# LETTER AGREEMENT
# No. 92-116-PGE

Pacific Gas and Electric Company
Industrial Relations Department
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International Brotherhood of
Electrical Workers, AFL-CIO
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Ronald L. Bailey, Manager or
David J. Bergman, Director and Chief Negotiator

Jack McNally, Business Manager

August 10, 1992

Local Union 1245
International Brotherhood of
Electrical Workers, AFL-CIO
P. O. Box 4790
Walnut Creek, CA 94596

Attention: Mr. Jack McNally, Business Manager

Gentlemen:

The parties agreed, at the last General Negotiations, to establish a new training position "Gas Operator in Training" (GOIT), classification number 1578 effective January 1, 1991. Preliminary Training Outline was agreed upon and the Company was to develop specific training materials at a later date.

The Company has completed the development of the Region Gas Control Operator Program and submitted a draft to the union for their review at the May 8, 1992, Joint Apprenticeship Committee Meeting. The Program Materials consists of:

1. **OPERATOR MANUAL** - a guide and record to facilitate the GOIT's progress through the on-the-job training program. The manual also includes instructions and information necessary to complete the program that may not be found elsewhere.

2. **ADMINISTRATOR'S GUIDE** - a guide for the Gas Control Center Supervisor to administer the program in an uniform manner. Also included in the Guide are the exams/tests and answer sheets. We have attached copies of the customized exams for each Region.

3. **GAS OPERATOR IN TRAINING AGREEMENT** - (ATTACHED)

If you are in accord with the foregoing and the attachments and agree thereto, please so indicate in the space provided below and return one executed copy of this letter to the Company.

Yours very truly

PACIFIC GAS AND ELECTRIC COMPANY

By _____
**Manager - Industrial Relations**

The Union is in accord with the foregoing and attachments and it agrees thereto as of the date hereof.

LOCAL UNION NO. 1245, INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS, AFL-CIO

9/18/92

By _____
**Business Manager**

# GAS OPERATOR IN TRAINING (GOIT) PROGRAM AGREEMENT

## A. Placement and Training in Gas Operator in Training Classification

A shift employee who is engaged in performing a Region Gas Control Operator's work as assistant to and under the direct supervision of a Region Gas Control Operator. The first twelve (12) weeks will consist of a formalized training program that includes on-the-job training (at the headquarters assigned), formalized SCADA and computer training, written exams and performance testing, (see attachments 1 & 2). During this formalized training program he/she will be required to demonstrate the capability to progress to the Region Gas Control Operator position. After successful completion of the twelve week formalized training program, the GOIT will continue his/her on-the-job training and development. Upon completion of six (6) months training, he/she will automatically advance to Region Gas Control Operator. May be assigned to work with maintenance and operations personnel as part of the training program, if qualified.

## B. Testing of Employees in the G.O.I.T. Program

1. Must pass A.C.T.

2. Written Exams - eight (8)

   (a) All eight (8) exams, except the Final Exam, are open book.
   (b) Each exam will require a score of 70% or more to pass.
   (c) A maximum of one (1) retest per exam is allowed within five (5) working days of the failure.

3. Performance Tests - three (3)

   (a) Performance must meet criteria established in Training Objective for each Module.
   (b) Pass or Fail.
   (c) A maximum of one (1) retest per performance test is allowed within five (5) working days of the failure.

4. Final Exam

   (a) The GOITs Training record must be complete
   (b) All exams and tests must be successfully passed.
   (c) Exam is closed book and made up mostly of true or false and multiple choice questions.
   (d) A test score of 70% or more will constitute successful completion of the twelve (12) week formalized training period.
   (e) A maximum of one (1) retest is allowed within five (5) working days of the failure.

5. Scoring of Exams

   (a) Multiple choice and true or false questions are worth two points each.
   (b) Essay type questions are worth two to thirty two points each.
   (c) Partial credit is possible for essay questions.

6. Customized Exams

Since the majority of training is on-the job and activities as well as the gas system are not uniform, portions of the Manual and some questions on the exams/tests are customized in order to be valid in that particular Region Gas Control Center. The content of the "customized" question and/or answer remains the same. Attachment #3 indicates which section, page and/or question is customized in each Region. The actual exams are labeled Attachment #4.

7. Options

(a) GOIT will notify RGCC Supervisor in writing when he/she is ready for each test/exam and retest.

(b) If at anytime during the "Training Period" (the first twelve weeks), a GOIT wishes to return to his/her former classification, a written request must be submitted to the RGCC supervisor. Upon receipt of the written request, the trainee will be removed from the GOIT classification and placed in their former classification.

(c) Employees not able to successfully complete the twelve week training period will be reinstated to their former classification.

(d) An employee who has not successfully completed the GOIT Twelve Week Training Program will not be given consideration for the Training Program again unless all of the following apply:

1. An opening for GOIT exists.
2. He/she is the successful bidder.
3. Six months has elapsed since the failure.
4. Has not failed the program twice.

In addition, he/she must provide acceptable evidence that he/she has remedied the deficiencies which caused his/her failure.

## C. General

1. The intent of the Gas Control Operator Training Program is to allow each employee the full amount of time provided, (twelve weeks), in order to qualify both academically and through actual work experience. It is mandatory that each employee be given the fullest opportunity under the Program to succeed.

2. Journeyman Operators have the responsibility to direct and train new operators assigned to work with them. Guidelines and tests for each training period have been established to insure the orderly progression of the GOIT through his/her training.

**REGION GAS CONTROL OPERATOR TRAINING PROGRAM** — **Program Schedule**

## PROGRAM SCHEDULE

The first 12 weeks of the training period will occur primarily during day shift (07:00–16:00 Monday–Friday). The schedule/sequence of training below should be kept flexible to accommodate unique training needs and opportunities.

| | |
|---|---|
| Phase I<br>Weeks 1–3 | • Orientation/Observation of overall operation of Region Gas Control Center<br>• Complete Module 1:1—System Knowledge, including Exam<br>• Study Radio Operating Manual to get license<br>• Start tours in division stations within Region to augment Module 1:1<br>• Begin Module 1:2—SCADA Operation with limited OJT<br>• Begin Module 1:3—Communication Equipment with limited OJT<br>• Complete Module 1:4—Gas Control Vocabulary, including Exam<br>• Complete PSEA G-1 Course: Elementary Natural Gas (prior to end of Phase III)<br>• Complete abbreviated PSEA G-16 Course: Fundamental Gas Pressure Regulation (optional) |
| Phase II<br>Weeks 4–6 | • Continue with SCADA Operation and Communication Equipment with more advanced OJT<br>• Complete all modules in Unit 2—Control and Operation of Gas Facilities, including Exams<br>• Begin modules in Unit 3—Data Gathering and Reporting<br>• Complete SCADA Operations Exams and Communication Equipment Exam |
| Phase III<br>Weeks 7–9 | • Ongoing training in Units 2-3, with special emphasis on Therm Billing training<br>• AMR training (when available)<br>• M&C Tour/abbreviated M&C school (optional)<br>• Gas Control Tour<br>• Computer training schools (DOS)<br>• Complete tours of Pipeline Operations Facilities and divisions<br>• Ongoing participation in handling emergencies |
| Phase IV<br>Weeks 10–12 | • Complete Unit 4—Customer/Company Contact<br>• Complete Unit 5—Other Training Activities<br>• Perform job under close supervision on different shift work<br>• Complete any remedial training needed<br>• Complete Final Exam |

Forms for tracking the GOIT's progress through training activities and completion of Exams are provided on the following pages.

**REGION GAS CONTROL OPERATOR TRAINING**

**OPERATOR IN TRAINING _____**

| Test Record | Date Completed | Score | Supervisor Sign-Off |
|---|---|---|---|
| PG&E Radio Operator Examination | | | |
| PSEA Course G-1 | | | |
| System Knowledge Exam* | | | |
| SCADA Operation Exam* | | | |
| Communication Equipment Exam* | | | |
| Gas Control Vocabulary Exam* | | | |
| Control of Pipeline Pressures Exam* | | | |
| Curtailment Procedures Exam* | | | |
| Gas Quality Measurement Exam* | | | |
| Emergency Procedures/Communication Exam* | | | |
| Clearance and Shutdown Procedures Exam* | | | |
| Final Exam** | | | |
| Work Minimum of Two-12-Hour Day Shifts with Operator | | | |
| Work Minimum of Two-12-Hour Night Shifts with Operator | | | |

* The Region Gas Control Supervisor will provide these exams to the GOIT upon request as scheduled for completion of each module. Each of these written exams must be customized by Region. These exams are open book and may be taken twice in order to achieve a score of at least 70% correct. Performance Exams may be taken twice and are Pass/Fail.

