

December 5, 2013

Mr. Michael Robertson, Program Manager
California Public Utilities Commission
Gas Safety and Reliability Branch
Consumer Protection and Safety Division

Re: GO 112-E Gas Audit of Alpine Natural Gas

Mr. Robertson,

Alpine Natural Gas, in compliance with your request on October 31, 2013 provides written responses and relevant attachments to each violation and observation listed in your "Summary of Inspection Findings". Alpine has addressed each issue presented, identified an appropriate course of action and implemented measures to both correct each violation and act on observations and concerns the audit presented.

The violations (highlighted in yellow) and the concerns (highlighted in green) found in the GO 112 E Audit in April of this year are reproduced herein. Following each finding is Alpine's response and attachments supporting our course of action and the changes made to our procedures or documentation.

Alpine has taken this opportunity to improve our operations and the documentation of our procedures for operations, maintenance and emergencies. We are dedicated to continued quality improvement and safety. Alpine appreciates your efforts to assist us in this endeavor.

Sincerely,

Michael Lamond
Alpine Natural Gas

ENERGY FOR YOUR NEIGHBORHOOD

15 St. Andrews Road • P.O. Box 550 • Valley Springs, CA 95252 • Phone 209.772.3006 • Fax 209.772.3008 • e-mail: anginc@goldrush.com

www.alpinenaturalgas.com

SUMMARY OF INSPECTION FINDINGS

1. Audit Findings and Violations

1.1 Title 49 Code of Federal Regulations (CFR) §192.13

1.2 Title 49 CFR §192.241

1.3 Title 49 CFR §192.283

1.4 Title 49 CFR §192.283(b)

1.5 Title 49 CFR §192.353(a)

1.6 Title 49 CFR §192.605(a)

1.7 Title 49 CFR §192.739

1.8 Title 49 CFR §192.805

1.9 Title 49 CFR §199.113

1.10 Title 49 CFR §199.241

2. Observations and Concerns

2.1 Gas Distribution Integrity Management Program: FAQs C.4.d.8

2.2 Alpine's O&M Plan p.44

2.3 Equipment Calibration

2.4 System Map

2.5 Customer Meter

LIST OF ATTACHMENTS:

- A.** POLYETHYLENE (PE) GAS PIPE FUSION MANUAL AND REFERENCE GUIDE
(Partial pgs. 1-16)
- B.** MAINTENANCE 281-285 – PLASTIC FUSION PROCEDURE
- C.** APPENDIX J – SERVICE LINE INSTALLATION PROPERTY MAP AND METER SET
- D.** APPENDIX R-3 – PE SERVICE LINE INSTALLATION LOG
- E.** APPENDIX R-2 – PE MAIN LINE INSTALLATION LOG
- F.** APPENDIX W – INSTALLATION OF STEEL LINE & OME “MAINTENANCE 739”
- G.** NORMAL OPS 801 –OBSERVATION OF CUT WELD ON STEEL PIPING
- H.** INNOGAZ ELECTROFUSION SYSTEM INSTALLATION PROCEDURE
- I.** PLASTIC PIPE JOINING QUALIFICATION TEST RECORD
- J.** MECHANICAL TAPPING TEE AND PERMASERT COUPLING
- K.** THE TERRACE SHOPPING CENTER CERTIFIED LETTER
- L.** NORMAL OPERATIONS 355, 357, 359, 363 & 365 – INSTALLATION OF CUSTOMER METERS, REGULATORS & SERVICE VALVES (RESIDENTIAL & COMMERCIAL)
- M.** FORM 625 – ODORANT SAMPLING/CUSTOMER SNIFF TEST RECORD
- N.** FORM 739-B – REGULATOR STATION INSPECTION RECORD (2011, 2012 & 2013)
- O.** OQ PLAN PART TEN – PLAN REVIEW FOR ASSESMENT OF IMPROVEMENT
- P.** DTN CERTIFICATES OF COMPLETION (4)
- Q.** DIMP 1005 AND DIMP PLAN CHAPTER 7
- R.** APPENDIX B-2 – GAS LEAK REPORT and OME CUSTOMER SERVICE ODOR & LEAK CALLS
- S.** FORM 724 – LEAK REPAIR LOG
- T.** APPENDIX V – COPPER-COPPER SULFATE REF. ELECTRODE CALIBRATION
- U.** SYSTEM MAP
- V.** FORM 481 – ATMOSPHERIC CORROSION INSPECTION/REMEDIAL ACTION RECORD
- W.** APPENDIX B-1 – CUSTOMER SERVICE REPORT – WORK ORDER

1.1 Title 49 Code of Federal Regulations (CFR) §192.13 states in part:

"(a) No person may operate a segment of pipeline listed in the first column that is readied for service after the date in the second column, unless:

(1) The pipeline has been designed, installed, constructed; initially inspected, and initially tested in accordance with this part"

Title 49 CFR §192.273(c) of Subpart F Joining of Materials Other Than by Welding states:

"Each joint must be inspected to insure compliance with this subpart."

On October 20, 1971, the Federal Pipeline and Hazardous Materials Safety Administration issued this Interpretation of §192.273:

"The intent is for 100 percent inspection [of all joints], but this does not state how or by whom. For example, if a pipe fitter makes up a meter and regulator set on domestic customer service, at least a soap bubble check would be appropriate. If a crew installs a line valve, the foreman should make certain that no excessive strain on the valve might make it inoperable. and that flanges, used, are assembled properly and are gas tight. "

Alpine does not keep inspection documentation for each pipeline joint produced by joining. Therefore, Alpine is in violation of Title 49 CFR §192.13.

RESPONSE:

Alpine has addressed this issue of not providing documentation of visual inspection of pipeline joining. All construction and repair documents were revised to include visual inspections of all fusions on both the construction forms and logs we currently use. This additional documentation will serve to show compliance to 49 CFR §192.13.

Alpine's Pipe Joining Manual includes the manufacturer procedures that have been qualified to meet the requirements of 49 CFR §192.13 PE joining procedures in both Alpine's OME and the PE Pipe Joining Manual were reviewed with staff and revised for clarity. Visual inspection of joined pipe are steps in the procedures Alpine employs. Alpine's practice includes spraying of soapy water on each joint to bubble check for leaks after all methods of pipe joining are completed, which is another form of visual inspection. Where appropriate, updated, manufacturers procedures were incorporated into the PE Pipe Joining Guide.

Alpine has revised its customer service, leak investigation and construction forms to document visual inspections following the joining of pipe. The visual inspection procedure of each joined pipe; weld, fusion or mechanical it is noted on each document pertaining to new service connections, main installation and pipe repair. Also note that the annual performance testing includes a visual inspection of the completed pipe joint.

See Attachment A, Alpines PE Pipe Joining Manual (partial) and the Plastic Fusion Procedure from the OME "Maintenance 281-285" Also Attachments; B, C, D & E

ATTACHMENT A

POLYETHYLENE (PE) GAS PIPE FUSION MANUAL AND REFERENCE GUIDE
(Partial pgs. 1-16)



ALPINE NATURAL GAS

Polyethylene (PE) Gas Pipe Fusion Manual and Reference Guide Training Procedures, Certification and Manufacturer Instructions

Revised 11/15/13

- For all installations of main or service PE gas lines Alpine uses primarily PE pipe manufactured by US Poly medium density PE 2406.
- Alpine has qualified the manufacturer procedures, tests and instructions for pipe and fittings within this training manual as an addendum to Alpine's Operations, Maintenance and Emergencies Plan (OME).
- By adopting and following these manufacturers joining and fusion procedures and instructions Alpine and its employees comply with regulations concerning: butt, saddle and tapping Tee, Electrofusion, "stab" couplers and mechanical bolt on Tees pursuant to DOT Regulations § 192.281, § 192.283 and § 192.285 and similar regulations from the Office of Pipeline Safety (OPS).



TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE NUMBER</u>
Introduction	3
Polyethylene (PE) Pipe	3
Heat Fusion	3
Butt Fusion Equipment	4
Manual Butt Fusion	
Automated Butt Fusion	5
Manual Butt Fusion Procedures	5-6
Saddle Fusion	7-9
Tapping Tee Procedure	9-11
Miscellaneous Tools	11-12
Electro Fusion Procedure	12-13
Permasert (“Stab”) Fittings and Procedures	13
Excess Flow Valve (EFV)	13-14
Mechanical “Bolt On” Tees Fittings and Procedures	14-15
Polyethylene Valves- Natural Gas Mains	15
Annodless Risers	15
Additional Topics	16
Squeeze Off	16-17
Main Installation Procedures	18-19
Service Installation Procedures	19-20
Main & Service Line Repair Procedures	21
Polyethylene Gas Pipe Fusion Evaluation Forms (Alpine’s Use)	22-17



INTRODUCTION

Alpine installs new and repaired service and main gas pipe meeting the requirements with ASTM 2513 and CFR 49 192. PE 2406 pipe and associated fittings for all new installation and repair replacement requires the Alpine staff (and contractors it may use) to adhere to these manufacturer procedures Alpine has qualified herein and only after individual has demonstrated appropriate competency and recognized as a qualified as a gas system operator.

Alpine has identified likely threats to its gas distribution system. The PE distribution piping system threats include; **Excavation, Operations, Corrosion and Material defects**. Commonly, these failures can either be called in as blowing gas or smell of gas reports or Alpine identifies need for repair during course of operations such as leak survey, patrolling or continuing surveillance. All leaks once identified are classified but generally Alpine will begin process of repair or replacement immediately.

Excavation or “dig in” situations require immediate control of gas flow either by gas valves or squeeze off method. The gas system operator will determine the most appropriate method. In addition, the operator will also determine the most suitable method of pipe joining repair on the gas line.

Emergency Plan may have to be put in place by the gas system administrator if the Operator identifies a system emergency such as explosion, flood, fire, earthquake or any other major man-made or natural disasters have occurred.

Whatever the reason or circumstance for the repair or pipe joining Alpine’s number one priority is to make the system safe for the customers, its employees and the public and therefore appropriate procedures described below must always be adhered to.

A) POLYETHYLENE GAS PIPE

Alpine has qualified US Poly PE 2406 and other PE pipe manufacturer’s pipe for the purpose of use in Alpines gas distribution main and service lines. These manufacturers have demonstrated that their products meet the requirements of ASTM 2513. US Poly and other manufacturers have adopted the Plastic Pipe Institutes TR-33/2006 generic Butt Fusion joining procedure for field joining of polyethylene pipe and evaluated the joining procedure on their pipe and found the joints to be in accordance with Title 49 CFR 192.283

B) HEAT FUSION

Alpine has adopted the generic TR-33/2006 procedures Butt Fusion joining.



*NOTE: The manufacturer's operating instructions must be adhered to insure acceptable fusions. These instructions accompany this manual. **The manufacturers fusion procedures have been qualified using PE 2406 medium density pipe polyethylene pipe and meet the requirements of ASTM D2513.***

1) BUTT FUSION EQUIPMENT

I) Heating Iron.

The heating irons are NOT EXPLOSION PROOF and shall not be used in any area with gas present while still connected to a power source.

An electrically resistive coil in the heating iron maintains the temperature at a level sufficient for fusion. The irons operate on 110 volts A.C. with Fusion Machines power requirements ranging from 1200 watts McElroy No. 14 to 1750 watts McElroy No. 28 Auto Mac.

Teflon coated faces are utilized on both sides of the iron. Extreme care must be exercised to avoid scratching the faces; only cotton cloths should be used for cleaning. The faces are either an integral part of the iron or are detachable and must be recoated when scratched.

A dial type thermometer is placed next to the handle. The iron temperature can be adjusted by changing the calibration set screw.

II) Butt Fusion Machine

The butt fusion machine consists of mobile and stationary alignment clamps that hold the pipe ends during the fusion process. These clamps transfer the force and associated pressure required to fuse the pipe.

In addition to the following procedure, USPoly also has tested and endorses TR-41, the generic fusion procedure that is available from PPI at www.plasticpipe.org.

WARNING – Understand and follow all equipment manufacturer's recommendations and guidelines.

Alpine routinely uses, for butt fusion four models of **McElroy Fusion Machines**:

A. MANUAL BUTT FUSION

a. PIPE JOINING

Mini Mc

¾" PE pipe fusions.

2CU

2" PE pipe fusions. ,

"Pitbull" No. 14

4" PE pipe fusions.

b. SADDLE FUSION

2LC

2" PE saddle type pipe fusions.



B. AUTOMATIC BUTT FUSION

Follow the appropriate manufacturer's procedures when producing butt fusion with automatic equipment.

(Alpine uses this equipment infrequently)

a. Auto Mac No. 26 6" PE pipe fusions.

3) Alignment Clamp Inserts

Two sizes of inserts are supplied for the 4" machines (2" and 3" IPS). Alpine does, not currently, or in the past used larger Fusion Machines like the McElroy No. 28 machine which also has two inserts (4" and 6" IPS).

4) Facer

Either manual or electrical facers are provided for the butt fusion machines. The electrical facers are NOT EXPLOSION PROOF and shall not be used in any area with gas present.

2) MANUAL BUTT FUSION PROCEDURES FUSION FOR PIPE JOINING

- 1) Energize the heating iron. Once the heater has reached maximum temperature, generator cycles off, check the thermometer for $500^{\circ} \pm \square 25^{\circ} \text{F}$.

At the start of each day, the reading of the dial thermometer shall be checked against the surface temperature by use of the pyrometer and the heating iron calibration set screw adjusted accordingly (manual machines only).

Note: DO NOT adjust the heating iron for the AutoMac 26 unit as it is regulated (controlled by the microprocessor this, however, a model we do not use)

- 2) Install the proper size alignment clamp inserts if required.
- 3) Inspect the pipe and/or fitting ends and cut off any damaged or flattened portions.
- 4) Clean each pipe/fitting end with a clean cotton cloth and place them in the alignment clamps. Pipe ends should overlap the alignment clamps by approximately 1/2".
- 5) Place the manual or the motorized facer on the guide rods and bring the pipe ends in contact with it. Turn the manual facer in the direction of the arrow or turn the motorized facing unit on and apply light force on the carriage lever to advance the pipe ends. The motorized facer speed will increase when the pipe has bottomed out.
- 6) Retract the carriage lever and remove the facer. Discard the strips of material from the pipe ends taking care not to touch the clean surfaces. Check the discarded strips to insure that a continuous length from the entire diameter has been removed.
- 7) Check alignment of the pipe ends and adjust for high-low if necessary. If an adjustment is made or a visible gap exists between the pipe ends, repeat the procedures from Step 4.
- 8) Wipe heater with a non-synthetic clean dry cloth and place it on the guide rod(s) and bring



the pipe ends into contact with it. Maintain a light force on the carriage until a small melt bead forms around the entire circumference of both pipe ends. Relax the force on the carriage but keep both pipe ends in contact with the heater and start the melt time cycle. Refer to Table 1 for proper melt times.

- 9) After the melt time has been observed snap the carriage back (open) and quickly remove the heater being careful not to hit the melt.
- 10) Visually inspect the pipe ends for complete melt. Bring the pipe ends together quickly, DO NOT SLAM, applying only enough pressure to form a double roll back bead. The proper bead thicknesses are shown in Table 1. Over-pressuring the melt will cause the bead to overlap itself resulting in a sub quality fusion due to displacement of the melt to the OD and ID of the joint leaving a cold ring in the center. Under pressuring can result in inadequate fusion due to insufficient contact pressure in the melt area.
- 11) Maintain the pressure exerted on the fusion area for one minute for 1/2"-4" sizes and for three minutes for 6". Relaxing the pressure prior to expiration of the cooling time can result in porous fusion joints.
- 12) Allow the joint to cool for additional three to four minutes (see Table 1) prior to removal from the alignment clamps. The pipe can now be handled with care. Complete cooling requires approximately twenty minutes.
- 13) Check the melt bead for uniformity and size. If the joint exhibits poor characteristics, determine the cause, make the necessary corrections, cut out the suspect joint, and repeat the procedure from Step 4.
- 14) Clean the heater faces with a clean cotton cloth. DO NOT use synthetic cloths or metal implements.

TABLE 5: Manual Butt Fusion Parameters

(Us Poly UAC 2000 PE 2406 Technical and Installation Guide)

Pipe Size	Melt Bead Size	Heating Time at 440° (seconds)	Heating Time at 500° (seconds)	Hold Time (seconds)	Cooling Time (minutes)
3/4" IPS	1/16"	16-19	10-12	40	10
1" IPS	1/16"	18-22	12-14	40	10
2" IPS	1/16"-1/8"	40-48	16-19	60	20
3" IPS	1/8"	50-60	20-24	75	20
4" IPS	1/8"	55-66	24-29	90	20
6" IPS	3/16"	90-108	40-48	180	30



3) **SADDLE FUSION AND TAPPING TEES**

An application tool must be used when making saddle fusion joints. Application tools should perform the following functions:

The tool must be able to straighten, round and support the main during the heating, joining and holding steps. The saddle area of the fitting must be uniformly supported when heating, joining and cooling.

The tool should allow good alignment of the fitting saddle with the main when heating, joining and cooling. It should place the fitting on the center line of the main.

The opening/closing mechanism used must be fast enough to prevent undue melt cooling.

Joining pressure should be sufficient to roll the melt bead back all around the base of the fitting. It should be capable of maintaining constant pressure during cooling.

Procedures

1. Clean main with clean cloth. Secure application tool to main according to manufacturer's instructions. Ensure it is centered over location where fitting will be fused.
2. Install correct heater adaptors on heating tool and set heater adaptor face temperature to 500°F(±10°F).
3. Insert fitting in application unit and place fitting base on pipe. When proper alignment is obtained, secure fitting tightly in unit.
4. Retract the fitting from the main and roughen the pipe and fitting surfaces to be fused with 60 grit emery cloth. Wipe residue from fusion area with a clean, non-synthetic cloth.
5. Place heating tool on main centered under fitting. Position fitting against heating tool. Apply force shown in Table 7 during heating cycle. The heating tool may be rocked slightly, about 2°, so that it can seek its own alignment on the main, but it should not be allowed to slide between the fitting and the main. Note that the timed heating cycles in Table 7 are guidelines for obtaining the appropriate melt beads. Weather conditions may require longer or shorter heating cycle times. The key to selecting the heating cycle time is obtaining a complete melt pattern on the main and fitting. Note: Consult tool manufacturer for recommended machine settings to achieve forces shown in Table 7. Attach Torgue wrench to McElroy 2LC and apply appropriate downward Heating Force pressure (lbf).
6. Heating cycle begins after pipe and fitting are seated firmly against heating tool. Heat for time shown in Table 7 or until Melt Bead Width shown in Table 8 is visible on crown of pipe.
7. Smartly remove the fitting from the heating tool and heating tool from the main, insuring no melt has stuck to the Adaptors. Make sure the heater adaptor corners do not dig into the pipe wall.



