

Atmos Energy 2017
2017 DOT Report-Distribution Leaks

Cause of Leak	WTX	LA	MS	CO	KS	KY	M-TX	TN	VA	Total
CORROSION										
Hazardous Main	61	10	24	13	15	5	148	2	1	279
Non-Hazardous Main	160	156	93	46	155	64	728	12	11	1425
Total Main	221	166	117	59	170	69	876	14	12	1704
Hazardous Service	40	68	40	13	78	27	289	19	0	574
Non-Hazardous Service	120	354	67	17	96	91	432	21	6	1204
Total Service	160	422	107	30	174	118	721	40	6	1778
Total Corrosion Leaks	381	588	224	89	344	187	1597	54	18	3482
EQUIPMENT										
Hazardous Main	6	13	41	0	3	2	86	7	0	158
Non-Hazardous Main	53	65	220	6	44	16	438	25	14	881
Total Main	59	78	261	6	47	18	524	32	14	1039
Hazardous Service	34	57	369	3	18	22	643	73	8	1227
Non-Hazardous Service	298	723	1271	79	161	65	2318	64	116	5095
Total Service	332	780	1640	82	179	87	2961	137	124	6322
Total Equipment Leaks	391	858	1901	88	226	105	3485	169	138	7361
EXCAVATION DAMAGE										
Hazardous Main	127	149	98	27	55	49	841	71	7	1424
Non-Hazardous Main	1	6	1	1	6	1	7	0	0	23
Total Main	128	155	99	28	61	50	848	71	7	1447
Hazardous Service	125	395	395	82	96	212	2713	339	22	4379
Non-Hazardous Service	3	24	14	0	3	4	60	4	0	112
Total Service	128	419	409	82	99	216	2773	343	22	4491
Total Excavation Leaks	256	574	508	110	160	266	3621	414	29	5938
INCORRECT OPERATIONS										
Hazardous Main	5	4	11	1	4	1	2	1	0	29
Non-Hazardous Main	4	8	29	14	12	1	11	1	1	81
Total Main	9	12	40	15	16	2	13	2	1	110
Hazardous Service	13	9	41	8	3	2	11	2	5	94
Non-Hazardous Service	24	22	164	52	90	9	17	3	6	387
Total Service	37	31	205	60	93	11	28	5	11	481
Total Incorrect Operations Leaks	46	43	245	75	109	13	41	7	12	591
MATERIAL OR WELDS										
Hazardous Main	3	11	4	1	5	1	53	1	0	79
Non-Hazardous Main	2	36	24	4	15	11	278	4	2	376
Total Main	5	47	28	5	20	12	331	5	2	455
Hazardous Service	2	10	4	5	17	3	59	13	1	114
Non-Hazardous Service	6	29	46	31	89	19	102	64	7	393
Total Service	8	39	50	36	106	22	161	77	8	507
Total Material or Welds Leaks	13	86	78	41	126	34	492	82	10	962
NATURAL FORCES										
Hazardous Main	6	4	11	2	4	0	38	0	0	65
Non-Hazardous Main	17	6	17	0	15	2	56	0	0	113
Total Main	23	10	28	2	19	2	94	0	0	178
Hazardous Service	14	9	81	10	20	7	101	9	5	256
Non-Hazardous Service	27	5	125	14	62	4	148	3	33	421
Total Service	41	14	206	24	82	11	249	12	38	677
Total Natural Forces Leaks	64	24	234	26	101	13	343	12	38	855

