



July 23, 2018

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Program Manager
CPUC
Gas Safety and Reliability Branch
Safety and Enforcement Division

SUBJECT: General Order (GO) 112-F Gas Inspection of Alpine Natural Gas's Operation and Maintenance, and Emergency Plans, & Distribution Integrity Management Program.

Below are the Summary of Inspection Findings, described in your letter dated June 29, 2018, following the inspection that took place at Alpine Natural Gas (ANG) from March 27 to March 30, 2018. During the inspection, SED reviewed the Comprehensive Standard Operation, Maintenance & Emergency Plan, Distribution Integrity Management Program (DIMP), and Operator Qualification program (OQ) of ANG's Distribution system.

Alpine provides a response to each of the five issues; one, probable violation and four Areas of Concern. Included, are pertinent documents and OME policy revisions to address the issues presented.

SUMMARY OF INSPECTION FINDINGS

I. Probable Violations

Title 49 CFR §192.285(c) states in part:

"A person must be re-qualified under an applicable procedure once each calendar year at intervals not exceeding 15 months, or after any production joint is found unacceptable by testing under 192.513"

During the record review, SED identified that Matt Helm and Luke Frey had lapsed plastic joining qualifications while working on three distribution main construction projects and eight service line installations from 8/28/2016 to 10/25/2016. Matt and Luke were re-qualified for plastic pipe joining on 10/26/2016, but were not requalified in the 2017 calendar year, and have performed plastic joining for one distribution main construction project and four service installs in 2018.

SED determined that ANG violated 49 CFR §192.285(c) and failed to follow their own procedure 192.281-285 which states in part, "Alpine Natural Gas will internally re-train field personnel under the polyethylene pipe and fitting manufacturer joining procedure once each calendar year..." for qualifying personnel.

Response:

- ***Alpine has two full time Qualified Operators. 2017 was particularly challenging for Alpine since Matt Helm was off, for five months, on personal leave. The re-qualification was to be done in the spring but was not and this lapse is acknowledged and has been addressed. Alpine***

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has implemented a measure that even another future extraordinary circumstance, as in 2017, will not prevent the completion of annual pipe joining qualification.

- *The resultant issue of unqualified pipe joining, by electrofusion, performed on our system has also led Alpine to the implementation of a new Leak Survey District. The Integrity Management (IM) District is fully described in OME 723 Leak Surveys. This Integrity Management District is distinct in that it consists only of the pipe joining locations on service lines or main line by “un-qualified” personnel, during the period, 8/28/2016 to 10/25/2016. The initial Annual IM District survey was completed in June 2018 and will be done each year for five consecutive years. Any leak detected during the survey will be repaired upon discovery. If, no leaks are found after five years Alpine will then determine if these locations can be moved back into the “Outside Business District” to be monitored every five years.*

II. Areas of Concerns

1. Title 49 CFR §192.225(a) – Welding Procedures states in part: *“Welding must be performed by a qualified welder or welding operator in accordance with welding procedures qualified under section 5, section 12, Appendix A or Appendix B of API Std. 1104.....”.*

SED recommends ANG to include this requirement of qualifying the welding procedures as required by API Std. 1104 in Alpines procedure Maintenance 192-605(b)(1) Repair by Steel Welding.

Response:

- *Alpine does not perform steel welding, on the two occasions where steel welding was performed, the qualification under API std. 1104 was adhered to. Alpine has revised OME 605-B1, OME Normal Ops 801 and OME Design/Construction 303 to clearly state that the procedures are followed by the welding operator (under API std. 1104), and that, Alpines Operator observes each weld and all documentation and certifications will be retained.*
2. During records review, SED observed that the “Design/Construction” section of ANG’s O&ME Manual does not indicate requirement for steel pipelines to be externally coated. Title 49 CFR §192.455(a) requires that buried or submerged pipeline installed after July 31, 1971 must have an external coating meeting the requirements of §192.461.

SED recommends that ANG include the requirement for external coating as required by §192.455(a).

Response:

- *OME Design/Construction 303 was revised to include the requirement for external coating as required by §192.455(a).*

3. During records review, SED identified that ANG’s –Procedure 303 Design/Construction does not include language for installing a Cathodic Protection (CP) system within a year after completion. Title 49 CFR §192.455(a) (2) states that

buried or submerged pipeline installed after July 31, 1971 must have a cathodic protection system designed to protect pipeline installed and placed in operation within 1 year after completion of construction.

SED recommends that ANG include the requirement for CP system installation as required by §192.455(a)(2).