TABLE 7
Saddle Fusion Time Cycle Guidelines
 (Us Poly UAC 2000 PE 2406 Technical and Installation Guide)

Fitting	Size Pipe	Time Cycle ¹ (sec.) Heating	Heating Force (lbf)		Cooling Force (lbf) Fusion/	Time Cycle (sec.) Holding
Tapping Tees and Service Saddles	1-1/4"	40 (ftg.)	60-80		40-90	60
		25 (pipe) ²				
	2" - 8"	40	60-80		40-90	60
	12"	40 (ftg.)	60-80		40-90	60
		55 (pipe) ³				
High	2"	40-50	120-140		60-80	120
Volume	3"	70-80	120-140		80-100	120
Service	4"	70-80	120-140		90-120	180
Punch	6"	80-90	120-140		90-120	180
Tees	8"	80-100	120-140		120-140	180
Branch	2" x 2"	45-50	120-140		60-80	120
Saddles	3" x 2"	70-80	120-140		80-100	120
Rectangular Base	4" x 2"	70-80	120-140		90-120	180
	6" x 2"	80-90	120-140		90-120	180
	8" x 2"	80-100	120-140		120-140	180
	3" x 3"	60-70	180-190		80-100	120
	4" x 3"	60-70	180-190		80-100	120
	4" x 4"	110-120 ⁴	295-305		120-140	210
	6" x 4"	180-190 ⁴	180-190		120-140	210

8. Quickly inspect both melt patterns before fusing the fitting to the main. If the patterns are complete, press the fitting on the main very quickly (within 3 seconds) with firm pressure until a Final Bead Width of the size in Table 8 is developed around the entire base of the fitting. If either pattern is incomplete, fuse the fitting onto the main and cut off the outlet or stack to prevent its use. Abandon the fitting and begin another fusion at a new location.
9. Hold pressure on the fitting for the time Shown in Table 7. Allow an additional 3 minutes for cooling prior to removing the application unit.
10. Inspect the fusion to be sure that melt has squeezed out completely around the edge of the saddle base. Check to be certain that the saddle fitting is entirely within the pipe melt pattern. Properly made tapping tee and branch saddle fusions are shown in Figure 3 and 4, respectively. Only accept joints meeting these requirements. Never allow a questionable joint to be installed.
11. For tapping tees and service saddles, allow an additional 15 minutes cooling before pressure testing and tapping. For branch saddles, allow an additional 30 minutes.



Cold Weather Considerations (Below 55°F)

- Carefully remove (by light tapping or scraping) the ice and frost from the fusion areas and the areas to be clamped. Otherwise, ice will melt when exposed to the heating tool and spot chill the polyethylene. This could cause incomplete fusion.
- Shield the heating tool and fusion area from the wind, snow and freezing rain.
- Ensure heater adaptor faces maintain a temperature of 500°F(±10°F)
- The length of cycle necessary to obtain a complete melt pattern will depend not only on the outdoor temperature, but also on wind conditions, pipe contraction and operator technique. The heating cycle times shown in Table 7 should be used as a starting point for determining the exact heating cycle time for the particular installation conditions.

Determining the exact heating cycle time can be accomplished by making a test melt pattern on a piece of cold scrap pipe. If the initial melt pattern is incomplete, try a 5 second longer cycle on another cold piece of scrap pipe. Continue this process until a complete and uniform melt pattern is obtained on the fitting and pipe. Avoid cycles in excess of that required to achieve a good melt pattern.

TABLE 8
Bead Width Guidelines- Cold Weather
 (Us Poly UAC 2000 PE 2406 Technical and Installation Guide)

Pipe Size	Melt Bead Width	Final Bead Width
1-1/4"	1/32"	1/16"
2"	1/16"	1/8"
3" and larger	1/8"	larger than 1/8"

4) TAPPING PROCEDURES

A. Tapping Tee (Type 1)

Slip the protective sleeve over the service line and then fuse the line to the outlet. Tighten the cap and pressure test for leaks around the saddle and outlet fusions. If a leak occurs, release pressure, cut off the outlet or stack and abandon the tee. If it passes the pressure test, release the pressure in preparation for tapping.

Remove cap. It is important to keep both the cap and seal areas free of dirt.

Insert the hex shank of the tap tool¹ all the way into the hex socket portion of the punch. Using the special tap tool, together with a suitable socket drive ratchet wrench, turn down at a steady rate until the main is tapped.

For 4" or smaller mains, tapping is complete when the tool center mark is flush with the top of the stack.



For 6” and 8” mains, tapping is complete when the tool center marks if ½” below the top of the stack (i.e., 7 additional turns).

CAUTION: turning the punch down appreciably beyond either of the above mentioned stop points could result in dropping the punch into the main. If used for 1-1/4” main tapping, additional turndown could result in the punch contacting the wall on the opposite side.

When tapping is complete, raise the punch back up until the top of the punch is flush with the top of the stick. It should never extend above the top of the stack. It should never extend above the top of the stack. Some minor gas leak-by may occur through the stack internal threads between the time of the tap and cap sealing.

Replace cap and tighten. Turn cap down until the bumps at the base of the cap just contact the body rib as shown in Figure 5. This should be done by hand, never use a wrench. Some resistance to turning may be felt several turns prior to the cap reaching the rib. This is normal; the o-ring seal is being compressed. Further tightening beyond the bumps contacting the rib will not improve sealing performance but may cause unnecessary stress on the fitting. Running the punch back into the tap hole will provide effective flow control, but not necessarily a bubble-tight shut-off.

B. Tapping Tee (Type II)

1. Slip the protective sleeve over the service line and then fuse the line to the outlet. Tighten the cap and pressure test for leaks around the saddle and outlet fusions. If a leak occurs, release pressure, cut off the outlet or stack and abandon the tee. If it passes the pressure test, release the pressure in preparation for tapping.
2. Remove cap. It is important to keep both the cap and seal areas free of dirt.
3. Insert the hex shank of the tap tool² all the way into the hex socket portion of the punch. Using the tap tool, turn the punch down until the appropriate tool mark (dependent on pipe size) is flush with the top of the stack.

For 10” SDR 13.5 and 12” SDR 13.5 mains, tapping is complete when the 8” mark is ¼” below the top of the stack (i.e., 4 additional turns).

CAUTION: Turning the punch down appreciably beyond the above mentioned tool marks could result in dropping the punch into the main.

4. Raise the punch until the top of the punch is flush with the top of the stack. It should never extend above the top of the stack. Gas leak-by may occur through the stack internal threads between the time of the tap and cap sealing.
5. Replace cap and tighten. Turn cap down by hand until base of cap just contacts shoulder on body. Some resistance to turning may be felt a couple turns prior to the cap reaching its final position. This is normal; the o-ring seal is being compressed. Excessive tightening does not improve sealing performance but may cause unnecessary stress on the fitting.



C. Service Saddle and Branch Saddle

- Once the service saddle or branch saddle fitting has been fused to the main, it is ready to be tapped. Be certain that the tapping tool used has the following features:
- A Cutter of an appropriate size so that it will not damage the inside of the fitting.
- Built-in stops to prevent damage to the inner wall of the main opposite to the hole cut in the pipe.
- Coupon retention.
- Safety chain for hot taps.
- Pressure test valve for hot taps.

When there is no pressure in the main, tapping is accomplished with a cold tapping tool. If there is pressure in the main, tapping is accomplished with a hot tapping tool. Consult your USPoly Company representative for information on the procedures for the use of these hot and cold tapping tools and their availability

5) MISCELLANEOUS TOOLS

Operator must be proficient in the appropriate use of these and other pipe joining tools:

I) Pipe Cutters

- a) "Plier" type cutters for use on 1/2" CTS - 2" IPS sizes.
- b) A guillotine type cutter shall be used on 3" and larger sizes.

II) Pipe Squeeze Off Tools

- a) Manual squeeze off tools are provided for 1/2" CTS - 2" IPS sizes. These tools are equipped with stops for each pipe size that prevent over squeezing of the pipe.
- b) Hydraulic squeeze off tools are necessary for the larger pipe sizes, 3" - 8". These tools are also equipped with stops for each pipe size.

III) Pyrometer

The pyrometer is used to check the surface temperature of the heating irons. It consists of a hand held display unit and an attached surface probe.

IV) Application tool

Hexed head and Ratchet used for Tapping Tees

V) Appropriate size saddle heater adaptors

VI) 60 grit emery cloth and Clean non-synthetic cloth



VII) Torque Wrench (standard)

For Saddle Fusion Tapping procedure

C) ELECTRO FUSION PROCEDURES

NOTES: See the Universal Control Box Manufacturer's literature for fusion information. The manufacturer's literature must be adhered to insure acceptable fusions. In the event that the supply voltage varies outside of the stated limits the fusion cycle will be interrupted. A new cycle can be started after a ten-minute cool down period has been observed. The fusion system will automatically adjust the duration of the cycle to compensate for the previously aborted attempt. A maximum of three attempts may be tried. If the tapping tee has already been tapped, NO retries are allowed.

A) GENERAL ELECTROFUSION INSTRUCTIONS

1. Assure pipe ends are cut square and even.
2. Clean pipe inside and out.
3. Measured and marked pipe ends.
4. Scraped pipe ends.
5. Take proper precautions to avoid contamination of pipe ends.
6. Clean fitting and pipe ends with 96% or > Isopropyl Alcohol.
7. Properly install pipe in alignment tool.
8. Centered fitting between marks.
9. Connect control box to proper 110 volt A.C. power source in correct sequence.
10. Verify the operation of sensor switches. (of Innogaz System)
11. Follow operation sequence and warning light functions.
12. Swipe fitting UPC with optical wand.
13. Note time that FUSION START BUTTON was depressed.
14. Mark time of day on pipe at end of fusion.
15. Remove leads from fitting 30 seconds or longer after fusion is over.
16. Verify presence of plastic flow into both wells. (Innogaz System)
17. Allow fitting to cool in secured position for recommended time.
18. Visually inspect fusion.

B) ELECTRO FUSION EQUIPMENT

NOTE: The manufacturer's operating instructions must be adhered to insure acceptable fusions.
Alpine uses the **Kerotest and Innoge, "Innogaz Electrofusion Systems" materials with the Danielle model control; box. Innogaz electrofusion fittings have been qualified and manufactured in compliance with CFR 49, Part 192 and ASTM F1055, specification for electrofusion fittings. These have been qualified using PE 2406 medium density pipe polyethylene pipe that meets the requirements of ASTM D2513.**

I) Universal Control Box

This unit controls the fusion process. It processes information received from the optical wand that is used to determine the fitting manufacturer and appropriate fusion times. It also stores fusion related information, which can be downloaded for record information. Alpine qualified



Personnel install electro fuse service Saddles, couplings and Tapping Tees in accordance with CFR 49, 192.285. See manufacturer instructions for control box use.

II) Optical Wand

This device reads the uniform product code UPC sticker on the fitting.

III) Couplings- Alpine currently uses the Friatec and Innogaz Electrofusion Couplings and fittings. A resistant wire embedded in the coupling provides the energy required for fusion.

a) Alignment Clamps. Only required for 2" and larger sizes. These devices align and immobilize the pipe ends and coupling during the fusion and cool down periods.

b) Pipe Scrapers.

Three types of scrapers are used to remove oxidation and contaminants from the outside pipe wall prior to electro fusion coupling installation. A paint scraper may be used on 1/2" and 1" CTS sizes only. Virax type or interior anchored pipe scraper can be used on 1/2"CTS - 6"IPS sizes. Additionally, full encirclement Scrapers can be used on 2" - 8" pipe sizes.

IV) Tapping Tees- Innogaz tapping tees from Innogaz PE Industries, Kerotest or similar.

D) PERMASERT (“Stab”) FITTINGS

Elster Perfection Permasert® Non-Corrosive Mechanical Coupling 1" X 3/4" and 2" Permasert couplings shall be installed with the Permasert V-Tool. Permasert V Tool and the couplers shall be used in accordance with the manufacturer’s Installation Instructions by Elster Perfection.

1. Cut the tubing (PE Pipe) so that the end is square
2. Wipe the tubing with a dry clean cloth
3. Inspect the tubing for surface defects, cut out if defects found
4. Using chamfer tool, chamfer the outer diameter (O.D.) of the pipe
5. Use soft marker, marker the tube at the proper distance from the chamfered end. This is the “Stab Depth” Stab tubing into coupling until it bottoms.
6. Following Alpine’s procedures Pressure test the finished Joint.

- ✓ Visually inspect all pipe joining fittings completed.
- ✓ On service line repair return gas flow. Verify pressure holds.
- ✓ Check for leaks by spraying all fittings with soapy water and or CGI.

E) EXCESS FLOW VALVE (EFV)

Lyco Excess Flow Valves are used on all service line installations and are designed to shutoff flow of gas to the meter when the service line is punctured or severed. Sensing increased flow the valve will shut off or trip and will automatically reset once repair is



made to line and the pressure has equalized. Follow manufacturer's installation instructions. EFV series must be appropriate for service length and customer's max. load.

- I) Install EFV with flow direction arrow pointing in direction of gas flow.
 - II) Install EFV as close to gas main as practical.
 - III) Fuse EFV housing with butt fusion technique to ¾" PE service line.
 - IV) Place ID tags that come with EFV around service line adjacent to the EFV.
- ✓ Visually inspect all pipe joining welds and fittings completed.
 - ✓ On service installation Pressure test pipe with 95 psig air for 15 minutes with compressed air. Verify pressure holds.
 - ✓ Check for leaks by spraying all fittings with soapy water and or CGI.

F) MECHANICAL "BOLT ON" TEES

Elster Perfection Permalock® Tee are used to connect 2' PE main pipe to a ¾" service line. Follow the Installation Instructions from Elster Perfection.

1. Clean surface of PE main
 2. Remove Bolt on TEE assembly and depth tube from bag
 3. Bolt Tee onto PE main. Using crossover tightening pattern. Assure bolts are flush with bottom of base. Do not over tighten.
 4. Connect service line to Tee Tower outlet
 5. Test Tee/service assembly using standard leak test procedures
 6. Place Depth Tube on top of cutter assembly and thread downward using 5/16 hex wrench until it bottoms in the Tower.
 7. Thread Cutter upward (counterclockwise) until top of Cutter is flush with top of Tower. This will gasify the service. Discard depth tube.
 8. Install Cap on the Tower and hand tighten to Cap Stop.
- ✓ Visually inspect all pipe joining welds and fittings completed.
 - ✓ On service installation Pressure test pipe with 95 psig air for 15 minutes with compressed air. Verify pressure holds.
 - ✓ Check for bubble leaks by spraying all fittings with soapy water and or CGI.

Also,

Continental Industries, Con-Stab fittings' Bolt –On Tees,

Application, Connect a 2" or 4" Main to a 6 inch Main.

- Clean surface of PE main
- Bolt on TEE
- Connect service line to Tee Tower outlet
- Test Tee/service assembly using standard leak test procedures
- Place Depth Tube on top of cutter assembly and thread downward using 5/16 hex wrench until it bottoms in the Tower.



- Thread Cutter upward (counterclockwise) until top of Cutter is flush with top of Tower. This will gasify the service.
- Install Cap on the Tower and hand tighten to Cap Stop.
- ✓ Visually inspect all pipe joining welds and fittings completed.
- ✓ On Main installation Pressure test pipe with 95 psig air for 1 hour compressed air. Verify pressure holds.
- ✓ Check for leaks by spraying all fittings with soapy water and or CGI.

G) POLYETHYLENE GAS VALVES

Polyethylene gas valves shall be manufactured by either Nordstrom Valve Inc., The gas valves shall be in compliance with the requirements of ANSI/AMSE B16.40 “Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems”, ASTM 1996 Section 8 “Plastics”, Volume 08.04 “Plastic Pipe and Building Products” D-2513, and DOT Part 192.145 “Valves”.

The valves shall be assembled so to operate smoothly and provide gas tight seal. Each valve’s stem shall be equipped with the weather seal(s) protecting inner parts from ground water and foreign debris intrusion. All polyethylene valves shall be supplied with the Butt End outlets.

The polyethylene portion of the valve shall be one piece molded medium density PE-2406 polyethylene manufactured from Performance Pipe Company Marlex TR-418 Resin, Rigidex PC 2040Y, or FINATHENE 3802Y. PE valves shall conform to the dimensions given in Table below.

Table: Dimensional Standards for Polyethylene Valves

VALVE SIZE	SDR	MIN. PORT DIA. *	MIN. STUB LENGTH *
2"	11	1.80"	2.00"
4"	13.5	3.60"	3.00"
6"	13.5	4.80"	3.50"
8"	13.5	6.30"	3.50"

H) ANNODELESS RISERS and TRANSITION FITTINGS

Elster Perfection Service Risers are used to complete connection from end of service line to the meter set. Annodeless Risers and miscellaneous transitions fittings comply with the requirements of ASTM 2513.



I) ADDITIONAL TOPICS

1) **SQUEEZE OFF**

Warning- Understand and follow the equipment manufacturers recommendations and guidelines

- I) Set the pipe stops to the appropriate diameter.
- II) Ground the squeeze machine and the pipe end.
- III) Using wet cloth rags and spray bottle keep pipe wet during squeeze off.
- IV) Choose appropriate squeeze tool for diameter pipe and follow manufacturer instructions.
- V) Take your time while squeezing the pipe, advance the squeeze a little bit each time and then allow the pipe to conform to the new set before continuing the process. Complete shut off may not be achieved in the larger sizes.
- VI) Apply wet rags to pipe surface to dissipate static charge to ground.
- VII) Perform the repair.
- V) Remove the squeezer, allowing for the pipe to expand in steps during the removal.

ATTACHMENT B

MAINTENANCE 281-285 – PLASTIC FUSION PROCEDURE



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 281-285	Approval Date: 07/15/04
Revision date: 4/30/13	Supersedes: 12/31/12

ALPINE NATURAL GAS

Plastic Fusion and Pipe Joining Procedure

SCOPE AND PURPOSE

The purpose of this procedure is to ensure safe and proper installation and repair of both polyethylene (**P.E. 2406**) pipeline segments and fittings through application of accepted fusion (pipe joining) techniques. This procedure complies with Title 49 CFR § 192.281,283, 285 & 287.

The procedures presented here are intended as a general description. The complete training guide and procedures for full compliance are presented in Appendix G Alpine's Gas Pipe Fusion Manual and Reference Guide (Alpine has qualified, approved And accepted these pipeline and equipment Manufacturer's Installation instructions, tests and recommendations as compliance to **49 CFR § 192.281,283,285 & 287**) and **ASTM 2513** for PE pipe & **ASTM F1055** for PE fittings.

RESPONSIBILITY

The System Administrator and the Qualified Operators are responsible for ensuring that all plastic fusion installations and repairs are performed according to the provisions of this procedure and that the appropriate re-training and certification is received.

In addition, it is the System Administrator who selects and approves the certifying third party.

PERSONNEL SAFETY

All personnel are to utilize proper protective clothing/equipment when performing pipeline fusion procedures, during pipe joining under normal or emergency operating conditions.

EQUIPMENT AND MATERIALS

All personnel are to utilize proper fusion tools, materials including Reference Tables and equipment required for each type of fusion or pipe joining.

