STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission	)	
On Its Own Motion	)	
	)	
vs.	)	
	)	**Docket No. 04-0677**
Illinois Power Company	)	
d/b/a AmerenIP	)	
	)	
Reconciliation of revenues collected under	)	
gas adjustment charges with actual costs	)	
prudently incurred.	)	

REPLY BRIEF OF
ILLINOIS POWER COMPANY
d/b/a AMERENIP

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ORAL ARGUMENT REQUESTED

August 24, 2006

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I. Introduction

The Initial Brief of Illinois Power Company d/b/a AmerenIP ("AmerenIP", "Illinois Power" or "Company") anticipated and responded to most of the arguments in Staff's Initial Brief in support of Staff's contention that AmerenIP was imprudent in certain aspects of its management of the Hillsboro Storage Field ("Hillsboro", "HSF" or the "Field"). In this Reply Brief, AmerenIP responds to the arguments in Staff's Initial Brief by referring to the applicable portion of the Company's Initial Brief wherever possible. As shown in AmerenIP's Initial Brief and in this Reply Brief, the Company managed its operations at Hillsboro, including the investigation, identification and remediation of the causes of the HSF deliverability decline, in a prudent and reasonable manner. Staff's position fails to consider all (and only) the information available to Company management during the time periods at issue in this case. Staff's position was developed on the basis of information available only in hindsight and not at the times the Company had to make decisions and take actions. Staff's position manifests at most a difference in judgment between Staff (in hindsight) and Company personnel (during the time periods at issue in this case), and constitutes an inappropriate application of the prudence standard.

For ease of reference, the Company's Reply Brief is organized consistent with the organization of arguments in Staff's Initial Brief.

II. Recoverable Hillsboro Storage Gas Costs (Response to pages 4-7 of Staff Initial Brief)

The Company agrees with Staff's conclusion at pages 6-7 of its Initial Brief that this adjustment, originally proposed by Staff witness Ms. Jones, has been withdrawn and the issue resolved and that there is no adjustment for the Administrative Law Judge ("ALJ") or the Commission to rule on. The Company acknowledges that by withdrawing its proposed adjustment, Staff is not conceding that it agrees with the manner in which the Company

accounted for the Hillsboro inventory adjustment and the impact on recoverable gas costs. The Company at the same time maintains that its original calculation and accounting were appropriate, but agrees with Staff that the issue of whether the Company's approach or Staff's approach would have been more appropriate when the inventory adjustment was made has been mooted by the passage of time.

III. Staff's Position That AmerenIP Acted Imprudently in the Investigation, Determination and Remediation of the Cause of the Hillsboro Deliverability Decline Should Be Rejected

A. Overview of Staff's Position (Response to pages 7-17 of Staff Initial Brief)

Staff's summary of its position, at pages 9-13 of its Initial Brief, highlights that Staff's position is based on the benefit of hindsight, is grounded in speculation, and represents at most a difference in judgment as to what the more appropriate course of action should have been at the time the Company was taking the actions that are relevant to this case. Staff's arguments do not demonstrate that AmerenIP acted imprudently, and do not overcome the Company's affirmative demonstration that it acted prudently in investigating, determining and remediating the causes of the Hillsboro deliverability decline.

Staff attempts to attribute the Company's underestimation, in 2000, of the amount of the Hillsboro injection meter over-registration to the fact that the Company reduced the number of its storage field supervisors in beginning in 1993. (Staff Init. Br., pp. 9-10.) Staff's argument completely overlooks the fact that the reason AmerenIP could not accurately calculate the extent of the injection meter over-registration – which was caused by the injection meters over-spinning when the plant compressors operated at certain loading levels – was that the Company had not maintained records of the loading levels at which the compressors had operated on a day-to-day basis over the 1993-1999 period. (AmerenIP Ex. 3.0, p. 22.) Staff has never contended that the Company should have maintained daily records of the compressor operating levels.

Further, while Staff insinuates that the Company underestimated the amount of the injection meter over-registration in 2000 because it had reduced the number of storage field supervisors in 1993 (Staff Init. Br., pp. 9-10), the Company's estimate of the injection meter over-registration was based on the judgment and experience of its storage field operators as to the amount of time the compressors had operated at the different loading levels over time. Staff's arguments are inconsistent, because while it contends the Company could have made a better estimate if it had had more "supervisory and technical personnel," it dismisses as "unsupported" (*id*., p. 10) the calculation of the injection meter over-registration that was based on the experience and judgment of Company personnel as to the frequency with which the compressors had operated at different loadings. In any event, from 1991 to 2003 the Company reduced its staffing at the storage fields by only two employees, from 19 to 17. (*See* AmerenIP Init. Br., p. 54.) More generally, as the discussion of the history of the Hillsboro investigation at pages 14-26 of AmerenIP's Initial Brief recounts, the Company made significant use of outside consultants and contractors in investigating the HSF deliverability decline. There was no shortfall in the level of resources the Company devoted to this investigation.

Staff exaggerates in contending that the 1999 Peterson study found "multiple problems" with the HSF withdrawal meters. (Staff Init. Br., p. 10.) The only "problem" found with the four withdrawal meters was an incorrect label on one orifice plate which showed the orifice diameter to be 10% larger than it actually was. (*See* AmerenIP Init. Br., p. 20.) With respect to Staff's contentions that the Company should have disassembled the orifice meters to inspect the orifice plates at least annually and probably more frequently, the orifice meter with the mis-labeled plate had been used for gas withdrawals on a total of only 195 days (only about 6-1/2 months of actual operation) in six years – as the Staff witness testified, orifice plates don't get

dirty unless gas is passing through them. (*Id.*, p. 38; Tr. 93.) Further, as discussed in §III.C.2.a of AmerenIP's Initial Brief and below in this Reply Brief, there were other, good reasons why it was not necessary to inspect the orifice plates with the frequency contended by Staff. Finally, the assertion that AmerenIP did not follow any inspection criteria for the orifice meters is incorrect; the Company followed a regular, annual inspection and calibration procedure for the orifice withdrawal meters. (*See* AmerenIP Init. Br., pp. 37-38.)

Most importantly, however, Staff's assertion that if the Company had discovered the mis-labeled orifice plate on the withdrawal meter at an earlier date, it would have determined the extent of the injection meter over-registration much sooner (Staff Init. Br., p. 11), is completely speculative. This topic was addressed in §III.C.2.b of the Company's Initial Brief, but the bottom line is that even if there had been *no* orifice withdrawal metering error, the estimate of the injection meter over-registration still would have been significantly understated. The Commission can evaluate in this case whether the Company was imprudent in not making a better estimate, in 2000, of the injection meter over-registration (and AmerenIP believes the record shows it was not imprudent), but the fact that there was also a withdrawal meter over-registration due to the mis-labeled orifice plate has no bearing on this question.

Staff also asserts in its Overview that "a reduction in manpower creates a situation where a utility may become more reactive versus proactive with regard to its capital spending." (Staff Init. Br., p. 12.) While AmerenIP reiterates that Staff greatly exaggerates the extent of the "reduction in manpower", the Company also notes that the Staff witness never contended in testimony that "reduction in manpower" resulted in a reduction in the Company's storage field capital expenditures. Staff *has* argued that the Company may have reduced storage field capital expenditures because capital expenditures cannot be included in rates until the next rate case.

(Staff Init. Br., p. 12.) However, the Company's strong and growing (over the period in question) storage field operation and maintenance ("O&M") spending disproves this contention, since increased levels of O&M spending between rate cases can *never* be recovered, not even in the next rate case.[1] (*See* AmerenIP Init. Br., pp. 59-60.) In any event, Staff has yet to provide any indication of how increased storage field capital spending in 2002 through 2004 (the years in which Staff contends the Company's storage field capital expenditures declined to unacceptable levels) would have enabled the Company to discover the cause of the HSF deliverability decline in 2000 or 2001 when Staff contends it should have been discovered.

Staff's contentions that due to the reduction in the number of storage field supervisors the Company also failed to conduct adequate root cause analyses is likewise unfounded. Staff's argument is based on just two occurrences, the investigation of the December 2000 Hillsboro tank incident, and the purported failure (according to Staff) of the Company's gas dispatchers to notice additional gas entering its gas system due to the HSF injection metering error. (Staff Init. Br., p. 11.) As to the first occurrence, while Staff is apparently frustrated because the Company has not agreed with the Staff witness's theory as to what caused the December 16 incident, the record shows AmerenIP has implemented corrective actions that will prevent the incident from reoccurring, even if the Staff witness's theory is correct. (*See* AmerenIP Ex. 3.3, pp. 24-26, and §III.C.4.a of this Reply Brief.) Therefore, the purpose of a root cause analysis – to identify and implement corrective and preventative actions to prevent the incident from recurring – has been fulfilled. With respect to the other item cited by Staff, "Gas Dispatch Tracking", the problem

[1]The Staff witness agreed that in order to get a complete picture of what the Company has spent to maintain its storage fields, it is necessary to look at both capital expenditures and O&M expenditures. (Tr. 106-107.) He also testified that he has reviewed AmerenIP's storage field O&M expenditures in PGA reconciliation cases since 2000 but has not expressed any concerns over the level of the O&M expenditures. (Tr. 107-108.)

according to Staff was the inability of AmerenIP's central gas dispatch personnel to detect excess gas entering the distribution system due to the HSF injection metering error. (Staff Init. Br., pp. 11-12.) While the Company has shown Staff's "gas dispatch tracking" argument is unfounded (*see* §III.D.4.b of AmerenIP's Initial Brief), by Staff's own characterization of this issue, it had nothing to do with the number of supervisory personnel at the *storage fields*.

Staff's fundamental position is that "[t]he Company should have recognized the inventory shortfall at the Hillsboro storage field at a much earlier date" and started replacing the depleted inventory in 2000 rather than in 2003.[2] (Staff Init. Br., p. 13; Tr. 56.) However, as the Company showed in its Initial Brief, recognition of an "inventory shortfall" was not the issue; rather, the problem was determining the *cause* of the inventory shortfall, *i.e.*, whether gas injected into the storage field was leaking or migrating from the reservoir to areas where it could not be recovered, resulting in the inability to withdraw the full amount of working gas inventory anticipated when the Field was expanded.[3] Staff acknowledges that observations of reduced gas volumes in the Field, or of reduced withdrawal volumes, could have been caused by gas migrating away from the underground reservoir structure. (*See, e.g.*, Staff Init. Br., p. 24; Tr. 82-83.)

Staff also agrees that the Company needed to continue investigating potential reservoir or structural causes of the HSF deliverability decline, as it did during 2000-2002. (*Id*., p. 23.) The Staff witness specifically testified that even if the Company had determined in 2000 that the

[2]At this point in its Initial Brief Staff asserts that had the Company begun replacing the inventory in 2000 rather than in 2003, "the Hillsboro storage field would not have experienced a decline in its peak day rating during the reconciliation period." (Staff Init. Br., p. 13.) However, Hillsboro did not experience a decline in its peak day rating during 2004 – the Field had been restored to its full peak day rating in 2003, as Staff acknowledges elsewhere (*e.g.*, Staff Init. Br., p. 15).

[3]*See* §III.C.4 of AmerenIP's Initial Brief.

working gas inventory had been depleted due to an injection metering error, the Company still would have had to consider potential problems with the reservoir or other structural problems. (Tr. 82.) He also testified that the results of drilling the Furness well (which did not find the separate substructure to which it was believed gas was migrating) in November 2000 did not necessarily eliminate the potential that other structural or reservoir problems existing at the Field. (Tr. 83.) Further, the Staff witness did not take issue with any of the actions the Company took in attempting to determine if there were a reservoir or structural problem:

- It was not the Staff witness's position that the Company should not have conducted the 3-D seismic analysis. (Tr. 76.)

