62-7501 REV. 4-65

PACIFIC GAS AND ELECTRIC COMPANY
STANDARD PRACTICE

STANDARD PRACTICE NO. PLO 461-B

EXECUTIVE OFFICE OR DIVISION GAS OPERATIONS

PAGE NO. 1 EFFECTIVE 5/1/77

ISSUING DEPARTMENT PIPE LINE OPERATIONS

REPLACING PAGE NO. 1 EFFECTIVE 1/1/77

SUBJECT:

COMPRESSOR PLANT EQUIPMENT TAGGING AND MAINTENANCE RECORDKEEPING PROCEDURES

PURPOSE

*1. To establish a uniform procedure when assigning identification letters and numbers to auxiliary system equipment located within each compressor station that requires routine maintenance. To install identification tags and maintain complete records of maintenance performed on each specified auxiliary system (gas, air, oil, and water) component which requires periodic servicing. Periodic lubrication and movement of each component valve is covered under the term maintenance within this Standard Practice.

RECISIONS

2. All previous instructions, oral or written, that may be contrary to this Standard Practice.

RESPONSIBILITY

3. The Area Superintendents will be responsible for the administration of this Standard Practice in their respective areas.

*4. Plant supervisors will be responsible for actuating and maintaining a proper maintenance plan for each compressor station under their jurisdiction. All maintenance of auxiliary component equipment should be performed at established intervals as experience dictates. Each plant supervisor is responsible for insuring that each specified serviceable piece of auxiliary equipment is properly tagged, properly maintained, that its corresponding equipment card is properly filled out and filed, and that PLOPM is kept current of any equipment or service interval changes.

5. The Department Manager will be responsible for any additions or deletions to the procedures set forth in this Standard Practice.

APPROVED BY: H. P. PRUDHOMME, Manager
Pipe Line Operations Department

* Paragraph Revised
** Paragraph Added

(SEE OVER)

COMPRESSOR PLANT EQUIPMENT TAGGING AND MAINTENANCE RECORDKEEPING PROCEDURES

GENERAL APPLICATION AND POLICY

6. To improve PLO's Preventive Maintenance Program at all compressor stations, through more efficient use of PLOPM, and to improve safety, efficiency, equipment reliability, recordkeeping, and to insure compliance with CPUC rules and PGandE Standard Practices, the following shall be required:

   (a) An Elementary Mechanical Drawing for each auxiliary system which includes all plug valves, relief valves, self-contained regulators, water and oil traps, heat exchangers, filters and dryers. The components of each system shall be identified on a schematic drawing and physically tagged with the same corresponding identification number. Capital letters will be used to indicate which auxiliary system each component is located in, followed by a number which will indicate which particular component it is.

   (b) All station relief valves (RV's) and self-contained regulators (PCV's) in auxiliary systems are included under this Standard Practice. Plant supervisors are responsible for insuring that all RV's and PCV's are listed on PLOPM and are being properly maintained.

   *(c) Exception: Items which must be identified by painting, as specified in Standard Practice 461-1, shall be excluded from the tagging requirement of this Standard Practice.

ELEMENTARY MECHANICAL DRAWINGS

7. Purpose

   Each Elementary Mechanical Drawing for each auxiliary system (Example: Exhibit 1, Drawing 284062) should include all plug valves, relief valves, self-contained regulators, water and oil traps, heat exchangers, filters, and dryers. Each system component requiring routine maintenance should be listed on this drawing with its assigned identification number.

8. Responsibility for Drawings

   (a) PLO Staff Engineering shall be responsible for the development of Elementary Mechanical Drawings for each auxiliary system within each compressor station.

   (b) PLO Staff Engineering shall consult with Gas System Design and coordinate the issuing of these drawings to each District when they are completed. Any and all changes or revisions to these drawings shall be initiated through PLO's Staff Engineering group upon request by Area personnel.

8. Responsibility for Drawings, Continued

(c) All system drawings shall conform to the standards shown on PGandE Drawing No. 182358 (three sheets) entitled "Symbols for Operating Maps and Diagrams."

