West Coast Gas Company, Inc.

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02 September 2016

Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

RE: Response to April 11-14, 2016 Audit Findings Letter dated August 2, 2016

Dear Mr. Bruno,

Following are West Coast Gas Company Inc.'s response to the SED Probable Violations and Areas of Concern /Observations / Recommendations.

If you have any questions, please feel free to contact me at 916-364-4100, Monday through Friday, 7 am to 3:30 pm.

Sincerely,

Mark Williams

Mark Williams
President

cc: Banu Acmis
Jason McMillian

SUMMARY OF INSPECTION FINDINGS

I. Probable Violations

1. Title 49, Code of Federal Regulations (CFR), §192.285 Plastic pipe: Qualifying persons to make joints

(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:
(1) Appropriate training or experience in the use of the procedure; and
(2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.
(b) The specimen joint must be:
(1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and
(2) In the case of a heat fusion, solvent cement, or adhesive joint:
(i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;
(ii) Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or
(iii) Cut into at least 3 longitudinal straps, each of which is:
(A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and
(B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.

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

(d) Each operator shall establish a method to determine that each person making joints in plastic pipelines in the operator's system is qualified in accordance with this section.

SED reviewed WCG's Plastic Fusion Procedures and noted that qualification requirements in Sections 5.1, 5.2, 5.5, 5.6, 5.8, and 5.9 in its Operator Qualification (OQ) Plan, dated 4/14/16, does not specify the reevaluation interval for the plastic fusion types butt, socket, and electrofusion that WCG currently uses in its system.

WCG must re-qualify its personnel under an applicable procedure once each calendar year at intervals not exceeding 15 months, or after any production joint is found unacceptable by testing under §192.513 to comply with §192.285 (c).

WCG must also add the annual requalification requirement into its O&M & OQ Plans.

Please provide SED with the revised versions of the plans to address this finding.

WCG RESPONSE
WCG OQ Plan dated 05.01.16 incorporated this change in OQ 11.2, page 91.

2. Title 49, CFR, §192.513 Test requirements for plastic pipelines.

(a) Each segment of a plastic pipeline must be tested in accordance with this section.

(b) The test procedure must insure discovery of all potentially hazardous leaks in the segment being tested.

(c) The test pressure must be at least 150 percent of the maximum operating pressure or 50 psi. (345 kPa) gage, whichever is greater. However, the maximum test pressure may not be more than three times the pressure determined under §192.121, at a temperature not less than the pipe temperature during the test.

(d) During the test, the temperature of thermoplastic material may not be more than 100(F (38(C), or the temperature at which the material's long-term hydrostatic strength has been determined under the listed specification a specification, whichever is greater.

SED reviewed WCG's Procedures for Facility Leak Test / Pressure Test and Pre-Testing Requirements and noted the following:

2.1 Pressure/leak test activity is not considered a covered task; however, it is a covered task as per §192.801(b); the 4-part test. WCG made this change in its O&M Plan and will only allow qualified personnel to perform this covered task.

2.2 SED staff observed some pretested pipe in the shop which was labeled as pretested at 80 psi for 10 minutes. SED noted that since the Wherry Section of the Mather Housing area has an MAOP of 60 psi, WCG must test the pipe segments to 90 psi. Additionally, WCG's procedures require pretest for not less than an hour.

WCG must retest all its pipe segments to comply with its pretest requirement in its O&M Plan and §192.513 requirements.

2.3 WCG currently is not recording the temperature of the pipe during pressure test.

WCG revised its procedures to have provisions to take and records temperature of the pipe.

Please provide SED with an updated version of Pressure Test/Pretest Procedures to address all deficiencies identified under Items # 6.1- 6.4.

WCG RESPONSE

WCG revised the OME to include "only qualified personnel may perform pressure/leak test"; revised Form 503 to include temperature (Attachment 1).

3. Title 49, CFR, §192.517 Records.

(a) Each operator shall make, and retain for the useful life of the pipeline, a record of each test performed under §§192.505 and 192.507. The record must contain at least the following information:

(1) The operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used.
(2) Test medium used.
(3) Test pressure.
(4) Test duration.
(5) Pressure recording charts, or other record of pressure readings.
(6) Elevation variations, whenever significant for the particular test.
(7) Leaks and failures noted and their disposition.

(b) Each operator must maintain a record of each test required by §§192.509, 192.511, and 192.513 for at least 5 years.

3.1 WCG Operations Manager explained that when WCG purchased the pipeline system from Mather Field Utilities- Air Force in 1996 (about 20 years ago), WCG did not inherit any pressure records. SED also noted that the previous operator installed the pipeline in 1946, approximately 70 years ago, when there was no requirement for pressure testing pipelines.

Ray Czahar of WCG stated the following regarding the Operating Pressure and Maximum Operating Pressure at Mather Industrial Area:

"The USAF abandoned operations and evacuated all military personnel from Mather Air Force Base in 1993. The base was leased to Sacramento County who, at that time, was primarily interested in developing a commercial airport venue to complement Sacramento International Airport. Under the terms of the Base Realignment And Closure (BRAC), the USAF would be responsible for conveying the utility systems (electric, natural gas, water and sewer and telephone) to private service providers. In the meantime, the Mather Field BRAC hired contractors to maintain the systems. In 1996, Mather Field Utilities (predecessor to West Coast Gas Company), was awarded the natural gas system by the USAF, subject to receiving a CPCN (Certificate of Public Convenience and Necessity) from the CPUC. In April 1998, WCG (formally MFU), was awarded a CPCN by the CPUC.

When WCG took control of the natural gas system from the contractors hired by the BRAC in 1996 there was no documentation on the MAOP. The USAF installed and maintained the natural gas distribution system in the industrial area of Mather under its own operating and maintenance rules and not 192 CFR 49. PG&E built and operated the gas distribution system at the Wherry Housing area although the USAF owned that system and had paid PG&E for the cost of installing the gas system. To my knowledge, WCG was never provided with any documentation on the MAOP from the USAF. WCG knew that the Operating Pressure in the industrial area was set a 7 psig and WCG has kept the Operating Pressure at that level since it took control of the system in 1996."

WCG RESPONSE
WCG has formally requested PG&E to provide documentation of the MAOP for the Mather Wherry Housing area and will update the written response to SED upon receipt of documentation from PG&E.

3.2 SED reviewed WCG's records and noted that WCG labels the pretested pipe with test pressure, duration, and date once pressure test is completed in the shop; however, WCG does not keep any pressure records for the following operation and maintenance activities:

1. Post pressure test of the new pipe installations in the field;
2. Pressure test of pipe repairs in the field;
3. Use of pretested pipe in the field.

SED determined that WCG must record test medium, pressure, duration, pipe temperature, leaks and failures discovered as a result of pressure testing and other details required by §§ 192.503 Test requirement for plastic pipelines & 192.517 Records for pressure tests conducted in the field as well as any pretesting done prior to installations in the shop.

SED noted that WCG generated a form, Form 503, to capture all the data required for pre & post pressure tests conducted along with pipe information that is used in WCG's pipeline system.

WCG RESPONSE
WCG OME procedure, Maintenance 281, page 26 & Design/Construction 503, page 47 & 48 were revised (Attachments 2A, 2B, 2C).

