number of different steps, some cost-based and some not, to design final rates for the case.

The additional round of ratemaking proposed by Mr. Jones is unwise and unneeded. Yes, rates should be developed within a cost framework. However, once that framework has been erected it does not need to be dismantled and rebuilt over and over again. Not only is that a waste of time, but it creates the opportunity for errors in the final stage of the ratemaking process. (Staff Ex. 16.0, p. 12)

In surrebuttal, Mr. Jones argues that the process would not be burdened by having the Company rerun the cost study in the compliance phase to develop a final set of rates. Mr. Jones does not believe "that it is a waste of time to provide customers with accurate, cost-based prices that correspond to the final revenue requirement that the

Commission approves." (IP Ex. 7.30, p. 13) Mr. Jones complains specifically that Staff's across-the-board adjustment process would not properly allocate storage plant costs. He contends that the across-the-board approach would cause customers who do not take storage to be impacted by any decision directly relating to storage plant costs. (IP Ex. 7.30, pp. 13-14)

There are two problems with the argument by Mr. Jones. First, it is based on a false assumption about cost studies. First, it should be remembered that cost of service studies are an art, not a science. The results obtained are only estimates of the responsibility of customer classes for individual costs and often based on imperfect data as the Company's proposed services allocator demonstrates. Any incremental accuracy a further cost study update may provide at this stage of the proceeding would not justify the attendant investment of time and energy. (Staff Ex. 16.0, pp.13-14) Second, any efforts to improve accuracy comes at a cost. That cost is a lower level of transparency for the resulting revenue allocations and rate design. If the cost study is rerun, both class revenue allocations and rates can change in unpredictable ways. There could be adverse and unacceptable impacts to customers or an inappropriate increase to a charge that only becomes evident upon the conclusion of the case.

The final rate adjustment process should be as simple and straightforward as possible. The impacts to all customers and rates of a change to the revenue requirement should be as clear as possible so that regulators can understand the full ramifications of their decisions. Thus, Staff's formula for adjusting rates to the final revenue requirement should be adopted.

Staff has developed a set of rates at its proposed revenue requirement of $138,566,000. The rates were devised according to the adjustment process described in the previous section. The starting point was Staff's proposed rates based on the Company's rebuttal revenue requirement (Staff Ex. 16.0, Schedule 16.03). These rates were then prorated downwards on an equal percentage basis to produce Staff's proposed revenue requirement in this case. Two minor adjustments were required for the process. First, Staff revised its rebuttal rates to reflect acceptance of the Company's proposed Electronic Metering Charge of $18.50 per month. In addition, a small adjustment was necessary to address a small rounding error of $18,987. That entailed a decrease in the SC 63 customer charge of 5 cents per month.

The development of Staff's proposed rates is presented in four attachments. Attachment 1 contains Staff's proposed allocation of the revenue requirement among rate classes. Attachment 2 presents the downward adjustment of Staff's rebuttal rates to Staff's current proposed revenue requirement. Attachment 3 is a revenue proof showing that the revised rates based on Staff's current proposed revenue requirement produce the desired revenue level. Attachment 4 presents a side-by-side comparison of present rates with rates reflecting Staff's current proposed revenue requirement.

IV. TARIFF TERMS AND CONDITIONS

On February 9, 2005, IP filed a document captioned "Stipulation Concerning Resolution Of Certain Tariff And Rate Related Issues" that was entered into between IP and Staff (the "Tariff Stipulation"). The Tariff Stipulation states that IP and Staff stipulate that certain then-outstanding tariff and rate related issues shall be resolved as set forth in the Tariff Stipulation. The Stipulation covers the resolution of the Critical Day

Imbalance Charge, advanced metering and communications equipment, Electronic Metering Equipment Fee, and the Exit Fee.

In the Tariff Stipulation, the Critical Day Imbalance Charge, as discussed in Staff Exhibits 8.0, pages 31-33 and 18.0, pages 12-13, is accepted. The Staff proposal to make advanced metering and communications equipment mandatory for SC 76 customers and optional for SC 65, SC 66, and Rider OT customers is accepted. The Tariff Stipulation provides that a dedicated phone line shall be required for all SC 76 customers and any other customer that chooses the advanced metering and communications equipment. Under the agreement, IP will not be required to provide daily interval usage data to a SC 65, SC 66 or Rider OT customer that does not choose the option for the advanced metering and telecommunications equipment.

