

MISSOURI PUBLIC SERVICE COMMISSION

STAFF STATUS REPORT



CITY UTILITIES OF SPRINGFIELD

CASE NO. GS-2004-0257

*Industry Analysis Division
Safety Engineering Department*

March 31, 2022 - Jefferson City, Missouri

**** Denotes Confidential Information ****

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STAFF STATUS REPORT
CITY UTILITIES OF SPRINGFIELD
CASE NO. GS-2004-0257

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STAFF'S STATUS REPORT
CITY UTILITIES OF SPRINGFIELD
CASE NO. GS-2004-0257

BACKGROUND:

This is Staff's eighth status report concerning the schedule and recommendations in the Joint Recommendation Concerning Pipeline Replacement Schedule ("Joint Recommendation") filed on May 18, 2010, and approved by the Commission on May 28, 2010. This status report discusses Staff's on-going investigation into plastic pipe leaks caused by rock impingement and City Utilities of Springfield's ("City Utilities") DuPont Aldyl® "A" polyethylene piping replacement program.

In 2016, City Utilities proposed to change the reporting period from a calendar year basis to an October through September annual reporting basis corresponding with City Utilities' fiscal year to allow for more efficient scheduling of replacement projects. The Commission granted this change in the reporting period on May 31, 2016.

Staff's most recent previous status report filed on January 6, 2017, provided the status of City Utilities' plastic pipe monitoring, evaluation and replacement program through September 30, 2016. Staff's January 6, 2017 status report stated that:

- City Utilities had complied with the replacement program schedule as listed in the Joint Recommendation adopted by the Commission on May 28, 2010;
- Staff would continue to monitor the effectiveness of City Utilities' plastic main and service line replacement program and leak surveys; and,
- If at any time Staff determined that the program requirements should be enhanced, it would immediately bring its concerns and recommendations to the Commission.

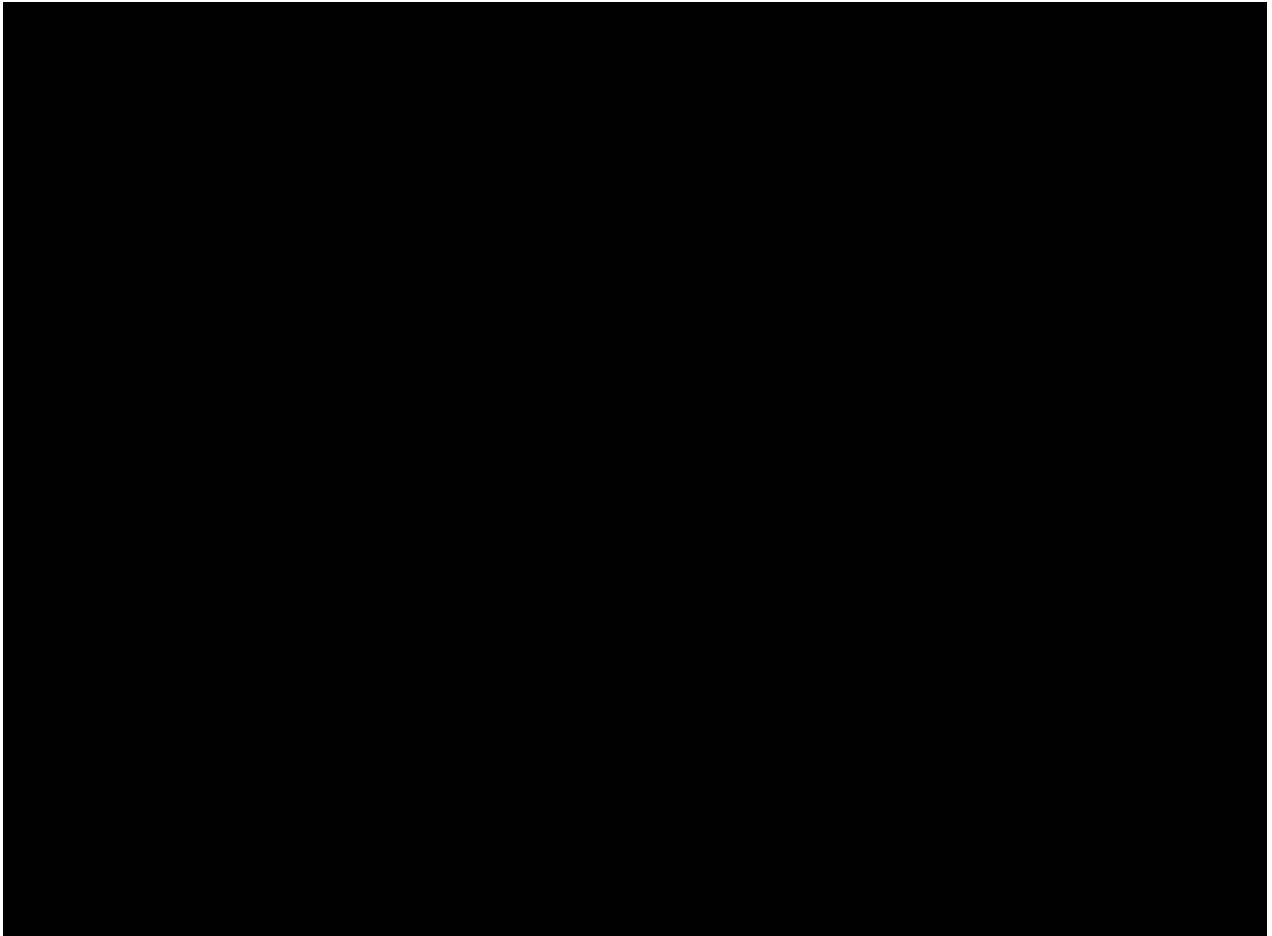
On February 3, 2022, the Commission ordered Staff to file a Status Report no later than March 31, 2022. This Status Report is submitted as a response to the Commission's order, and provides a summary of City Utilities' progress from October 1, 2016 through September 30, 2021.