4. Title 49, CFR §192.619 Maximum allowable operating pressure: Steel or plastic pipelines

(a) No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined under paragraph (c) or (d) of this section, or the lowest of the following:…

(2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows:

(i) For plastic pipe in all locations, the test pressure is divided by a factor of 1.5…/

(3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column. This pressure restriction applies unless the segment was tested according to the requirements in paragraph (a)(2) of this section after the applicable date in the third column or the segment was uprated according to the requirements in subpart K of this part:

Pipeline segment	***Pressure date***	***Test date***
—Onshore gathering line that first became subject to this part (other than §192.612) after April 13, 2006	*March 15, 2006, or date line becomes subject to this part, whichever is later*	*5 years preceding applicable date in second column.*
—Onshore transmission line that was a gathering line not subject to this part before March 15, 2006		
Offshore gathering lines	*July 1, 1976*	*July 1, 1971*
All other pipelines	*July 1, 1970*	*July 1, 1965*

(4) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressure.

(b) No person may operate a segment to which paragraph (a)(4) of this section is applicable, unless over-pressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with §192.195.

(c) The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with §192.611.

(d) The operator of a pipeline segment of steel pipeline meeting the conditions prescribed in §192.620(b) may elect to operate the segment at a maximum allowable operating pressure determined under §192.620(a).

SED requested MAOP validation records for WCG's systems and put together the attached spreadsheet. As can be seen from the spreadsheet, WCG failed to provide the following MAOP documentation to verify the establishment of the MAOP of its systems.

Please see the attached spreadsheet for information regarding deficiencies identified in WCG's establishment and documentation of MAOP in WCG's systems. Please also see the red highlighted text that shows the areas where deficiencies identified and WCG's responses are necessary.

4.1 Wherry section of Mather Distribution Pipeline System:

WCG did not provide any MAOP documentation or explanation how MAOP was established for this section of its existing steel pipeline which was acquired from the previous operator.

According to WCG's O&M (4/13/16), the MAOP of this system is 60 psig; however, WCG's uprate document contradicts this statement. Page 1 of "West Coast Gas Uprate Plan for Capehart at Mather, November 2002" states the MAOP as 50 psig.

Please provide SED with documentation to demonstrate how WCG established the MAOP of Wherry Section of Mather Distribution Steel Pipeline system, explain how it was determined, and the current MAOP of the system.

WCG RESPONSE

The MAOP of 60 psig for the Wherry Housing was established by PG&E at the time of installation. WCG has formally requested PG&E to provide documentation of the MAOP for the Mather Wherry Housing area and will update the written response to SED upon receipt of documentation from PG&E.

4.2 Capehart Section of Mather Distribution Steel Pipeline System:

On June 1, 2016, SED requested records from WCG showing that the steel pipe in the Capehart system was equivalent to ASTM A53 steel, as claimed in the uprating documents provided by WCG on May 31, 2016. On June 15, 2016, WCG responded, "Coupons were sent to ETMS for testing, WCG will forward test results as soon as we receive them." To date, SED has not received those records.

According to WCG's O&M (4/13/16), the MAOP of this system is 17 psig; however, WCG's uprate document contradicts this statement. Page 1 in "West Coast Gas Uprate Plan for Capehart at Mather, November 2002" states the MAOP as 15 psig.

Please provide SED with documentation to demonstrate how WCG established the MAOP of Capehart Section of Mather Distribution Steel Pipeline system, explain how it was determined, and the current MAOP of the system.

WCG RESPONSE

The MAOP for Capehart steel system will be confirmed after evaluation of the pipe coupons sent to ETMS for testing. WCG will update the written response to SED once confirmed.

4.3 Capehart Section of Mather Distribution Plastic Pipeline System:

On June 1, 2016, SED requested any pressure test reports of the PE services at the Capehart system installed during and after any new housing construction in 1998. On June 15, 2016, WCG provided three different pressure charts showing 100 psi pressure tests for no less than 14 minutes for three different sections of pipe. These sections were labeled "McRoberts," "Woodring," and "Biddeford/Brattleboro," which are all street names within the housing area.

According to WCG's O&M (4/13/16), the MAOP of this system is 17 psig; however, WCG's uprate document contradicts this statement. Page 1 in "West Coast Gas Uprate Plan for Capehart at Mather, November 2002" states the MAOP as 15 psig.

Please provide SED with the current MAOP of the system.

WCG RESPONSE

The MAOP of the Capehart system was established by the uprating procedure performed in November 2002, the uprated pressure is 17 psig. The 17psig was established by pressure test record dated November 7, 2002 at 4329 Gorham Way.

In 2002, the Capehart update and leak survey to 17 psig was performed by Mark Williams. The psi chart was taken with a 0-30 psi gauge at 4329 Gorham Way.

4.4 Castle New Plastic Distribution Pipeline System:

On June 1, 2016, SED requested the pressure test report, including the pressure chart, of the P.E. main at Castle installed in 1999. On June 15, 2016, WCG responded, "The 4 inch line was installed by WCG in 1999 and was pressure tested by compressed air to 100 psi for a period of 24 hours," and provided a pressure chart. The chart provided however, is designed to be used as an hour long test, delineated by 5 minute intervals. Also, the redline is at the 150 psi level, not 100 psi. The notes on the back of the chart are inconsistent with the data on the front: "24 HR Test at 100 PSI".

Please provide SED with explanation how long the pressure test was conducted and the current MAOP of the system.

WCG RESPONSE

The MAOP for Castle system was established by the Castle Uprate Plan of January 2000. The MAOP of Castle is 20 psig. However, the delivery pressure is reduced to 17 psig at the PG&E regulation and metering station.

The 4" PE main to the federal prison at Castle Commerce Center was installed by WCG and is approximately 1.5 miles long. After installation the line was pressure tested with compressed air and pressure gauge to 100 psig for 24 hours. After the line passed the pressure test, WCG did a tie in and purged the air out. Line was pressurized with gas and Mark Williams leak checked exposed pipe while trench was still open and found no leaks. Trench was then backfilled and pipe put into service.

5. Title 49, CFR §192.739 Pressure limiting and regulating stations: Inspection and testing.

(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—

(1) In good mechanical condition;

(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;

(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); and

(4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

During the field inspection in Herlong, SED staff noted the following:

5.1 In addition to the regulator and monitor on both main and by-pass line, there are two other Fisher regulators that cut the high inlet pressure of 850 psig to 150 psig. WCG personnel explained that they perform maintenance of these regulators; however, SED did not find any maintenance records.

WCG must conduct annual maintenance of the upstream Fisher regulators and keep the records. WCG must also update its forms and procedures accordingly.

5.2 Additionally, WCG must also update its O&M Plan by adding the procedures of performing internal inspections of worker and monitor regulators on both main line and by-pass lines.

5.3 SED also noted that WCG did not have any schematic diagram of its regulator station located at Herlong.

WCG must have a schematic diagram of its regulator station to show details of its system such as worker and monitor regulators on both main line and by-pass line and any other equipment which is essential for the integrity of the system.

WCG RESPONSE

WCG performs annual maintenance of the upstream Fisher regulators and has revised OME Maintenance 739, pages 133 to 135 (Attachments 3A, 3B, 3C), Schematic from American Meter Company (Attachments 3D, 3E). Forms (Attachments 3F, 3G)

6. Title 49, CFR, §192.747 Valve maintenance: Distribution systems.

(a) Each valve must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.

