

PACIFIC GAS AND ELECTRIC COMPANY

PG&E



245 MARKET STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

June 30, 1967

5/8-3-67

Local Union No. 1245
International Brotherhood of
Electrical Workers, AFL-CIO
1918 Grove Street
Oakland, California 94612

Attention Mr. Ronald T. Weakley, Business Manager

Gentlemen:

As the result of changes negotiated during the 1966 negotiations and subsequent negotiations relative to the operating group of classifications in the Division Steam Generation Departments, Company proposes to amend Exhibit VI-B of the Agreement dated September 1, 1952, as shown in the attached "Job Definitions and Lines of Progression" effective July 1, 1967.

In addition, the following new wage rates and methods of implementation are proposed:

A. Applicable to all power plants except Kern and The Geysers

Abolish the classifications of Shift Helper, Oiler, Condenserman, LP Fireman, Water Softener Operator, and HP Fireman. The Job Definition of Auxiliary Operator has been amended to incorporate these classifications. The proposed wage rate for the Auxiliary Operator classification is as follows:

Start	- \$121.10	per week
End 6 Months	- \$125.45	" "
End 1 Year	- \$130.05	" "
End 18 Months	- \$136.25	" "
End 2 Years	- \$142.45	" "
End 30 Months	- \$148.70	" "

B. Applicable to Avon, Martinez and Oleum Power Plants

Abolish the classification of Turbine Tender and amend the Job Definition of Assistant Control Operator (Oleum) to apply to all three plants as stated in the attached Job Definitions.

C. Applicable to Potrero Power Plant

1. Replace the classification of Turbine Tender with the classification of Assistant Control Operator.
2. Replace the classification of Boiler Feed Pumpman with the classification of Senior Auxiliary Operator with the Job Definition as outlined in the attached.

Wage Rate: Start - \$157.60 per week
End 6 Months - \$165.45 " "

D. Effective date and conversion

1. The effective date of the changes contained in this proposal is July 1, 1967, but promotions or transfers resulting from job vacancies posted on such date will be taken into account. An employee who on July 1, 1967 is temporarily assigned to a classification higher than his base classification on other than a time-card basis shall retain his temporary rate for the duration of his present temporary assignment.

2. Auxiliary Operator

- a. An employee classified as an HP Fireman, LP Fireman, and Water Softener Operator will be reclassified to Auxiliary Operator at \$148.70 per week. Such an employee who, due primarily to partial physical disability, is unable to assume more varied duties will not be required to perform the full duties of the new classification.
- b. An employee classified as a Shift Helper, Oiler, or Condenserman will be reclassified to Auxiliary Operator at his current rate, with credit for time spent at such rate, up to a maximum of six months. (This could result in an employee receiving the rate next higher to his current rate.) After completing the requirements for his next successive wage increase, including time at that wage rate, he shall receive the next wage progressive step.

3. Potrero Power Plant

- a. An employee classified as Turbine Tender who requests training at Unit No. 3 will be provided such training and when qualified he will be reclassified to Assistant Control Operator with credit for time spent as a Turbine Tender. Future Turbine Tender vacancies will be reclassified to Assistant Control Operator.
- b. An employee classified as a Boiler Feed Pumpman will be reclassified to Senior Auxiliary Operator with credit for time spent as a Boiler Feed Pumpman.

- c. The reduction from seven Auxiliary Operators per watch to five per watch will be made through attrition. No employee currently on the payroll will be laid off, displaced, or demoted to accomplish this reduction.
- d. Future temporary vacancies at Hunters Point Unit No. 1 will be filled from within Hunters Point when practicable.

4. Avon, Martinez, and Oleum

- a. Each employee who on June 30, 1967 is classified as Assistant Control Operator or Turbine Tender (including relief) will be offered an Assistant Control Operator or Relief Assistant Control Operator job in order of his Turbine Tender seniority date. In case of ties, Company seniority will be used. In order to assign all the affected Assistant Control Operators and Turbine Tenders to the Assistant Control Operator classification, Company will establish two additional Relief Assistant Control Operator classifications at Oleum. As vacancies occur in these relief classifications, Company will review the need for such additional jobs. A list of the affected employees (as of June 27, 1967) is attached.
- b. The reduction from four Auxiliary Operators per watch to three per watch in each plant will be accomplished by transferring the excess employees who were the junior Shift Helpers to vacant Auxiliary Operator positions in East Bay Division plants. Employees who are transferred under this procedure will be given first refusal in Company seniority order on vacancies which occur at the three plants involved.

Attached is a letter agreement with respect to testing which is a part of this proposal.

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 Company.

Yours very truly,

PACIFIC GAS AND ELECTRIC COMPANY

By V. A. Thompson
Manager of Industrial Relations

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

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

August 3, 1967

By Russell Whalley
Business Manager

ASSISTANT CONTROL OPERATORS AND TURBINE TENDERS
 AVON, MARTINEZ, AND OLEUM POWER PLANTS
 June 27, 1967

<u>NAME</u>	<u>PLANT</u>	<u>CLASSIFICATION</u>	<u>CLASSIFICATION SENIORITY AS TURBINE TENDER</u>
Donald J. Curphey	Avon	T.T.	4-20-49
Herbert J. Marines	Martinez	T.T.	12- 4-57
Robert W. Davis	Oleum	A.C.O.	4-18-58
David W. Potts	Oleum	T.T.	5- 6-58
Arthur C. Sexton	Oleum	A.C.O.	2-17-60
Herman G. Arnold	Avon	T.T.	3-26-61
Clinton W. Trotter	Oleum	A.C.O.	6-16-61
Elliott M. Roberts	Avon	T.T.	3-25-62
Edward J. Rose	Martinez	T.T.	8-23-64
James E. Precour	Oleum	Rel. A.C.O.	9-26-65
Richard L. McNamara	Avon	T.T.	5-22-66
John S. Aldridge	Avon	Rel. T.T.	1- 1-67 (4-14-53)
John C. Gill	Oleum	T.T.	1- 1-67 (11-23-53)
Robert S. Blotzer	Oleum	T.T.	1- 1-67 (5- 3-54)
Gene Brazzil	Martinez	T.T.	1- 1-67 (6- 1-54)
Eugene R. Stratton	Martinez	T.T.	1- 1-67 (9- 7-54)
Alan L. Nelson	Martinez	Rel. T.T.	1- 1-67 (1- 9-56)

(date) = Company Seniority Date

PACIFIC GAS AND ELECTRIC COMPANY

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245 MARKET STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

June 30, 1967

Local Union No. 1245
International Brotherhood of
Electrical Workers, AFL-CIO
1918 Grove Street
Oakland, California 94612

Attention Mr. Ronald T. Weakley, Business Manager

Gentlemen:

In an attempt to reinforce its current training programs as required to keep pace with advancing steam power technology, Company has reorganized its training programs for steam plant operating employees and since April 1964, has given greater emphasis to improving the quality of such programs and the level of knowledge of the operators by inaugurating a system-wide basic training program. These programs provide a means for an employee to enhance his knowledge with respect to his present classification and to prepare himself for promotion to higher classifications.

In conjunction with the above training programs and in accordance with the provisions of Section 205.11 of the Agreement, qualification examinations have been developed for each of the Operating classifications to determine that an employee bidding for promotion to fill a vacancy in such classification meets minimum requirements with respect to job knowledge.

Company proposes the adoption of the enclosed examinations for use in determining job knowledge under the provisions of Section 205.11 of the Agreement. These examinations will supplement present qualification determinations with respect to the employee's skill, efficiency, adaptability, and physical ability required for the job on which the bid is made. The enclosure consists of two copies of each examination. There are three forms of each examination and there is a separate examination for promotion to each of the following classifications or progressive wage steps:

Senior Control Operator, including Watch Engineer at Kern
Control Operator, including Power Plant Operator at Kern
Assistant Control Operator at Group I Plants
Assistant Control Operator at Group II Plants, including
the 30 month step of Assistant Power Plant Operator at
Kern
Auxiliary Operator No. 2 for progression to the 30 month
step at Group I Plants, including the two year step of
Assistant Power Plant Operator at Kern

Auxiliary Operator No. 2 for progression to the 30 month step at Group II Plants, except Oakland and Kern
Auxiliary Operator No. 2 for progression to the 30 month step at Oakland
Auxiliary Operator No. 1 for progression to the 18 month step, including such step of the Assistant Power Plant Operator at Kern
Water Tender at Oakland
Turbine Tender at Oakland
Senior Auxiliary Operator at Potrero
Final examination on the Operators' Basic Training Manual for progression to the 1 year step of Auxiliary Operator and Assistant Power Plant Operator

A. Examination procedure applicable to candidates for promotion above Auxiliary Operator

1. An employee who submits a prebid to fill a job vacancy in a classification higher than Auxiliary Operator under the provisions of Section 205.4 may indicate on such prebid form that he is then prepared and desires to take the required test to qualify for the classification.
2. If such prebid is postmarked not less than eight calendar days before the posting of an award to fill such job vacancy, his prebid shall be considered valid and the employee shall be offered an opportunity to take the required tests for the classification covered by the prebid if he is otherwise eligible for such testing. If he is eligible within a period of 21 days following the postmark date of such prebid, Company shall arrange for such testing during the 21-day period. If he avails himself of the opportunity and successfully meets all requirements for promotion, his prebid shall receive consideration in filling of the job vacancy.
3. Such prebid shall be held as inactive if:
 - a. The prebid did not include a request for testing,
 - b. The employee was not eligible for testing in accordance with Paragraph A7 below,
 - c. The employee did not avail himself of the test opportunity offered by the Company, or
 - d. The employee failed to pass the tests required at the opportunity offered by the Company.
4. The bid of an employee who has failed for the fourth time to meet the test requirements shall be considered as invalid.

