

Paul Schaefer,)
Complainant,)
)
vs.)
)
I.H. Utilities, Inc.,)
Respondent.)

STAFF REPORT AND RECOMMENDATION

4. Although the Commission cannot compel IH to provide service to Mr. Schaefer on the terms he has requested, in an effort to reach a resolution, in Appendix A Staff presents a discussion of a potential resolution to Mr. Schaefer's situation in a manner that will not adversely affect IH. Staff urges IH and Mr. Schaefer to work towards resolution of this matter.

5. Based upon the information available to Staff, Staff's review of the applicable tariffs, Staff's understanding of the IH water system, and Staff's review of the facts, Staff recommends the Commission enter an order dismissing this Complaint, or affirmatively finding in favor of IH, but suggests the following:

- 1) IH file a revision to its tariff removing the language prohibiting new service connections to vacant lots;
- 2) IH and Mr. Schaefer work together to describe a reasonable expansion of IH's certificated service area to include a minimal portion of Mr. Schaefer's 100 acre parcel;
- 3) If a service connection is made, IH install the requested service connection using 1" pipe, but use a residential-size meter setting and meter; allowing Mr. Schaefer to install a frost-free hydrant on his vacant lot if he desires, and utilize water service for his property limited to one residence; and
- 4) Mr. Schaefer be responsible and pay for any and all costs associated with any necessary main extension required to make service available to his lot as is allowed in IH's approved tariff.

WHEREFORE, Staff respectfully submits this *Report and Recommendation*, and recommends the Commission enter an order dismissing this Complaint, or affirmatively finding in favor of I.H. Utility, Inc.

Respectfully submitted,

/s/ Sarah Kliethermes

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been mailed, hand-delivered, transmitted by facsimile or electronically mailed to all counsel of record this 1st day of May, 2013.

/s/ Sarah Kliethermes

STAFF REPORT OF INVESTIGATION

TO: Missouri Public Service Commission Official Case File
Case No. WC-2013-0357
Paul Schaefer v. I. H. Utilities, Inc.

FROM: James A. Busch, Manager – Water and Sewer Unit

DATE: May 1, 2013

/s/ James A. Busch 5/1/13
Water & Sewer Department/Date

/s/ Sarah Kliethermes 5/1/13
General Counsel's Office/Date

STAFF'S FINDINGS AND POSITION

Staff has reviewed Mr. Paul Schaefer's Complaint, and the Answer provided by I. H. Utilities, Inc., (IH or Company), and performed an investigation. Staff has determined that IH is in compliance with its currently effective tariff, and recommends to the Commission that the Commission dismiss this Complaint, or affirmatively find in favor of IH.

Although the Staff takes the position that the Commission cannot compel IH to provide service to Mr. Schaefer on the terms necessary for his situation, in an effort to reach a resolution, Staff will present a discussion of a potential resolution to Mr. Schaefer's situation in a manner that will not adversely affect IH, and highly urges IH and Mr. Schaefer to work towards resolution of this matter.

BACKGROUND

Mr. Schaefer resides at 732 South Ballas Road, Kirkwood, Missouri. Mr. Schaefer also owns a lot in Indian Hills subdivision, located at 2322 Itawamba near Cuba, Missouri. Mr. Schaefer desires water service at this lot, and has requested water service from IH. Mr. Schaefer's lot is within the subdivision and within the Company's service area; however Mr. Schaefer also owns approximately 100 acres adjacent to his lot which is not within the Company's service area.

IH provides service to approximately 700 customers in the Indian Hills subdivision. Most of the Company's customers have single family residences, but as this is a recreational development, some people own lots but do not have permanent residential structures, and they may use their lot to camp at the subdivision as well as utilize subdivision amenities such as the lake. IH provides service to nine (9) customers who only have yard hydrants, so that these lot owners have water available to them while they are using their lots for recreational purposes.

In late June 2012, Mr. Schaefer contacted members of the Water and Sewer Unit of the Missouri Public Service Commission Staff (Staff) regarding his request to have water service provided to his lot. Mr. Schaefer indicated that he had contacted the Company about getting service to his lot earlier in the year and that he was still waiting for the Company to provide the appropriate service. Mr. Schaefer stated that he was originally assured by the Company that he would be provided service, but that offer had since been revoked.