SED reviewed WCG's valve maintenance records and noted that WCG failed to check and service the following key valves within the allowed 15-month interval at Castle and Mather systems shown in Tables 1 & 2.

Table 1- List of Castle Valves and Maintenance Dates

Valve #	Maintenance dates	Maintenance dates
Key Valve 2	4/24/2013	9/11/2014
Key Valve 3	4/04/2013	9/11/2014
Key Valve 4	4/24/2013	9/11/2014
Key Valve 5	4/24/2013	9/11/2014
Key Valve 6	4/24/2013	9/11/2014

Table 2- List of Mather Valves and Maintenance Dates

Valve #	Maintenance dates	Maintenance dates
Key Valve 3	2/24/2014	6/7/2015
Key Valve 4	2/24/2014	6/7/2015
Key Valve 5	2/24/2014	6/7/2015
Key Valve 6	2/24/2014	6/7/2015
Key Valve 7	2/24/2014	6/17/2015
Key Valve 8	2/24/2014	6/17/2015
Key Valve 13	2/24/2014	6/22/2015

Please provide SED with preventive measures that WCG has taken to address this deficiency.

WCG RESPONSE

To prevent recurrence of performing valve maintenance past the 15 month interval, WCG has established a written valve maintenance schedule. The maintenance schedule is displayed in the office and is managed by the Operation Manager to ensure these tasks are performed and documented on time in the future.

7. Title 49, CFR, §192.747 Valve maintenance: Distribution systems.

(*b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve.*

SED found that WCG's Valve Inspection and Maintenance Procedures did not address how to designate an alternative valve for alternate means of control if any of WCG's key valves is found inoperable until corrective actions are taken. Furthermore, WCG procedures did not describe the type and timeframe of possible remedial actions that can be taken to repair or replace any inoperable key valve for safe operation of its system.

SED noted that WCG has made some changes during the audit to address these deficiencies in its O&M Plan.

Gas Piping Technology Committee has the following guide material related to inoperable valves:

"The following actions should be considered if a valve is found inoperable.

(a) Repair the valve to make it operable.

(b) Designate another valve or valves to substitute for the inoperable valve that will provide a similar level of effectiveness for isolating the desired area. Consideration should be given to the following.

(1) Updating records for emergency shutdown and future maintenance requirements.

(2) Informing employees of the change to the isolation or emergency shutdown plan.

(c) Replace the valve."

Please provide SED with the updated version of Valve Inspection and Maintenance Procedures that address deficiencies identified above.

WCG RESPONSE

WCG revised the OME Maintenance 747, page 145 & 146 (ATTCHMENT 4A, 4B) to address inoperable valves.

8. WCG's O&M Plan requires flushing and greasing steel valves during inspection and maintenance; however, SED noted that WCG did not flush or grease some valves, such as Key Valve 21 & Secondary Valve 20, during the maintenance conducted on April 8-9, 2015 in WCG's Mather-Commercial pipeline system.

Please inform SED with the corrective and preventive actions taken to address this issue.

WCG RESPONSE

To prevent recurrence of performing valve maintenance past the 15 month interval, WCG has established a written valve maintenance schedule. The maintenance schedule is displayed in the office and is managed by the Operation Manager to ensure these tasks are performed and documented on time in the future.

9. WCG gas leak records showed that there were a total of three Grade 3 underground leaks still outstanding at WCG's Castle system, shown in Table 3.

Table 3- List of Open Grade 3 Leaks in Castle

Leak location	Discovery date	Repair or recheck date
Valve 24, Airflight Dr.	9/15/2015	9/28/2015
Valve 59, 150' South of C Street	9/15/2015	-
Building 439 on Carried Dr.	9/15/2015	-

On 4/12/2016, SED and WCG personnel visited the Grade 3 leak located at Valve 24 and noted that even though it was repaired on 9/28/2015, it was still leaking. Similarly, SED observed that Grade 3 leak located nearby Valve 59 was still pending repairs.

Please provide SED with a status update on these leaks along with repair or leak recheck records.

WCG RESPONSE

WCG's OME, Maintenance 723 states that a Grade 3 Leak "is a leak that is non hazardous at the time of detection and can be reasonably expected to remain non hazardous". These leaks should be reevaluated during the next schedules survey or within 15 months of the reported date.

On 04.12.16 SED & WCG went to Valve 24 and grease the valve and found no leaks. After maintenance was done, on 07.12.16 annual maintenance was performed and no leaks were found.

Leak by valve 59 will be rechecked during next leak survey.

Leak at Building 439 with be rechecked during next leak survey.

10. SED also noted that there were a total of two Grade 3 underground leaks pending repairs from 2015 in WCG's Mather system. Table 4 shows details of the leaks.

Table 4- List of Open Grade 3 Leaks in Mather

Leak location	Discovery date	Repair or recheck date
Service line to 10817 Woodring Drive	10/29/2015	-
Main line leak at 4412	10/29/2015	-

Kingscote Way		

Please provide SED with a status update on these leaks along with repair or leak monitor records.

WCG RESPONSE
WCG's OME, Maintenance 723 states that a Grade 3 Leak "is a leak that is non hazardous at the time of detection and can be reasonably expected to remain non hazardous". These leaks should be reevaluated during the next schedules survey or within 15 months of the reported date.

Leak at 10817 Woodring Drive was discovered on 10.29.2015, is a grade 3 leak, reading 760 ppm and will be rechecked during next leak survey.

Leak at 4412 Kingscote Way was discovered on 10.29.2015, is a grade 3 leak, reading 143 ppm and will be rechecked during next leak survey.

II. Areas of Concern/ Observations/ Recommendations

1. Title 49, CFR, §192.59 Plastic Pipe

§192.59(a) states in part:

(a) New plastic pipe is qualified for use under this part if:
(1) It is manufactured in accordance with a listed specification; and
(2) It is resistant to chemicals with which contact may be anticipated.

SED staff visited WCG's shop where WCG stores and conducts pretests of the PE pipes and noted the following:

SED staff observed some pipe segments with illegible print line. SED asked WCG to become more knowledgeable about the print line requirements and learn how to read the essential information that is required to be on the pipe.

GPTC guide material for this code section states the following:

Each operator should establish that new or used pipe complies with the requirements of ASTM D2513 (see §192.7 for IBR) for thermoplastic or ASTM D2517 (see §192.7 for IBR) for thermosetting plastics by one of the following methods.

(a) Inspection and testing by an accredited laboratory with written certification.

(b) Inspection and testing by the user.

(c) Written certification from the manufacturer at the time of purchase. Included as part of this certification.

ASTM D2513- 04 Marking requirements states in part:

"7. Marking
7.1 Pipe—All required marking shall be legible, visible, and permanent. To ensure permanence, marking shall be applied so it can only be removed by physically removing part of the pipe wall. The marking shall (1) not reduce the wall thickness to less than the minimum value for the pipe, (2) not have any effect on the long-term strength of the pipe, and (3) not provide leakage channels when elastomeric gasket compression fittings are used to make the joints. These marking shall consist of the word GAS, the designation ASTM D 2513, the manufacturer's name or trademark, the normal pipe size including the sizing system used (IPS, CTS, or OD), DR or minimum wall thickness, material designation, and date of manufacture.