5. a. In order that an employee's postbid to fill a job vacancy in a classification higher than Auxiliary Operator be considered under the provisions of Title 205, he must have made a written request by U. S. mail to his Personnel Department to be tested. Such request must be postmarked not less than eight calendar days before the posting of the job vacancy under the provisions of Subsection 205.6(a) of the Agreement.
 - b. If such written request was postmarked not less than eight calendar days before the posting of such vacancy, the employee will be offered an opportunity within a period of not less than eight nor more than 21 calendar days after the postmark date of the request to meet the testing requirements if he is eligible in accordance with the schedule of testing outlined in Paragraph A7 below.
6. An employee who has previously attempted but failed to meet the testing requirements and who again desires to meet the testing requirements, must make written request by U. S. mail to his Personnel Department. If such request was timely with respect to the procedures outlined in Paragraphs 1 through 5, inclusive, above it shall cause his previous prebids or subsequent postbids to be considered as active and valid. In such instances, the procedures outlined in Paragraphs 1 through 5, inclusive, above shall be followed. If such request is not timely, the same testing procedure will be followed, except his previous prebids or subsequent postbids will not be considered as active.
7. An employee will be deemed to have met the examination requirement if he attains a grade of 70 points of the 100 possible on any form of the examination for the classification to which he is attempting to be promoted. If such grade is attained, further examinations for promotion to the applicable classification will not be required. However, if an employee fails to attain a passing grade, he will be eligible for further testing in accordance with the following schedule:

2nd Examination - Two months, or thereafter, following the date of the original examination.

3rd Examination - Six months, or thereafter, following the date of the second examination.

4th Examination - Twelve months, or thereafter, following the date of the third examination.

If an employee fails to pass the examination a fourth time, Company will not be required to give further consideration to examining such employee for qualification for promotion. However, if Company determines such employee has conscientiously prepared himself, Company may allow another opportunity for the employee to qualify.

The examinations will be administered by the Division Personnel Department. Each employee who is tested will be notified of his test results

in writing. Counselling and other action necessary to assist employees in meeting the requirements will be administered by the Division Steam Generation organizations.

Effective Date

This examination procedure shall become effective on October 1, 1967. The initial examinations to be given during October 1967 shall apply to bids on job vacancies filled subsequent to October 1, 1967. In this initial examination, Company may restrict the number to be examined at any one plant. Selection within such restriction shall be made on the basis of classification seniority.

B. Examination procedure applicable to Auxiliary Operators and Assistant Power Plant Operators

Written examinations will be used to assist in determining the progress of any employee in the Auxiliary Operator or Assistant Power Plant Operator training program effective October 1, 1967 and the following procedure shall apply:

1. An Auxiliary Operator or Assistant Power Plant Operator who passes the established examinations and who is satisfactorily performing his duties will be granted the periodic wage progressions of the classification.
2. An Auxiliary Operator or Assistant Power Plant Operator who is due to progress to the next higher wage step and who does not pass the established examination shall:
 - a. Be notified in writing of the requirement that he pass the established examination prior to the date he is scheduled to receive the next higher wage step,
 - b. Be held in his present wage rate, and
 - c. Be allowed a maximum of three months to meet the requirements.
3. If during such three-month period the employee passes the established examination, he shall receive the next higher step wage rate effective on the date such examination is passed. He will not be eligible for further progression in the wage rate until six months have elapsed and, if applicable, further examinations have been passed.
4. a. If an employee who is attempting to meet the requirements established to progress from the six months to the one-year step of the program fails to meet the established requirements during such three months additional period of time, he shall be removed from the classification. An Assistant Power Plant Operator who fails to meet such requirements shall be demoted to the classification which he held immediately prior to becoming an Assistant Power Plant Operator and shall displace that employee in his Division

and in such classification who has the least Company seniority, provided such employee's Company seniority is not greater than his own.

- b. If an Auxiliary Operator who is attempting to meet the requirements established to progress for any other step of the program fails to pass the established examination within the allotted time (including the three months' extension), he shall be granted a further extension of time required to pass the examination not to exceed the time provided by the wage progression up to the point at which he failed to pass an examination. If he still fails to pass the examination, he shall be removed from the classification and demoted to Helper in a Steam Maintenance Department in the Division. As a Helper, he shall either fill a vacancy if one exists or displace the junior employee in the classification provided such junior employee does not have more Company seniority than he.
 - c. If an Assistant Power Plant Operator who is attempting to meet the requirements established to progress for any step of the program, other than from the six months to the one-year step, fails to pass the established examination within the allotted time (including the three months' extension), he shall be granted a further extension of time required to pass the examination not to exceed the time provided by the wage progression up to the point at which he failed to pass an examination. If he still fails to pass the examination, he shall be removed from the classification and returned to the classification which he held immediately prior to becoming an Assistant Power Plant Operator and shall displace that employee in his Division and in such classification who has the least Company seniority, provided such employee's Company seniority is not greater than his own.
 - d. An employee who, on June 30, 1967, was satisfactorily performing the duties of the classification of Shift Helper, Condenserman, Oiler, Water Softener Operator, LP Fireman, HP Fireman, Auxiliary Operator, or Assistant Power Plant Operator and who continues to perform such duties in a satisfactory manner shall not be removed from his classification, as provided for in Subparagraph (a) or (b) above.
5. An employee who was formerly demoted, for a reason other than one contained in Paragraph 4, from Auxiliary Operator or Assistant Power Plant Operator, or who was formerly in a classification higher thereto in the Line of Progression and who returns to a vacancy in such classification shall be placed by Company in the wage step of the Auxiliary Operator or Assistant Power Plant Operator classification commensurate with his current knowledge, skill, efficiency, adaptability, and physical ability.
 6. An employee, except an employee covered by Paragraph 5 above, who fills a vacancy in the Auxiliary Operator or Assistant Power Plant Operator classification, shall be placed at the beginning of the starting rate for such classification.

7. An employee shall be entitled to take an examination described in this Part B a maximum of four times in accordance with the following schedule:

1st Examination - At any time prior to the date on which the examination requirement must be met as provided above.

2nd Examination - Two months, or thereafter, following the date of the original examination.

3rd Examination - Six months, or thereafter, following the date of the second examination.

4th Examination - Twelve months, or thereafter, following the date of the third examination.

If an employee fails to pass the examination a fourth time, Company will not be required to give further consideration to examining such employee for qualification for progression within his classification. The foregoing schedule of examinations must be completed within the time limits provided in Paragraphs B-2 through B-4 above.

An employee will be deemed to have met the examination requirement if he attains a grade of 70 points of the 100 possible on any form of the examination for the classification to which he is attempting to be promoted. If such grade is attained, further examinations for progression within the applicable classification will not be required.

8. An employee who desires to meet the testing requirements must make written request by U. S. mail to his Personnel Department. If such request was timely with respect to the procedures outlined in Paragraph 7 above, he shall be tested within 14 calendar days.

The examinations will be administered by the Division Personnel Department. Each employee who is tested will be notified of his test results in writing. Counselling and other action necessary to assist employees in meeting the requirements will be administered by the Division Steam Generation organizations.

- C. 1. Should a complaint arise concerning the fairness of the administration or correction of an examination given in accordance with the provisions of this letter agreement or concerning an employee's opportunity to prepare for such an examination, the Union's member of the Local Investigating Committee may refer it to the Chairman of the Steam Generation Examination Committee. Any such complaint shall be reviewed by the Committee before the Company makes a final decision with respect to testing or to examination results.
2. The Steam Generation Examination Committee shall consist of two members appointed by Company and two members appointed by Union.

- 3. Disputes which involve other matters under this letter agreement may be submitted to the Local Investigating Committee and will be considered under the provisions of Section 102.8 of the Agreement.

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

Yours very truly,

PACIFIC GAS AND ELECTRIC COMPANY

By *[Signature]*
 Manager of Industrial Relations

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

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

August 3, 1967

By *[Signature]*
 Business Manager

28 (12)

JOB DEFINITIONS AND LINES OF PROGRESSION

DIVISION STEAM GENERATION DEPARTMENTS

OPERATING

Operating employees may be assigned to other duties including maintenance during shutdown.

GROUP I PLANTS: Contra Costa, Humboldt Bay, Hunters Point, Morro Bay, Moss Landing, Pittsburg and Senior Control Operator, Control Operator, and Assistant Control Operator at Potrero.

GROUP II PLANTS: Avon, Kern, Martinez, Oakland, Oleum and Senior Auxiliary Operator and Auxiliary Operator at Potrero.

RELIEF OPERATOR

A shift employee who stands shifts as assigned, relieves other operators and performs all of the duties of the operating position which he is relieving. In addition, he may be required to perform routine maintenance work, to perform cleaning duties in and about the power plant, to assist in performing tests on operating equipment, and to instruct other employees. He shall be assigned to relieve only the operator classifications in which he is qualified.

See Labor Agreement Clarification "Relief Shift Employees" for method of filling vacancies in these classifications.

1580 SENIOR CONTROL OPERATOR (Group I)

A shift employee who, as an assistant to the Shift Foreman, operates and directs the operation of all equipment in the station together with their related controls and assists in the training of other employees in the proper performance of their duties. He shall have the personal qualifications of leadership and supervisory ability and a thorough knowledge of operating principles, equipment operating procedures, system operating orders, clearance procedures and necessary transactions with the System Dispatcher. In conjunction with his operating duties, he directs and assists in station cleaning.

