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Operations Engineering - System Planning and Analysis



Feeder Line 18 Replacement Size Analysis

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Feeder Line 18 Replacement Size

Summarized by: Mike Platt

Introduction

Feeder Line 18 (FL18) was partially replaced in 2006 as part of the feeder line replacement program. At the time, the entirety of the main feeder line was 14-inch pipe. Figure 1 shows the replaced system as it is in 2010. This document summarizes reasons that the replacement pipe diameter was chosen to be 12-inch.

Discussion

The downstream Feeder Line 17 (FL17) pipe was 10-inch pipe. Initial recommendations were to replace the 14-inch pipe with 12-inch since 12-inch pipe is a more standard size than either 10 or 14-inch and falls between the two. A growth study was performed to verify a new 12-inch feeder line was able to supply the next 5 years of residential and commercial growth. This study substantiated the replacement size as sufficient to provide gas feed to the local customers and regulator stations.

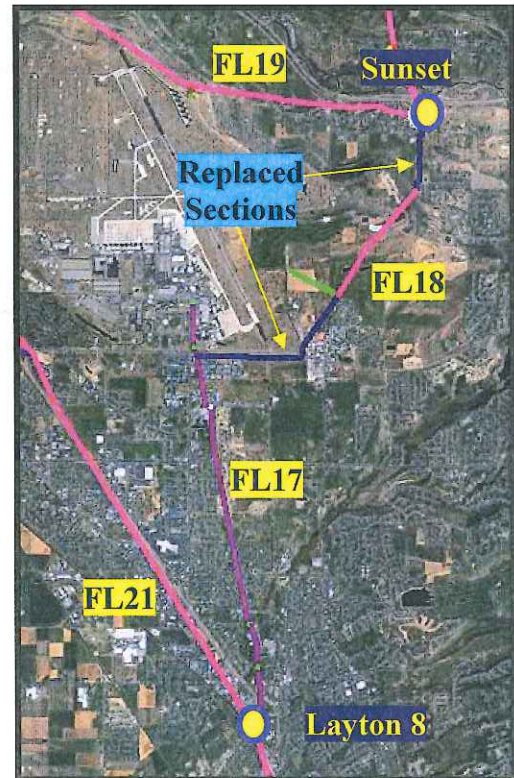


Figure 1: Feeder Line 18 Location

A recent analysis of FL17 sizing determined a 12-inch replacement for both FL17 and FL18 to provide sufficient reliability to the system. This analysis considered operation of the line without regulation which allowed gas from Sunset gate to be delivered to the rest of the system whether or not FL19 was operating concurrently. In the analysis, pipe diameters larger than 12-inch did not provide significant increases in pressure to justify installation. Please reference *Feeder Line 17 Replacement Analysis* (Platt, 2010) for details.

Conclusion

The 12-inch pipe that now comprises the majority of FL18 was selected based upon meeting the immediate and future needs of the Layton area IHP system. The study focused on the ability of the smaller diameter pipe meeting these needs locally.