- It was not the Staff witness's position that the Company should not have drilled the Furness well in 2000. (Tr. 77-78.)

- It was not the Staff witness's position that the Company should not have conducted the crosswell seismic surveys in 2001 after drilling the Furness well. (Tr. 78-79.)

- It was not the Staff's witness's position that the Company should not have had well stimulation treatments performed at individual wells in 2000, 2001 and 2002. (Tr. 79-80.)

- It was not the Staff witness's position that the Company should not have conducted neutron logs to attempt to detect if gas was leaking from the reservoir structure. (Tr. 79-81.)

- It was not the Staff witness's position that the Company should not have conducted flame ionization surveys to detect for leakage. (Tr. 81-82.)

Yet in Staff's view, AmerenIP should have begun reinjecting massive quantities of replacement inventory into Hillsboro in 2000, *before* the Company had investigated and ruled out the potential structural causes for the "inventory shortfall" and the declining deliverability. (*Id.*) In AmerenIP's view this approach would not have been prudent (even if the Company had not underestimated the amount of the injection meter over-registration). The Company in fact prudently and conservatively did <u>not</u> take the course of action that Staff – with the benefit, in

hindsight, of the knowledge that there was not a structural or reservoir problem – now contends the Company should have followed. The Company's approach was prudent based on the circumstances confronting management and the information available to management at the time (2000-2001), even taking into account the information Staff contends should have been considered sooner. Staff's arguments do not show that the Company acted imprudently in the investigation, determination and remediation of the HSF deliverability decline.

Staff states that its position in this case is "closely related" to its position in Docket 04-0476, AmerenIP's 2004 gas rate case, where the Commission found the Hillsboro Field was only 53.44% used and useful and did not allow the Company to include in rate base the cost of the replacement base gas inventory for HSF. Staff also states that the adjustments in Docket 04-0476 and the prudence disallowance it proposes in this case are not "redundant". (Staff Init. Br., pp. 7-8.) AmerenIP agrees that the adjustments in Docket 04-0476 and a prudence adjustment in a PGA reconciliation case are not "redundant", but the Company emphasizes that the latter adjustment does not necessarily follow from the former. The rate case conclusion that HSF was not 100% used and useful was based on the operating condition of the Field at the point in time the Commission used for the analysis, which was based on the 2003 test year in that case.[4]

More importantly, a non-used and useful determination is not dependent on the factors that have resulted in the utility asset or facility being not fully used and useful at the point in time that determination is made, nor on whether the reduced operating status of the facility was due to imprudent actions by the utility. Conversely, the fact that a facility is determined to be less than 100% used and useful at a point in time does not mean the utility has acted imprudently – the

[4]Among other things, the used and useful analysis reflected operation of the Field during periods when it was not operating at 100% peak day capacity, which was not the case in 2004. (*See* Order in Docket 04-0476, May 17, 2005, pp. 29-31; Staff Init. Br., p. 15.)

reduced used and usefulness of the facility could be due to factors beyond the utility's control and could have occurred despite prudent actions by the utility. Additionally, as AmerenIP pointed out at pages 33-34 of its Initial Brief, the Commission's decision in Docket 04-0476 not to allow the cost of the replacement HSF base gas inventory in rate base, and the Appellate Court's affirmance of that decision, were based on Staff's testimony that the Company's estimate of the amount of the inventory depletion was not reliable – not on a determination that the Company had acted imprudently.

Finally, AmerenIP does not find any specific inaccuracies in Staff's "Summary of Company's Actions at Hillsboro" (Staff Init. Br., pp. 16-17), but it is woefully abbreviated. A more comprehensive summary is provided at pages 14-26 and 43-51 of the Company's Initial Brief. Staff's summary of the Company's actions is symptomatic of the way Staff focuses (with the benefit of hindsight) on the very few things Staff contends the Company *should have done* and the conclusions Staff contends the Company *should have reached*, while glossing over all the things the Company *did do* to try to pinpoint the cause of the HSF deliverability decline. It further demonstrates that Staff's analysis is not a proper application of the prudence standard.

B. The "Specific Hillsboro Actions" Cited by Staff Do Not Demonstrate that AmerenIP Was Imprudent (Response to pages 18-35 of Staff Initial Brief)

In support of its claim that the Company should have "detect[ed] the large inventory problem" sooner, Staff relies on three specific items with respect to the Company's actions at Hillsboro.[5] AmerenIP addressed these three arguments at pages 26-43 of its Initial Brief and demonstrated that Staff's arguments are based on hindsight, do not show the Company failed to

[5]As noted earlier, the issue in real time was not "detect[ing] the large inventory problem" but rather determining why there was a "large inventory problem", *i.e.*, why the Company could not withdraw gas it had injected into HSF and whether the reason was that gas was leaking from the reservoir structure or migrating to inaccessible areas of the underground formation.

act prudently, and represent a misapplication of the prudence standard. Further, Staff's arguments fail to address the fact that even if the Company had more accurately estimated the extent of the injection meter over-registration in 2000 or 2001, it still would not have been prudent to begin injecting substantial quantities of replacement gas inventory into HSF until the Company had completed its investigations and ruled out potential reservoir or structural problems. (*See* AmerenIP Init. Br., pp. 43-52.) Indeed, Staff acknowledges that "Staff does not dispute the Company's need to investigate the potential reservoir problems at the field" and that "It is true that an investigation into the potential problems with the reservoir or other structural problems was warranted." (Staff Init. Br., pp. 17, 23.)

1. Staff's Argument Concerning the "Hillsboro Metering Review" Does Not Demonstrate That the Company Failed to Act Prudently (Response to pages 18-24 of Staff Initial Brief)

The Company readily acknowledges that in 2000, after the Hillsboro injection meter over-registration problem was discovered and corrected, it significantly underestimated the aggregate amount of the over-registration that had occurred prior to discovery of the problem. However, the question of prudence does not turn on the fact that the estimate was inaccurate, but on whether the Company acted reasonably based on the information available to it at the time. As explained at pages 29-30 of AmerenIP's Initial Brief, the Company had not maintained hourly records of the loading levels at which the Hillsboro compressors operated over the relevant historical period, and Staff has never contended that such records should have been maintained. As a result, the Company had no basis to replicate the operating history of the compressors and to calculate the over-registration that had occurred each day. Instead, the Company used the best information it had available, which was the experience and judgment of its operating personnel as to the percent of time the compressors had operated at different

loading levels, coupled with the calculations provided by Peterson Engineering of the percentage over-registration at specified compressor loading levels. (AmerenIP Init. Br., pp. 21, 29-30.)

Further, the amount of the injection meter over-registration to which Staff compares the original calculation – 5.8 Bcf – has never been accepted by the Commission. As discussed at pages 32-34 of AmerenIP's Initial Brief, in Docket 04-0476 the 5.8 Bcf figure, and the methods used by the Company to develop it, including the use of temperature and pressure data from the individual injection/withdrawal ("I/W") wells, were heavily criticized by Staff as inaccurate and unreliable, and these criticisms were accepted by the Commission as grounds to reject use of the 5.8 Bcf figure. In Docket 04-0476 Staff's overall recommendation with respect to the amount by which the Hillsboro inventory had been depleted was that the Company's estimate of the gas measurement errors was unreliable. (Tr. 74-75.)

Staff contends that in 2000, the Company should have estimated the injection meter over-registration that had occurred from 1994 to 1999 by using well charts from the I/W wells from 1994 that had previously been integrated. (Staff Init. Br., pp. 21-22.) Staff again ignores the fact that in Docket 04-0476, it criticized the correction factor the Company developed (in 2003) from the 1994 well chart data as inaccurate and unreliable. Specifically, the Staff witness in Docket 04-0476 (who is also the Staff witness in this case) criticized the correction factor the Company developed using the integrated well chart data as not reasonable. (Tr. 73-74.)

In this case, the Staff witness acknowledged that the metering on the I/W wells was not set up in accordance with American Gas Association ("AGA") guidelines, was not set to custody transfer accuracy and would have some error, and was not intended for inventory measurement.[6]

[6]As the Staff witness testified, the meters on the I/W wells were installed to control the injection of methanol based on differential pressure and to provide an indication of relative flows between the I/W wells, and were not intended for inventory measurement. (Tr. 68.) (Methanol is injected

(Tr. 63, 68.) In Docket 04-0476, the same Staff witness testified that since these meters were not set to AGA guidelines, they are not reliable enough to be used to accurately calculate the injections into HSF, and that Peterson Engineering had advised the Company at the time that any volumes computed from the well metering should be considered only estimates.[7] (Tr. 65.) Specifically, the Staff witness testified there that the correction values the Company calculated from the well charts were at best inexact estimates that should not form the basis for any adjustments. (Tr. 68.) He also criticized the Company's use of the well charts as incomplete and pointed out that the Company had only been able to use well chart data from about five days per month. (Tr. 72.) He further testified that the 22% correction factor for the injection metering error, which was the correction factor developed using the 1994 well charts (Tr. 72), was not reasonable. (Tr. 73-74.) Staff's overall conclusion in Docket 04-0476 was that the Company's reliance on the well chart integration values was unreasonable and insufficient and that the Company's estimate of the measurement errors was unreliable.[8] (Tr. 74.)

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into the wells to keep equipment from freezing up; the I/W meters are set to a trip point for methanol injection. (Tr. 68-69.)) In short, it would be incorrect to conclude that because devices were installed at the I/W wells from which one could derive injection volumes, these devices were intended to be used to measure the amounts injected.

[7]In fact, in 2002, *after* the Company had corrected the problem with the main plant injection meters, a comparison of the volumes estimated using integrated well charts from the I/W wells to the volumes recorded on the main plant injection meters showed a deviation that was outside the range of acceptable error allowed by the Commission's metering regulations in 83 Ill. Adm. Code §500.190. (Tr. 66-68.)

[8]Staff's criticisms in Docket 04-0476 were directed at estimates of the inventory shortfall that AmerenIP developed using integrated well chart data from the I/W wells for four of the six years prior to discovery of the main plant injection meter over-registration, which the Staff witness nonetheless criticized as "incomplete." (Tr. 72.) Yet in this case the same Staff witness contended AmerenIP was imprudent because it did not use the I/W well chart data from just *one* of the six years to determine the amount by which the main plant meters had over-recorded injections.

In light of the severe criticisms that Staff, in Docket 04-0476, leveled at the Company's use of and reliance on the well chart data to estimate the amount of the HSF inventory shortfall, and at the accuracy of those estimates (criticisms which the Commission apparently found persuasive), the Company fails to see how it can be labeled imprudent for having not used the 1994 well chart data in 2000 to estimate the amount of the inventory depletion.

Further, Staff ignores the fact that when AmerenIP originally used the 1994 well chart data, it did so under the assumption that the estimates of injection volumes it derived from the well chart were erroneous. Specifically, the Company compared the injection volume estimates derived from the I/W well charts to the injection volumes recorded on the main plant meters and adjusted the injection volumes derived from the well charts to match the injection volumes recorded on the main plant injection meters. (AmerenIP Ex. 3.0, p. 23.)

Finally, even in 2003, AmerenIP did not estimate the amount of the inventory depletion solely using integrated well chart data. Rather, the Company used data from the well charts in conjunction with the reservoir simulation model it had developed of the Hillsboro Storage Field to estimate the amount of the inventory depletion. Development of the reservoir simulation model was an ongoing process and the model was not fully developed in 2000 as it was in 2003 when it was used to estimate the inventory depletion. (AmerenIP Ex. 3.0, pp. 24-26.) Thus, Staff's suggestion that AmerenIP simply should have done in 2000 what it did in 2003 is flawed.