Mr. Schaefer states that his plan is to construct a water service line along his driveway through the lot, initially to provide irrigation to vegetation and water service at a recreational shelter he constructed, and then ultimately at some time in the future to provide residential service to a home that he is proposing to build on the 100 acres. Mr. Schaefer is requesting that a one-inch (1") meter be placed at his lot for his use. The Company has taken the position that (1) it could not provide service to a vacant lot per its tariff; and (2) even if service was provided to the lot, the customer could not convey the water to be used outside of the Company's service territory.

On July 3, 2012, Staff contacted Ms. Lois Stanley, owner of IH to discuss the situation. At the time of the discussion, one of the concerns that Ms. Stanley expressed to Staff was fear that any service provided to Mr. Schaefer would result in the use of water for either a rumored subdivision development or a retail establishment that Mr. Schaefer actually planned on building on to his 100 acres. It should be noted that this utility, like many small water companies, has limited funding and primarily because of this has no real desire to expand its water system beyond its existing service area consisting of this subdivision. On July 10, 2012, Jim Busch, Manager of the Water and Sewer Unit, sent a letter to Ms. Stanley outlining Staff's understanding of the situation. The letter sent to Ms. Stanley is attached as Schedule 1.

A contract or "installation agreement" was submitted to Mr. Schaefer by the Company on December 14, 2012. In the "installation agreement" the Company proposed in part that the Company would install a three-quarter inch (3/4") service connection to the customer's lot along with a three-quarter inch (3/4") meter at a cost of \$650, and that the customer will make no attempt to extend water service off of the vacant lot. It is Staff's understanding that Mr. Schaefer does not agree to these terms since he is requesting a one-inch (1") meter and wants to provide service to a residence that he intends to build on the 100 acres that is adjacent to his lot, but not in the Company's certificated area.

Staff Recommendation

IH's currently effective tariff, P.S.C. MO No. 3, Original Sheet No. 12, Rule 5 (f) states, "[t]he Company will not install a service connection to a vacant lot." Also, IH, like any regulated utility, is not authorized to provide service to a point outside of its certificated area. Because Mr. Schaefer's requested relief would require IH to both violate its currently effective tariff by providing service to a vacant lot, and provide service outside of its certificated area, Staff recommends that the Commission dismiss Mr. Schaefer's complaint, or affirmatively find in favor of IH.

DISCUSSION OF POTENTIAL RESOLUTION BETWEEN PARTIES

In the interest of providing guidance to the parties as to a possible resolution of this situation, Staff provides the discussion that follows. Staff is not requesting that the Commission order the actions described in this discussion. In short, Staff is of the opinion that a reasonable resolution for the parties to pursue would be (1) for IH to expand its certificate to include approximately one-quarter acre where Mr. Schaefer's home will be sited on the 100 acre parcel, (2) for IH to refile the applicable tariff sheet governing service to vacant lots to re-authorize such service as IH's tariff has provided in the past, and (3) to utilize for the connection a 1" service connection and a typical meter five-eighths inch (5/8") size meter with a flow capacity of twenty gallons per minute (20 gpm). All of these points are discussed further herein, below.

Certificated Service Area Concerns

As noted, the Company's limited capital resources and desire to not expand its service area is an important factor with respect to water use that could occur with the acreage that is outside of the existing service area. IH has indicated specifically a concern that Mr. Schaefer use any service only for his own residential use, and that neither the Company nor Mr. Schaefer have authority to provide service to any additional customers outside of the Company's service area through Mr. Schaefer's requested connection.

On August 10, 2012, Staff facilitated a meeting on-site at Mr. Schaefer's vacant lot. This meeting was arranged so that all parties could get together to discuss Mr. Schaefer's request and his intended use. At the meeting, Staff was represented by Jim Busch, James Merciel (Utility Regulatory Engineering Supervisor), and Steve Loethen (Utility Operations Technical Specialist II); IH was represented by Lois Stanley and the Company's certified operator; and Mr. Schaefer represented himself. The meeting consisted of an explanation from Mr. Schaefer of what he needed from the Company regarding a service connection and what his intended use was going to be once service was connected. Ms. Stanley reiterated the concerns of the Company during the meeting regarding providing service to the 100 acres outside of the Company's certificated service area. Staff indicated its concern in avoiding a situation where innocent third party customers or users would become involved with improper utility service. In addition to observing Mr. Schaefer's subdivision lot and contiguous acreage, as well as his description for what he plans to do, the Company's operator stated that he was not sure if a water main existed in front of Mr. Schaefer's lot. It was agreed that if a water main did not exist then a main extension would be necessary as per the IH tariff, and the possible route needed for an extension was observed.