Choose appropriate:

- Butt Fusion Machine
- Electrofusion Box
- Saddle Fusion Machine
- Automatic Butt Fusion Machine
- Mechanical Fittings
- Stab Fittings
- Excess Flow Valve
- Annodeless Riser

Other Materials:

- Pipe Cutter
- Clean Cloths
- Spray bottle of soapy water
- Emery Cloth
- Chamfering Tool
- Clean non-synthetic cloth
- Heating Iron
- Pyrometer
- Facer
- Clamps
- Squeeze off tool
- Trimmer
- Alcohol (99%) for Electrofusion
- Permanent marker
- Tape measure

INSTRUCTIONS

Operator Qualification

This activity is a covered task under the Operator Qualification Plan, **ANG C.T. 39 & 40** whenever plastic fusion is performed on a live gas facility. Accordingly, this activity 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.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 281-285	Approval Date: 07/15/04
Revision date: 4/30/13	Supercedes: 12/31/12

ALPINE NATURAL GAS

Plastic Fusion and Pipe Joining Procedure

Only P.E. "conforming", pipe stamped with ASTM 2513 is allowed for installation. Identify ASTM 2513 or the ***** continuation indicator before installation within Alpines distribution system.

Fusion Procedure Qualification

Note: Appropriate Manufacturers Reference Tables must be consulted for appropriate melting, time, temperature and pressure.

Alpine Natural Gas will internally re-train field personnel under the polyethylene pipe and fitting manufacturer joining procedure once each calendar year. Appendix G is Alpine's Training Manual and Reference guide that all Qualified employees have utilized to gain expertise in this area. Each OQ will observe the P.E. fusions of all commonly used sizes and methods, including; Butt, Saddle, Electro fusion and mechanical coupling and test appropriately and record in Forms 281-285.

Alpine may either provide annual re-qualifying to its field personnel utilizing a third party qualified observer at System Administrator's discretion or ,when it is required where the OQ operators have had fusion failures in a calendar year or has not made the type of fusion in the past 12 months. .

Alpine's Operator Qualified personnel were last recertified by a third party expert in this task (currently Sunrise Engineering) that has provided evidence of expertise and educational qualifications to perform P.E. pipe joining recertification.

General Preparation-Butt Fusion

1. Clean and dry pipe ends using a clean cloth removing all dirt and other contaminants.

2. Place pipe ends in fusion machine and face down to stops.
3. Check Hi/Low alignment, adjust and re-face as necessary.
4. Check heater plate for proper temperature (TABLE 1).
5. Insert heating iron between aligned pipe ends bringing pipe ends firmly in contact with heating iron. Heat pipe ends using contact pressure only, do not force bead formation. Look for uniformly sized bead around entire pipe circumference, (both ends). Pipe is properly heated when melt swell bead width matches values in TABLE 2 below.
6. Remove heating iron and fuse pipe ends using enough p-pressure to roll melt swell bead over both pipe surfaces (double bead). DO NOT SLAM PIPE ENDS TOGETHER. Apply proper fusion hold pressure, (TABLE 1). Hold fusion pressure for required cooling time of thirty, (30), seconds per inch of pipe diameter, (TABLE 3).
7. Fusion may be removed from machine at end of cooling time under pressure. Allow an additional twenty, 10-30 minutes cooling time prior to rough handling and/or application of leak test pressure. (Allow longer time for larger diameters).
8. Inspect fusion for continuous uniform bead over entire pipe circumference,
9. Spray soapy water on pipe joint-Inspect.

Butt Fusion Tips

1. Keep heating iron surfaces clean using lint free non-synthetic cloth.
2. Do not lay iron on grass or dirt. Always use proper iron holder.
3. Shield fusion machine from inclement weather and wind.
4. Avoid using fusion machine in a combustible gas atmosphere.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 281-285

Approval Date: 07/15/04

Revision date: 4/30/13

Supersedes: 12/31/12

ALPINE NATURAL GAS

Plastic Fusion and Pipe Joining Procedure

General Preparation-Saddle Fusion

1. Clean and dry pipe using a clean cloth removing all dirt and other contaminants.
2. Clean heating iron surfaces clean lint free non-synthetic cloth.
3. Roughen main surface to be fused using 60 grit emery cloth about one inch, (1"), beyond fusion area. Brush away residue.
4. Roughen fitting fusion surface using 60 grit emery cloth. Brush away residue.
5. Install fusion machine onto main using a bolster plate on 3 IPS and smaller sizes.
6. Insert fitting chimney into application tool holder and seat base on main and secure fitting into holder.
7. Place heater on main centered beneath fitting. Place fitting against heater face. Apply and maintain pressure during heating. Heater time starts after heater face is firmly seated on main. During heating, the heater face may be rocked about 2° to assure full contact with main surface.
8. Remove fitting from heater and heater from main with quick snapping actions and quickly inspect melt surfaces for full release from iron and complete if melting surfaces are unacceptable.
9. Within three seconds, (3 sec.), from heater removal, press fitting onto pipe with firm pressure until melt bead size is formed around the base of the fitting. Hold for required pressure and time. **DO NOT SLAM TOGETHER.**
10. After three additional minutes, (3 min.), cooling time, remove application tool.
11. Inspect fusion for full melt bead around fitting base, If bead appearance is unacceptable, cut off top of fitting to
12. prevent use and apply new fitting on a new section of main.
13. Allow an additional ten minutes, (10 min.), before tapping or applying leak test pressure to standard tapping tees or service

saddles. Allow an additional thirty minutes, (30 min.), before tapping or applying leak test pressure to High Volume (HVTT) tapping tees or branch saddles.

Saddle Fusion Tips

1. Keep heating iron surfaces clean using lint free non-synthetic cloth. Do not lay iron on grass or dirt. Always use proper iron holder.
2. Shield fusion machine from inclement weather and wind.
3. Avoid using fusion machine in a combustible gas atmosphere.

Electro fusion

An Alpine Natural Gas employee that has been qualified in this plastic piping fusion type within the calendar year will perform all electro fusions adhering to manufacturer instructions for control box use and PE fittings, that are in compliance with ASTM F1055.

1. Assure pipe ends are cut square and even.
2. Clean pipe inside and out.
3. Measured and marked pipe ends.
4. Scraped pipe ends.
5. Take proper precautions to avoid contamination of pipe ends.
6. Clean fitting and pipe ends with 96% or > Isopropyl Alcohol.
7. Properly install pipe in alignment tool.
8. Centered fitting between marks.
9. Connect control box to proper 110 volt A.C. power source in correct sequence.
10. Verify the operation of sensor switches. (of Innogaz System)
11. Follow operation sequence and warning light functions.
12. Swipe fitting UPC with optical wand.
13. Note time that FUSION START BUTTON was depressed.
14. Mark time of day on pipe at end of fusion.

ATTACHMENT C

APPENDIX J –
SERVICE LINE INSTALLATION PROPERTY MAP AND METER SET



Procedural Manual for Operations, Maintenance and Emergencies

Appendix J	Approval Date 12/15/08
Revision date 5/1/13	Supercedes: 08/20/06

ALPINE NATURAL GAS

SERVICE LINE INSTALLATION PROPERTY MAP and METER SET DETAIL

DATE: ___ / ___ / ___ ANG Block # _____ ANG Sequence # _____

NAME _____ Meter# _____ ECR # _____

ADDRESS _____ PHONE _____

Date Assessed by ___ ANG COO ___ / ___ / ___ USA Locate # _____ CalavCounty APN _____

Date Started
___ / ___ / ___
Date Meter Set
___ / ___ / ___
Front Door

Street Name _____ Cross Street _____

Install Method _____ Pipe Joining Method _____

Tie in Location: Short Side ___ Long Side ___ (Street Crossing by Bore Method) _____

Tie In to Prop Line (stub) ___ Ft. Describe Tie in Location _____

P.E PIPE(ASTM D 2513) INSTALLATION: All Fusion Joints visually Inspected: Y/N OQ Initials _____

$\frac{3}{4}$ "Service Total Length _____ Ft. EFV # _____	<input type="checkbox"/> ASR attached to Service Line <input type="checkbox"/> Valve Cock Ck: Leak Yes/No replaced	# 14 Tracer Wire _____ Yes ECR wire installed _____
Line Tested ___ psig X ___ Minutes TCR Pad Installed Y / N	Service Location ___ Rt. Side ___ Lt. Side Meter Protection Assessment: Bollard Required, Y / N	Meter tested ___ lbs Method _____

O.Q. Name _____ Date Line Installed ___ / ___ / ___

ATTACHMENT D

APPENDIX R-3 – PE SERVICE LINE INSTALLATION LOG

ATTACHMENT E

APPENDIX R-2 – PE MAIN LINE INSTALLATION LOG

1.2 Title 49 CFR §192.241 states in part:

"(a) Visual inspection of welding must be conducted by an individual qualified by appropriate training and experience to ensure that:

- (1) The welding is performed in accordance with the welding procedure; and*
- (2) The weld is acceptable under paragraph (c) of this section.*

Furthermore,

"(c) The acceptability of a weld that is non-destructively tested or visually inspected is determined according to the standards in Section 9 of API Standard 1104 (incorporated by reference, see §192.7). However if a girth weld is unacceptable under those standards for a reason other than a crack, and if Appendix A to API 1104 applies to the weld, the acceptability of the weld may be further determined under that appendix."

In April 2013, Alpine hired a contractor to install a 4" valve at the outlet of its regulator station. Alpine did not have records of a visual inspection to indicate that a qualified individual determined if the acceptability of the weld was in accordance with Section 9 of API Standard 1104. Therefore, Alpine is in violation of Title 49 CFR §192.241.

RESPONSE:

The issue here appears to be the non-acceptance of the visual inspection records of this particular steel weld that were provided by Alpine to the auditors. They are included, again, here. The contractor provided two qualified individuals who performed this weld. Both our procedure, and the contractors, included a visual inspection of the welds. These welds were photographed and documented by the two qualified and experienced personnel of the contractor. Alpine had accepted the documents provided and the procedures followed to be in compliance with this section.

Alpine understands the requirement to have all work performed by qualified individuals on its pipeline and that inspection of work is also performed by qualified individuals. Alpine has a total of 28 feet of steel in its pipeline where Section 9 of API Standard 1104 is applicable. Alpine recognizes careful monitoring is required that all future work on this segment of Alpine's system will be performed in accordance with this section. Alpine has added a statement in its OME Procedure 739 that all welding on the Regulator Station steel piping will be done in accordance with Section IX of API Standard 1104.

Perhaps it should be noted that the pipe joint in question is not buried, instead resides inside a vault, therefore available for ongoing monitoring and visual inspections. The piping inside this vault including this area of welded steel pipe is inspected monthly. Pressure testing was also performed as it will be on an annual basis.

See Attachment F- including Appendix W the observation of this welding procedure by an Alpine Qualified Operator.

The experienced welders ASME Section –IX Welder Certificate. Please note the Welder and the Witness for the certification are the same individuals who performed Alpines 4" valve installation in April 2013(Greg Mello and Stan McCallister).

Attachment G – OME Procedure "Normal Ops 801- Observation of Cut Weld on Steel Piping signed by the two qualified individuals that performed work including weld inspection on Alpines 4" steel line. Regulator Station Maintenance, OME Procedure Maintenance 739.

ATTACHMENT F

APPENDIX W – INSTALLATION OF STEEL LINE
OME PROCEDURE “MAINTENANCE 739” REGULATOR STATION
OPERATION, MAINTENCE AND INSPECTION



Procedural Manual for Operations, Maintenance and Emergencies

Revision date: 3/02/12	Approval Date 3/2/2012
Supercedes:	

ALPINE NATURAL GAS

Appendix W

INSTALLATION OF ^{Steel} ~~PE~~ MAIN LINE

CONSTRUCTION NOTES AND MAPS

DATE: 4/3/13

LOCATION: South Vault Regulator Station
(DISCRIPTION OF INTERSECTION, PART OF PROPERTY ETC.)

PROJECT DISCRIPTION:

Cut in Weld of Ball-OMat 4" valve by Greg Mello Tapmasters.

INSTALLED BY (PROJECT SUPERVISOR): Larry Oliveira

PIPE SIZE: 4" INCH ASTM of PIPE: D2513 LENGTH FEET

TEST PIPE WITH AIR: YES / NO TEST PRESSURE PSIG

BEGIN TIME: END TIME: DURATION OF TEST: MINUTES

TEST PERFORMED BY: Larry Oliveira ANG and Greg Mello and Stan McAllister Tapmasters

PASS/FAIL

Valve Installed Yes / No

Valve # & Location

ALL WELDS CHECKED YES / NO

METHOD SOAP DPIR CGI

PURGED LINE: YES / NO

LINE IN SERVICE: YES / NO

MATERIALS LIST:

Value ✓
Certifications ✓

EQUIPMENT LIST:

New 4" valve
in vaults



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 739	Approval Date: 08/25/06
Revision date:10/15/13	Supercedes: 10/15/12

ALPINE NATURAL GAS

Regulator Station Operation, Maintenance and Inspection

SCOPE AND PURPOSE

The purpose of this procedure is to ensure safe operation of Alpine's Pressure Regulating Station. Including; proper inspection, testing and maintenance as required to comply with 49 CFR § 192.197(c) 2 and CFR § 192.739,743a &192.747.

The regulating Station is made up of 28 feet of 2" and 4" steel pipe all welding modifications or additions must be performed in accordance to Section IX of API Standard 1104.

Alpine has a redundant system of two pressure regulators each located in adjacent, North and South Vaults: a *Working* Regulator and a *Monitor* Regulator to assure the station functions to maintain a 60 MAOP to its P.E. natural gas distribution system. Including a total of 5 Block Valves(BV 1-5) and 3 Gate Valves (GV 1-3)

Alpine has three inspection protocols for the purpose of adhering to the above regulation and 49 CFR § 192.741. These inspections are performed at the intervals listed and at any time deemed necessary.

Inspection A: Regulator Station ("Monthly") Visual and Pressure Recording Inspection

Inspection B: Regulator Station ("Annual") Pressure Test Inspection

Inspection C: Regulator Station ("Five Year") Operational Inspection

RESPONSIBILITY

The System Administrator is responsible for ensuring that all regulator station inspection, testing and maintenance is performed according to the provisions of this procedure.

PERSONNEL SAFETY

All personnel are to use proper protective clothing/equipment to protect employees and the general public when performing regulator station Operations, Maintenance and Emergencies.

EQUIPMENT AND MATERIALS

All personnel are to utilize proper testing tools, materials and equipment required for regulator station Operations, Maintenance and Emergencies.

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan, ANG's C.T.#; 10, 28, 30 & 31 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.

INSTRUCTIONS

Maintenance and Operation of Equipment

All equipment shall be operated and maintained in accordance with the manufacturers recommended instructions.

Calibration of Instruments

Each instrument used in this procedure shall be calibrated maintained in accordance with the manufacturers recommended calibration instructions.

INSPECTION A (Form 739-A & 741)

Regulator vault and **Pressure Gauges to be** inspected and maintained at monthly intervals.

- Assess vault surroundings for signs of damage or environmental changes.
- Open Vault- check for AOC (Abnormal Operating Conditions)
- Calibrated gauges are visualized
- The inlet, intermediate position, bypass run, and the outlet of each regulator station are observed.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 739	Approval Date: 08/25/06
Revision date:10/15/13	Supercedes: 10/15/12

ALPINE NATURAL GAS

Regulator Station Operation, Maintenance and Inspection

- Pressures displayed on these gauges shall be observed and recorded on a monthly basis.
- Recorded on **Form 739 –A and Form 741**

INSPECTION B (Form 739- B and Form 475-B)

Regulator Station Pressure Test Inspection

The pressure regulating station shall be inspected and maintained at intervals not exceeding fifteen (15) months, but at least once each calendar year. Refer to **Figure 1.** for normal operating conditions.

This annual Pressure Test procedure will, allow the Operator to, **PLACE REGULATING STATION ON BY- PASS AND PERFORM LOCK UP PROCEDURE.** In addition to Visual Inspection, including but not be limited to, the following:

1. Corrosion - including evidence of rust, pitting and any need of painting/coating.
2. Damage – physical damage to facility including enclosure and surroundings.
3. Leakage – including all piping and components.
4. Dirt/Debris – accumulation on or around facility.
5. Valve Locks – In place, locked and operational.
6. Valves – lubricate and operate.
7. Control Lines – secure and leak tight connections.
8. Replace all Pressure Gauges with new calibrated-certified gauges..
9. **Perform Lock-Up Procedure: See Step1.**
10. **Return to Normal Operations.**
11. **Perform By-pass: See Step 4 below.**
12. **Return to Normal Operations**
13. **Perform Wall Thickness Loss Measurement and Record on 475-B**
14. Facility Warning Signage – correctly placed and legible.
15. Enclosure and Grounds – condition of paint, appearance of property, vault and vault cover condition.

INSPECTION C

Regulator Station Operational Inspection

(Form 739- C)

At intervals not exceeding sixty three (63) months, but at least every five calendar years or as deemed necessary. To maintain the two Regulators in the system, various other components and identifies any leaks in the system.

STEP 1. Bypass the Regulators:

(Refer to **Figure 2**)

- Record the station inlet and outlet Pressures, **Pressure Gauges; 2,4,5,13 & 8**
- Ensure that Block **Valve 3** is fully closed.
- Fully open Block **Valve 2.**
- Gradually close Block **Valve 4** while simultaneously monitoring the downstream station pressure at **Gauge 8** and throttling (Gradually open and close) **Valve 3.**
- Fully close Block **Valve 1.**
- Continuously monitor the downstream station pressure and throttle (Gradually open and close) Block **Valve 2** to manually control and maintain an adequate pressure level at **Gauge 8.**

REGULATORS ARE NOW BY-PASSED

NOTE: The by-pass procedure can also be performed to manually flow gas around station to customers in case of Regulator Station failure.

While on By-Pass monitor downstream pressure, Increase/decrease pressure as needed to maintain the desired pressure **–Extreme care shall be taken not to exceed the MAOP of the system.**

STEP 2. Inspect Regulator Internal Parts (as deemed necessary or Every five calendar years not to exceed 63 months)

- Perform the following for each regulator with the station on bypass.
- **Close** the appropriate “sense” lines at (**Gate Valves 10 & 12** for the North Vault Regulators and Gate **Valve 11** for the South Vault regulator).



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 739	Approval Date: 08/25/06
Revision date:10/15/13	Supercedes: 10/15/12

ALPINE NATURAL GAS

Regulator Station Operation, Maintenance and Inspection

- Open **Gate Valve # 9** to release the trapped pressure in the regulator run from the valve.
- Disassemble the regulator according to the manufacturer's instructions.
- Removal of the regulator body from the set is not required unless damage to the body is detected or five years in operation.
- Inspect the open pipe for evidence of internal corrosion.
- Inspect the internal mechanisms and replace in accordance with the manufacturer's recommendations.
- If, **Inspection C** is being performed at five year interval install Mooney Flow-grid Pilot Assembly Replacement Kit, Series 20 as per manufacturer's instructions.
- Check appropriate filters, clean and or change as appropriate.
- Reassemble the regulator according to the manufacturer's instructions.
- **Close** the **Valve # 9** after both regulators have been completely reassembled.