** The Final Exam is closed book and will be Pass/Fail with one retake allowed.

# REGION GAS OPERATOR IN TRAINING PROGRAM
## CUSTOMIZING SUMMARY BY REGION

| | Page | Customize | REGION | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | EBR | GGR | MTR | RR | SVR | SJVR |
| **MANUAL** | | | | | | | | |
| | 20 - 23a | ALL | | X | | | | |
| | 30 | ALL | X | X | X | X | | X |
| | 31 | ALL | X | no page | X | X | | X |
| | 32 | ALL | X | X | X | X | | X |
| | 63 | ALL | X | X | X | X | X | X |
| | 64 | ALL | X | X | X | X | X | X |
| **TESTS** | | | | | | | | |
| | SK-2 | ALL | X | X | | | | |
| | SK-2a | ALL | X | X | | | | |
| | SK-3 | #3 | X | X | X | X | X | |
| | | #4 | X | X | X | X | X | |
| | SK-AS | #2 (a - j) | | X | | | | |
| | | #3 | X | X | X | X | X | |
| | | #4 | X | X | X | X | X | |
| | CE-1 | #2 | | | no question | X | no question | |
| | | #3 | | | | X | | |
| | | #4 | X | X | X | X | X | |
| | CE-AS | #1 | X | X | X | X | X | |
| | | #2 | X | X | no question | X | no question | |
| | | #4 | X | X | X | X | X | |
| | CPP-1 | #1 | X | X | X | X | X | |
| | | #2 | X | X | X | X | X | |
| | | #3 | X | X | X | X | X | |
| | | #4 | X | X | X | X | X | |
| | | #5 | X | X | X | X | X | |
| | | #6 | no question | X | X | X | X | |
| | | #7 | X | X | X | X | X | |
| | | #8 | X | X | X | X | X | |
| | CPP-AS | #8 | X | X | X | X | X | |
| | EPC-1 | QUESTION | X | X | X | X | X | |
| | | #1 | X | X | X | X | X | |
| | | #3 | X | X | X | X | X | |
| | | #4 | X | X | X | X | X | |
| | | #5 | X | X | X | X | X | |
| | | #6 | | | | X | | |
| | EPC-2 | #8 | | | | X | | |
| | | #9 | X | X | X | X | X | |
| | | #12 | X | X | X | X | X | |
| | EPC- AS | #3 | | | | X | X | |
| | | #4 | | | | X | X | |
| | | #5 | X | X | X | X | X | |
| | | #6 | X | X | X | X | X | |
| | | #7 | X | X | X | X | X | |
| | | #8 | X | X | X | X | X | |
| | | #9 | X | X | X | X | X | |
| | | #12 | | X | | | | |
| | FE-4 | #17 | X | X | X | X | X | |
| | FE-6 | #25 | X | X | X | X | X | |
| | FE-AS | #17 | X | X | X | X | X | |
| | | | EBR | GGR | MTR | RR | SVR | SJVR |

**NOTE**

X — Indicates Region Customized

Indicates No Change

**Questions (continued)**

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize by Region)~~
(East Bay)

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 153 | | | |
| Line # 105 | | | |
| Line # | | | |
| Line # | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. (Customize by Region)

a. ~~Fresno Junction~~ Pressure Limiting Station (P.L.S) at the

b. ~~Las Vines~~ Oakland Control Center (Gas)

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (East Bay)

**Answers**

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. ~~8~~ 24"
   b. ~~124~~ 153
   c. ~~16~~ 20"
   d. ~~1.56 miles~~ 18.07 5tet
   e. ~~2~~ 0
   f. ~~6~~ 2
   g. ~~1~~ 2
   h. ~~NO~~ 1 strainer, no orifice plates
   i. ~~1~~ 2
   j. ~~2~~ 0

3. Line ~~#111~~ 153 ~~Fresno~~ Central Division ~~Gas General Foreman~~ RGCC T&R Supervisor
   ~~Region Gas Control Supervisor~~
   After Hours: ~~Division and Region~~ RGCC On-Call Supervisor

   Line ~~#196~~ 105 ~~Stockton~~ Central Division T & R Supervisor RGCC
   ~~Region Gas Control Supervisor~~
   After Hours: ~~Division and Region~~ RGCC On-Call Supervisor

   ~~Line~~ #142N Kern Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

   Line #134 Yosemite Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

Insert attached Only one answer

**Answers** (continued)

b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

Insert attached

**REGION GAS CONTROL**
**OPERATOR TRAINING PROGRAM**

**System Knowledge Exam**

**Questions (continued)**

3. **The following items refer to a line break in the various divisions. L-A For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.**

**(Customize by Region)**

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 153 | CENTRAL ~~HR~~ | G.C.C. ~~SUPERVISOR~~ | R.G.C.C. ~~SUPERVISOR~~ |
| Line # 105 | CENTRAL | " | " |
| Line # | | | |
| Line # | | | |

4. **In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. (Customize by Region)**

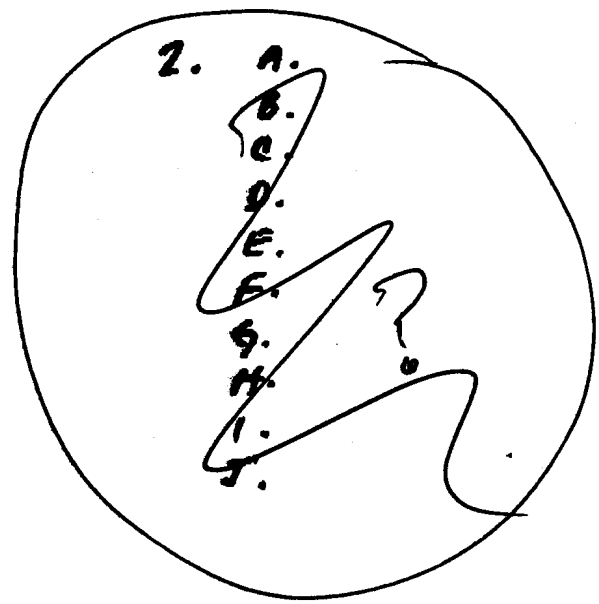
a. ~~[redacted]~~n P.L.S. (PRESSURE LIMITING STATION at the ~~[redacted]~~ OAKLAND CONTROL CENTER (GAS)

Start of answer to #4 - more on next page

PRESSURE REDUCTION REGULATES PRESSURES TO EL CERRITO TO V-44.54 AND BACK TO L-105N TO SAN LORENZO & FAIRMONT STATION IN SAN LEAN BRISTOL PRESSURE CONTROLLER, TK VALVE, (BALL VALVE) 10" TRIMMER VALVE MASONEILAN, 16" LIMITORQUE VALVE BRISTER 624 II PNEUMATIC CONTROLLER (REMOTE) PRESSU TRANSMITTER, 24" MONITOR VALVE

(SEE (SK) PAGE SK-A5)

4.4



C:GASCONTR

EAST BAY GAS CONTROL PRESSURE LIMITING STATION: DIAGRAM 383707

more on order to #4

GAS IS SUPPLIED TO THIS PRESSURE LIMITING STATION VIA L-153 AT A MAXIMUM PRESSURE U/S OF 246 PSIG FROM MARINA STATION IN SAN LEANDRO. THIS PRESSURE LIMITING STATION REGULATES PRESSURE AT VALVE 21 AND REG. 21R AT A MAXIMUM OF 150 PSI INTO L-150A AND L-105N, FEEDING L-105A TO VALVE 44.54 AT CARLSON AND ADAMS IN EL CERRITTO AND BACKFEEDING TO FAIRWAY STATION AND SAN LORENZO STATION VIA L-105N. THE EAST BAY GAS CONTROL CENTER CAN REMOTELY OPERATE VALVE 21 AND 21R. SHOULD (21 & 21R) FAIL, THEY WOULD PROBABLY FAIL IN THE OPEN POSITION. THE MONITOR VALVE #22 WILL CONTROL AT 156 PSIG.

M.O.P.

LINE 105A - 150 PSIG

LINE 105N - 150 PSIG

LINE 153 - 246 PSIG

SK-AS

## COMMUNICATION EQUIPMENT EXAM (East Bay)

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customized by Region)~~

1. What system, group or channels does Region Gas Control monitor?

2. The REGION GAS CONTROL call number is _____.

3. When is the REGION GAS CONTROL CALL NUMBER used?

✓ 4. List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in ~~FRESNO~~: OAKLAND :

~~(must be customized for each Region)~~

(a) San Lorenzo Station ~~STOCKTON AREA (LAS VINAS STATION)~~

(b) Marina Station ~~KERMAN REGULATOR STATION~~

(c) Fairway Station ~~PIONEER REGULATOR STATION~~

5. T or F
Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (East Bay)

**Answers**

1. ~~System - 5~~ Richmond / Sugar Hill / Oakland
   ~~Group - 5~~ Hayward / Livermore / Concord / Mission

2. ~~WNDN 555~~ KMF 257

3. After each transmission ? [illegible]

4. lease lines
   a. ~~RTU to Mt. Oso, to Brentwood terminal, to RGCC in Fresno.~~
   b. ~~RTU to Joaquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno.~~
   c. ~~RTU to Las Vegas, to Kettleman Compressor Station, to RGCC in Fresno.~~

5. False

6. True

7. True

8. False

9. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

## CONTROL OF PIPELINE PRESSURES EXAM (East Bay)

**Directions**

This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test**

~~(Customize by Region)~~

You will be asked to perform the following tasks:

1. Reset the alarms for ~~Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350)~~ San Pablo L-105A Pressure SP from (130-125-117-110) to (127-123-115-108).

2. Call up a 48 hour trend for ~~Fresno Jct. Line 118 Downstream Pressure~~ San Pablo L-105A Pressure SP.

3. Rescale the above trend to view pressure between ~~395~~ 125 and ~~385~~ 100 PSIG. Explain why you need to use this feature.