OTHER										
Hazardous Main	1	2	3	0	0	0	12	0	0	18
Non-Hazardous Main	7	137	5	0	0	0	75	0	0	224
Total Main	8	139	8	0	0	0	87	0	0	242
Hazardous Service	1	17	21	0	11	1	51	1	0	103
Non-Hazardous Service	6	113	230	0	6	0	124	1	0	480
Total Service	7	130	251	0	17	1	175	2	0	583
Total Other Leaks	15	269	259	0	17	1	262	2	0	825
OTHER OUTSIDE FORCE DAMAGE										
Hazardous Main	4	5	6	1	9	0	0	0	0	25
Non-Hazardous Main	1	2	1	0	1	1	0	1	0	7
Total Main	5	7	7	1	10	1	0	1	0	32
Hazardous Service	766	213	74	35	143	48	52	25	7	1363
Non-Hazardous Service	71	38	25	7	18	5	9	0	2	175
Total Service	837	251	99	42	161	53	61	25	9	1538
Total Outside Force Leaks	842	258	106	43	171	54	61	26	9	1570
SUMMARY OF ALL CAUSES										
Hazardous Main	213	198	198	45	95	58	1180	82	8	2077
Non-Hazardous Main	245	416	390	71	248	96	1593	43	28	3130
Total Main	458	614	588	116	343	154	2773	125	36	5207
Hazardous Service	995	778	1025	156	386	322	3919	481	48	8110
Non-Hazardous Service	555	1308	1942	200	525	197	3210	160	170	8267
Total Service	1550	2086	2967	356	911	519	7129	641	218	16377
Total Leaks	2008	2700	3555	472	1254	673	9902	766	254	21584
Known Leaks Scheduled for Repair										
Known Leaks Scheduled for Repair	436	306	623	377	437	105	1691	10	12	3997

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PART B – SYSTEM DESCRIPTION

“Coated” means pipe coated with any effective hot or cold applied dielectric coating or wrapper.

“Reconditioned Cast Iron” means cast iron gas distribution pipe that has been lined internally by use of suitable materials that ensure safe operation at an MAOP not to exceed the previously established MAOP. “Reconditioned Cast Iron” does not include cast iron pipe inserted with a gas pipe that is, by itself, suitable for gas service under Part 192, e.g., an ASTM D2513 pipe meeting code requirements for the intended gas service. Such insertions shall be reported as the material used in the insertion. The intent of the definition is to make a clear distinction between a liner and inserted pipe. An example of “Reconditioned Cast Iron” would be the insertion of a liner inside cast iron pipe where the liner relies on the structural integrity of the cast iron pipe. For details on liner insertion, see ASTM F2207, Standard Specification for Cured-in-Place Pipe Lining System for Rehabilitation of Metallic Gas Pipe. Methods of installation like pipe-splitting or bursting that involve the installation of a new stand-alone pipe while the host pipe is destroyed does not result in “Reconditioned Cast Iron”.

“PVC” means polyvinyl chloride plastic.

“PE” means polyethylene plastic.

“ABS” means acrylonitrile-butadiene-styrene plastic.

“Cathodically protected” applies to both “bare” and “coated.”

“Other” means a pipe of any material not specifically designated on the form. If you enter miles of main or services in the “other” category, describe these materials in the appropriate text box.

“Number of service” is the number of service lines, not the number of customers served.

Provide miles of main and numbers of services by decade installed in Part B, section 4.

If you do not know the decade of installation of the pipe because there are no records containing such information, enter an estimate in the UNKNOWN column. The sum total of mileage and number of services reported for Part B, section 4 must be consistent with total mileage and number of services reported in sections 1, 2, and 3 in Part B.

PART C – TOTAL LEAKS AND HAZARDOUS LEAKS ELIMINATED/REPAIRED DURING YEAR

In the appropriate column, include the total number of leaks and the number of hazardous leaks eliminated by repair, replacement or other action during the reporting year. The number of “hazardous leaks” eliminated or repaired during the year is reported as a performance measure for integrity management per § 192.1007(g). When reporting leaks or hazardous leaks eliminated by replacing or abandoning a segment of pipe, count the leaks that existed in the pipe segment before it was replaced or abandoned. Also include leaks and hazardous leaks reported on form PHMSA 7100.1, “Incident

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Report Gas Distribution Systems.” A reportable incident is one described in § 191.3. Do not include leaks that occurred during testing.