STEP 3. Place Pressure Regulating Station into Normal Service:

(Refer to **Figure 1**)

- Fully open all "**Sense**" **Lines and Gate Valves (1-3)**.
- Gradually open **Valve 1**.
- Gradually **Open Valve 4**.
- Gradually **Close Valve 3** while Simultaneously, starting the North Vault and South Vault regulators in accordance with the manufacturer's recommendations.
- Ensure that a safe downstream operating pressure is maintained during start up at **Gauge 8 and or Gauge 13**.
- After the regulators have been started and are functioning, fine tune the regulator set pressures as appropriate under moderate flow conditions.
- Fully **Close Valve 3**.

- Record the initial inlet and outlet pressures, final set pressures, and final inlet and outlet pressures on **Form 739-C**.

STEP 4. Perform Lock-Up Procedure:

(Refer to **Figure 3 & 4, respectively**)

This will check both Working & Monitor Regulator operation by testing that "Lock Up" pressures of each Regulator can be achieved at 60 psig. This Procedure must be performed for each Regulator (North & South).

NOTE: This "Lock Up" Procedure can also be performed, by a Qualified Operator, if a leak in the Regulator Station is suspected.

Refer to **Figure 3**.

I) Lock Up Procedure- South Vault Reg.

- Close** inlet (South Vault) **Block Valve #4**
- Close** system **Block Valve # 5**, located in south vault, downstream of station.
- Release Pressure from the outlet main until 30 psig on Gauge 8 is observed.
- Turn the North Regulator Pilot Screw in to allow pressure to rise to ≥ 60 psig on **Gauge 5**, or free flow on this regulator, while in this state, North Vault Reg. not regulating the gas flow pressure.
- Turn the South Regulator Pilot Screw in, until pressure rises to 60 psig on **Gauge 8**, this regulator is now set to **Lock Up" at 60 psig**.
- Open** (South vault) **Block Valve # 4**, gas will flow and as it does the pressure will rise to 60 psig when it does Screw South Reg. Pilot out until gas stops Flowing. You have now "Locked Up" the Regulator Station pressure with the set points of the South Reg. at 60 psig.

Monitor the pressure on **Gauge 8** for several hours. If, the pressure is maintained at 60 psig and no pressure "creeping" is noted then the operation of this regulator is verified and no system leaks IN THIS SECTION are present.



Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 739	Approval Date: 08/25/06
Revision date: 10/15/13	Supercedes: 10/15/12

ALPINE NATURAL GAS

Regulator Station Operation, Maintenance and Inspection

Refer to Figure 4

II) Lock Up Procedure- North Vault Reg.

- A. **Close** inlet (North Vault) Block Valve # 1
- B. **Close system Block Valve # 5**, or, verify they remain closed from **procedure I) B. South Vault "Lock-Up"**
- C. Release Pressure from the outlet main until 30 psig on **Gauge 13** is observed.
- D. Turn the **South** Regulator Pilot Screw **in** to allow pressure to rise to ≥ 60 psig or free flow on **Gauge 8**, the regulator in this state is not regulating the gas flow pressure.
- E. Turn the **North** Regulator Pilot Screw in, opening flow until pressure rises to 60 psig on **Gauge 13**, this regulator is now set to **Lock Up" at 60 psig.**
- F. Slowly **Open North** Vault Block Valve #1

Monitor the pressure on **Gauge 8** or **Gauge 13** for several hours. If, the pressure is maintained at **60 psig** and no "creeping" of the pressure reading is noted then the operation of this regulator is verified and no leaks IN THIS SECTION are present.

Result: Verified over several hours that both the *Working* Regulator and the *Monitor* Regulator **POSITIVELY** Lock-Up, and do not leak through to pressure up the system above the **MAOP of 60 psig.**

STEP 5. Return Pressures Regulator to normal operating conditions.

The following procedure will determine which Regulator is the *Working* Reg. and which is the *Monitor* Reg.

- A. **Lock Up the Monitor Regulator** (by §192.201 *Monitor Reg.* is set not to exceed 10% (66psig) of 60 MAOP *Working* Regulator).

Repeat procedure **STEP 4. I) A.,B., & C.**

I) D. Variation: Adjust North Regulator Pilot Screw in to **44 psig** on **Pressure Gauge 13** and Lock Up the *Monitor* Reg. (gas stops flowing beyond that pressure).

Complete Procedure **STEP 4. I) E. & F.**

- B. **Lock Up and Reset Working Regulator**
Repeat procedure **STEP 4. I) A.,B., & C.**
- C. **Lock Up and Reset Working Regulator**
Repeat procedure **STEP 4. II) A.,B., & C.**

II) D. Variation: Adjust North Regulator Pilot Screw in to **42 psig** on **Pressure Gauge 8** and Lock Up the *Monitor* Reg. (gas stops flowing beyond that pressure).

Complete Procedure **STEP 4. II) E. & F.**

- D. Slowly, **Open system Block Valve #5.** downstream.
- E. Recheck and observe pressure readings on all pressure gauges.

Note: Pressure Gauges 8 and 13 are monitoring outlet pressure to ANG system under normal moderate conditions approximately 42 psig.

**Verify that all leaks are repaired
Re-Install valve locking devices.
Close and secure regulator vault
TEST is COMPLETE. Record on Form 739 B**

REPORTING/NOTIFICATION

- o Monthly regulator station **Inspection A.** complete Form **739-A** and gauge pressure observations recorded on **Form 741.**
- o Annual Regulator Station Visual Inspection, **Inspection B.** complete Form **739-B.**
- o Five Year Regulator Station Operational **Inspection C,** or any other Regulator tear down and or component repair performed, Record on Form **739-C.**

RELATED PROCEDURES

- 485-A Remedial Action for General Corrosion
- 485-B Remedial Action for Localized Corrosion



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Maintenance 739	Approval Date: 08/25/06
Revision date:10/15/13	Supercedes: 10/15/12

Regulator Station Operation, Maintenance and Inspection

605-B1 General Pipeline Repair
605-B5 Startup-Shutdown-Purging
709 Record Keeping
751 Prevention of Accidental Ignition

SPECIFIC ABNORMAL OPERATING CONDITONS (AOC'S)

AOC's requiring shutdown or MAOP reduction.

- **Pressure leak, under-pressure condition**
- **Fire**
- **Over-pressure condition**
- **Physical damage to the pipeline**
- **Internal moisture or severe corrosion in the pipe.**

ATTACHMENT G

NORMAL OPS 801 –OBSERVATION OF CUT WELD ON STEEL PIPING



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Normal Ops 801	Approval; Date: 07/15/04
Revision date: 3/28/13	Supercedes: None

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)

RESPONSIBILITY

The Alpine Qualified Operator 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

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.

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual.



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Normal Ops 801	Approval; Date: 07/15/04
Revision date: 3/28/13	Supercedes: None

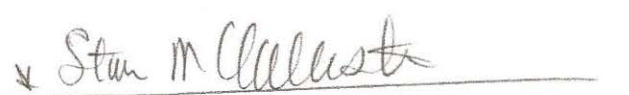
Observation of cut weld on Steel Piping

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


 GREG MELLO
 WELDER TAP MASTER, INC

Date: 4-23-13


 STAN McALLISTER
 TECHNICIAN TAP MASTER, INC

Date: 4-23-13



ASME Sect.-IX WELDER CERTIFICATION

File: TAP001 P.O. No: Verbal Date of Test: 9/10/12 Page 1 of 1
Client: Tap Master, Inc. Witnessed by: Stan McCallister
Welder: Greg Mello Social Security No: XXX-XX-3918 Symbol:
Welding Process(es) used: SMAW Type: Manual
Identification of WPS followed by welder during welding of test coupon: TM002
Base Material(s) welded: SA106 gr. B Thickness: 0.154"

Table with 3 columns: Manual of Semiautomatic Variables for Each Process (QW-350), Values Used in Qualif., Qualification Range. Rows include Backing (metal, weld metal, welded from both sides, flux, etc.) (QW-402), ASME P-No. [] to ASME P-No. (QW-403), Filler metal specification (SFA):5.1 Classification (QW-404), Welding position (1G, 5G, etc.) (QW-405), etc.

Table with 3 columns: Machine Welding Variables for the Process Used (QW-360), Values Used in Qualif., Qualification Range. Rows include Direct/remote visual control, Automatic voltage control (GTAW), Automatic joint tracking, etc.

VISUAL INSPECTION

Acceptable Yes or No

Guided Bend Test Results

Table with 4 columns: Guided Bend Test Type, [] QW-462.2 (Side) Results, [x] QW-462.3a (Trans. R&F) Results, [] QW-462.3b (Long. R&F) Results. Rows include Root, Root.

Visual examination results (QW-302.4) Satisfactory
Radiographic test results (QW-304 & QW-305) N/A
(For alternative qualification of groove welds by radiography)
Fillet Weld - Fracture test N/A Length and percent of defects N/A In.
Macro test fusion N/A Fillet leg size N/A In. X N/A In. Concavity/Convexity N/A In.
Welding test conducted by Tap Master, Inc.

Mechanical tests conducted by Testing Engineers, Inc. Laboratory No. 4D32
The undersigned certifies that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of ASME (2008) Boiler and Pressure Vessel Code.

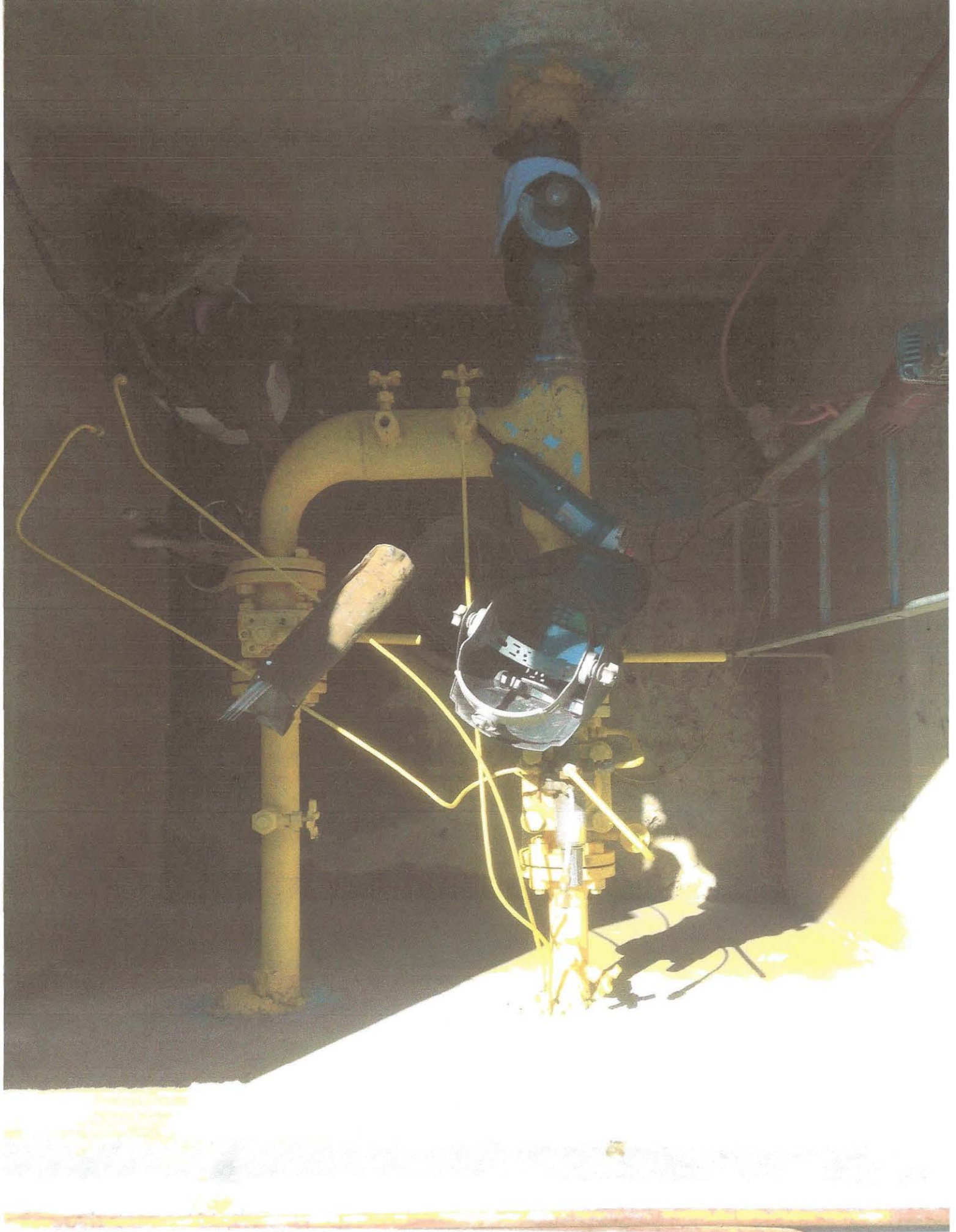
Reviewed by Dan Watanabe, Materials Science Division Manager Date 9-13-12

The results presented in this report relate only to the item(s) tested.
This report can be reproduced only in its entirety unless written permission from TEI is obtained
Samples pertaining to this report will be discarded 30 days from the date of this report unless other wise advised

%TasyaC:\m\l\c\Tap Master\melo_4D32_TN#12.doc









1.3 Title 49 CFR §192.283 states in part:

"(a) Heat/fusion, solvent cement, and adhesive joints. Before any written procedure established under §192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the following tests:

(1) The burst test requirements of—(iii) In the case of electrofusion fittings for polyethylene (PE) pipe and tubing, paragraph 9.1 (Minimum hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055 (incorporated by reference, see §192.7). "

Alpine has not qualified the procedure for making joints in the case of electrofusion fittings by subjecting specimen joints made according to one of the tests specified in ASTM Designation F 1055. Therefore, Alpine is in violation of Title 49 CFR §192.283(a) (1)(iii).

RESPONSE:

Please refer to (Innogaz) procedure for pipe joining by electrofusion. Alpine's PE pipe joining manual and reference guide that was developed following a previous CPUC 112 E Audit has been revised following review of this violation. Alpine's PE Pipe Joining Manual was updated to include the latest version of the manufacturer guidelines where the manufacturer's fitting was tested using the Electrofusion Procedure and the fittings met the requirements of ASTM F1055. This updated guide is provided for review.

As of April 2013, Alpine had performed only two pipe fusions by electrofusion (apart from annual certifications) in the previous 6 years. Alpine reviewed the most currently available manufacturer procedure and provided manufacturer re-training on this procedure for its employees. Alpine also revised its PE Pipe Joining Manual for the purpose of full compliance with CFR 49 §192.283(a) (1) (iii). The annual certification Alpine's qualified operators complete also includes compliance to this regulation.

See Attachment H- including; Innogaz Electrofusion System Installation Procedure, Alpines PE Pipe Joining Manufacturers representative re-training of Alpine employees in Innogaz Electrofusion Procedure.

Attachment I- Alpines Qualification Test Record

ATTACHMENT H

INNOGAZ ELECTROFUSION SYSTEM INSTALLATION PROCEDURE

The Innogaz Electrofusion System introduces "State Of The Art" technology for joining medium or high density polyethylene pipe commonly used in natural gas distribution systems. The Innogaz Electrofusion System provides Universal Bar Code fittings to ensure simple, fast, economical, and highly reliable polyethylene pipe joints.

I. **GENERAL GUIDELINES AND CAUTIONS**

The following guidelines apply to all electro fusion joints whether using electrofusion couplings, tapping tees, repair or branch saddles:

Qualified Operators

1. Operators performing electrofusion should be qualified in accordance with Code of Federal Regulations, DOT, Title 49, and Part 192.285.

Caution

2. When installing electrofusion couplings, ensure the gas flow is shut-off. When installing electrofusion tapping tees, repair saddles or branch saddles it is not necessary to shut off the gas flow..

3. Material Compatibility:

The Innogaz electrofusion fittings have been qualified and manufactured in compliance with;

Code of Federal Regulations, Title 49, Part 192, and
ASTM F1055, Specification for Electro Fusion Fittings.

Qualification tests were performed with electrofusion fittings on medium density (PE 2406) and high density (PE 4710 / PE3408 / PE100) polyethylene pipe that meet the requirements of ASTM D2513.

4. Environmental Conditions:

Temperature:

Temperature limits are -22°F (-30°C) to 122°F (+50°C).

When fusing below 0°F, special care must be exercised.

Portable heating of the immediate work area is recommended.

When fusing in extreme warm temperatures, the pipe and the fitting surface temperatures must not be allowed to exceed 122°F. Portable shades may be required.

Humidity:

The Innogaz Electrofusion System is effective at any level of humidity.

Caution: The PE pipe and electrofusion fitting must be kept dry.

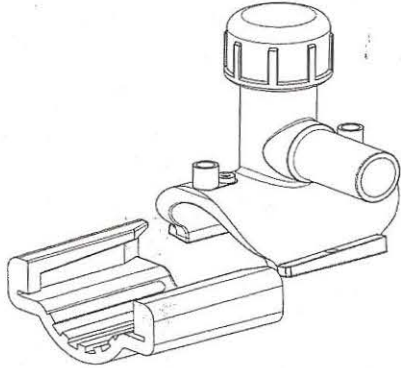
Portable shelters and additional cleaning with an alcohol (90%) impregnated approved towel may be necessary.

Make sure that the pipe and fitting have been dried thoroughly using an approved lint free cloth or drying towel before electrofusion.

Caution: Air drying of the alcohol must be avoided.

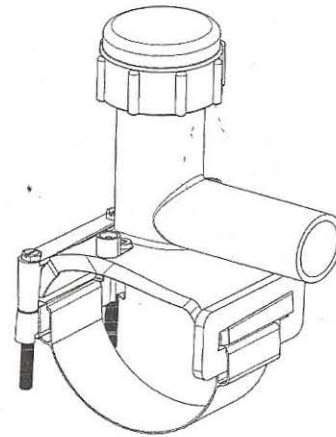
Permanent PE Underclamp

Slide the underclamp on the tapping tee lips and insert it with a mallet until contact with stop. Ensure underclamp is inserted in correct direction.



Permanent Strap Underclamp

Insert the end of the strap with screws onto the opposite lip of the tapping tee outlet and tighten regularly the screws until they lock.

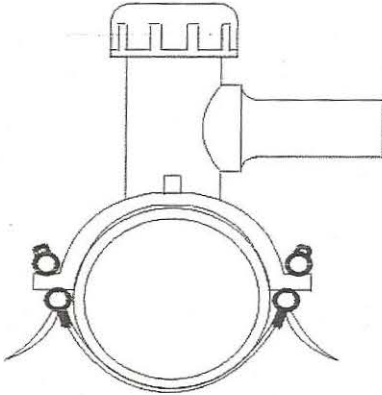


Re-Usable Strap Underclamp Tool - Type 1

Insert the part of the tool with the screws on each lip of the tapping tee and tighten all screws alternatively until contact of the distance pieces with the lips.