After months of no further movement, Mr. Schaefer filed his formal complaint which is the subject of this case.

In this case, some but not all of Mr. Schaefer's real estate is within the service area, and IH is able to provide service at a point of delivery, the proposed meter setting, that is within the service area.

Potential Resolution of Certificated Area Concerns

Although IH's refusal to knowingly provide service to be used outside of its certificated area is consistent with Missouri law, Staff suggests a reasonable resolution to this issue would be for IH to expand its certificate to include approximately one-quarter acre where Mr. Schaefer's home will be sited on the 100 acre parcel, and including his existing recreational structure. Specifically, Staff suggests that IH file a revision to its certificated area to include only the portion of Mr. Schaefer's property that will include his water service line, residence and related residential structures where water service will be used by him. Such a modification may not be well defined unless and until Mr. Schaefer has finalized plans for new residential construction.

Service to Vacant Lots

It is Staff's understanding that Mr. Schaefer requests service to his vacant lot in order to facilitate irrigation of landscaping and trees prior to his utilizing water service to a recreational structure and a future house. This discussion of service to vacant lots is moot if the parties were to agree to immediately expand the certificated area as described above.

According to the Company's currently effective tariff, P.S.C. MO No. 3, Original Sheet No. 12, Rule 5 (f) states, "[t]he Company will not install a service connection to a vacant lot." This language became effective on October 27, 2009. This language was added to IH's tariff pursuant to Staff's request that regulated water and sewer utilities replace their tariffs when they file for a rate request, in order to ensure the tariffs were up-to-date and appropriate for each utility. IH undertook such a tariff replacement in its most recent rate case. Prior to this revision, the Company was authorized to provide service to vacant lots. IH in fact still provides service to at least five (5) vacant lots where a connection had previously been made. Staff's July 10, 2012 letter acknowledged that the tariff rule could be changed back by the Company making a tariff filing.

Potential Resolution to Vacant Lot Issue

IH's refusal to provide service to a vacant lot is consistent with its current tariff. However, in the interest of a reasonable resolution Mr. Schaefer's request to be able to use water service on the vacant subdivision lot, Staff suggests IH file a revision to its tariff to facilitate service to vacant lots, consistent with IH's past practice of providing service to vacant lots. IH's customer base consists of year-round residents, part-time residents, and connections to vacant lots for use by customers who live elsewhere but use their lots often by bringing RVs and/or campers to their vacant lots during certain times of the year. Since there are already customers receiving water service from the Company at vacant lots, this change back to the Company's original tariff language regarding this

policy makes sense. Staff suggests IH file a revised Sheet 12 as a 30-day tariff filing before the Commission, which either removes Rule 5(f), or changes the existing language of Rule 5(f) with language similar to the following:

The Company may, at its discretion, install a service connection and water meter for service to a vacant lot. The Customer must utilize frost-free outdoor hydrants, and take reasonable precautions to prevent freezing and unauthorized water use. All applicable Rates, Rules, and Regulations will apply.

