TR 23-15 – Determining Leak Rates

TR Number	**23-15**
Primary Reference	192.1007(e) G-192-8-7 Measure Performance, Monitor Results, and Evaluate Effectiveness
Secondary Reference	192.465(e)
Purpose	I think GPTC should consider opening a new TR that provides guidance for how gas distribution operators count leaks when determining leak rates for DIMP risk analysis. For example, if a leak survey picks up a leak, the pipe is later exposed and it has a small cluster of external corrosion pits, 3 of which penetrated the pipe over the course of 12-inches, for DIMP leak rate purposes, is that 3 leaks or could that be treated as 1 leak event? Another example, what if a track hoe runs over a line multiple times over the course of 25', causing multiple gouges and scrapes with small leaks as a result. Do you count individual leaks or is the leak event from this track hoe treated as 1 leak event? Leak guidance also needs to address how to classify leaks on bare steel service lines that are just replaced (but not dug up) and leaks that cannot be found again. Operators are largely left to make this determination. PHMSA has not taken a clear position on this and some states are ambiguously trying to enforce something that there are no rules that clearly state how to count these leak clusters at single exposure locations.
Assigned to	O&M/OQ Task Group

Note: *Revisions are shown in yellow highlight and red font.*

GUIDE MATERIAL APPENDIX G-192-11

(See guide material under §§192.3, 192.503, 192.557, 192.615, 192.703, 192.706, 192.723, and 192.941)

GAS LEAKAGE CONTROL GUIDELINES FOR NATURAL GAS SYSTEMS (METHANE)

(See Guide Material Appendix G-192-11A for petroleum gas systems)

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6.1 Leak records.

(a) Historical gas leak records should be maintained. Sufficient data should be available to provide the information needed to complete the Department of Transportation Leak Report Forms DOT F-7100.1, DOT F-7100.1-1, DOT F-7100.2 and DOT F-7100.2-1, and to demonstrate the adequacy of operator's maintenance programs.

(b) The following data should be recorded and maintained, but need not be in any specific format or retained at one location. Time of day and environmental description records are required only for those leaks that are reported by an outside source or require reporting to a regulatory agency.

(1~~a~~) Date discovered, time reported, time dispatched, time investigated and by whom.

(2~~b~~) Date(s) reevaluated before repair and by whom.

(3c) Date repaired, time repaired and by whom.
(4d) Date(s) rechecked after repair and by whom.
(5e) If a reportable leak, date and time of telephone report to regulatory authority and by whom.
(6f) Location of leak.
(7g) Leak grade.
(8h) Line use (distribution, transmission, etc.).
(9i) Method of leak detection (if reported by outside party, list name and address).
(10j) Part of system where leak occurred (main, service line, etc.).
(11k) Part of system that leaked (pipe, valve, fitting, compressor or regulator station, etc.).
(12l) Material which leaked (steel, plastic, cast iron, etc.).
(13m) Origin of leak.
(14n) Pipe description.
(15o) Type repair.
(16) Number of repair devices or length of repair or replacement.
(17p) Leak cause.
(18q) Date pipe installed (if known).
(19r) Under cathodic protection? (Yes — No).
(20s) Magnitude of CGI indication.

(c) The following are considerations for when a leak indication should warrant the creation of additional leak reports, but an approach should be developed within the operator procedures to allow consistency in the use of the data for other programs such as DIMP, active corrosion evaluations, and other programs using leak data.
(1) Leak cause.
(2) Asset type (e.g., main vs service line).
(3) Multiple facilities (e.g., leaks on separate mains).
(4) Leak repairs exceed the original leak indication (e.g., multiple bell holes).

Note: Multiple leaks in the same bell hole may be recorded as one leak when determining active corrosion status per §192.465(e).

6.2 Leak survey records.

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GUIDE MATERIAL APPENDIX G-192-11A

(See guide material under §§192.3, 192.11, 192.503 192.557, 192.615, 192.703, and 192.723)

GAS LEAKAGE CONTROL GUIDELINES FOR PETROLEUM GAS SYSTEMS

(See Guide Material Appendix G-192-11 for natural gas systems)

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6.1 Leak records.

(a) Historical gas leak records should be maintained. Sufficient data should be available to provide the information needed to complete the Department of Transportation Leak Report Forms DOT F-7100.1, DOT F-7100.1-1, DOT F-7100.2 and DOT F-7100.2-1, and to demonstrate the adequacy of operator's maintenance programs.

(b) The following data should be recorded and maintained, but need not be in any specific format or retained at one location. Time of day and environmental description records are required only for those leaks that are reported by an outside source or require reporting to a regulatory agency.
(1a) Date discovered, time reported, time dispatched, time investigated and by whom.
(2b) Date(s) reevaluated before repair and by whom.
(3c) Date repaired, time repaired and by whom.

(4d) Date(s) rechecked after repair and by whom.
(5e) If a reportable leak, date and time of telephone report to regulatory authority and by whom.
(6f) Location of leak.
(7g) Leak grade.
(8h) Line use (distribution, transmission, etc.).
(9i) Method of leak detection (if reported by outside party, list name and address).
(10j) Part of system where leak occurred (main, service line, etc.).
(11k) Part of system that leaked (pipe, valve, fitting, compressor or regulator station, etc.).
(12l) Material which leaked (steel, plastic, cast iron, etc.).
(13m) Origin of leak.
(14n) Pipe description.
(15o) Type repair.
(16) Number of repair devices or length of repair or replacement.
(17p) Leak cause.
(18q) Date pipe installed (if known).
(19r) Under cathodic protection? (Yes — No).
(20s) Magnitude of CGI indication.

(c) The following are considerations for when a leak indication should warrant the creation of additional leak reports, but an approach should be developed within the operator procedures to allow consistency in the use of the data for other programs such as DIMP, active corrosion evaluations, and other programs using leak data.
(1) Leak cause.
(2) Asset type (e.g., main vs service line).
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Note: Multiple leaks in the same bell hole may be recorded as one leak when determining active corrosion status per §192.465(e).

6.2 Leak survey records.

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