

PACIFIC GAS AND ELECTRIC COMPANY
STANDARD PRACTICESTANDARD PRACTICE NO. 460.2-1EXECUTIVE OFFICE OR DIVISION GAS OPERATIONSPAGE NO. 1 EFFECTIVE 2-1-68ISSUING DEPARTMENT GAS DISTRIBUTIONREPLACING
PAGE NO. _____ EFFECTIVE _____**SUBJECT:**

PATROLLING: PIPELINES AND MAINS

PURPOSE AND POLICY:

1. To establish a uniform procedure for periodic patrolling of Company gas transmission pipelines and selected distribution mains for the purpose of observing conditions on and adjacent to the right of way or route of the main, such as indications of leakage, construction activity, and any other factors that could be expected to affect the operation and safety of the lines or other Company facilities along the lines.
2. The route of each gas transmission pipeline or selected distribution main shall be patrolled periodically in accordance with General Order 112-B of the California Public Utilities Commission. This is in keeping with the general policy of conducting inspections as often as judged to be necessary to assure safe and economical operation.

REFERENCES:

3. S.P. 460.21-4, Gas Leakage, Routine Inspection for (Gas Distribution Dept.)
Gas Standards and Specifications, S.P. 805, Lubrication of Plug Valves (Gas System Design Dept.)

REVISIONS:

4. Previously issued instructions, oral or written, which may be contrary to this standard practice are rescinded.

RESPONSIBILITY:

5. The responsibility for performance of periodic patrolling shall rest with supervisors in the divisions and Pipe Line Operations Department, who direct the maintenance and operation of gas pipelines, mains, and appurtenances. Performance includes: setting specific scope and special considerations, assignment of frequency of patrolling, reviewing, and maintaining patrol records, and initiating action to correct conditions found during patrolling.

(see over)

PACIFIC GAS AND ELECTRIC COMPANY
STANDARD PRACTICE

STANDARD PRACTICE NO. 460.2-1

EXECUTIVE OFFICE OR DIVISION GAS OPERATIONS

PAGE NO. 2 EFFECTIVE 2-1-68

ISSUING DEPARTMENT GAS DISTRIBUTION

REPLACING
PAGE NO. _____ EFFECTIVE _____

SUBJECT: PATROLLING: PIPELINES AND MAINS

SUPPLEMENT:

6. Procedural details for periodic patrolling appear in the Supplement of this standard practice.

APPROVED: E. H. FISHER
Vice President - Gas Operations

<u>DISTRIBUTION:</u>	Division Managers	Div. Gas Superintendents
	Pipe Line Operations Dept.	Div. Admin. Analysts or Equivalent
	Claims and Safety Dept.	District Gas Superintendents or Equivalent
	District Managers	Director, Procedures Analysis

Additional copies of this standard practice or the supplement may be obtained from Gas Operations, 245 Market Street, San Francisco (PG&E Ext. 1604).

PROCEDURAL DETAILS FOR PERIODIC PATROLLING

FACILITIES INCLUDED:

7. This standard practice is intended to cover all numbered transmission pipelines, Secondary Trunk Mains in distribution capital and other distribution mains in locations or on structures where abnormal physical movement or abnormal external loading could cause failure or leakage.
 - a. Secondary Trunk Mains in distribution capital are listed in Appendix A.
 - b. Each division and PLO Department shall prepare a list of specific lines for patrolling, including special considerations that will govern the scope and frequency of patrols.

POINTS TO OBSERVE:

8. Personnel patrolling the pipelines shall be alert for and report the following:
 - a. Land slides or threatened slides.
 - b. Erosion by streams, wave action, rain, etc.
 - c. Subsidence indicating settlement that would affect the pipeline or main.
 - d. Construction or maintenance work being done by others along the pipeline or main.
 - e. Evidence of gas leakage, as indicated by vegetation, bubbles in surface water, odor, etc.
 - f. Needed repairs to facilities owned by company.
 - g. Needed repairs to highway structures and other facilities not owned by company where public safety is a factor.
 - h. Presence of survey parties or other indications of possible future work that might jeopardize the pipeline or main.
 - i. Any other factors affecting the operation or safety of the pipeline or main or other company facilities.

METHODS OF PATROLLING:

9. Patrolling may be conducted by riding, walking, or flying over the route of the line so long as the above-ground surface conditions are adequately observed.