STATUS REPORT:

Summary of Results

During the period of October 1, 2016 through September 30, 2021, City Utilities discovered and eliminated rock impingement leaks on its DuPont Aldyl[®] “A” polyethylene piping as follows:

**



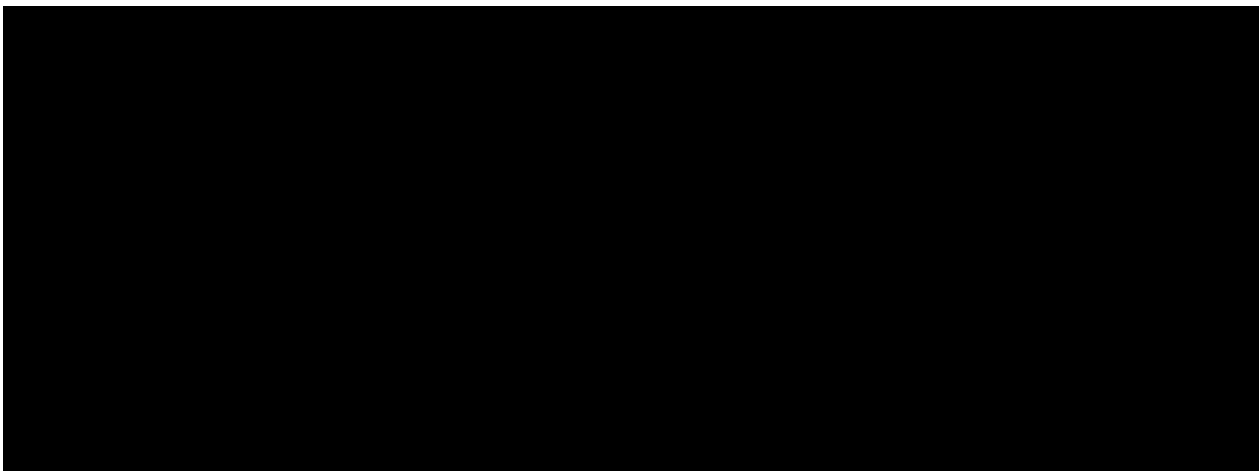
1 ** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] **



**

Overall for the period of October 1, 2016 through September 30, 2021:

**

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[illegible]

Recommendations - Replacement Criteria for Calendar Year 2010 and Beyond:

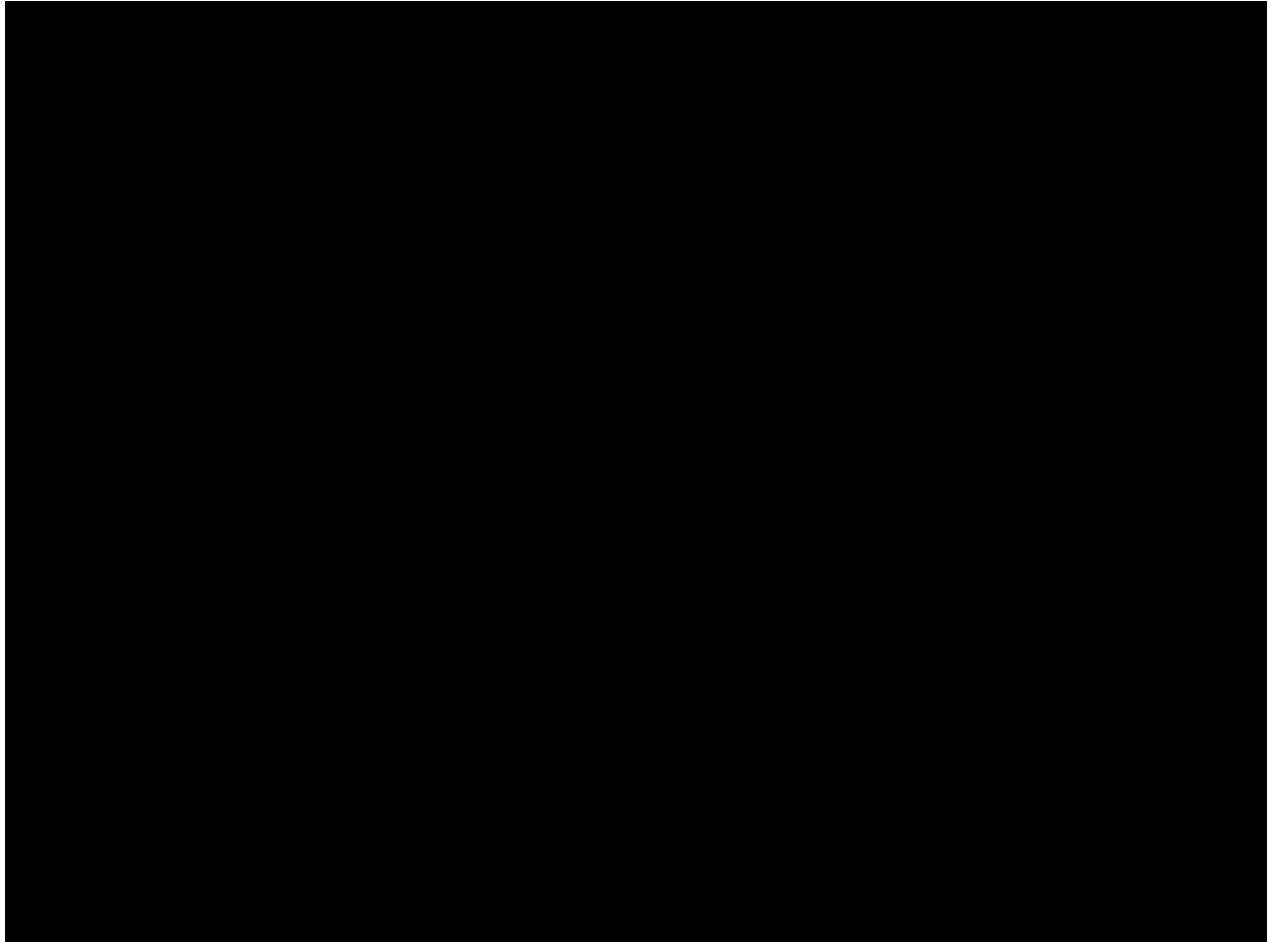
Recommendation 1: City Utilities shall replace the remaining pre-1985 “high-pressure” DuPont Aldyl® “A” polyethylene piping (services lines 1¼ inches in diameter and larger and mains) at a rate of at least 6 miles annually³.

Status: During the period of October 1, 2017 through September 30, 2021, replacement mileage was as follows:

2 **

³ The Commission Order Adopting Joint Recommendation and Ordering Compliance with Pipeline Replacement Schedule filed on May 28, 2010, Recommendation #5 of the REPLACEMENT PROGRAM CRITERIA FOR 2010 AND BEYOND requires that “Replacements of “high-pressure” DuPont Aldyl® “A” piping installed in 1985 and after, and other lower pressure categories of DuPont Aldyl® “A” piping is considered as a lower priority for replacement, but can be included in the total annual mileage if the segments have experienced leaks, are in a rock-dirt backfill, or if the piping is connected to a higher priority segment that is being replaced.”