Next Lower Classification

Same or Higher Classification

1585 Control Operator (In Plant)

1580 Senior Control Operator

1586 CONTROL OPERATOR (Avon, Martinez and Oleum)

A shift employee whose duties are confined to the control deck where he is required to operate the controls for boilers, turbine-generators, oil circuit breakers, etc. He also has control over the boiler feed pumps, evaporator pumps, steam supply to the refineries, and

all other equipment which is controlled from the control room panels. The Assistant Control Operator and Auxiliary Operators work under his direction and he is responsible for the reception and execution of switching orders.

Next Lower Classification

Same or Higher Classifications

1592 Assistant Control Operator
(In Plant)

0513 Watch Engineer
1586 Control Operator (Avon, Martinez
and Oleum)
1715 Power Plant Operator

1585 CONTROL OPERATOR (Group I)

A shift employee, who is in charge of the control room. His duties include the operation of the plant equipment and switchgear which have their controls in the control room. He must be familiar with equipment operational procedures, system operating orders, clearance procedures and other necessary transactions with the System Dispatcher. In conjunction with his operating duties, he will do necessary cleaning on and around rotating equipment, on the control mechanisms and other moving parts and keep the control room clean.

Next Lower Classification

Same or Higher Classifications

1589 Assistant Control Operator
(In Plant)

1580 Senior Control Operator
1585 Control Operator (Group I)

1592 ASSISTANT CONTROL OPERATOR (Avon, Martinez and Oleum)

A shift employee who assists the Control Operator. Does necessary switching, assists with the operation of the pumps involved in the main processes, the operation of the turbine generators, including the hydrogen cooling system, and assists in the fire room, as necessary, to change burners and fuel. He is also required to do cleaning in and around the control area, around the control mechanisms and other moving parts, and in the fire room.

Next Lower Classification

Same or Higher Classifications

1560 Auxiliary Operator (In Plant)
2460 Turbine Tender (In Plant)

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1586 Control Operator (Avon,
Martinez & Oleum)
1592 Assistant Control Operator
(Avon, Martinez & Oleum)
1715 Power Plant Operator
1719 Assistant Power Plant Operator
(Top Rate)

1589 ASSISTANT CONTROL OPERATOR (Group I)

A shift employee who assists the Control Operator, whose duties include the operation of any of the controls or auxiliary equipment and who is primarily qualified in the operation of turbines, boilers and boiler controls. Does necessary cleaning on and around rotating equipment, control boards, control mechanisms and other moving parts.

Next Lower Classifications

0505 Steam Heat Engineer (In Potrero)
1560 Auxiliary Operator (In Plant)
1565 Sr. Auxiliary Operator
(In Potrero)

Same or Higher Classifications

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1589 Asst. Control Operator (Group I)
1715 Power Plant Operator

1565 SENIOR AUXILIARY OPERATOR (Potrero)

A shift employee who performs the duties of an Auxiliary Operator and who has primary responsibility for the operation of the main boiler feed pumps.

Next Lower Classifications

0505 Steam Heat Engineer
1560 Auxiliary Operator (In Plant)

Same or Higher Classifications

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1586 Control Operator (Avon,
Martinez and Oleum)
1589 Asst. Control Operator (Group I)
1715 Power Plant Operator
1719 Asst. Power Plant Operator (Top
Rate)

1560 AUXILIARY OPERATOR

A shift employee who operates and services auxiliary equipment. Specific duties vary with the design of the plant, but may include such duties as operating boilers in Group II plants (except Kern) and assists in operating boilers in Group I plants, changing burners or changing from one fuel to another; operating water treating equipment, performing routine tests in connection with power plant water chemistry; cleaning condensers, testing for leaks, plugging leaking tubes; taking readings; cleaning; performing minor maintenance work of a preventive or cleaning nature; and, under the direction of the Control Operator, performing switching. Assists other shift employees as assigned.

Note: The various duties of the Auxiliary Operator classification will normally be assigned to individual employees in order of progressive complexity, that is, the employee will be assigned more complex duties as his experience and knowledge progress. Such

assignments will be made on a continuing basis only after the employee has been trained and instructed in the performance of each duty and has demonstrated his understanding of, and ability to perform, such duty satisfactorily.

Beginner's Classification.

Note: A prebid within a Division or an application for transfer between Divisions will be considered as a bona fide bid from Auxiliary Operator or a higher classification in the Line of Progression, to Auxiliary Operator. Under other circumstances, the Auxiliary Operator classification will be considered a beginner's classification and will not be posted for bid.

2470 WATER TENDER (Oakland)

A shift employee in charge of the operation of the boiler room under the general supervision of the supervisor on shift. He is responsible for cutting boilers in and out of service, operation of feedwater, fuel oil and other miscellaneous pumps and auxiliaries, and has direction over the Auxiliary Operators.

Next Lower Classification

Same or Higher Classification

2460 Turbine Tender (In Plant)

2470 Water Tender

2460 TURBINE TENDER (Oakland) (Potrero - Incumbents Only)

A shift employee who starts, stops and tends the operation of high pressure steam turbines and miscellaneous auxiliary equipment under the direction of the Shift Foreman, including all prescribed checking procedures for the particular plant. He is also required to oil, grease, and do necessary cleaning around the turbine and related equipment.

Next Lower Classifications

Same or Higher Classifications

1560 Auxiliary Operator (In Plant)
0505 Steam Heat Engineer
(In Oakland)

1586 Control Operator (Avon,
Martinez & Oleum)
2460 Turbine Tender (Potrero)
2470 Water Tender

1735 OPERATOR-REPAIRMAN (The Geysers)

A shift employee who performs operating and maintenance duties. His operating duties include, without supervision and in accordance with written procedures, the operation of the main units and other plant equipment including starting up, paralleling and shutting down the main units, placing into service and removing from service various plant equipment and auxiliaries. Other operating duties include such functions as performing routine chemical tests, lubricating of equipment, replacement of brushes, routine trip and annunciator tests and station housekeeping. His maintenance duties consist of general maintenance work requiring use of bench and hand tools and shop tools. May be required to do welding and cutting with the electric arc and acetylene torch and routine electrical work, as well as such jobs as rough carpenter work, painting, building repair, miscellaneous pipe work and the operation of the crane. He shall test all instruments exclusive of relay testing.

Next Lower Classification

1560 Auxiliary Operator

Same or Higher Classifications

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1586 Control Operator (Avon, Martinez & Oleum)
1589 Asst. Control Operator (Group I)
1715 Power Plant Operator

1050 JANITOR

An employee who does sweeping and cleaning in buildings, grounds, washrooms and toilets.

Beginner's Classification

KERN POWER PLANT

GENERAL

Operating employees at Kern Power Plant will be expected to perform maintenance work during the time the plant is on cold standby. Such work shall include the overhaul of machinery and boilers and general maintenance work requiring moderate skill and the use of bench and hand tools and some shop power tools, and include such jobs as carpenter work, painting, repairs to buildings and miscellaneous pipe work and the operation of a crane.

0513 WATCH ENGINEER

A shift employee who is a Working Foreman and who, during his shift, operates and directs the operation of all equipment in the station, together with related controls and assists in the training of other

employees in the proper performance of their duties. He shall have the personal qualifications of leadership and supervisory ability and a thorough knowledge of operating principles, equipment operating procedures, system operating orders, clearance procedures and necessary transactions with the System Dispatcher. In conjunction with his operating duties, he directs and assists in station cleaning.

Next Lower Classification

Same or Higher Classification

1715 Power Plant Operator (In Plant) 0513 Watch Engineer

1715 POWER PLANT OPERATOR

A shift employee who is in charge of the control room. His duties include the operation of the plant equipment and switchgear which have their controls in the control room. He must be familiar with the equipment operational procedures, system operating orders, clearance procedures and other necessary transactions with the System Dispatcher. In conjunction with his operating duties, he will do necessary cleaning on and around rotating equipment on the control mechanisms and other moving parts, and keep the control room clean.

Next Lower Classification

Same or Higher Classifications

1719 Asst. Power Plant Operator
(In Plant)

0513 Watch Engineer
1586 Control Operator (Avon,
Martinez & Oleum)
1715 Power Plant Operator

1719 ASSISTANT POWER PLANT OPERATOR

A shift employee who assists the Power Plant Operator, and whose duties include the operation of any of the controls or auxiliary equipment and who does switching under the direction of the Power Plant Operator, does necessary cleaning in and around the station.

Next Lower Classification

Same or Higher Classifications

1560 Auxiliary Operator

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1586 Control Operator (Avon,
Martinez & Oleum)
1589 Asst. Control Operator
(Group I)
1592 Asst. Control Operator
(Avon, Martinez & Oleum)
1715 Power Plant Operator
1719 Asst. Power Plant Operator

STEAM HEAT STATIONS

0505 STEAM HEAT ENGINEER

A shift employee who operates boilers and auxiliaries and makes minor repairs in a steam heat station as required.

Next Lower Classifications

1560 Auxiliary Operator
(Oakland or Potrero)
1565 Senior Auxiliary Operator

Same or Higher Classifications

0513 Watch Engineer
1580 Senior Control Operator
1585 Control Operator (Group I)
1586 Control Operator (Avon,
Martinez & Oleum)
1589 Asst. Control Operator (Group I)
1715 Power Plant Operator
1719 Asst. Power Plant Operator
(Top Rate)
2460 Turbine Tender
2470 Water Tender

NOTES ON OPERATING JOB DEFINITIONS

1. Operators' Cleaning Duties

It is implicit in a power plant that the primary function of its operators is the operation of the power plant. Other assignments are secondary and may be performed in conjunction with their primary operating function.

