

Exhibit No.: 105  
Issue: Need for distribution system  
rehabilitation  
Witness: David A. Spratt  
Sponsoring Party: MoPSC Staff  
Type of Exhibit: Direct Testimony  
Case No.: WR-2017-0259  
Date Testimony Prepared: October 13, 2017

**MISSOURI PUBLIC SERVICE COMMISSION**

**COMMISSION STAFF DIVISION**

**WATER AND SEWER DEPARTMENT**

**DIRECT TESTIMONY**

**OF**

**DAVID A. SPRATT**

Staff Exhibit No. 105  
Date 11-27-17 Reporter VF  
File No. WR-2017-0259

**INDIAN HILLS UTILITY OPERATING COMPANY, INC.**

**CASE NO. WR-2017-0259**

*Jefferson City, Missouri  
October 2017*



Direct Testimony of  
David A. Spratt

1 | “Minimum Design Standards for Missouri Community Water Systems” (“design guide”  
2 | Publication 2489) 1.1.2 (d) (3) (ii) located on page 3 of the publication. The previous tank had  
3 | outlived its useful life and did not provide sufficient storage. The previous storage tank was  
4 | buried on three sides which did not meet design guide 7.0.3(d) located on page 168 of the  
5 | publication. The Company drilled a second well to comply with DNR design guide requirement  
6 | 3.2.1.2 located on page 28 of the publication, which states that a water system serving more than  
7 | 500 people “shall have more than one well”. The Company constructed well #3 very similarly to  
8 | well #1. The well house at well #1 was in great need of repair and was not of sufficient size  
9 | for the motors and monitoring equipment that have been installed. Each well house was built  
10 | with a separate room to house the chlorine. Liquid chlorine in drums has to be vented and that  
11 | gas is highly corrosive. Keeping the chlorine contained can extend the life of the metal inside  
12 | the well houses.

13 | Q. Please explain your familiarity with the water system at Indian Hills.

14 | A. I have been performing inspections on the water system and responding to  
15 | customer complaints involving water leaks for approximately five years.

16 | Q. Does this system have a problem with water leaks?

17 | A. Yes. Since 2011, there have been at least 40 documented leak complaints called  
18 | in to Staff that have been recorded in EFIS. Some of the leaks are in the water mains but others  
19 | are in the service connections.

20 | Q. What is a service connection?

21 | A. The service connection is section of the pipe connecting the water main to the  
22 | water meter.

Direct Testimony of  
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1 Q. What are the issues with leaks at the service connection?

2 A. The water distribution system is approximately 50 years old. Due to lack of  
3 capital improvements on the system, many of the mains, service lines, and service connections  
4 are original to the system. Many of the current leaks that the Company has observed show signs  
5 of at least one previous repair. The Company and Staff's observations of these leaks indicate  
6 that the previous owners' repairs were substandard and made with substandard material and are  
7 causing further issues. The Company has presented Staff with a report indicating the number of  
8 leaks repaired and service connections replaced since taking over the utility. That report has  
9 been attached to this testimony as Schedule DAS-d2.

10 Q. What is the Company's current method for reducing water leaks within the  
11 water system?

12 A. The Company believes it is better for system integrity to replace service  
13 connections as leaks are discovered rather than repair the service connections.

14 Q. Does Staff agree that replacing service connections is a better alternative than  
15 service line repairs?

16 A. Yes.

17 Q. Please explain why Staff agrees with this approach.

18 A. As mentioned above, the service connections installed and/or repaired by previous  
19 owners were made with substandard material. Thus the previously repaired connections are  
20 unable to withstand the increase in water pressure provided by the Indian Hills due to overall  
21 system improvements, discussed above, made by the Company to comply with DNR guidelines.  
22 Photos are attached to my direct testimony as Schedule DAS-d3 showing where multiple repairs

Direct Testimony of  
David A. Spratt

1 | have been made to service connections. It is Staff's opinion that it would be less expensive to  
2 | replace a service connection while the ditch is open and the backhoe is on site than to dig in the  
3 | same spot numerous times and make minor repairs. The Company has suggested replacing all of  
4 | the service connections over a period of time to be able to schedule the work, annualize the cost,  
5 | and reduce the number of leaks.