7.1.1 In addition to 7.1, the pipe marking shall include a coding that will enable the manufacturer to determine the location of manufacture, pipe production and resin lots, and any additional information which is agreed upon between the manufacturer and purchaser. The manufacturer shall maintain such records for fifty years or for the design service life of the pipe, whichever is longer.

7.1.2 All the markings in 7.1 and 7.1.1 shall be repeated at intervals not exceeding 5 ft (1.5 m). For indented printing, either the indented print line shall be in a color that contrasts with that of the pipe, or a separate print line shall be in a color that contrasts with the pipe. See Annex A1 and Annex A2 for additional specific marking requirements. When color is applied to identify gas service, such as with color stripes, a color shell or solid color pipe, yellow color shall be used.

NOTE 10—Using color to identify piping service is not mandatory, but if used, yellow color is required.

NOTE 11—The non-mandatory, preferred order for all the items required in the print line in the marking sections 7.1 and 7.2 are:
(1) Pipe size including sizing system (IPS, CTS or OD),
(2) SDR (DR) or minimum wall thickness,
(3) Manufacturer's name or trademark,
(4) GAS,
(5) Pipe material designation code,
(6) Elevated temperature code from Table 4,
(7) ASTM D 2513,
(8) Manufacturer's lot code (includes date of manufacture in some cases), and
(9) Additional information, including date of manufacture, coil number, sequential footage, third party certification mark etc.
Example:
2 in. IPS SDR 11 MANUFACTURER NAME GAS PE 2406 CEC ASTM D 2513 LOT CODE INFO 02JAN98 coil #506…"

Abbreviations:
OD: Outside diameter, WT: Wall thickness, SDR: Standard Dimension Ratio is the ratio of the OD of pipe to the wall thickness, IPS: Iron Pipe Size, CTS: Copper Tubing Size.

After SED discussed the importance and requirements of print line on the pipe, WCG contacted the distributer company of Driscoplex pipe and obtained more information how to read Driscoplex/Performance pipe gas print line. Additionally, WCG added this information to its O&M Plan.

SED also suggested that WCG should only accept any pipe whose print line is clear and legible to be able to confirm that the pipe is manufactured in accordance with a listed specification and resistant to chemicals which complies with §192.59 and ASTM D2513 requirements and manufacturing date is visible.

Please provide SED with an updated version of the affected procedure in WCG's O&M Plan.

WCG RESPONSE

WCG revised its OME, Design/Construction 503, page 48 (Attachment 2C)

2. SED staff also noted that WCG stores its PE pipes in the shop where sunlight comes from the sunroof windows which may or may not affect the integrity of the stored pipes.

WCG contacted its pipe distributor and found out that the manufacturers recommendation is to keep PE pipe outdoor up to 3 years. SED observed some PE pipes with manufacturing dates of 2012 in the shop.

WCG should specify the maximum outdoor storage limit of 3 years in its O&M Plan and also ensure that the pipe that is stored in the shop is not exposed to sunlight.

GPTC guide material for this topic is as follows:

2. WEATHERING STATEMENT FOR PLASTIC PIPE
(a) The resistance of plastic pipe to outdoor exposure can vary greatly. The manufacturer of the plastic pipe should be required to supply a written statement of the period of time the product can be stored outside without loss of properties that qualify it for buried gas piping application. The operator should ensure that this exposure time is not exceeded.

(b) When storing outdoors, cumulative exposure periods should be considered. The Pipe Production Code marked on the pipe includes the date of manufacture. In general, most manufacturers store pipe outdoors prior to shipment, and allowance for this period should be made. Exposure time can be minimized by issuing from storage on a "first-in, first-out" rotation, with the date of manufacture used as a control. The pipe with the earliest date of manufacture should be issued first for installation.
(c) See §192.321(g) and guide material under §192.321 for limitations and considerations on the use of plastic pipe temporarily installed above ground.

Please provide SED with an updated version of the affected procedure in WCG's O&M Plan.

WCG RESPONSE

WCG stores all pipe inside and away from direct sunlight per manufacturer's recommendations. WCG eliminates any pipe which is stored over 3 years.

3. During the field inspection, SED staff observed that WCG personnel sometimes fail to use personal protective equipment (PPE) for the covered tasks that they perform. In fact, during a valve inspection, one employee had a minor cut to his hand due to not wearing gloves. We strongly recommend that WCG employees use appropriate PPE to minimize the risk of having injuries while performing covered tasks. PPE may include protective gloves, safety glasses, appropriate footwear, knee pads etc.

Additionally, WCG procedures require all personnel to utilize proper protective clothing and equipment when performing covered tasks. SED recommends that WCG should specify the PPE and implement the PPE requirements in the field for personnel safety.

WCG RESPONSE

WCG is committed to the safety of WCG personnel. Each procedure has a section labeled "Personnel Safety" and "Equipment & Materials" for the purpose and intention of ensuring that WCG personnel are equipped with, and utilize the proper PPE equipment and materials.

WEST COAST GAS
INCORPORATED

FORM 503: PRE-TESTED PIPE / PRESSURE TEST RECORD

Supersedes All Previous Dates

Start Date: April 13, 2016

Canceling Date: May 18, 2015

ATTACHMENT 1

LOCATION: _____ DATE: _____

TESTED BY: _____

	PIPE SIZE	LENGTH	DEPTH OF BURY
MAIN ☐	_____ IN.	_____ FT. _____ IN.	_____ FT. _____ IN.
SERVICE LINE ☐	_____ IN.	_____ FT. _____ IN.	_____ FT. _____ IN.

PIPE INFORMATION

☐ Steel Pipe ☐ Coated Pipe ☐ PE Pipe

ADDITIONAL PIPE INFORMATION: _____

LEAK TEST INFORMATION

TYPE OF TEST PRESSURE RECORD: Pre Tested ☐ Pressure Test Record ☐

GAUGE: YES ☐ NO ☐

PRESSURE TEST: PASS ☐ FAIL ☐

☐ Air Test at _____ psig

☐ Gas Test at _____ psig

Duration of Test: _____ Hours _____ Minutes

Pipe Temperature During Test: _____ Degrees (F)*

** 100 Degrees Maximum*

Placed into Service: _____ psig

NOTES: _____

ATTACHMENT 2A

13) A pipeline must not be put into operation until it has passed a pressure test, refer to 49 CFR 192.513, 192.517 and 192.725.

REPORTING AND NOTIFICATION

Keep records of each employee's fusion qualification in Employee Qualification Records. List size(s) and types and dates of each fusion for each employee.

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

RELATED CODE, PROCEDURES & FORMS

Design/Construction 303: Construction

Maintenance 605-B1: General Pipeline Repair

49 CFR 192.281: Plastic Pipe

49 CFR 192.513: Test Requirements for Plastic Pipelines

49 CFR 192.517: Record

49 CFR 192.725: Testing For Service Line Reinstatement

OQ Section 5.1: Join Polyethylene Pipe, Stab Fittings

OQ Section 5.2: Join Pipe Compression Couplings

OQ Section 5.5: Join Polyethylene Pipe Sidewall Heat Fusion

OQ Section 5.6: Join Polyethylene Pipe Electrofusion

OQ Section 5.7: Join Polyethylene Pipe Socket Heat Fusion

OQ Section 5.8: Inspect a Polyethylene Pipe Fusion Pipe Joint

Form 503: Pre Tested Pipe/Pressure Test Record

PRE-TESTED PIPE

ATTACHMENT 2B

SCOPE AND PURPOSE
WCG will pre-construction leak test all pipe that is to be used for emergency repair purposes.