A “leak” is defined as an unintentional escape of gas from the pipeline. Do NOT report a leak determined to be non-hazardous and eliminated by lubrication, adjustment, or tightening.

A “hazardous leak” means a leak that represents an existing or probable hazard to persons or property and requires immediate repair or continuous action until the conditions are no longer hazardous. A “hazardous leak” which occurs aboveground or belowground is a leak and must be reported.

Operators who do not grade leaks for hazard, but rather repair all leaks when found, need not grade repaired leaks solely for the purpose of this report. Such operators treat all leaks as if hazardous. Operators who do not grade leaks must report the same values for both total and hazardous leaks for each cause.

The “number of known system leaks at the end of the year scheduled for repair” is the total number pipeline system leaks being monitored and scheduled for repair at the end of the calendar year. Monitored leaks also include those leaks which have been temporarily repaired until a permanent repair can be performed. These leaks are non-hazardous unless reclassified following the operator’s operation and maintenance procedures.

Leak causes are classified as:

CORROSION FAILURE: leak caused by galvanic, atmospheric, stray current, microbiological, or other corrosive action. A corrosion release or failure is not limited to a hole in the pipe or other piece of equipment. If the bonnet or packing gland on a valve or flange on piping deteriorates or becomes loose and leaks due to corrosion and failure of bolts, it is classified as Corrosion. (Note: If the bonnet, packing, or other gasket has deteriorated to failure, whether before or after the end of its expected life, but not due to corrosive action, report it under a different cause category, such as G4 Incorrect Operation for improper installation or G6 Equipment Failure if the gasket failed)

NATURAL FORCE DAMAGE: leak caused by outside forces attributable to causes NOT involving humans, such as earth movement, earthquakes, landslides, subsidence, heavy rains/floods, lightning, temperature, thermal stress, frozen components, high winds (Including damage caused by impact from objects blown by wind), or other similar natural causes. Lightning includes both damage and/or fire caused by a direct lightning strike and damage and/or fire as a secondary effect from a lightning strike in the area. An example of such a secondary effect would be a forest fire started by lightning that results in damage to a gas distribution system asset which results in an incident.

EXCAVATION DAMAGE: leak resulting directly from excavation damage by operator's personnel (oftentimes referred to as “first party” excavation damage) or by the operator’s contractor (oftentimes referred to as “second party” excavation damage) or by people or contractors not associated with the operator (oftentimes referred to as “third party” excavation damage). Also, this section includes a release or failure determined to have resulted from previous damage due to excavation activity. For damage from outside forces OTHER than excavation which results in a release, use Natural Force Damage or Other Outside Force, as appropriate.

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OTHER OUTSIDE FORCE DAMAGE: leak resulting from outside force damage, other than excavation damage or natural forces such as:

- Nearby Industrial, Man-made or Other Fire/Explosion as Primary Cause of Incident (unless the fire was caused by natural forces, in which case the leak should be classified Natural Forces. Forest fires that are caused by human activity and result in a release should be reported as Other Outside Force),
- Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation. Other motorized vehicles/equipment includes tractors, mowers, backhoes, bulldozers and other tracked vehicles, and heavy equipment that can move. Leaks resulting from vehicular traffic loading or other contact (except report as “Excavation Damage” if the activity involved digging, drilling, boring, grading, cultivation or similar activities.
- Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels so long as those activities are not excavation activities. If those activities are excavation activities such as dredging or bank stabilization or renewal, the leak repair should be reported as “Excavation Damage”.
- Previous Mechanical Damage NOT Related to Excavation. A leak caused by damage that occurred at some time prior to the release that was apparently NOT related to excavation activities, and would include prior outside force damage of an unknown nature, prior natural force damage, prior damage from other outside forces, and any other previous mechanical damage other than that which was apparently related to prior excavation. Leaks resulting from previous damage sustained during construction, installation, or fabrication of the pipe, weld, or joint from which the release eventually occurred are to be reported under “Pipe, Weld, or Joint Failure”. Leaks resulting from previous damage sustained as a result of excavation activities should be reported under “Excavation Damage” unless due to corrosion in which case it should be reported as a corrosion leak.
- Intentional Damage/. Vandalism means willful or malicious destruction of the operator’s pipeline facility or equipment. This category would include pranks, systematic damage inflicted to harass the operator, motor vehicle damage that was inflicted intentionally, and a variety of other intentional acts.
- Terrorism, per 28 C.F.R. § 0.85 General functions, includes the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.
- Theft. Theft means damage by any individual or entity, by any mechanism, specifically to steal, or attempt to steal, the transported gas or pipeline equipment.