~~4. Close Valve #25 @ Fresno Jct.~~

4. ~~5.~~ Change setpoint on ~~V-14 @ Fresno Jct from 349 to 355 PSIG~~ 5 San Pablo Station 121 to 117.

~~6. Partially close V-27.87 (Sonora) on line #108.~~

5. ~~7.~~ Raise setpoint of ~~Reg #120~~ 21R Oakland Gas at ~~Fresno Gas~~ Control Center from ~~122~~ 125 to ~~126~~ 135 PSIG. Explain the results you would expect from raising this to ~~134~~ 145 PSIG.

**Performance Test (continued)**

6. ~~8~~. Close Valve ~~#1 at Herndon Jct.~~ 35 at Crockett Station. What must you consider before doing so?

7. ~~9~~. Perform the following:

   (a) A Failover

   (b) Back up

   (c) Archive

8. ~~10~~. Perform the following to a RTU:

   (a) Take off line and return on line

   (b) Reconfigure

   (c) Reset

   (d) Demand Scan

9. ~~11~~. Change orifice plate data

10. ~~12~~. Verify flow calculation coefficients

11. ~~13~~. Change meter set gas zone

12. ~~14~~. Enter gas zone data (BTU, S.G.)

## CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET (Boat Bay)

**Answers**

NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-~~7~~, ~~8-10~~. 7-12.
5

6. ~~8.~~ V-~~1~~ 35 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL ~~124~~ 21.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (East Bay)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** (Customize by Region as necessary)

Farmer Brown was plowing his field ~~one mile east of Madera Avenue~~ ½ block from Carquinez Bridge when he heard a loud and continuous whoosh. Assuming his plow made a four inch diameter hole in the line, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line ~~#~~ 21.
2. T or F
   There is a problem and action should be taken.
3. T or F
   Flow at ~~Helm Junction will increase~~ Hermann Station.
4. T or F
   Pressure and flow will increase at ~~Fresno Junction~~ Crockett Station.
5. Which RTU is the closest to the leak on Gas Line ~~#~~ 21?
6. In order to "isolate" this section of main, which valves should be closed?
7. Who would you notify?

   During work hours?

   After work hours?

**Questions** (continued)

8. If Farmer Brown had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, can valve 17/2 on Gas Line #3R3 be opened to help support Merced? L-185 B2

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In ~~San Joaquin Valley~~ East Bay Region, the On-call Supervisors' names are posted to the board:

    a. Once each week.
    b. Once each month.
    c. Quarterly.
    d. None of the above.

## EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET (East Bay)

**Answers**

1. False
2. True
3. True
4. False
5. ~~Basin City~~ Crockett Station RTU V-35 @ Crockett station & V-152 @ Hermann Station.
6. ~~V-82 & V-15.18~~
7. Day - RGCC Supervisor and ~~Fresno Division Gas General Foreman~~ T&R Superintendent

   After hours - RGCC On-call Supervisor and Division On Call Supervisor
8. Direct flow of gas from ~~G.L. 138 through GL 111E & 118E to Fresno Junction and South on #111~~. Franklin Canyon via SP3 through V17 and V2.
9. Yes, ~~Yosemite Division Gas Engineer and/or Yosemite Gas General Foreman~~ RGCC Supervisor and RGCC T&D Supervisor and RGT Superintendent
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact RGCC Supervisor; or after hours, On-call Supervisor
12. a

**Questions (continued)**

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

✓17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:

~~(must be customized for Region)~~

"There is a brush fire on Gas Main ~~#207~~ SP3 rightaway at M.P. ~~-50~~ 176.16 " (East Bay)

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:

    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In ~~San Joaquin Valley~~ East Bay? Region, Gas Curtailment orders can be issued by (~~customize by Region~~):

    a. Region Gas Control.
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (East Bay)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. a. ~~Yosemite~~ Diablo Division
    b. Division Gas General Foreman - after hours, Division On-call Supervisor
    c. Contact RGCC Supervisor / RGCC T&R Supervisor
18. d

**Answers (continued)**

19. a
20. Curtailment
21. Cold weather could increase customer demand.
    Warm or mildly hot weather could decrease demand.
    Extreme hot weather could increase power plant demand.
22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.
23. e
24. Division Curtailment Coordinator and RGCC Supervisor.
25. d
26. 10,000,000
27. Abnormal Peak Demand
29. T
30. T
31. T
32. T
33. T
34. T
35. F
36. T
37. F
38. F
39. T
40. F

**REGION GAS CONTROL OPERATOR TRAINING PROGRAM** — **System Knowledge Exam**

**Questions (continued)**

2. Answer the following questions referring to the operating diagram on the following page (Golden Gate Region):

a. What is the size of the line going to ~~the Marysville Service Center~~? San Carlos? _____

b. What is the number of the line going to ~~the Marysville Service Center~~? San Carlos? _____

c. What is the size of the line going to ~~the Yuba City Underground Holder~~? San Francisco Gas Load Center? _____

d. What is the ~~distance in miles between the two main line valves~~? milepoint on TL-132 valve? _____

e. How many ~~check~~ 10" valves are there? _____

f. ~~How many dehydrators are there~~? What is the size of the crossties? _____

g. How many ~~filters~~ blowoff stacks are there? _____

h. Is an orifice meter being used for gas measurement on any of the lines? _____

i. How many SCADA locations are being sent from ~~the Reg. Station~~? this station? _____

j. How many ~~spring or pilot operated valves are there~~? control valves are operated at this station? _____

OSC - Golden Gate is the only Region customizing this?

**Questions** (continued)

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize by Region)~~
(Golden Gate)

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 101 | | | |
| Line # 109 | | | |
| Line # 132 | | | |
| Line # 147 | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. ~~(Customize by Region)~~

a. Potrero North Yard
~~Fresno Junction~~

b. 19th Avenue Station
~~Las Vinas~~

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (Golden Gate)

**Answers**

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. ~~8"~~ 24"
   b. ~~124~~ 147
   c. ~~16"~~ 30"
   d. ~~2.86 miles~~ 25.60
   e. ~~8~~ 5
   f. ~~0~~ 20"
   g. ~~#~~ 1
   h. NO
   i. ~~1~~ None
   j. ~~2~~ None

3. Line #~~114~~ 101 ~~Fresno~~ San Francisco Division ~~Gas General Foreman~~ T&R Supervisor
   Region Gas ~~Control Supervisor~~ Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~106~~ 109 ~~Stockton~~ Peninsula Division T & R Supervisor
   Region Gas ~~Control Supervisor~~ Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~142N~~ 13a ~~Kern~~ Skyline Division Gas ~~General Foreman~~ Engineer
   Region Gas ~~Control Supervisor~~ Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~134~~ 147 ~~Yosemite~~ Peninsula Division ~~Gas General Foreman~~ T&R Supervisor
   Region Gas ~~Control Supervisor~~ Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

replace with attached

**Answers**
(continued)

✓ b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

replace w/attached

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET

Answers

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. 24"
   b. 147
   c. 30"
   d. 25.60
   e. 5
   f. 20"
   g. 1
   h. NO
   i. NONE
   j. NONE

3. Line #101 San Francisco Division T&R Supervisor
   Region Gas Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #109 Peninsula Division T&R Supervisor
   Region Gas Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #132 Skyline Division Gas Engineer
   Region Gas Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

   Line #147 Peninsula Division T&R Supervisor
   Region Gas Operations Superintendent
   After Hours: Division and Region
   On-Call Supervisor

insert

4. a. Potrero North Yard - Located in the Potrero Complex, just south of the Humboldt Street entrance off of Illinois Street. Its purpose is to regulate pressure from the distribution header, through Valve 645, to supply the Semi-High Pressure system into San Francisco, through Valve 683. Regulation from dual control valves is controlled by the operator using the dual manual controllers in the corner of the Control Room. Under normal conditions, only one side is used at a time. The upstream and downstream pressures are also monitored on SCADA.

Answers (continued)

b. 19th Avenue Station - Located on the west side of 19th Avenue and Alemany Boulevard. This is a transmission bridle valve on TL 109, serving a district regulator station, with the control valve operated by the Load Center operator. SCADA operates the valve and monitors the downstream distribution pressure.

Insert

## COMMUNICATION EQUIPMENT EXAM (Golden Gate)

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region)~~

1. What system, ~~group~~ frequencies or channels does Region ~~Gas Control~~ Load Center monitor?

2. The REGION ~~GAS CONTROL~~ LOAD CENTER call number is _____.

3. When is the REGION ~~GAS CONTROL CALL NUMBER~~ LOAD CENTER call number used?

4. List the COMMUNICATION PATHS of the following RTUs to the ~~REGION GAS CONTROL CENTER in FRESNO:~~ Golden Gate Region Load Center:
   ~~(must be customized for each Region)~~
   (a) ~~STOCKTON AREA (LAS VINAS STATION)~~ Vista Verde
   (b) ~~KERMAN REGULATOR STATION~~ Beach & Mason
   (c) ~~PIONEER REGULATOR STATION~~ Miramontes

5. T or F
   Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

## CONTROL OF PIPELINE PRESSURES EXAM (Golden Gate)

**Directions**

This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test**

~~(Customize by Region)~~

You will be asked to perform the following tasks:

1. Reset the alarms for Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350).

2. Call up a 48 hour trend for Fresno Jct. Line 118 Downstream Pressure.

3. Rescale the above trend to view pressure between 365 and 395 PSIG. Explain why you need to use this feature.

replace w/attached

4. Close valve #25 @ Fresno Jct.

5. Change setpoint on V-14 @ Fresno Jct from 349 to 355 PSIG.

6. Partially close V-27.87 (Sonora) on line #108.

7. Raise setpoint of Reg #129 at Fresno Gas Control Center from 157 to 158 PSIG. Explain the results you would expect from raising this to 164 PSIG.