The Operating job definitions provide, in general, that employees in the various operating classifications shall perform cleaning duties when their operating duties permit. Cleaning duties are, therefore, obviously a secondary function.

It is our understanding that the Operating employees shall be responsible for the general housekeeping and appearance of the steam plants. It is expected, for example, that the Control Operators in all plants will see to it that the control rooms and control areas of the plant are kept clean either by performing the work themselves, particularly when it involves cleaning around control surfaces and control equipment, or by instructing employees assigned to assist them in cleaning the other areas involved. Company does not believe that it should be necessary to establish cleaning schedules setting definite times during which each employee must clean a particular portion of the plant. The fact that various operators are responsible for the cleanliness of a general area should be sufficient. When help is available to the employees in higher classifications to perform cleaning duties, such help shall be assigned to them by the Shift Supervisor. Otherwise, and particularly when one or more units are shut down, it may be necessary for such employees to perform cleaning duties without assistance.

2. Duties of Nuclear Operators

The duties of the operating personnel at nuclear power plants will include, when trained in such work:

- (a) fuel handling, including related simple rigging and the operation of cranes and hoists;
- (b) decontamination of radioactive equipment, protective clothing and working areas, including packaging, handling and storing of radioactive waste in operating areas;
- (c) routine monitoring on shift necessary for personal safety, such as taking refueling building and condenser air samples, monitoring smears from the step-off pad, surveying shoe covers, performing routine building radiation surveys, and maintaining exposure estimate sheets; and
- (d) fork lift operation, related to their operating duties.

NOTES ON LINES OF PROGRESSION

- 1. An employee above the classification of Auxiliary Operator, who has passed the appropriate qualification test and who is performing satisfactorily in all respects in his present position will be permitted to bid in his same classification from one plant to another and back to the first plant once in any five-year period. However, a classification shall not be considered next lower to any classification in another plant. A transfer under the provisions of Section 205.18 will be counted as a transfer between one plant and another. Any move as a result of the application of the provisions of Title 206 shall not be counted.
- 2. Company may delay up to one year, the move of a Control Operator or Senior Control Operator from a nuclear plant where there is no employee with a license available for promotion to Control Operator.
- 3. Avon, Martinez, and Oleum shall be considered as one plant for purposes of the job bidding procedure.

REQUIREMENTS FOR EMPLOYEES BIDDING TO NUCLEAR POWER PLANTS

Requirements applicable to All Employees at Nuclear Power Plants

- 1. Physical examinations of various types at regular intervals, as prescribed by Company.
- 2. File a record of previous occupational and medical radiation exposure. Individuals with a history of high exposure cannot be permitted to work in a nuclear plant.

3. Within the bounds of Company's radiation safety program, employees in a nuclear plant will be required to perform duties involving working with radioactive materials and working in areas of ionizing radiation.

Additional Requirements Applicable to Employees in Operating and Control Technician Classifications at Nuclear Plants

1. Employees entering the Operating Line of Progression are required to pass a special physical examination comparable to that required by the AEC for licensed operators. Failure to pass this examination is reason for disqualification since such failure will preclude advancement to the classifications requiring an AEC operating license.
2. Tests designed to measure the individual's ability to learn new academic subjects will be administered by the Personnel Department to employees who bid on operating, Control Technician and Apprentice Control Technician vacancies. The minimum passing score on this examination which, until otherwise agreed between Company, and Union, will be a combination of the Otis Employment Test and a verbal reasoning test, will be 40 points.

Company will give an employee his first opportunity to take such tests when he has a reasonably good chance of becoming the successful bidder on an operating, Apprentice Control Technician, or Control Technician job vacancy. An employee who has passed such tests will not be required to take them a second time. An employee who has failed, on his first attempt, to receive at least the minimum passing score on such tests will be eligible to be retested on the following schedule:

2nd Testing - Three (3) months, or thereafter, following the date of the first testing.

3rd Testing - Six (6) months, or thereafter, following the date of the second testing.

4th Testing - Six (6) months, or thereafter, following the date of the third testing provided that he is able to show satisfactory evidence that he has prepared himself to pass the test.

Company will not be required to give further consideration to the appointment of an employee to fill a vacancy in an operating, Apprentice Control Technician, or Control Technician classification when he has failed for the fourth time to meet the test requirements.

NOTES APPLICABLE TO LINES OF PROGRESSION AT HUMBOLDT BAY POWER PLANT

An employee must obtain an AEC Operator's license to operate Unit #3 before he will be considered qualified for promotion or transfer to Assistant Control Operator or higher at Humboldt Bay.

Vacancies in the classification of Assistant Control Operator shall be posted or filled as Assistant Control Operator (Auxiliary Operator). An employee who is a successful bidder on such a vacancy shall be classified as an Auxiliary Operator until he obtains an AEC operator's license. When he receives such license, he shall be reclassified to Assistant Control Operator.

For purposes of promotion and rate of pay up to and including the level of Control Operator, each of the following unlicensed employees shall be considered as though he were licensed:

<u>Name</u>	<u>Classification as of May 1, 1967</u>
H. Hornbrook	Control Operator
C. Dean	Control Operator
L. Bruner	Control Operator
N. Posl	Control Operator
M. Ansak	Relief Control Operator
J. Roberts	Assistant Control Operator
F. Shaffer	Assistant Control Operator
H. Taylor	Assistant Control Operator
F. Crnich	Assistant Control Operator

No more than 4 Control Operators and one Relief Control Operator, and no more than 4 Assistant Control Operators may be unlicensed employees at any one time. Such unlicensed employees shall be assigned to Units 1 and 2.

When a Control Operator vacancy is posted and there are less than 5 unlicensed Control Operators, the bids of the unlicensed employees listed above who are classified as Assistant Control Operators shall be given preferential consideration in the order of their Assistant Control Operator classification seniority.

An employee listed above as a Control Operator or Assistant Control Operator shall not be required to work in areas where ionizing radiation is present.

Training

When an employee is a successful bidder on a vacancy in the Assistant Control Operator (Auxiliary Operator) classification, Company shall endeavor to provide him with the training necessary to qualify for an AEC operator's license within 18 months of the date he assumes the classification. During the training period Company will give examinations to determine the employee's rate of progress and shall before the conclusion of the 18-month period, and before requesting any examination by the AEC, give him an examination equivalent to the AEC examination.

If the employee passes such examination, Company will, as soon as practicable, request the AEC to examine the employee for an Operator's license, and he shall be promoted to provisional Assistant Control Operator and be paid the wage rate of that classification.

A provisional Assistant Control Operator who passes his first AEC examination shall accrue classification seniority in such classification commencing with the date he attained the classification on a provisional basis. A provisional Assistant Control Operator who fails his first AEC examination shall be returned to the Auxiliary Operator classification. Retests up to a total of four examinations shall be administered in accordance with current federal regulations (presently contained in Volume 10, Code of Federal Regulations, Section 55.12). An employee who fails three AEC examinations shall not be promoted to Assistant Control Operator upon obtaining his AEC operator's license until a vacancy occurs in such classification..

DEMOTION

In order to provide for the uniform application of the Demotion and Lay-Off Procedure of the Agreement within the Steam Generation Department and at the same time to provide a full staff of trained operators in each plant, the following definitions and procedure shall apply when operating employees in the Department are to be demoted due to lack of work.

I DEFINITIONS

- A. The terms "same classification" and "next lower classification in the reverse order of the normal Line of Progression" as used in Title 206 of this Agreement shall be determined by the following table:
- B. Table: Same classifications - read across
Next Lower Classifications - read down

Step	Division					
	East Bay	San Francisco	Coast Valleys	Humboldt	North Bay	San Joaquin
5.	Sr. Cont.	Sr.Cont.Oper.	Sr.Cont.Oper.	Sr.Cont.Oper.		Watch Engr.
4.	Cont.Oper.	Cont.Oper.	Cont.Oper.	Cont.Oper.		Pwr.Plt.Oper.
3.	Water Tend. Asst.Cont.	Asst.Cont. Oper.	Asst.Cont. Oper.	Asst.Cont. Oper.	Operator- Repairman	Asst. Pwr. Plt.Oper.
2.	Tur.Ten.	(Sr.Aux.Oper. (Turbine Tender)				
1.	Aux.Oper.	Aux.Oper.*	Aux.Oper.	Aux.Oper.		

*Auxiliary Operator is the next lower classification to Steam Heat Engineer. Employees in Steps 2 through 5 may not displace Steam Heat Engineers unless they have previously held this classification.

