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THE SINDH GOVERNMENT GAZETTE

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KARACHI, THURSDAY DECEMBER 21, 1989

PART-I

GOVERNMENT OF SINDH

INDUSTRIES & MINERAL DEVELOPMENT DEPARTMENT

NOTIFICATION

Karachi, the 20th December, 1989

No. SOI (I&MD)19-4/73(1).—With reference to this department notification No. SOI(I&MD)19-4/73(1), dated 5th November, 1989 and in exercise of the powers conferred by section 29 of the Boilers Act, 1923 and in supersession of all other rules on the subject, the Government of Sindh are pleased to make the following rules:-

1. (1) These rules may be called the Sindh Boiler Attendants and Boiler Engineers Rules, 1989. **Short title and commencement.**

(2) They shall come into force at once.

(3) They shall apply to all boilers and steam pipes.

2. In these rules, unless the context otherwise requires the following expressions shall have the meanings hereby respectively assigned to them that is to say:- **Definitions.**

(a) “Act” means the Boiler Act, 1923;

(b) “Attendant” means a person who obtains a certificate of competency for Boiler Attendant under these rules and includes a person holding such certificate under any other rules in force immediately before the coming into force of these rules;

(c) “Board” means the Sindh Board of Boiler (Competency Certificate) Examiners Constituted under rule 8;

(d) “Certificate of Competency” means the certificate of competency granted under these rules or any previous rules;

(e) “Chairman” means the Chairman of the Board;

(f) “Chief Inspector and Inspector” means the Chief Inspector and Inspector as defined in the Act;

- (g) “Engineer” means a person who obtains a certificate of competency for Boiler Engineer;
- (h) “examination” means the examination held for the grant of a certificate of competency;
- (i) “first user” means any prime-mover or any other machine or appliance or apparatus or device wherein steam from the boiler is used;
- (j) “from” means a from appended to these rules;
- (k) “Government” means the Government of Sindh;
- (l) “Member” means a Member of the Board;
- (m) “rating capacity” means the heating surface of the boiler which generates steam and is exclusive of economisers and super heaters;
- (n) “Secretary” means the Secretary of the Board.

3. No owner of boiler shall use boiler or permit the same to be used unless it is placed under the direct and immediate attendance and charge of a person holding a certificate of competency. **Boiler**

Explanation I. A boiler shall be deemed to be in use when there is active fire in the furnace, fire box or fire place for the purpose of heating water in the boiler and generation of steam and when the fire is removed, extinguished or effectively banked so that no appreciable heat passes from the fire to the water and all steam and water connections are closed, a boiler shall be deemed to be not in use.

Explanation II. A person incharge of a boiler shall be held to be in direct and immediate attendance on the same when he is within the range of the boiler and steam pipe upto the first user.

4. Every owner of a boiler, who engages any person to hold charge of such boiler, shall as soon as the charge is made over to the person so engaged, furnish to the Inspector the name of the person and the registered number of the certificate of competency held by such person together with a copy of such certificate. **Particulars of boiler incharge to be furnished.**

5. The holder of a certificate of competency shall during the working hours be bound to produce such certificate, when called upon to do so by the Inspector or the Chief Inspector. **Production of certificate by the holder.**

6. (1) The holder of a certificate competency of the first class may be relieved of the charge in any one day for not more than two intervals, which when combined do not exceed two hours in the aggregate, by a person holding a certificate of competency of the second class. **Relief on duty to Boiler Attendants and Engineers.**

7. (1) A certificate of competency may be either of the first class or of the second class.

(3) An engineer holding a certificate of competency of the second class shall be entitled to be the incharge of a boiler or such number of boilers as have an aggregate rating capacity not exceeding two thousand five hundred square feet belonging to the same owner, and located in the same premises within a distance of three hundred feet from each other.

(5) An attendant holding a certificate of competency of the second class shall be entitled to be incharge of a boiler having rating capacity not exceeding five hundred square feet.

Constitution of Board of Examiners.

- Page 3

(2) The Chief Inspector and one other member shall form the quorum.

(3) The Chairman when present shall preside over the meetings of the Board and in his absence a member chosen by the members present shall preside.

(4) The members appointed by Government shall hold office for term of five years and shall be eligible for re-appointment for such duration as Government may determine.

(5) The Ex-officio Chairman or Ex-officio member shall cease to be the Chairman or member as the case may be, on vacating his office.

(6) A non-official member, if any, may at any time before the expiry of his term resign his office or be removed from office by Government without assigning any reason.