RESPONSIBILITY
WCG personnel is responsible for ensuring that all pre-construction leak tests are accomplished according to the provisions contained herein.

PERSONNEL SAEFTY
All WCG personnel are to utilize proper protective clothing/equipment when performing pre-construction leak tests.

EQUIPMENT AND MATERIALS
Compressed Air Supply
Calibrated Pressure Gauge
Leak Indicating Solution

INSTRUCTIONS
Operator Qualifications
This activity is a covered task under the Operator Qualification Plan and may only be performed by or directed and observed by a WCG employee who is currently qualified to perform this task. Refer to the WCG OQ Plan for specific qualification requirements.

Steps
WCG will keep pre-tested pipe, PE 2406 Polyethylene in stock to be used for emergency repair purposes. The leak test pressure will be 100 psig applied for a period of one (1) hour minimum.

All 4 Inch PE 2406 Polyethylene received into WCG facilities must be pre pressure tested to a maximum of 150 psi for a duration of no less than 1 hour.

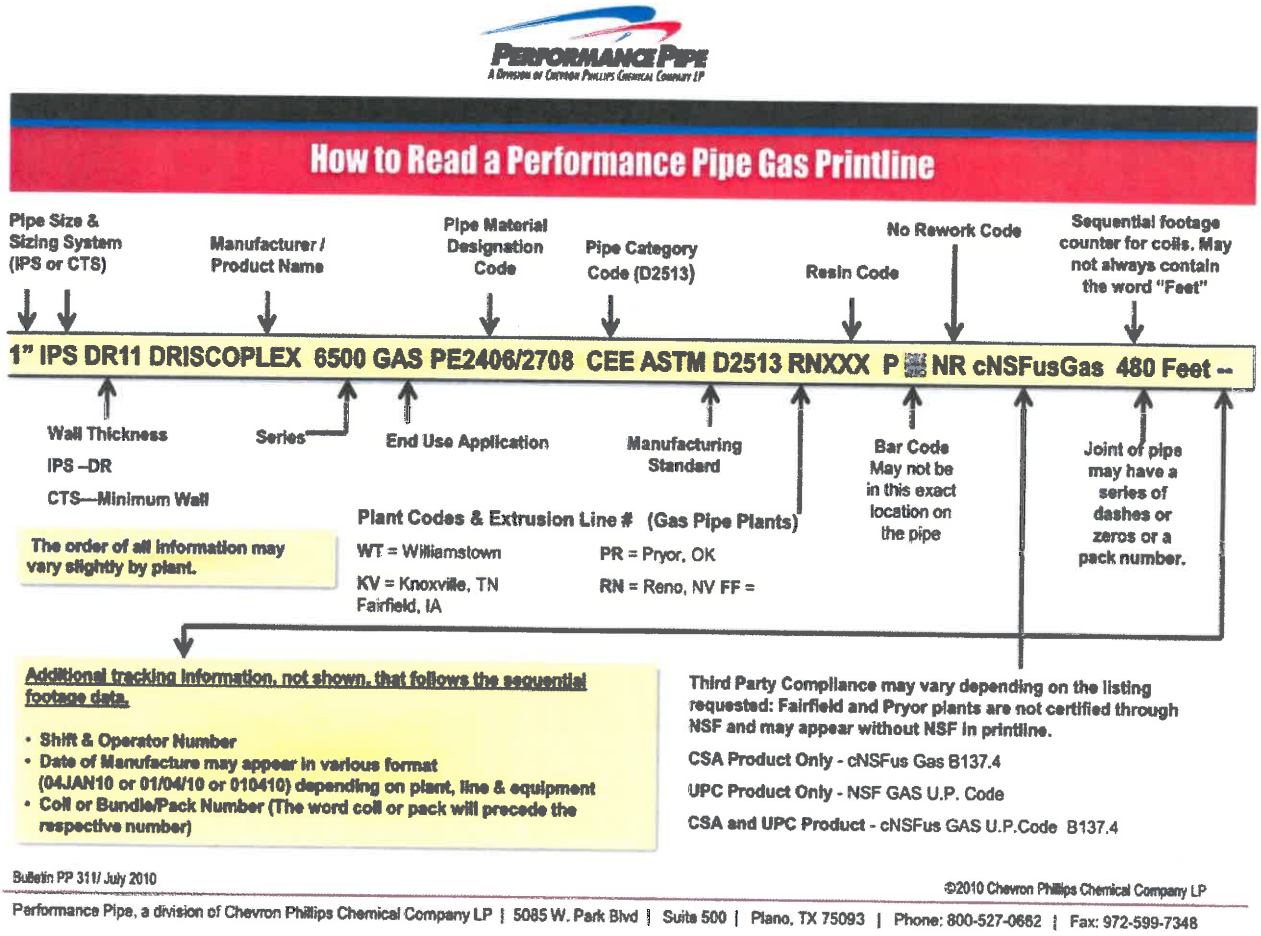
All pre-tested pipe will be recorded with the following information:
Gauge/Chart
Test Medium
Location of Test
Pipe Size/Type
Pipe Temperature During Test
Test Duration
Test Pressure
Signature and Date of WCG personnel performing the test.

REPORTING AND NOTIFICATION
Form 503: Pre-Tested Pipe/Pressure Test Record will be used to record all required test data. A copy of this form will stay in close proximity to the pre-tested pipe until the pipe is used in its entirety.

RELATED CODE, PROCEDURES & FORMS
Design/Construction 503: Facility Leak Test Requirements
49 CFR 192.513: Test Requirements for Plastic Pipelines
49 CFR 192.517: Records
49 CFR 192.619: MAOP: Steel or Plastic Pipelines
49 CFR 192.621 MAOP: High Pressure Distribution Systems
Form 503: Pre-Tested Pipe/Pressure Test Record

ATTACHMENT 2C

FIGURE 1
HOW TO READ A PERFORMANCE PIPE GAS PRINTLINE



12) Screw in the worker pilot regulator to a set point slightly above monitor set point to confirm monitor regulator takes over from the failed worker regulator.

13) Slowly back out the worker to the desired set point of 10 to 11 psig and wait for system to run smoothly.

On both the main run and the bypass, all valves and all regulators have nomenclatures for them.

On the main run - the 2 inch inlet valve is (MV1) and the 4 inch outlet valve is (MV2). The first inline regulator is (MR1) and the second regulator is (MR2)

On the bypass - the two (2) inch inlet valve is (BPV1) and the two (2) inch outlet is (BPV2). The first inline regulator is (BPR1) and the second regulator is (BPR2).

Bypass

1) Close valve BV1, BV2 and MV2.

2) Release pressure between regulators.

3) Relax monitor to full close position by screwing out the pilot regulator spring.

4) Stroke worker to full open position by screwing in the pilot regulator.

5) Wait for downstream pressure to drop below set point of monitor but not below 5 psig.

6) Slowly open BV1 to full open position.

7) Slowly open BV2 to full open position.

8) Begin stroking in monitor to set point, by screwing in the pilot regulator between8 and 9 psig.