Once the cooling time has elapsed remove the underclamp tool and remove figure corresponding to the number of times the strap has been used.

THE SAME UNDERCLAMP CAN BE USED 10 TIMES



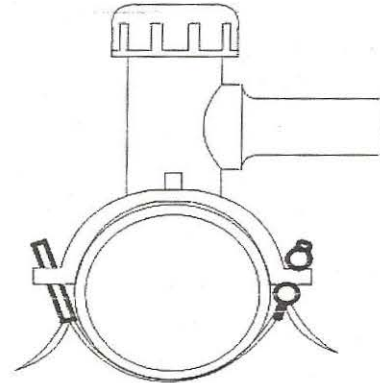
Re-Usable Strap Underclamp Tool - Type 2

Insert the buckle on one lip of the tapping tee and insert the part with the screws on the other lip.

Tighten alternatively all screws until contact of the distance pieces with the lip.

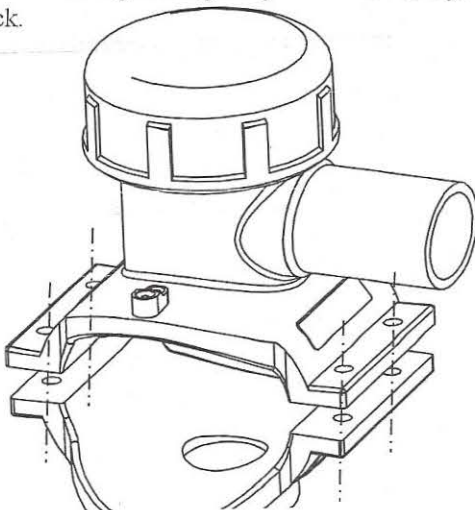
Once the cooling time has elapsed, remove the underclamp tool and remove the figure corresponding to the number of times the strap has been used off the label.

THE SAME UNDERCLAMP CAN BE USED 10 TIMES



Permanent Screwed PE Underclamp

Set up the screws and tighten regularly and alternatively, tighten until they lock.



Re-Usable Chain Clamp

Available for low volume and medium volume tapping tees, high volumes tapping tees, branch and repair saddles. Contact your local distributor for further information.

COUPLINGS, REDUCERS, ELBOWS and TEES:

- 1 Set up appropriate clamping device.
- 2 Cut PE pipe ends square.
- 3 Using suitable scraping tools, all areas of pipe to be fused must be scraped free of pipe surface oxidation. Always scrape a slightly larger area of the pipe to be fused.
- 4 Trim pipe and chamfer pipe ends slightly.
- 5 Clean the fusion areas of pipe and fitting using a clean cloth impregnated with solvent (Isopropanol) to make sure they are free of contaminants (grease, mud, humidity, soilage, etc).
- 6 Mark the fitting penetration depths on the pipe.
- 7 Set up the fitting within the clamping device. Check that the penetration depths markings are visible on both sides of the fitting.
- 8 See Electrofusion Procedure.

TAPPING TEES, BRANCH SADDLES and REPAIR SADDLES:

- 1 Using appropriate scraping tools, all areas of pipe and spigot part to be fused must be scraped free of pipe surface oxidation. Always scrape a slightly larger area of the pipe to be fused.
- 2 Clean the fusion areas of pipe and fitting using a clean cloth impregnated with solvent (Isopropanol) to make sure they are free of contaminants (grease, mud, humidity, soilage, etc).
- 3 Position the fitting in accordance with clamping device used (See overleaf for further information on clamping devices).
- 4 Position the coupling or reducer within the clamping device.
- 5 See Electrofusion Procedure.
- 6 Tap mains after pressure testing using tapping tee cutter tool.
If the tapping tee has no fixed back stop, insert cutter tool through security cap:
 - a. Tapping tee **without** a fixed back stop:
Unscrew the cutter and make sure the top of the cutter is flush with the top of the tapping tee.
 - b. Tapping tee **with** a fixed back stop:
Unscrew the cutter until it is in contact with the back stop and turn 1/4 to provide tightness.
- 9 Replace tapping tee cap. Tighten it only by hand for tapping tees with a maximum outlet of 1 1/4 IPS.
For High Volume Tapping Tees (2 IPS outlet), tighten the cap by hand until contact with o-ring and then strongly (1/4 turn) by hand or with a nylon (non extendable) strap wrench or a custom fitted metal wrench which wont damage the cap.
- 10 Check for leakage.

ELECTROFUSION PROCEDUREBar code

- 1 Connect electrofusion controller leads to terminals of electrofusion fittings ensuring they are connected correctly.
- 2 Activate fusion cycle by scanning bar code label on fitting.
- 3 After the fusion cycle has completed wait 15 seconds before removing the leads.
- 4 Allow the correct cooling time indicated on the fitting label before removing any clamping devices and before pressure testing.

Any movement of the fusion indicators is a visual verification that fusion has taken place.

No movement at all in one of both of the fusion indicators indicates that there has been a problem during the fusion cycle and further investigation and possible replacement is required.

Movement i.e. the height of the fusion indicators does not guarantee the integrity/quality of the joint as this is subject to a number of factors including:

- Pipe preparation
- Size tolerance of the components
- Ovality of the pipe/fitting
- Ambient temperature
- Pipe temperature
- Outside diameter
- Pipe material
- Adequate clamping system (saddles)
- Correct fusion time.



TRI-PACIFIC, INC.

4345 Pacific Street • Rocklin, CA 95677 • 916-630-2323 • Fax: 916-630-3059

September 13, 2013

Alpine Natural Gas
15 St. Andrew Rd. Ste. 7
Valley Springs, CA 95252

To whom it may concern:

Please be advised that on September 13, 2013, we Tri-Pacific authorized agent for Kerotest/Innogaz/EF Technology trained the following parties the proper use of the Danielle Electrofusion Control Box and Innogaz Electrofusion fittings

- 1) Matt Helm
- 2) Roy Juarez Jr.

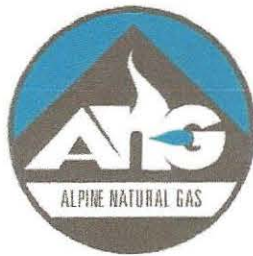
Sincerely,

A handwritten signature in cursive script that reads "Claude J. Transue". The signature is written in black ink and is positioned above the printed name.

Claude J. Transue

ATTACHMENT I

PLASTIC PIPE JOINING QUALIFICATION TEST RECORD



PLASTIC PIPE JOINING QUALIFICATION TEST RECORD

Name: (Print) *First* _____ *Middle Initial* _____ *Last* _____

TESTED: Month _____ May _____ Day 31 Year 2012 Card # _____

Test Conducted By: _____ Paul Mutschler Signature _____

QUALIFICATION	PIPE SPECIFICATIONS	VISUAL INSPECTION	DESTRUCTIVE INSPECTION
Butt Fusion	Size	PASS FAIL	PASS FAIL
<input type="checkbox"/> Initial Qualification	3/4" <input type="checkbox"/>	Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	Root Bend, _____ <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Re-Qualification	1" <input type="checkbox"/>	Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	Face Bend, _____ <input type="checkbox"/> <input type="checkbox"/>
	2" <input type="checkbox"/>		
	4" <input type="checkbox"/>		
	6" <input type="checkbox"/>		
Saddle Fusion		PASS FAIL	PASS FAIL
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	Impact Test <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	
Electro-Fusion		PASS FAIL	PASS FAIL
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	Root Bend, _____ <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	
Perfection Permasert		PASS FAIL	
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	
Perfection Permalock Tee		PASS FAIL	
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	
Continental Con-stab		PASS FAIL	
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	
Continental Bolt-on Tee		PASS FAIL	
<input type="checkbox"/> Initial Qualification		Adhered to Proc. <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> Re-Qualification		Visual Inspection <input type="checkbox"/> <input type="checkbox"/>	

Remarks _____

Attendee Signature _____ Date Signed _____

1.4 Title 49 CFR §192.283(b) states:

"Mechanical joints. Before any written procedure established under §192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting five specimen joints made according to the procedure to the following tensile test:

- (1) Use an apparatus for the rest as specified in ASTM D 638 (except for conditioning), (incorporated by reference, see §192.7).*
- (2) The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength.*
- (3) The speed of testing is 0.20 in. (5.0 mm) per minute, plus or minus 25 percent.*
- (4) Pipe specimens less than 4 in. (102 mm) in diameter are qualified (the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area.*
- (5) Pipe specifications 4 in. (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100°F (38°C) or until the pipe is pulled from the fitting (the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress.*
- (6) Each specimen that fails at the grips must be retested using new pipe.*
- (7) Results obtained pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness. "*

Alpine has not qualified the procedure for making mechanical joints designed to withstand tensile forces for plastic pipe in accordance with §192.283(b). This is done by producing five specimen joints made according to the procedure and subjecting them to the tensile test specified in §192.283(b). Therefore, Alpine is in violation of Title 49 CFR §192.283(b).

RESPONSE:

Alpine by following the manufacturer (Elster-Perfection) procedure for pipe joining by mechanical fitting is required to first qualify the mechanical joints installed are in accordance with §192.283(b). The manufacturer procedure is included in Alpine's PE pipe joining manual and reference guide. Recently, Alpine's guide was updated to include the most recent version of the manufacturer guidelines showing compliance with ASTM 2513 and therefore Title 49 CFR §192.283(b). Pipe joining by mechanical fittings are performed by following the manufacturer procedure. The fittings and the procedure have been qualified by the manufacturer to be in compliance with §192.283(b). Alpine's updated pipe joining guide is provided for review.

All fittings qualified not previously by Alpine will be prior to their use on Alpine's system.

See Attachment A for Alpines qualification of the Electrofusion procedure in Alpine's PE Pipe Joining Manual.

See Attachment J for the manufacturer's procedures for both Mechanical Tapping Tee and the Coupling "Stab" Fitting.

ATTACHMENT J

MECHANICAL TAPPING TEE AND PERMASERT COUPLING

PermaLock® Mechanical Tapping Tee

PermaLock mechanical tapping tees can be installed in less than five minutes in any weather condition.



Features

- Simple, quick, secure installation of PE service line to the gas main
- Molded from PE4710/bimodal PE3408
- No special tools. Only a 5/16" hex tool is needed for assembly
- Unique ratchet-style anchoring cutter sleeve locks PMTT to the main
- Includes unique PermaTite™ Cap
- Also available with Excess Flow Valves
- Available with full range of Permasert outlets

Benefits

- Provides the lowest installed cost of connecting gas services to main versus fusion methods
- Insures outstanding long term performance characteristics
- Simple, one person installation in all weather conditions. No need for generators and other costly equipment associated with fusion methods
- Provides for a secure, leak-free connection to the main. Sleeve prevents rotation of tee on main while allowing for pigging
- PermaTite Cap securely completes the installation with a positive stop. No wrenches needed
- Provides for the "closest to main" installation of EFVs to insure full protection of the service line
- Permasert couplings facilitate a fast and secure service line connection

The Perfection PermaLock mechanical tapping tee offers gas line installers a unique combination of safety, integrity and speed when connecting a service line to a gas main. PermaLock tapping tees can be installed in as little as five minutes without the need for expensive fusion equipment. The simplicity of its installation procedure eliminates the need for extensive training and multiple-person crews. PermaLock tees can be installed in all weather conditions without shutting down the main.



elster
Perfection

Qualification Testing

The Perfection PermaLock[®] mechanical tapping tee fittings have been design qualified for use with polyethylene (PE) gas pipe. These fittings meet the applicable requirements of U.S. DOT CFR Title 49, Part 192, ASTM D2513 and ASTM F1924.

Sustained Pressure Tests

Hydrostatic at 750 psi (5.2 MPa), 176°F (80°C)

All PermaLock[®] mechanical tapping tee sizes have been qualified by passing a 200 hour sustained pressure test at 176°F (80°C) and a PE fiber stress of 750 psi (5.2 MPa) without leakage or failure. This testing was performed in accordance with ASTM D2513/1598.

Hydrostatic at 1,600 psi (11 MPa), 73°F (23°C)

All PermaLock[®] mechanical tapping tee sizes have been qualified by passing a 1000 hour sustained pressure test at 73°F (23°C) and a PE fiber stress of 1,600 psi (11 MPa) without leakage or failure. This testing was performed in accordance with ASTM D 2513/1598.

Short Term Rupture Test (Quick Burst)

All PermaLock[®] mechanical tapping tee sizes have been qualified by passing a quick burst test in accordance with ASTM D1599 per the requirements of ASTM D2513.

Temperature Resistance Test

All PermaLock[®] mechanical tapping tee sizes have demonstrated the ability to seal at temperature extremes of -20°F (-29°C) and 140°F (60°C) at pressures of 7" W.C. (17 mbar) to 150 psig (10 bar).

Rotation Test

All PermaLock[®] mechanical tapping tee sizes have been qualified by passing the rotation test requirements specified in ASTM F1924.

Installation Instructions

Elster Perfection Permalock® Tee U.S. PATENT NOS. 5425395

1. Remove TEE ASSEMBLY and DEPTH TUBE from the bag (check tee for TOWER and SADDLE O-RINGS). **NOTE:** A blue colored depth tube is required for 1 1/4 IPS main installation, and a white colored depth tube is required for 2-4 IPS main installation. If you do not have the proper color depth tube, **DO NOT** install the fitting.
2. Clean surface of main where TEE is to be installed. Avoid areas that are gouged or damaged. **LUBRICATE SADDLE O-RING AND MAIN SURFACE WITH LEAK TEST SOAP SOLUTION OR SILICONE GREASE.**
3. Bolt TEE onto PE main and tighten until the corners touch using a crossover tightening pattern. The bolts should be flush with the bottom of the base. Do not tighten further (a gap between the flanges in the locating pin area is acceptable).
4. Connect service to the TEE TOWER outlet.
5. Test tee/service assembly in accordance with your company's standard leak test procedures.
6. Place DEPTH TUBE on top of the CUTTER ASSEMBLY. Thread CUTTER ASSEMBLY downward using a 5/16" hex wrench. Continue threading the CUTTER ASSEMBLY downward until it bottoms in the tower. The DEPTH TUBE is a visual guide and will be approximately flush with the top of the Tee Tower when the cutter is engaged.
7. Thread CUTTER upward (counterclockwise) until top of CUTTER is flush with the top of the TOWER. This will gasify the service (Discard the DEPTH TUBE at this point).
8. Install CAP on the tower, hand tighten to CAP STOP.

Note: Qualification training materials are available from the Gas Sales Department of Elster Perfection.

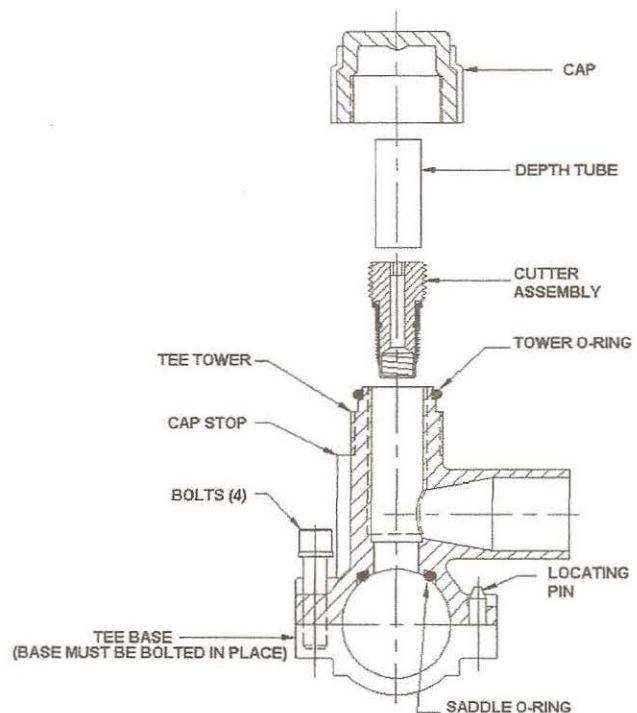


www.elster-perfection.com

T +1 800 544 6344

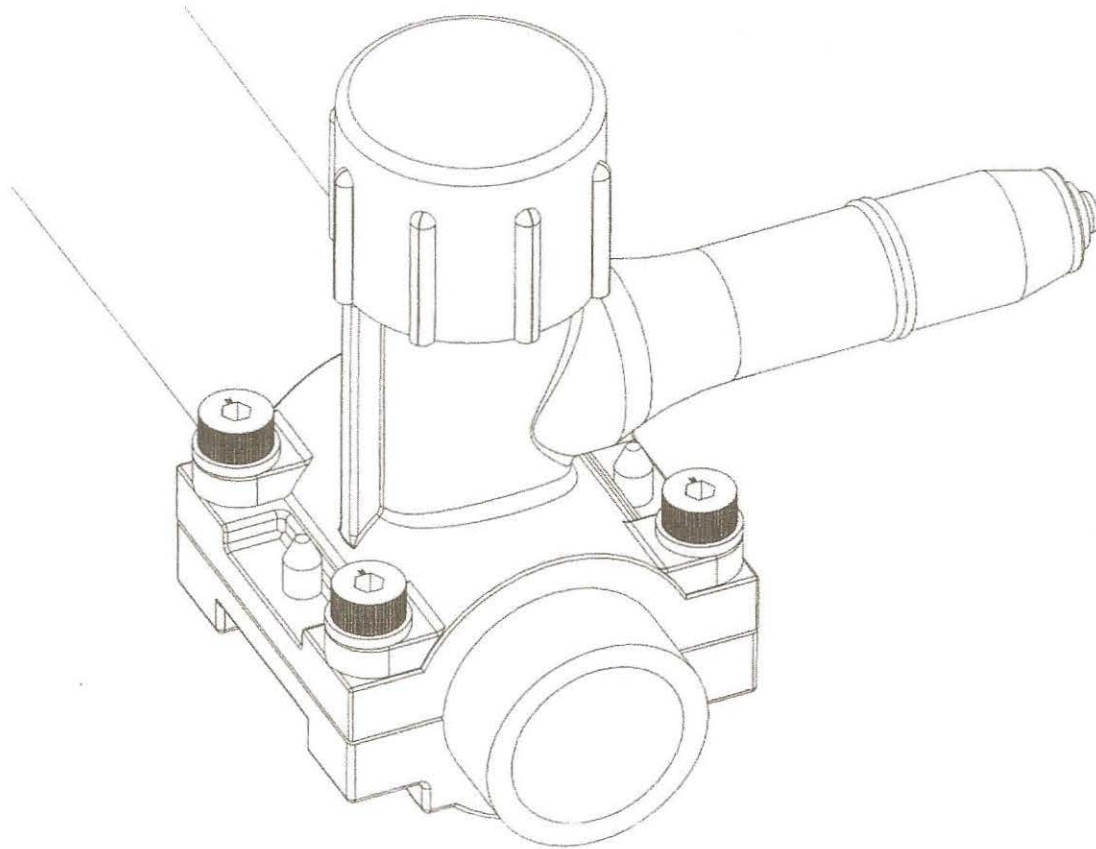
© 2007 Elster Perfection. All Rights Reserved.