Response:

➤ ***OME Design/Construction 303 and OME Corrosion Control 455 were revised to include the requirement for Cathodic Protection (CP) be installed, on all buried steel pipe, within 12 months of installation as required by §192.455(a).***

4. During records review, SED identified 45 feet of 6-inch main was abandoned on 9/21/2016. However, documents showing purging pipeline of gas as required by §192.727(b) were not available.

SED requests a copy of General Pipeline Repair Form 605, and a copy of the system map confirming the purging as indicated in Maintenance 727 of ANG OM&E manual.

Response:

➤ ***Please find Alpine's 9-21-16 field notes, form 605 describing the general pipeline repair on September 21, 2016 and a photo of the actual labeled pipe segment pulled out of service and purged on September 21, 2016.***

Please contact me if you have any questions or require additional information.

Sincerely,



Michael Lamond, Administrator
Alpine Natural Gas

Cc: Matt Helm



Procedural Manual for Operations, Maintenance and Emergenc1es

Maintenance 723	Approval Date: 07/15/04
Revision date: 06/04/18	Supercedes: 12/29/12

ALPINE NATURAL GAS

Leakage Surveys-Walking or Mobile

SCOPE AND PURPOSE

This procedure is to provide personnel performing leakage surveys on Alpine's gas distribution system with the necessary procedures to inspect any portion of a natural gas system to detect, classify, and report leakage locations that are venting to the atmosphere as required by §192.723.

A leakage survey shall provide coverage of mains and services underground and aboveground; in all areas where an operator can reasonably be expected to carry the equipment.

SURVEY TYPE

Walking- *Our current preferred method it is a two person procedure at least one of the technician must be Operator Qualified.*

Mobile- Currently are not performed by Alpine Natural Gas.

RESPONSIBILITY

The System Administrator is responsible to ensure that all pipeline system leakage surveys are performed according to the provisions of this procedure and that proper records are made.

PERSONNEL SAFETY

Vehicle and traffic safety
No Special personnel safety issues

EQUIPMENT AND MATERIALS

Facility Maps-ANG System Maps **Appendix O**
Business District **Maps-Appendix 0-4**
Gas Leak Report
General Pipeline Repair Form
Combustible Gas Indicator (CGI)
Detector-Pac Infrared (DP-IR) Methane Detector

Bar Hole Equipment

Leak Contractors accepted OQ plan

Safety vests and vehicle warning flashers

Properly outfitted Mobile Unit if applicable

*Special Note:

Flame Ionization Detector (FID) may be used (and has in the past) for this procedure by an outside contractor, but currently Alpine OQ personnel do not perform this task with FID.

INSTRUCTIONS

Operator Qualification

This activity is a covered task under Alpine's OQ Plan; C.T. # 36 and may only be performed by or directed and observed by an individual who is currently qualified to perform this procedure. Refer to the OQ Plan for specific qualification requirements.

Qualified Alpine employees may perform leak survey **ANG C.T. 36**, by walking or in some cases accompanied by a vehicle following behind for added safety especially in heavily travelled roadways.

If an outside contractor is employed, e.g. Heath Consultants, to perform a Leak survey, documents of Operator Qualification are requested at time of scheduling and reviewed prior to survey and the Contractors OQ Plan must be accepted as compliant with 49 CFR § 192.723 by Alpine' System Administrator The contractor may perform a mobile survey if the survey equipment used is appropriately applied to vehicle and approved.

Inspection Frequency

Alpine Natural Gas will perform instrumented leakage survey activities for mains and service lines in order to comply with 49 CFR § 192.723. Generally a DP-IR methane detector will be used.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 723	Approval Date: 07/15/04
Revision date: 06/04/18	Supercedes: 12/29/12

ALPINE NATURAL GAS

Leakage Surveys-Walking or Mobile

A Heath Combustible Gas Indicator, (CGI), Model 500 or similar will also be used for pinpointing any leaks detected.

- ▶ Theaters
- ▶ Auditoriums
- ▶ Factories

Maps are made available to the Surveyor for all Districts and locations to be surveyed.

The distribution facilities areas must be surveyed for leakage, per the District the facility resides, as follows:

- **Inside Business Districts** - must be instrument (FID/CGI or DP-IR) surveyed once each calendar year, but at an interval not exceeding 15 months. *Business Districts* are defined as areas where gas facilities are under continuous paving extending from the center line to the building wall; and the majority of the buildings on either side of the street are utilized for legitimate business activities; and the buildings are high occupancy multi-story or buildings with multiple businesses that share common walls.
- **Outside Business Districts** - must be instrument (FID/CGI or DP-IR) *surveyed at an interval not exceeding 5 years.*
- **Public Gathering Places District-** must be instrument (FID/CGI) surveyed once each calendar year, but at an interval not exceeding 15 months.