Staff contends several other analyses the Company performed in 2003 could have been performed in 2000, including analyses of neutron logs, flame ionization surveys, tests for recirculation leakage through plant equipment, analysis of reservoir performance and volumetric analysis, which would have helped eliminate various potential reservoir or structural causes for the HSF deliverability decline. (Staff Init. Br., pp. 21-22.) This Staff argument was not made by

the Staff witness in his testimony in this case and was not made in his testimony in the two previous cases in which he testified on the HSF deliverability decline. Further, this Staff argument is flawed in a number of ways.

First, while the flame ionization surveys and the analysis of recirculation through plant equipment showed that gas was not leaking through the ground surface or from plant equipment (AmerenIP Ex. 3.0, p. 17), and these were appropriate studies to conduct after the Company had first investigated more likely causes for the HSF deliverability decline in earlier years, the extent of the deliverability decline made it unlikely that it could have been caused entirely by surface or above-ground equipment leakage.

Second, the neutron log analysis did *not* eliminate possible structural causes for the HSF deliverability decline. The comparison of data from the 2003 neutron logs to neutron logs performed in earlier years indicated that the gas bubble in the reservoir was thinning.[9] (AmerenIP Ex. 3.0, p. 17.) Such thinning of the gas bubble could be caused by gas "fingering" to the edges of the underground structure, trapping it there and making it difficult to access and recover from the existing withdrawal wells.[10] (*Id*., p. 17; AmerenIP Ex. 5.0, p. 9.) In fact, Staff agreed that thinning of the gas bubble could be caused by "gas moving away from the structure." (Staff Ex. 4.00, pp. 7-8; Tr. 83 (Lounsberry); Staff Init. Br., p. 24.) Moreover, Staff is incorrect

[9]The observation made from the comparison of 2003 neutron logs to logs from earlier years was that the gas bubble was thinning *over time*. (AmerenIP Ex. 3.0, p. 17.) A comparison of neutron logs from the same baseline years to logs conducted in 2000 would have covered a shorter period of time and therefore would not have yielded the same results as the analysis based on the 2003 neutron logs.

[10]Indeed, as Mr. Hower explained, in an aquifer storage field like Hillsboro, there is a tendency for the gas to migrate outward (because the gas injected into the reservoir is at a higher pressure than the pressure in the original underground formation), and it can be difficult to get the gas back in to be produced (*i.e.*, withdrawn). (Tr. 169.) This is an inherent tendency in an aquifer storage field and one the Company had to consider in analyzing the deliverability decline.

that the Company did not use neutron logs to analyze the gas bubble prior to 2003. To the contrary, as Mr. Kemppainen testified, prior to 2003 the reduction in the thickness of the gas bubble that the Company detected via the neutron logs was one of the pieces of evidence the Company had that gas could be leaking from the reservoir structure or formation. (Tr. 198.) Thus, contrary to Staff's argument, the Company did use neutron logs prior to 2003 to analyze the gas bubble and these analyses were one of the indications the Company had that the HSF deliverability decline could be caused by a reservoir or structural problem.[11]

Third, the analysis of observation well water levels and water production data over time, conducted in 2003, indicated the volume of gas in the reservoir was decreasing and, by 2003, had decreased to below the gas volumes in the reservoir prior to expansion of the Field. (AmerenIP Ex. 3.0, pp. 17-18.) While this was the observation that was made in 2003, and it ultimately supported the conclusion reached in that year that the cause of the deliverability decline was not structural (*id*.), this observation is also time dependent, which means that the same results would not have been observed in 2000. Staff argues that AmerenIP should have recognized the significance of the fact that by the 1999-2000 winter, the amount of gas withdrawn from HSF had declined to below the pre-expansion withdrawal levels (Staff Init. Br., p. 22), but Staff is confusing two separate observations. The fact that the amount of gas *withdrawn* from HSF was less than pre-expansion withdrawal amounts did not explain *why* more gas could not be withdrawn; the *cause* of the low withdrawal levels could have been that gas injected into the Field was leaking or migrating away from the underground structure, or irregular growth of the

[11]One of the other pieces of evidence that gas was leaking or migrating from the reservoir was the 3-D seismic analysis that indicated the existence of a separate substructure to the northeast of the Field to which 3.5 Bcf of gas had migrated. (Tr. 198-99; AmerenIP Ex. 3.0, p. 9.) This possibility was not negated until after the Company drilled the Furness well in November 2000 and conducted the crosswell seismic surveys in 2001. (AmerenIP Ex. 3.0, pp. 13-14.)

gas bubble in the reservoir.[12] (*See* AmerenIP Init. Br., p. 46; AmerenIP Ex. 5.0, pp. 8-10; AmerenIP Ex. 3.0, pp. 38-39; AmerenIP Ex. 3.3, pp. 8-9; Tr. 82-83 (Lounsberry).) The fact that deliverability had declined to below the pre-expansion levels (3.1 Bcf) indicated that a physical breach of the reservoir could have occurred during the expansion. (AmerenIP Ex. 3.3, p. 10.) Further, if there were a physical breach or an undetected fault in the reservoir, this would mean that gas would continually escape from the Field (Tr. 191), making massive reinjections unwise.

Finally, the volumetric analysis, which used data on the physical volume of the underground reservoir and gas saturation data from neutron logs to develop an estimate of gas volumes in the reservoir, was also time-dependent because it involved a comparison of data gathered in 2002 to data from 1993. (AmerenIP Ex. 3.0, p. 18.) Further, while this analysis supported the conclusion reached by the Company in the spring of 2003 that the cause of the HSF deliverability decline was not a reservoir or structural problem, that conclusion was by no means based on the results of this analysis alone. Rather, that conclusion was based on the aggregate information gathered from all the studies and analyses the Company had conducted over the preceding several years, including the 3-D seismic study and the analysis and re-analysis of that data, drilling the Furness well, the crosswell seismic surveys, the well simulation treatments, the neutron log analyses and the flame ionization surveys, as well as the volumetric analyses. (AmerenIP Ex 3.0, p. 18.) Staff's assertion that had the Company conducted this particular analysis in 2000, it would have recognized there was no structural or reservoir cause for the HSF deliverability decline, does not take into account the time-dependent nature of this

[12]Another possible cause was formation damage at or in the vicinity of one or more withdrawal wells which prevented the Company from accessing and withdrawing all the gas that had been injected and was stored in the vicinity of those wells. (AmerenIP Ex. 3.0, pp. 38-39.)

particular analysis, does not take into account all the other analyses the Company performed to reach this conclusion, and is speculative at best.

Additionally, Staff's assertion that, in essence, the analyses the Company conducted over a period of years all should have been conducted in 2000, is unreasonable. The Company conducted a very through, rigorous, logical and systematic work program to determine the cause of the HSF deliverability decline, by investigating the most likely causes of the deliverability decline first. (AmerenIP Ex. 5.0, pp. 4-7, 10-13.) The fact that the Company did not conduct certain analyses several years earlier (in addition to the fact, as discussed above, that they would not have produced the same results if conducted several years earlier) was not due to "lack of manpower" or "lack of effort" as Staff insinuates (Staff Init. Br., pp. 22-23), but rather due to the need to investigate and eliminate potential causes in a systematic and logical manner.

In any event, the bottom line of Staff's argument is that if the Company had performed these analyses sooner, it would have recognized there was a "massive inventory shortfall" in HSF and would have commenced reinjecting gas in 2000 to replace this "massive inventory shortfall." (Staff Init. Br., pp. 23-24.) However, as AmerenIP showed in its Initial Brief, identifying a "massive inventory shortfall" did not explain *why* the inventory shortfall had occurred – it could have been caused by gas leaking or migrating from the underground reservoir or other reservoir or structural problems – and it would *not* have been prudent to begin reinjecting significant amounts of replacement gas inventory before the Company had determined the inventory shortfall was *not* due to reservoir or structural problems that could cause the reinjected gas to be lost as well. (*See* AmerenIP Init. Br., pp. 43-52.) As Company witnesses Hood and Kemppainen explained:

> The "inventory shortfall" was a symptom of the underlying problem at Hillsboro, not the cause of the problem. The existence of an "inventory shortfall" became

> apparent to IP in 1996. The issue was, what was the cause of the "inventory shortfall". At that time IP began investigating the possible causes of the inventory shortfall. The Company spent the next seven years attempting to determine and isolate the root cause or causes of the inventory shortfall and to eliminate potential root causes. Until the root cause or causes of the inventory shortfall were determined, it would have been imprudent for IP to begin reinjecting gas inventory into the Field. This is because the plausible root causes included the possibility of breaches in the underground structure, the existence of unknown structures, or well problems, that could have resulted in replacement gas injected into the Field becoming inaccessible and unrecoverable. To have followed [Staff's] recommended course of action to begin reinjection of gas in 2000 would have been inappropriate and unwise based on the information available to the Company at the time. (AmerenIP Ex. 3.3, p. 2.)

Similarly, as Mr. Hower explained:

> [I]n his rebuttal testimony (Lines 152 – 155), [Staff] continues to suggest that "the inventory shortfall was the cause of the problems at Hillsboro". Further, he argues that Illinois Power should have recognized this problem earlier than it did. In my opinion, [Staff] is completely wrong. Inventory shortfall was never the cause of the problems at Hillsboro. Rather, inventory shortfall was the result of the problems at Hillsboro. This is a very important distinction. The cause of the problem ultimately turned out to be a metering error. However, the cause of the problem could have been that the structure of the expanded reservoir was different than what the Company had originally believed it to be, or gas losses associated with any of the factors I outlined above. Illinois Power knew there was a problem with declining deliverability in the storage field. But, rather than immediately initiating the injection of replacement gas as [Staff] suggests, Illinois Power devoted considerable resources to investigating and to determining the cause of the problem so that it could be properly corrected or addressed. What [Staff] is suggesting is that Illinois Power should have treated the symptom of the problem, the inventory shortfall, and not the cause of the problem. To do so without a complete and thorough investigation, as conducted by Illinois Power, would have been imprudent. (AmerenIP Ex. 5.1, pp. 2-3.)

Despite arguing the Company should have begun to inject replacement gas into Hillsboro to replace the "massive inventory shortfall" *while it continued to investigate whether there was a reservoir or structural cause* (Staff Init. Br., pp. 22-23), Staff has never explained why it would have been prudent for AmerenIP to reinject significant quantities of replacement gas into the Field while still investigating whether there was a reservoir or structural problem caused by the expansion of the Field that was allowing gas to leak or migrate from the underground reservoir

or otherwise move to inaccessible locations. Staff's arguments simply do not demonstrate that the Company acted imprudently. To the contrary, the facts demonstrate AmerenIP acted prudently, conservatively and reasonably in its handling of the HSF investigation.[13]

2. Staff's Argument Concerning Withdrawal Meter Accuracy Does Not Show that the Company Failed to Act Prudently (Response to pages 24-32 of Staff Initial Brief)

Staff's argument concerning the Company's inspection practices with respect to the Hillsboro *withdrawal* meters were largely addressed at pages 35-41 of AmerenIP's Initial Brief. To reiterate the most important, top level points:

- Staff's argument is based entirely on the Company's inspection practices with respect to the HSF *withdrawal* meters. The HSF deliverability decline resulted from over-registration by the Hillsboro *injection* meters and was not due to any problem with the withdrawal meters.

- Staff's arguments are based on a Commission regulation and industry documents that by their terms are not applicable to, and do not establish standards the Company was required to follow with respect to, the HSF withdrawal metering.