**



[Redacted line]

[Redacted line] **

Recommendation 2: City Utilities shall continue its practice of replacing nearby or adjacent pipe segments that are beyond the specific piping in the same work order number because the piping was installed in the same time period and could likely have been installed using the same methods and in the same environment.

⁴ The Commission Order Adopting Joint Recommendation and Ordering Compliance with Pipeline Replacement Schedule filed on May 28, 2010, recommendation #3 of the REPLACEMENT PROGRAM CRITERIA FOR 2010 AND BEYOND requires that “City Utilities shall continue its practice of replacing the service lines associated with the main replacements.” ** [Redacted line]

[Redacted line]

[Redacted line]

[Redacted line]

[Redacted line] **

Status: **

[REDACTED]

[REDACTED] **

Recommendation 3: City Utilities shall continue its practice of replacing the service lines associated with the main replacements.

Status: **

[REDACTED] **

Recommendation 4: The replacements shall be prioritized based on risk factors, such as Maximum Allowable Operating Pressure (MAOP), installation in rock-dirt backfill, installation date, history of leaks due to rock impingement, continuous pavement areas, areas of high population density, areas of previous leakage, and other appropriate criteria.

Status: **

[REDACTED] **

Recommendation 5: The primary focus of the replacement program shall be on “high-pressure” DuPont Aldyl® “A” piping that was manufactured before 1985 (pre-1985) that was installed in a rock-dirt backfill. Replacements of “high-pressure” DuPont Aldyl® “A” piping installed in 1985 and after, and other lower pressure categories of DuPont Aldyl® “A” piping would normally be a low priority, but can be included in the total annual mileage if the segments have experienced leaks, are in a rock-dirt backfill, or if the piping is connected to a higher priority segment that is being replaced.

Status: **

[REDACTED]

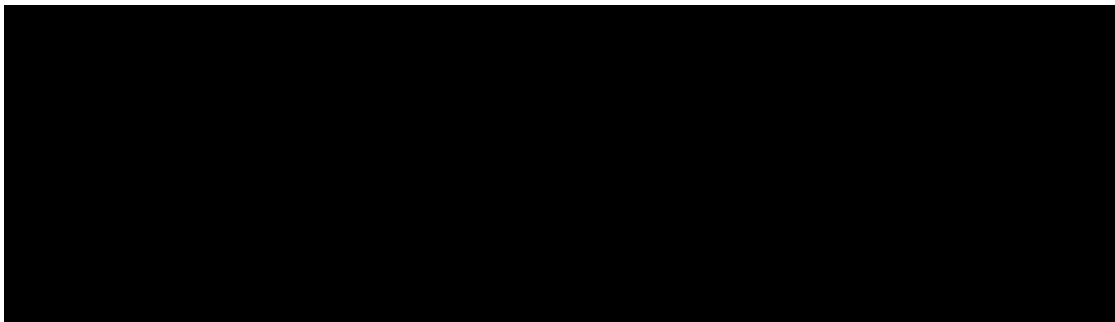
Recommendations - Non-Replacement Criteria for Calendar Year 2010 and Beyond:

In addition to the above replacement program, City Utilities will continue to meet the following requirements of the original agreement:

Recommendation 7: An annual leakage survey shall be conducted over pre-1985, 60 psig plastic piping. In addition, an annual leakage survey shall be conducted over post-1985⁷ and/or low and medium⁸ pressure main segments that have exhibited splits or are confirmed to be in rock-dirt mix backfill.