*EQUIPMENT TAGS

9. Description

(a) Equipment tags will be made from livestock tags made of flexible plastic. These tags are impervious to weather and come in various colors.

(b) These tags shall be attached to the specified equipment by means of Black Communication Tie-Wraps. These tie-wraps are resistant to deterioration due to exposure to the sun.

*(c) Form 11-523 (Exhibit 5) shall be used to order pre-stamped and punched equipment identification tags. Minimum orders should be twenty-five tags and the number of letters/numbers limited to seven per line (two lines).

Hand stamping should be done only when the number of tags is insufficient to warrant an order. Ordering information for blank tags, ink and hand stamps may be obtained from Staff Engineering.

**(d) Equipment tags shall not be used on equipment specified in S.P. 461-1 which must be identified by painting.

10. Color Code Identification

(a) Tags shall conform to the following: yellow for gas, green for air, blue for water and orange for oil. This permits immediate identification of the auxiliary system in which the equipment is installed.

(b) Each plant supervisor will be responsible for insuring that all equipment specified in this Standard Practice is properly color coded and tagged.

11. Elementary Mechanical Drawing 284062 (Exhibit 1)

This drawing shows part of the compressed air system at Kettleman Compressor Station. It is typical of drawings that will be provided for all compressor stations.

(a) All equipment in this drawing requiring routine maintenance is identified by letters which are defined in the drawings' Legend. Equipment in each system has been sequencially assigned numbers in addition to the letters to properly identify each individual component.

11. Elementary Mechanical Drawing 284062 (Sample Illustration), Continued

(b) The plug valves in this drawing are identified as CA (Compressed Air), UA (Utility Air), and IA (Instrument Air) depending which system they are in. They are numbered consecutively beginning in this case at the air compressors.

Example: CA/1 is the first valve after AK-1 (Air Compressor #1), and ends with CA/43, which is a 2" plug valve in the line to the Auxiliary Air Receiver Tanks. Generally, the components of each system will be numbered in sequence in the direction in which the fluid medium flows.

EQUIPMENT CARDS

12. Description

(a) Equipment Card Number 11-392 (See Exhibit 2) entitled General Maintenance Equipment Card is designed for general use, printed on both sides and made of heavy gauge paper.

(b) Equipment Card Number 11-168 (See Exhibit 3) entitled Technical Maintenance Equipment Card is designed for use by Technical Maintenance personnel, printed on both sides and made of heavy gauge paper.

13. Use Pertaining to Auxiliary System Components

(a) Equipment Card Number 11-392 shall be used by maintenance personnel for valves, water and oil traps, heat exchangers, filters and dryers which require routine maintenance.

(b) Equipment Card Number 11-168 shall be used by Technical Maintenance personnel for relief valves and self-contained regulators which require routine maintenance and set pressure verification checks.

(c) One equipment card shall be maintained for each relief valve and pressure control valve in each compressor plant. Exception: Each engine's pneumatic control panel components can be maintained under a single PLOPM item number.

*14. Equipment Cards for Valves

(a) It is permissible to list several valves on one equipment card, if they are: of a similar type, operate in the same system, and require similar maintenance. Consequently, each valve in each block of valves selected should be scheduled to be maintained at the same frequency to allow this recordkeeping procedure to work.

(b) Exhibit 2 shows plug valves (CA/1 thru CA/10 (from Drawing 284062, Exhibit 1) listed on the same equipment card.

*14. Equipment Cards for Valves, Continued

(c) If a valve within a block of valves is changed out with a new valve of the same type, no new identification number is required. The newly installed valve should be tagged identical to the tag on the valve removed from service. A notation shall be made on the appropriate equipment card describing which valve was changed out and when. The reason why it was changed out is also required.

(d) If a valve within one of the blocks is removed or replaced with a different type of valve, its assigned number shall not be grouped and a separate equipment card should be made up. Example: If CA/9 were replaced with a new type of valve, the list of valves shown on the original equipment card would show: CA/1 through CA/8 and CA/10. A new card would be made up for CA/9.