- The Company employed maintenance and inspection practices for the HSF withdrawal meters that were appropriate in light of the purpose and use of these meters and their location at the Field.

- Even if the Company had found and corrected the mis-labeled orifice plate on one of the four HSF withdrawal meters earlier than 1999, this would not have led to earlier discovery of the extent of the over-registration that had occurred on the HSF *injection* meters. In fact, even if there had never been a withdrawal metering error, there is no basis to conclude that the true extent of the injection meter over-

[13]Obviously, during the period in question, the Company did reinject some gas into HSF each year, but only the amount that it had been able to withdraw during the previous season, and only to attempt to maintain a working gas inventory of 4 Bcf -- in 1999, the Company made an adjustment so that it operated HSF as though it had only 4 Bcf of working gas inventory. (Tr. 196-98, 200-201.) By injecting the same amounts it had been able to withdraw the previous season (up to 4 Bcf), the Company was injecting an amount it felt it was not at risk of losing due to leakage. (Tr. 200-201.) Even with this conservative approach, however, the amount of gas the Company was able to withdraw continued to decline each winter, and this trend continued even after the injection meter over-registration problem was discovered and remediated in 2000. (*See* Staff Ex. 2.00, p. 9.)

> registration would have been discovered sooner. The Company did under-estimate the amount of the injection meter over-registration in 2000, after it was first discovered, but the reasons for the under-estimation were independent of the much smaller withdrawal meter error.

Staff acknowledges that the Commission's Code Part 500 does not apply to utility storage fields and that AGA Report #3 contains guidelines for the *installation* of orifice meters.[14] (Staff Init. Br., p. 25 n. 6 and p. 26 n. 7.) Indeed, the text of the specific provision from Code Part 500 that Staff relies on shows that by its own terms it is not applicable to meters at utility storage fields: "Each utility *furnishing metered gas service* through orifice type meters (flow meters) shall . . . ." (*Id*., p. 25.) The Company does not furnish metered gas service using its storage field meters; rather, it furnishes metered gas service to customers using the meters installed at customers' premises, which is the metering the Code Part 500 provisions apply to, as the Staff witness agreed. (Tr. 89.) Finally, the text quoted by Staff from the third document it relies on, the "AGA Gas Measurement Manual, Orifice Meters, Part No. Three", states that it "is offered only as a guide".[15] (*Id.*, p. 27.)

Staff quotes provisions from AGA Report # 3 that orifice plates shall be clean at all times and free from accumulations of dirt, ice and other extraneous materials, 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 visible defects. (Staff Init. Br., pp. 26-27.) However, AGA Report #3 is an installation standard, not an operation and maintenance standard, and the provisions

[14]In fact, the Staff witness admitted there are *no* ICC standards applicable to storage field meters. (Tr. 83-84.)

[15]The inspection schedule suggested as a guide by the portions of this AGA document cited by Staff might be appropriate in the context of custody transfer meters such as an orifice meter used to measure the gas delivered by a pipeline to a utility for billing purposes or an orifice meter at a customer's premises used for billing the gas delivered to the customer. However, these are not the uses to which the storage field withdrawal meters are put.

quoted by Staff specify the condition of an orifice plate at the time it is *installed*.[16] (AmerenIP Ex. 3.0, p. 30.) As the Company witnesses pointed out, AGA Report #3 explicitly states:

> A.G.A. Report No. 3., Part 2 furnishes the *specifications and installation* requirements for the measurement of single phase, homogenous Newtonian fluids using concentric, square-edged, flange-tapped orifice meters. It provides the specifications for the *construction and installation* of orifice plates, meter tubes, and associated fittings. (AmerenIP Ex. 3.3, pp. 19-20 (emphasis added).)

The HSF orifice withdrawal meters were clean when installed and were installed to the standards of AGA Report #3, and Staff has not disputed this fact. (*Id*.) Staff's assertion that the Company "ignored the language it claimed to follow from AGA Report #3 Part 2 that indicated the orifice plate should be clean at all times" (Staff Init. Br., p. 28) is bogus and continues, inappropriately, to apply the provisions of this AGA document to a context to which it simply does not apply.

In short, Staff continues to fail to demonstrate why the Company should have been complying (and expending the resources to comply) with meter inspection practices that are not applicable to the meters in question. More importantly, Staff continues to fail to show how the Company can be found to have acted imprudently by not following inspection practices that by their terms are not applicable to the meters in question.

Staff's assertions that AmerenIP "ignored" the orifice meters (Staff Init. Br., pp. 27-28) is contrary to the record. The Company did in fact conduct an annual inspection and maintenance procedure for the orifice meters. (AmerenIP Ex. 3.0, p. 31; AmerenIP Init. Br., p. 38.) Staff also refers to the AGA Gas Measurement Manual as providing guidance that a meter inspection schedule should "match the circumstances faced by the user", and then describes (with no supporting references) a totally speculative inspection process that Staff contends the Company should have followed. (Staff Init. Br., pp. 28-29.) However (as described at pages 38-39 of

[16]The title of this AGA document is "Specification and Installation Requirements." (AmerenIP Ex. 3.0, p. 30.)

AmerenIP's Initial Brief, in AmerenIP Exhibit 3.0, pp. 32-34 and in AmerenIP Exhibit 3.3, pp. 20-21), in light of the use to which the HSF withdrawal meters are put, their physical location at the storage field and the frequency with which they are monitored, there was no need to disassemble and inspect these meters with the frequency argued by Staff.[17]

Staff attempts to respond to some of these facts on a piecemeal basis (Staff Init. Br., pp. 31-32), but its isolated responses do not demonstrate that the Company's approach to the HSF withdrawal meters was inappropriate, let alone imprudent. Further, Staff acknowledges that the HSF withdrawal metering "only operates when the storage field is withdrawing gas" (Staff Init. Br., p. 28), and that contaminates can only be deposited on an orifice meter plate when there is actually a gas stream moving across the face of the plate. (Tr. 93.) AmerenIP reiterates that the withdrawal meter that was found to have the incorrectly-labeled orifice plate had operated a *total* of only 195 days, or about 6-1/2 months of operation, over the period 1993 to 1999. (AmerenIP Init. Br., p. 38; AmerenIP Ex. 3.0, pp. 10, 32.) This is in sharp contrast to a custody transfer meter at a pipeline-utility delivery point or at a retail customer's premises that would be expected to operate (have gas passing through it) virtually every day of the year, and therefore should be inspected with greater frequency.

Staff also states that dirty orifice plates can cause measurement errors, and cites (i) a study by Nova Corporation that found a 3.3% measurement loss when grease was deposited on an orifice plate, and (ii) another report that indicated very large errors could exist with very dirty orifice plates. (Staff Init. Br., p. 29.) However, the reports Staff cites provide no guidance as to any possible measurement errors that may have occurred on the HSF orifice withdrawal meters:

[17]For example, the Staff witness testified that in light of the close proximity of the HSF orifice withdrawal meters to the dehydration towers and other equipment at the Field, "most of the contaminate should be knocked out before it ever reaches the orifice metering." (Tr. 92-93.)

- In the Nova study, eight disks approximately 0.4 inches in diameter by 1/16 inch thick were placed at the edge of an 8 X 1.5 inch orifice plate, resulting in a 3.3% measurement error; however, when the disks were moved to the mid-point between the pipe wall the orifice, *no* error was measured. Further, the size of the orifice plate and the orifice openings in the HSF withdrawal meters are much larger than those used in the Nova study, and other conditions used in the test were different from those at the HSF meters.[18] (AmerenIP Ex. 3.0, pp. 34-35.)

- In the other document cited by Staff, an article by Richard Rollins ("Rollins paper"), the 27.4% measurement error cited by Staff related to an orifice plate coated entirely on both sides with ¼ inch of valve grease. These conditions far exceeded those experienced with the HSF orifice plates. The Rollins paper also reported the impacts of much less severe (dirty) orifice plate conditions than the one example cited by Staff, and reported much smaller (and in some cases no) measurement accuracy impacts from these less dirty conditions.[19] (*Id.*, p. 35.)

In any event, even if AmerenIP should have disassembled and inspected the HSF withdrawal meter orifice plates annually and even if it had found the mis-labeled orifice plate earlier than 1999, there is absolutely no basis for Staff's speculative contention that as a result the Company would have discovered the inventory shortfall sooner. (Staff Init,. Br., p. 32.) As AmerenIP has shown in its Initial Brief (pp. 40-41) and earlier in this Reply Brief, while the estimate made of the injection meter over-registration in 2000 was inaccurate and understated, this inaccuracy was not caused by, and had nothing to do with, the fact that a withdrawal metering error had also occurred. Further, as shown in AmerenIP's Initial Brief and in the preceding subsection of this Reply Brief, (i) the realization that there was an "inventory shortfall" at HSF did not tell the Company what the *cause* of the shortfall was, and (ii) it would

[18]Although citing the Nova study in his prepared testimony to support his argument, the Staff witness admitted on cross-examination he had never actually read the Nova study. (Tr. 94-95.)

[19]A complete copy of the Rollins paper, which is entitled "Did You Know – Rules of Thumb in Gas Measurement", was placed into the record as AmerenIP Cross Ex. 1. As the Company witnesses pointed out, the Rollins paper is not a rigorous analytical work and lacks information regarding sources or references for the information provided and for the physical conditions that the error measurements it reports apply to; therefore, one cannot determine if the discussion in the Rollins paper has any relevance to the HSF orifice metering. (AmerenIP Ex. 3.0, pp. 35-36.)

not have been prudent for the Company to have begun reinjecting substantial quantities of replacement gas inventory into the Field before it had determined the "inventory shortfall" was not caused by leakage or migration of gas from the underground reservoir structure or by other structural causes that could have resulted in replacement gas injections becoming inaccessible and unrecoverable as well.

3. Staff's Argument Concerning Top Gas Volume Does Not Show that the Company Failed to Act Prudently (Response to pages 33-34 of Staff Initial Brief)

Staff's third Hillsboro-specific argument is that after the amount of gas withdrawn from the Field during the 1999-2000 and 2000-2001 winters declined to less than the amounts the Company had withdrawn from HSF prior to its expansion, the Company should have recognized that the deliverability decline was the result of an "inventory shortfall." (Staff Init. Br., pp. 33-34.) AmerenIP has already demonstrated the flaws in this Staff argument in §III.B.1 of this Reply Brief as well as at pages 41-43 of its Initial Brief. Specifically, the fact that the Company could not withdraw as much gas as it had withdrawn prior to expanding the Field did not tell the Company what the source of the problem was. To the contrary, withdrawing less gas than the pre-expansion withdrawal volumes was consistent with the occurrence of a breach in the underground reservoir during the expansion process causing injected gas to be lost off-structure (as well as other possible causes for the "inventory shortfall"). Nor did this observation indicate that it would be prudent for the Company to being reinjecting significant amounts of replacement inventory while the possibility of structural or reservoir causes for the deliverability decline still existed and were being investigated. (*See* AmerenIP Init. Br., p. 42.)

Staff's response to these facts, at page 34 of its Initial Brief, is completely non-responsive and amounts to little more than a "sez who". Staff asserts that because the Company had drilled nine new I/W wells and injected 11.5 Bcf of additional gas (base gas plus working gas

combined) at HSF during the expansion, it should have been able to withdraw more than 3.1 Bcf of gas after the expansion. Staff's assertion simply fails to address the fact that the decline of the withdrawal amounts below the pre-expansion level could have been due to a breach in the reservoir. Therefore, based on the circumstances the Company faced and the information it had in 2000-2001, it would have been imprudent to begin injecting significant amounts of replacement inventory into the reservoir at that time. (AmerenIP Ex. 3.3, pp. 9-10.)