6 | Q. Does this conclude your direct testimony?

7 | A. Yes, it does.

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

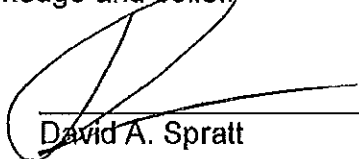
In The Matter of The Rate Increase Request Of                    )  
Indian Hills Utility Operating Company, Inc.                    )     Case No. WR-2017-0259

**AFFIDAVIT OF DAVID A. SPRATT**

State of Missouri    )  
                                  ) ss  
County of Cole        )

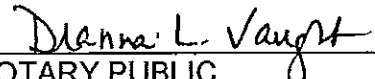
**COMES NOW** David A. Spratt, and on his oath declares that he is of sound mind and lawful age; that he contributed to the attached *Direct Testimony*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

  
\_\_\_\_\_  
David A. Spratt

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 12th day of October, 2017.

  
\_\_\_\_\_  
NOTARY PUBLIC

DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: June 28, 2019 Commission Number: 15207377
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## **David A. Spratt**

I am a Utility Operations Technical Specialist II in the Water & Sewer Department, in the Commission Staff of the Missouri Public Service Commission. I have been employed by the Missouri Public Service Commission since April of 2008. My primary duties include, but are not limited to, utility operation inspection of water and sewer facilities that are regulated by the PSC.

### **Educational background and Work Experience**

I earned a Bachelor of Arts in History and a minor Political Science in 1995 from Lincoln University in Jefferson City, MO. I also earned a Master of Public Administration degree from the University of Missouri – Columbia in 1999. During my time with the PSC I have received the following operator certificates from the Department of Natural Resources: D level drinking water treatment certificate, D level wastewater certificate, and DS-I water distribution. I have inspected numerous water and wastewater treatment facilities. I have also worked on a variety of complaint cases. I testified as an expert witness in case WC-2011-0409.

TOTAL LEAK REPAIR AND REPLACEMENT LOG

Leak No.	Address	Notes
1	1648 Lakeshore	
2	816 Lakeshore	
3	2239 Lakeshore	
4	2272 Lakeshore	
5	2014 Lakeshore	
6	1658 Lakeshore	
7	474 Lakeshore	
8	1746 Lakeshore	
9	593 Lakeside	
10	1920 Lakeshore	
11	Lot 960 on Whitefawn	
12	2270 Lakeshore	
13	1936 Lakeshore	
14	737 Squaw	
15	826 Lakeshore	
16	1089 Whitehawk	
17	1744 Lakeshore	
18	1524 Lakeshore	
19	1618 Lakeshore	
20	1339 Lakeshore	
21	2136 Lonewolf	
22	2446 Sanchez	
23	858 Lakeshore	
24	1306 Lakeshore	
25	327 Oak	
26	1800 Lakeshore Drive	
27	1340 Shawnee	
28	2250 Lakeshore	
29	141 Hickory	
30	1668 Lakeshore	
31	721 Squaw	
32	1837 lakeshore	
33	2014 Lakeshore Drive	
34	580 Lakeside	
35	122 Hickory	
36	1683 Lakeshore	
37	1868 Lakeshore	
38	2210 Lakeshore	
39	1156 Pawnee	
40	2213 Lakeshore	
41	551 Lakeside	
42	2142 Whitefawn	
43	1896 Lakeshore	
44	1459 Sequoya	
45	1504 Lakeshore	
46	1652 Lakeshore	
47	1378 Osage	7/11 & 7/19
48	1857 Lakeshore	
49	1740 Lakeshore	