II PROCEDURE

- A. When an employee is to be demoted due to lack of work, other than by a reason of the shutdown of a plant or the discontinuance of one or more shifts in a plant, the procedure outlined in Title 206 of this Agreement shall be followed and the foregoing definitions shall apply. Demotions made under Section 206.2 will be at the plant where the job has been eliminated. Elections to displace an employee with less Company seniority in the same classification under Section 206.4 will be to classifications in the same step as his own classification as shown in the above table.
- B. The following procedure shall apply when operating employees are to be displaced due to the shutdown of a plant or the discontinuance of one or more shifts in a plant.
1. Before one or more shifts is discontinued or a plant is shut-down, Company, following discussion with Union, shall decide how many employees in each operating classification and in each plant in the Division may be displaced. A list shall then be prepared showing such information and it shall be posted in the plants to be affected.
 2. An employee who, instead of being demoted in his own plant under Section 206.2 or instead of being laid off, elects under Section 206.4 to displace an employee in another plant shall from such list indicate in the order of his preference the plants in which he elects to displace another employee. Company will endeavor to effect transfers in accordance with the employee's selections on the basis of the classification he holds and his Company seniority, using the above Table to determine his same classification.
 3. After an employee has displaced an employee in another plant, Company will assign him to duties at such plant which it considers him qualified to perform, and pay him the wage rate of the classification to which he has been transferred. Company will then provide instruction and training in an endeavor to qualify him to perform the duties of such classification. When he is qualified, Company shall assign him to the job duties for which he has been trained, but in no case shall his total training period exceed six months from the date his first transfer was effected.
 4. If, at the end of such six month period, Company considers that he is not qualified to perform the duties of the classification to which he was transferred, he shall be demoted in the same plant to a lower classification which he is qualified to fill and shall be paid the wage rate of such classification. Should a question arise with respect to his qualifications, the matter shall be referred to the grievance procedure within ten days of the date on which he was demoted to such lower classification.

5. The placement of an employee who is displaced by the application of paragraphs 2 and 3 shall be governed by paragraphs 2 through 4, inclusive. The placement of an employee who is displaced by the application of paragraph 4 shall be governed by Section A.

C. In the administration of the procedure outlined in Section B.

1. San Francisco and East Bay Divisions shall be considered as one Division.

2. Avon, Martinez and Oleum shall be considered as one plant for purposes of the placement of employees who have been displaced in such plants.

III ACCELERATED PROMOTION, WAGE RATES AND SENIORITY

A. As provided for in Section 206.9(b) of this Agreement, the accelerated promotion rights of an employee who has been demoted and transferred to another plant under the procedure of paragraph II above shall be as follows:

1. In the plant to which an employee has been demoted and transferred his accelerated promotion rights shall be to the same step as the classification he held before he was demoted; if there is no classification in the same step, to a classification in the next lower step where there is a classification. Such accelerated rights may not be exercised unless he is qualified to perform all the duties of the classification to which he was transferred, after receiving the training provided for in paragraph II-B-3 above.

2. In the plants other than the one to which he was transferred under the procedure of paragraph II above, his accelerated promotion rights shall be to that classification to which he had bidding rights under Section 205.7(b) or (c) before he was demoted.

B. An employee who is demoted into a classification to which he has not previously held or who is promoted to such classification under the provisions of Section 206.9(b) shall be given the top wage rate for such classification.

1
MAINTENANCE DEPARTMENTS

ELECTRICAL MAINTENANCE

0750 ELECTRICAL MAINTENANCE SUBFOREMAN

An employee who is a working Foreman engaged in installation, testing, repair and maintenance of all types of electrical equipment in power plants. He shall have the personal qualifications of leadership and supervisory ability, the craft qualifications of an electrician, and be familiar with erection standards and safety rules.

Next Lower Classifications

0470 Electrician
0477 Traveling Electrician
2347 Control Technician

Same or Higher Classifications

0650 Subforeman A (G.C. Station)
0653 Subforeman B (G.C. Station)
0710 Electric Shop Subforeman
0720 Electrician Subforeman
0750 Electrical Maintenance Subforeman
0850 Working Foreman A (G.C. Station)
0853 Working Foreman B (G.C. Station)

0470 ELECTRICIAN (0477 Traveling Electrician)

An employee who is a journeyman and is engaged in performing all types of electrical work. When he is assigned to the maintenance and testing of impedance, carrier, and directional relays, he will work with and under the supervision of a Technician or other higher classified employee experienced in such work. His background of apprenticeship and experience must be such as to qualify him to perform his duties with skill and efficiency.

Next Lower Classification

0471 Apprentice Electrician

Same or Higher Classifications

0470 Electrician
0475 Electrician-Operator
0477 Traveling Electrician
0650 Subforeman A (G.C. Station)
0653 Subforeman B (G.C. Station)
0710 Electric Shop Subforeman
0720 Electrician Subforeman
0750 Electrical Maintenance Subforeman
0785 Plant Subforeman
0850 Working Foreman A (G.C. Station)
0853 Working Foreman B (G.C. Station)
2397 Control Technician
2398 Appr. Control Tech. (Top Rate)

0471 APPRENTICE ELECTRICIAN (0478 Traveling Apprentice Electrician-Temp)

An employee who is engaged in performing electrician's work as an assistant to or under the general direction of a journeyman for training purposes. In order to gain experience for advancement to Electrician, he may be required to work alone or under indirect supervision on jobs for which he has been trained and instructed. The employees educational and general qualifications must be such that he is considered capable of attaining journeyman status.

Next Lower Classification

0943 Helper

Same or Higher Classification

0471 Apprentice Electrician
2398 Appr. Control Technician

0943 HELPER

An employee whose principal duties consist of semi-skilled work such as helper for a journeyman or apprentice, including the use of hand tools under direction. In addition, he may be required, under direction, to use portable power tools for cleaning purposes or other work not requiring precision.

Beginner's Classification

MECHANICAL MAINTENANCE

0753 MAINTENANCE SUBFOREMAN

An employee who is a working Foreman engaged in installation, repair, and maintenance in power plants. He shall have the personal qualifications of leadership and supervisory ability, the craft qualifications of a Machinist or Boiler Repairman and be familiar with rigging, erection standards, boiler repair work and safety rules.

Next Lower Classifications

1120 Machinist
1127 Traveling Machinist
2040 H. P. Boiler Repairman
2057 Trav. H. P. Boiler Repairman

Same or Higher Classifications

0745 Machine Shop Subforeman
0753 Maintenance Subforeman

1120 MACHINIST (1147 Traveling Machinist)

An employee who is a journeyman, is qualified to perform precision work with all types of machine tools and is engaged in repairing, installing and maintaining all types of mechanical equipment in a power plant. He may be required to do related welding and rigging. His background of apprenticeship and experience must be such as to qualify him to perform these duties with skill and efficiency.

Next Lower Classification

1121 Apprentice Machinist

Same or Higher Classifications

0745 Machine Shop Subforeman
0753 Maintenance Subforeman
0785 Plant Subforeman
1120 Machinist
1145 Machinist-Operator
1147 Traveling Machinist

1121 APPRENTICE MACHINIST (1148 Traveling Apprentice Machinist - Temp)

An employee who is engaged in performing machinist's work as an assistant to or under the general direction of a journeyman for training purposes. In order to gain experience for advancement to

Machinist, he may be required to work alone or under indirect supervision on jobs for which he has been trained and instructed. The employee's educational and general qualifications must be such that he is considered capable of attaining journeyman status.

Next Lower Classifications

0220 Boiler Cleaner
 0330 Tool Clerk
 0455 Light Truck Driver
 0940 Helper
 0963 Traveling Helper
 1227 Mechanic
 1228 Apprentice Mechanic
 1407 Traveling Mechanic

Same or Higher Classifications

0573 Pipe Fitter
 1121 Apprentice Machinist
 1340 Insulation Mechanic
 1343 Trav. Insulation Mechanic
 2040 H. P. Boiler Repairman
 2057 Trav. H. P. Boiler Repairman
 2160 Rigger
 2167 Traveling Rigger
 2626 Certified Welder
 2637 Trav. Certified Welder

Note:

Mechanics and Apprentice Mechanics may bid to Apprentice Machinist and be given credit for one-half of their total classification seniority up to one year.

2040 H. P. BOILER REPAIRMAN (2057 Traveling H. P. Boiler Repairman)

An employee who is a journeyman and is engaged in repairing, installing and maintaining high pressure boilers and related equipment. His background of experience must be such as to qualify him to perform these duties with skill and efficiency. Specific duties and responsibilities vary with the design of the plant and he may be required to do miscellaneous maintenance work at times when there is no boiler work to be done.

Next Lower Classification

2051 Apprentice Boiler Repairman

Same or Higher Classifications

0753 Maintenance Subforeman
 1120 Machinist
 1147 Traveling Machinist
 2040 H. P. Boiler Repairman
 2057 Trav. H. P. Boiler Repairman
 2626 Certified Welder
 2637 Trav. Cert. Welder

2051 APPRENTICE BOILER REPAIRMAN (2058 Traveling Apprentice Boiler Repairman - Temp.)

An employee who is engaged in performing boiler repairman's work as an assistant to or under the general direction of a journeyman. In order to gain experience for advancement to Boiler Repairman, he may be

required to work alone or under indirect supervision on jobs on which he has been trained and instructed. The employee's educational and general qualifications must be such that he is considered capable of attaining journeyman status. Since this work may be intermittent in nature, he may also be required to perform the duties of an Apprentice Mechanic; or, after he has reached the top rate of pay as an apprentice, he may be required to perform the duties of a Mechanic.

<u>Next Lower Classifications</u>	<u>Same or Higher Classifications</u>
0220 Boiler Cleaner	0573 Pipe Fitter
0330 Tool Clerk	1120 Machinist
0455 Light Truck Driver	1147 Traveling Machinist
0940 Helper	1340 Insulation Mechanic
0963 Traveling Helper	1343 Trav. Insulation Mechanic
1227 Mechanic	2051 Appr. Boiler Repairman
1407 Traveling Mechanic	2160 Rigger
	2167 Traveling Rigger
	2626 Certified Welder
	2637 Trav. Cert. Welder

1340 INSULATION MECHANIC (1343 Traveling Insulation Mechanic)

An employee who is a journeyman and is engaged in applying and removing insulation on equipment in and about the plant, including boilers, turbines and other types of equipment requiring insulation and/or waterproofing. In addition he may be required to erect or dismantle any staging necessary for his work. His background of experience must be such as to qualify him to perform these duties with skill and efficiency. Since this work may be intermittent in nature, he may also be required to do painting and other maintenance work which normally falls within the Mechanic's classification.