(see over)

FREQUENCY OF PATROLLING:

10. Patrol frequencies are to be established by the operating division or PLO Department on the basis of the factors affecting the safety and operation of the pipeline, such as weather, terrain, size of line, operating pressures, location class, proximity to main highways, and railroad crossings.
11. The recommended minimum frequency for scheduled patrols is monthly for all gas transmission pipelines and selected distribution mains.
 - a. Where an aerial patrol is utilized, a ground patrol shall also be made at least once each year.
 - b. Where portions of the route of gas collection mains are within sight of gas department employees while traveling in the course of regularly scheduled work (such as measurement personnel checking gas purchase meters), these facilities may be considered patrolled provided that:
 - 1) The assignment of this responsibility is clearly established,
 - 2) A method of reporting conditions found to the responsible pipeline supervisor is established, and
 - 3) A report is filed with the pipeline supervisor at least once each month showing how and when the facility was observed and the conditions found (62-4648, Exhibit A)
 - c. Pipelines and mains shall be patrolled as soon as possible after a heavy rain storm, earthquake, etc., in those areas where damage is likely to occur.

PERFORMANCE OF OTHER ROUTINE WORK:

12. During ground patrols:
 - a. Important drips shall be blown.
 - b. Principal valves shall be checked for freedom of operation and lubricated if necessary. (Gas Standard & Specifications, S.P. 805, Page 2, for period of lubrication.)
 - c. Simple repairs shall be made when the performance of the work will not interfere with the patrol schedule or when prompt attention is required and the repair is within the capability of the patrolling personnel.
13. Any conditions found during the patrol, which require immediate attention and cannot be corrected by the patrol, shall be reported to a responsible supervisor as soon as possible.

14. A report shall be made listing the patrol activities and describing any unusual conditions found. These reports shall be distributed within the division or FLO Department, as required, for proper surveillance and follow-up.
15. Form 62-4648 shall be used for reporting all ground patrolling. Form 75-347 shall be used for all aerial patrolling. Form 75-348 shall be used for the aerial patrol summary report and follow-up.
16. A copy of each report shall be retained for the life of each numbered gas transmission pipeline and for a minimum of three years for selected distribution mains.

ATTACHMENTS:

Appendix A - Secondary Trunk Mains in Distribution Capital
Exhibit A (Form 62-4648) - Daily Patrol and Work Report
Exhibit B (Form 75-347) - Aerial Pipeline Patrol
Exhibit C (Form 75-348) - Aerial Patrol Summary and Follow-up Report

STOCKHOLM TRUNK MAINS IN DISTRIBUTION CAPITAL

Pacific Gas and Electric Company
Gas Operations

Description	Trans. Line No.	Type										Minimum Operating Pressure	Total Miles	Approx. Mileage	Notes		
		1"	2"	3"	4"	6"	8"	10"	12"	14"	16"					20"	24"
Richvale 10" Meter Station to Downville 8th and Panama Primary Regulator						7,303		1,560						200	8,263	7,293	(1)
Richvale 10" Meter Station to Downville 8" Regulator						2,082		2,160						200	2,442	2,160	(2)
Richvale Meter Station to Downville Meter Station						6,245								500	6,745	6,245	
Adair to So. Waco 10" H.P. H. Meter Station						4,137				18,778		1,128		550	24,043	18,778	(3)
San Francisco Ave. Meter Station (10") at Lewis Park to Roberts, Via 8th St.												15,311	200	2,011	15,511	15,511	
Roberts Line from Ripon-Medford Meter Station to Clara's Coffee Road Regulator Station at New York Ave.								13,336		786				500	14,122	16,122	(4)
Roberts Line from Ripon-Medford Meter Station to Clara's Coffee Road Regulator Station at New York Ave.								865		9,430				500	10,265	16,270	(5)
Lateral Tap from Kings and Elm Aves. to Clayton and Carver Road Regulator, Roberts														500	5,021	5,025	
Clara's Coffee Road Regulator Station at Riverbank Tap to Green Regulator Station at Mira Street								1,018		7,117				250	8,135	8,135	
Electric Station Road Regulator Station at Riverbank Tap to Coffee and Cambridge Avenue (2" Parallel Main)						293				2,450				250	2,499	2,496	(2)
Green Regulator Station at Mira Street to Lincoln Regulator Station Via Highway								11,913						500	12,413	11,913	
Green Regulator Station, Main Line to Kings and G Regulator, Roberts						406		169		10,551				500	11,066	11,056	
Northwest Avenue and Clayton Street to Lincoln Regulator Station								4,691		8,435				500	13,626	13,626	
Washington Meter Station to Bob Boy Junction														500	5,024	5,024	
Medford to Mira Street to Bob Boy Junction, Parallel														500	5,024	5,024	
Bob Boy Junction to Roberts and Clara's Coffee Road, Santa Cruz										7,677				500	7,677	7,677	(1)
Roberts and Clayton Streets to Santa Cruz San Plant										438				500	4,415	4,415	
Kings Street - Santa Cruz to Fern										6,138				500	6,138	6,138	
Lincoln and Clayton Streets to Santa Cruz San Plant														500	1,961	1,961	
Santa Cruz S. L. Substation to Davenport										19,871				500	20,371	20,371	
Roberts Road Meter Station, Roberts, Main 100-107 and 101 to Hillview Regulator Station 100 and Mira St.														500	3,120	3,120	
Robt. Rd. Junction to Reg. - Frame, Sta. Regulator, Sta. Main 100, Mira St.										15,888				500	16,388	16,388	
10" Main Regulator Station to York Ave. Junction, 100-1														500	1,020	1,020	
Main Line Regulator to Roberts on Road Tap, Main 100														500	1,813	1,813	
10" Main Line Reg. Main 100 to Kings and 8th Streets, Turn Off 10" Main 101														500	5,340	5,340	
10" Main Line Reg. Main 100 to Kings and 8th Streets, Turn Off 10" Main 101														500	5,340	5,340	
10" Main Line Reg. Main 100 to Kings and 8th Streets, Turn Off 10" Main 101														500	5,340	5,340	
10" Main Line Reg. Main 100 to Kings and 8th Streets, Turn Off 10" Main 101														500	5,340	5,340	