In the Tariff Stipulation, Staff accepted IP's proposal (IP Ex. 7.30, p. 15) to split the Electronic Metering Equipment Fee into two parts. The monthly charge is agreed to as set forth in Appendix A, a revised version of IP Exhibit 5.11 updated for the final stipulated overall rate of return on rate base in this docket (8.18%), is $16.50 for the electronic metering index and the monthly charge for the communications equipment is $21.25 per month.

IP's proposal to charge an Exit Fee to customers that opt out of the advanced metering and communications service during a specified period following the initial election of service (IP Ex. 7.30, pages 15-16) was also accepted in the Tariff Stipulation. Based on Appendix A (IP Exhibit 5.11 updated for the final stipulated overall rate of return on rate base in this docket (8.18%)), the Exit Fee will apply if the customer cancels this service within the first 72 months after commencing the service, and will be

calculated as: Exit Fee = (72 months minus number of previous monthly payments) times $21.25.

The Tariff Stipulation also provides that Section 7(h) of the Standard Terms and Conditions (Ill. C. C. No. 32, Original Sheet No. 5.2), as filed by IP in its initial tariff filing, shall be modified to read as set forth below:

> 7(h) Prior to providing service, Utility shall install electronic metering equipment in each meter through which Customer will be taking service under SC 65, SC 66, SC 76 or Rider OT. If sufficient metering and communications facilities already exist, at Utility's sole discretion, the requirement for installation of additional metering equipment may be waived. At Utility's sole discretion, Utility may require installation of remote interrogation equipment on Customer's electronic metering equipment. All Customers taking service under SC 65, SC 66, SC 76 or Rider OT shall provide access to a 120 volt AC electric power source and to a commercial telephone line for each meter, at Customer's expense. The commercial telephone line provided by those Customers taking service under SC 76 shall be dedicated for Utility's use. The commercial telephone line provided by Customers taking service under SC 65, SC 66 or Rider OT that elect online access to daily usage data shall also be dedicated for Utility's use.

The Tariff Stipulation states that IP and Staff acknowledge that each of the stipulated resolutions of issues listed in the Tariff Stipulation (the "Stipulated Tariff Resolutions") is supported by the record in this docket but that based on the record, the Commission could have reached a different determination for each of the Stipulated Tariff Resolutions. The Tariff Stipulation further states that IP and Staff each acknowledges that it is accepting the Stipulated Tariff Resolutions for purposes of this docket in order to reduce and simplify the issues in this proceeding, conserve resources, and reduce uncertainty. The Tariff Stipulation states that, accordingly, IP and Staff stipulate that neither of them will treat any of the Stipulated Tariff Resolutions as precedential for future cases, and that neither of them will argue, in any future cases,

that the same or a similar issue to any of the Stipulated Tariff Resolutions should be decided by the Commission in the same manner set forth in the Tariff Stipulation on the grounds that the issue was resolved in such manner in this docket or that IP or Staff agreed to such resolution in this docket. The Tariff Stipulation further states that IP and Staff stipulate that they will request that the Commission's Order in this docket contain a statement that none of the Stipulated Tariff Resolutions shall be considered precedential for future cases. Finally, the Tariff Stipulation states that it shall not preclude IP, Staff or any other party from arguing in a future case that the same or a similar issue to any of the Stipulated Tariff Resolutions should be resolved in the same manner as set forth in the Tariff Stipulation, on any grounds other than that it was resolved in such manner in this docket or that IP or Staff agreed to such resolution in this docket.

Accordingly, the tariff and rate related issues described above are no longer contested, and those issues should be resolved consistent with the Tariff Stipulation.

V. CONCLUSION

WHEREFORE, for all the reasons set forth herein, the Staff of the Illinois Commerce Commission respectfully requests that its recommendations be adopted in this proceeding.

Respectfully submitted,

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