# CONTROL OF PIPELINE PRESSURES EXAM

**Directions** This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test** You will be asked to perform the following tasks:

1. Reset the alarms for Lomita Park Station, Line 101 Downstream pressure from 120 to 155 psig.
2. Call up a 48 hour trend for San Andreas Meter Station, Line 132 Pressure.
3. Rescale the above trend to view pressure between 250 and 375 psig. Explain why you need to use this feature.
4. Close Valve #831 at 5th & Folsom in San Francisco.
5. Change setpoint on Sullivan Avenue Station from 110 psig to 115 psig.
6. Adjust system to raise pressure at Beach & Mason from 35 to 38 psig.
7. Raise setpoint of Martin Station to 115 psig. Explain the results you would expect from raising this to 150 psig.

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (Golden Gate)

**Answers**

1. ~~System - 5 Group - 5~~ Frequencies KMF 616, KJD 616 and KMH 357.
2. ~~WXDM 555~~ KMF 616 Potrero
3. After each transmission
4. a. Local RTU to ~~Mt. Oso, to Brentwood terminal, to RGCC in Fresno.~~ Foster City RTU; to RGLC.
   b. Local RTU to ~~Joaquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno.~~ RGLC.
   c. Local RTU to ~~Las Vegas, to Kettleman Compressor Station, to RGCC in Fresno.~~ Half Moon Bay RTU, to RGLC.
5. False
6. True
7. True
8. False
9. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

**Performance Test (continued)**

8. ~~Close Valve #1 at Herndon Jct. What must you consider before doing so?~~ Open the crosstie Valve #19 on Line 132B. What must you consider before doing so?

9. Perform the following:

   (a) A/Failover

   (b) Back up

   (c) Archive

10. Perform the following to a RTU:

    (a) Take off line and return on line

    (b) Reconfigure

    (c) Reset

    (d) Demand Scan

11. Change orifice plate data

12. Verify flow calculation coefficients

13. Change meter set gas zone

14. Enter gas zone data (BTU, S.G.)

**CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET** (Golden Gate)

**Answers**

**NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-7, 9-10.**

8. ~~V-1 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL-134.~~

Valve 19 can only be operated manually at the site. Because it is a crosstie between Lines 101 and 139, consider the downstream pressures at Lomita Park and Martin.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (Golden Gate)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region as necessary)~~
A Contractor was excavating in the area of Skyline Blvd. and Sneath Lane in San Bruno ~~Farmer Brown was plowing his field one mile east of Madera Avenue~~ when he heard a loud and continuous whoosh. Assuming his ~~plow~~ equipment made a four inch diameter hole in ~~the line~~ Line 109, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line ~~#111~~ 109.

2. T or F
   There is a problem and action should be taken.

3. T or F San Andreas Meter Station
   Flow at ~~Helm Junction~~ will increase.

4. T or F Sullivan Avenue Station.
   Pressure and flow will increase at ~~Fresno Junction~~.

5. Which RTU is the closest to the leak on Gas Line ~~#111~~ 109?

6. In order to "isolate" this section of main, which valves should be closed?

7. Who would you notify?

   During work hours?

   After work hours?

**Questions (continued)**

8. If ~~Farmer Brown~~ the Contractor had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, can ~~valve 60.45 on Gas Line #118 be opened to help support Merced~~? valve 19 on Line 132B be opened to help support San Francisco Division and the power plants through Line 132 at Martin Station?

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In ~~San Joaquin Valley~~ Golden Gate Region, ~~the On-call Supervisors' names are posted to the board~~: what are the names and order of Transmission Department On-Call Supervisors?

    ~~a. Once each week.~~
    ~~b. Once each month.~~
    ~~c. Quarterly.~~
    ~~d. None of the above.~~

## EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET (Golden Gate)

**Answers**

1. False
2. True
3. True
4. False
5. ~~Rasin City RTU~~ San Andreas
6. ~~V-8.93 & V-15.18~~ V-38.09 and V-39.68
7. Day - ~~RGCC Supervisor and Fresno Division Gas General Foreman~~ Region Gas Operations Superintendent and Skyline Division Gas Engineer

   After hours - ~~RGCC On-call Supervisor and Division On Call Supervisor~~ Region Gas Operations Superintendent and Division On call Supervisor
8. Direct flow of gas ~~from G.L. 138 through GL 111E & 118E to Fresno Junction and South on #111~~. back from Potrero; south through Sullivan Avenue Station.
9. Yes, ~~Yosemite Division Gas Engineer and/or Yosemite Gas General Foreman~~ Region Gas Control Technician would have to open manually, notify Region Gas Operations Superintendent and system Gas Control
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact ~~RGCC Supervisor~~ Region Gas Operations Superintendent; or after hours, On-call Supervisor
12. • First - Bob Hillman
    Second - Bill Healy
    Third - Paul Beckendorf
    Fourth - Leslie Day
    Fifth - Alan Fisher

**Questions (continued)**

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

✓17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:

~~(must be customized for Region)~~

"There is a brush fire on Gas Main ~~#707~~ 101 rightaway at M.P. ~~59~~ 1a.75."

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:

    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In ~~San Joaquin Valley~~ Golden Gate Region, Gas Curtailment orders can be issued by (customize by Region):

    a. Region Gas ~~Control~~ Load Center
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (Golden Code)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. a. ~~Yosemite~~ Peninsula Division
    b. Division Gas General Foreman or T&R Supervisor - after hours, Division On-call Supervisor
    c. Contact ~~RGCC Supervisor~~ Region Gas Operations Superintendent
18. d

**Answers (continued)**

19. a
20. Curtailment
21. Cold weather could increase customer demand.
    Warm or mildly hot weather could decrease demand.
    Extreme hot weather could increase power plant demand.
22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.
23. e
24. Division Curtailment Coordinator and RGCC Supervisor.
25. d
26. 10,000,000
27. Abnormal Peak Demand
29. T
30. T
31. T
32. T
33. T
34. T
35. F
36. T
37. F
38. F
39. T
40. F

**Questions (continued)**

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize by Region)~~
(San Joaquin)

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 111 | | | |
| Line # 196 | | | |
| Line # 142N | | | |
| Line # 134 | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. (Customize by Region)

   a. Fresno Junction

   b. Las Vinas

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (San Joaquin)

**Answers**

1. J
G
D
C
E
H
A
F
B
I
K

2. a. 8"
b. 124
c. 16"
d. 1.56 miles
e. 2
f. 0
g. 1
h. NO
i. 1
j. 2

3. Line #111 Fresno Division Gas General Foreman
Region Gas Control Supervisor
After Hours: Division and Region
On-Call Supervisor

Line #196 Stockton Division T & R Supervisor
Region Gas Control Supervisor
After Hours: Division and Region
On-Call Supervisor

Line #142N Kern Division Gas General Foreman
Region Gas Control Supervisor
After Hours: Division and Region
On-Call Supervisor

Line #134 Yosemite Division Gas General Foreman
Region Gas Control Supervisor
After Hours: Division and Region
On-Call Supervisor

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

**Answers** (continued)

b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

## COMMUNICATION EQUIPMENT EXAM (San Joaquin)

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region)~~

1. What system, group or channels does Region Gas Control monitor?

2. The REGION GAS CONTROL call number is _____.

3. When is the REGION GAS CONTROL CALL NUMBER used?

4. List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in FRESNO:

   ~~(must be customized for each Region)~~

   (a) STOCKTON AREA (LAS VINAS STATION)

   (b) KERMAN REGULATOR STATION

   (c) PIONEER REGULATOR STATION

5. T or F
   Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (San Joaquin)

**Answers**

1. System - 5
   Group - 5

2. WNDN 555

3. After each transmission

4. a. RTU to Mt. Oso, to Brentwood terminal, to RGCC in Fresno.

   b. RTU to Joaquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno.

   c. RTU to Las Yegas, to Kettleman Compressor Station, to RGCC in Fresno.

5. False

6. True

7. True

8. False

9. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

## CONTROL OF PIPELINE PRESSURES EXAM (San Joaquin)

**Directions**

This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test**

~~(Customize by Region)~~

You will be asked to perform the following tasks:

1. Reset the alarms for Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350).

2. Call up a 48 hour trend for Fresno Jct. Line 118 Downstream Pressure.

3. Rescale the above trend to view pressure between 365 and 395 PSIG. Explain why you need to use this feature.

4. Close valve #25 @ Fresno Jct.

5. Change setpoint on V-14 @ Fresno Jct from 349 to 355 PSIG.

6. Partially close V-27.87 (Sonora) on line #108.

7. Raise setpoint of Reg #129 at Fresno Gas Control Center from 157 to 158 PSIG. Explain the results you would expect from raising this to 164 PSIG.