4. Staff's Discussion of the Reasons the Company Conducted the Vertical Seismic Profile and the 3-D Seismic Analysis of the Hillsboro Reservoir is Selective and Incomplete (Response to pages 34-35 of Staff Initial Brief)

Staff argues, based on excerpts extracted from documents prepared in connection with the Company's decision to have a vertical seismic profile ("VSP") prepared of the Hillsboro Storage Field followed by a 3-D seismic analysis, that these were "experimental methods", that the reason the Company used these techniques was not necessarily to investigate the deliverability problems at HSF but rather "to optimize both future expansion and current reservoir operations which did not meet the design criteria for annual withdrawal volume," and that the Company recognized at the time (1998) the potential to have to restore inventory to the Field to restore its deliverability, but waited five years to do so.[20] (Staff Init. Br., pp. 34-35.) Staff's extractions from these documents are incomplete and highly selective, and the inferences it seeks to draw are inaccurate. A more complete review of these documents shows that they are fully consistent with the Company's description in this case of its use of the VSP and the 3-D

[20]The VSP was conducted in 1997 and was one of the first initiatives the Company undertook after recognizing a possible deliverability problem at Hillsboro. Based on the results of the VSP, the 3-D seismic survey was conducted in 1998. *See* pages 17-18 of AmerenIP's Initial Brief for a more extensive description of these activities.

seismic analysis in its investigation of the HSF deliverability decline, and that Staff's assertions are unwarranted and do not support its position that the Company acted imprudently.[21]

Staff states that the documents indicated that "the purpose of the VSP was to determine the feasibility of a 3D seismic survey for optimizing gas storage reservoir operations and future field expansion." (Staff Init. Br., p. 34.) AmerenIP witnesses Mr. Hood and Mr. Kemppainen explained in their testimony that the purpose of conducting the VSP was "to evaluate whether conducting a three-dimensional ("3-D") seismic profile of the Field would be a viable approach to defining the structure of the Field." (AmerenIP Ex. 3.0, p. 8.) The discussion in the documents contained in AmerenIP Exhibit 3.4 is fully consistent with this testimony:

- The work order for the VSP (Schedule 1 in AmerenIP Ex. 3.4) states that it is "to determine feasibility of 3D Seismic Survey for optimizing gas storage reservoir operations and future field expansion." The need for "optimizing gas storage reservoir operations" was exactly the problem at hand – as of the date of the work order (April 1997), the Company had experienced several years of declining performance at Hillsboro. (AmerenIP Ex. 3.3, pp. 12-13.)

- Schedules 2 (a March 1997 paper by Professors J.W. Rector and P. Witherspoon) and 3 (a paper entitled "High Resolution, Direct Detection of Gas at the Hillsboro Gas Storage Field using Advanced Seismic Technologies") of AmerenIP Exhibit 3.4 both discuss how data could be obtained through a VSP that would be useful in evaluating if a 3-D seismic study could obtain structural information on HSF. (AmerenIP Ex. 3.3, p. 13.)

- Schedule 4 (a letter from the Company to the Gas Research Institute ("GRI")) states that the VSP would be used to identify whether 3-D seismic could be employed "to delineate the location of the stored gas within the aquifer reservoir" and for "delineating the vertical extent of the gas bubble in the aquifer reservoir**.**" (Emphasis added.) (AmerenIP Ex. 3.3, p. 13.)

- Schedule 5 (a proposal to the Company from Schlumberger Well Services for performing the VSP) states: "The objective [of] the program is to evaluate the feasibility of a successful 3D/4D seismic survey at Hillsboro. Such a survey

[21]Although not cited by Staff, the documents to which it refers were placed into the record as AmerenIP Exhibits 3.4 and 3.5 and were also discussed extensively by Company witnesses Hood and Kemppainen at pages 12-19 of AmerenIP Exhibit 3.3.

would give Illinois Power the reservoir information necessary to increase the field's deliverability**.**"[22] (Emphasis added.) (AmerenIP Ex. 3.3, p. 13.)

All of the above-described activities were relevant areas of inquiry to investigate the deliverability problems that had arisen subsequent to the expansion of the Field and that could have resulted from the activities that had been undertaken to expand the capacity of the underground reservoir. (*Id*.)

The contemporaneous documents in AmerenIP Exhibit 3.4 also described the type of information about an underground storage reservoir that can potentially be obtained through 3-D seismic analysis:

- Schedule 2 states that 3-D seismic surveys "are principally conducted to image geologic structure" and are also "often collected to provide more detailed information about the reservoir, including stratigraphy and delineation of reservoir boundaries." (*See* page 1 of Schedule 2.) (AmerenIP Ex. 3.3, p. 14.)

- Schedules 2 and 3 indicate that the information on the Hillsboro reservoir that could be obtained using 3-D seismic technology include (i) the structural delineation of the Hillsboro anticline, (ii) major faults in the structure, and (iii) the gas bubble thickness and lateral extent at the Hillsboro Field. (*See* p. 2 of Schedule 2 and p. 2 of Schedule 3.) (AmerenIP Ex. 3.3, p. 14.)

The bottom-line point here is that the Company suspected (with good basis) that the deliverability performance of the recently-expanded Field was being impacted by a structural problem with the reservoir, and the Company needed the type of information a 3-D seismic analysis could provide on the shape and characteristics of the underground structure and the gas bubble in order to fully investigate this possibility. Therefore, the Company first commissioned performance of a VSP in order to determine if 3-D seismic analysis could in fact be used

[22]The Schlumberger proposal (Schedule 5 in AmerenIP Ex. 3.4) goes on to describe several issues relating to design of a 3-D seismic study which would be addressed by the VSP.

effectively to determine structural characteristics of the underground reservoir. (AmerenIP Ex. 3.0, p. 8; AmerenIP Ex. 3.3, p. 14.)

Staff also refers to an April 1997 letter from the Company to the GRI in which the Company attempted to obtain some funding for the VSP, which the letter described as "proposed preliminary experimental work." (Staff Init. Br., p. 34; AmerenIP Ex. 3.4, Sched. 4.) The VSP was in fact "preliminary work," in that (as has been explained) it was a feasibility tool to determine if a 3-D seismic analysis would be a viable technique for obtaining structural information on the HSF underground reservoir. (AmerenIP Ex. 3.3, p. 15.) With respect to the reference to the VSP as "experimental", using the VSP and the 3-D seismic techniques for underground gas storage reservoirs was innovative and state-of-the-art at the time. An underground natural gas aquifer storage field is a complex physical system and AmerenIP was investigating using state-of-the-art techniques to assist in evaluating the reservoir. Specifically, the document Staff cites states: "delineating the vertical extent of the gas bubble in the aquifer reservoir pushes the limits of seismic resolution. Therefore, innovative technologies such as VSP may be required for a successful 3D Seismic project." (AmerenIP Ex. 3.4, Sched. 4.)

Although 3-D seismic had been used extensively at that time in investigating oil and gas production reservoirs, the extension of the technique to analyzing gas storage reservoirs was novel. As stated in both Schedules 2 and 3 of AmerenIP Ex. 3.4: "Given the reliance of the oil and gas industry on 3-D seismic, it would seem that extensions to delineating gas storage fields would be straightforward. However, there are several characteristics of gas storage fields, particularly those located in the mid-continent region, that complicate conventional 3-D seismic surveys." (Sched. 2, p. 2; Sched. 3, p. 1.) The discussion in Schedule 3 concludes that the authors believe the use of 3-D seismic analysis for profiling the structure of the gas storage

reservoir "will only be successful if an integrated approach combining seismic measurements on cores, log correlation, synthetic elastic modeling, vertical seismic profiling (VSP), and seismic attribute analysis is used to design and interpret the 3-D seismic data." (AmerenIP Ex. 3.3, pp. 15-16; AmerenIP Ex. 3.4, Sched. 3, p. 1.)

In any event, if Staff is intending to criticize AmerenIP for attempting to obtain outside financial support from GRI for the cost of performing a VSP, AmerenIP does not see the basis for this criticism, or why attempting to obtain outside funding that may have been available from GRI is relevant to the prudence analysis in this case. (AmerenIP Ex. 3.3, p. 16.)

Staff also states that "the first written acknowledgement of deliverability problems at the Hillsboro storage field came from the documentation associated with the 1998 3-D seismic survey." (Staff Init. Br., p. 34.) Staff is referring to documents provided in response to a Staff data request that specifically asked for "the work order(s) and any other documentation regarding the need for the 3-D seismic study conducted in 1998 at the Hillsboro storage field" (*see* AmerenIP Ex. 3.5), not for something broader such as "all documents concerning the entire history of the Company's investigation of the HSF deliverability decline." In fact, Company witnesses testified that "Based on several years of declining annual deliverability, the Company first became concerned that there was a problem with the Field at the end of the 1995 – 1996 withdrawal season." (AmerenIP Ex. 3.0, pp. 5-6; AmerenIP Ex. 3.3, p. 16.)

Finally, referring to documents included in AmerenIP Ex. 3.5, Staff states that these documents "indicated that the 1998 3-D seismic survey at Hillsboro was conducted to optimize both future expansion and current reservoir operations which did not meet the design criteria for annual withdrawal volume" and listed as one of the benefits for conducting this study "that the Company avoids having to inject 3 Bcf of base gas to regain the 7.6 Bcf in annual

deliverability." (Staff Init. Br., pp. 34-35.) Based on these references, Staff asserts that "the Company already recognized in 1998 the potential need to return inventory to the field in order to return it to its rated deliverability." (*Id*., p. 35.) However, both of the statements cited by Staff from the documents are consistent with the Company's description of the Hillsboro investigation. (AmerenIP Ex. 3.3, p. 17.)

- The use of the 3-D seismic technique to optimize "current reservoir operations which did not meet the design criteria for the annual withdrawal volume" is exactly the problem the Company was trying to solve in 1998. (*Id*., pp. 17-18.)

- Schedule 2 included in AmerenIP Exhibit 3.5 states that the benefits of 3-D seismic analysis in terms of improved information about the Hillsboro Field would include "improved reservoir characterization", "identification of gas bubble thickness", "identification of gas bubble perimeter", "shape of reservoir structure", and "supplements conventional well data."

- Similarly, Schedule 4 in AmerenIP Exhibit 3.5 states that "Detailed geologic structure features such as the 'spill point' are more accurately identified with 3D seismic surveys. Also identifies zones of high permeability within the reservoir having lateral and vertical discrimination capabilities . . . The 3D surveys delineate reservoir continuity, create images of small structures, and improve volumetric calculations, geologic modeling, and reservoir simulation."

As AmerenIP witnesses testified in this case, increased gas volumes in a storage reservoir (which occurred in connection with the HSF expansion) can often lead to gas migration out of the storage field across structural spill points. (AmerenIP Ex. 5.0, pp. 6-7; AmerenIP Ex. 3.3, p. 18.) As shown by the references summarized above, the documents included in AmerenIP Exhibit 3.5 described how 3-D seismic analysis could be a useful tool to obtain new information on this and other potential structural causes of the HSF deliverability decline. (AmerenIP Ex. 3.3, p. 18.)