(7) If a non-official member permanently leaves the Province or is absent without permission of the Board for two consecutive examinations he shall be deemed to have vacated his seat on the Board whereupon Government shall appoint another person in his place for the un-expired term.

9. (1) The Board—

- (i) shall hold examinations;
- (ii) may inquire into allegations of incompetency, negligence or malpractice on the part of Engineers or Attendants and to take such action against them as may be considered necessary;
- (iii) shall maintain a register and record of all Engineers and Attendants;
- (iv) shall maintain an account of the expenditure receipts in respect of fees received by it under these rules.

Function of the Board and Chief Inspector.

(2) The Chief Inspector shall perform such duties and exercise such powers of the Board as the Board may assign to him.

10. (1) Any person who clears the examination conducted by the Board shall be entitled to the grant of a certificate of competency in accordance with these rules;

Grant of certificates.

Provided that a certificate of competency for Boiler Engineer may, for reasons to be recorded in writing, be granted to a member without clearing the Examination.

(2) The Board may, notwithstanding the foregoing provisions, refuse to grant a certificate of competency to any candidate who, in the opinion of the Board, is too old or physically unfit to perform the duties of an Engineer or Attendant.

11. (1) The Board shall hold examination once a year on the dates and at the centres notified by it.

Conduct of examination.

(2) The examination for Boiler Engineers shall, be partly written and partly oral and practical, in the following subject:—

- (a) Mathematics (Applied);
- (b) Boiler steam Auxiliaries;
- (c) Mechanical drawings of Boiler Parts;
- (d) Oral and practical examination on steam Boilers and plants.

(3) The written papers shall consist of the following:—

(a) Applied Mathematics : The paper will include—

- (i) question on proportion, vulgar and decimal fractions and their application, question regarding consumption of stores, capacity of tanks and bunkers, duty of pumps direct stresses in boilers and simple equations and forces;
- (ii) question in algebraic additions subtractions, square roots, equations simple and quadratic, volumes quantities and weights, preliminary questions relating to applied mathematics, question on calculation of boilers working pressure and strength under the rules made under the Act.

NOTE: Use of log tables and slide rules shall be permitted.

(b) Steam boilers engines and pipes. The paper will include—

- (i) question on various kinds of boilers and engines, their fittings and erection, boiler mountings, accessories, their operations and rectification of their defects, superheaters economisers and condensers, fuel method of firing and different kinds of fuels used in boilers, air draughts and chimneys, corrosion in boilers causes, effects and usual remedies for encrustation, calculation of strength and remedies for encrustation, calculation of strength and working pressure of boilers and their parts and joints, combustion of fuels, horse power of steam engines and cylinders and their efficiency;
- (ii) questions of various types of boilers, their construction, selection maintenance and repairs, means of efficient working, general management estimate of requirements with respect to fuel stores, feed water power production and supply, economy in the use of steam, feed water and fuel, feed water treatment analysis of water, coal and fuel gasses, calculations of horse power of engines and indicated diagrams, evaporations of boilers, superheating and desuperheating of steam draughts and their mechanical

appliances, condensers and economisers and their maintenance and repairs, a fair knowledge of boiler regulations and rules.

- (c) Ability to prepare mechanical drawing of boilers, steam engine and parts thereof.

(4) The oral examination shall be with respect to the boiler operation, oil and gas equipments, automatic controls, management and setting of steam boilers engines and details thereof, the arrangement and repairs of boiler steam engines and their auxiliaries (mountings, etc.) the manner in which defects in boilers caused by accidents, decay or other reasons may be rectified and the means of the repairs.

NOTE:— The candidate should have a fair knowledge of System of different fuel handing, a general knowledge of metals used in making boilers and engines, be able to make out rough sketches for the purpose of description, and understand the necessity of stand by and auxiliary plant such as pumps and electric lights dynamo and testing equipments, automatic control and working system thereof.

(5) The candidates may write their answers in English or Urdu or any regional language specified in this behalf by the Board.

12. (1) The examination for Boiler Attendants shall be oral and practical in the following subject:—

Subjects of examination for Attendants.