TOTAL LEAK REPAIR AND REPLACEMENT LOG

50 533 Lakeside  
51 632 Lakeshore  
52 923 Lakeshore  
53 1857 Lakeshore  
54 913 Lakeshore  
55 475 Lakeshore  
56 1976 Lakeshore  
57 1996 Lakeshore  
58 811 Lakeshore  
59 649 Lakeshore  
60 715 Lakeshore  
61 1954 Lakeshore  
62 2274 Lakeshore  
63 1712 Navaho  
64 875 Lakeshore  
65 595 Lakeside  
66 1844 Lakeshore  
67 2417 Sanchez  
68 555 Lakeside  
69 2113 Lone wolf  
70 1854 Lakeshore  
71 1868 Lakeshore  
72 2116 White fawn  
73 2417 Sanchez  
74 1958 Lakeshore  
75 251 Oak  
76 308 Oak  
77 1837 Lakeshore  
78 1252 lakeshore  
79 453 Lakeshore  
80 1930 Lakeshore  
81 1925 Lakehsore  
82 1344 Shawnee  
83 2269 Lakeshore  
84 2665 Seminole  
85 1996 Lakeshore  
86 2206 Lakeshore  
87 2274 Lakeshore  
88 2508 Alleghany  
89 8 Indian Hills  
90 1279 Lakeshore  
91 1922 Lakeshore  
92 1958 Lakeshore  
93 863 Lakeshore  
94 843 Lakeshore  
95 826 Lakeshore  
96 1788 Lakeshore  
97 700 Lakeshore  
98 875 Lakeshore

leak in meter pit

Leak in front of property  
leak in the road

TOTAL LEAK REPAIR AND REPLACEMENT LOG

99 708 Squaw	leak in ditch
100 2224 Lakeshore	
101 1270 Lakehsore	
102 2221 Lakeshore	
103 128 Hickory	
104 2417 Sanchez	
105 1512 Lakeshore	
106 2219 Lakeshore	leak in the road
107 2213 Lakeshore	Leak in the pit
108 738 Squaw	
109 879 Lakeshore	
110 1870 Lakeshore	
111 817 Cochise	leak in meter
112 2222 Lakeshore	
113 914 Lakeshore	
114 1956 Lakeshore	
115 704 Squaw	
116 1608 Sequoia	
117 875 Lakeshore	
118 1516 Lakeshore	leak in meter pit
119 599 Lakeside	leak out by road
120 1786 Lakeshore	
121 821 Cochise	
122 66 Indian Hills	
123 514 Lakeside	leak in meter pit
124 879 Lakeshore	
125 833 Cochise	leak in street
126 1610 Lakeshore	
127 1976 Lakeshore	
128 1638 Lakeshore	
129 2250 Lakeshore	
130 1212 Lakeshore	
131 592 Lakeside	Leak in meter pit
132 1545 Lakeshore	leak between neighbors
133 765 Squaw	this was a home owner leak and we moved his pit at no cost to him because he didn't like his service under his driveway. Older gentlemen that we were helping out.
134 721 Squaw	
135 1570 Lakeshore	
136 1980 Lakeshore	
137 474 Lakeshore	
138 539 Lakeside	
139 715 Squaw	
140 1947 Lakeshore	
141 1864 Lakeshore	
142 1856 Lakeshore	
143 1282 Lakeshore	
144 1058 Whitehawk	
145 851 lakeshore	