PIPE, WELD, OR JOINT FAILURE : Leak resulting from a material defect within the pipe, component or joint due to faulty manufacturing procedures, design defects, or in-service stresses such as vibration, fatigue and environmental cracking. Material defect means an inherent flaw in the material or weld that occurred in the manufacture or at a point prior to construction, fabrication or installation. Design defect means an aspect inherent in a component to which a subsequent failure has been attributed that is not associated with errors in installation, i.e., is not a construction defect. This could include, for example, errors in engineering design. Fitting means a device, usually metal, for joining lengths of pipe into various piping systems. It includes couplings, ells, tees, crosses, reducers, unions, caps and plugs. Any leak that is associated with a component or process that joins pipe such as threaded connections, flanges, mechanical couplings, welds, and pipe fusions that leak as a result from poor construction should be classified as “Incorrect Operation”. Leaks resulting from failure of original sound material from force applied during construction that caused a dent, gouge, excessive stress, or other defect, including leaks due to faulty wrinkle bends, faulty field welds, and damage

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sustained in transportation to the construction or fabrication site that eventually resulted in a leak, should be reported as “Pipe, Weld or Joint Failure”.

EQUIPMENT FAILURE: leak caused by malfunctions of control and relief equipment including regulators, valves, meters, compressors, or other instrumentation or functional equipment, Failures may be from threaded components, Flanges, collars, couplings and broken or cracked components, or from O- Ring failures, Gasket failures, seal failures, and failures in packing or similar leaks. Leaks caused by overpressurization resulting from malfunction of control or alarm device; relief valve malfunction: and valves failing to open or close on command; or valves which opened or closed when not commanded to do so. If overpressurization or some other aspect of this incident was caused by incorrect operation, the incident should be reported under “Incorrect Operation.”

INCORRECT OPERATION: leak resulting from inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error. It includes leaks due to improper valve selection or operation, inadvertent overpressurization, or improper selection or installation of equipment. It includes a leak resulting from the unintentional ignition of the transported gas during a welding or maintenance activity.

OTHER CAUSE: leak resulting from any other cause not attributable to the above causes. A best effort should be made to assign a specific leak cause before choosing the Other cause category. An operator replacing a bare steel pipeline with a history of external corrosion leaks without visual observation of the actual leak, may form a hypothesis based on available information that the leak was caused by external corrosion and assign the Corrosion cause category to the leak.

PART D – EXCAVATION DAMAGE

Excavation damages are reported as a measure of the effectiveness of integrity management programs (§ 192.1007(g)).

Report the “Number of Excavation Damages” experienced during the calendar year by the following apparent root cause which are classified as:

One-Call Notification Practices Not Sufficient: Damages resulting from no notification made to the One-Call Center; or notification to one-call center made, but not sufficient; or wrong information provided to One Call Center.

Locating Practices Not Sufficient: Damages resulting from facility could not be found or located; or facility marking or location not sufficient; or facility was not located or marked; or incorrect facility records/maps.

Excavation Practices Not Sufficient: Damages resulting from failure to maintain marks; or failure to support exposed facilities; or failure to use hand tools where required; or failure to test-hole (pot-hole); or improper backfilling practices; or failure to maintain clearance; or other insufficient excavation practices.