Public Places are defined as buildings where large numbers of people are likely to gather or be present, such as:

- ▶ Public or private schools including day care nurseries, colleges and universities
- ▶ Public or private hospitals, sanitariums, nursing homes and assisted living/handicapped facilities
- ▶ Churches

- **Integrity Management Districts - Are Defined by Alpine and are contained in a section of Leak Survey Binder (App. D-3)- and must be instrument (FID/CGI or DP-IR) surveyed once each calendar year, but at an interval not exceeding 15 months.**

An **Integrity Management (IM) District** will be uniquely defined and is a result of an Action Plan by management to address an Integrity Management issue or similar as determined by management. The defined mains and services will be removed from the **Outside Business District**

An **IM District** will be surveyed each calendar year if at any time a leak is detected the leak will be repaired upon discovery.

If, no leaks have been found after 5 consecutive calendar year surveys that specific **IM District** will be returned to the **Outside Business District** to thereafter be surveyed every five years.

Appendix D-3 contains county parcel maps to illustrate location of Business Districts, **IM** Districts, Special Districts and Public Gathering Places defined by Alpine.

- **Special Leakage Survey Districts** will be performed, as follows:
 - ▶ During formal uprating procedures (49 CFR Subpart K)
 - ▶ Prior to and after completion of major underground construction projects
 - ▶ Prior to and after street improvement projects
 - ▶ After all underground blasting activities



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 723	Approval Date: 07/15/04
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ALPINE NATURAL GAS

Leakage Surveys-Walking or Mobile

Leak Grading

Leaks are assigned priority grading according to location, extent of migration, gas concentration, potential for concentration, ignition sources and potential hazard to the public and property. These priority grades are intended only as guidelines. Individuals evaluating leaks are required to use sound judgment after giving consideration to all associated factors for each leak.

Leaks are typically classified, as follows:

Grade 1 - Hazardous - Leaks that pose an immediate hazard to persons or property. These leaks upon detection require continual monitoring until repair is achieved. Prompt remedial action must be undertaken for leaks classified as hazardous.

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

- All leaks under buildings or foundations
- All blowing or ignited gas scenarios
- All leaks inside buildings at or above 1.5% gas-in-air concentration

All leaks inside enclosures containing electrical equipment.

Non-Hazardous Leaks

Alpine's priority is to repair or schedule repair all escaping gas upon detection including, non-hazardous leaks, however if the operator determines repair cannot be scheduled or performed immediately then, operator can elect to defer remediation according to criteria for Grade 2 & Grade 3 leaks below:

Grade 2 - Intermediate - Leaks that are not hazardous at the time of discovery, but may become hazardous to persons and property at some future date.

Where operator cannot schedule immediate repair these leaks will be repaired within 15 months from the date of discovery, except that

all **Grade 2** inside leaks will require prompt repair by the fuel gas piping/appliance owner and these facilities may be subject to shut-off and **RED TAGGED** until repair is confirmed. **Grade 2** leaks will be re-validated once every six months.

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

- All outside leaks within ten feet, (10 ft.), of buildings where pavement surrounds the structure and within five feet, (5 ft.), where no pavement exists.
- All leaks inside buildings below 0.5% gas-in-air concentration
- All leaks which may migrate to, under or inside buildings
- All above ground piping leaks
- Leaks where man made venting is created to reduce migration and accumulation

During the scheduled repair period, these leaks will be re-evaluated on a six-month, (6 mo.), interval or by the end of the calendar year of discovery, whichever occurs first. These leaks will be re-classified as necessary.

Grade 3 - Non-Hazardous - Leaks that are not hazardous at the time of discovery and are not expected to become hazardous within the scheduled repair period. These leaks will be scheduled for permanent repair within one year, (not to exceed 15 months), of discovery.

Grade 3 leaks may include, but are not limited to:

- A leak that naturally vents to the atmosphere
- A leak that does not endanger persons or property including sewers manholes a leak with minimal migration

All leak re-classification shall be performed using a CGI and/or bar hole equipment.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 723	Approval Date: 07/15/04
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ALPINE NATURAL GAS

Leakage Surveys-Walking or Mobile

Re-Classification: All leaks requiring re-classification to **Grade 1** will be immediately reported to the System Administrator and repairs or continuous monitoring is required until cleared.

MAINTENANCE & OPERATION OF INSTRUMENTS

Each instrument used for leak detection and evaluation shall be operated in accordance with the manufacturer's recommended operating instructions.

CALIBRATION OF INSTRUMENTS

Each instrument used for leak detection and evaluation shall be calibrated in accordance with the manufacturer's recommended calibration instructions.

INSTRUCTIONS

The walking survey shall be conducted at speeds slow enough to allow an adequate sample to be continuously obtained by placement of equipment intakes over the most logical venting locations (See 1, 2, 3 below), giving consideration to the location of gas facilities.