9) Close BV2 to check lock up pressure of monitor

10) Open BV2 once step 9 is accomplished.

11) Begin stroking out worker regulator to set point between 6 to 7 psig by screwing out the pilot regulator spring.

12) Close BV2 to check worker regulator lock up.

13) Slowly open BV2 once step 12 is accomplished.

14) Screw in the worker pilot regulator to a set point slightly above monitor set point to confirm monitor regulator take over from the failed worker.

15) Slowly back out the worker to the desired set point of 6 to 7 psig and wait for system to run smoothly.

ATTACHMENT 3A

Description - Herlong

WCG operates and maintains one pressure regulator station located in Herlong, CA at the Sierra Army Depot. This regulation station services the Federal Correctional Institution (FCI) in Herlong. The purpose of this regulator station is to reduce the pressure of 900 psig received from TransCanada to a pressure between 45 to 50 psig delivered to the FCI utility plant. WCG had created an

ATTACHMENT 3B
inspection form and written procedures for changing the worker/monitor regulators, Form 739: Regulator Station Testing & Inspection Record. WCG performs 4 inspections on this regulator station per year and one full maintenance inspection (switching the worker/monitor) each calendar year, but not to exceed 15 months.

RADIAL FLOW VALVE (RFV) STARTUP & OPERATION (Worker/Monitor)

Instructions (Downstream Monitoring)
1) Set restrictors of both worker and monitor to the number eight (8) setting.

2) Relax pressure spring of monitor pilot regulator by backing out adjustment screw until spring tension is at minimum.

3) Increase pressure spring tension of worker pilot regulator to maximum by turning adjusting screw inwards.

4) Crack downstream valve slightly open.

5) *Slowly* crack upstream valve open to pressurize RFV.

6) Fully open upstream and downstream valves.

7) Reset monitor restrictor to the number four (4) setting.

8) Reset worker restrictor to the number two (2) setting.

9) Slowly increase monitor pilot pressure spring tension until downstream pressure approximates desired monitor set pressure.

10) Tune monitor by alternately adjusting the pilot pressure spring and restrictor until both the required set point and stable control is achieved at the lowest possible restrictor setting under normal flow conditions.

11) Reset the worker restrictor to the number four (4) setting.

12) Slowly increase worker pilot pressure spring tension until worker regulator assumes control and the downstream pressure approximates the desired worker set pressure.

13) Tune monitor by alternately adjusting the pilot pressure spring and restrictor until both the required set point and stable control is achieved at the lowest possible restrictor setting under normal flow conditions.

14) Close downstream valve and check for RFV lock up.

15) Gradually open downstream valve.

NOTE: *The adjustable restrictor controls the rate of valve opening and closing. Low restrictor settings quicken the opening and slow the closing. Restrictor settings above four (4) tend to flood the control system; therefore they should be avoided unless required for control stability.*

Instructions (Worker/Monitor Swap)
Setting worker in service

ATTACHMENT 3C

1) Set restrictors of both worker and monitor to the number eight (8) setting.

2) Relax pressure spring of worker pilot regulator by backing out the adjustment screw until spring tension is at minimum.

3) Increase pressure spring tension of monitor pilot to maximum by turning adjusting screw inward.

4) Crack downstream valve.

5) Slowly crack upstream valve to pressurize RFV.

6) Fully open upstream and downstream valves.

7) Reset monitor restrictor to the number two (2) setting.

8) Slowly increase pilot pressure spring tension of worker until some downstream flow is achieved.

9) Slowly reset worker restrictor less then the number four (4) setting.

10) Slowly increase worker pilot pressure spring tension until downstream pressure approximates desired worker set pressure.

11) Tune RFV worker by alternately adjusting the pilot pressure spring and restrictor until both the required set point and stable control is achieved at the lowest possible restrictor setting under normal flow conditions.

Setting monitor in service

1) Slowly decrease monitor pilot pressure spring tension until it begins to assume control from the worker.

2) Fail worker wide open by disconnecting sense line or increasing set point above desired monitor set pressure.

3) Tune monitor by alternately adjusting pilot pressure spring and restrictor until both the required set point and stable control is achieved at the lowest possible restrictor setting under normal flow conditions.

4) Place worker back in operations by reversing step 2 above.

5) Close downstream valve to check for RFV lock up pressure.

6) Gradually open downstream valve.

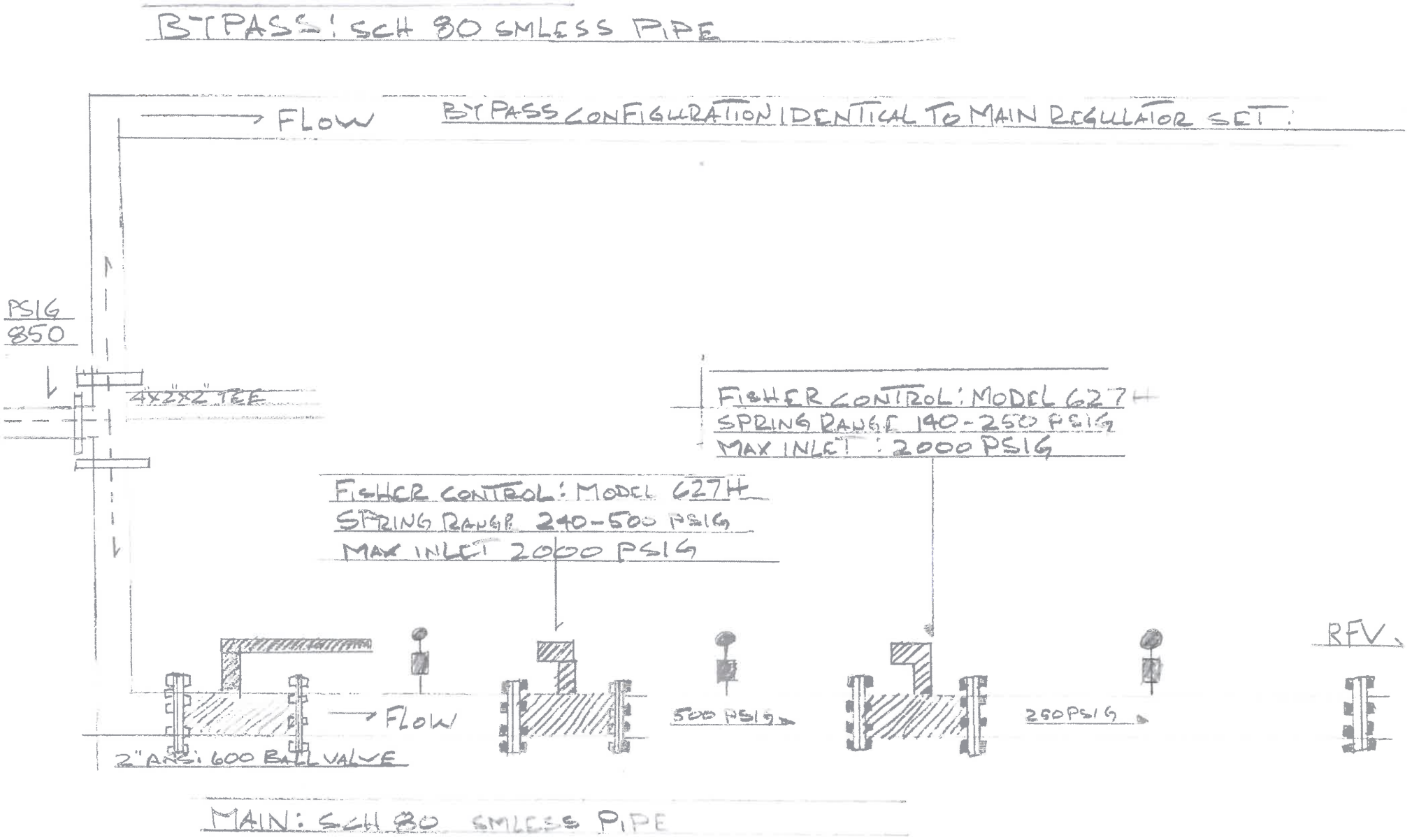
NOTE: *The Herlong Regulator Station has identical main and by pass runs. Therefore the procedures to operate the worker/monitor regulators are the same. However, the by pass set points will be slightly lower than the main line set points.*