(e) When it is necessary to assign a new number, use a number consecutive to the last highest number in that particular system. For example: The new number would be CA/100 if the last assigned number in that system had been CA/99.

(f) When new valve numbers are assigned, note the change on appropriate system drawing and submit the correction to PLO Staff Engineering for its revision. This will insure that all auxiliary system drawings are kept current.

**(g) Actuating valves in Emergency Shutdown systems shall be identified on Equipment Card 11-392 by the location number of the shutdown station in which it is installed.

It is permissible to list all of these valves on one equipment card because they operate in the same system, require similar maintenance, and are serviced/operated at the same time.

PLOPM

15. Assignment of PLOPM Numbers

(a) Transmission maintenance personnel shall assign PLOPM numbers to all water and oil traps (drips), heat exchangers, filters, and dryers in each station auxiliary system as required. A single PLOPM number can be assigned for several valves if they are of a similar type, operate in the same auxiliary system, and require similar maintenance.

(b) Technical maintenance personnel shall assign a PLOPM number to each relief valve and self-contained regulator in each station's main gas, fuel gas, and auxiliary systems.

15. Assignment of PLOPM Numbers, Continued

(c) To make maintenance recordkeeping easier, consecutive PLOPM numbers should be assigned to similar equipment in the same system which have consecutive identification numbers (such as plug valves).

When assigning PLOPM numbers to other equipment in the auxiliary systems, consecutive PLOPM numbers should be assigned, beginning at the system source if possible. For example: In the compressed air system (Exhibit 1), begin by assigning a PLOPM number to the AT (automatic trap) at AK-1 (air compressor #1) and proceed to assign consecutive PLOPM numbers to the AT at AK-2, etc.

