

Operations and Maintenance Procedures

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O&M Section # 12.2	SCUD Task # 240
Section: Maintenance	Revision Date: 09/06/16

Leak Grading Criteria

SCOPE AND PURPOSE

This procedure describes the leak classifications and action criteria to be used by personnel when grading a natural gas leak.

RESPONSIBILITY

The System Maintenance Supervisor, or other designee, is responsible to ensure that leaks are properly classified, evaluated, and reported.

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan and may only be performed by or directed and observed by an individual who is currently qualified to perform surface leakage surveys. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS

When a natural gas leak is discovered, the following criteria shall be used to classify the leak and determine the appropriate action criteria.

Grade "1" Leaks - This classification shall designate a leakage condition which, due to its location and/or relative hazard potential, shall require immediate corrective action until the hazardous condition no longer exist. The leak shall then be scheduled for immediate repair activity.

Grade "1" leaks include, but are not limited to:

1. *Any leak which, in the judgment of the representative at the scene, is regarded as potentially hazardous.*
2. Any indication of gas entering a building or tunnel.
3. Any gas reading from a CGI (combustible gas indicator), in a substructure where gas could migrate inside or to the outside wall of a building. Such as: manhole, vault, water meter box, catch basin, etc...
4. Any gas reading from a CGI (combustible gas indicator), at or below ground level, within five (5) feet of the foundation wall of a building which, in the judgment of the Gas Operator, is potentially dangerous.
5. Any reading from a CGI (combustible gas indicator), of 3% gas or greater, in a confined space.
6. Any reading from a CGI (combustible gas indicator) of 3% gas or greater, one (1) foot or higher above the ground or surface, in an area accessible by anyone other than a S. C. U. D. representative.
7. Blowing Gas.
8. Leaking gas that has ignited.

Grade "2" Leaks - This classification shall designate a leakage condition which, due to its location and/or relative hazard potential, does not require immediate attention, but shall be scheduled and repaired within six (6) months unless the line is to be replaced or abandoned. The replacement or abandonment must be completed within twelve (12) months. If the leak is not repaired within six (6) months, it must be rechecked at intervals not to exceed six (6) months.

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Grade "2" leaks include, but are not limited to:

1. Any leak not reaching any of the Grade "1" Leak criteria but in the judgment of the S. C. U. D. representative on the scene justifies scheduling repair.
2. A reading from a CGI (combustible gas indicator), of greater than 1% gas but less than 3% gas, one (1) foot or higher above the ground or surface.
3. A reading from a CGI (combustible gas indicator), of less than 3% gas, in a confined space.
4. A reading from a CGI (combustible gas indicator), of 1.5% gas or greater, at multiple locations more than three (3) feet apart, at the surface, edge or ground along a sidewalk but reading less than 3% gas, at a height of one (1) foot or higher above the ground or surface.
5. A reading from a CGI (combustible gas indicator), of 4% gas or greater, at multiple locations more than three (3) feet apart, at the surface, edge or ground along a road but reading less than 3% gas at a height of one (1) foot or higher above the ground or surface.

Grade "3" Leaks - This classification shall designate a leak condition that does not meet any of the requirements for a Grade "1" or Grade "2" leak. A Grade "3" leak shall be monitored at least once every twelve (12) months to determine the current condition of the leakage.

REPORTING/NOTIFICATION

The SCUD employee shall complete documentation in accordance with the Operation and Maintenance Manual. SCUD utilizes electronic forms to record and maintain all leaks. The proper electronic form for each leak shall be completed.

ABNORMAL OPERATING CONDITIONS

AOC Main Category (Examples of Specific AOCs)	Reactions to AOC, as appropriate	
Unplanned escape of product from a pipeline <ul style="list-style-type: none"> • Blowing/Escaping gas/Grade I leak 	<ul style="list-style-type: none"> ➤ Protect life & Property ➤ Prevent accidental ignition ➤ Notify appropriate personnel ➤ Notify Fire/Emergency Responders ➤ Initiate Emergency Plan 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Use appropriate PPE ➤ Stop gas flow ➤ Make repairs/eliminate AOC
Fire or Explosion <ul style="list-style-type: none"> • Fire on a pipeline • Explosion 	<ul style="list-style-type: none"> ➤ Protect life & Property ➤ Prevent accidental ignition ➤ Notify appropriate personnel ➤ Notify Fire/Emergency Responders ➤ Initiate Emergency Plan 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Use appropriate PPE ➤ Stop gas flow ➤ Make repairs/eliminate AOC
Unplanned Flow Rate Deviation <ul style="list-style-type: none"> • No Flow 	<ul style="list-style-type: none"> ➤ Protect life & property 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC

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<ul style="list-style-type: none"> • Unplanned Decrease in Flow • Unplanned Increase in Flow 	<ul style="list-style-type: none"> ➤ Notify appropriate personnel ➤ Initiate Emergency Plan as Needed 	<ul style="list-style-type: none"> ➤ Make repairs/eliminate AOC
<i>Unplanned Status Change</i> <ul style="list-style-type: none"> • Inoperable/Failure of a Pipeline Component • Stray Current on a Pipeline – Electric Shock 	<ul style="list-style-type: none"> ➤ Protect life & property ➤ Notify appropriate personnel ➤ Initiate Emergency Plan as Needed 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC
<i>Inadequate Odorization or Reports of Gas Odor</i> <ul style="list-style-type: none"> • Low odorization • Over odorization • Odor complaint 	<ul style="list-style-type: none"> ➤ Protect life & property ➤ Prevent accidental ignition ➤ Notify appropriate personnel 	<ul style="list-style-type: none"> ➤ Locate source/cause of AOC ➤ Make repairs/eliminate AOC
<i>Improper Installation/Misalignment of Components</i> <ul style="list-style-type: none"> • Improper fitting/component installation • Misalignment of fittings/components 	<ul style="list-style-type: none"> ➤ Protect life & property ➤ Prevent accidental ignition 	<ul style="list-style-type: none"> ➤ Notify appropriate personnel ➤ Make repairs/eliminate AOC

RELATED PROCEDURES

MAINT009 – Gas Leak Survey

EMER002 – Inside Gas Leak Investigation

EMER003 – Outside Gas Leak Investigation