Information contained herein is subject to change without notice. Product specifications may change. Contact your Elster Perfection representative for the most current product information. Printed in the United States.



Flow Equations

Permalock® Tee with Permasert Outlet



Perfection Fitting Description	Extrapolated equation for ACFH	Extrapolated equation for SCFH
1 1/4" IPS Saddle 1/2" CTS Permasert outlet	$ACFH = 79 \left[\frac{H}{d_A} \right]^{0.49}$	$SCFH = \frac{497P_L}{T} \left[\frac{H \times T}{d \times P_L} \right]^{0.49}$
2" IPS - 4" IPS Saddle 1/2" CTS Permasert outlet	$ACFH = 109 \left[\frac{H}{d_A} \right]^{0.47}$	$SCFH = \frac{732P_L}{T} \left[\frac{H \times T}{d \times P_L} \right]^{0.47}$
2" IPS - 4" IPS Saddle 1" CTS Permasert outlet	$ACFH = 319 \left[\frac{H}{d_A} \right]^{0.43}$	$SCFH = \frac{2480P_L}{T} \left[\frac{H \times T}{d \times P_L} \right]^{0.43}$
<p>WHERE: ACFH = Actual Cubic Feet per Hour H = ΔP in Inches, Water Column P_L = Line Pressure, PSIA (PSIG + 14.697) d = Density, lbs/ft³ at standard atmosphere (If the gas data is expressed as specific gravity, multiply by 0.0749 to convert to density.)</p> <p>SCFH = Standard Cubic Feet per Hour d_A = Density, lbs/ft³ at line conditions T = Temperature, absolute (°F + 459.9)</p>		

Installation Instructions

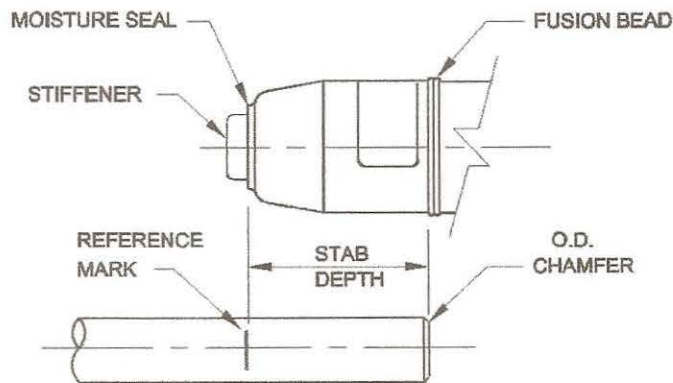
The Elster Perfection PERMASERT® Non-Corrosive Mechanical Coupling

1. Cut the tubing so that the end is square.
2. Wipe the tubing with a dry, clean cloth.
3. Inspect the tubing for surface defects.

IF EXCESSIVE SCRATCHES OR GOUGES ARE VISIBLE, CUT OFF THE DEFECTIVE AREA AND REPEAT THE FIRST THREE STEPS.

4. Using a Perfection chamfer tool, chamfer the outer diameter (O.D.) of the tube.
5. Use a soft marking utensil (felt tip pen, crayon or grease pencil) to mark the tube at the proper distance from the chamfered end. This is called the stab depth.

The stab depth is the distance from the fusion bead to the end of the coupling body as shown.



Stab tubing into coupling until it bottoms. The reference mark will be:

- Within 1/8" of moisture seal on 1/2" CTS through 1" CTS sizes
 - Within 1/4" on 1" IPS and 1-1/4" CTS
 - Within 3/8" on 1 1/2" CTS through 2" IPS sizes
6. Pressure test the finished joint according to your standard operating procedure. The reference mark can move outward up to an additional 3/8" during pressure testing.



elster
Perfection

Tele 800 544 6344
www.elster-perfection.com

Qualification Testing

General:

The Perfection Permasert® mechanical couplings have been design qualified for use with PE gas pipe in both 2406 and 3408 materials. These fittings meet the applicable requirements of U.S. DOT CFR Title 49, Part 192, ASTM D 2513, ASTM F 1924 and CSA B137.4.

Sustained Pressure Tests:

Hydrostatic at 670 psi (4.6 MPa), 176°F (80°C)

All Permasert® mechanical coupling sizes have been qualified by passing a 170 hour sustained pressure test at 176°F (80°C) and a PE fiber stress of 670 psi (4.6 MPa) without leakage or failure. This testing was performed in accordance with ASTM D 1598.

Hydrostatic at 1,600 psi (11 MPa), 73°F (23°C)

All Permasert® mechanical coupling sizes have been qualified by passing a 1,000 hour sustained pressure test at 73°F (23°C) and a PE fiber stress of 1,600 psi (11 MPa) without leakage or failure. This testing was performed in accordance with ASTM D 1598.

Short Term Rupture Test (Quick Burst):

All Permasert® mechanical couplings have been qualified by passing a quick burst test in accordance with ASTM D 1599.

Temperature Resistance Test:

All Permasert® mechanical coupling sizes have demonstrated the ability to seal at temperature extremes of -20°F (-29°C) and 140°F (60°C) at pressures of 7" W.C. (17 mbar) to 150 psig (10 bar).

Constant Tensile Load Joint Test (CTLJT):

All Permasert® mechanical coupling sizes have been qualified by passing a 2,000 hour PE fiber stress constant tensile load joint test at 1,320 psi (9.1 MPa). This testing was performed in accordance with ASTM F 1588.

Pull-Out Resistance.

All Permasert® mechanical coupling sizes have been qualified by passing the tensile requirements of a Category 1 joint as specified in ASTM D 2513.

15 Title 49 CFR §192.353(a) states in part:

"Each meter and service regulator, whether inside or outside a building, must be installed in a readily accessible location and be protected from corrosion and other damage, including, if installed outside a building, vehicular damage that may be anticipated. "

Alpine provides service to The Terrace Plaza of Valley Springs. Alpine has meters, with no meter protection, located on the outside of the buildings in close proximity to where cars regularly travel. Alpine must provide barriers (e.g. posts) to protect each meter and service regulator from vehicular damage.

RESPONSE:

Alpine's request to remedy this violation in April and then again in May of this year resulted in a denial from the property owner. Another request was recently sent to the property owner. Subsequently we have received a more favorable response from the property owner but to date the bollard installation work has not been completed.

Alpine has added a step during new meter installation that requires the operator to assess the need to protect the new meter installation from anticipated vehicular damage. Also a recent procedure change for all new commercial/retail meters will require bollard/post protection.

See Attachment K letter to property owner to remedy. See Attachment J – Service Line Installation Property Map where field is provided to assess need for vehicular protection.

See Attachment L for the OME procedure to set meters. Instructions to be aware of possible vehicular damage to all meter set whenever choosing site to install has always been part of Alpine's installation procedure. The need to install protective bollards on all commercial meter sets was added to the procedure.

ATTACHMENT K

THE TERRACE SHOPPING CENTER CERTIFIED LETTER



November 15., 2013

[REDACTED]
[REDACTED]
Valley Springs, CA 95252

By Certified Mail:

Re: The Terrace Shopping Center, 1906 Vista Del Lago Valley Springs, CA 95252
[REDACTED]

This is a formal request to allow Alpine Natural Gas, at our cost, to remedy a safety violation at your above property. We spoke to you April 29th in person and then later I wrote to you on May 6, 2013 explaining our desire to install bollards or posts, at the location of our gas meters at the Terrace Plaza, as protection from possible vehicular damage. I have received the summary of the CPUC General Order 112 E Safety Audit conducted in April 2013 that specifies one of the violations is the absence of meter protection where cars regularly travel.

I have enclosed a copy of the letter from the CPUC's Gas Safety and Reliability Branch. Alpine is a regulated gas utility and our compliance to Section 49 of the Code of Federal Regulations parts; 191,192 and 199, in addition, to the CPUC's General Order 112E, the results of this biennial audit cites CFR 192.353 and notes the violation at your property.

Alpine's number one priority is to operate a safe, reliable natural gas pipeline facility for our customers, the public and our employees. With safety in mind Alpine once again requests your permission to install bollards in front of our gas meters at the Terrace Plaza.

We would like to complete this work at your earliest convenience. We truly appreciate your cooperation while we remedy this safety violation.

If, you have any questions or, are ready to schedule this work please call me anytime at 209-772-3006.

Sincerely,

Michael Lamond

Alpine Natural Gas

cc:file

Attachments:

ENERGY FOR YOUR NEIGHBORHOOD

15 St Andrews Road • P.O. Box 559 • Valley Springs, CA 95252 • Phone 209 772 3006 • Fax 209 772 3008 • e-mail: anginfo@angtrust.com

A subsidiary of the Alpine Gas Trust

ATTACHMENT L

NORMAL OPERATIONS 355, 357, 359, 363 & 365 –
INSTALLATION OF CUSTOMER METERS, REGULATORS & SERVICE
VALVES (RESIDENTIAL & COMMERCIAL)



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Normal Operations 355, 357, 359, 363 & 365	Approval Date: 08/25/06
10/18/13	Supersedes: 3/21/12

Installation of Customer Meters, Regulators & Service Valves- Residential and Commercial

SCOPE AND PURPOSE

This procedure is to ensure that meters, regulators and service valves (valve cock) for residential and small commercial customers are installed so as to minimize anticipated stresses upon the connecting piping and the meter location requirements and protection from damage. It describes practices required to comply with §192.355,357,359, 363 and 365.

RESPONSIBILITY

The System Administrator, or other designee, is responsible to ensure when hanging a meter, regulator and associated piping, commonly called a "meter set" is performed as described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Be aware of any environment that can pose a threat to personnel safety.

EQUIPMENT AND MATERIALS

- Meter
- Regulator
- Service Valve (Valve Cock)
- Associated piping and fittings
- Routine tools
- Other equipment and materials as needed

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan C.T. 15 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.

INSTRUCTIONS

General

The meter and regulator selected should provide the customer/premise with the proper delivery pressure and volume.

All meters and regulators shall be installed and operated in accordance with the manufacturer's installation and operating instructions.

Meter/Regulator Location (Outside)

- Wherever possible, the meter and regulator should be installed adjacent to the building being served.
- Verify that the location chosen is sufficient to protect from potential damage by forces such as:
 - Vehicles
 - Construction
 - Equipment
 - Falling objects
 - Snow and Ice
- Verify that the meter and/or regulator will be installed in a readily accessible location to accommodate access for:
 - Obtaining readings
 - Inspections/Testing
 - Repairs
 - Meter/regulator maintenance
 - Operation of the gas shut-off valve
- Verify that the service valve (valve cock) is installed upstream of the regulator. And it is readily accessible.
- Verify that the service regulator vents and relief vents terminate outdoors, and that the outdoor terminal is:
 - Rain and insect resistant



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Normal Operations 355, 357, 359,
363 & 365

Approval Date: 08/25/06

10/18/13

Supersedes: 3/21/12

Installation of Customer Meters, Regulators & Service Valves- Residential and Commercial

- Located at a place where gas from the vent can escape freely into the atmosphere and away from any opening into the building
- Protected from damage caused by submergence in areas where flooding may occur
- Verify that the meter or regulator will **NOT** be installed:
 - In contact with the soil or other potentially corrosive materials
 - Under windows or other openings that may be used as an emergency exit
 - In front of building crawl spaces
 - Near building air intakes
 - In such a manner as to create stresses upon the connecting piping and the meter

Installation

- Using associated pipe and fittings, install the meter and regulator
 - The combination of piping and fittings will vary from one meter set to another depending on a variety of factors. Some likely factors include: height of service riser, location of service riser in relation to customer piping and diameter of piping.
 - a) Verify that the insides of any piping used in the installation are clean and free of obstructions.
 - b) Use pipe joint material only on the male threads of the pipe being connected.
 - c) Tighten each fitting sufficiently to provide a gas-tight seal.
 - The meter should be installed in a manner that presents a neat appearance and is adequately supported.

- Install the regulator ensuring that the gas flow through the regulator is in the proper direction
 - a) Most regulators have a marking to denote the inlet and outlet of the regulator
 - b) The regulator should be installed so that the regulator vent is facing downward or other configurations that will allow the regulator relief valve to function properly
 - 1. In areas where severe water or freezing conditions may exist, consideration should be given to the installation of additional special fittings that will prevent the blocking of the regulator vent.
- In small commercial installations,
 - 1. it may be necessary to install multiple meters on a meter header – the meter header shall be installed to provide adequate support of the meters and regulators.
 - 2. A protective barrier or bollard should be placed with commercial meters to protect from possible vehicular damage.
- Test for leaks.

Setting Regulator Pressure (Not tied to Customer Piping)

3. Once the meter(s) and regulator(s) is installed, verify the set-point of the regulator (outlet pressure setting) is correct for the application:
 - a. Open the outlet shut-off, if equipped, or install a fitting that will permit gas flow through the regulator.
 - b. Install the proper pressure gauge



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

**Normal Operations 355, 357, 359,
363 & 365**

Approval Date: 08/25/06

10/18/13

Supercedes: 3/21/12

Installation of Customer Meters, Regulators & Service Valves- Residential and Commercial

- c. Remove the regulator seal cap and gasket (the cap that covers the adjustment button, screw, knob)
4. Turn the gas on slowly
5. Verify that the reading on the pressure gauge is the correct delivery pressure – adjust as per manufacturer’s instructions.
6. Turn the gas off slowly.

Testing of Relief Devices, If Installed

7. Upon completion of the installation of the meter(s) and regulator(s), test the relief device for proper operation, if applicable.

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual

RELATED PROCEDURES

0591 – Leak Test at Operating Pressure
1201 – Temporary Isolation of Service Lines and Service Discontinuance
1191 – Maintenance of Service Valves Upstream of Customer Meter

1.6 Title 49 CFR §192.605(a) states in part:

"General. Each operator shall prepare and follow, for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response."

Alpine's Operations and Maintenance (O&M) Plan p.105 states:

"Odorant level verification shall be monitored and recorded at customer sales points at an interval of once per calendar month."

Alpine did not perform its monthly odorant level verifications from April 1 to December 2011. Therefore, Alpine is in violation of Title 49 CFR §192.605(a) for not following its O&M Plan.

RESPONSE:

Alpine believes this specific task was not reassigned and documented appropriately. The omission of the Odorant level documentation was a management failure and Alpine has, as a result, reviewed all periodic inspection procedures and logs that document its operations and maintenance activities. The operator assigned to this task was on disability leave for these seven months and the task was not assigned sufficiently and monitored by management. To assure its complete compliance with Title 49 CFR §192.605(a) and to improve the efficiency of both the completion and documentation of operations and maintenance activities, Alpine staff identified possible areas of operator confusion and then put in place revised office procedures to address documentation failures.

The resulting efforts from cooperation between the office staff and the gas system operators has produced a revised scheduling system that has for the past seven months greatly improved management's confidence that the operations and maintenance activities are being performed as the OME Plan describes. The revised procedures also allow Management to more efficiently review periodically, as well as annually, the performance and documentation of operations and maintenance activities. Management also was able identify importance of efficient transition of assigned tasks, from one operator to another, for whatever the reason.

See Attachment M the OME Procedure 625- for odorant sampling.

ATTACHMENT M

FORM 625 – ODORANT SAMPLING/CUSTOMER SNIFF TEST RECORD



Procedural Manual for Operations, Maintenance and Emergencies

Form 625	Approval Date: 07/15/04
Revision date: 07/15/04	Supersedes: None

ALPINE NATURAL GAS

Odorant Sampling/Customer Sniff Test Record

DATE	SNIFF POINT LOCATION/ DESIGNATION OR CUSTOMER ADDRESS	THRESHOLD GAS-IN-AIR VALUE	READILY DETECTABLE GAS-IN-AIR VALUE	CUSTOMER SNIFF TEST RESPONSE			EMPLOYEE SIGNATURE	
				STRONG	MOD.	WEAK		
7-11-12	Goldcreek	N/A	0.80	✓			Lo	
8-16-12	Baldwin CT	N/A	0.75	✓			Lo	
9-10-12	Frederick	N/A	0.75	✓			Lo	
10-14-12	Woodpecker	N/A	0.80	✓			Lo	
11-18-12	Goldcreek R	N/A	0.75	✓			Lo	
1-10-13	GARNER PL	N/A	0.80	✓			Lo	
2-2-13	Gold creek	N/A	0.75	✓			Lo	
3-8-13	MC PRIMA I	N/A	0.77	✓			Lo	
4-22-13	Gold creek	N/A	0.76	✓			Lo Matt	
5/7/13	Gold creek	N/A	0.75	✓			Matt Yo	
6-10-13	VERY END GARNER	N/A	0.80	✓			Lo	
7-10-13	END OF GARNER	N/A	0.75	✓			Lo	
8-23-13	Gold creek	N/A	0.87	✓			Matt Heb	
9-23-13	END OF GARNER	N/A	0.80	✓			Matt Heb	
10-18-13	Gold creek	N/A	0.76	✓			Matt Heb	
11-13-13	6900 END OF GARNER		0.87	✓			Matt Heb	
	6900 Block of GARNER	WE HAVE A GAUGE FOR PRESSURE						
	check i Odorant Testing							

1.7 Title 49 CFR §192.739 states in part:

"(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months but at least once each calendar year, to inspections and tests to determine that it is

(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a)"

Alpine did not provide documentation to show inspection and testing of its pressure regulating station during calendar years 2011-2012 to determine that it was set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a). As a result, Alpine is in violation of Title 49 CFR §192.739.

RESPONSE:

Please find the Regulator Station Annual Inspection Form 739B presented during the Audit. These documents have been reviewed by Alpine staff and appear to satisfy the requirements of §192.201(a). The procedure to perform these annual inspections was also reviewed.

See Attachment N, Form 739-B Annual Regulator Station Inspection performed 12-28-11, 12-27-12 and just prior to Audit 4-12-13.

