



## Leak Classification and Action Criteria

| Grade | Grade Definition   | Action Criteria   | Examples  |
|-------|--|---|---|
| 1 = C | 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. | <p>Requires prompt action* to protect life and property, and continuous action until the conditions are no longer hazardous.</p> <p>*The prompt action in some instances may require one or more of the following:</p> <ul style="list-style-type: none"> <li>a) Implementation of company Emergency Plan (192.615).</li> <li>b) Evacuating premises.</li> <li>c) Blocking off an area.</li> <li>d) Rerouting traffic.</li> <li>e) Eliminating sources of ignition.</li> <li>f) Venting the area.</li> <li>g) Stopping the flow of gas by closing valves or other means.</li> <li>h) Notifying police and fire departments.</li> </ul>  | <ul style="list-style-type: none"> <li>1. Any leak which, in the judgement of operating personnel at the scene, is regarded as an immediate hazard.</li> <li>2. Escaping gas that has ignited.</li> <li>3. Any indication of gas which has migrated into or under a building, or into a tunnel.</li> <li>4. Any reading at the outside wall of a building, or where gas would likely migrate to an outside wall of a building.</li> <li>5. Any reading of 80% LEL or greater in a confined space.</li> <li>6. Any reading of 80% LEL or greater in small substructures (other than gas associated substructures) from which gas would likely migrate to the outside wall of a building.</li> <li>7. Any leak that can be seen, heard, or felt, and which is in a location that may endanger the general public or property.</li> </ul>  |
| 2 = B | A leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based on probable future hazard.                                     | <p>These leaks should be repaired or cleared within one calendar year, but no later than 15 months from the date the leak was reported. In determining the repair priority, criteria such as the following should be considered:</p> <ul style="list-style-type: none"> <li>a) Amount and migration of gas.</li> <li>b) Proximity of gas to buildings and subsurface structures.</li> <li>c) Extent of pavement.</li> <li>d) Soil type and soil conditions (frost cap, moisture and natural venting).</li> </ul> <p>Grade 2 leaks should be reevaluated at least once every 6 months until cleared. The frequency of reevaluation should be determined by the location and magnitude of the leakage condition.</p> <p>Grade 2 leaks may vary greatly in degree of potential hazard. Some Grade 2 leaks, when evaluated by the above criteria, may justify scheduled repair within the next 5 working days. Others will justify repair within 30 days. During the working day on which the leak is discovered, these situations should be brought to the attention of the individual responsible for scheduling leak repair. On the other hand, many Grade 2 leaks, because of their location and magnitude, can be scheduled for repair on a normal, routine basis with periodic inspection as necessary.</p> | <p>A. Leaks Requiring Action Ahead of Ground Freezing or Other Adverse Change in Venting Conditions</p> <ul style="list-style-type: none"> <li>a. Any leak which under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building.</li> </ul> <p>B. Leaks Requiring Action Within Six Months</p> <ul style="list-style-type: none"> <li>a. Any reading of 40% LEL or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as Grade 1 leak.</li> <li>b. Any reading of 100% LEL or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Grade 1 leak.</li> <li>c. Any reading less than 80% LEL in small substructures (other than gas associated) from which gas would likely migrate creating a probable future hazard.</li> <li>d. Any reading between 20% LEL and 80% LEL in a confined space.</li> <li>e. Any reading on a pipeline operating at 30% SMYS or greater, in a class 3 or 4 location, which does not qualify as a Grade 1 leak.</li> <li>f. Any reading of 80% LEL, or greater, in gas associated substructures.</li> <li>g. Any leak which, in the judgement of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.</li> </ul> |
| 3 = A | A leak that is nonhazardous at the time of detection and can be reasonably expected to remain non-hazardous.   | <p>These leaks should be reevaluated during the next scheduled survey, or within 15 months of the date reported, whichever occurs first, until the leak is regraded or no longer results in a reading.</p>  | <p>Leaks Requiring Reevaluation at Periodic Intervals</p> <ul style="list-style-type: none"> <li>1. Any reading of less than 80% LEL in small gas associated substructures.</li> <li>2. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building.</li> <li>3. Any reading of less than 20% LEL in a confined space.</li> </ul>  |