PLOPM NUMBERS ON EQUIPMENT CARDS AND TAGS

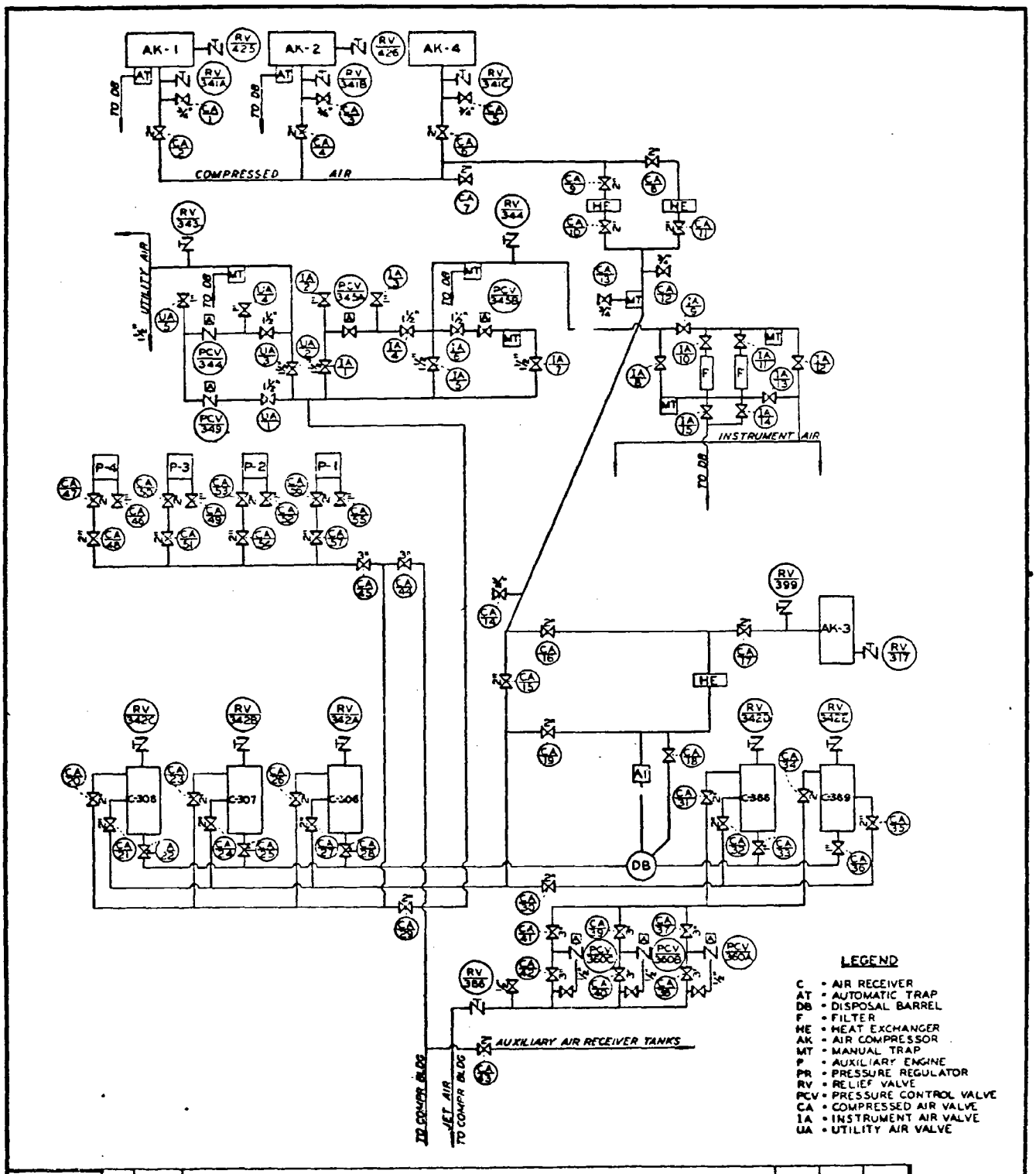
16. Equipment Cards

(a) Transmission maintenance personnel shall write the equipment's assigned PLOPM number in the space identified as such on Equipment Card 11-392 (see Exhibit 2).

(b) Technical maintenance personnel shall write the equipment's assigned PLOPM number in the space identified as such on Equipment Card 11-168 (see Exhibit 3).

17. Equipment Tags

The PLOPM number assigned to equipment in all station auxiliary systems shall be stamped on the color coded identification tags as described in Sections 9 and 10 of this Standard Practice. See Exhibit 4 for the approved format to be followed when adding the equipment number and corresponding PLOPM number to each livestock tag.



APPROVED BY	REV.	DATE	DESCRIPTION	DWN.	CHK'D.	APV'D.
GS						

GM	
SUPV.	[redacted]
DSGN.	
DWN.	EAD
CHK'D.	JLB
O.K.	JLB
DATE	6-23-76
SCALE	NONE

ELEMENTARY – MECHANICAL
KETTLEMAN COMPRESSOR STATION AIR SYSTEM

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

SUPERSEDES	
SUPERSEDED BY	
SHEET NO.	OF SHEETS
DRAWING NUMBER	REV.
284062	
MICROFILM	

11-392
1-1-77

PACIFIC GAS AND ELECTRIC COMPANY

EXHIBIT 2

GENERAL MAINTENANCE EQUIPMENT CARD

PLOPM No. 48 7000 1

Card No.

Station Kettleman

Description Plug Valves

Valve/Device No. CA/1 Thru CA/10 Ref.Dwg. Elm.-Mech. 284062

Location Auxiliary Building Area

Manufacturer Rockwell Model 2" and 3/4" Serial No

Reference Figure 2024

Date	Remarks	Man-Hours	Employee Initials
1-15-77	Greased and Operated All Valves	1.5	J.B.

