

SASB Requirements for Utilities	UGI Utilities Response
IF-GU-240a.1. Average retail gas rate for (1) residential, (2) commercial, (3) industrial customers, and (4) transportation services only	
1. The entity shall disclose its average bundled gas rate per million British thermal units (MMBtu) of bundled gas delivered to retail customers.	<p>The average bundled gas rate for retail customers is \$9.90 per MMBtu.</p> <p>The average retail gas rate per MMBtu is as follows: Residential = \$10.57 Commercial = \$8.82 Industrial = \$8.49</p>
1.1 Bundled gas is defined as gas delivered to retail customers where the entity provides all services to the customer from procurement to retail distribution, including but not limited to, transmission, storage, distribution, and retail services (customers that receive such services may be referred to as core customers).	
1.2 The entity shall calculate its average bundled retail gas rate as the total revenue directly resulting from bundled gas delivered to retail customers divided by the amount of corresponding gas delivered (in MMBtu).	
2. The entity shall disclose its average retail gas rate separately for each type of customer, where customers are classified as (1) residential, (2) commercial, and (3) industrial.	
2.1 The scope of each customer type shall be consistent with the entity's financial reporting.	
2.2 Each customer type shall be disclosed as an aggregate for all customers within that respective customer type.	
2.3 If the entity's financial reporting combines commercial and industrial customers into one category, then the entity may combine the commercial and industrial customer types.	
2.4 The entity may disclose sub-classifications of customer types. For example, in addition to the average bundled gas rate for commercial customers, the entity may provide further disclosures by small commercial, large gas rate for commercial customers, the entity may provide further disclosures by small commercial, large commercial, firm, and/or interruptible customers.	
3. The entity shall disclose its average gas rate for (4) transportation services only per MMBtu of gas delivered to retail customers.	<p>The average gas rate for transportation services only is \$1.89</p>
3.1 Transportation services only is defined as gas moved through the entity's system for a fee for the benefit of an outside supplier selling to a customer inside the utility's distribution grid (customers that receive such services may be considered to be participating in customer choice programs, as described in Natural Gas Customer Choice Programs. by the U.S. Energy Information Administration).	
3.2 The entity shall calculate its average gas rate for transportation services only as the total revenue directly resulting from gas transportation services only, provided to retail customers divided by the corresponding amount of gas delivered (in MMBtu).	4. The entity may disclose additional customer types if such customer types exist that do not fall within the scope of the customer types described above.
IF-GU-240a.2. Typical monthly gas bill for residential customers for (1) 50 MMBtu and (2) 100 MMBtu of gas delivered per year	
1. The entity shall disclose the typical monthly gas bill for (1) the first 50 million British thermal units (MMBtu), and separately, (2) the first 100 MMBtu, of bundled gas delivered to its residential customers per year.	<p>The typical monthly gas bill for residential customers for 50 MMBtu of gas delivered per year is \$49.64.</p> <p>The typical monthly gas bill for residential customers for 100 MMBtu of gas delivered per year is \$86.65</p>
1.1 Bundled gas is defined as gas delivered to retail customers where the entity provides all services to the customer from procurement to retail distribution, including but not limited to, transmission, storage, distribution, and retail services (customers that receive such services may be referred to as core customers).	
1.2 The entity shall calculate the typical monthly gas bill for residential customers as the sum of revenue directly resulting from bundled gas delivered to residential customers over the course of the reporting period, divided by the number of months in the reporting period, divided by the weighted average number of residential customers during the reporting period.	
1.2.1 Revenue shall be based on an assumption of (1) 50 MMBtu, and separately, (2) 100 MMBtu, of bundled gas delivered to residential customers per year.	
1.2.2 Revenue shall be calculated using seasonal rates and an appropriate methodology for determining seasonal gas delivery patterns.	