<u>Next Lower Classifications</u>	<u>Same or Higher Classifications</u>
1227 Mechanic	0753 Maintenance Subforeman
1407 Traveling Mechanic	1120 Machinist
	1147 Traveling Machinist
	1340 Insulation Mechanic
	1343 Trav. Insulation Mechanic
	2040 H. P. Boiler Repairman
	2057 Trav. H. P. Boiler Repairman
	2160 Rigger
	2167 Trav. Rigger
	2626 Certified Welder
	2637 Trav. Cert. Welder

2160 RIGGER (2167 Traveling Rigger)

An employee who is a journeyman and is engaged in performing all classes of power plant rigging, including that necessary for handling heavy machinery. He is also required to make up both wire and manila rope

slings and keep all rigging equipment in proper repair. His background of experience must be such that he can be relied upon to handle valuable equipment safely and efficiently. Since this work may be intermittent in nature he may also be required to perform miscellaneous routine plant maintenance, particularly at high elevations.

Next Lower Classification

Same or Higher Classifications

2161 Apprentice Rigger

0753 Maintenance Subforeman
1120 Machinist
1147 Traveling Machinist
2160 Rigger
2167 Traveling Rigger
2626 Certified Welder
2637 Trav. Cert. Welder

2161 APPRENTICE RIGGER (2168 Traveling Apprentice Rigger - Temp.)

An employee who is engaged in performing Rigger's work as an assistant to or under the general direction of a journeyman. In order to gain experience for advancement to Rigger, he may be required to work alone or under indirect supervision on jobs on which he has been trained and instructed. The employee's educational and general qualifications must be such that he is considered capable of attaining journeyman status. Since this work may be intermittent in nature, he may also be required to perform the duties of an Apprentice Mechanic; or after he has reached the top rate of pay as an apprentice, he may be required to perform the duties of a Mechanic.

Next Lower Classifications

Same or Higher Classifications

0220 Boiler Cleaner
0330 Tool Clerk
0455 Light Truck Driver
0940 Helper
0963 Traveling Helper
1227 Mechanic
1407 Traveling Mechanic

0573 Pipe Fitter
0753 Maintenance Subforeman
1120 Machinist
1147 Traveling Machinist
1340 Insulation Mechanic
1343 Trav. Insulation Mechanic
2040 H. P. Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2161 Appr. Rigger
2626 Certified Welder
2637 Trav. Cert. Welder

2626 CERTIFIED WELDER (2637 Traveling Certified Welder)

An employee who is a journeyman and is engaged in performing both electric and gas welding on all types of power plant equipment and piping. His background of experience must be such as to qualify him to perform specific weld procedures as set up for this classification by Company and to qualify him for certification by the State to perform the specific classes of work required in power plants. He may be required to lay out and erect piping and do necessary welding in connection with its installation. Specific duties and responsibilities vary

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with the design of the plant and he may be required to do miscellaneous maintenance work, including blacksmithing, at times when there is no welding to be done.

Next Lower Classification

Same or Higher Classifications

2621 Apprentice Welder

0753 Maintenance Subforeman

2626 Certified Welder

2637 Trav. Cert. Welder

2620 WELDER (To be used on a temporary basis only)

An employee who is a journeyman and is engaged in performing both electric and gas welding on all types of power plant equipment and piping. His background of experience must be such as to qualify him to perform these duties with skill and efficiency. He may also be required to lay out and erect piping and do necessary welding in connection with its installation. Specific duties and responsibilities vary with the design of the plant and he may be required to do miscellaneous maintenance work, including blacksmithing, at times when there is no welding to be done.

2621 APPRENTICE WELDER (2638 Traveling Apprentice Welder - Temp.)

An employee who does both electric and acetylene welding and cutting of metals as an assistant to or under the general direction of a journeyman on all types of power plant equipment and piping not requiring a Certified Welder. In order to gain experience for advancement to Welder or Certified Welder, he may work alone or under indirect supervision on jobs on which he has been trained and instructed; must study and become familiar with the properties of metals and procedures for preheating, welding and stress relieving, and the use of all tools and equipment required in the preparation and completion of welds. The employee's educational and general qualifications must be such that he is considered capable of attaining journeyman status. Since this work may be intermittent in nature, he also assists other journeymen and mechanics as required.

Next Lower Classifications

Same or Higher Classifications

0220 Boiler Cleaner

0573 Pipe Fitter

0330 Tool Clerk

0753 Maintenance Subforeman

0455 Light Truck Driver

1340 Insulation Mechanic

0940 Helper

1343 Trav. Insulation Mechanic

0963 Traveling Helper

2040 H. P. Boiler Repairman

1227 Mechanic

2057 Trav. H. P. Boiler Repairman

1407 Traveling Mechanic

2160 Rigger

2167 Traveling Rigger

2621 Apprentice Welder

0573 PIPE FITTER (Incumbents only)

An employee who is required to lay out, install and repair steam plant piping not involving the use of welding, and also to make repairs or installations in connection with station plumbing. Required to use with reasonable skill all pipe shop tools.

1227 MECHANIC (1407 Traveling Mechanic)

An employee whose principal duties are the overhaul of machinery and boilers and general maintenance work requiring moderate skill and the use of bench and hand tools and common shop power tools. Duties may also include such jobs as rough carpenter work, painting, repairs to buildings and miscellaneous pipe work. May also be required to operate a crane.

Next Lower Classification

Same or Higher Classifications

1228 Apprentice Mechanic

0573 Pipe Fitter
0650 Subforeman A (G.C. Station)
0653 Subforeman B (G.C. Station)
0753 Maintenance Subforeman
0850 Working Foreman A (G.C. Station)
0853 Working Foreman B (G.C. Station)
1120 Machinist
1121 Apprentice Machinist
1147 Traveling Machinist
1227 Mechanic
1320 Mechanic (G.C. Hydro or Station)
1340 Insulation Mechanic
1343 Trav. Insulation Mechanic
1407 Traveling Mechanic
2040 H. P. Boiler Repairman
2051 Apprentice Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2160 Rigger
2161 Apprentice Rigger
2167 Traveling Rigger
2621 Apprentice Welder
2626 Certified Welder
2637 Trav. Cert. Welder

1228 APPRENTICE MECHANIC (1408 Traveling Apprentice Mechanic - Temp.)

An employee who is engaged in performing Mechanic's work as an assistant to or under the general direction of a Mechanic or higher classification for training purposes. May be required to do miscellaneous work such as light rigging, acting as leading man in boiler cleaning crew, incidental painting, etc. In order to gain experience for future promotion he may work alone or under indirect supervision on jobs for which he has been trained and instructed. The employee's educational and general qualifications must be such that he is considered capable of attaining the classification of Mechanic.

Next Lower Classifications

0220 Boiler Cleaner
0330 Tool Clerk
0455 Light Truck Driver
0940 Helper
0963 Traveling Helper

Same or Higher Classifications

0753 Maintenance Subforeman
1120 Machinist
1121 Apprentice Machinist
1147 Traveling Machinist
2040 H. P. Boiler Repairman
2051 Apprentice Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2160 Rigger
2161 Apprentice Rigger
2167 Traveling Rigger
2621 Apprentice Welder
2626 Certified Welder
2637 Trav. Cert. Welder

0455 LIGHT TRUCK DRIVER

An employee who drives a station wagon or pickup truck transporting men, supplies and equipment; loads and unloads the truck; performs necessary paper work in connection therewith; assists employees in the performance of their work in the department to which he is assigned.

Next Lower Classifications

0220 Boiler Cleaner
0330 Tool Clerk
0940 Helper
0963 Traveling Helper

Same or Higher Classifications

0445 Light Truck Driver with Winch (G.C.)
0450 Dump Truck Driver (G.C.)
0453 Heavy Truck Driver
0455 Light Truck Driver
0573 Pipe Fitter
0753 Maintenance Subforeman
1120 Machinist
1121 Apprentice Machinist
1147 Traveling Machinist
1227 Mechanic
1228 Apprentice Mechanic
1340 Insulation Mechanic
1343 Trav. Insulation Mechanic
1407 Traveling Mechanic
2040 H. P. Boiler Repairman
2051 Appr. Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2160 Rigger
2161 Apprentice Rigger
2167 Traveling Rigger
2621 Apprentice Welder
2626 Certified Welder
2637 Trav. Cert. Welder

0220 BOILER CLEANER

An employee who takes the lead in a boiler cleaning crew. Assists in the maintenance and repair of boilers and may also be required to do general maintenance work under the supervision of a Mechanic, Machinist, Boiler Repairman, etc.

Next Lower Classifications

0330 Tool Clerk
0455 Light Truck Driver
0940 Helper
0963 Traveling Helper

Same or Higher Classifications

0220 Boiler Cleaner
0573 Pipe Fitter
0753 Maintenance Subforeman
1120 Machinist
1121 Apprentice Machinist
1147 Traveling Machinist
1227 Mechanic
1228 Apprentice Mechanic
1340 Insulation Mechanic
1343 Trav. Insulation Mechanic
1407 Traveling Mechanic
2040 H. P. Boiler Repairman
2051 Appr. Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2160 Rigger
2161 Apprentice Rigger
2167 Traveling Rigger
2621 Apprentice Welder
2626 Certified Welder
2637 Trav. Cert. Welder

0330 TOOL CLERK

An employee who is in charge of the tool room and is responsible for storing, handling, cleaning, sharpening and making minor repairs to tools. Also handles plant maintenance materials and supplies and performs necessary office work relating thereto. Also performs other miscellaneous work when not required in tool room.