Sizing Issue

In his formal complaint filing, Mr. Schaefer states that he is requesting a one inch (1") tap and service pipe, meter setting, and meter. Staff agrees that a 1" service connection as provided by IH, as upsized from the normal 3/4" residential size, is a reasonable request, in order to maintain normal residential flow by reducing the extra friction in a long pipeline; but Staff does not agree that IH should set a 1" meter. A typical meter used for a residential customer is a five-eighths inch (5/8") size meter with a flow capacity of twenty gallons per minute (20 gpm). A 1" meter has a flow capacity of fifty (50) gpm. Very simply, the meter should be of an appropriate size based on the flow requirements of the customer, and is not sized according to pipe size. Mr. Schaefer states he will have a single family residence although, not unusual among many residential customers, he does intend to do outdoor irrigation. There is no indication that Mr. Schaefer needs any larger meter, such as one capable of a flow rate of 50 gpm, than a normal residential size 5/8" meter capable of a flow rate of 20 gpm. A much larger meter such as this is not appropriate because its capacity is not needed, it is more expensive, and its use would result in less accuracy because water meters tend to under-register at low flows. A lot of residential water usage is low flow of a few gallons per minute use such as a faucet only partially opened or shower use. The Commission's regulations regarding water meter accuracy, found in 4CSR240 10.030(37) requires accuracy of 5% only in the range of one-tenth (1/10) and full rated flow. Two or three gallons per minute, representing a lot of residential use flow, is within the accuracy range of 2 to 20 gpm for a 5/8" meter, but is below the accuracy range of 5 to 50 gpm for a 1" meter.

Water utilities typically construct service connections, defined as the connection to the main and the service pipe extending to the meter setting at or near the customer's property line, to residential customers using pipe of three-quarter inch (3/4") inside diameter. A five-eighths inch (5/8") meter is located in the meter setting, and then the customer water service line, constructed and owned by the customer, extends from there into the home, normally also 3/4" inside diameter. Homes that are located on typical subdivision lots, as is the case for most of IH's customers, have water service lines less than 100 feet long. Since Mr. Schaefer has a large tract of real estate, the water service line for his proposed house could be several hundred feet long. As water flows through pipe, there is loss of pressure due to friction of the flowing fluid. The longer the pipe length, the more total amount of friction exists to restrict flow, resulting in less flow capacity for a long pipe as compared to a short pipe of the same diameter. As a specific comparison example, a 3/4" pipe of 100 foot length might be able to provide flow of 14

gpm, with a loss of pressure due to friction of 26 pounds per square inch (psi). A 1" pipe of 400 foot length could provide the same flow of 14 gpm with about the same friction loss of 26 psi.¹ So, Staff's conclusion is that upsizing the service connection pipe and customer service line pipe to 1" is reasonable, but such upsizing will still result in a flow rate for which a normal residential size meter is adequate and appropriate.

In addition to the issue of sizing the service connection, meter, and customer service line, there is a possibility that Mr. Schaefer intends to install an electric "booster pump" either somewhere along his customer service line or within the house plumbing. The purpose of a booster pump in any water system is to increase water pressure from pressure that exists in a water distribution system or some portion of a distribution system to some higher pressure. Water utilities often use booster pumps to create "pressure zones" in distribution systems, often because of pressure issues created by high ground elevation. Although somewhat rare, sometimes customers install booster pumps in their houses in order that they may have higher water pressure than the water system provides. Other terminology may appear in documents in this particular complaint case including "sucker pump," but Staff asserts that booster pump is correct terminology.

The Company and some of its customers could have a concern that if a customer installs a booster pump then it could reduce pressure in portions of the Company's water distribution system if this customer uses a large amount of water. Staff agrees that this is a valid concern for any situation where a customer operates a booster pump, but there are some things that the Company could do to protect its system and other customers from reduced water pressure that could be created by a booster pump Mr. Schaefer might install and use. One possible simple solution, since Mr. Schaefer is the last customer on a cul-de-sac, is at the highest elevation in the immediate area, and there are no other customers adjacent to his location, would be for the Company to install an air release valve at the end of the cul-de-sac. An air release valve would allow the water main leading to the front of Mr. Schaefer's property to fill with water after an outage and would release air that could accumulate with normal operations, but would also prevent a negative water pressure at the specific location. A throttling valve located in the water main could also protect other customers from low pressure due to booster pump operation if adjusted properly. However, if another new customer were to construct a home near Mr. Schaefer's location then other methods likely would need to be considered. This could be a difficult matter to resolve without further study of characteristics of this particular area of the Company's distribution system. Installation by Mr. Schaefer of a

¹ These numbers used in the example flows were calculated using the Hazen-Williams formula $f = 0.2083 (100/c)^{1.852} q^{1.852} / d_h^{4.8655}$ where: f = friction head loss in feet of water per 100 feet of pipe ($f_{h20}/100$ ft pipe); c = Hazen-Williams roughness coefficient (140 for these examples); q = volume flow in gallons per minute (14 gpm in these examples); d_h = inside hydraulic diameter in inches for the stated pipe diameter. The actual flow capacity of any given pipe depends on several variables including, besides size and length, the pipe material, the condition of the inside of the pipe (roughness), water pressure, and the existence of bends and fittings that can cause additional turbulence and friction.

reasonable size storage tank within his house would also help to protect the Company's distribution system and also could enhance availability of water at a greater pressure than system pressure within the house.