1.2.3 The entity shall disclose its methodology for calculating typical monthly gas bill for residential customers.	
2. The entity may disclose additional customer types and/or sub-classifications of customer types. For example, the entity may additionally disclose typical monthly gas bill for commercial customers.	<p>The typical monthly gas bill for Commercial customers using 444.1 MMBtu of gas delivered per year is \$326.09.</p> <p>The typical monthly gas bill for Industrial customers using 1,681.0 MMBtu of gas delivered per year is \$1,190.01.</p>

IF-GU-240a.3. Number of residential customer gas disconnections for non-payment, percentage reconnected within 30 days	
<p>1. The entity shall disclose the total number of gas disconnections among residential customers during the reporting period that resulted from non-payment, where:</p> <p>1.1 A disconnection is defined as the entity, or its service provider, intentionally turning off a customer's access to gas.</p> <p>1.2 Disconnections occurring for multiple reasons shall be included if non-payment (or under-payment) is a contributing cause of the disconnection.</p>	19,302
<p>2. The entity shall disclose the percentage of disconnections that are reconnected within 30 days.</p> <p>2.1 The percentage shall be calculated as the number of residential customers previously disconnected that were reconnected within 30 days of the date of the disconnection, divided by the total number of residential customer disconnections during the reporting period that resulted from non-payment.</p> <p>2.2 A reconnection is defined as the entity, or its service provider, intentionally turning on a customer's access to gas, which was previously disconnected.</p> <p>2.2.1 Reconnections may occur for reasons including, but not limited to, bill payment, the establishment of a bill payment plan, and/or the use of a bill assistance program.</p> <p>2.3 The scope of disclosure may include reconnections that occur after the end of the reporting period, but the entity shall not double-count reconnections across multiple discrete reporting periods.</p>	26.99%
Note to IF-GU-240a.3	
<p>1. The entity shall discuss how policies, programs, and regulations impact the number and duration of residential customer disconnections.</p> <p>1.1 Policies include company-level policies that govern the conditions under which the entity may disconnect (or may not disconnect) residential customers.</p> <p>1.2 Programs include those administered at the national, state, local, utility commission, or company-level that are designed to improve the affordability of gas among residential customers, and/or reduce the number and/or duration of residential customer disconnections (e.g., Low Income Home Energy Assistance Program).</p> <p>1.3 Regulations include those occurring at the national, state, local, utility commission, or company-level that are designed to improve the affordability of gas among residential customers, and/or reduce the number and/or duration of residential customer disconnections.</p>	<p>The Company follows the Utility regulations detailed in both the PA CH 56 and COMAR regulations. Both sets of regulations require UGI Utilities to have a winter moratorium on low income terminations. The moratorium in PA begins December 1st and ends March 31st each year. COMAR requires utilities to cease terminations one month earlier effective November 1st. While the Company does have a manual process to continue to work in arrears, non-low-income, residential and commercial accounts during the moratorium, other temperature driven policies limit the amount of work that gets completed during those periods.</p> <p>All termination notice requirements are followed and there are numerous customer protections one can invoke when disputing a noticed termination. Medical certificates, Protection from Abuse Orders, and a customer's eligibility to enter into a regulated or company arrangement all impact the number of customers terminated each month. Additionally, low-income customers are able to enroll into a number of programs that can assist with lowering or helping pay their monthly bills. Enrollment into these programs remove a customer from the collection path. These programs are; CAP (Customer Assistance Program), LIURP (Low income usage reduction program), Operation Share (one time a year hardship grant), and LIHEAP, the state managed Low Income Home Energy Assistance Program. The Company follows every termination with a regulated Cold Weather Interim Survey (CWIP). This process begins approximately October 1st by notifying anyone terminated during that season who still has not reconnected, and then follows a series of additional contacts to determine if the household is still without heat by Dec 1 of that season. In these contacts all available options to reconnect are provided to the customer if reached.</p>
IF-GU-240a.4. Discussion of impact of external factors on customer affordability of gas, including the economic conditions of the service territory	
<p>1. The entity shall describe the external factors that cause, or are reasonably likely to cause, a significant impact on the affordability of gas among the entity's retail customers.</p> <p>1.1 External factors are defined as influences outside of the direct control of the entity.</p> <p>1.2 The scope of external factors includes factors that directly impact current and/or future gas rates, and/or factors that impact customers' current and/or future ability to pay gas bills (i.e., no direct impact to gas rates).</p> <p>1.3 External factors may include, but are not limited to, geography, climate, weather, and regulations, public policy, and public purpose programs (regardless of whether such factors directly relate to affordability).</p> <p>1.4 At a minimum, external factors shall include the economic conditions of the service territory.</p> <p>1.4.1 The entity may disclose the median household income, poverty rates, employment rates, or other quantitative or qualitative data that depict the economic conditions of the service territory.</p>	<p>Demand for natural gas remains high in UGI's service territory. One of the primary factors influencing natural gas affordability and adoption is the wholesale price spread between natural gas and oil, in particular. With the abundance of Marcellus Shale gas in PA, UGI Utilities residential customers paid 30% less in 2019 as compared to 2008. A ban on fracking, for instance, is estimated to result in a 325% increase in natural gas prices nationally, representing a \$5,661 increase in the cost of living for an average American, and would eliminate about 19 million jobs. The median household income for UGI Utilities territory is approximately \$57,000/annually, while the median age is 41 years old. Approximately 31% of households are renter-occupied. Recently, the price of oil has dropped, representing approximately \$350 of annual savings for a residential customer converting from oil to natural gas. However, longer term data is indicative of residential conversion energy cost savings of over \$1,000 per year.</p>
<p>2. For each external factor, in addition to a description of the factor, the entity shall briefly describe:</p> <p>2.1 The frequency and magnitude in which the factor impacts the affordability of gas for the entity's customers.</p> <p>2.2 The trend in the impact of the factor on the affordability of gas for the entity's customers.</p>	<p>Please see above.</p>