Material Redacted GTR0117415

11/15/76

PACIFIC GAS AND ELECTRIC COMPANY

LOCATION NO. _____

DMD NO. _____

EQUIPMENT:

TECHNICAL MAINTENANCE EQUIPMENT CARD

PLOPM NO. _____

LOCATION _____

ITEM							EQUIPMENT LIST			
INSTRUMENT DESIG.							NO.	DESCR.	NO.	DESCR.
MFG. CODE										
MODEL NO.										
SERIAL NO.										
MANUAL NO.										
DWG. NO.										
INPUT/I.D.										
INPUT/STATIC										
OUTPUT/SIZE										
P.B. AND RESET										
SPEED/SETPOINT							RELATED JOBS			
ORIFICE/CASE							PLOPM NO.	DESCRIPTION		
SPRING/VANES										
RESTRICTION										
FILTER ELEMENT										
STD. PRACTICE NO.										

SHUTDOWN REQUIRED NO ☐ YES ☐

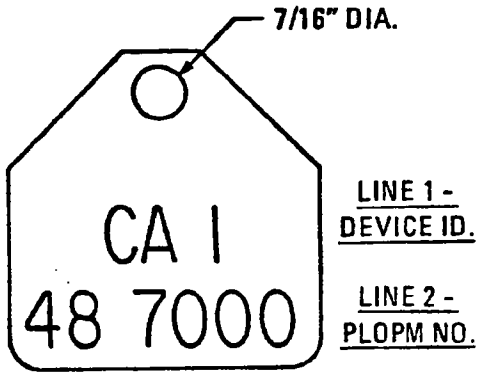
JOB NO.	JOB DESCRIPTION	P.M. FREQ.	CLEARANCE NUMBER	P.M. DUE
1.				
2.				
3.				
4.				

REMARKS:

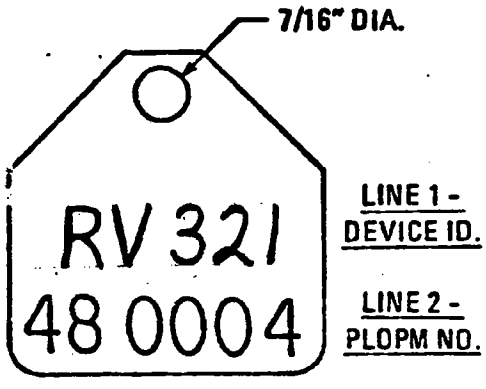
Material Redacted

GTR0117416

Tags shall be yellow for gas, green for air, blue for water and orange for oil.



CA-1: Number 1 Plug Valve in Compressed Air System
48-7000: PLOPM Number
48: Location - Kettleman Compressor Station
7000: Equipment Identification Number



RV-321: Relief Valve Number 321
48-0004: PLOPM Number
48: Location - Kettleman Compressor Station
0004: Equipment Identification Number

2-1-77
11-623

PACIFIC GAS AND ELECTRIC COMPANY
PIPE LINE OPERATIONS DEPARTMENT
EQUIPMENT TAG ORDER FORM

EXHIBIT 5

VENDOR

TEMPLE TAG CO.
TEMPLE, TEXAS 76501
TELEPHONE 817/982-4212

REQUISITION NO. ___________
SHEET _____ OF _____ SHEETS

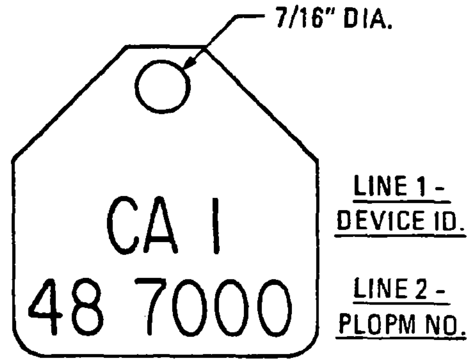
SUBMITTED BY

NAME _____________
LOCATION _____________
____

TAG COLOR				LETTERING	
YEL.	GRN.	BLU.	ORG.	LINE 1	LINE 2

TAG COLOR				LETTERING	
YEL.	GRN.	BLU.	ORG.	LINE 1	LINE 2

COUNTRY GIANT JR. EAR TAGS



(SAMPLE ONLY)

YELLOW, GREEN, BLUE OR ORANGE WITH BLACK PRINT

TAG COLOR				LETTERING	
YEL.	GRN.	BLU.	ORG.	LINE 1	LINE 2