For Aboveground Piping:

- Sampling of the atmosphere should, where practical, take place adjacent to the piping as close as permitted by gas detector design, due to the potential for rapid diffusion of leaking gas to the atmosphere.

For Underground Piping:

- Sampling of the atmosphere should, where practical, take place along the route of the pipeline to be inspected as close to the ground surface as permitted by gas detector design, due to the potential for rapid diffusion of leaking gas to the atmosphere.

Areas Where Piping is Under Pavement

- Samplings should be taken at, but not limited to, the following locations:
 - o Curb Line(s)
 - o Available ground surface openings, such as but not limited to:
 - Manholes
 - Catch Basins
 - Sewer, Power, & Telephone Duct Openings
 - Fire & Traffic Signal Boxes
 - Cracks in Pavement of Sidewalks
 - Any Point where Venting is Likely to Occur
 - Foundation Walls

Limitations

- Gas detector design or adverse conditions may **limit** the use of this survey method. Examples of adverse conditions that may affect the venting of subsurface gas leaks include, but are not limited to:
 - o Moisture
 - o Frost
 - o Ice & Snow Cover
 - o High or Gusting Wind

Leak Classification, & Action Criteria

When evaluating any gas leak indication, the initial step is to determine the grade/severity and perimeter of the leak area and take appropriate action in accordance with Operations, Maintenance and Emergencies Manual or Emergency Plan. If this perimeter extends to a building wall, the investigation(s) should continue into the building, if possible.

Before a leak can be classified, a determination shall be made as to the severity of the leak.

- The migration of gas shall be determined by establishing the outer boundaries of the indications. These tests shall be made with a CGI.
- If possible, locate all gas lines in the vicinity of the leak indication. Particular



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 723	Approval Date: 07/15/04
Revision date: 06/04/18	Supersedes: 12/29/12

ALPINE NATURAL GAS

Leakage Surveys-Walking or Mobile

attention should be paid to the location of valves, fittings, tees, stubs, and connections.

- If possible, all foreign facilities in the area of the search should be identified.
- Personnel should look for evidence of recent construction activities that may have contributed to the leakage.
- Gas may also migrate and vent along a trench or bore-hole provided for other facilities. Leaks could occur at the intersection of the foreign facility and the gas pipeline; particular attention should be given to those intersections.
- Evenly spaced bar or test holes should be used over the gas line(s) suspected to be leaking.
- If possible, all bar or test holes should be of equal depth and diameter (and down to the pipe where necessary).
- All CGI readings should be taken at an equal depth and the readings recorded.

Based on the evaluation of the location or magnitude of a leak, or both, leaks shall then be graded in accordance with the [ANG](#) leak classification criteria. The judgment of the personnel at the scene is of the primary importance in determining the grade assigned to the leak.

- **Note: Underground leaks must be graded using a Combustible Gas Indicator (CGI). A CGI is a device capable of detecting and measuring gas concentrations, of the gas being transported, in the atmosphere.**

All leaks shall be repaired / monitored according to the [ANG](#) leak classification and action criteria.

When a leak is to be re-evaluated, it shall be re-evaluated and classified using the same procedure that was used in the initial classification of the leak.

Precautions

- When placing bar or test holes for testing, consideration shall be given to bar or test-hole placement and depth to minimize the potential for damage to gas pipeline facilities and possible injury to personnel conducting the investigation.
- Caution should also be exercised to prevent damage to other underground structures when bar holing or excavating.
- Unusual situations may complicate investigation techniques on some occasions such as, but not limited to:
 - o Multiple leaks
 - o Foreign gases
 - o Gas detected in storm-drain or sewer systems
 - o Gas detected in telephone or other duct runs
- These indications should be considered migrating gas leakage until proven otherwise by test or analysis.

REPORTING/NOTIFICATION

Form 723 will be completed for each leakage survey. This record will be maintained for the useful lifetime of the facility. A Gas Leak Report, Appendix B - 1, will be initiated for each leak detected and will be completed upon repair of the subject leak. Form 605 B-8 will also be completed for each facility repair.

RELATED PROCEDURES

605-81 General Pipeline Repair
707 Line Markers-
709 Record Keeping
D-3 Leak Survey Summary Form
System Maps



Procedural Manual for Operations, Maintenance and Emergencies

Design/Constr. 303	Approval Date: 08/25/06
Revision date: 3/30/18	Supercedes: 3/21/12

ALPINE NATURAL GAS

Construction-Distribution Mains

SCOPE AND PURPOSE

All new construction will be performed by individuals in a manner that adheres to the applicable sections of this Manual, Safety Plan and to the OQ Plan of Alpine Natural Gas.