**Performance Test** (continued)

8. Close Valve #1 at Herndon Jct. What must you consider before doing so?

9. Perform the following:

   (a) A Failover

   (b) Back up

   (c) Archive

10. Perform the following to a RTU:

   (a) Take off line and return on line

   (b) Reconfigure

   (c) Reset

   (d) Demand Scan

11. Change orifice plate data

12. Verify flow calculation coefficients

13. Change meter set gas zone

14. Enter gas zone data (BTU, S.G.)

## CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET (San Joaquin

**Answers**

NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-7, 9-10.

8. V-1 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL 134.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (SanJoaquin)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region as necessary)~~

Farmer Brown was plowing his field one mile east of Madera Avenue when he heard a loud and continuous whoosh. Assuming his plow made a four inch diameter hole in the line, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line #111.

2. T or F
   There is a problem and action should be taken.

3. T or F
   Flow at Helm Junction will increase.

4. T or F
   Pressure and flow will increase at Fresno Junction.

5. Which RTU is the closest to the leak on Gas Line #111?

6. In order to "isolate" this section of main, which valves should be closed?

7. Who would you notify?

   During work hours?

   After work hours?

**Questions** (continued)

8. If Farmer Brown had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, can valve 60.45 on Gas Line #118 be opened to help support Merced?

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In San Joaquin Valley Region, the On-call Supervisors' names are posted to the board:
    a. Once each week.
    b. Once each month.
    c. Quarterly.
    d. None of the above.

## EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET (San Joaquin)

**Answers**

1. False
2. True
3. True
4. False
5. Rasin City RTU
6. V-8.93 $\phi$ V-15.18
7. Day - RGCC Supervisor and Fresno Division Gas General Foreman

   After hours - RGCC On-call Supervisor and Division On Call Supervisor
8. Direct flow of gas from G.L. 138 through GL 111E & 118E to Fresno Junction and South on #111.
9. Yes, Yosemite Division Gas Engineer and/or Yosemite Gas General Foreman
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact RGCC Supervisor; or after hours, On-call Supervisor
12. a

**Questions (continued)**

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

✓ 17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:
(must be customized for Region)

"There is a brush fire on Gas Main #307 rightaway at M.P. - 3.0."

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:
    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In San Joaquin Valley Region, Gas Curtailment orders can be issued by ~~(customize by Region)~~ :
    a. Region Gas Control.
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (San Joaquin)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. a. Yosemite Division
    b. Division Gas General Foreman - after hours, Division On-call Supervisor
    c. Contact RGCC Supervisor
18. d

**Answers (continued)**

19. a
20. Curtailment
21. Cold weather could increase customer demand.
    Warm or mildly hot weather could decrease demand.
    Extreme hot weather could increase power plant demand.
22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.
23. e
24. Division Curtailment Coordinator and RGCC Supervisor.
25. d
26. 10,000,000
27. Abnormal Peak Demand
29. T
30. T
31. T
32. T
33. T
34. T
35. F
36. T
37. F
38. F
39. T
40. F

**Questions (continued)**

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize by Region)~~
(Mission Trail Region)

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 100 | | | |
| Line # 310 | | | |
| Line # 132 | | | |
| Line # 301A | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. ~~(Customize by Region)~~

a. Fontanosa ~~Fresno Junction~~

b. Anzar ~~Las Vinas~~

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (Mission Trail)

**Answers**

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. 8"
   b. 124
   c. 16"
   d. 1.56 miles
   e. 2
   f. 0
   g. 1
   h. NO
   i. 1
   j. 2

3. Line #~~111~~ 100 ~~Fresno~~ San Jose Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

   Line #~~196~~ 310 ~~Stockton Division T & R Supervisor~~ Coast Valleys Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

   Line #~~142N~~ 132 ~~Kern~~ DeAnza Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

   Line #~~134~~ 301A ~~Yosemite~~ Coast Valleys Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region On-Call Supervisor

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

Fontanosa - located east of HWY 101 on Fontanosa Road. The purpose of the station is to regulate pressure and meter flow from the station to the distribution system for BTU area V03. The station is monitored by SCADA. Regulation is from automatically controlled regulators.

**Answers (continued)**

b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

b. Station - located on Anzar Road west of HWY 101. The station meters flow and regulates pressure to lines 181 A and 181 B to supply Coast Valleys Division. The station is monitored at the RGCC on SCADA from one RTU located within the station. Regulation is from automatically controlled regulators. The station is fed from Gas lines #301 H & D.

## COMMUNICATION EQUIPMENT EXAM (Mission Trail)

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region)~~

1. What system, group or channels does Region Gas Control monitor?

~~2. The REGION GAS CONTROL call number is~~ _____.

2. ~~3.~~ When is the REGION GAS CONTROL CALL NUMBER used?

3. ~~4.~~ List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in ~~FRESNO~~ SAN JOSE:

~~(must be customized for each Region)~~

(a) Santa Cruz Holder ~~STOCKTON AREA (LAS VINAS STATION)~~

(b) Dolan Road ~~KERMAN REGULATOR STATION~~

(c) Laurence Station ~~PIONEER REGULATOR STATION~~

4. ~~5.~~ T or F
Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

renumber questions on P. CE-2 as on CE-AS

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (Mission Trail)

**Answers**

1. System - 5
   Group - 5

~~2. WNON 555~~

2. After each transmission

3. a. RTU to ~~Mt. Oso, to Brentwood terminal, to RGCC in Fresno~~. Loma Prieta to RGCC in San Jose.

   b. RTU to ~~Josquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno~~. Loma Prieta to RGCC in San Jose.

   c. RTU to ~~Las Vegas, to Kettleman Compressor Station, to RGCC in Fresno~~. Monte Bello to RGCC in San Jose.

4. False

5. True

6. True

7. False

8. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

## CONTROL OF PIPELINE PRESSURES EXAM (Mission Trail)

**Directions** This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test** ~~(Customize by Region)~~

You will be asked to perform the following tasks:

1. Reset the alarms for ~~Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350)~~. Dixon Landing Upstream Pressure from (180-175-125-110) to (175→170-130-115).
2. Call up a 48 hour trend for ~~Fresno Jct. Line 118 Downstream Pressure~~. Dixon Landing Downstream Pressure.
3. Rescale the above trend to view pressure between ~~365 and 395~~ 140 160 PSIG. Explain why you need to use this feature.
4. ~~Close valve #25 @ Fresno Jct.~~ Call up a 6 hour trend for Dixon Landing Downstream Pressure.
5. ~~Change setpoint on V-14 @ Fresno Jct from 349 to 355 PSIG.~~ Change alarm limits LOW/LOW-LOW on Cottle Road feeder from (185-170) to (170-155).
6. ~~Partially close V-27.87 (Sonora) on line #108~~. Raise set point of District pressure high alarm at Drana Avenue from 57 PSIG to 60 PSIG. Explain the results you would expect from raising this setpoint.
7. ~~Raise setpoint of Reg #129 at Fresno Gas Control Center from 157 to 158 PSIG. Explain the results you would expect from raising this to 164 PSIG~~. Change the low alarm setpoint on Line 132 at Lawrence Station Road from 250 PSIG to 225 PSIG.

**Performance Test** (continued)

8. ~~Close Valve #1 at Herndon Jct. What must you consider before doing so?~~ When might you open a BTU valve? What must you consider before doing so?

9. Perform the following:

   (a) A Failover

   (b) Back up

   (c) Archive

10. Perform the following to a RTU:

    (a) Take off line and return on line

    (b) Reconfigure

    (c) Reset

    (d) Demand Scan

11. Change orifice plate data

12. Verify flow calculation coefficients

13. Change meter set gas zone

14. Enter gas zone data (BTU, S.G.)

**CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET** (Mission Trail

**Answers**

**NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-7, 9-10.**

8. ~~V-1 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL-134.~~ During an emergency or shutdown. Mixing of BTU area gas. Notify Therm Billing office if opened for more than three days.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (MissionTrail)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region as necessary)~~

Farmer Brown was plowing his field one mile ~~east of Madera Avenue~~ west of Anzar Station when he heard a loud and continuous whoosh. Assuming his plow made a four inch diameter hole in the line, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line ~~#181~~ 181A.

2. T or F
   There is a problem and action should be taken.

3. T or F
   Flow at ~~Helm Junction~~ Anzar Station will increase.

4. T or F
   Pressure and flow will increase at ~~Fresno Junction~~ Freedom Boulevards.

5. Which RTU is the closest to the leak on Gas Line ~~#181~~ 181A-2?

6. In order to "isolate" this section of main, which valves should be closed?

7. Who would you notify?

   During work hours?

   After work hours?

**Questions (continued)**

8. If Farmer Brown had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, can valve ~~6645~~ on Gas Line ~~#148~~ be opened to help support ~~Merced~~? (the crossover; 18LB; Aromas)

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In ~~San Joaquin Valley~~ Region (Mission Trail), the On-call Supervisors' names are posted to the board:

    a. Once each week.
    b. Once each month.
    c. Quarterly.
    d. None of the above.

**EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET** (Mission Trail)

**Answers**

1. False
2. True
3. True
4. False
5. ~~Basin City RFU~~ Watsonville West Front Street
6. ~~V-8.93 & V-15.12~~ V5.88 and V 9.68
7. Day - RGCC Supervisor and ~~Fresno~~ Coast Valleys Division Gas General Foreman

   After hours - RGCC On-call Supervisor and Division On Call Supervisor
8. Direct flow of gas from G.L. ~~[illegible]~~ 181A through GL ~~111E & 115E to Fresno Junction and South on #111~~ 181B.
9. Yes, ~~Yosemite~~ Coast Valleys Division Gas Engineer and/or ~~Yosemite~~ Coast Valleys Gas General Foreman
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact RGCC Supervisor; or after hours, On-call Supervisor
12. a

**Questions (continued)**

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:
(must be customized for Region)

"There is a brush fire on Gas Main #103 rightaway at M.P. 10.32."
(Mission Trail).

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:

    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In ~~San Joaquin Valley~~ Mission Trail Region, Gas Curtailment orders can be issued by ~~(customize by Region)~~:

    a. Region Gas Control.
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (MissionTrail)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. a. ~~Yosemite~~ Coast Valleys Division
    b. Division Gas General Foreman - after hours, Division On-call Supervisor
    c. Contact RGCC Supervisor
18. d

**Answers (continued)**

19. a
20. Curtailment
21. Cold weather could increase customer demand.
    Warm or mildly hot weather could decrease demand.
    Extreme hot weather could increase power plant demand.
22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.
23. e
24. Division Curtailment Coordinator and RGCC Supervisor.
25. d
26. 10,000,000
27. Abnormal Peak Demand
29. T
30. T
31. T
32. T
33. T
34. T
35. F
36. T
37. F
38. F
39. T
40. F

**REGION GAS CONTROL OPERATOR TRAINING PROGRAM**

**System Knowledge Exam** (Redwood Region)

**Questions** (continued)

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize By Region)~~ (Redwood) ~~Region~~

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # ~~xxxxx~~ 210 | | | |
| Line # ~~xxxxx~~ 215 | | | |
| Line # ~~xxxxx~~ 125 | | | |
| Line # ~~xxxxx~~ 137 | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. (Customize by Region)

a. ~~Fresno Junction~~ Hormann Station

b. ~~Las Vines~~ Santa Rosa Compressor

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (Redwood) ~~Region~~ 2

**Answers**

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. 8"
   b. 124
   c. 16"
   d. 1.56 miles
   e. 2
   f. 0
   g. 1
   h. NO
   i. 1
   j. 2

3. Line #~~121~~ 210 Fresno Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~126~~ 213 Stockton Division T & R Supervisor
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~1421~~ 125 Kern Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line #~~134~~ 137 Yosemite Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   replace with attached

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

replace with attached

EDWOOD REGION GAS CONTROL OPERATOR QUALIFICATION

SYSTEM KNOWLEDGE

3. The following questions relate to a line break in the various Divisions. In each case, list the appropriate Division and the person and/or position, to contact during and after working hours.

(customize to each Region):

3. Insert

Line # 210

SILVERADO DIVISION
REGION GAS CONTROL SUPERVISOR
GAS GENERAL FOREMAN - NAPA DISTRICT
AFTER HOURS: DIVISION AND REGION TRANSMISSION ON-CALL SUPERVISORS

Line # 215

SIVERADO DIVISION
REGION GAS CONTROL SUPERVISOR
GAS GENERAL FOREMAN - NAPA OR VALLEJO DISTRICT
AFTER HOURS: DIVISION AND REGION TRANSMISSION ON-CALL SUPERVISORS

Line # 125

HUMBOLDT DIVISION
REGION GAS CONTROL SUPERVISOR
GAS GENERAL FOREMAN - EUREKA DISTRICT
AFTER HOURS: DIVISION AND REGION TRANSMISSION ON-CALL SUPERVISORS

Line # 137

HUMBOLDT DIVISION
REGION GAS CONTROL SUPERVISOR
GAS GENERAL FOREMAN - EUREKA DISTRICT
AFTER HOURS: DIVISION AND REGION TRANSMISSION ON-CALL SUPERVISORS

**Answers**
(continued)

b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

replace with attached

[redacted] GAS CONTROL OPERATOR QUALIFICATION

SYSTEM KNOWLEDGE

4. In your own words, describe briefly, the location, operation and purpose of the following stations. Include in your answer, the gas lines entering and leaving the station. Also state the various equipment located there. i.e. control valves, scada points, RTUs, regulators, etc.

[redacted]

THE STATION IS LOCATED IN VALLEJO AT THE END OF STARFISH DR. (THOMAS G MAP PG 135 GRID B-6). THE PURPOSE OF THE STATION IS TO DISTRIBUTE TR GAS FROM L-210 TO L-21S TO EAST BAY REGION BY MEANS OF THE CARQUINEZ BRIDGE AND TO THE CITY OF VALLEJO THROUGH L-21S NORTH TO VALLEJO. TH STATION IS REMOTELY CONTROLLED FROM THE REGION GAS CONTROL CENTER USI SCADA. THE STATION ALSO HAS BACK-UP POWER USING A NATURAL GAS FIRED GENERATOR.

(b) SANTA ROSA COMPRESSOR

THE SANTA ROSA COMPRESSOR STATION IS LOCATED OFF OF PINER ROAD BETWEE MARLOW AND COFFEY ROADS IN SANTA ROSA (1820 PINER RD.). THE PURPOSE THE STATION IS TO COMPRESS GAS INTO L-21 GOING NORTH TO WILLITS FOR G INVENTORY, PIPELINE SHUTDOWNS AND EMERGENCY PURPOSES. THE STATION IS UNMANNED AND REMOTELY OPERATED AND HAS BACK-UP POWER. THERE ARE TWO ELECTRIC DRIVEN COMPRESSORS RATED AT 1000 HP.

SK-4

SK-3

## COMMUNICATION EQUIPMENT EXAM (Redwood) ~~Region~~

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region)~~

1. What system, group or channels does Region Gas Control monitor?

2. The REGION GAS CONTROL call ~~number~~ is _____.

3. When is the REGION GAS CONTROL RADIO CALL NUMBER used?

✓ 4. List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in ~~FRESNO~~ REDWOOD REGION:

~~(must be customized for each Region)~~

(a) Silverado Division (Angwin RTU) ~~STOCKTON AREA (LAS VINAS STATION)~~

(b) Hermann Station ~~KERMAN REGULATOR STATION~~

(c) Humboldt Division (Cummings Creek Station) ~~PIONEER REGULATOR STATION~~

5. T or F
Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (Redwood) Rogers

**Answers**

1. ~~System 5~~ ~~Group 5~~ Redwood Region 150 MHz and 800 MHz Radio Systems.
2. ~~WNDN 555~~ CONTROL
3. After each transmission
4. a. ~~RTU to Mt. Oso, to Brentwood terminal, to RGCC in Fresno.~~
   b. ~~RTU to Joaquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno.~~
   c. ~~RTU to Las Vegas, to Kettleman Compressor Station, to RGCC in Fresno.~~

insert attached

5. False
6. True
7. True
8. False
9. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

[redacted] REGION GAS CONTROL OPERATOR QUALIFICATION

COMMUNICATION EQUIPMENT

1. What system, group or channels does Region Gas Control monitor?

[redacted]

2. The REGION GAS CONTROL radio call is CONTROL.

3. When is the REGION GAS CONTROL CALL NUMBER used?

4. List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in REDWOOD:

(must be customized for each Region)

(a) SILVERADO DIVISION (ANGWIN RTU)

VIA LEASE LINE TO NAPA WYE RTU, THEN VIA RADIO TO MT. TAMALPAIS, THEN VIA MICROWAVE TO GAS CONTROL CENTER.

(b) HERRMANN STATION

VIA RADIO TO MT. TAMALPAIS, THEN VIA MICROWAVE TO THE GAS CONTROL CENTER

(c) HUMBOLDT DIVISION (CUMMINGS CREEK STATION)

VIA LEASE LINE TO EUREKA SERVICE CENTER RTU, THEN VIA MICROWAVE TO REDWOOD GAS CONTROL.

[redacted] CE-AS

## CONTROL OF PIPELINE PRESSURES EXAM (Redwood)

**Directions** This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test** ~~(Customize by Region)~~

You will be asked to perform the following tasks:

1. Reset the alarms for ~~Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350)~~. Hormann Sta., Line 21 Downstream Pressure from (405 - 400 - 350 - 325) to (400 - 390 - 375 - 350).
2. Call up a 48 hour trend for ~~Fresno Jct. Line 118 Downstream Pressure~~. Hormann Sta., Line 210 Upstream Pressure.
3. Rescale the above trend to view pressure between ~~365~~ 400 and ~~395~~ 650 PSIG. Explain why you need to use this feature.
4. Close valve ~~#25~~ 60 @ ~~Fresno Jct~~ Napa Wye.
5. Change setpoint on V-~~25~~ 11 @ ~~Fresno Jct~~ Napa Wye from 349 to 355 PSIG.
6. Partially close ~~Valve V-97-07 (Sonora) on line #108~~. V-8 (65) Hormann Station, Line #21.
7. Raise setpoint of ~~Reg #129 at Fresno Gas Control Center from 157 to 158 PSIG~~. Valve #10 at Napa Wye from 230 to 250 PSIG. Explain the results you would expect from raising this to ~~194~~ 250 PSIG.

**Performance Test** (continued)

8. Close Valve #~~2~~ 11 at ~~Herndon Jct~~ Napalye. ~~What must you consider before doing so?~~ Napalye from 230 to 250 PSIG. Explain the results you would expect from raising this to ~~280 PSIG~~.