TOTAL LEAK REPAIR AND REPLACEMENT LOG

146 1073 Whitehawk	
147 1947 Lakeshore	
148 514 Lakeside	
149 1578 Lakeshore	
150 1856 Lakeshore	
151 2509 Alleghany	
152 1618 Lakeshore	
153 1659 Whitehawk	
154 2034 Big Bear	water seeping from around meter pit
155 721 Squaw	leak in the meter pit. Called in by Robert Petry on 1/21, 1/23, 1/27
156 366 Walnut	
157 753 Squaw	Called in as 760 Squaw with leak by the driveway
158 2006 Lakeshore	
159 1056 Whitehawk	called in as 1070 Whitehawk
160 117 Hickory	
161 713 Squaw	
162 2006 Lakeshore	
163 593 Lakeside	leak going in their yard. Called in by Dolan on 2/4/17, 2/9/17 and Rita May on 2/7/17, 2/8/17
164 1638 Lakeshore	Leak coming from across the road to his front house.
165 1743 Lakeshore	leak between meter and road
166 1342 Shawnee	
167 1683 Lakeshore	leak for the fifth time
168 756 Squaw	Called in by Scott Denney 2/10 and Colin Frost on 2/13/17 and Mark Avery on 2/27/17
169 1067 White Hawk	Leak called in by Josh Rawson as a busted water main.
170 2269 Lakeshore	by Don Kalista as leak in front of house on 2/28, 3/1, 3/2 and Kelly Christenson on 3-2-17
171 1679 Lakeshore	water leak called in by Bob Grady
172 853 Lakeshore	
173 1342 Shawnee	Tom Bond and he might have a water leak on 3/10/17 and 3/15 that no one has come by
174 593 Lakeshore	called in by Dolan at 597 on 2/23/17, 2/28/17, 3/3/17 as leak from up the road and by Rita May on 2/27/17 and Christine Rinck on 3-9-17 four times
175 1628 Sequoia	Robert Gray and neighbor has a leak and leaking into yard
176 851 Lakeshore	Al Brandl on 851 Lakeshore
177 1866 Lakeshore	Bob Voss and leak in his front yard. Yard feels spongy
178 580 Lakeside	Carol Kumbera on 3/29 to report leak and 4/5/17 and has been calling for a week now and 4/11/17
179 1644 Sequoia	Robert Gray and there are two bad leaks
180 1169 Pawnee	Ronald Mueller and water is running and needs to turn off 4/13/17 twice
181 1322 Lakeshore	William lee and leak from the street
182 1244 Lakeshore	Frank K and water leak in his yard 4/20 and 4/24
183 1370 Lakeshore	
184 1320 Lakeshore	Michael King and leak is funning down driveway from street on 4/27 & 5/16
185 1201 Lakeshore	
186 1378 Osage	Don Eichberger and leak is coming from across the road
187 1322 Lakeshore	William Lee and leak from across the road
188 763 Squaw	Jeanette Pitman with water leak bubbling up from the street and Karen Bell on 4-5-17 & William Bell on 4/26