With respect to Staff's reference to the statement in one of the documents that "one of the benefits associated with doing this [3-D seismic] study, among other things, is that the Company avoids having to inject 3 Bcf of base gas to regain the 7.6 Bcf in annual deliverability" (Staff Init. Br., p. 35), one of the possible causes of the reduced deliverability the Company was

investigating was that gas had migrated to locations where it was not accessible by the withdrawal wells, either because the actual shape of the reservoir was different than what it was believed to be, because there were unknown substructures, or due to faults or cracks in the structure. Viewed in the context of the information available to the Company in 1998, if any of these causes were in fact what had happened, but the migrating gas could be located, it would be possible to drill additional wells to access this gas, and thus replacement of the lost gas would not be necessary. The 3-D seismic survey would provide a better image of the underground structure, and could thereby enable the Company to determine if in fact there were previously-unidentified substructures to which gas had migrated, and from which it could be accessed. As discussed in AmerenIP's Initial Brief (pp. 17-18), the original conclusion drawn from the 3-D seismic analysis results was that a separate substructure existed to the northeast of the known reservoir structure, to which approximately 3.5 Bcf of gas had migrated. The Company then drilled the Furness well to confirm the existence of this substructure and to attempt to recover the gas. (*Id.*; AmerenIP Ex. 3.3, pp. 18-19.)

In summary, the statements selectively taken by Staff from Company documents concerning the decisions to have the VSP and then the 3-D seismic survey conducted at Hillsboro do not support the inferences Staff seeks to draw from them. Read in their entirety, these documents show the Company initiated these studies as part of its effort to determine why the deliverability of Hillsboro had declined and whether there was a reservoir or structural reason for the decline. Nor do these documents show the Company had determined it could begin reinjecting significant quantities of replacement gas inventory into HSF until it had determined that the loss or inability to withdraw all of the originally-injected inventory was not due to a

reservoir or structural cause(s) that would cause the replacement injections to be lost or become inaccessible as well.

C. The "Overall Storage Concerns" Cited by Staff Do Not Show that the Company Failed to Act Prudently (Response to pages 35-48 of Staff Initial Brief)

1. Reduction in Peak Day Capacity (Response to pages 36-38 of Staff Initial Brief)

AmerenIP addressed Staff's "overall storage concern" relating to the reduction of the peak day ratings of the Hillsboro and Shanghai Storage Fields at pages 52-54 of AmerenIP's Initial Brief. AmerenIP notes that (as Staff acknowledges at page 36 of its Initial Brief), the Shanghai field operated at reduced peak day capability for only one winter, 2001-2002, and the Hillsboro Field was restored to full peak capability in 2003.[23] In other words, AmerenIP's storage fields operated at their full peak capacities during the year under review in this reconciliation case, 2004.

In its Initial Brief, AmerenIP pointed out that deliverability decline has been reported to be the most common problem experienced by operators in the gas storage industry. (AmerenIP Init. Br., p. 53.) In response, Staff acknowledges that "It is true that storage well and field deliverability declines are not uncommon in the industry", but then goes on to state that "there is a difference between a decline in an individual storage well deliverability and the overall deliverability of a storage field." (Staff Init. Br., p. 37.) Whatever point Staff is attempting to make here is unclear, and is not responsive to the evidence that reductions in storage field deliverability and capacity are common in the industry, not rare occurrences suggesting the

[23]The Company additionally reiterates that in Docket 01-0701, its PGA reconciliation case for 2001, the Commission thoroughly reviewed the facts concerning the reduction of the peak capacity of Shanghai for the 2001-2002 winter and concluded that the Company had acted prudently. (*See* Order in Docket 01-0701, Feb. 19, 2004, pp, 7-11, 16-19, 22-25.)

existence of mismanagement. As AmerenIP witness Mr. Hower pointed out, in his professional experience in evaluating other storage fields that have experienced problems with declines in gas inventory, the most frequent cause was gas leaks or gas losses across faults or through fractures in the reservoir rock, resulting in a permanent loss of gas and an unwanted migration of gas into non-storage reservoirs or aquifers. (AmerenIP Ex. 5.1, pp. 6-7.) Further, neither Mr. Hower's own professional experience nor the overall experience of the gas storage industry as reported by the U.S. Department of Energy ("DOE") is specific to a decline in performance in individual wells.[24] To the contrary, the DOE data is based on declines in deliverability of gas storage *reservoirs*, not individual wells; and in Mr. Hower's professional experience the causes of the deliverability declines have proven to be overall loss of inventory through leakage or migration from the structure, not problems with individual wells. (*Id*.)

Thus, Staff's response fails to rebut the fact that reductions in gas deliverability from a storage field are not uncommon, and do not necessarily signify that a problem or an unusual circumstance exists with the management of a given storage field. (*Id*., p. 7.)

2. Manpower (Storage Field Supervisors) (Response to pages 38-41 of Staff Initial Brief)

AmerenIP addressed Staff's arguments concerning the number of storage field supervisors and total manpower at the storage fields at pages 54-57 of AmerenIP's Initial Brief. The Company pointed out that the total staffing at the storage fields over the period analyzed by Staff was reduced only from 19 to 17, that new foreman positions were created, that throughout this period the Company continued to have a manager of the storage fields who was responsible

[24]As discussed at page 53 of AmerenIP's Initial Brief, data published by DOE shows that, based on more than 350 U.S. storage reservoirs, most gas storage operators experience a loss in deliverability over time; and deliverability decline is reported to be the most common problem in the gas storage industry.

for all the fields, and that the Company made use of external consultants and contractors where needed for special studies or projects. (AmerenIP Init. Br., pp. 54-55.)

Staff also argues that the Company reduced the number of engineers whose responsibility was the storage field, that a geologist employed by the Company retired in 2001 and that a storage field supervisor was also given responsibilities for gas control and dispatch functions. (Staff Init. Br., pp. 39, 40.[25]) This topic was not the subject of any witness's pre-filed testimony and only came up in cross-examination. (In fact, the Staff witness expressly testified that the "reduction in management oversight" he was concerned about was the reduction in the number of storage field supervisors. (Tr. 54.)) However, AmerenIP does not believe the history is as clear as Staff suggests at page 39 of its Initial Brief.[26]

For example, Mr. Hood testified that during the early 1990's and subsequent to that period, the Company has had a geologist and from one to three storage engineers on staff. (Tr. 179-180.) The geologist who had been on Staff, Mr. Morgan, retired in 2001 and his position was taken by Mr. Kemppainen. Mr. Kemppainen, who is an engineer, had 23 years of experience in gas and oil exploration and production before joining the Company in 1992.

[25]This point is also mentioned at pp. 9-10 of Staff's Initial Brief, where Staff asserts it was unreasonable for the Company to reduce the number of supervisory and technical personnel assigned to the storage fields and to give supervisory personnel duties in addition to the storage fields. AmerenIP agrees that it reduced the number of storage field supervisors (while keeping the number of operators constant), but maintains that (as shown in our Initial Brief) this was part of a well-designed plan that did not adversely impact the ability to operate the storage fields safely and reliably. As shown in this section, the Company does not agree with Staff's description of reductions in technical personnel involved with the storage fields. Further, Staff's assertion at pages 9-10 ignores the extensive use the Company made of outside consultants and contractors to assist in specific storage field projects and investigations.

[26]Because this topic was not the subject of their prepared testimony, the AmerenIP witnesses were testifying solely on the basis of cold recollection as to what comprised the Company's gas storage and transmission organization at various points over the preceding 13 years or longer, without the benefit of being able to refer to organization charts or other historic documents from the years discussed.

(AmerenIP Ex. 3.0, p. 2.) Although Mr. Kemppainen was assigned to the Company's gas transmission group prior to replacing Mr. Morgan, due to Mr. Kemppainen's background in storage he was available to assist the gas storage group in investigations, analyses and other needs that group might have, and from 1996 forward he was also involved in the investigation of the HSF deliverability decline. (Tr. 183-84, 194-95.) Mr. Hood, also an engineer, was assigned to the Company's storage field organization throughout the entire period in question. (Tr. 193.) In addition to Mr. Morgan, another engineer, Mr. Eden, was also assigned to the storage field organization until 2001 when he moved to the gas control group. (Tr. 194.)

Thus, the record indicates that during the period of the investigation of the HSF deliverability decline through 2001, the Company had at least three engineers and/or geologists, specifically identified in the record, in the gas storage group, and after 2001 had at least two engineers. Further, in addition to the engineers who were specifically assigned to the gas storage field operations, the Company used other internal engineering resources to help in investigating or analyzing storage field problems or issues.[27] (Tr. 195.) Moreover, throughout the period of the HSF investigation, the Company also used outside engineering resources such as consultants and contractors to assist in investigating and analyzing storage field issues or problems.[28] (Tr.

[27]Staff's apparent criticism that some engineering personnel had responsibilities with respect to both the storage fields and other aspects of gas operations, such as transmission, dispatch and control (Staff Init. Br., p. 39) is not valid. These functions are inter-related and there is no reason why management personnel should be strictly compartmentalized into storage, transmission or dispatch/control functions. In fact, one of Staff's "overall storage concerns" is that the Company's dispatch staff failed to identify the additional gas entering the Company's transmission and distribution systems from the interstate pipelines due to the HSF injection metering error. (Staff Init. Br., pp. 45-48.) Thus, Staff's own arguments recognize the inter-related nature of the gas transmission, storage and dispatch and control functions.

[28]AmerenIP Ex. 2.6 lists numerous studies conducted by outside consultants during the 1998-2004 period at HSF and other storage fields, including studies by EN Engineering, Halliburton, Infrared Scanned Technologies, Peterson Engineering, Packer Engineering, MHA and Westport.

195.) In fact, Mr. Kemppainen testified that at no time during the period 1995-2004 did management deny a request to use outside engineering or geologic resources to assist in an investigation at HSF or other storage fields when Mr. Kemppainen thought there was a need for such external resources. (Tr. 195-96.)

Staff attempts to bolster its argument by referring to testimony of an Ameren Company witness in Docket 04-0294, the proceeding for approval of Ameren's acquisition of Illinois Power, in which that witness testified that (according to Staff) "due to the concerns raised by Staff", following the merger, Ameren would establish a manager level position to lead its storage operation and, within six months after closing, would add additional engineering and supervisory personnel who would focus on storage field activities. Staff speculates that this testimony "could indicate that Ameren shared some of Staff's concerns regarding the level of oversight that IP had over its storage operations"; and asserts that Ameren's "recognition that additional supervisory and technical personnel were needed" is "corroboration of its position that the number of supervisory and technical personnel maintained by [Illinois Power] was insufficient to operate its storage fields in a prudent fashion." (Staff Init. Br., pp. 39-40.)

However, Staff's characterization of the Ameren testimony in Docket 04-0294 is erroneous. First (as the Staff witness admitted on cross-examination), the Ameren witness in Docket 04-0294 stated that Ameren was "familiar with the concerns raised by Staff", *not* that Ameren shared or agreed with Staff's concerns, and certainly not that Ameren was considering adding personnel "due to" the concerns raised by Staff.[29] (AmerenIP Ex. 4.0 Rev., pp. 12-13; Tr. 99-100.) Second, the Ameren witness's testimony in Docket 04-0294 was not based on an

[29]AmerenIP finds it distressing that even though the Staff witness acknowledged in cross-examination that his pre-filed direct testimony did not accurately characterize the Ameren testimony from Docket 04-0294, Staff nonetheless repeats the inaccurate characterization at page 39 of its Initial Brief, citing the same Staff witness's direct testimony.

evaluation of Illinois Power's staffing of its storage fields during the 1999-2001 period, which is when Staff contends the Company acted imprudently, but rather was based on Ameren's evaluation of the management and staffing needs for the entire Ameren storage field operation when Illinois Power's storage operations were integrated into those of the existing Ameren companies after the closing of the acquisition. (AmerenIP Ex. 4.0 Rev., p. 13.) As Ameren witness Scott Glaeser testified in this case, the most important factor in Ameren's evaluation was the need to reorganize all of Ameren's gas storage field operations post-acquisition (including the AmerenCIPS and AmerenCILCO fields as well as the AmerenIP fields) into an organization consistent with the overall Ameren management structure. (*Id.*, pp. 13-14.)