- (1) This main is looped with 16,470 miles of 12" pipe and 200 10" H.P. H. meters amounting to 642 miles of 8" pipe.
- (2) Includes three parallel sections: one amounting to 129 miles of 12" pipe, one of 1,861 miles of 8" and 255 miles of 12" pipe, and one of 2,377 miles of 8" pipe. Three sections of this trunk main are looped by three sections of 10" Main 101, 100-107, 100-101, 100-102, 100-103, 100-104, 100-105, 100-106, 100-108, 100-109, 100-110, 100-111, 100-112, 100-113, 100-114, 100-115, 100-116, 100-117, 100-118, 100-119, 100-120, 100-121, 100-122, 100-123, 100-124, 100-125, 100-126, 100-127, 100-128, 100-129, 100-130, 100-131, 100-132, 100-133, 100-134, 100-135, 100-136, 100-137, 100-138, 100-139, 100-140, 100-141, 100-142, 100-143, 100-144, 100-145, 100-146, 100-147, 100-148, 100-149, 100-150, 100-151, 100-152, 100-153, 100-154, 100-155, 100-156, 100-157, 100-158, 100-159, 100-160, 100-161, 100-162, 100-163, 100-164, 100-165, 100-166, 100-167, 100-168, 100-169, 100-170, 100-171, 100-172, 100-173, 100-174, 100-175, 100-176, 100-177, 100-178, 100-179, 100-180, 100-181, 100-182, 100-183, 100-184, 100-185, 100-186, 100-187, 100-188, 100-189, 100-190, 100-191, 100-192, 100-193, 100-194, 100-195, 100-196, 100-197, 100-198, 100-199, 100-200, 100-201, 100-202, 100-203, 100-204, 100-205, 100-206, 100-207, 100-208, 100-209, 100-210, 100-211, 100-212, 100-213, 100-214, 100-215, 100-216, 100-217, 100-218, 100-219, 100-220, 100-221, 100-222, 100-223, 100-224, 100-225, 100-226, 100-227, 100-228, 100-229, 100-230, 100-231, 100-232, 100-233, 100-234, 100-235, 100-236, 100-237, 100-238, 100-239, 100-240, 100-241, 100-242, 100-243, 100-244, 100-245, 100-246, 100-247, 100-248, 100-249, 100-250, 100-251, 100-252, 100-253, 100-254, 100-255, 100-256, 100-257, 100-258, 100-259, 100-260, 100-261, 100-262, 100-263, 100-264, 100-265, 100-266, 100-267, 100-268, 100-269, 100-270, 100-271, 100-272, 100-273, 100-274, 100-275, 100-276, 100-277, 100-278, 100-279, 100-280, 100-281, 100-282, 100-283, 100-284, 100-285, 100-286, 100-287, 100-288, 100-289, 100-290, 100-291, 100-292, 100-293, 100-294, 100-295, 100-296, 100-297, 100-298, 100-299, 100-300, 100-301, 100-302, 100-303, 100-304, 100-305, 100-306, 100-307, 100-308, 100-309, 100-310, 100-311, 100-312, 100-313, 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