<p>3. The entity shall describe the risks and opportunities that arise out of the external factors.</p>	<p>Ongoing risks include customer non-payment, cost recovery uncertainty, as well as public policy. Opportunities include continued customer growth, capital investment opportunities, and public policy changes supporting natural gas midstream expansion. Customer non-payment is tracked vigorously, and offset partially by aggressive marketing of utility programs such as LIHEAP, WARM, CAP, and LIURP. More recently, emergency relief efforts related to the COVID-19 pandemic were approved to assist customers further. UGI Utilities has a commendable gross growth rate of 1.5 annually for the last 10 years, when most utilities have flat or negative growth. Digital marketing, interwoven with more traditional means as well as a focus on customer experience provide value to customers as well as increase customer satisfaction. Electrification mandates are closely monitored, particularly in the new construction market, as a potential long term risk. UGI Utilities is spending an accelerated amount of capital annually to modernize its distribution network, as well as accommodate new customer growth. Recent capital budgets are in the \$160-\$250MM range. Another opportunity is the salience of new technologies including CHP, NGV's, RNG, and LNG. The company continues to execute growth strategies related to core market, industrial, and new technologies growth.</p>
<p>3.1 Risks may include, but are not limited to, customer non-payment of gas bills, cost recovery uncertainty, reputational value, and regulations, public policy, and/or public purpose programs that may generate adverse financial impacts.</p>	
<p>3.2 Opportunities may include, but are not limited to, customer growth, capital investment opportunities, reputational value, and regulations, public policy, and/or public purpose programs that may generate adverse financial impacts.</p>	
<p>4. The scope of disclosure includes the affordability of all retail customers within the entity's service territory for gas, which may include, but is not limited to, residential, commercial, industrial, and agricultural customers.</p>	<p>Please see above.</p>
<p>4.1 The entity may prioritize low-income residential customers in its disclosures.</p>	
<p>5. The entity may describe how its average rates, average bills, and/or customer disconnections compare to other utilities.</p>	<p>UGI Utilities current residential distribution rates are below those of Peoples Gas, Columbia and PGW.</p>
<p>IF-GU-420a.1. Percentage of gas utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)</p>	
<p>1. The entity shall disclose the percentage of gas utility revenues from (1) revenue decoupled rate structures.</p>	<p>0% of UGI Utilities' gas revenues are derived from decoupled rate structures. Nevertheless, fixed monthly customer charges not dependent on usage account for 18.8% of the Company's revenue on a pro forma basis.</p>
<p>1.1 Revenue decoupled rate structures are defined, according to the U.S. National Association of Regulatory Utility Commissioners in Decoupling for Electric & Gas Utilities (September 2007), as a rate adjustment mechanism that separates the entity's gas utility's fixed cost recovery from the amount of gas sold—and the utility's revenues are collected based on the regulatory-determined revenue requirement.</p>	
<p>1.1.1 Revenue decoupled rate structures may also be referred to as, "revenue regulation" or "revenue cap regulation," where the regulator establishes an allowed revenue requirement and adjusts collections so as to achieve that allowed, or "target," revenue irrespective of actual sales (definition adapted from, Decoupling Case Studies: Revenue Regulation Implementation in Six States, The Regulatory Assistance Project, July 2014).</p>	
<p>1.1.2 Additional guidance on the scope of revenue decoupled rate structures is contained in Alternative Regulation for Emerging Utility Challenges: 2015 Update, Edison Electric Institute, November 11, 2015 .</p>	
<p>1.2 The scope of decoupled rate structures shall exclude straight fixed-variable rate design and those rate structures that contain a lost revenue adjustment mechanism (LRAM).</p>	
<p>1.3 The percentage shall be calculated as the total regulated gas utility revenue from revenue decoupled rate structures divided by total regulated gas utility revenue.</p>	
<p>2. The entity shall disclose the percentage of gas utility revenues from (2) rate structures that contain a LRAM.</p>	
<p>2.1 Rate structures that contain a LRAM are defined as volumetric rates that contain a mechanism which allows the entity to recover revenues lost directly resulting from energy conservation, energy efficiency, demand side management, and/or distributed generation programs that are directly managed and/or implemented by the entity.</p>	
<p>2.2 Additional guidance on the scope of LRAMs is contained in Alternative Regulation for Emerging Utility Challenges: 2015 Update, Edison Electric Institute, November 11, 2015.</p>	
<p>2.3 The scope includes mechanisms that allow the estimation of lost revenues based on the programs' actual impacts, but excludes lost revenues from planned or forecasted programs' impacts (as described in Alternative Regulation and Ratemaking Approaches for Water Companies, The Brattle Group, September 23, 2013 – while the referenced resource is intended for water utilities, the concept of LRAMs is similar for gas utilities).</p>	
<p>2.4 The percentage shall be calculated as the total regulated gas utility revenue from rate structures that contain a LRAM divided by total regulated gas utility revenue.</p>	
<p>3. The scope of disclosure is limited to revenues directly resulting from the provision of gas to retail customers by regulated utilities.</p>	

IF-GU-420a.2. Customer gas savings from efficiency measures by market	
1. The entity shall disclose the total amount of gas savings delivered to customers, in million British thermal units (MMBtu), from energy efficiency measures during the reporting period for each of its markets.	For 2019, verified first-year gross savings are as follows: Residential sector: 166,241 MMBtus Commercial & Industrial sector: 24,040 MMBtus
1.1 Markets are defined as those operations that are subject to distinct public utility regulatory oversight.	
1.2 Gas savings are defined according to the gross savings approach as the changes in energy consumption and/or demand that results from program-related actions taken by participants in an efficiency program, regardless of why they participated.	
1.2.1 The entity may list those markets where it reports gas savings on a net savings basis and thus may be different from the figures disclosed here, where net gas savings are defined as changes in consumption that are specifically attributable to an energy efficiency program, and that would not otherwise have happened in the absence of the program.	
2. Gas savings shall be calculated on a gross basis but consistent with the methodology set forth in national, state, or local evaluation, measurement, and verification (EM&V) regulations where such savings occur, where examples of U.S. state regulations include, but are not limited to:	UGI Utilities' gas savings from its Energy Efficiency & Conservation (EE&C) programs are calculated using an established Technical Reference Manual (TRM) that provides savings assumptions at the EE&C measure level detail, approved in Docket Number R-2015-2518438 before the Pennsylvania Public Utility Commission.