This procedure is to comply with 192 Sub-part E, Welding of Steel Pipelines. 192 Sub-part F, Joining of Materials other than by Welding and Sub-part G, General Construction Requirements for Transmission Lines and Mains.

RESPONSIBILITY

The System Administrator is responsible for ensuring that all construction practices are accomplished according system specifications and capability, specifically to the provisions contained herein.

PERSONNEL SAFETY

All Alpine Natural Gas personnel are to utilize proper protective clothing/equipment when performing construction work and at all times minimize hazards including wearing a reflective safety vest and a safety helmet when working around mechanized equipment.

EQUIPMENT AND MATERIALS

All construction will be performed using proper equipment/tools, warning signs and barricades. Qualified Operator will insure all pipe joining certifications are current and on file.

OPERATOR QUALIFICATION

Construction activities are not covered tasks under the Operator Qualification Plan until new facilities are tied-in and gas is introduced, however many tasks performed during this procedure are covered tasks including **C.T. 8, 12, 14, 17, 22, 23, 25, 26,27, 34, 39, 40 & 41.**

INSTRUCTIONS

Steps

Each length of pipe and each pipeline component will be visually inspected at the site of installation to ensure that it has not sustained damage that could impair serviceability.

All segments of buried distribution mains will have an effective cover thirty-six inches, (36").

Proper backfill, padding and compaction practices shall be adhered to at all times.

All gas facilities installed by Alpine Natural Gas shall have a minimum of twelve inches, (12"), of vertical separation when possible or proper protection from other buried structures.

Operator Qualified personnel will install appropriately sized ASTM D 2513 P.E. pipe on the pipeline system.

All plastic gas facilities shall be protected from thermal damage that may impair serviceability.

All plastic gas facilities shall be installed with a (gauge range #10-14) AWG polyethylene coated tracer wire placed above the pipe in order to facilitate locating. Contact with the pipe P.E. pipe must be minimized and never wrapped around pipe.

All buried steel pipeline will be externally coated as required by 192.455 (a). Cathodic Protection (CP) Anodes will be thermally welded within 12 months of installation to all buried steel facilities. Anode type will be magnesium at a size applicable to the system/segment application. Test leads will not be applied in close proximity to anode connection points.

Anode less service risers are excluded from Cathodic protection requirements.



Procedural Manual for Operations, Maintenance and Emergencies

Design/Constr. 303	Approval Date: 08/25/06
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ALPINE NATURAL GAS

Construction-Distribution Mains

All new P.E. pipe segments joined will be visually inspected for proper weld and alignment per procedures 281-285.

All plats/maps will be updated regarding newly constructed facilities. Such records will be retained for the useful life of the facility.

All new pipe segments installed will be Pressure Tested according to construction procedure 503.

Casings will be used where P.E. pipe is to travel under a highway, railway or another location determined by operator.

RELATED PROCEDURES

- 605-81 General Pipeline Repair
- 614 Damage Prevention
- 503 Facility Leak Test Requirements
- 319-21 Installing P.E. in a Trench
- 321 Installing P.E. in a Bore
- 283-285 P.E. Fusion Pipe Joining Procedures
- 323 Casing
- 801 Normal Ops-Observation of cut weld on Steel Piping

PIPELINE MATERIAL AND DESIGN

Alpine's pipeline system is comprised entirely of ASTM D 2513 Poly Ethylene (PE) Pipe except, 28 feet of cathodically protected (CP), 4 inch steel pipe from point of PG&E Custody to Alpine's North Vault. This coated steel pipeline segment was performed by a certified welder under the *API Std 1104*.

All other Operations, Maintenance and Emergencies Procedures performed in excavated trenches.

Alpine's Distribution Pipeline System does not include any of the following; Gas Distribution Center, gas transmission pipeline, gas gathering line, gas storage facility, gas storage field or a Metering station.

REPORTING/NOTIFICATION

Personnel performing construction functions on the pipeline must obtain pertinent maps and records whenever necessary to ensure safety.

All construction records will be documented and maintained at the operations headquarters. (Construction Binders for Service Line Installation or P.E. Main Line Installation (containing project; Maps, Drawings, Pressure Test and Notes) including current Welder Certification Records.



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Normal Ops 801	Approval; Date: 07/15/04
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Observation of cut weld on Steel Piping

SCOPE AND PURPOSE

This procedure is to ensure when personnel install a steel weld type repair sleeve, it is performed according to accepted industry practices. It describes practices required to comply with §192 Subpart E - Welding of Steel in Pipelines 192.227 (a) and 192.225 (a).

RESPONSIBILITY

The Alpine Qualified Operator or, other designee, is responsible to ensure when installing a steel weld type repair sleeve, that it is performed as described in this procedure.