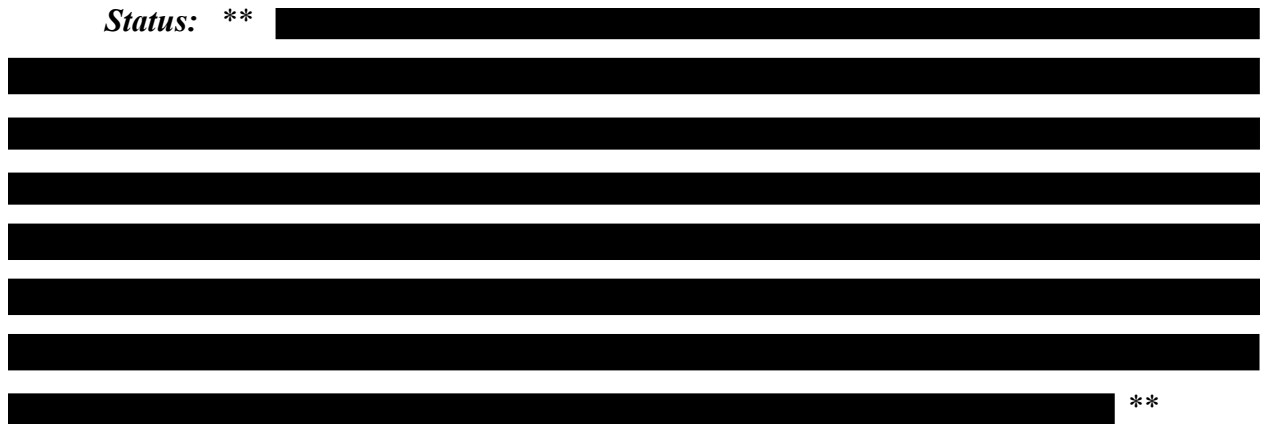
Status: *For the period of October 1, 2016 through December 31, 2021, the results of City Utilities' annual leakage surveys are listed in the table below:*

**



**

Status: **



⁷ **  **

⁸ **  **

⁹ 20 CSR 4240-40.030(13)(M)2.A. requires among other things that an instrument leak detection survey must be conducted in business districts, at intervals not exceeding fifteen (15) months but at least once each calendar year.

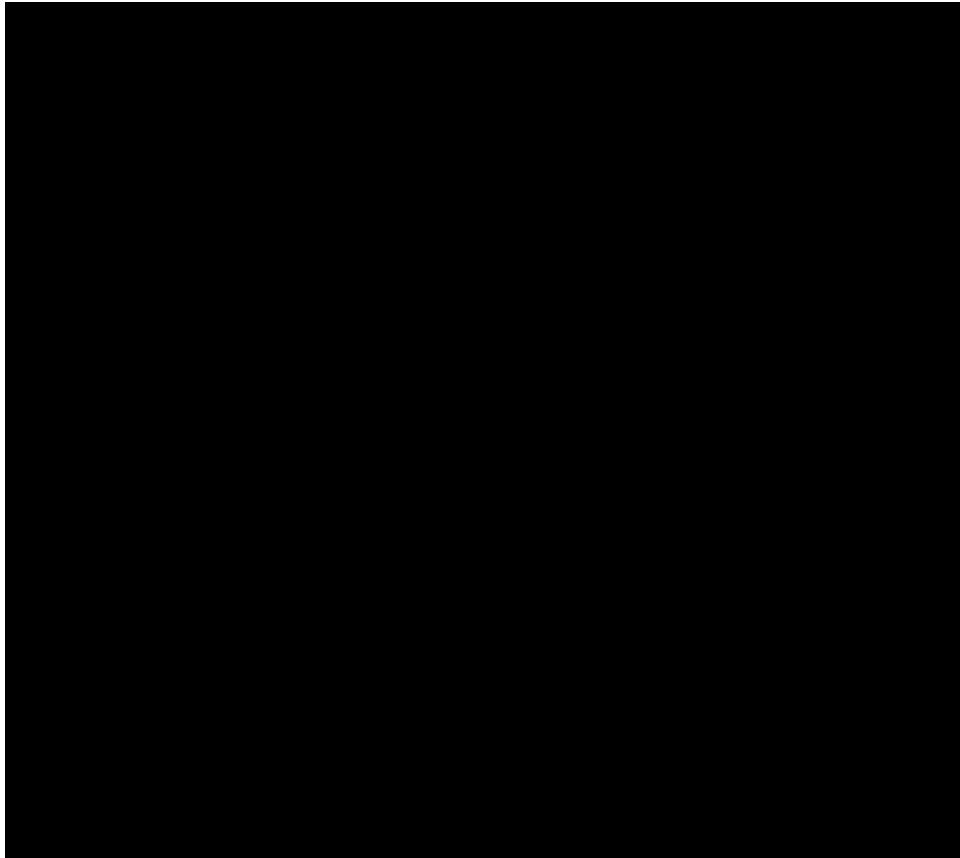
**  **

Recommendation 8: Quarterly leak surveys shall be conducted of the downtown business district.