Next Lower Classifications

0220 Boiler Cleaner
0455 Light Truck Driver
0940 Helper
0963 Traveling Helper

Same or Higher Classifications

0330 Tool Clerk
0573 Pipe Fitter
0753 Maintenance Subforeman
1120 Machinist
1121 Apprentice Machinist
1147 Traveling Machinist
1227 Mechanic
1228 Apprentice Mechanic
1340 Insulation Mechanic

Next Lower Classification

Same or Higher Classifications (Cont'd.)

1343 Trav. Insulation Mechanic
1407 Traveling Mechanic
2040 H. P. Boiler Repairman
2051 Appr. Boiler Repairman
2057 Trav. H. P. Boiler Repairman
2160 Rigger
2161 Apprentice Rigger
2167 Traveling Rigger
2621 Apprentice Welder
2626 Certified Welder
2637 Trav. Cert. Welder

0940 HELPER (0963 Traveling Helper)

An employee whose principal duties consist of semi-skilled work such as helper for a journeyman or apprentice, including the use of hand tools under direction and work in a boiler cleaning crew. In addition, he may be required, under direction, to use portable power tools for cleaning purposes or other work not requiring precision.

Beginner's Classification

TECHNICAL MAINTENANCE

2397 CONTROL TECHNICIAN (Not applicable at Humboldt Bay)

An employee who, without direct supervision, calibrates, tests, and maintains all power plant control and indicating systems and their individual components. These will include but are not necessarily limited to digital and analog computer control, logging or monitoring systems; automatic boiler light-off, combustion, steam temperature or feedwater control systems; and automatic load control systems. He may be required to assist plant engineers in performing and evaluating plant tests. His background of training, education and experience must be such as to qualify him to perform these duties with skill and efficiency. His assignments may include duties normally performed by Electrical or Communication Technicians.

Next Lower Classifications

Same or Higher Classification

0470 Electrician
0477 Traveling Electrician
2090 Instrument Repairman
2097 Trav. Instrument Repairman
2398 Appr. Control Technician

2397 Control Technician (Any Plant)

2397 CONTROL TECHNICIAN (Humboldt Bay)

An employee who, without direct supervision, is regularly assigned to and who maintains, calibrates and services the individual components and integrated systems of all conventional power plant instruments in the plant, all nuclear instruments, all radiation detection instruments, all counting equipment and accessories; performs contamination and radiation level surveys to assure nonhazardous conditions, maintains records of survey results, instructs shift personnel in proper radiation protection; assists and advises other employees in the decontamination of equipment and the handling, packaging and storing of solid radioactive waste; collects and analyzes samples both radioactive and nonradioactive in accordance with standard procedures and makes recommendations to the appropriate supervisor based on such analysis. May be required to assist an engineer in performing plant tests and evaluating data or to assist shift personnel in handling and operating chemical process equipment and waste disposal plants. His background of apprenticeship and experience must be such as to qualify him to perform these duties with skill and efficiency.

Next Lower Classification

Same of Higher Classification

*2398 Apprentice Control Technician 2397 Control Technician (Nuclear Plt.)

*Shall include time worked as an Electrician or Instrument Repairman and their apprenticeships.

2398 APPRENTICE CONTROL TECHNICIAN (Humboldt Bay)

An employee engaged in performing Control Technician's work as an assistant to or under the general direction of a Technician. In order to gain experience for advancement to Control Technician he may work alone or under indirect supervision on jobs for which it has been determined he has been adequately trained and instructed. The employee's education and general qualifications must be such that he is considered capable of attaining Technician status.

Next Lower Classifications

Same or Higher Classifications

0471 Apprentice Electrician
(1-Yr. Step or above)

0470 Electrician
0477 Trav. Electrician

2091 Apprentice Instrument Repairman
(1-Yr. Step or above)

2090 Instrument Repairman
2097 Trav. Instrument Repairman
2397 Control Technician (except
Nuclear Plant)

2090 INSTRUMENT REPAIRMAN (2097 Traveling Instrument Repairman)

An employee who is a journeyman and is engaged in installing, maintaining, and calibrating all types of automatic control and recording equipment, instruments, gauges and their component parts. His duties require the use of machine tools, hand and bench tools and various types of test equipment. In addition, he may be required to assist in taking readings during plant tests, tabulating and charting test and performance data. His background of apprenticeship and experience must be such as to qualify him to perform these duties with skill and efficiency.

Next Lower Classification

Same or Higher Classifications

2091 Apprentice Instrument Repairman	2090 Instrument Repairman 2097 Trav. Instrument Repairman 2397 Control Technician 2398 Appr. Control Technician (Top Rate)
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2091 APPRENTICE INSTRUMENT REPAIRMAN (2098 Traveling Apprentice Instrument Repairman-Temp.)

An employee who is engaged in performing Instrument Repairman's work as an assistant to or under the general direction of a journeyman for training purposes. In order to gain experience for advancement to Instrument Repairman, he may be required to work alone or under indirect supervision on jobs for which he has been trained and instructed. In addition he may be required to assist engineers in taking readings during plant tests, tabulating and charting test data, and technical filing. The employee's educational and general qualifications must be such that he is considered capable of attaining journeyman status.

Next Lower Classification

Same or Higher Classifications

0944 Helper	2091 Apprentice Instrument Repairman
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0944 HELPER

An employee whose principal duties consist of semi-skilled work such as helper for a journeyman or apprentice, including the use of hand tools under direction. In addition, he may be required, under direction, to use portable power tools for cleaning purposes or other work not requiring precision.

Beginner's Classification

THE GEYSERS POWER PLANT

0785 PLANT SUBFOREMAN (The Geysers)

A shift employee who is a Working Foreman engaged in operation, repair and maintenance of the power plant equipment. He shall have the personal qualifications of leadership and supervisory ability, the craft qualifications of either a Machinist or an Electrician and be cable of competently directing the operation of the main units and their auxiliaries and the maintenance activities of the other employees assigned to the plant. He shall be familiar with and enforce the safety rules.

Next Lower Classifications

Same or Higher Classification

0475 Electrician-Operator 1145 Machinist-Operator	0785 Plant Subforeman
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0475 ELECTRICIAN-OPERATOR (The Geysers)

A shift employee who is a journeyman and who performs electrical maintenance and operating duties. His maintenance duties shall consist of testing, repairing, maintaining and installing all types of electrical equipment in the power plant. His operating duties include, without supervision and in accordance with written procedures, the operation of the main units and other plant equipment including starting up, paralleling and shutting down the main units, placing into service and removing from service various plant equipment and auxiliaries; performance of routine chemical tests, routine trip and annunciator tests and station housekeeping.

Next Lower Classification

0471 Apprentice Electrician

Same or Higher Classifications

0470 Electrician
0475 Electrician-Operator
0477 Traveling Electrician
0710 Electric Shop Subforeman
0720 Electrician Subforeman
0750 Electrical Maintenance
Subforeman
0785 Plant Subforeman
2397 Control Technician
2398 Appr. Control Technician
(Top Rate)

1145 MACHINIST-OPERATOR (The Geysers)

A shift employee who is a journeyman qualified to perform with skill and efficiency precision work with all types of machine tools, and in the repair, installation and maintenance of all types of mechanical equipment in the power plant. He may be required to do related welding and rigging. His operating duties include, without supervision and in accordance with written procedures, the operation of the main units and other plant equipment including starting up, paralleling and shutting down the main units, placing into service and removing from service various plant equipment and auxiliaries; performance of routine chemical tests, routine trip and annunciator tests and station housekeeping.

Next Lower Classification

1121 Apprentice Machinist

Same or Higher Classifications

0753 Maintenance Subforeman
0785 Plant Subforeman
1120 Machinist
1140 Electrical Machinist
1145 Machinist-Operator
1147 Traveling Machinist

Notes on the Geysers Power Plant:

The Company will allow the present Operator-Repairmen to attempt to qualify for future vacancies other than the first Machinist-Operator vacancy by passing the entrance tests for Apprentice Electrician or Apprentice Machinist classifications and if either employee is successful, Company will provide apprentice training for him. Upon completion of his apprentice training, his bid for a journeyman-operator classification would be considered with other employees in the appropriate next lower classification and his time as an Operator-Repairman will be counted as apprentice classification seniority.

Notes on Kern Power Plant:

Company and Union have agreed under the provisions of Section 202.16 of this Agreement that during the time that either or both of the units at the plant are operating, maintenance employees may be assigned to shift schedules as established for the plant in accordance with the provisions of the clarification of Title 202, Hours, dated April 1, 1965, and will perform operating duties as defined in the Job Definitions for Auxiliary Operator.

Notes on Traveling Maintenance Crews:

Company will designate in some of its steam plants certain maintenance classifications in which the incumbents will be expected to be available for special assignments at plants other than their normal headquarters for overhaul and other maintenance work for extended periods of time. Where an employee in such a classification is given such a special assignment and he qualifies for expenses under the provisions of Section 201.1 for five consecutive days or more, his rate of pay during such assignment shall be the rate of the classification to which he is assigned plus \$10.00 per week.

In filling future vacancies in the classifications designated for traveling assignments, Company will label vacancies which are posted and will maintain separate pre-bid lists for traveling and non-traveling maintenance classifications.