PERSONNEL SAFETY

Every reasonable precaution shall be taken to protect employees and the general public.

EQUIPMENT AND MATERIALS

System maps and records
Steel weld type repair sleeve
4" Carbon Steel ball valve
Routine hand tools
Blower unit
Other equipment and materials, as needed
Welders current qualification Certificate (API Std. 1104)

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 this task. Refer to the OQ Plan for specific qualification requirements.

The Operator will qualify this procedure by observing certified welder perform welding according to this procedure.

The Operator is responsible for the safe and proper shutting down and restarting of the Regulator station with careful attention to possible AOC's.

INSTRUCTIONS

1. All pipe and associated fittings must be thoroughly cleaned prior to procedure.
2. Shutdown regulator station as in 739.
3. Ventilate vault
4. Test for presence of gas with CGI
5. All rust must be removed using hand or power brushing. Sandblasting, power sanding, and power grinding should be avoided.
6. Care must be taken not to remove metal.
7. All existing coating material on the pipe must be removed beyond the area to be welded.
8. If severe corrosion *is* present, complete cylindrical pipe segment replacement should be considered.
9. After segment is cut removed
10. Visually Inspect for internal corrosion
11. Fit the cut in weld ball valve segment to the pipe. With any longitudinal bevel surfaces *in* a horizontal position.
12. Ensure that the weld type repair segment makes complete contact with the pipe surface along each longitudinal bevel surfaces and the circumferential bevel surfaces.
13. External weld clamps may be used to ensure a tight fit to the pipe.
14. Clean all surfaces. Inspect weld bead.
15. Return pressure regulating station back to operations.
16. Check for leaks with soap test.
17. Test with CGI.
18. Perform "Lock Up" procedure.



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

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Observation of cut weld on Steel Piping

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual.

RELATED PROCEDURES

605-B1 General Pipeline Repair
475-Visually Inspect Pipe and Components
Prior to Installation
481 Inspecting for Atmospheric Corrosion
481-A Remedial Action for Atmospheric
Corrosion
487-C Remedial Action for Localized Corrosion
739 Operation, maintenance and inspection of
pressure regulating station



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

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General Pipeline Repair

SCOPE AND PURPOSE

This procedure is to ensure when personnel measure and characterize mechanical damage or a segment of the pipeline is observed to be un-safe repair is then performed according to accepted gas industry standards.

It describes practices required to comply with 49 CFR § 192.605 (b) (1)
192.307
192.309
192.614 (c) (6)
192.703

RESPONSIBILITY

The System Administrator is responsible for ensuring that all pipeline system repairs are performed according to the provisions of this procedure.

Each defect or damaged pipeline segment that impairs serviceability or becomes unsafe may will be repaired, replaced or taken out of service promptly.
Hazardous leaks must be repaired promptly

PERSONNEL SAFETY

All personnel are to utilize proper protective clothing/equipment when performing pipeline system repairs.

EQUIPMENT AND MATERIALS

All personnel are to utilize proper repair tools, materials and safety equipment required for each type of system repair.
Leak Detection Equipment
Defelsko Posi-Tector, UTG-ME
Caliper style Depth gauge.
Other equipment and materials as needed.

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan, **ANG C.T # 20 & 30** and may only be performed or directed and

observed by an individual who is currently qualified to perform this procedure. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS

Observance of an AOC on portion of pipeline.

Operator may observe an abnormal operating condition on a portion of the pipeline including: routine maintenance, leak investigation, excavation, construction, leak survey patrolling, or another activity that requires assessment (see Table 1) and remedial repair.

Steps:

Characterize Damage (see tables below for guidance)

- Cracks
- Dents
- Gouges

Measure-Wall Thickness Loss

Measurement using either a pit depth gauge or a sonograph instrument is acceptable,

Alpine measures steel line wall thickness loss with an ultrasonic thickness instrument; Manufactured by Defelsko Corporation, Model, Posi-Tector UTG-ME. Using manufacturers specified directions to determine extent of metal loss.

For P.E. pipe and fittings that exhibit loss of wall thickness greater than or equal to 10%, the subject pipe segment shall be determined to be unserviceable facility and scheduled for replacement at the earliest opportunity.

Repair by Welding (Steel)

A contract individual that is qualified under API 1104 shall perform repair of steel gas facilities that require steel grinding and or



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 605-BI	Approval Date: 07/15/04
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ALPINE NATURAL GAS

General Pipeline Repair

welding who provides documentation and performs welding under a qualified procedure.

Repair of Plastic (P.E.)

Repair of plastic gas facilities shall be performed according to 283-285 Plastic Fusion Procedure, which may include segment replacement.