(a) Preventive measures that is to say:—

- (i) Working and management of a steam boiler;
- (ii) Use and function of boiler's fittings and mountings;
- (iii) Precautions before starting fire and raising steam;
- (iv) Use and principles of feed pump and injector;
- (v) Use of solino-meter and thermometer;
- (vi) Method of periodical boiler cleaning and prevention of scale;
- (vii) Periodical inspection of boiler preparation for thorough inspection hydraulic test and steam test;
- (viii) Precautions taken before entering or allowing another person to enter a boiler;
- (ix) Use of the best means of firing for prevention of smoke;
- (x) Danger of water logging in steam pipes and precautions to be observed in draining;
- (xi) Precautions to be allowed in shortness of boiler water building or fracture of flange or flat plates or bursting of tubes or any accident to a boiler or steam pipe;

(b) Operation measures, that is to say:—

- (i) Stoking or adjustment of oil or gas fire of boiler cleanings and banking fire;
- (ii) Testing of water guage glasses and cocks;
- (iii) Replacing of guage glasses and showing how a false water level might appear;
- (iv) Easing of safety valve and using below down valve cocks and their functions;
- (v) Adjustment of high steam and low water safety valve and renewal of fusible plug and their functions;
- (vi) Jointing of a manhole or handhole door or any cover of flange in the steam and feed pipes;
- (vii) Packing of pump or valve chest gland;
- (viii) Grinding of and adjustment of cocks and valves;
- (ix) taking of donkey pump, feed or injector to pieces and replacing the same in working order;
- (x) Firing system of gas or oil fired boilers, their sequence, and cause of back fire;

Provided that a candidate for Boiler Attendant first class should be able to:—

- (i) Explain the principal cause of incrustation and corrosion and their general remedies, use of chemicals and points, principles of different method of firing working and defects in boiler accessories and mountings necessary modification and adjustment of safety valves, working of mechanical stoker draughts and natural and mechanical operation of economisers and superheaters;
- (ii) Understand the purpose of super-heaters, economisers, feed heaters forced and induced draught, appliances and mechanical stokers;
- (iii) Understand the principal elementary facts relating to combustion heat and steam upto some extent to explain;
- (iv) Handle a steam boiler of a rating capacity upto 1000 Sq. Ft. and make big and small joints on steam boiler and pipes, set safety valves to work at the allowed pressure and prepare a boiler for Hydraulic test and visual inspection and operate an automatic controller boiler; and
- (v) Attend to minor boiler repairs such as renewing and expanding of tubes.

(2) Every candidate must be demonstrative on an actual boiler or fitting or model his ability to perform such practical tests as may be desired by the examiners.

(3) A candidate may, if he desires, give written answer to such written questions as may be put to him by the examiners.

13. (1) Full marks will be 100 in each paper and oral and practical examination and the candidates obtaining 65 marks in each paper and in oral and practical examination shall qualify himself for a certificate of competency of the first class and 50 marks for a certificate of competency of the second class.

**Qualifying of
the
Examination.**

(2) The candidates failing to obtain the requisite marks in any one subject will be given two more chances to qualify and if they still fail they will have to re-appear in all the subject.

14. (1) No person shall be admitted to an examination unless he produces satisfactory testimonials to the satisfaction of the Board with respect to his experience, age, ability and general conduct in the case of the certificate of competency for:—

Eligibility.

- (a) Boiler Attendant second class that he has served for not less than three years as a fireman, is literate and not below twenty-one years of age;
- (b) A Boiler Attendant first class that he has served for not less than one year as a Boiler Attendant second class and is not below twenty-two years of age;
- (c) Boiler Engineer second class that he—
 - (i) has passed matric or equivalent examination; and
 - (ii) has served for not less than four years as an apprentice or Assistant on any type of boiler and steam engine in a concern or factory; or
 - (iii) has obtained a certificate of competency for Boiler Attendant first class; or
 - (iv) has obtained three year Diploma of Associate engineer in Mechanical or Power Engineering from any Board of Technical Education and has served for not less than two years on the operation of a boiler having aggregate heating surface area of 2500 square feet; or
 - (v) has obtained a degree in Mechanical Engineering from any University of Engineering or College of Engineering in Pakistan and has also had one year practical experience on the operation of boiler having aggregate heating surface area of 2500 square feet.

(d) Boiler Engineer of first class that he—

- (i) has obtained a certificate for Boiler Engineer second class;
- (ii) has served for not less than one year on the operation of a boiler having aggregate heating surface area of 2500 square feet after obtaining the certificate under (i) above and is not below twenty two years of age;

(2) Should a period of more than one year elapse between a candidate's last testimonials issued under sub-rule (1) and the date of his application for examination he shall not be allowed to sit for the examination until he produces a testimonial for a further period of service of six months.