As Mr. Glaeser explained, while Ameren is adding a manager position to oversee all the storage fields of the three Ameren gas utilities, this manager position was added due to the greatly expanded scope of Ameren's storage field operations following the acquisition of Illinois Power, not because of any perceived insufficiency of supervisory staff within the Illinois Power storage operations (AmerenIP Ex. 4.1, p. 3):

- The acquisition of Illinois Power more than doubled the number of Ameren's gas storage fields in Illinois, from five to twelve.[30] (*Id.*; Tr. 101-102.)

- Because of the substantial increase in gas storage assets to be owned by Ameren following acquisition of Illinois Power, Ameren determined it was appropriate to create a manager-level position over all the Ameren-owned storage fields. (AmerenIP Ex. 4.1, pp. 3-4.) Such a position was not viewed as necessary when Ameren owned and operated only five storage fields.

- Similarly, Ameren determined it would be appropriate to add one other engineering/supervisory level position to oversee Ameren's vastly expanded number of storage fields and storage field assets in Illinois. This addition was not motivated by any perceived deficiencies as to the size of staffing within the

[30]In the Ameren testimony from Docket 04-0294 that Staff cited, the Ameren witness testified that "Ameren is committed to establishing an organizational structure commensurate with storage operations of this magnitude." (Tr. 102.)

Illinois Power storage field organization, but rather by recognition that within the overall Ameren management structure the number of fields and the overall value of storage assets would now be significantly expanded. (*Id*., p. 4.)

- With the expanded amount of storage fields and storage assets under Ameren ownership and the resulting economies of scale, management and supervisory staffing levels could be justified and warranted that could not be supported when Ameren owned only five storage fields in Illinois. (*Id*.)

Further, once Ameren, post-merger closing, had the opportunity to fully review Illinois Power's storage field operations, Ameren's assessment of the Company's existing storage field management structure has been positive. In testimony filed in May 2006, more than 18 months after Ameren's acquisition of Illinois Power was closed, Mr. Glaeser testified that Ameren has not found it necessary to add additional supervisors or additional operating personnel at the AmerenIP storage fields. (*Id*., p. 5.) Nor has Ameren seen a need to depart from Illinois Power's pre-acquisition staffing model at its storage fields. In fact, Ameren is utilizing certain aspects of the Illinois Power staffing model, such as concepts of the self-directed work team model, at Ameren's other storage fields. (*Id*.)

3. Capital Expenditures (Response to pages 41-43 of Staff Initial Brief)

AmerenIP addressed Staff's "overall storage concern" relating to capital expenditures at pages 57-61 of AmerenIP's Initial Brief. AmerenIP reiterates that Staff has failed to identify any capital projects Staff believes the Company should have undertaken but did not, either specifically related to the HSF deliverability decline or to other aspects of storage field operations. AmerenIP also reiterates that whereas Staff contends that the storage field capital expenditures were too low in 2002-2004 in contrast to the expenditures for 2000-2001 (Staff Init. Br., p. 41), it is in 2000 and 2001 that Staff contends the Company should have discovered the source of the HSF deliverability decline and begun to reinject replacement inventory. Therefore, there is no correlation between the reduced level of capital expenditures in 2002-2004 cited by

Staff and Staff's theory as how the Company acted imprudently in the HSF investigation. Finally, AmerenIP reiterates that the Company's high and generally increasing levels of storage field O&M expenditures during these years, which Staff did not criticize, belies Staff's assertion that the Company was reluctant to make expenditures that could not be recovered through the PGA between rate cases.[31] (Staff Init. Br., p. 41; s*ee* AmerenIP Init. Br., pp. 59-60.)

Staff refers in its Initial Brief to an isolated comment in a "due diligence" report prepared by Ameren Corporation during its negotiations to acquire Illinois Power, which Staff obtained in discovery in Docket 04-0294. (Staff Init. Br., pp. 41-42.) Staff then purports to summarize AmerenIP's response to this reference (*Id*., p. 42), but fails to mention the testimony of AmerenIP witness Scott Glaeser who addressed the comment in the "due diligence" report directly. Mr. Glaeser was part of Ameren's acquisition team that was responsible for performing due diligence during Ameren's investigation and negotiations concerning the possible acquisition of Illinois Power, and was the co-author of the "due diligence" report cited by Staff. (AmerenIP Ex. 4.0 Rev., p. 7.)

As Mr. Glaeser explained, from the potential buyer's perspective, a primary purpose of the due diligence effort is to identify as many negatives, concerns and risk exposures as possible about the company or assets under consideration, as a basis for negotiating the acquisition price or determining to end the acquisition effort. (*Id*., p. 8.) All of this must be done in a limited amount of time and with incomplete information, in order to determine the maximum risk

[31]The Staff witness did not know whether many of the major initiatives undertaken by AmerenIP in attempting to determine the causes of the HSF deliverability decline – the 3-D seismic analyses, the Peterson metering study, the crosswell seismic surveys, the well stimulation treatments, the neutron logs or the flame ionization surveys – were accounted for as capital projects or as O&M expenses. (Tr. 77, 82.) Without such basic knowledge, Staff's contention that there was a causal relationship between what Staff perceives as reduced capital expenditures in 2002-2004 and the reduced capability of HSF (Staff Init. Br., pp. 42-43) lacks any foundation.

scenario, even if possible risks later prove to be minor or nonexistent. (*Id*.) In fact, the same paragraph of the Ameren report cited by Staff stated that a thorough investigation of Illinois Power's storage fields was needed but there was insufficient time to do this in the "due diligence" period. (*Id*.) As Mr. Glaeser summarized, "due diligence" conclusions are based on incomplete or imperfect information and are focused on identifying all *potential* risks with the objective of negotiating a favorable purchase price, and the isolated statement cited by Staff must be considered in this context.[32] (*Id*., p. 9)

In any event, following the closing of Ameren's acquisition of Illinois Power on September 30, 2004, detailed integration of the Company into Ameren began, with Ameren management at that point gaining full access to Illinois Power's assets, personnel and records. (*Id*.) Mr. Glaeser testified in prepared testimony filed in this case in January 2006 that the detailed integration activities have uncovered no evidence that Illinois Power's capital spending at its storage fields has been inadequate. To the contrary, Ameren's examination of Illinois Power's storage field expenditures has shown that the expenditures have been relatively stable, with some variations occurring due to larger capital projects in some years. Ameren has found no evidence of needed capital projects that were rejected or deferred due to capital spending constraints and no evidence that capital projects were not implemented in a timely manner. (*Id*.) In surrebuttal testimony filed in this case in May 2006 (more than 18 months after the acquisition was closed), Mr. Glaser reiterated that Ameren has found Illinois Power's storage assets to have

[32]Further, any analysis included or reflected in the due diligence report of the Company's actions that Staff claims were imprudent – actions which occurred in 1999-2002 – is a hindsight review that is not appropriately considered in evaluating the prudence of the Company's actions. *See* the Order in Docket 01-0701, the Company's 2001 PGA reconciliation case, in which the Commission concluded that a report prepared in 2001 analyzing events leading to the temporary reduction in the peak day capacity of the Shanghai Field for the 2000-2001 winter "constitutes hindsight review since the possible causes of the reduced deliverability were only identified after IP realized that a problem existed." (Order in Docket 01-0701, Feb. 19, 2004, p. 23.)

been generally well maintained, and has not found that needed capital projects at the storage fields were deferred or avoided under previous ownerships. (AmerenIP Ex. 4.1, pp. 2-3.) Nor has Ameren found any need to make substantial "catch-up" capital expenditures at the AmerenIP storage fields to address needs that were not met under previous ownerships. (*Id*., p. 3.)

In short, Staff's reliance on an isolated comment reported in Ameren's "due diligence" report, which was prepared before Ameren acquired Illinois Power and had the opportunity to fully examine the Company's storage field assets and operations, does not support Staff's position that the Company's storage field capital expenditures (or its storage field staffing) have been inadequate, let alone show that there was any relationship between the level of the Company's storage field capital expenditures and the diligence and thoroughness with which it investigated the causes of the HSF deliverability decline.

4. Identification of Problems (Response to pages 43-48 of Staff Initial Brief)

Staff discusses two "scenarios" that its asserts are "representative" of the Company's "inability to identify problems." (Staff Init. Br., p. 43.) These two scenarios are not "representative," because the Staff witness (in this and the previous two cases in which he has testified concerning Hillsboro) has identified *only* these two "scenarios" as showing the Company's "inability to identify problems."

a. December 2000 Hillsboro Incident (Response to pages 44-45 of Staff Initial Brief)

AmerenIP addressed Staff's arguments concerning the Company's investigation of the December 2000 incident at Hillsboro at pages 61-63 of AmerenIP's Initial Brief. In its Initial

Brief, Staff again fails to identify any additional or different corrective or preventive actions that Staff believes the Company should have taken in response to the December 2000 incident.[33]

Staff states that it considers the factors that led to the over-pressurization of the produced water tank that was involved in the December 2000 incident to have been the real root cause of the incident. (Staff Init. Br., p. 44.) In this regard, the Staff witness's testimony indicated he believed the root cause(s) of the incident were (i) the gas-water separator caused high pressure gas to be released into the produced water tank, and (2) the bubbling of the high pressure gas up through the water in the tank caused splashing and foaming which in turn caused ice to form on the cold interior walls of the produced water tank and seal its manway and its 6 inch vent, thereby leading to over-pressurization of the tank. (Staff Ex. 2.00, pp. 52-54; AmerenIP Ex. 3.3, p. 24.) The record shows that the Company has implemented specific corrective actions to prevent the produced water tank from becoming over-pressurized by these causes. Specifically: (1) the gas can now be vented to air without going into the produced water tank first, so a different pathway exists to vent high pressure gas from the separator rather than just into the tank; and (2) a pressure transmitter has been installed which monitors the internal pressure of the tank and generates an alarm when pressure in the tank rises above normal levels. (*Id*., pp. 24-25.) Further, additional venting capability has been installed on the produced water tank, including a vertical 20 inch rupture disk and a 12 inch emergency pressure vent on the tank roof

[33]*See* AmerenIP Initial Brief, pp. 62-63, noting that in the four dockets in which the Staff witness has given testimony criticizing the Company's investigation of the root cause of the December 2000 incident, he has never identified any respect in which he contends the Company's corrective actions were insufficient or incomplete, nor identified any additional corrective actions he believes the Company should have implemented. *See also* Tr. 143, where the Staff witness testified that he has not identified any additional corrective actions he believes AmerenIP should have implemented.

plus installation of a Teflon gasket in the 24 inch manway vent on the tank. (AmerenIP Ex. 3.0, pp. 46-47; AmerenIP Ex. 3.3, p. 25.)

In short, since the Company implemented corrective actions that specifically address what Staff believes to have been the root cause(s) of the December 2000 incident, and Staff has never identified any additional corrective actions it believes the Company should have implemented, Staff's continued criticisms that AmerenIP has never conducted a proper root cause analysis of the December 2000 incident are baseless.

b. Gas Dispatch Tracking (Response to pages 45-48 of Staff Initial Brief)

AmerenIP addressed Staff's "overall storage concern" relating to "gas dispatch tracking" at pages 63-67 of AmerenIP's Initial Brief, and there responded to most of the arguments in Staff's Initial Brief on this point. The Company notes that the annual and total "measurement error" listed on pages 45-46 of Staff's Initial Brief, which Staff contends the Company should have noticed through its dispatch facility, is the same estimated injection meter over-registration and HSF inventory depletion that the Staff criticized in Docket 04-0476 as inaccurate and unreliable. (Tr. 74-76; s*ee* §III.B.1 above.) Indeed, in its Initial Brief (p. 47) Staff focuses on the estimated metering error for 1994, yet in Docket 04-0476 the Staff witness specifically criticized the Company's estimate of the injection meter over-registration that had occurred in 1994 as not reasonable, and testified that reliance on the well charts to derive this estimate was unreasonable and insufficient. (Tr. 73-74.) Thus, as in the case of Staff's contention that in 2000 the Company should have used 1994 data it had from the I/W well charts to estimate the amount of the metering error, Staff's argument on "gas dispatch tracking" is duplicitous because Staff is treating as factual the estimates of the metering error that Staff previously argued (and persuaded the Commission) were inaccurate and unreliable.