REPORTING/NOTIFICATION

Complete Form 605 for each facility repair. Specific repair type and components used must be specified on the Form. Location of repairs shall also be documented.

RELATED PROCEDURES

283-285 Plastic Fusion Procedure
303 Construction
727 Abandonment of Pipeline Facilities
751 Prevention of Accidental Ignition



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Corrosion Control 455	Approval Date: 07/15/04
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Installation of Exothermic Electrical Connections

SCOPE AND PURPOSE

This procedure is to ensure when personnel install buried steel piping that each installation includes exothermic electrical connections and that this task is performed in a manner that provides adequate exothermic anode attachment to the pipeline as well as adequate pipe coating.

It describes practices required to comply with §§192.455.

RESPONSIBILITY

The System Operator, or other designee, is responsible to ensure when installing exothermic electrical connections that, this work is performed in a manner that is described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Ensure that the work zone/area is setup to protect the public from danger.
Ensure that all applicable safety equipment is being utilized as per company policy.

EQUIPMENT AND MATERIALS

Mechanical Equipment

Hand Tools

Appropriately sized and insulated test lead and/or tracer wire

Exothermic electrical connection tools including;

Appropriately sized test lead and/or tracer wire copper sleeves

Exothermic ignition oven (crucible)

Exothermic metallic disks

Appropriately sized exothermic ignition charges

Exothermic charge igniter

Exothermic furnace cleaning tool

Other equipment and materials, as needed

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan, **ANG C.T. # 9** and may only be performed or directed and observed by an individual who is currently qualified to perform this procedure.

INSTRUCTIONS

Conventional Exothermic Welding (CADWELD, THERMOWELD, etc.)

1. The pipe surface must be thoroughly cleaned to a bright shiny appearance and free of moisture, oil, and grease prior to exothermic welding.
2. CAUTION - Never exothermically weld to a corroded pipe surface.
3. ANSI/ASME 831.4 and 831.8 list the following minimum pipe wall thickness data for exothermic welding:

Nominal Pipe Diameter, in.	Pipe Schedule	Wall Thickness, in.
3/4	40	0.113
1 to 2	10	0.109
2 1/2 to 4	10	0.112
5 to 8	5	> 0.109

4. Strip the insulation from the solid core copper #12 or #14 AWG anode or test lead wire, about 1 1/2 inches from the end.
5. Crimp a copper sleeve on the bare portion of the wire leaving about 1/8 inch of the wire protruding from the end of the copper sleeve.



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Corrosion Control 455	Approval Date: 07/15/04
Revision date:07/02/18	Supercedes: 12/02/10

Installation of Exothermic Electrical Connections

6. Tie or wrap the wire to the piping so that any mechanical strain will not damage the weld after completion.
7. Open the cover of the oven (crucible) to expose the weld cavity.
8. Clean the cavity using the exothermic furnace cleaning tool, as necessary.
9. Insert an exothermic metallic disk into the weld cavity with the concave side facing downward to fit the shape of the weld cavity.
10. Remove the cap from an exothermic ignition charge container and pour the contents into the weld cavity.
11. Ensure that all of the fine ignition powder from the bottom of the ignition charge container is also poured lastly into the weld cavity.
12. Close the lid of the exothermic ignition oven (crucible) and place it over the wire with the copper sleeve and hold firmly against the pipe surface to be welded.
13. Wear protective gloves to prevent burns, and use the exothermic charge igniter to light the charge. **DO NOT USE MATCHES OR A TORCH.**
14. Hold the exothermic ignition oven (crucible) firmly for a moment allowing the weld to cool.
15. Remove the exothermic ignition oven (crucible) from the pipe and test the completed weld with a hammer. Avoid striking the wire directly.
16. After the weld has cooled completely, repair the pipe coating according to company procedures.