In making assignments to traveling maintenance crews, Company will attempt to use employees who have volunteered or have bid on traveling jobs before calling on employees who were involuntarily placed in the traveling classifications.

CLERICAL

0290 SENIOR PLANT CLERK

An employee who has the qualifications of a First Plant Clerk, performs clerical work and is the lead clerk in a plant office directing the work of the other Plant Clerks.

Next Lower Classifications

0293 First Plant Clerk
2740 Clerk A*
2743 Clerk - Steno A*
2753 Clerk - Typist A*

Same or Higher Classifications

0243 Senior Field Clerk (G.C.)
0263 Senior Hydro Clerk
0290 Senior Plant Clerk
0310 Senior Shop Clerk (G.C.)
2730 Supervising Clerk B*

*In Division Electric Departments

0293 FIRST PLANT CLERK

An employee who, under general supervision, performs clerical work requiring a working knowledge of all procedures used in steam plant office work and the normal amount of judgment accompanying that knowledge. May be required to perform secretarial work including taking dictation. May be assisted by a Routine Plant Clerk.

Next Lower Classifications

0294 Routine Plant Clerk
2714 Clerk C*
2737 Clerk - Machine Operator C*
2745 Clerk - Steno C*
2755 Clerk - Typist C*

Same or Higher Classifications

0243 Senior Field Clerk (G.C.)
0244 Field Clerk (3-Yr. Step
and above - G.C.)
0263 Senior Hydro Clerk
0264 First Hydro Clerk
0290 Senior Plant Clerk
0293 First Plant Clerk
0310 Senior Shop Clerk (G.C.)
0313 First Shop Clerk (G.C.)
2710 Clerk A*
2713 Clerk B*
2730 Supervising Clerk B*
2743 Clerk - Steno A*
2744 Clerk - Steno B*
2753 Clerk - Typist A*
2754 Clerk - Typist B*

*In Division Electric Departments

0294 ROUTINE PLANT CLERK

An employee who performs routine clerical work requiring a basic knowledge of established Company steam plant office procedures and elementary accounting principles; may operate PBX Board; in training for advancement to First Plant Clerk upon completion of his training and when a vacancy occurs. Must have a high school education or its equivalent and be able to type with reasonable speed and accuracy; may be required to learn shorthand prior to promotion to First Plant Clerk.

Beginner's Classification.

Pacific Gas & Electric Company
Steam Generation Department

Basic Training Course For Power Plant Operators

Final Examination

Text: Basic Training Manual For Power Plant Operators

Note: 1. Closed book examination.
2. Copy of steam tables attached.

Questions (Point value indicated in parenthesis)

1. What are the three ways that heat is transferred?
2. What effect does evaporation have on temperature?
3. Potential energy is energy possessed by a body or material which is in motion (True or False).
4. Define "British Thermal Unit" (BTU).
5. The transfer of heat by radiation does not require any material to carry the heat (True or False).
6. A boiler or steam generator converts chemical energy in fuel to thermal energy (True or False).
7. Heat flows from the substance at lower temperature to the substance at higher temperature (True or False).
8. What factor represents the largest single heat loss in a steam generator?
9. Pressures greater than zero absolute, but less than atmospheric pressure are referred to as - (Pick One).
 - a. Gauge Pressure
 - b. Vacuum
 - c. Enthalpy
10. The boiler drum pressure gauge indicates - (Pick One).
 - a. psia
 - b. Inches Hg
 - c. w.g.
 - d. psig
11. The heat input of a boiler is 100,000 BTU per minute and the heat output (of the steam) is 87,000 BTU per minute. What is the boiler efficiency in percent?

12. The steam pressure on a deaerator is 5.3 psig. What is the temperature of the feedwater leaving the deaerator?
13. Downcomers are usually outside the flue gas paths and are unheated (True or False).
14. At a pressure of 3206 psia, the relationship between steam and water is- (Pick One).
 - a. Steam Blanketed
 - b. Equal Specific Volume
 - c. Latent Heat of Vaporization
 - d. High Density Differential
15. List the internals installed in the modern steam drum.
16. What harmful effects may result from carry-over of moisture and solids in the steam leaving the drum?
17. Pressure in a boiler drum is 1485 psig:
 - a. What is the temperature of the steam leaving the drum?
 - b. What is the temperature of the water in the drum?
18. Describe the path of a drop of water (and water vapor) from the time it leaves the feedwater stop valve (on a reheat boiler) until it enters the the condensate pump suction.
19. What harmful effects may result from extreme high water level in the drum?
20. What harmful effects may result from extreme low water level in the drum?
21. Unburned fuel in a furnace may result in what?
22. The type of air preheater installed in your plant is - (Pick One).
 - a. Plate
 - b. Tubular
 - c. Regenerative
 - d. Cyclone
23. Describe the air and flue gas path in a modern reheat boiler.
24. What is the purpose of an F.D. fan?
25. What is the purpose of an I.D. fan?

26. Describe the major differences between a condensing and a non-condensing turbine.
27. List the equipment in your plant that is driven by a steam turbine.
28. In a bleeder turbine, pressure of the bled steam varies with the throttle flow (True or False).
29. All steam admitted to an extraction turbine is condensed in the condensers (True or False).
30. If the vacuum in the main condenser is 28.9" Hg, what is the temperature of the condensate leaving the hotwell?
31. There is almost no expansion of a steam in the moving blades of an impulse turbine (True or False).
32. There is almost no expansion of steam in the moving blades of a reaction turbine (True or False).
33. List the essential components of a modern steam turbine.
34. General Electric Company turbines (main unit) control valves are actuated by - (Pick One).
 - a. Cam Shaft
 - b. Bar Lift
35. Westinghouse Company turbines (main unit) control valves are actuated by - (Pick One).
 - a. Cam Shaft
 - b. Bar Lift
36. When load is lost on a reheat turbine a large quantity of steam is packed in the reheater and reheat piping. This steam can cause a dangerous overspeed condition. The device that will control or prevent this is referred to as - (Pick One).
 - a. Underspeed Release
 - b. Emergency Governor
 - c. Load Limit
 - d. Intercept Valve
 - e. Overspeed Trip
37. Most of the turbine extraction steam is utilized where?
38. What is the purpose of turbine shaft seals?

39. A pressure gauge on a compressed air line indicates 300 psig, atmospheric pressure is 14.7 psia. What is the absolute pressure on the air line?
40. Is the output of the main generators A.C. or D.C.?
41. Are the main transformer banks connected to the rotating windings or the stationary windings of the main generators?
42. Is A.C. or D.C. used for generator excitation?
43. What three meters are observed when paralleling a generator to the system?
44. What is the purpose of the main generator seal oil system?
45. What medium is used for generator cooling and what are the advantages of using this medium?
46. Most of the feedwater heaters in your plant receive heating steam from where?
47. List the two main types of feedwater heaters and briefly describe each type.
48. Why are feedwater heaters vented?
49. What are the three classes of pump used to transport fluids?
50. Name one pump in each of the above three types that is used in your plant.
51. What does the term "head" indicate when used in relation to a pump?
52. Why are expansion joints placed in steam lines?
53. When it is desired to regulate flow in a line, the proper valve to install is - (Pick One).
 - a. Check Valve
 - b. Gate Valve
 - c. Globe Valve
 - d. Plug Valve
54. What is the purpose of a steam trap?
55. Which of the following steam traps is most commonly used in your plant - (Pick One).
 - a. Yarway Impulse
 - b. Open Bucket
 - c. Stets Drainer
 - d. Inverted Bucket

56. What may result if steam is admitted to a cold line that has not been properly drained of condensate?
57. What is the purpose of a transformer?
58. The primary coil of a transformer has 1000 turns, the secondary coil has 10,000 turns. If 120 Volts are applied to the primary, what is the secondary voltage?
59. What are the various levels of electrical voltage in this plant?
60. What are the sources of D.C. power in this plant?
61. Name three basic categories of measuring devices (excluding electrical measurements).
62. 90 degrees on the centigrade scale is equal to what Fahrenheit temperature?
63. What type of temperature measuring device is most commonly used to obtain metal temperature?
64. For accurate pressure measurement, a manometer should be used for pressures less than 15 psig and the Bourdon tube type for higher pressures (True or False).
65. What is the purpose of an integrator on a flow meter?
66. The diameter of a gas line flow meter orifice has been increased by erosion due to solids in the gas. Will the indicated flow be more or less than the actual flow?
67. The Bailey Air Relay may be used to amplify, add, subtract, or reverse loading pressures which are received from other control units (True or False).
68. What are the three elements that make up a three element feedwater control system?
69. What are the two elements that are controlled by the combustion control system?
70. List the methods that may be used to control superheat steam temperature.

Properties of Saturated Steam

Absolute Lbs. Per Sq. In.	Pressure Inches of H _g	Vacuum Inches of Hg	Temperature of
0.20	0.41	29.51	53.14
0.50	1.02	28.90	79.58
1.0	2.04	27.88	101.74
2.0	4.07	25.85	126.08
3.0	6.11	23.81	141.48
5.0	10.18	19.74	162.24
10.0	20.36	9.56	193.21
14.0	28.50	1.42	209.56
... Pressure Lbs. Per Sq. In.			
Absolute (psia)	Gage (psig)		
14.7	0.0	0.0	212.00
20.0	5.3	-	227.96
50.0	35.3	-	281.01
100.0	85.3	-	327.81
200.0	185.3	-	381.79
500.0	485.3	-	467.01
1000.0	985.3	-	544.61
1500.0	1485.3	-	596.23