AmerenIP also notes that the use of the estimated amount of metering error for each year, and the contention that the Company should have been able to detect this amount of additional gas entering its distribution system, were totally creations of the Staff witness. Therefore, the implication at page 47 of Staff's Initial Brief, that the Company created the analysis based on an approximate 1 Bcf per year average metering error over the 1994-1999 period, is incorrect, because this number came directly from the Staff witness's testimony.[34] Further, the Staff witness apparently upped his example to 1.5 Bcf per year only after the Company witness demonstrated that the 1 Bcf per year average error the Staff witness originally used would not have been noticeable to the Company's gas dispatchers when considered on an average daily basis. (AmerenIP Ex. 2.8 Rev., p. 8.)

Staff cites a claimed 13% "load forecasting error" it contends the Company should have seen. Staff calculates the 13% figure by comparing (i) the average daily injection metering error over the 1994-1999 period to (ii) deliveries to the Company's system for non-transportation customers only, for a single week in 2003. (Staff Init. Br., p. 46.) However, the total load on the Company's gas system has been declining over time and was lower in 2003 than it was during the 1994-1999 period, so Staff's comparison of the estimated average daily 1994-1999 metering error to daily non-transportation customer throughput in 2003 is inapt. (AmerenIP Ex. 2.8 Rev., p. 13.) Further, Staff erroneously used a figure of 294,984 therms for the daily throughput for firm sales customers in the July 2003 period rather than the correct figure of 538,984 therms, so Staff's calculation of a percentage "load forecasting error" is seriously overstated (*i.e.*, is 7.4% not 13%) even if one overlooks Staff's improper use of only deliveries to the system for non-

[34] *See* Staff Ex. 2.00, p. 56 (asserting the Company "failed to notice an extra Bcf of gas entering its system every year for 6 years"); and AmerenIP Ex. 2.8 Rev., p. 8 (pointing out that the 1 Bcf per year figure used in AmerenIP's testimony was taken directly from Staff's direct testimony).

transportation customers. (*Id*., p. 12) However, this artificial limitation in Staff's comparison cannot be overlooked, because the total deliveries to the system also include deliveries for the account of transportation customers and deliveries used for storage field injections. (*Id*.) This reduces the "load forecasting error" to only 2.8% (again, without considering the fact that system load was generally higher in the 1994-1999 period than in 2003, which if taken into account would further reduce the percentage). (*Id*., pp. 12-13.)

Staff next attempts to produce a higher and even more shocking "load forecasting error" of 27% by comparing the estimated average daily metering error for 1994 to the throughput for non-transportation customers for the single week of July 7-13, 2003. (Staff Init. Br., p. 47.) This comparison is even more flawed than the one just described because the Company's total system throughput in 1994 was almost 100,000,000 therms higher than it was in 2003, so the mixing of 1994 and 2003 data in this calculation is quite inappropriate (and calculated to produce a higher percentage "error"). In contrast, an average daily injection metering error of 8,000 Mcf in 1994 (as used by Staff[35]) was only 4.0% of the total system throughput on the Company's system on July 7, 1994, much lower than the 27% figure calculated by Staff. (AmerenIP Ex. 2.8 Rev., p. 13.) More generally, the estimated 1.5 Bcf metering error in 1994 would have represented only 1.7% of the total deliveries to the Company's system in that year.[36] (AmerenIP Ex. 2.8 Rev., pp. 8-9.)

Staff's final argument on this topic is that the estimated average daily metering error should not be compared to the total gas deliveries entering the Company's system each day

[35]In fact the estimated 1.5 Bcf injection metering error in 1994 represents an average daily error of 7,100 Mcf over the injection season. (AmerenIP Ex. 2.8 Rev., p. 9.)

[36]As shown at page 66 of AmerenIP's Initial Brief, the average *daily* measurement error (using the figures cited by Staff) as a percent of pipeline deliveries to the Company's system *each day* in each of the years 1994-1999 never exceed 4.3% and in five of the six years was 2.5% or less.

because the Company has meters installed at the premises of large transportation customers that measure daily usage and therefore the usage of these transportation customers can be known after-the-fact.[37] (Staff Init. Br., p. 48.) However, the reason the gas dispatchers cannot know the system usage on a daily basis is because of the system supply (sales) customers, not the transportation customers. AmerenIP has approximately 200 large transportation customers on its system out of approximately 455,000 total customers; for the remainder of those 455,000 customers, the Company has no way to know their daily usage on a particular day either in real time or after the fact.[38] (Tr. 155-156.) Additionally, deliveries to the system for storage injections must also be considered in the analysis. Finally, even though the usage of the large transportation customers on a particular day can be determined after the fact, the deliveries coming into the system specifically for transportation customers on a particular day cannot be known with exactitude because the Company's transportation tariff (as in effect during the period in question) allowed transportation customers a daily variance of 50% between nominations and deliveries. (AmerenIP Init. Br., p. 64.)

In summary, for the reasons shown both in this Reply Brief and in AmerenIP's Initial Brief, Staff's "gas dispatch tracking" issue, like its other "overall storage concerns", did not demonstrate that AmerenIP failed to manage its storage fields in a safe, reliable and efficient manner.

D. Dynegy Indemnification (Response to pages 48-49 of Staff Initial Brief)

Staff points out that the February 2, 2004, Stock Purchase Agreement by which Ameren acquired Illinois Power included a provision whereby Dynegy will reimburse Ameren for

[37]The transportation customers' usage on a given day is not available in real time. (Tr. 149.)

[38]The usage of these customers is measured only on a non-calendar month billing cycle basis. (AmerenIP Ex. 2.2, p. 24.) Further, billing cycles are spread throughout the month.

(among other things) one-half of any refunds ordered in PGA cases for the years 2001 through 2004 in excess of specified amounts, including disallowances of gas costs relating to events at Hillsboro prior to the closing of the acquisition. Staff asserts that this provision shows that "Ameren was . . . concerned about the manner that [the Company] had operated the field". (Staff Init. Br., p. 48.) However, this "indemnification" provision should be given no weight in deciding the Hillsboro-related prudence issue in this case.

AmerenIP witness Scott Glaeser expressly rejected Staff's assessment that the indemnification provision was included in the Stock Purchase Agreement because Ameren was "so concerned about the manner" that Illinois Power had operated the Field. (AmerenIP Ex. 4.0 Rev., p. 10.) He pointed out that in light of the limitations inherent in the "due diligence" process (discussed earlier in this Reply Brief), as well as the uncertainties associated with the outcome of litigation that was pending at the time of the acquisition, indemnification provisions in acquisition agreements are commonly used as a way for the parties to share or allocate the risks associated with such uncertainties. (*Id*.) He also noted that the full indemnification provision (not quoted by Staff) was over 7 pages long plus attachments, one of which was a 40-page list of potential litigation exposures. The indemnification covered all aspects of Illinois Power's utility business including environmental issues, tax issues, outstanding lawsuits, and warranties and representation by the seller. (*Id*., p. 11.) Thus, there was nothing unique about inclusion of potential PGA refunds in open reconciliation cases in the indemnification provision.

Specifically with respect to PGA reconciliation cases, Ameren did not believe it should bear 100% of the risk of possible disallowances in open reconciliation cases relating to prior periods when Illinois Power was not under Ameren's control. (*Id*.) However, as Mr. Glaeser pointed out, Ameren was sufficiently *unconcerned* about the risks associated with open PGA

cases, and the Hillsboro Field in particular, that it was willing to accept a 50-50 sharing of those risks rather than insisting that Dynegy bear 100% of the risks. (*Id.*, p. 12.)

E. Consistency with Rate Case Order (Response to page 50 of Staff Initial Brief)

Staff's final argument is that adoption of its proposed prudence disallowance would be consistent with the gas rate case order in Docket 04-0476 in which the Commission ruled against the Company on two Hillsboro-related issues. (Staff Init. Br., p. 50.) Staff asserts that "[b]oth of these positions were advocated by Staff based upon virtually the same information that was presented in the instant proceeding." (*Id.*) Staff is wrong both factually and substantively.[39]

In this case, the parties' positions and arguments are based on the consequences of specific actions of the Company concerning the Hillsboro deliverability decline, evaluated under the prudence standard. In contrast, in Docket 04-0476 the Commission found the Hillsboro Field to be only 53.44% used and useful based on data presented by Staff on the actual peak day capacity and amount of working gas inventory cycled from the Field. Whether or not the Company's actions "caused" the reductions in Hillsboro's peak day and working gas capabilities during this period was not a factor in the Commission's used and useful determination. The used and useful determination was based simply on the fact that, whatever the reason, Hillsboro had not been operating at its full capacities. (See Commission Conclusion on the used and useful issue at p. 41 of the Order in Docket 04-0476.)

Similarly, with respect to the Hillsboro base gas issue in Docket 04-0476, although the Commission's conclusion in that Order (at page 27) was extremely abbreviated, the basis for the conclusion appears to have been that a gas utility should not be allowed to increase the dollar value of its recoverable base gas inventory between the time a storage field is opened and the

[39]This topic was also addressed in §III.A above.

date the field is retired. Moreover, the Appellate Court affirmed the Commission's conclusion on the base gas issue in Docket 04-0476 on the grounds that the Staff witness had testified the Company's estimate of the amount of the HSF inventory depletion was inaccurate and unreliable.[40] In any event, the Commission made *no* findings in its Docket 04-0476 Order that any of the Company's actions with respect to Hillsboro were imprudent.

Further, the determinations of "used and useful" and "prudence" are two distinct legal findings that are based on different standards and different facts. The Commission can make a finding that a utility asset is not used and useful without finding any imprudence by the utility (and in fact, even though it finds all the utility's actions were prudent). Conversely, the Commission can find a utility asset is fully used and useful even though it finds that a portion of the costs of the asset resulted from imprudence by the utility. In any event, in this case, the determination as to whether AmerenIP's actions relating to the management of the Hillsboro Field and the investigation, identification and remediation of the HSF deliverability decline were prudent, should be based on the facts and arguments presented in this case, and not on the Commission's determinations on legally distinct issues in Docket 04-0476.

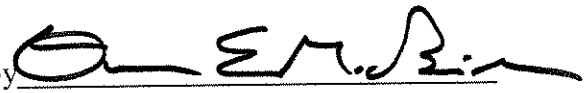
IV. Conclusion

For the reasons detailed in AmerenIP's Initial Brief and in this Reply Brief, the Commission should adopt AmerenIP's proposed reconciliation of gas costs and revenues collected under the PGA for the 2004 reconciliation year, as presented in AmerenIP Exhibit 1.1, and should reject Staff's proposed imprudence disallowance.

[40] *Illinois Power Co. v. Illinois Commerce Comm'n*, No. 3-05-0479 (3d Dist. May 12, 2006), slip op. at p. 14; *see* AmerenIP Init. Br., p. 33.

Respectfully submitted,

ILLINOIS POWER COMPANY
d/b/a AMERENIP

by 

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