TOTAL LEAK REPAIR AND REPLACEMENT LOG

189 704 Squaw Cliff with two leaks  
 190 760 Squaw Scott Denney leak in front of his house on the road  
 191 1676 Lakeshore Marshall Harrell and leak in the street  
 192 2634 Seminole Road Terry L and leak from area around pit  
 193 1 Indian Hills Leak in ditch along highway - Could not find a leak. Vac truck and seemed to dry up. Will let sit for a while  
 194 1743 Lakeshore leak between meter and road  
 195 1800 Lakeshore Melanie Spiff on 5/30 & 6/1/17 leak around meter  
 196 2209 Lakeshore  
 197 2206 Lakeshore Eugene Seemes - leak at vacant lot  
 198 209 Hickory Matthew Harris - leak at meter  
 199 2658 Seminole  
 200 853 Cochise Greg Dart - leak in meter 5/30 & 6/6 & 6/12  
 201 1996 Lakeshore leak in street  
 202 644 Lakeshore  
 203 2014 Lakeshore Scott Rockafellow on 5/31 leak in street and Gary Bood on 6/2/17  
 204 2809 Highway DD Leak on his property  
 205 547 Lakeside leak around meter  
 206 1980 Lakeshore leak in road  
 207 721 Squaw Robert Petry and leak between meter and street & 6/12 & 6/20  
 208 549 Lakeside Weingart and leak by mailbox  
 209 1739 Lakeshore Ron R and leak by the water meter  
 210 1878 Lakeshore Christine Mahon (1875) leak in front of 1878 & 6/12  
 211 1778 Lakeshore Virginia Hoeken - leak up by the road  
 212 665 Lakeshore John Lowry - leak around 665 area  
 213 859 Lakeside David Patton - leak in street  
 214 1726 Lakeshore Kenneth McClellan - leak in the street  
 215 1996 Lakeshore David May - leak in called 2 weeks ago and waiting on service  
 216 2167 Lonewolf Robert Bommel - water coming down ditch from meter  
 217 2645 Seminol Christ Ford - leak out at meter 6/19 & 6/27  
 218 1644 Sequoia Wanda Reeves - leak above the house 7/7 & 7/10 & Michelle Cason - 7/7  
 219 1868 Lakeshore Bob Schwartze - leak in front of house  
 220 1397 Lakeshore Mike Jackson - leak in front of house  
 221 1600 block lakeshore Mike Jackson - leak at 1600 block 7/8 & Robert Gray on 7/10  
 222 1164 Pawnee operator found - fix leak at meter pit  
 223 2200 Sanchez Jody - leak has turned to fountain 7/10 & 7/12 but she called it 2440 Sanchez  
 224 715 Squaw Jerry Harris - leak in street 7/10 & 7/17 & Jim Rothberg leak in lateral 7/16 & Lois Henderson on 7/17  
 225 2509 Alleghany Operator found - replace leaking service with new meter  
 226 857 Cochise Susan Holt - leak is bubbling 7/12 & 7/15 Replace service  
 227 1348 Shawnee Eldon Jones - leak at meter  
 228 1 Indian Hills John Baumann - minor leak in Highway DD ditch.  
 229 2167 Lonewolf Robert Bommel - Water leak  
 230 1380 Osage Road Don Eichberger - leaking for several days and previous hasn't fixed problem  
 231 777 Squaw Road Tina Kumbera - meter is leaking.  
 232 8 Indian Hills Contractor found - replace water service  
 233 470 Lakeshore Contractor found - replace water service  
 234 580 Lakeside Carol Kumbera - leak on service line 7/24 & Debbie Dolan on 7/28  
 235 875 Lakeshore Mary Beth Huffmann - leak on service line out of street

TOTAL LEAK REPAIR AND REPLACEMENT LOG

236 1382 Osage Sharon Haydon - leak right by meter  
 237 630 Lakeshore Amos Pogue - Leak in this area  
 238 2456 Sanchez replaced service

#	Address	Total Service Line Replacement List
1		2229 Lakeshore
2		2215 Lakeshore
3		2008 Lakeside
4		1926 Lakeside
5		1908 Lakeshore
6		1874 Lakeshore
7		1872 Lakeshore
8		1862 Lakeshore
9		1860 Lakeshore
10		1862 Lakeshore
11		1860 Lakeshore
12		1862 Lakeshore
13		1860 Lakeshore
14		1795 Lakeshore
15		1752 Lakeshore
16		1732 Lakeshore
17		1730 Lakeshore
18		1727 Lakeshore
19		1724 Lakeshore
20		1723 Lakeshore
21		1716 Lakeshore
22		1715 Lakeshore
23		1646 Lakeshore
24		1631 Lakeshore
25		1560 Lakeshore
26		1533 Lakeshore
27		1509 Lakeshore
28		1363 Lakeshore
29		1236 Lakeshore
30		917 Lakeshore
31		862 Lakeshore
32		860 Lakeshore
33		847 Lakeshore
34		804 Lakeshore
35		636 Lakeshore
36		632 Lakeshore
37		607 Lakeshore
38		585 Lakeshore
39		583 Lakeshore
40		583 Lakeshore
41		575 Lakeshore
42		525 Lakeshore
43		502 Lakeshore
44		428 Lakeshore



IH

- BATTLE WATER MAIN
- FAULTY GUESS ON SADDLE SERVICE CONNECTIONS

IH  
Typical Road Service Repair



I4  
TYPICAL  
PANEL  
SERVICE  
REPAIR





IH - Typical Prior Service Repair