Status: ** [REDACTED]

[REDACTED] ** *The number of leaks found during each leak quarterly leakage survey are listed in the table below:*

**



[REDACTED]

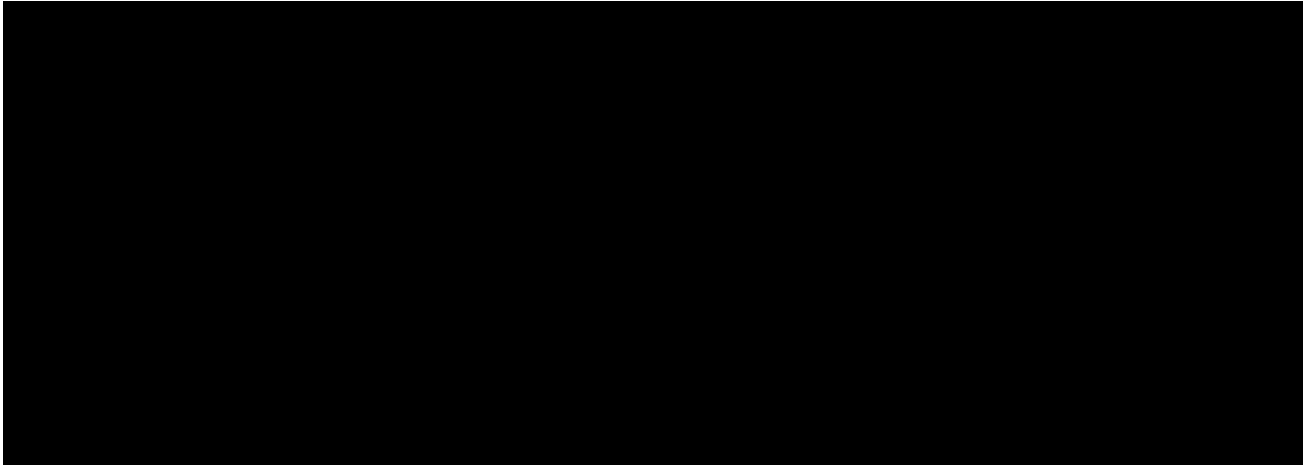
[REDACTED]

[REDACTED] **

Recommendation 9: Any plastic piping that is exposed will be inspected for proper backfill, and if rock-dirt mix backfill is found, the main segments and larger diameter service lines (1¼-inch diameter and larger) shall be added to the Master List for annual leak surveys and systematic replacement.

Status: *For the period of October 1, 2016 through September 30, 2021, City Utilities' inspections and findings were at locations where plastic piping was exposed were as follows:*

**



[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted] **

Recommendation 10: Semi-annual reports and monthly updates shall be submitted to Staff.

Status: ** [Redacted]
[Redacted] **

Recommendation 11: The mileage of pre-1985, 60 psig mains that remain in the distribution system shall be provided to Staff.

Status: ** [Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted] **

Recommendation 12: Staff and City Utilities shall continue to monitor the effectiveness of the Replacement Program. If at any time Staff determines that the program requirements should be enhanced, it will immediately bring its concerns and recommendations to the Commission.

Status: **

[REDACTED]

SUMMARY:

City Utilities has continued to implement each of the Commission ordered recommendations. As City Utilities draws near to completion replacement of its remaining pre-1985 “high-pressure” DuPont Aldyl® “A” polyethylene pipelines (Recommendation 1), Staff and City Utilities continue to discuss how best to approach implementation of the remaining recommendations relating to City Utilities’ DuPont Aldyl® “A” polyethylene pipelines that are of newer vintage (1985 and newer) and that are operating at lower pressures (all vintages).

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


In the Matter of an Investigation into City)	
Utilities of Springfield Plastic Pipe Failures)	<u>Case No. GS-2004-0257</u>
and the Adequacy of its Leak Survey)	
Procedures, Installation Procedures and)	
Replacement Criteria)	

AFFIDAVIT OF GREG A. WILLIAMS

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

COMES NOW Greg A. Williams, and on his oath states that he is of sound mind and lawful age; that he contributed to the foregoing *Status Report*; and that the same is true and correct according to his best knowledge and belief.

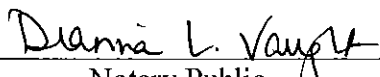
Further the Affiant sayeth not.



Greg A. Williams

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Jefferson City, on this 2nd day of March, 2022.



Notary Public