2.1 California Public Utilities Commission Decision 09-09-047	
2.2 Minnesota Statutes 216B.241	
2.3 New York Case 07-M-0458	
3. Where national, state, or local regulations do not exist, the entity shall calculate gas savings consistent with the measurement and verification methods outlined by the U.S. Department of Energy's (DOE) Federal Energy Management Program (FEMP) M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 4.0.	Not applicable.
4. The scope of gas savings from efficiency measures includes savings delivered directly by the entity and, where regulations provide, savings substantiated by purchases of efficiency savings credits.	Efficiency savings credits are not applicable to UGI Utilities' programs.
4.1 For any savings from efficiency measures delivered directly by the entity, any efficiency savings credits must be retained (i.e., not sold) and retired on behalf of the entity in order for the entity to claim them as delivered gas savings.	
4.2 For efficiency savings credits that are purchased, the agreement must explicitly include and convey that credits be retained and retired on behalf of the entity in order for the entity to claim them.	
5. Relevant regulations governing efficiency savings credits include the following regulations in the U.S.:	Not applicable. See above response.
5.1 Connecticut House Bill 7432	
5.2 Nevada Regulation of Public Utilities Chapter 704	
6. The entity shall consider guidance on regulations as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.	Understood.
Note to IF-GU-420a.2	
1. The entity shall discuss customer efficiency measures that are required by regulations for each of its relevant markets, including a discussion of:	All savings achieved by UGI Utilities are beyond those required by regulation as the Company's EE&C programs are voluntary.
1.1 The amount or percentage of gas savings from efficiency measures required by regulations for each market.	
1.2 Instances of noncompliance with gas savings obligations.	
1.2.1 In such instances, the entity shall disclose the difference between the gas savings delivered and the amount required by the regulation.	
1.3 Gas savings delivered that exceed those required by regulations and that resulted in the entity receiving energy efficiency performance incentives, including the value of any such incentives.	
2. Relevant regulations include, but are not limited to:	Not applicable.
2.1 California Public Utilities Commission Decision 14-10-046	
2.2 Illinois Public Act 096-0033	
2.3 Massachusetts Department of Public Utilities Three Year Energy Efficiency Plan 15-160 to 15-169	
2.4 Minnesota Statutes 216B.241	
3. The entity shall discuss the policy mechanisms in place for each market that allows for or incentivizes energy efficiency, including a discussion of the benefits, challenges, and financial impacts associated with such mechanisms.	UGI Utilities utilizes a volumetric customer distribution surcharge to recover costs associated with managing the Company's energy efficiency programs.
4. Relevant policy mechanisms to discuss include, but are not limited to:	UGI Utilities does not utilize decoupling nor does it make lost revenue adjustments as part of the Company's EE&C programs. Estimate usage reductions are factored into the calculation of the Company's base rates.
4.1 Deferral decoupling	
4.2 Current period decoupling	
4.3 Single fixed variable rates	
4.4 Lost revenue adjustments	
4.5 Energy efficiency feebates	

<p>5. The entity may discuss incentives it has developed for its customers that promote end-use efficiency, including, but not limited to, energy efficiency rebates, and other measures to subsidize customer energy efficiency.</p>	<p>UGI Utilities offers a variety of energy efficiency programs to its residential and commercial customers. The current EE&C Plan is a five-year, approximately \$63MM program that was designed to encourage customers to install high efficiency appliances over less expensive, standard efficiency appliances by providing incentives to offset the incremental equipment cost. By participating in these programs, customers receive the benefits of saving energy and money, both in terms of receiving a rebate for the equipment installation, and lower utility bills. Common measures installed include natural gas furnaces, boilers, and water heaters. The Company also offers residential and commercial audit programs to enhance the efficiency of homes and businesses, along with incentives for Combined Heat & Power (CHP) projects. In 2019, UGI issued \$6.7MM in rebates to customers across the residential, commercial, and industrial sectors.</p>
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IF-GU-540a.1. Number of (1) reportable pipeline incidents, (2) Corrective Action Orders (CAO), and (3) Notices of Probable Violation (NOPV)

<p>1. The entity shall disclose the number of U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) reportable pipeline incidents, where:</p>	
<p>1.1 Reportable incidents are defined as events that involve a release of gas from a pipeline and that result in one or more of the following consequences: a death or personal injury necessitating in-patient hospitalization; estimated property damage of \$50,000 or more, including losses to the operator, losses to others, or both, but excluding the cost of gas lost; an unintentional estimated gas loss of three million cubic feet or more; or an event that is significant in the judgment of the operator, consistent with the definition provided in U.S. 49 CFR 191</p>	<p>UGI Utilities had one reportable incident in 2019. On April 4, 2019 3rd party contractor was performing excavation using horizontal directional drilling (HDD) methods along the 200 Block of West Chocolate Avenue. In the process of HDD work, the 3rd party contractor failed to expose a properly marked UGI facility in the public right of way, that happened to be in the bore path. The drill subsequently pierced our main which was part of a distribution network in a commercial area. This event is being reported as an incident due to the cost of this repair exceeding the \$50,000 reporting threshold.</p>
<p>2. The entity shall disclose the number of PHMSA Corrective Action Orders (CAO) received, where:</p>	
<p>2.1 A CAO is issued when a particular pipeline facility is found to be hazardous to life, property, or the environment. A corrective action may include suspended or restricted use of the facility, physical inspection, testing, repair, replacement, or other appropriate action, consistent with the definition provided by U.S. 49 CFR 190.233.</p>	<p>Zero (0)</p>
<p>3. The entity shall disclose the number of Notices of Probable Violation (NOPV) received, where:</p>	
<p>3.1 An NOPV is defined as the beginning of an enforcement proceeding that contains a statement of the provisions of the laws, regulations, or orders that the respondent is alleged to have violated and a statement of the evidence upon which the allegations are based, consistent with the definition provided in U.S. 49 CFR 190.207.</p>	<p>Zero (0)</p>
<p>Note to IF-GU-540a.1</p>	
<p>1. The entity shall discuss notable incidents such as those that affected a significant number of customers, created extended disruptions to service, or resulted in a PHMSA "serious incident."</p>	
<p>1.1 PHMSA serious incidents are defined as incidents that resulted in a fatality or an injury requiring in-patient hospitalization.</p>	<p>Zero (0)</p>
<p>2. For such incidents, the entity may provide:</p>	
<p>2.1 A description and cause of the incident</p>	<p>Zero (0)</p>
<p>2.2 The total population affected by the incident</p>	<p>Zero (0)</p>
<p>2.3 The costs associated with the incident</p>	<p>Zero (0)</p>
<p>2.4 Actions taken to mitigate the potential for future service interruptions</p>	<p>Zero (0)</p>
<p>2.5 Any other significant outcomes (e.g., legal proceedings, serious injuries, and/or fatalities)</p>	<p>Zero (0)</p>

IF-GU-540a.2. Percentage of distribution pipeline that is (1) cast and/or wrought iron and (2) unprotected steel	
1. The entity shall disclose the percentage, by length, in kilometers, of its natural gas pipelines that are (1) cast and/or wrought iron, and separately, (2) unprotected steel.	