ATTACHMENT N

FORM 739-B – REGULATOR STATION INSPECTION RECORD
(2011, 2012 & 2013)



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Form 739-B	Approval Date: 04/24/09
Revision date: 12/15/10	Supercedes: 09/24/09

Regulator Station Inspection Record

Regulator Visual Inspection: (Inspection A not required in month Inspection B is performed, Form 741)

Inspection B (Annual)

System MAOP 60 psig

STATION NAME: Alpine Natural Gas Pressure Regulating Station Valley Springs, CA at Highway 26

WORKING REG. MANUFACTURER: MOONEY SIZE: 2" MODEL #: _____

MONITOR REG. MANUFACTURER: MOONEY SIZE: 2" MODEL #: _____

REGULATOR VISUAL INSPECTION:

Corrosion Present:	YES []	NO [X]
Corrosion Type: Atmospheric []	Localized []	General []
Damage:	YES []	NO [X]
Damage Type:		
Leakage: including all piping and components	YES []	NO [X]
Dirt/Debris:	YES []	NO [X]
Valve Locks In Place/and Locked:	YES []	NO [X]
Valves Operational:	YES [X]	NO []
Control Lines Secure: Leak tight connections	YES [X]	NO []
Gauges: No Leaks and Operational	YES [X]	NO []
Facility Warning Signage Good:	YES [X]	NO []
Enclosure/Cover and Grounds Good:	YES [X]	NO []
Enclosure/Cover Secured:	YES [X]	NO []

Check Regulator filters (one on each Regulator) Cleaned filters ___yes ___no Replaced Filters ___yes ___no

System Design Max.Pres Rated: Inlet [P2] 125 psig, South Reg. 90 psig, North Reg. 90 psig

GAUGE MFG: _____ RANGE (psig) _____ MODEL # _____

Gauge Condition: OK [X] Broken [] Cleaned [] Replaced []

Initial Pressure Settings Observed:

Supply Inlet Pressure (psig): 110 (Gauge position [2])

Intermediate Pressure (psig): 44 (Gauge position [5])

Initial System Outlet Pressure (psig): 42 (Gauge position [8] & [13])

Lock Up Procedure: OEM 739

With the *Working* Regulator (*South* vault) set at: ≤60 psig check and record the following:

Intermediate Pressure (psig): 60 (Gauge position [5])

System Outlet Pressure (psig): 44 (Gauge position [8] & [13]) Lock Up XY N

With the *Monitor* Regulator (*North* vault) set at: ≤60 psig, check and record the following:

Intermediate Pressure (psig): 46 (Gauge position [5])

System Outlet Pressure (psig): 60 (Gauge position [8]&[13]) Lock Up XY N

System returned to normal operational settings: South Vault Reg. 46psig / North Vault Reg. 44psig

DATE: 12-28-11

SIGNATURE: Jerry [Signature]



Procedural Manual for Operations, Maintenance and Emergencies

Form 739-B	Approval Date: 04/24/09
Revision date: 12/15/10	Supercedes: 09/24/09

ALPINE NATURAL GAS

Regulator Station Inspection Record

Regulator Visual Inspection: (Inspection A not required in month Inspection B is performed, Form 741)

Inspection B (Annual)

System MAOP 60 psig

STATION NAME: Alpine Natural Gas Pressure Regulating Station Valley Springs, CA at Highway 26

WORKING REG. MANUFACTURER: MOONEY SIZE: 2" MODEL #: _____

MONITOR REG. MANUFACTURER: _____ SIZE: _____ MODEL #: _____

REGULATOR VISUAL INSPECTION:

Corrosion Present:	YES []	NO <input checked="" type="checkbox"/>
Corrosion Type: Atmospheric []	Localized []	General []
Damage:	YES []	NO <input checked="" type="checkbox"/>
Damage Type: _____		
Leakage: including all piping and components	YES []	NO <input checked="" type="checkbox"/>
Dirt/Debris:	YES []	NO <input checked="" type="checkbox"/>
Valve Locks In Place/and Locked:	YES []	NO <input checked="" type="checkbox"/>
Valves Operational:	YES <input checked="" type="checkbox"/>	NO []
Control Lines Secure: Leak tight connections	YES <input checked="" type="checkbox"/>	NO []
Gauges: No Leaks and Operational	YES <input checked="" type="checkbox"/>	NO []
Facility Warning Signage Good:	YES <input checked="" type="checkbox"/>	NO []
Enclosure/Cover and Grounds Good:	YES <input checked="" type="checkbox"/>	NO []
Enclosure/Cover Secured:	YES <input checked="" type="checkbox"/>	NO []

Check Regulator filters (one on each Regulator) Cleaned filters ___yes___ no Replaced Filters ___yes___

System Design Max.Pres Rated: Inlet [P2] 125 psig, South Reg. 90 psig, North Reg. 90 psig

GAUGE MFG: Mc Daniel RANGE (psig) _____ MODEL # _____
Gauge Condition: OK Broken [] Cleaned [] Replaced []

Initial Pressure Settings Observed:

Supply Inlet Pressure (psig): 100 (Gauge position [2])
 Intermediate Pressure (psig): 46 (Gauge position [5])
 Initial System Outlet Pressure (psig): 44 (Gauge position [8] & [13])

Lock Up Procedure: OEM 739

With the Working Regulator (South vault) set at: ≤60 psig check and record the following:

Intermediate Pressure (psig): 60 (Gauge position [5])
 System Outlet Pressure (psig): 44 (Gauge position [8] & [13]) Lock Up Y ___N

With the Monitor Regulator (North vault) set at: ≤60 psig, check and record the following:

Intermediate Pressure (psig): 44 (Gauge position [5])
 System Outlet Pressure (psig): 60 (Gauge position [8]&[13]) Lock Up Y ___N

System returned to normal operational settings: South Vault Reg. 46 psig / North Vault Reg. 44 psig

DATE: 12-28-12

SIGNATURE: [Signature]



Procedural Manual for Operations, Maintenance and Emergencies

Form 739-B	Approval Date: 04/24/09
Revision date: 12/15/10	Supercedes: 09/24/09

ALPINE NATURAL GAS

Regulator Station Inspection Record

Regulator Visual Inspection: (Inspection A not required in month Inspection B is performed, Form 741)

Inspection B (Annual) System MAOP 60 psig

STATION NAME: Alpine Natural Gas Pressure Regulating Station Valley Springs, CA at Highway 26

WORKING REG. MANUFACTURER: MOONEY SIZE: 2" MODEL #: FB-24

MONITOR REG. MANUFACTURER: MOONEY SIZE: 2" MODEL #: FB-29

REGULATOR VISUAL INSPECTION:

Corrosion Present: YES [] NO []
 Corrosion Type: Atmospheric [] Localized [] General []
 Damage: YES [] NO []
 Damage Type: _____

Annual Inspection with Delfesco Positector metal pipe thickness gauge. YES [] NO []

Leakage: including all piping and components YES [] NO []
 Dirt/Debris: YES [] NO []
 Valve Locks In Place/and Locked: YES [] NO []
 Valves Operational: YES [] NO []
 Control Lines Secure: Leak tight connections YES [] NO []
 Gauges: No Leaks and Operational YES [] NO []
 Facility Warning Signage Good: YES [] NO []
 Enclosure/Cover and Grounds Good: YES [] NO []
 Enclosure/Cover Secured: YES [] NO []

Check Regulator filters (one on each Regulator) Cleaned filters yes ___ no Replaced Filters ___ yes

System Design Max.Pres Rated: Inlet [P2] 125 psig, South Reg. 90 psig, North Reg. 90 psig

GAUGE MFG: MC DANIEL RANGE (psig) 0-100 MODEL # T8D
 Gauge Condition: OK [] Broken [] Cleaned [] Replaced []

Initial Pressure Settings Observed:

Supply Inlet Pressure (psig): 120 (Gauge position [2])
 Intermediate Pressure (psig): 43 (Gauge position [4,5])
 Initial System Outlet Pressure (psig): 40 (Gauge position [8] & [13])

Lock Up Procedure: OEM 739

With the Working Regulator (South vault) set at: ≤60 psig check and record the following:

Intermediate Pressure (psig): 60 (Gauge position [4,5])
 System Outlet Pressure (psig): 40 (Gauge position [8] & [13]) Lock Up Y ___ N

With the Monitor Regulator (North vault) set at: ≤60 psig, check and record the following:

Intermediate Pressure (psig): 60 (Gauge position [4,5])
 System Outlet Pressure (psig): 43 (Gauge position [8])&[13] Lock Up Y ___ N

System returned to normal operational settings: South Vault Reg. 40 psig / North Vault Reg. 44 psig

DATE: 1/4/12/13 SIGNATURE: Matt Holt

1.8 Title 49 CFR §192.805 states in part:

"Each operator shall have and follow a written qualification program. The program shall include provisions to:

(i) After December 16, 2004, notify the Administrator or a state agency participating under -19 U.S.C. Chapter 601 if the operator significantly modifies the program after the Administrator or state agency has verified that it complies with this section."

Alpine's Operator Qualification Plan does not include written provisions to notify the Administrator or the state agency of any significant modifications to its program. As a result, Alpine is in violation of Title 49 CFR §192.805(i).

RESPONSE:

Alpine has made an addition to its Operator Qualified Plan to include a provision that is deemed major then this substantially changed plan will be provided to the CPUC. This addition was not deemed major so the entire plan is not provided. Please find the change on page 10 of the OQ Plan in Part Ten.

See Attachment O

ATTACHMENT O

OQ PLAN PART TEN – PLAN REVIEW FOR ASSESMENT OF
IMPROVEMENT

Part Nine: Incorporation by reference of operator qualification plans of companies with which ANG has mutual assistance plans.

In the event of major natural disasters or other emergencies, ANG may utilize employees of other gas companies to restore natural gas service to ANG customers. These individuals may be required to perform certain covered tasks on ANG's facilities. In order to allow this mutual assistance to occur without violating 49 CFR 192 Subpart N, ANG has incorporated by reference in Attachment C to this Plan the qualification requirements of companies whose employees ANG might utilize for certain covered tasks.

9.1 Responsibility

The Plan Administrator is responsible to identify covered tasks in Attachment A of this Plan that ANG might utilize borrowed employees to perform under mutual assistance arrangements. The Plan Administrator shall also identify companies with whom ANG would be likely to rely upon for emergency assistance and request a copy of the qualification requirements these companies have established for these covered tasks. These qualification requirements, found in Attachment C of this Plan have been evaluated and are incorporated by reference into this Plan as acceptable alternative methods of qualification for the covered tasks listed.

In the event ANG is offered and accepts assistance from a company through California Utilities Emergency Association specifically listed in Attachment D, the Plan Administrator shall obtain and incorporate the qualification requirements of that company into Attachment D as soon as possible.

Part Ten: Plan review for Assessment of Improvement

ANG will perform an annual review of the Operator Qualification Plan including covered tasks listed in Attachment A, skills and abilities evaluations listed in Attachment B, knowledge based classroom presentations and associated written examinations listed in Attachment D, as well as re-evaluation intervals listed in Attachment E. This review will include an assessment for improvement of any and all segments of the OQ Plan. The Plan Administrator will maintain a copy of the results of this review including all decisions to delete, add, and revise the subject plan segments as well as the particular rationale for such modification(s).

The above annual OQ plan review does not constitute major plan changes. If the plan is revised in such a way that the changes to the plan are deemed major then, notification to the CPUC will be provided with the new substantially changed plan.

1.9 Title 49 CFR §199.113 states in part:

"(a) Each operator shall provide an employee assistance program (EAP) for its employees and supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause..."

Furthermore,

(c) Training under each EAP for supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause must include one 60-minute period of training on the specific, contemporaneous physical, behavioral, and performance indicators of probable drug use."

Alpine did not ensure that the person responsible for requiring an employee to undergo drug testing under reasonable cause had received at least 60 minutes of training on the specific, contemporaneous physical, behavioral, and performance indicators of probable drug use. As a result, Alpine is in violation of Title 49 CFR §199.113.

RESPONSE:

Please see attached Certificate of Completions from Drug Testing Network for drug and alcohol reasonable suspicion training.

- 1) "Drug Training".
- 2) "Supervisor Training".

See Attachment P

1.10 Title 49 CFR §199.241 states:

"Each operator shall ensure that persons designated will determine whether reasonable suspicion exists to require a covered employee to undergo alcohol testing under § 199.225(b) receive at least 60 minutes of training on the physical, behavioral, speech, and performance indicators of probable alcohol misuse."

Alpine did not ensure that the person responsible for requiring an employee to undergo alcohol testing under reasonable suspicion had received at least 60 minutes of training on indicators of probable alcohol misuse. As a result, Alpine is in violation of Title 49 CFR §199.241.

RESPONSE:

Please see attached Certificate of Completions from Drug Testing Network for drug and alcohol reasonable suspicion training.

- 1) "Alcohol Training".
- 2) "Supervisor Training".

See Attachment P

ATTACHMENT P

DTN CERTIFICATES OF COMPLETION (4)



Drug Testing Network, Inc.®

1-800-989-1206

Certificate of Completion

This is to certify that on 4/29/2013

Michael Lamond

has successfully completed the course

**Drug Testing Network
Supervisor Training**

Supervisor's Signature

DOT 14 & 49 CFR : This training was designed to fulfill the requirements of the Department of Transportation's 60/60 drug and alcohol reasonable suspicion training requirement.



Drug Testing Network, Inc.[®]

1-800-989-1206

Certificate of Completion

This is to certify that on 4/29/2013

Michael Lamond

has successfully completed the course

**Drug Testing Network
Employee Training**

Supervisor's Signature



Drug Testing Network, Inc.®

1-800-989-1206

Certificate of Completion

This is to certify that on 4/29/2013

Michael Lamond

has successfully completed the course

**Drug Testing Network
Drug Training**

Supervisor's Signature



Drug Testing Network, Inc.[®]

1-800-989-1206

Certificate of Completion

This is to certify that on 4/29/2013

Michael Lamond

has successfully completed the course

**Drug Testing Network
Alcohol Training**

Supervisor's Signature

2. **Observations and Concerns**

2.1 Gas Distribution Integrity Management Program: FAQs C.4.d.8 states in part:

"The operator must define the threshold Level at which additional measures to reduce risk must be implemented. The operator must be able to justify The basis used for establishing the threshold Level for each identified risk."

Alpine's DIMP program includes three threats with associated risks: excavation damage, material, weld, or joint failure, and equipment malfunction. Alpine does not implement any additional measures to reduce the risks. SED recommends that Alpine should define a threshold level for each risk to determine when additional measures are necessary.

RESPONSE:

The DIMP Plan during biennial review was revised to include a threshold for each threat;

- 1) Excavation
- 2) Material, weld or joint failure
- 3) Equipment Malfunction

Monitoring of the above three threats to Alpines distribution system will be performed during annual review of PHMSA 7100.1 and 7100.2 reporting. The threshold for each category was defined during the biennial DIMP Plan Review.

See Attachment Q; The Table below provides for the evaluating of the effectiveness of minimizing these threats and assist management in the determination whether additional measures are appropriate.

ATTACHMENT Q

OME Procedure DIMP 1005

AND

DIMP PLAN CHAPTER 7



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Integrity Management Plan (DIMP). 1005	Approval Date: 08/25/06
Revision date: 8/31/2013	Supecedes:8/1/2011

Integrity Management Plan

SCOPE AND PURPOSE

This procedure was implemented as a requirement of 49 CFR § 192.1005 on August 1, 2011. Alpine developed this plan via a tool called SHRIMP, provided by the American Public Gas Association, The IM Plan is Appendix R1 here in Alpines OEM.

The purpose of Alpine’s Distribution Integrity Management Plan is to reference the procedures used to assess the threats and risks to the integrity of Alpine’s Natural Gas Distribution System. The Plan describes Alpines; Design, Operating Conditions, Environmental factors and Maintenance to continually monitor and evaluate in pipeline integrity.

RESPONSIBILITY

The System Administrator and Operator Qualified personnel are responsible for compliance with the provisions of this procedure and the development and implementation of required actions..

EQUIPMENT AND MATERIALS

INSTRUCTIONS

Operator Qualification

These activities are not a covered tasks under the Operator Qualification Plan, however, see OQ Plan for specific covered tasks and associated qualification requirements for duties related to this Plan.

Current Rank: The tool was used to assess and rank the seven threats to Alpine’s Distribution system Integrity:

1. Excavation Damage
2. Material or Welds
3. Incorrect Operation

4. Equipment Failure
5. Natural Forces
6. Corrosion
7. Other Outside Forces

Other

Alpine quantified thresholds for incidence of specific major threats to the system. These are quantified in a table in Chapter 7 of the DIMP Plan. To assist management in the ongoing evaluation and maintenance of the systems safety and operations. Annual review of the data to evaluate need for additional measures or actions is the responsibility of the System Administrator.

Plan Evaluation

PHMSA annual Leak Report 7100 is collected to update distrivbution system data. PHMSA 7100.1-2 completed for mechanical fitting failures (this excludes meter sets)

Plan Revision

DIMP Plan is evaluated every two years (Biennially)

RELEVANT APPENDICES

R-1, R-2, R-3, R-4 and R-5

RELATED PROCEDURES

- 465 External Corrosion Control – Monitoring
- Internal Corrosion Measurement
- 605-B1 General Pipeline Repair
- 605 B5-7 Startup-Shutdown-Purging
- 605-D Safety Related Conditions
- 625 Odorization
- 709 Record Keeping
- 723 Leakage Surveys
- 751 Prevention of Accidental Ignition
- 615 Public Awaerness Plan
- 614 Damage Prevention

MEASURE PERFORMANCE,
MONITOR RESULTS AND
EVALUATE EFFECTIVENESS

Threat: Equipment Malfunction -> Regulators Prone to Failure -> Specific Regulators Prone to Failure

Description: ORIFICE 1/8", SPRING 6-8 WATER COLUMN WITH INTERNAL RELIEF (FISHER, HRS-BBALYN, 3/4" INLET)

For **equipment malfunctions due to regulators / relief valves prone to failure** on the **Specific_00** section, ALPINE NATURAL GAS will:

- The relative risk posed by this threat on this section of ALPINE NATURAL GAS does not warrant additional actions. Since no additional actions are called for there is no need for action-specific performance measures.

d. Section: Failing Equipment portion of ALPINE NATURAL GAS

Threat: Equipment Malfunction -> Regulators Experiencing Failure

Description: Regulators/Relief Valves

For **equipment malfunctions due to failing regulators/relief valves** on the **Failing Equipment** section, ALPINE NATURAL GAS will:

- The relative risk posed by this threat on this section of ALPINE NATURAL GAS does not warrant additional actions. Since no additional actions are called for there is no need for action-specific performance measures.

7.3. MONITOR RESULTS AND EVALUATE EFFECTIVENESS

Monitoring of the above three threats to Alpines distribution system will be performed during annual review of PHMSA 7100.1 and 7100.2 reporting. The threshold for each category was defined during the biennial DIMP Plan Review. The Table below provides for the evaluating of the effectiveness of minimizing these threats and assist management in the determination whether additional measures are appropriate.

<u>THREAT</u>	<u>THRESHOLD FOR OCCURRANCES PER YEAR</u>	<u>NUMBER OF OCCURRANCES DURING PERIOD</u>	<u>EXCEEDS THRESHOLD Y / N</u>	<u>NOTES</u>	<u>COMMENTS</u>
Excavation Damage	5			USA mismatch is treated differently than third party damage where no USA exists.	
Material, Weld or Joint Failure	3				
Equipment Malfunction	10			Meters, Riser Valves and Regulators. Primarily these are all threaded pipe issues or maintenance to grease valve. Leak Grade of 3	We note original year of install believing the occurrences of these type of maintenance is higher for older installations
Equipment malfunction on pipeline resulting in Grade 1 Leak	2			Mechanical fittings	

2.2 Alpine's O&M Plan p.44 states, "All leak repairs on pipeline will be recorded in Leak Repair Log 724."

The names of each person performing each leak repair from 2011 -2013 were not documented in the Leak repair logs. SED recommends that Alpine retains documentation of who performs each leak repair to not only ensure qualified individuals are performing the repairs, but to also evaluate the individual if the operator has reason to believe that the individual's performance contributed to an incident.