RELATED PROCEDURES

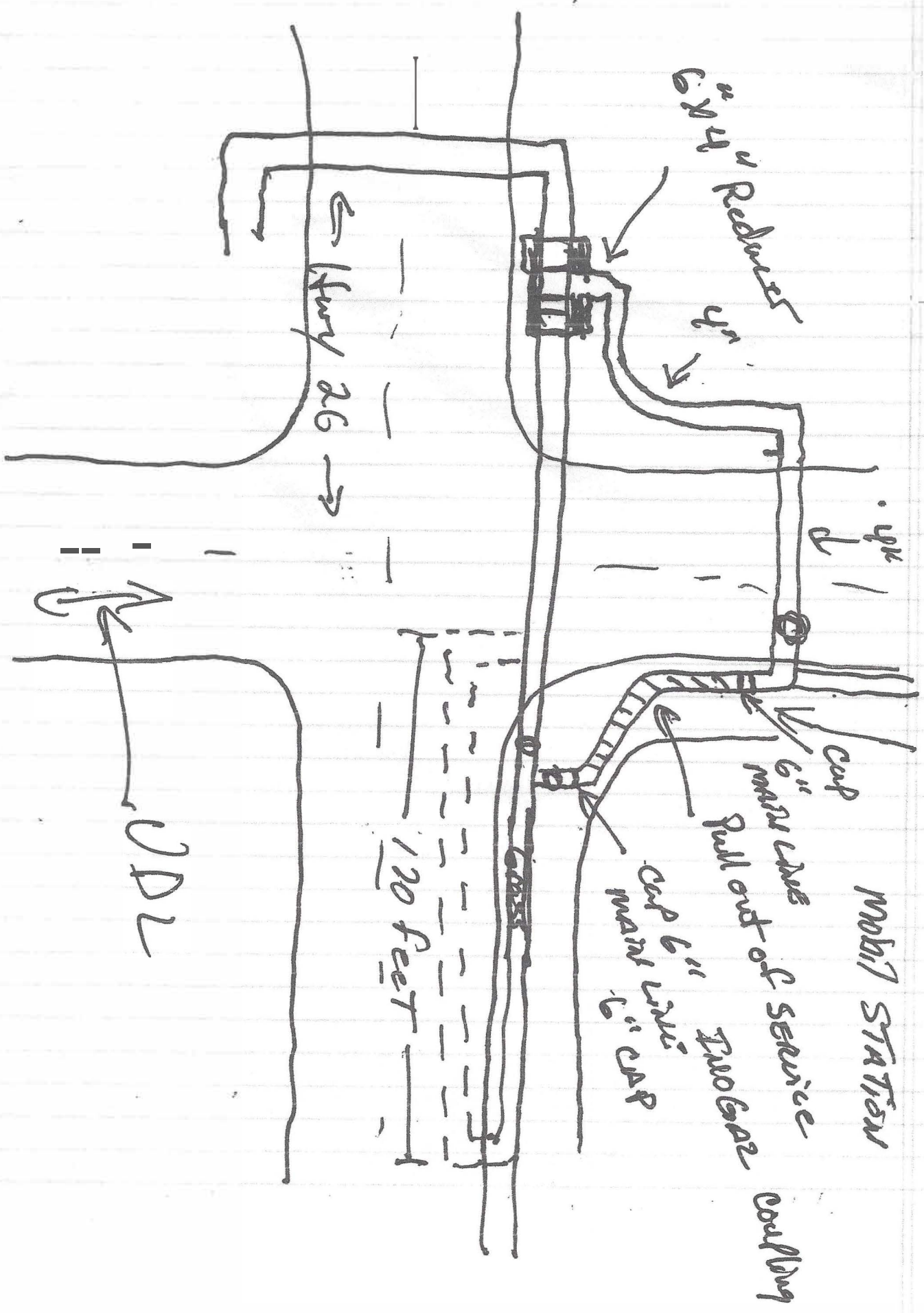
- 0991 - Coating Application and Repair - Brushed or Rolled
- 1001 - Coating Application and Repair - Sprayed
- 1011 - External Coating Application and Repair - Wrapped
- 801 Normal Ops- Observation of Cut Weld on Steel Piping
- 303 Design/Construction

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual.

9.21.16

Have picture of 6" Gas main that we purged on 9.21.16





Procedural Manual for Operations, Maintenance and Emergencies

Form 605	Approval Date: 07/15/04
Revision date: 07/15/04	Supersedes: None

ALPINE NATURAL GAS

General Pipeline Repair

DATE	FACILITY MAP DESIGNATION	EMPLOYEE SIGNATURE	TYPE OF REPAIR/REMARKS/OTHER REMEDIAL ACTION
9/8/16 9/14/16	SW Side UDL & Hwy 26	Matt & Luke	<p>A: added 60' of 4" main line for CALTRANS project on South West side of Hwy 26 & UDL</p> <ol style="list-style-type: none"> 1. 4" 90° with Inogaz Couplings 2. 2 Inogaz coupling with 45° & 4" with Couplings 3. 6" x 4" Tee Reducer on main line. 4. 4" 90° RT main line with Inogaz Electrofusion Couplers. <p>AKAL: SEE NOTES. Matt [Signature]</p>
9.21.16	North West Side UDL & Hwy 26	Matt & Luke	<p>North West Corner UDL & Hwy 26 Abandoned 6" main line 45' capped both ends with 6" cap with 6" Inogaz Electrofusion Couplers.</p> <p>NOTE: SEE CONSTRUCTION NOTES. Matt [Signature]</p> <p>purged GAS line: NOTE SEE picture & NOTES.</p>