(3) The testimonials must clearly state the kind of work and the capacity in which the candidate was employed on boiler and steam pipes and mention the actual dates between which the candidate was so employed.

Explanation :— Only actual service as an Engineer or Boiler Fireman or as a Mechanical/Electrical Engineer student engaged as Assistant to a Boiler Engineer/Attendant of the 1st and 2nd class will be considered by the Board for admission to an examination.

(4) The testimonials shall be signed by the Engineer under whom the candidate was employed or if not employed under an engineer, by the responsible person under whom he had worked and shall be countersigned by the mill manager or by the owner agent or secretary of the Mill, Factory or workshop, as the case may be.

(5) The testimonials for service on steamship may be signed by the Chief Engineer of the steamship, and countersigned by the master of the vessel or may be in the form of seaman's discharge certificate issued by the shipping master.

(6) The testimonials for service on Railway Boiler or boilers belonging to the Government or local bodies shall be signed by the responsible officer under whom the candidate had directly served and shall be countersigned by the Head of the Department concerned.

15. (1) Every person desirous of taking examination shall make an application to the Board in Form 'A' duly filled in and shall either sign or mark his thumb impression on the form in presence of a Gazetted Officer or a Magistrate who shall append his signature to the form in token of attestation.

Application for examination.

(2) The application shall be accompanied by—

- (a) copies of testimonials and certificates of service referred to in rule 14 duly attested by a Magistrate or a gazette officer (the original certificate must be produced at the time of examination);
- (b) Testimonials of good character; and
- (c) two copies of a recent passport size photograph of the applicant, one of which shall bear on the reverse his signature or thumb impression:

(3) The fees for the examination shall be remitted by money order or paid in the office of the Board in cash and its receipt obtained.

(4) The application shall be submitted to the Board not later than two months before the date fixed for the examination and any application received thereafter but no later than twenty days before the commencement of the examination may be entertained on the payment of the late fee mentioned in sub-rule (2) of rule 16.

16. (1) Fees at the following scale shall be Examination Fee charged for an examination :— **Examination Fee**

	Admission Fee.	Certificate Fee
(a) Boiler Engineer, First Class.	Rs. 200/-	Rs. 250/-
(b) Boiler Engineer, Second Class	Rs. 150/-	Rs. 200/-
(c) Boiler Attendant, First Class	Rs. 100/-	Rs. 150/-
(d) Boiler Attendant, Second Class	Rs. 75/-	Rs. 100/-

(2) A late fee of rupees ten for late submission of the application shall be paid in addition to the fee specified in sub-rule (1).

(3) The fees shall not be refundable under any circumstances;

Provided that where a candidate is on account of unavoidable circumstances absent from the examination, the Secretary may allow him to appear without payment of the fee at subsequent examination held by the Board.

(4) The fee shall after deducting the incidental charges incurred in conducting the examination, be divided among the members and the staff in the following manner :—

- (i) fifty percent equally among the members of the Board; and
- (ii) fifty percent among the members of the staff in proportion of their pay:

17. A certificate of competency shall bear a photograph of the holder thereof and respectively be in the form 'B' 'C' 'D' and 'E' for attendant second class, first class, engineer second class and first class: **Form of competency certificate.**

18. (1) Where a certificate of competency is lost damaged or destroyed, an application supported by an affidavit to that effect and accompanied by a fee of rupees forty for engineers and rupees twenty for attendants may be made to the Secretary who shall issue a duplicate certificate: **Duplicate certificate and fees thereof.**

(2) Duplicate of all certificates issued under sub-rule (1) shall be recorded in the Board.

19. (1) Any person in possession of certificate of proficiency or competency granted by a competent authority outside the Province including such foreign country as Government may, by a notification, in the official Gazette, specify in this behalf, may on application to the Board and on payment of a fee at the rate of half the examination fee under sub-rule (1) of rule 16, be granted Certificate of Competency without examination:

Exchange certificate.

(2) The certificate granted under sub-rule (1) shall be of such class as the Board may, on consideration of the nature of the certificate in possession of the applicant, determine;

Provided that if the Board has doubts about the competency of the applicant for the charge or management of boilers or considers it necessary to determine the class of certificate for which he is qualified, the Board may require the applicant to take such examination as it deems fit.

20. The Board may issue a Boiler Engineers certificate of competency of the first class or second class without examination to a person who is a graduate in Mechanical Engineering of any university recognized by the Board and has practical experience of boilers for three years or holds a first class or second class certificate as a marine engineer issued by a competent authority recognized by the Board.