RESPONSE:

The names of the gas service representatives that performed repairs are on the actual document describing work performed such as the customer service report. OME Procedure Normal Ops 605- B11 Customer Service – Odor & Leak Calls was revised and appropriate changes were made. Alpine does keep a summary, Log 724, listing the leak repairs and has refined the document and subsequently retrained qualified operator in the importance to sign on this log as well. The system administrator will during annual review and sub-totalling of repairs will assure each log includes operator name.

See Attachment R- OME Appendix B-2 Gas Leak Report and Attachment S- OME Form 724- Leak Repair Log AND OME Procedure Normal Ops 605-B11 Customer Service Leak Odor (previously page 44).

ATTACHMENT R

APPENDIX B-2 – GAS LEAK REPORT and
OME CUSTOMER SERVICE ODOR & LEAK CALLS



Procedural Manual for Operations, Maintenance and Emergencies

Appendix B-2	Approval Date 12/15/08
Revision date: 12/5/13	Supercedes: 08/20/06

ALPINE NATURAL GAS

GAS LEAK REPORT

ALPINE NATURAL GAS

Company

____/____/____ am/ pm

Date: Time

Leak Report Taken by: _____

Address: _____

Location of Leak being Reported: _____

Description, intersection, part of the property etc.)

Smell of Gas Inside house (*Instructed to move outside*) __Yes/ __No Outside house

Hear or Observe Blowing Gas Fire or Explosion (*911 called*) __Yes/ __No

Reported by: _____

(Name)

(Address)

Customer Answering Service Emergency Personnel Neighbor or Family Contractor Other News Reports

Callers Description of Leak _____

Suspected origin of Reported Leak: Main Line Service- Line House Meter/Regulator

Dispatched –During Office hours: Routine (non-emergency) Service call Time: ____ am/ pm

Dispatched to Call person as: Emergency Call Time: ____ am / pm

Assigned as Immediate Remedial Action Required: Yes _____ No _____

Investigation Assigned to: _____ **Investigation by:** _____

(Name)

(Name)

Date ____/____/____ am / pm Leak Found? ____Yes ____No ____

Arrival Time

CGI Used: __Yes__No

Leak Grade (circle one) 1 2 3

Location & Description of Leak: Customers Appliance Meter/Reg. Service Line Main

Cause of Leak: Outside Force Equipment Failure Operations Contractor or Cust. Dig In

Work Order B-1 Completed Y/N

Y/N

USA

TICKET#

Work Performed: _____

Pipe joining Required Yes/ No Method _____ **Joint Visual Inspection OK Y / N**

Materials Req./Parts Replaced: _____

Reports of Injuries or loss of life

Reports of Property Damage

Notified: OQ Supervisor OQ Plan Administrator Emergency Plan Initiated

Condition Made Safe: __Yes__ No

Date: _____ **Time:** ____ am / pm

DOT/PHMSA Notification __Y__N

CPUC notified __Y__N

Copy to Customer File ____ (initials)

Supervisor Posted to Gas Leak Log: ____ (initials)



Procedural Manual for Operations, Maintenance and Emergencies

Normal Ops 605-B 11	Approval; Date: 07/15/04
Revision date:5-21-13	Supercedes: 12/28/12

ALPINE NATURAL GAS

Customer Service-Odor & Leak Calls

If, the employee deems minor tightening or adjustment to connection will correct the leak then at the customer's request, by way of a signed consent on Form B-7 the Alpine OQ employee can:

- a. Perform this minor correction so that the condition is made safe.
- b. Re-start gas to the appliance.
- c. Retest the connection for the leak with the CGI and Leak indicating solution.

6. Report incident in detail on Form B-1, including Leak Grade Rating.

If, written request for this leak correction is not completed then the gas meter will be shut off and red tagged as in 3, above.

All odor and leak calls will be recorded on a Gas Leak Report, Appendix B-1 and investigated to assure both safety and convenience to the customer.

All Leak repairs on pipeline will be recorded in B-1 Customer Service Report –Work Order and entered into Leak Repair Log 724.

In addition, all Alpine Natural Gas customer calls related to gas meter work may be recorded on one or more of the appropriate forms listed:

<u>Form Title</u>	<u>Appendix</u>
Customer Service Report	B-1
Gas Leak Report	B-2
New Meter Read Form	B-3
Meter Change Form	B-4
Final Meter Read Form	B-5
Request to Remediate...	B-7
Meter Shut-Off Tag	K
Work Order	A-4
Leak Repair Log	724

RELATED PROCEDURES

615	Emergency Plan
723	Leakage Survey, Leak Grading
605	B-1 General Pipeline Repair
709	Record Keeping
1005	Integrity Management
281-285	Maintenance, Pipe Joining

ATTACHMENT S

FORM 724
LEAK REPAIR LOG



Procedural Manual for Operations, Maintenance and Emergencies

Form 724	Approval Date: 12/15/10
Revision date: 12/15/10	Supercedes: 07/15/04

ALPINE NATURAL GAS

Leak Repair Log

Year _____

Date	Leak Location- Who Called in.	M a i n	S e r v i c e	Leak Grade	Materials req. to Complete Repair	C O R R O S I O N	E Q U I P M E N T	E X C A V A T I O N S	I N C O R R E C T O P E R	M A T E R I A L - W E L D S	N A T U R A L F O R C E S	O T H E R	ANG R E P Date made safe
													ANG REP _____ Date
													ANG REP _____ Date
													ANG REP _____ Date
													ANG REP _____ Date
													ANG REP _____ Date
													ANG REP _____ Date
													ANG REP _____ Date

2.3 Equipment Calibration

Alpine has informal procedures for calibrating its equipment. Alpine informally calibrates its Combustible Gas Indicator (CGI) and copper-copper sulfate half-cell once a year. In 2011, Alpine did not document calibration of its CGI and in 2011-2012, it did not document calibration of its copper-copper sulfate half-cell.

SED recommends that Alpine formalize equipment calibration procedures and document all equipment calibrations it performs.

RESPONSE:

Alpine calibration schedule and records were improved. The monitoring of all equipment calibrations were assigned to a different employee and records maintenance was reviewed with all appropriate staff. The system administrator also reviewed all calibration schedules to be assured the manufacturer recommendations were being followed and all equipment used requiring calibration were scheduled.

The calibration records are reviewed annually by management to be sure each equipment calibration and record is completed as scheduled.

The copper-copper sulfate reference electrode is used annually. The electrode is calibrated prior to use with a "Lab Use" electrode. Re-training was completed to assure proper documentation of this procedure.

Attachment T

ATTACHMENT T

APPENDIX V – COPPER-COPPER SULFATE REF. ELECTRODE
CALIBRATION



ALPINE TURALGAS

Procedural Manual for Operations, Maintenance and Emergencies

Appendix W	Approval Date 10/2/2010
Revision date 5/14/13	Supercedes: : 3/02/12

Appendix V

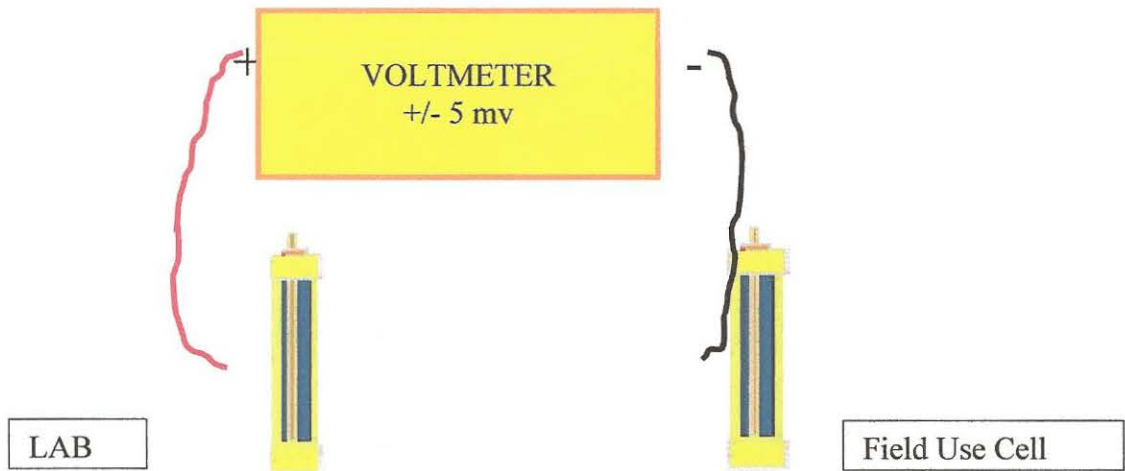
Copper-Copper Sulfate Reference Electrode Calibration

Alpine uses a reference electrode to monitor cathodically protected pipe at its Regulator Station. Before performing this annual or any other unscheduled inspection the copper-copper sulfate reference electrode must be calibrated prior to use.

Alpine has a "Field Use " reference electrode and another "Lab Use" reference electrode it uses to calibrate the Field Use electrode.

Instructions:

1. Place both the LAB USE (perfect condition) half-cell and the half-cell to be calibrated into a container of distilled water.
2. Connect the half-cell to the leads of a voltmeter capable of giving readings in millivolts.
3. Turn on the voltmeter and wait until the voltmeter reads a potential difference of (+/-) 5mv.
4. Wait up to five (5) minutes.
5. If the half-cells do not show 5mv or less difference, the half-cell being calibrated is out of calibration and should be cleaned and rechecked.

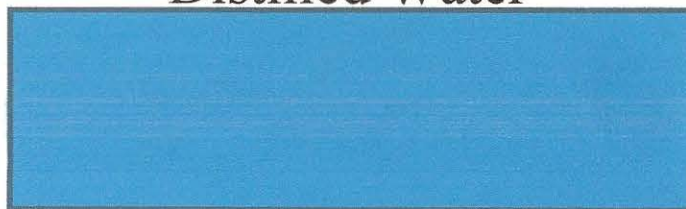


Authorized Observer/Tester _____ Date _____

Reference Cell ID number _____

Test requirements once each calendar year not to exceed 15 months. Retain calibration documentation for life of reference electrode.

Distilled Water



2.4 System Map

Alpine's O&M Manual consists of a map of its pipeline system. Alpine color codes the pipelines to indicate the different sizes of pipe within its system.

SED recommends that Alpine include a color key/legend to explain what each color represents.

RESPONSE:

This informational map in the OME was revised to include the requested color coding legend.

See Attachment U

ATTACHMENT U

SYSTEM MAP

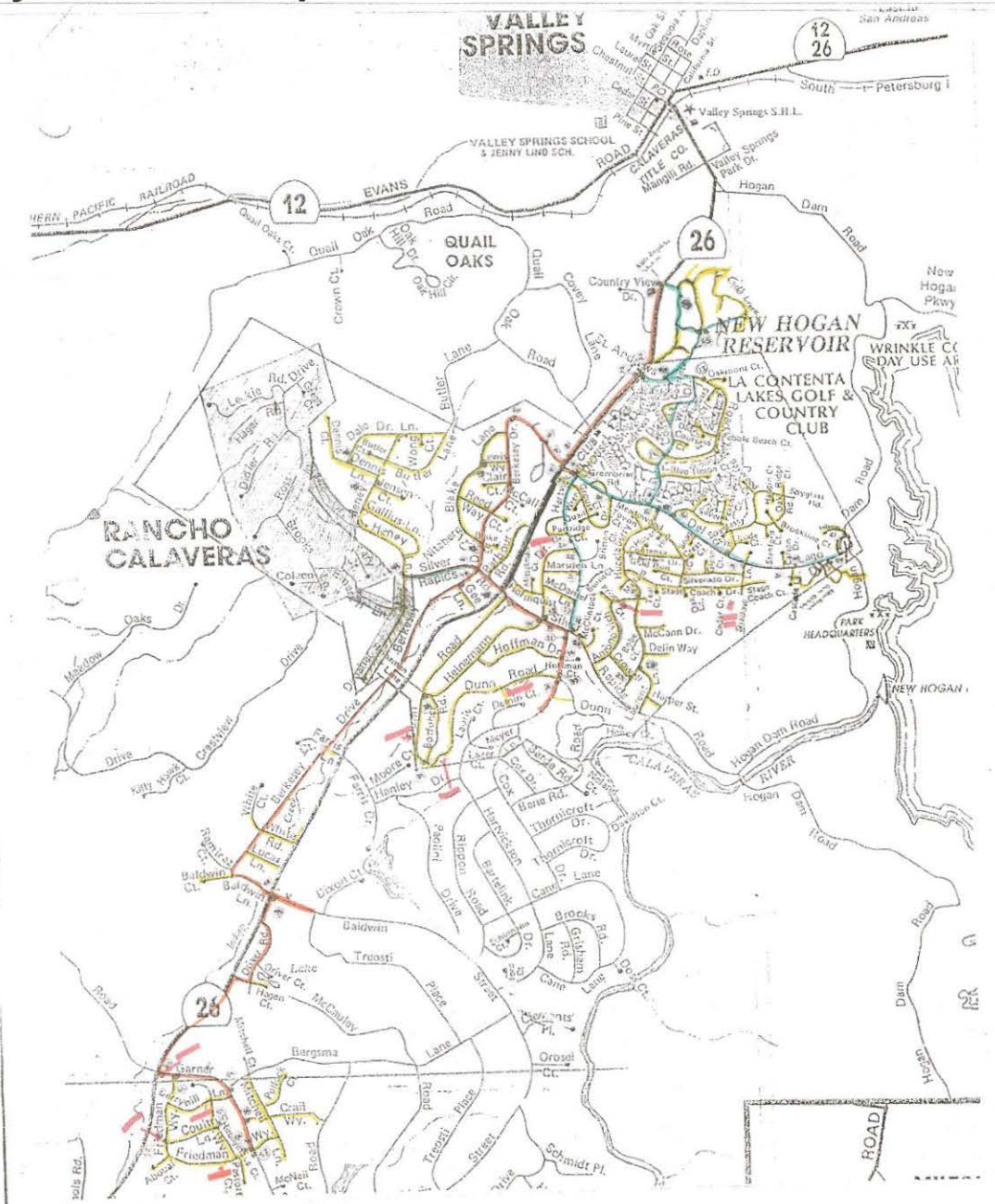


Procedural Manual for Operations, Maintenance and Emergencies

General	Approval; Date: 07/15/04
Revision date: 12/28/12	12/15/10

ALPINE NATURAL GAS

System Plats/Maps



Legend

Yellow	2 inch line
Blue	4 inch line
Orange	6 inch line
Pink	Valve

2.5 Customer Meter

During its field inspection, SED noticed that the customer meter at 1052 Mockingbird Hill Valley Springs was in contact with the ground. Contact with the ground increases the risk of gas meter corrosion.

SED recommends that Alpine provide clearance between the meter and the ground at this location.

RESPONSE:

The meter at the above address was reinstalled to provide proper clearance from the ground. Staff in May of 2013 discussed the need to observe all meters and developed a goal to note all meter positions and schedule for re-installation if appropriate. Staff reviewed proper procedure for meter installations. During the past 6 months; meter reads, patrolling, continuing surveillance and customer service calls provided opportunity to pay special attention to meter installations. A meter found to require re-installation was placed on a list; the customer was contacted and scheduled for repair including atmospheric corrosion repair and painting.

Meter reading personnel not otherwise qualified were given training to assist qualified operators with identifying certain conditions (meter is in contact with ground) that may indicate need for further investigation by qualified operator and subsequent repair. All re-installations or repairs are recorded on Form 481 "Atmospheric Corrosion Inspection/ Remedial Action Record".

ATTACHMENT V

FORM 481 – ATMOSPHERIC CORROSION INSPECTION/REMEDIAL
ACTION RECORD



ALPINE NATURAL GAS

Procedural Manual for Operations, Maintenance and Emergencies

Form 481	Approval Date: 07/15/04
Revision date: 05/03/13	Supercedes: 07/15/04

Atmospheric Corrosion Inspection/Remedial Action Record

DATE: ___/___/___

EMPLOYEE SIGNATURE: _____

ADDRESS OR OTHER DESIGNATION	FACILITY DESCRIPTION Meter Set, Pipeline or Other	ATMOSPHERIC CORROSION (YES/NO)	Customer Service Report Completed	B r u s h e d	C l e a n e d	P a i n t e d	Remedial Actions or Notes

2.6 Service Regulator

During its field inspection, SED noticed that the service regulator at 1053 Mockingbird Hill, Valley Springs was missing a seal cap. Alpine should replace the cap of the service regulator at this location to avoid the risk of equipment malfunction.

RESPONSE:

The cap of the regulator was replaced at the above address and repair was documented on a Work Order form. Staff discussed the need to observe all regulators and meters during; meter reads, patrolling, continuing surveillance and customer service calls to pay special attention to adverse condition of the equipment such as missing service regulator caps. Meter reading personnel not otherwise qualified were given training to assist qualified operators with identifying conditions (cap missing on service regulator) that may indicate need for further investigation by qualified operator and subsequent repair.

ATTACHMENT W

APPENDIX B-1 – CUSTOMER SERVICE REPORT – WORK ORDER



Procedural Manual for Operations, Maintenance and Emergencies

Appendix B-1	Approval Date 12/15/08
Revision date: 11/25/13	Supercedes: 12/15/12

ALPINE NATURAL GAS

Customer Service Report- Work Order

Taken by _____ Date: ___/___/___ Time _____

From Customer Y / N ANG Personnel Initiated Y / N Caller if not the customer _____
 Routine Maintenance: Yes ___ No ___ Safety Concerns: Yes ___ No ___
 Concern: Check appropriate: Meter-Set ___ ECR ___ Service line ___

Customer, Last _____ First _____

Service Address: _____ Acct. # _____

Routine Service Requested For: ___ Consumption Concern ___ Possible Gas Leak ___ Other

Customer Concern or Request: _____
(Describe)

_____ Hm Phone Number _____ Cell Phone Number
Extraordinary Event: Yes ___ No ___
 (If, Yes describe Event Type) (Emergency Gas Leak? Complete Gas Leak Report App. B-2)

Observation: _____

Work Completed ___/___/___ Time _____ am -pm Scheduled Follow-Up: Y / N ___/___/___

Work performed: _____

Pipe joining Required Yes/ No Method _____ Visual Inspection OK Y / N

Meter-Regulator Pressure Check: Yes ___ No ___ Result: Pass ___ Fail ___ **Clean Up Done**

Pres. Gauge- Water Column Reading _____

System "Shut-In" Test: Yes ___ No ___ Result: Pass ___ Fail ___

(Meter holds constant at baseline pressure X 15 minutes)

Meter Reading : _____ . 0 0

Meter serial number: _____ Type/Size: _____ Spring Size: _____

Work performed by: _____
Print Signature