1.1 A distribution pipeline is defined according to U.S. 49 CFR 192.3 as a pipeline other than a gathering or transmission line, where:	
1.1.1 A gathering line is defined as a pipeline that transports gas from a current production facility to a transmission line or main; and	
1.1.2 A transmission line is defined as a pipeline, other than a gathering line, that (1) transports gas from a gathering line or storage facility to a distribution center, storage facility, or large-volume customer that is not downstream from a distribution center; (2) operates at a hoop stress of 20 percent or more of the specified minimum yield strength (SMYS); or (3) transports gas within a storage field.	
1.2 Cast and/or wrought iron is defined as iron that is heated to its melting point and poured into molds and cannot be molded or screwed.	389 km (242 mi) of Cast Iron/Wrought Iron pipeline.*
1.3 Unprotected steel is defined as steel with no form of corrosion protection.	1033 km (642 mi) of unprotected steel distribution pipeline.*
2. The percentage of (1) cast and/or wrought iron distribution pipelines shall be calculated as the total length of cast and/or wrought iron pipelines that the entity owns or operates divided by the total length of distribution pipelines that the entity owns and/or operates.	2% of all UGI Utilities distribution pipelines are cast and/or wrought iron.*
3. The percentage of (2) unprotected steel distribution pipelines shall be calculated as the total length of unprotected steel pipelines that the entity owns or operates divided by the total length of distribution pipelines that the entity owns and/or operates.	5% of all UGI Utilities distribution pipelines are unprotected steel.*
4. The entity may discuss its pipeline replacement rates, its use of polyethylene pipes, or other efforts to reduce fugitive emissions and leaks and improve the safety of its distribution pipelines.	UGI Utilities has committed to replacing all cast iron mains by 2027 and bare steel/wrought iron mains by 2041. On average, UGI replaces 60-64 miles of cast iron and bare steel/wrought iron main per year. With the extensive replacement efforts well underway, UGI utilizes contemporary materials such as plastic or cathodically protected steel to replace non-contemporary materials. Currently, UGI's distribution system is comprised of approximately 88.3% of contemporary mains. Parallel to these efforts, UGI has witnessed a 40% reduction in hazardous C (Grade 1) leaks and an 89% reduction in B (Grade 2) leak inventory levels in the past 5 years.
*Data provided on a calendar year basis ending December 31, 2019.	
IF-GU-540a.3. Percentage of gas (1) transmission and (2) distribution pipelines inspected	
1. The entity shall disclose the percentage, by length, of gas (1) transmission pipelines, and separately, (2) distribution pipelines that were inspected during the reporting period.	
1.1 A transmission pipeline is defined, according to U.S. 49 CFR 192.3, as a pipeline, other than a gathering line, that (1) transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not down-stream from a distribution center; (2) operates at a hoop stress of 20 percent or more of the specified minimum yield strength (SMYS); or (3) transports gas within a storage field.	308 miles operated by UGI Utilities.
1.2 A distribution pipeline is defined, according to U.S. 49 CFR 192.3, as a pipeline other than a gathering or transmission line.	12,066 operated by UGI Utilities *
2. Inspection activities include those listed under U.S. 49 CFR 192 for gas pipelines, including:	This section provides transmission pipeline inspections only.
2.1 Internal inspection tool or tools capable of detecting corrosion and any other threats to which the covered segment is susceptible	0%*
2.2 Pressure test(s)	0%*
2.3 Direct assessment to address threats of external corrosion, internal corrosion, or stress corrosion racking	For transmission pipelines only: ECDA = 12%; ICDA=0%; SCCDA=0%*
2.4 Other technology that an operator demonstrates can provide an equivalent understanding of the condition of the line pipe	0%*
2.4.1 If other technologies were used by the entity to conduct inspections per 29 CFR 192 or 29 CFR 195, the entity shall disclose which technology was used.	None*
3. The percentage is calculated as the length of gas pipelines inspected divided by the total length of gas pipelines.	12% of total transmission pipelines inspected. 16% of UGI Utilities pipelines were inspected*
*Data provided on a calendar year basis ending December 31, 2019.	

