Third Grade Power Engineer Applicants should study:

- "Steam Plant Operations" Woodruff & Lammers (6th edition)
- "Low Pressure Boilers" by Frederick M. Steingress

Second & First Grade Power Engineer Applicants should study:

- "Steam Plant Operations" Woodruff & Lammers (6th edition)
- "High Pressure Boilers" by Steingress & Frost (2nd edition)
- "Low Pressure Boilers" by Frederick M. Steingrass
- "Boiler Operations Workbook" by R. Dean Wilson (2nd edition)
- E.P.A. Refrigerant Regulations Compliance Handout
- Fairbanks Morris Electrical Machinery Catechism
- Modern Refrigeration & Air Conditioning by Althouse, Turnquist, & Bracciano
- N.A.P.E.'s Refrigeration Pamphlet furnished by the National Educational Committee
- N.A.P.E.'s Steam Engineering Study Course
- N.A.P.E.'s Steam Turbine Operation & Maintenance by Zenas Allen
- National UG/AG (Underground/Above Ground) Storage Tanks Handout
- Operating & Maintaining U.S.T. (Underground Storage Tanks) Systems Handout

Stationary Engineer Examination Procedures
(All Grades Included)

The examination will be given at 9:00 am on the first Thursday of the month.

Fill out the required application form obtained at the Omaha/Douglas Civic Center, Room 1110-Permits & Inspections Division, Mechanical Section. Be sure to print legibly and include your complete address with zip code.

All applications must be signed by two (2) citizens of Omaha, one of whom shall be a certified Stationary Engineer of equal grade or higher than the one being applied for.

The applicant must be 18 years of age or older.

A **Third Grade Stationary Engineer** must have one (1) year of experience with the operation of pressure boilers. This exam consists of 100 questions. Fee: $40.00

A **Second Grade Stationary Engineer** must have three (3) years of experience with the operation of pressure boilers. This exam consists of 135 questions. Fee: $50.00

A **First Grade Stationary Engineer** must have five (5) years of experience with the operation of pressure boilers. This exam consists of 150 questions. Fee: $60.00

All applications must be in this office at least one (1) week, seven (7) calendar days, before the test day. The Board reviews all applications for qualifications. You will only be notified if you **do not** meet the qualifications to take the test.

The fee for the examination will be paid on the test day. **Report to Room 1110 at the Omaha/Douglas Civic Center at 8:30 am on the test day.**

A room for the examination will be selected prior to the test day and time. An identification number will be given to you and it must appear at the top of each sheet of your answers. In order for you to get credit for them, all mathematical problems must be worked out on your answer sheet. Paper and pencils for the examination will be supplied for you.

There is to be absolutely no use of notes or books, and absolutely no conversation with other applicants/testers or you will be disqualified. No cellular phones, oral or visual recording devices, or computers are permitted in the examination room.

You should bring a non-programmable calculator to the test. For those taking the Second and First Grade examinations, you will also need to bring steam table charts.

The Board will grade your test and you will be notified in writing of the results. **Results will not be given over the phone or sent by email.** Test results will be mailed approximately fourteen (14) days after the testing date. A minimum grade of 75% is required to pass this examination, in the even that you fail the examination you make take the test the following month. It will be necessary for you to fill out an additional application, which can be done the day of the test. (Signatures of certified stationary engineers are not required on applications for those who have tested before.)

Public parking is available in the Omaha/Douglas Civic Center Parking Garage at 1910 Harney Street. The cost for parking is $1.50 for the first hour and $1.25 for each additional hour. The entrance is on Harney Street between 19th and 20th Street.

RINGELMANN TYPE

Instructions

This miniature Ringelmann smoke scale will enable the observer to conveniently grade the density of smoke issuing from the stack.

This scale should be held at arm's length at which distance the dots in the scale will blend into uniform shades.

Then compare the smoke (as seen through the hold) with the chart, determining the shade in the chart most nearly corresponding to the shade or density of the smoke. Experienced observers often record in half chart numbers. Be recording the changes in smoke density, the average "percentage of smoke density" for any period of time can be determined.

Observer's line of observation should be at right angles to the direction of smoke travel.

Observer should not be less than 100 ft. nor more than ¼ mile from the stack.

Observer should avoid looking towards bright sunlight. The background immediately beyond the top of the stack should be free of buildings or other dark objects.

ARTICLE III AIR CONTAMINANTS EMISSION RESTRICTIONS

Visible emissions

(a) No person shall discharge into the ambient air from any source of emission whatsoever any air contaminant of a shade or density equal to or one darker than that designated as No. 1 on the Ringelmann Chart, or of opacity as to obscure an observer's view to a degree equal to or greater than does an emission herein prohibited.

(b) Exceptions.

1. Excessive contaminant emissions from fuel burning equipment, used for indirect heating purposes resulting from fuel or load changes, start up, soot blowing, cleaning of fires, and rapping of precipitators, will not be deemed violations provided they do not exceed a period or periods aggregating more than five (5) minutes during any consecutive one hour period, and provided the exceptions shall not apply to more than three occasions in any twenty-four (24) hour period.
    i. The five (5) minute period may be extended by the control officer provided the operator or the equipment can demonstrate to the satisfaction of the control officer that specific operational procedures require the additional time
    ii. Authorization to extend time shall require that the emissions do not exceed Ringelmann No. 3 and shall specify the approximate time and frequency for the emissions.
2. Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of these regulations, the provisions of this section shall not apply.