9. Perform the following:

   (a) A Failover

   (b) Back up

   (c) Archive

10. Perform the following to a RTU:

   (a) Take off line and return on line

   (b) Reconfigure

   (c) Reset

   (d) Demand Scan

11. Change orifice plate data

12. Verify flow calculation coefficients

13. Change meter set gas zone

14. Enter gas zone data (BTU, S.G.)

## CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET (Redwood)

**Answers**

NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-7, 9-10.

8. ~~V-1 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL-134~~. Make sure that V-60 is in the "controlling" position and operational.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (Redwood)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region as necessary)~~

Farmer Brown was plowing his field ~~one mile east of Madera Avenue~~ ¼ mile south of Hwy 116 in Sonoma when he heard a loud and continuous whoosh. Assuming his plow made a four inch diameter hole in the line, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line #~~111~~ 21.

2. T or F
   There is a problem and action should be taken.

3. T or F Hermann Station.
   Flow at ~~Helm Junction~~ will increase.

4. T or F
   Pressure and flow will increase at ~~Fresno Junction~~ Napa Wye.

5. Which RTU is the closest to the leak on ~~Gas Line #111~~?
   (16" Gasline #21 ?

6. In order to "isolate" this section of main, which ~~valves~~ should be ~~closed~~? used ? canned shutdown

7. Who would you notify?

   During work hours?

   After work hours?

**Questions** (continued)

8. If Farmer Brown had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, can ~~valve 60.45 on Gas Line #118 be opened to help support Merced?~~ Valve #11 on Gas Line #21 be opened to help support Petaluma?

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In ~~San Joaquin Valley~~ Redwood Region, the On-call Supervisors' names are posted to the board:
    a. Once each week.
    b. Once each month.
    c. Quarterly.
    d. None of the above.

## EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET (Redwood)

**Answers**

1. False
2. True
3. ~~True~~ False
4. ~~False~~ True
5. ~~Rosin City RTU~~ Adobe RTU to the West and Napa Wye to the East.
6. ~~V-8.93 & V-15.18~~ Canned shutdown REEMERO2.
7. Day - RGCC Supervisor ~~and Fresno Division Gas General Foreman~~

   After hours - RGCC On-call Supervisor ~~and Division On Call Supervisor~~
8. ~~Direct flow of gas from G.L. 138 through GL 111E & 118E to Fresno Junction and South on #111.~~ Via 12"/26" L-21.
9. Yes, ~~Yosemite Division Gas Engineer and/or Yosemite Gas General Foreman~~ System Gas Control/RGCC Supervisor
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact RGCC Supervisor; or after hours, On-call Supervisor
12. a

**Questions** (continued)

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

✓17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:

~~(must be customized for Region)~~

"There is a brush fire on Gas Main #177 rightaway at M.P. - 182.39."
(Redwood)

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:

    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In ~~San Joaquin Valley~~ Redwood Region, Gas Curtailment orders can be issued by ~~(customize by Region)~~;

    a. Region Gas Control.
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (Redwood)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. ~~(Redwood) Region~~
    a. ~~Yosemite Division~~ Humboldt Division
    b. ~~Division Gas General Foreman - after hours, Division On-call Supervisor~~ Gas Dispatch
    c. ~~Contact RGCC Supervisor~~ Notify Division Gas Engineer
18. d

**Answers (continued)**

19. a

20. Curtailment

21. Cold weather could increase customer demand.
Warm or mildly hot weather could decrease demand.
Extreme hot weather could increase power plant demand.

22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.

23. e

24. Division Curtailment Coordinator and RGCC Supervisor.

25. d

26. 10,000,000

27. Abnormal Peak Demand

29. T

30. T

31. T

32. T

33. T

34. T

35. F

36. T

37. F

38. F

39. T

40. F

**Questions** (continued)

3. The following items refer to a line break in the various divisions. For each, list the appropriate Division, and the person and/or position, to contact during and after working hours.

~~(Customize by Region)~~
(Sacramento)

| | Division | Contact During Work Hrs. | Contact After Work Hrs. |
|---|---|---|---|
| Line # 202 | | | |
| Line # 402 | | | |
| Line # 16" - 220 | | | |
| Line # 173 | | | |

4. In your own words, describe briefly the location, operation and purpose of the following stations. Include the gas lines entering and leaving the station, the types of equipment at the station, e.g. control valves, SCADA points, RTUs, regulators, etc. ~~(Customize by Region)~~

   a. ~~Fresno Junction~~ CONTROL
   Sacramento Gas ~~Load~~ Center

   b. ~~Las Vinas~~ Butte Station

## SYSTEM KNOWLEDGE EXAM ANSWER SHEET (Sacramento)

**Answers**

1. J
   G
   D
   C
   E
   H
   A
   F
   B
   I
   K

2. a. 8"
   b. 124
   c. 16"
   d. 1.56 miles
   e. 2
   f. 0
   g. 1
   h. NO
   i. 1
   j. 2

3. Line ~~#111~~ 202 Sierra ~~Fresno~~ Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line ~~#106~~ 402 North Valley ~~Stockton~~ Division T & R Supervisor
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line ~~#142N~~ 16"-220 Vaca Valley ~~Kern~~ Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

   Line ~~#184~~ 173 Sierra ~~Yosemite~~ Division Gas General Foreman
   Region Gas Control Supervisor
   After Hours: Division and Region
   On-Call Supervisor

4.a. Fresno Junction - Located on on the west side of Garfield Avenue, south of Belmont Ave., west of the city of Fresno. Its purpose is to regulate pressure from GL#111 and supply gas to GL#118 north of Madera, Chowchilla, Merced and surrounding areas. Gas can be directed from #138 at the RGCC through GLS#118E and #111E (which are normally almost static) to feed north in the event of the supply is lost from #111. The Station is monitored by SCADA with one RTU - #111 pressure and flow, #118N pressure and flow, #111E and #118E. Regulation is from automatically controlled valves and automatically controlled monitor valves. The Station has two remote control valves, #25 and #26.
Valves #14 and #23 are automatically controlled and can also be controlled from RGCC.

Insert attached

**Answers**
(continued)

b. Las Vinas - located on Ray Street between Turner Road and Thornton Road, west of Lodi. The Station dehydrates and regulates gas to Lodi, Stockton and the Mather - Lodi area. Gas is supplied to the Station from GL#196 A and B, and sometimes #108N. Gas is routed out through #108N, #108S, #197 A and B and Jahant Road feeder main. The Station is monitored at the RGCC on SCADA from one RTU located in the Station. The monitored lines are #196 pressure and flow, #108N pressure and flow, #108S pressure and flow, #197 A and B pressure and flow and Jahant - feeder main pressure only. The station has two drips as well a dehydrator for removing liquids. Regulation is from automatically controlled motor valves, monitors and spring-pilot controlled regulators.

Insert attached

CONTROL

GAS ~~LOAD~~ CONTOR 2001 FRONT ST. SACTO

4A. AT GAS LOAD CONTOR THEIR ARE 2 LINES ENTERING STATION, L-116 AND LINE 172.

GOING OUT OF STATION THERE ARE 3 LINES LEAVING. L-108 SOUTH, SACTO 12", AND THE SO# SYSTEM.

THIS STATION IS MONITORED BY SCADA WITH RTU INDICATING FLOWS AND PRESSURES. THE FLOWS ARE L-108 SOUTH TO STOCKTON AND THE SACRAMENTO 12" AND THE SO# SYSTEM.

THE STATION IS OPERATED BY REGULATION ONLY.

4.B FOLL STATION RIVER Rd. 4 MI. N/OF OLD FERRY Rd

GAS CAN FLOW FROM L-169 TO L-177 OR FROM L-177 TO L-169 DEPENDING ON THE PRESSURE AND FLOW SET POINTS FOR V-20 WHICH IS REMOTELY OPERATED FROM THE SACTO GAS CONTROL CONTOR. NORMAL FLOW IS TO THE SOUTH AND DRAY MUST BE PUT IN OPERATION TO FLOW NORTH. LINE 136 TO BUTTE STATION IS SUPPLIED FROM L-177 NORTH OF V-2 WHICH IS NORMALLY CLOSED.

## COMMUNICATION EQUIPMENT EXAM (Sacramento)

**Directions** You may use any resources/references in order to answer the following questions and demonstrate the skills in the Performance Test section. When you have finished the written portion of the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region).~~

1. What system, group or channels does Region Gas Control monitor?

~~2. The REGION GAS CONTROL call number is _____.~~

~~3. When is the REGION GAS CONTROL CALL NUMBER used?~~

2. 4. List the COMMUNICATION PATHS of the following RTUs to the REGION GAS CONTROL CENTER in ~~FRESNO~~ SACRAMENTO:

~~(must be customized for each Region)~~

(a) Vaca Valley Swingle Station ~~STOCKTON AREA (LAS VINAS STATION)~~

(b) Arbuckle REGULATOR STATION ~~KERMAN REGULATOR STATION~~

(c) Fell REGULATOR STATION ~~PIONEER REGULATOR STATION~~

3, 5. T or F
Employees operating radio equipment should be thoroughly familiar with PG&E Operating Procedures and the Power and Petroleum Radio Operating Manual because FCC Rules and Regulations do not apply to PG&E radio operations.

change other numbers on CE-2 as follows

## COMMUNICATION EQUIPMENT EXAM ANSWER SHEET (Sacramento)

**Answers**

1. System - 5 - 9 - 8
   Group - 1 - 1 - 7

2C ~~WNDN 585~~ N/A

3 ~~After each transmission~~ N/A

2. a. RTU to Mt. Vaca to Sacramento Service Center to RGCC. ~~RTU to Mt. Oso, to Brentwood terminal, to RGCC in Fresno.~~
   b. RTU to Bald Mt. to Sacramento Service Center, to RGCC. ~~RTU to Joaquin Ridge, to Kettleman Compressor Station, to RGCC in Fresno.~~
   c. RTU to Paradise Mt., to Marysville Service Center to RGCC. ~~RTU to Las Vegas, to Kettleman Compressor Station, to RGCC in Fresno.~~

3. False

4. True

5. True

6. False

7. False

NOTE: There is no Answer Sheet for the Communication Equipment Performance Test.