IF-GU-540a.4. Description of efforts to manage the integrity of gas delivery infrastructure, including risks related to safety and emissions	
1. The entity shall describe its efforts to manage the integrity of gas delivery infrastructure.	
1.1 Gas delivery infrastructure includes, but is not limited to, transmission pipelines, distribution pipelines, storage facilities, compressor stations, metering and regulation stations, and liquid natural gas facilities.	
1.2 Efforts may include, but are not limited to, those related to employee training, emergency preparedness, process safety, and asset integrity management.	
1.3 Relevant information to provide includes, but is not limited to, the use of standards, industry best practices, benchmarking, and participation in third-party initiatives, which may include, but are not limited to:	
1.3.1 The American Gas Association's (AGA) Peer Review Program	UGI Utilities participates in the AGA Peer Review Program and is a regular participant. UGI was actually the first company to be reviewed in the AGA Peer Review Program as one of the 10 pilot companies.
1.3.2 American Petroleum Institute (API) Recommended Practices 1170 and 1171	UGI Utilities neither owns nor operates any natural gas storage facilities.
1.3.3 Natural Gas Industry Safety Programs, as outlined by the American Gas Association	One-Call: UGI Utilities has been a member of PA One-Call since 1979 and have consistently had members on the Board of Directors since that time. UGI is also active in the Common Ground Alliance (CGA) and has membership on the CGA committee. UGI is participating in the Northeast Gas Association sponsored program to implement Pipeline Safety Management Systems (PSMS), pursuant to the American Petroleum Institute standard API 1173.
	"Call-Before-You-Dig" and "Dig Safely" Programs: UGI Utilities actively participates in these programs in PA and MD. UGI has training programs on its web site for outreach training for all participants in the program. UGI also had several instructors certified to train required compliance instruction for excavators and locators in PA. UGI is a member of the Gold Shovel Standard (GSS). This program certifies excavators in certain safe digging requirements: follow safe digging practices, management sign-off committed to the safe digging process, root cause and corrective actions and documentation of events and incidents. See Public Education Programs for more information.
	Pipeline Markers: UGI Utilities installs and maintains above-ground markers to indicate the location of buried gas lines. At a minimum, line markers are placed at each crossing of a public road, except in very urban areas where utility-locator services are more prevalent (see One-Call above).
	Visual Inspections: Leak survey and patrolling are performed on various pipelines regularly to identify potential problems. The patrols vary according to population density and individual company policy, but all transmission lines are patrolled at least once per year. The inspectors look for construction activity, signs of leakage, such as dried-out vegetation, or conditions that could affect the pipeline, such as soil erosion, and use gas detection instruments to inspect for leaks on the pipelines. Inspections are done on foot, in vehicles and via drones for difficult to access facilities.
	Materials Specifications: Material specifications are provided to manufacturers of the various materials used by UGI Utilities in its gas systems. The manufacturers of gas materials are required to make their respective materials according to stringent industry specifications from testing and standards organizations such as API (American Petroleum Institute), ASTM (American Society for Testing and Materials), ASME (American Society of Mechanical Engineers International), MSS (Manufacturers Standardization Society), NACE (National Association of Corrosion Engineers), GTI (Gas Technology Institute), NFPA (National Fire Protection Association), Plastics Pipe Institute (PPI).
	Construction Techniques: Installers are qualified either annually (plastic fusers) or every 6 months (welders), ensuring quality joints when assembling pipes. Non-Destructive testing (NDT) techniques such as x-rays, ultrasonic and other tests are used to check welds as an additional safeguard. Pipelines are also subjected to pressure tests (using air, nitrogen or water) and pressurized to exceed the pressure level that will be created by the amount of gas the pipe will carry to test the integrity of the pipe.
	Corrosion and Damage Control and Inspection: Steel (contemporary) gas lines are installed with corrosion-control coatings on the outside surface. Cathodic protection methods are used to protect any areas where the coatings may become damaged over time. Trained and certified personnel routinely apply survey techniques using specialized electronic equipment to evaluate gas line conditions to ensure adequate levels of cathodic protection, and in some instances evaluate for coating defects to identify areas of concern before they become a problem. All exposed pipelines are evaluated for pipe and coating conditions, with remedial actions taken, if necessary. In addition, government regulations require surveys of pipelines with leak detectors at specified intervals, with the frequency depending on material and whether the pipe is located in a populated area or a rural region. Smart pigs are in-line inspection devices that are propelled or tethered through the gas system while recording detailed data about the condition of the line (wall loss, dents, bends, etc.). Pigs are generally used on transmission and high pressure distribution lines that have either been specially designed or modified to accommodate in-line inspections. UGI Utilities complies at a minimum with the required assessments identified by PHMSA and inspection frequencies for all cathodic protection systems, transmission line assessments, atmospheric corrosion inspection, regulator stations including relief devices and emergency valves. In addition, UGI has stringent training and testing programs for employees involved in any aspect of operations, maintenance or repair.