Operation Manager's Note

As of May 20, 2015, bypass line is locked out of service do to failure of the BPRI. New regulators have been ordered and should be installed by the end of Summer 2015.

UPDATE: As of 11.12.15 the bypass was rebuilt with two American Meter 1804 PFM worker/monitor regulators. The main run is scheduled for improvements in 2016.

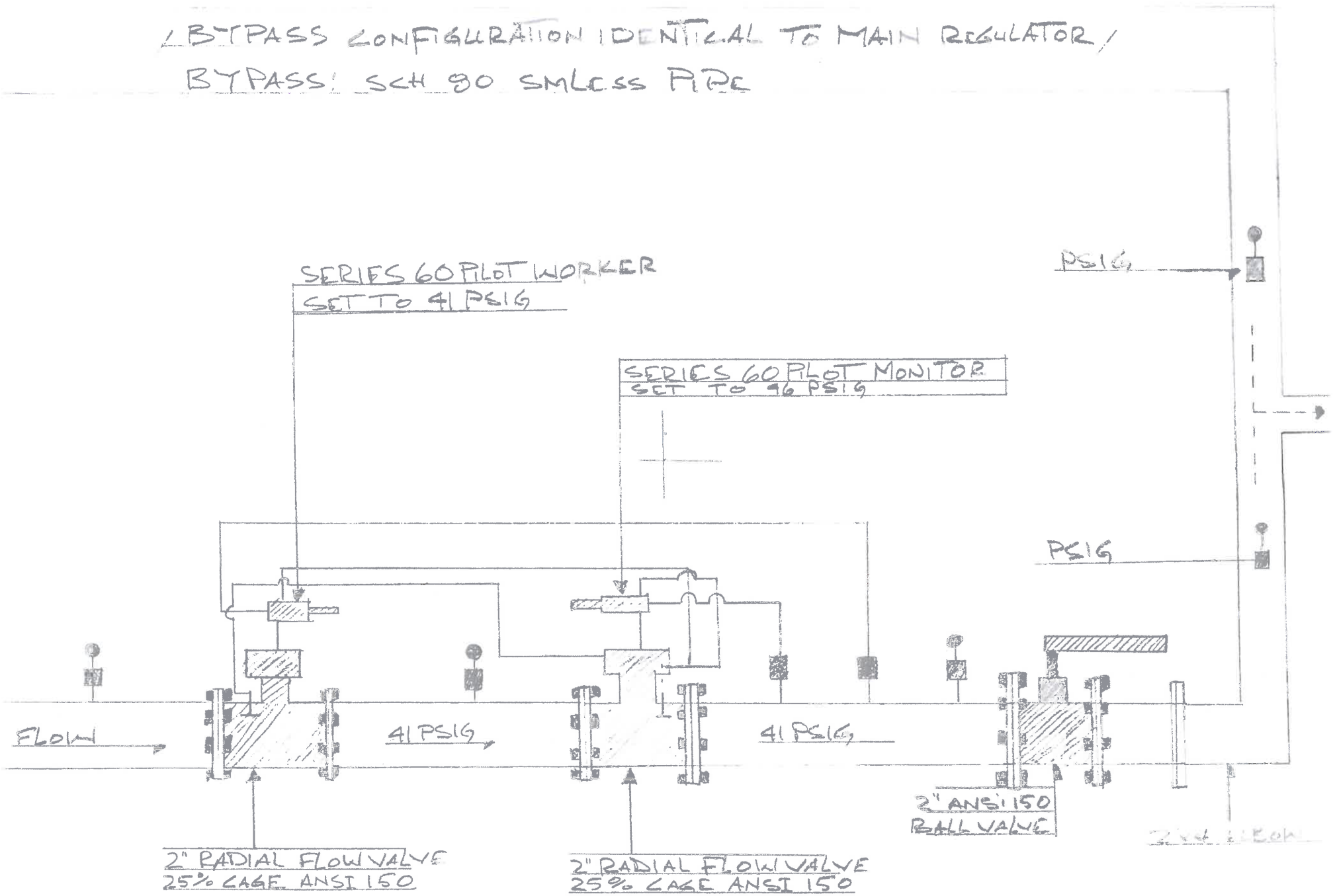
ATTACHMENT 3D



ATTACHMENT 3E

/BYPASS CONFIGURATION IDENTICAL TO MAIN REGULATOR/

BYPASS: SCH 80 SMLESS PIPE



MAIN: SCH 80 SMLESS PIPE

WEST COAST GAS INCORPORATED

FORM 739: REGULATOR STATION TESTING & INSPECTION RECORD

Supersedes All Previous Dates

Start Date: January 2015

Canceling Date:

ATTACHMENT 3F

REGULATOR INSPECTION AND MAINTENANCE ☑ **WORKER/MONITOR TESTING** ☐ **DATE** 4-28-2016

WCG TECHNICIAN MW + BR **TIME IN** 7:30 **TIME OUT** 2:30

MR1 (Main Run Regulator 1) Monitor? ☐ **Worker?** ☐

Manufacturer Fisher | Model 627H | Orifice Size

Spring Range 240-500 Red | Body Type 2 welt 8 BLT flange

Inlet psi 800-850 | Set Point 450

Was Regulator Stroked to Full Open? Yes ☑ No ☐ | Lock Up psi

MR2 (Main Run Regulator 2) Monitor? ☐ **Worker?** ☐

Manufacturer Fisher | Model 627H | Orifice Size

Spring Range 140-250 Blue | Body Type 2 welt flange

Inlet psi 450 | Set Point outlet 150 psi

Was Regulator Stroked to Full Open? Yes ☑ No ☐ | Lock Up psi

BPR1 (By Pass Regulator 1) Monitor? ☐ **Worker?** ☐

Manufacturer Fisher | Model 627H | Orifice Size

Spring Range 240-500 Red | Body Type 2w flange

Inlet psi 800-850 | Set Point 450

Was Regulator Stroked to Full Open? Yes ☐ No ☐ | Lock Up psi

BPR2 (By Pass Regulator 2) Monitor? ☐ **Worker?** ☐

Manufacturer Fisher | Model | Orifice Size

Spring Range 140-250 | Body Type 2w Flange

Inlet psi 450 | Set Point outlet 150 psi

Was Regulator Stroked to Full Open? Yes ☐ No ☐ | Lock Up psi

Regulator Station | Inlet psi 800-850 | Outlet psi 42 psi

MAOP of system to which it is connected? 100 psi

Atmospheric Corrosion? No ☑ Yes ☐ Action Taken: All OK at this Time

Support Pipe Checked? No ☐ Yes ☑ Action Taken: All Tight

Fence, Structure, Gate Locks Checked? No ☐ Yes ☒ Action Taken: None

CORRECTIONS MADE:

REMARKS: OPENED The Fisher control Regs And cleaned And inspected internal part All operating ok need to order more Rebuild Kits And install next Time up. Both main + Bypass functioning Normally.