## CONTROL OF PIPELINE PRESSURES EXAM (Sacramento)

**Directions**

This Control of Pipeline Pressures Exam is a Performance Test, designed to build upon your successful completion of the Exams for the Unit 1 modules. You may use any resources/references while you demonstrate these tasks, to be evaluated by your Supervisor.

**Performance Test**

~~(Customize by Region),~~

You will be asked to perform the following tasks:

1. Reset the alarms for ~~Fresno Jct. Line 118 Downstream Pressure from (405-400-350-325) to (400-390-375-350)~~. North Sacramento Holder 175# Feeder North area from (182 - 180 - 160 - 158) to (180 - 175 - 155 - 150).

2. Call up a 48 hour trend for ~~Fresno Jct. Line 118 Downstream Pressure~~. North Sacramento Holder 175# Feeder.

3. Rescale the above trend to view pressure between ~~385~~ 190 and ~~395~~ 145 PSIG. Explain why you need to use this feature.

4. Close valve ~~#25 @ Fresno Jct~~. 135 @ North Sacramento Holder.

5. Change setpoint on ~~Reg #1~~ 139 @ ~~Fresno Jct from 349 to 355 PSIG~~. North Sacramento Holder from .5 to 1.0 PSIG.

6. ~~Partially close V-27.87 (Sonora) on line #108~~. Disable odorizer at West Beehive Bend, then return it to normals.

7. Raise setpoint of ~~Reg #1~~ 8R at ~~Fresno Gas Control Center~~ Hershey Station from 125 ~~157~~ to ~~158~~ 650 PSIG. Explain the results you would expect from raising this to ~~1~~ 650 PSIG.

**Performance Test (continued)**

8. ~~Close Valve #1 at Herndon Jct~~. What must you consider before ~~doing so?~~ flowing gas north through West Beehive Station? Perform the necessary functions.

9. Perform the following:

   (a) A Failover

   (b) Back up

   (c) Archive

10. Perform the following to a RTU:

    (a) Take off line and return on line

    (b) Reconfigure

    (c) Reset

    (d) Demand Scan

11. Change orifice plate data

12. Verify flow calculation coefficients

13. Change meter set gas zone

14. Enter gas zone data (BTU, S.G.)

## CONTROL OF PIPELINE PRESSURES EXAM ANSWER SHEET (Sacramento)

**Answers**

NOTE: There is no Answer Sheet for the Control of Pipeline Pressures Performance Test, Questions 1-7, 9-10.

8. ~~V-1 can only be closed from the Region Gas Control Center. Should have someone in the station to reopen the valve manually, unless in an emergency condition, such as a line break on GL-134.~~ Odorizer must be disabled when flowing from line 172 to line 169.

## EMERGENCY PROCEDURES/COMMUNICATION EXAM (Sacramento)

**Directions** You may use any resources/references in order to answer the following questions. When you have finished the Exam, meet with your Supervisor to compare your answers to the Answer Sheet and discuss any questions you have about this module.

**Questions** ~~(Customize by Region as necessary)~~

Farmer Brown was plowing his field one mile ~~east~~ south of ~~Madera Avenue~~ Gibson Road when he heard a loud and continuous whoosh. Assuming his plow made a four inch diameter hole in the line, answer the following:

1. T or F
   "No Problem" - This will not affect the pressure or flow of gas in Line ~~#101~~ 8"-220.

2. T or F
   There is a problem and action should be taken.

3. T or F
   Flow at ~~Helm Junction will increase~~ North Sacramento Holder.

4. T or F
   ~~Pressure and~~ flow will increase at ~~Fresno Junction~~ Swingle Station.

5. Which RTU ~~is the closest to the leak on Gas Line #111?~~ would you monitor on Gas Line #220 breaks?

6. In order to "isolate" this section of main, which valves should be closed?

7. Who would you notify?

   During work hours?

   After work hours?

**Questions (continued)**

8. If Farmer Brown had been using a 36-inch ripper and completely severed the line, how would you feed customers downstream of the affected areas?

9. If necessary, ~~can valve 60.45 on Gas Line #118 be opened to help support Merced~~? what valve can be opened to help support the affected area?

   If so, who would you notify?

10. Give two examples of criteria which make an incident "reportable."

11. What is the Gas Control Operator's responsibility when a reportable incident has occurred?

12. In ~~San Joaquin Valley Region~~ Sacramento Valley, the On-call Supervisors' names are posted to the board:

    a. Once each week.
    b. Once each month.
    c. Quarterly.
    d. None of the above.

## EMERGENCY PROCEDURES/COMMUNICATIONS EXAM ANSWER SHEET (Sacramento)

**Answers**

1. False
2. True
3. ~~True~~ False
4. ~~False~~ True
5. ~~Rasin City~~ Davis RTU
6. V-~~8~~30.36 and V-27.18 ~~4-V-15.18~~
7. Day - RGCC Supervisor and ~~Fresno Division Gas General Foreman~~ Vaca Valley Division Gas T&R Foreman and System Gas Control

   After hours - RGCC On-call Supervisor and Division On Call Supervisor and System Gas Control
8. ~~Direct flow of gas from G.I. 138 through GL 111E & 118E to Fresno Junction and South on #111.~~
9. ~~Yes, Yosemite Division Gas Engineer and/or Yosemite Gas General Foreman~~ No
10. a. Gas leak that interrupts service which exceeds 500 customer hours
    b. Gas leak that attracts public attention and/or news coverage
    c. Traffic rerouted
    d. Gas leak that causes a death, or injury requiring hospitalization
11. a. Contact Gas Distribution Representative or Gas Distribution On-call Representative within 1 1/2 hours.
    b. During day, contact RGCC Supervisor; or after hours, On-call Supervisor
12. a [illegible]

**Questions (continued)**

15. To avoid overpressuring the pipeline, what safety precautions has the Company established?

16. If an overpressure condition occurs, what does an operator do?

✓17. The following questions relate to Message Center Operations. In each case, describe what action would be appropriate for you to take were you given the following Air Patrol Report:

~~(must be customized for Region)~~

"There is a brush fire on Gas Main #~~307~~ 177 rightaway at M.P. ~~-88~~ 109.83"
(Sacramento)

a. Whose Area is it in?

b. Whom do you contact?

c. What other action must you take?

**Questions (continued)**

23. A Gas curtailment can be caused by:

    a. Weather conditions.
    b. Market response to the changing regulatory environment.
    c. Gas line break.
    d. Limited supply from out of state resources.
    e. All of the above.
    f. None of the above.

24. After a curtailment order is received by Region Gas Control, who do they (R.G.C.C.) notify?

25. In ~~San Joaquin~~ Sacramento Valley Region, Gas Curtailment orders can be issued by (customize by Region):

    a. Region Gas Control.
    b. Division Gas.
    c. System Gas Control.
    d. All of the above.
    e. None of the above.
    f. Both (a) and (c) are correct and (b) is incorrect.

26. Ten decatherms are equal to _____ BTUs.

27. Why is it sometimes necessary to change an in-service orifice plate with one that has a larger or smaller diameter bore?

28. APD is the abbreviation for _____.

## FINAL EXAM ANSWER SHEET (Sacramento)

**Answers**

1. F
2. T
3. T
4. T
5. T
6. F
7. T
8. a,b,d,e,f
9. e
10. c
11. c
12. a
13. All except b,d,n
14. Call back to System Dispatcher and request clarification. If still not clear, call RGCC
15. Established MOP and MAOP.
    Installed overpressure protection devices (relief valves and/or monitor systems).
16. Contact Division personnel and RGCC Supervisor or On-call Supervisor.
17. a. ~~Yosemite~~ North Valley Divisions
    b. Division Gas ~~General~~ I&R Foreman - after hours, Division On-call Supervisor
    c. Contact RGCC Supervisor and System Gas Control
18. d

**Answers (continued)**

19. a
20. Curtailment
21. Cold weather could increase customer demand.
    Warm or mildly hot weather could decrease demand.
    Extreme hot weather could increase power plant demand.
22. To document for future reference. If there are any questions or problems, you know who you could contact. In addition, it is insurance and protection for the Operator.
23. e
24. Division Curtailment Coordinator and RGCC Supervisor.
25. d
26. 10,000,000
27. Abnormal Peak Demand
29. T
30. T
31. T
32. T
33. T
34. T
35. F
36. T
37. F
38. F
39. T
40. F