**LEAK CLASSIFICATION AND ACTION CRITERIA – GRADE 1**

| Grade Definition  | Examples   | Action Criteria  |
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| <p>Class 1 leak is a gas leak which, due to its location and/or magnitude, constitutes an immediate hazard to a building and/or the general public. It shall require immediate corrective action which shall provide for public safety and protect property. See 4 CSR 240-40.030(14)(C).</p> | <ul style="list-style-type: none"> <li>• Any leak which, in the judgment of operating personnel at the scene, is regarded as an immediate hazard.</li> <li>• Escaping gas that has ignited.</li> <li>• Any indication of gas which has migrated into or under a building, or into a tunnel.</li> <li>• Any reading at the outside wall of a building, or where gas would likely migrate to an outside wall of a building.</li> </ul> | <p>Requires prompt action* to protect life and property, and continuous action until the conditions are no longer hazardous. These actions may include one or all of the following:</p> <ul style="list-style-type: none"> <li>• Implementation of emergency plan (§192.615).</li> <li>• Evacuating premises.</li> <li>• Blocking off an area.</li> <li>• Rerouting traffic.</li> <li>• Eliminating sources of ignition.</li> <li>• Venting the area by removing manhole covers, barholing, installing vent holes, or other means.</li> <li>• Stopping the flow of gas by closing valves or other means.</li> <li>• Notifying police and fire departments.</li> </ul> <p>If it is possible to vent at or near the leak, the leak may be reclassified at a Class 2 leak if the gas is no longer entering a structure or if there is no danger of it doing so. However it is still necessary to recheck the leak daily and have it repaired within a period not to exceed 15 days.</p> |

**LEAK CLASSIFICATION AND ACTION CRITERIA – GRADE 2**

| Grade Definition   | Examples   | Action Criteria  |
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| <p>A leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based on probable future hazard. A Class 2 leak must be rechecked at least every 15 days to see if any immediate hazards exists resulting in the leak needing to be immediately repaired. Additionally, a Class 2 leak may be reclassified to a lower classification if situation merits. All Class 2 leaks must be repaired within 45 days after the leak is first discovered unless it is scheduled to be rehabilitated or replaced within one calendar year after its initial discovery.</p> | <ul style="list-style-type: none"> <li>• A leak caused by a transmission line that is measurable at a distance of 25' from the line and within 100' of a building.</li> <li>• A leak detectable within 5' of a buildings foundation that is greater than 50% gas-in-air</li> <li>• Any reading below LEL in a confined area such as a sanitary sewer</li> <li>• Any reading at or above LEL in a vault, catch basin, or manhole with the exception of a sanitary sewer.</li> <li>• Any leak that the supervisor on the scene believes should be classified as a Class 2 Leak with the exception of those leaks needing a Class 1 designation.</li> </ul> | <p>Leaks should be repaired or cleared within one calendar year, but no later than 15 months from the date the leak was reported. In determining the repair priority, criteria such as the following should be considered.</p> <ul style="list-style-type: none"> <li>• Amount and migration of gas.</li> <li>• Proximity of gas to buildings and subsurface structures.</li> <li>• Extent of pavement.</li> <li>• Soil type, and soil conditions, such as frost cap, moisture and natural venting.</li> </ul> <p>Grade 2 leaks should be reevaluated at least once every six months until cleared. The frequency of reevaluation should be determined by the location and magnitude of the leakage condition.</p> |

**LEAK CLASSIFICATION AND ACTION CRITERIA – GRADE 3**

| <b>Grade Definition</b>   | <b>Examples</b>   | <b>Action Criteria</b>  |
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| <p>A Class 3 Leak is one that does not constitute a hazard to persons or property but is more or less considered to be routine. Leaks of this nature must be repaired within five years and rechecked in intervals of twice a year not to exceed 6 ½ months until after repairs have been made.</p> | <ul style="list-style-type: none"> <li>• Any reading at or below 50% gas-in-air between 5-15' of any building</li> <li>• Any reading between 15-50' of a building</li> <li>• A reading below LEL in a vault, catch basing, or manhole with the exception of sanitary sewer.</li> <li>• Any leak that the supervisor on the scene believes should be classified as a Class 3 Leak with the exception of those leaks needing a Class 1 or Class 2 designation.</li> </ul> | <p>These leaks should be reevaluated during the next scheduled survey, or within 15 months of the date reported, whichever occurs first, until the leak is regraded or no longer results in a reading.</p> <p>This shall be done until the leak is repaired or has changed classes. If the condition has changed the leak may need to be reclassified at this time.</p> <p>Leak Reports shall be completed for any in building leak and in ground leaks. Above ground leaks that can be repaired by lubrication, tightening, or adjustment are considered recordable leaks, but are not reportable on the annual DOT report. These leaks shall be repaired as soon as possible or scheduled for a later date.</p> |

**LEAK CLASSIFICATION AND ACTION CRITERIA - CLASS 4**

| <b>Grade Definition</b>   | <b>Examples</b>   | <b>Action Criteria</b>   |
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| <p>A Class 4 Leak is confined and localized and by its nature non-hazardous. No corrective action or rechecking of the leak is necessary. The operator will however recheck the area where the Class 4 Leak was detected as part of a regularly scheduled leak survey</p> | <ul style="list-style-type: none"> <li>• Small fittings leaks at meter sets.</li> </ul> | <p>A Class 4 Leak requires no response other than routine re-evaluation as part of the systems leak survey procedures.</p> |

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