WEST COAST GAS INCORPORATED

FORM 739: REGULATOR STATION TESTING & INSPECTION RECORD

Supersedes All Previous Dates

Start Date: January 2015

Canceling Date:

ATTACHMENT 3G

REGULATOR INSPECTION AND MAINTENANCE ☒ **WORKER/MONITOR TESTING** ☐ **DATE** 7-18-2016

WCG TECHNICIAN MW + BR **TIME IN** 8:30 **TIME OUT** 2:30

MR1 (Main Run Regulator 1) **Monitor?** ☐ **Worker?** ☐

Manufacturer Fisher CalTrol | Model 627H | Orifice Size

Spring Range 240 – 500 Red | Body Type 2 inch 8 Bolt 600 ANSI Flange

Inlet psi 850 | Set Point 450

Was Regulator Stroked to Full Open? Yes ☑ No ☐ | Lock Up psi

MR2 (Main Run Regulator 2) **Monitor?** ☐ **Worker?** ☐

Manufacturer Fisher | Model 627 H | Orifice Size

Spring Range 140 – 250 blue | Body Type 2 inch Flanged

Inlet psi 450 | Set Point 15 –

Was Regulator Stroked to Full Open? Yes ☒ No ☐ | Lock Up psi

BPR1 (By Pass Regulator 1) **Monitor?** ☐ **Worker?** ☐

Manufacturer Fisher | Model 627H | Orifice Size

Spring Range 240 – 500 RED | Body Type 2 inch Flanged

Inlet psi 850 | Set Point 460

Was Regulator Stroked to Full Open? Yes ☑ No ☐ | Lock Up psi

BPR2 (By Pass Regulator 2) **Monitor?** ☐ **Worker?** ☐

Manufacturer Fisher | Model 627H | Orifice Size

Spring Range 140-250 - Blue | Body Type 2in Flanged

Inlet psi 450 | Set Point 15

Was Regulator Stroked to Full Open? Yes ☑ No ☐ | Lock Up psi

Regulator Station | Inlet psi 850 | Outlet psi 42 PSI –

MAOP of system to which it is connected? 100 –

Atmospheric Corrosion? No ☒ Yes ☐ Action Taken:

Support Pipe Checked? No ☐ Yes ☒ Action Taken: All OK At This Time

Fence, Structure, Gate Locks Checked? No ☐ Yes ☑ Action Taken: NONE

CORRECTIONS MADE: Completely DISASSEMBLED AND REBUILT FISHER REG INSTALL ALL NEW PARTS FROM KITS, ON BOTH MAIN + BYPASS

REMARKS: INSTALLED REBUILD KIT FROM CALTROL ON FISHER Regulators;

VALVE INSPECTION AND MAINTENANCE

ATTACHMENT 4A

Valve Findings

Castle Commercial

VALVE TYPE	VALVE SIZE	QUANTITY
Plastic	1"	3
Steel	1"	3
Plastic	1 1/4"	3
Steel	1 1/4"	4
Steel	1 1/2"	3
Plastic	2"	2
Steel	2"	11
Steel	3"	2
Plastic	4"	1
Steel	4"	31
Steel	6"	2

Mather Commercial

VALVE TYPE	VALVE SIZE	QUANTITY
Plastic	3/4"	1
Steel	3/4"	1
Steel	1"	5
Plastic	1 1/4"	6
Steel	1 1/4"	17
Steel	1 1/2"	1
Plastic	2"	6
Steel	2"	14
Plastic	2 1/2"	1
Steel	2 1/2"	6
Plastic	3"	2
Steel	3"	18
Plastic	4"	7
Steel	4"	14
Plastic	6"	1
Steel	6"	22
Steel	8"	2

Mather Housing

VALVE TYPE	VALVE SIZE	QUANTITY
Steel	1"	1
Steel	1 1/2"	2
Plastic	2"	48
Steel	2"	17
Steel	3"	3
Plastic	4"	4
Plastic	6"	3
Steel	6"	17

Herlong Federal Correction Institution

VALVE TYPE	VALVE SIZE	QUANTITY
Plastic	4"	2
Steel	2"	5
Steel	4"	2

Inoperable Valve

If, for any reason, a valve is found/discovered to be inoperable the employee is to immediately contact the Operations Manager or Supervisor of Field Operations so that a different valve(s) can be selected to take the place of the inoperable valve.

Any changes to valves must be documented on all maps and communicated to ALL employees.

After selecting a different valve to control gas flow the Operations Manager will schedule a date to promptly repair or replace inoperable valve.

Replacing Valves

Whenever steel valves can be taken out of service for repair purposes, repairs can be accomplished using a replacement segment of pre-tested PE pipe (poly) and PE valve.

ATTACHMENT 4 B

1) Removed valve segment to be replaced with PE pipe and PE valve.

2) Use steel pipe threader to cut pipe threads onto both ends of remaining steel pipe in ground.

3) Clean newly cut threads using a wire brush and a clean rag. After cleaning apply tephlon tape and/or pipe thread compound to threads.

4) Install new steel threaded coupler onto both ends of threaded steel pipe with pipe wrench.

5) Apply tephlon tape and/or pipe thread compound onto threaded ends of steel to poly transition fittings.

6) Install transition fittings into steel couplers using pipe wrench.

7) Fusion on new PE (poly) valve onto one end of PE pipe (poly) with a PE coupler. Measure the gap between the valve and transition fittings and cut a new section of pre-tested PE pipe to fit.

8) Refer to the Maintenance 281: Plastic Fusion Procedure and select a method of fusion to use to make the connection between the transition fittings and the PE pipe/PE valve.

9) Follow fusion procedures in this manual and make the connection.

10) Restore gas to pipeline

11) Refer to Design/Construction 503: Facility Leak Test/Pressure Requirements and follow the leak test procedures to ensure the safe operation of this pipeline.

12) Restore cathodic protection by cad welding tracer wire across repair to both ends of steel pipe.

13) Complete and file all documentation necessary for repair.

REPORTING AND NOTIFICATION

Complete valve inspection and maintenance forms for each valve using Form 747MC: Mather Commercial Valve Maintenance Record, Form 747MH: Mather Housing Valve Maintenance Record or Form 747C: Castle Commercial Valve Maintenance Record. Notify the Operations Manager of any problems that could not be repaired during the inspection and maintenance.

RELATED CODE, PROCEDURES & FORMS

Maintenance 281: Plastic Fusion Procedure

Design/Construction 503: Facility Leak Test/Pressure Requirements

Maintenance 709: Record Keeping

Maintenance 747: Valve Inspection and Maintenance

49 CFR 192.747: Valve Maintenance