	<p>Industry and Peer Education Programs: Through technical conferences and seminars, members of the natural gas industry share information and experiences on all aspects of operating a gas system with others in the industry. UGI Utilities regularly sends representatives to the American Gas Association's annual Operations Conference, where more than 200 technical papers are presented and made available to the industry. These papers cover topics ranging from pattern analysis software for system mapping to the use of trenchless technology for renovating or repairing gas pipelines. Industry trade associations also publish numerous manuals, books, pamphlets and studies on delivery system operations and "best-practices" programs, in which UGI Utilities regularly participates. UGI also attends industry sharing events sponsored by the Energy Association of PA (EAPA), events sponsored by the PA Public Utility Commission (PUC), and various educational programs for the Gas Utility Industry such as the Appalachian Gas Measurement Short Course in Pittsburgh, PA and the Appalachian Underground Corrosion Short Course (AUCSC) in Morgantown, WV.</p>
	<p>Public Education Programs: UGI Utilities provides a Dig Safety program available upon request for excavators who have frequent offenders (two or more dig-ins in a six month period) to provide additional safe digging practices. NEF (National Education Foundation) along with UGI representatives makes presentations regarding an 811 school program to educate children annually. Paradigm Liaison Services provides Recommended Practice 1162 education to Emergency Services Personnel. UGI Utilities' Public Awareness Program is a comprehensive education for four stakeholder groups: excavators, emergency responders, public officials and effected public (communities served). UGI is a member of PAPA (Pipeline Association for Public Awareness), which performs safety awareness mailings to the affected public. UGI makes Web-based training available to emergency responders through a site called RTUE: Responding To Utility Emergencies. UGI provides additional training programs on its web site called "A Shared View", that provides UGI specific natural gas safety programs for emergency services personnel.</p>
<p>1.3.4 The U.S. Environmental Protection Agency's (EPA) Natural Gas STAR Program</p>	<p>UGI Utilities is a partner in the EPA Natural Gas STAR Methane Challenge Programs.</p>
<p>2. The entity shall describe how the it integrates a culture of safety and emergency preparedness throughout its project lifecycles, such as through training, oversight of workforce, rules and guidelines for communicating risks, and use of technology.</p>	
<p>2.1 The project lifecycle includes, at a minimum, pipeline design, construction, commissioning, operation, maintenance, and decommissioning.</p>	<p>From the genesis of a pipeline project to the end of its useful life, UGI requires that experienced and qualified individuals are involved with a life of a pipeline. UGI undergoes a multi disciplinary review of pipeline designs that are ultimately reviewed by a licensed Professional Engineer. Designs also designate emergency shut off valves for each respective project in the event of an emergency, and it is the expectation these valves are known and accessible to all individuals performing construction work. Pipeline construction is also undergoes several inspection layers, ensuring safe and compliant construction practices. During a pipeline's life cycle, it will be inspected and maintained by qualified individuals to ensure reliability, and safe operating performance until the pipeline is decommissioned.</p>
<p>3. The entity shall describe its approach to ensuring pipeline operators are qualified or supervised when performing a covered task, including ongoing reviews of operator qualifications, assurance that unqualified workers are properly supervised, and efforts to maintain a sufficient number of qualified pipeline operators, where:</p>	
<p>3.1 Pipeline operators are defined as those people who engage in the transportation of gas, consistent with U.S. 49 CFR 192.3.</p>	<p>UGI Utilities maintains a database of covered employees who require their operator qualifications be maintained and documented. Individuals who perform work on a pipeline are required to hold the appropriate covered task as defined in UGI's Gas Operations Manual (GOM).</p>
<p>3.2 A pipeline operator is considered qualified to perform covered tasks when the individual has been evaluated, can perform the assigned covered task, and can recognize and react to abnormal operating conditions, consistent with the definition provided by U.S. 49 CFR 192.803.</p>	<p>UGI Utilities trains and qualifies Company employees and contractors through testing and "hands-on" simulation as required by the PHMSA Operator Qualification (OQ) rule. UGI employees undergo multi-phase progressive training curriculum beginning with New Employee Orientation training and continuing through advanced training. To promote more uniform and hands on training, UGI is in the process of constructing a centralized training center which is expected to be open in the spring of 2021.</p>
<p>3.2.1 A covered task is defined, consistent with U.S. 49 CFR 192.801, as an activity, identified by the operator, that is performed on a pipeline facility, is an operations or maintenance task, is performed as a requirement of maintaining regulatory compliance, and affects the operation or integrity of a pipeline.</p>	<p>UGI Utilities has identified over 140 covered tasks an individual could utilize in the field while performing routine work on or along the pipeline. These tasks are maintained and reviewed by the UGI OQ Committee to ensure the each task provides the appropriate instruction and requirements to perform the work safely.</p>
<p>4. The entity shall describe efforts to mitigate risks and promote emergency preparedness, such as coordinating with third parties (e.g., sewer line and buried power line developers), performing timely pipeline inspections, repairing aging infrastructure, and maintaining current pipeline operator certifications.</p>	<p>UGI Utilities is an active participant in the Pennsylvania One Call and Maryland Miss Utility systems. UGI emphasizes the importance of utilizing and placing one call tickets to internal and external stakeholders when opportunities arise. Additionally, internal UGI procedures mandate inspection of higher risk pipelines in the event they are exposed or third party excavations are occurring on or near these pipelines. UGI develops communication channels with local townships and municipalities and other utilities in order to understand short term and long term road re-construction project and infrastructure replacement projects.</p>