The Staff's comments and position regarding pipe size, meter size, a booster pump, and flow restriction is based upon an assumption that Mr. Schaefer will indeed utilize water service at a level that is comparable to other residential customers. If Mr. Schaefer were to use actually water at some flow rate approaching 50 gallons per minute for substantial lengths of time, as a 1" meter is capable of delivering, then other improvements to the Company's water system may be necessary in order to provide that level of service.

Recommended Resolution Concerning Sizing Issue:

Staff recommends that any service installed to Mr. Schaeffer's lot utilize a 1" service connection, upsized from the normal ¾" residential size, and that IH should set a typical meter five-eighths inch (5/8") size meter with a flow capacity of twenty gallons per minute (20 gpm), instead of the 1" meter requested.

SUMMARY AND STAFF'S SUGGESTION

Based upon the information available to Staff, Staff's review of the applicable tariffs, Staff's understanding of the water system serving Indian Hills, and Staff's review of the facts, Staff suggests that the following occur:

- 1) The Commission enter an order dismissing this Complaint, or affirmatively finding in favor of I.H. Utility Inc.
- 2) I.H. Utility Inc. file a revision to its tariff removing the language prohibiting new service connections to vacant lots, similar to language as described herein, above; and
- 3) I.H. Utility Inc. and Mr. Schaefer work together to describe a reasonable expansion of IH's certificated service area to include a minimal portion of Mr. Schaefer's 100 acre parcel; and
- 4) If a service connection is made, I.H. Utility Inc. install the requested service connection using 1" pipe, but use a residential-size meter setting and meter; allowing Mr. Schaefer to install a frost-free hydrant on his vacant lot if he desires, and utilize water service for his property limited to one residence; and
- 5) Mr. Schaefer be responsible and pay for any and all costs associated with any necessary main extension required to make service available to his lot as is allowed in the Company's approved tariff.

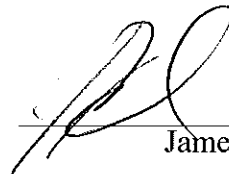
**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

Paul Schaefer, Complainant)	
)	
vs.)	Case No. WC-2013-0357
)	
I.H. Utilities, Respondents)	

AFFIDAVIT OF JAMES A. BUSCH

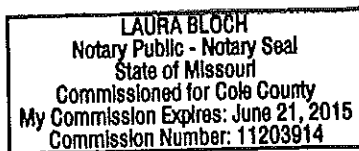
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

James A. Busch, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Recommendation in memorandum form, to be presented in the above case; that the information in the Staff Recommendation was provided to him; that he has knowledge of the matters set forth in such Staff Recommendation; and that such matters are true to the best of his knowledge and belief.



James A. Busch

Subscribed and sworn to before me this 15th day of May, 2013.





Notary Public

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

Paul Schaefer, Complainant vs. I.H. Utilities,)
Respondents) File No. WC-2013-0357

AFFIDAVIT OF JAMES A. MERCIEL, JR., P.E.

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

James A. Merciel, Jr., P.E., of lawful age, on his oath states: (1) that he is the Assistant Manager – Engineering in the Water and Sewer Unit of the Missouri Public Service Commission; (2) that he participated in the preparation of the foregoing *Staff Report of Investigation*; (3) that information in the *Staff Report of Investigation* was provided by him; (4) that he has knowledge of matters set forth in such *Staff Report of Investigation*; and (5) that such matters set forth in the foregoing *Staff Report of Investigation* are true and correct to the best of his knowledge, information and belief.



James A. Merciel, Jr., P.E.

Subscribed and sworn to before me this 1st day of May 2013.



Notary Public