<p>5. The entity shall describe its efforts to manage risks related to human health and safety, and emissions, including fugitive emissions and process emissions, that arise out of the integrity of gas delivery infrastructure.</p> <p>5.1 Fugitive emissions are defined as natural gas (primarily methane) emissions resulting from leaks or other types of unintended or irregular releases.</p> <p>5.2 Process emissions are defined as natural gas emissions resulting from intentional releases.</p> <p>5.3 Disclosure shall include relevant strategies, plans, and/or targets related to reductions in fugitive emissions and process emissions, the entity's ability to measure such emissions, the activities and investments required to achieve the plans, and any risks or limiting factors that might affect achievement of the plans and/or targets.</p>	<p>Starting in 2019 UGI Utilities has set goals to reduce operational fugitive emissions by 35% and 55% by 2030 and 2040, respectively. The target goals will be achieved through the pipeline replacement program, infrared station surveys to detect leaks, and field surveys as part of the Natural Gas STAR Program. UGI has a goal of replacing all existing cast iron pipe by 2027 and bare steel by 2041. UGI Energy Services will be researching new technologies to capture blowdowns and monitor real-time leaks to reduce operational fugitive emissions at compressor stations and gathering systems.</p>

<p>6. Disclosure may focus broadly on safety and emergency management systems, but shall specifically address operations in high consequence areas and the systems to avoid and manage emergencies, accidents, and incidents that could have catastrophic impacts on human health, the local community, and the environment.</p>	<p>UGI Utilities has a robust emergency training program tailored to a variety of stakeholders. For internal 1st Responders, UGI Utilities requires field employees and duty supervisors complete annual refresher training related to emergency response. Simulated emergency response events such as live demonstrations and hypothetical emergency drills are completed annually to better prepare our emergency responders in the event an emergency occurs. UGI Utilities provides and requires emergency response personnel complete incident command system (ICS) training to ensure an understanding of the ICS process in the event its implemented during an emergency. UGI Utilities also holds liason meetings with affected stakeholders (public officials, residents, emergency responders, and excavators) annually at various locations where UGI Utilities serves natural gas. These liason meetings educates stakeholders on gas leak recognition and response tactics, how to obtain assistance in the event of an emergency and a general understanding of the pipeline industry.</p> <p>UGI contracted with RTUE - "Responding To Utility Emergencies", to develop an external facing curriculum that provides Emergency Management personnel the ability to train, test and certify in responding to Natural Gas & Electrical Utility emergencies at no cost to emergency responders. Upon request, UGI Utilities also performs a formal face to face Natural Gas or Electrical safety module conducted by UGI's Damage Prevention & Public Awareness group or Electric Operations.</p> <p>UGI Utilities has also been an active participant in the natural gas industry's journey to developing and implementing pipeline management systems (PSMS). Presently, UGI Utilities is working with industry groups to develop a common approach to PSMS with the intention of its implementation at UGI.</p>
<p>7. The entity shall discuss direct or indirect financial opportunities related to the management of the integrity of gas delivery infrastructure, including but not limited to, improvements to stakeholder relations, opportunities for capital investments, reduction in customer rates through improved operational efficiency, and reduced risks of regulatory or civil fines or settlements.</p>	<p>UGI Utilities has an active pipeline replacement program in place aimed at eliminating non-contemporary pipe from its distribution system. Within these efforts, fiscal efficiencies are reviewed on a constant basis in order to identify cost saving measurements. UGI Utilities develops communication channels with local townships and municipalities across its service territory in order to understand short term and long term road re-construction projects. UGI actively attempts to plan pipeline replacement projects in line with municipal roadway plans and highway construction to reduce pipeline project costs. With the replacement of non-contemporary pipe with new pipelines, UGI is able to reduce the overall risk of its pipeline system.</p>
<p>8. The entity may disclose the following:</p>	
<p>8.1 Pipeline replacement rates</p>	<p>UGI replaces 66-70 miles of cast iron and bare steel/wrought iron main per year. UGI has committed to fully replace its cast iron system by 2027. UGI is currently ahead of schedule on this commitment and is positioned to complete this work by the end of 2025.</p>
<p>8.2 Average response time for gas emergencies</p>	<p>On a fiscal basis, UGI Utilities response time to an emergency was an average of 21.9 minutes in 2019. UGI Utilities employees responded to an emergency within 60 minutes 99.7% of the time and within 45 minutes 98.5% of the time. This response rate is attributed to collaboration between the field resources and our dispatchers.</p>
<p>8.3 Open Grade 2 and 2+ leaks</p>	<p>UGI Utilities had a total of 174 open Grade 2 leaks for the fiscal year ending September 30, 2019. This signifies a 78% decrease in open Grade 2 leaks when compared to 2015 leak data.</p>
<p>8.4 Fugitive emissions, including the technique(s) it employs to measure leakage, the amount of leakage calculated according to each technique it employs, and the regulations to which its gas leakage is subject.</p>	<p>UGI Utilities utilizes an array of leak survey techniques including convention flame-ionization surveys, infra-red, and laser (RMLD - remote methane leak detection). UGI Utilities is in the process of conducting a pilot implementation of LGR Off-Axis Integrated Cavity Output Spectroscopy (OA-ICOS) technique which provides heightened sensitivity and precision (Heath Mobile Guard).</p>
<p>8.5 Process emissions</p>	<p>UGI Utilities performs annual infra-red leak surveys on a sample of transmission-distribution regulator stations pursuant to 40 CFR 88 Subpart W</p>
<p>8.6 Other efforts designed to reduce emissions and/or improve the safety of its gas delivery infrastructure</p>	