21. (1) The Board may, after giving an opportunity of being heard to the holder of a competency certificate, cancel such certificate if it is satisfied that such holder is, by reason of misconduct or carelessness or any act or omission on his part or any other cause, unfit to retain it.

Board may cancel certificate.

Provided that the power may be exercised by the Chairman on the report of the Chief Inspector temporarily till the meeting of the Board :

(2) Where the Board is satisfied that any of the testimonials tendered by a candidate is false it may, by written order, debar such candidate from being admitted to any examination under these rules and if upon the tender of such testimonials a candidate has already been admitted to such examination he shall be deemed to have failed in that examination.

22. Any person in charge of a boiler or any other person who works a boiler or permits of causes it to be worked in contravention of these rules shall be punished with a fine which may extend to one hundred rupees.

Penalties for the boiler Attendants and Engineers.

FORM 'A'
FORM OF APPLICATION

(See rule 15)

Application Form for admission to the Examination for Certificate of Competency as Boiler Engineer/Boiler Attendant under the Sindh Boiler Attendants and Boiler Engineer Rules, 1989:-

Name in full _____

Father's Name _____

'A' Present Address _____

Permanent Address _____

Place of birth and
District _____

Date of Birth _____

No. and date of Money

Order/cash

Payment receipt _____

**PARTICULARS OF ALL ACADEMIC AND TECHNICAL
QUALIFICATIONS.**

Serial No.	Certificate Diploma or Degree	Name of University Institute School	Grade or Division	Date of obtaining the certificate or Degree.
'B'				

PARTICULARS OF PREVIOUS COMPETENCY CERTIFICATE

No. of certificate	Type Engineer or attendant	Grade of Class.	Issuing Authority.	Date	Place	Remarks
'C'						

CERTIFICATE NOW REQUIRED

Class	Competency Certificate as Engineer or Attendant.	Address to which the Certificate may be dispatched.	Remarks.
'D'			

STATEMENT OF PREVIOUS FAILURES (IF ANY)

If any applicant has failed in any previous Examination for a certificate of competency he must state here the date, place and the kind of Examination in which he has failed.

Date of Examination	Place of Examination.	Kind of Examination.
'E'		

FORM 'B'
(See rule 17)
GOVERNMENT OF SINDH
EMBLEM
CERTIFICATE OF COMPETENCY
FOR
SECOND CLASS BOILER ATTENDANT

No. _____ of 19____

Mr. _____ S/o _____

Having produced testimonials of good character, sobriety and experience and having satisfactorily passed the prescribed examination under the Sindh Boiler Attendants and Boiler Engineer Rules,- 1989 is hereby granted under the said rules, this certificate of Competency entitling him to hold charge of a boiler, with steam pipes the rated capacity of which does not exceed 500 Square feet.

Dated Karachi the _____
Particulars of the boiler of Certificate

_____ Chairman.

_____ Members.

PHOTO

Dated of Birth _____

Place of Birth _____

Address. _____

Seal of Board

Personal description as below :-

Height Without shoes _____

Marks of peculiarities _____

Left thumb impression _____

Signature. _____

FORM 'C'
(See rule 17)
GOVERNMENT OF SINDH
EMBLEM
CERTIFICATE OF COMPETENCY
FOR
FIRST CLASS BOILER ATTENDANT

No. _____ of 19____

Mr. _____ S/o _____

having produced testimonials of good character, sobriety and experience and having satisfactorily passed the prescribed examination under the Sindh Boiler Attendants and Boiler Engineer Rules,- 1989 is hereby granted under the said rules, this certificate of Competency entitling him to hold charge of boiler, with steam pipes, the aggregate rated capacity of which does not exceed, 1,000 Square feet.

Dated Karachi the _____
Particulars of the boiler of Certificate

_____ Chairman.

_____ Members.

PHOTO

Dated of Birth _____

Place of Birth _____

Address. _____

Seal of Board

Personal description as below :-

Hight Without shoes _____

Marks of peculiarities _____

Left thumb impression _____

Signature. _____

FORM 'D'
(See rule 17)
GOVERNMENT OF SINDH
EMBLEM
CERTIFICATE OF COMPETENCY
FOR
SECOND CLASS BOILER ATTENDANT

No. _____ of 19____

Mr. _____ S/o _____

having produced testimonials of good character, sobriety and experience and having satisfactorily passed the examination or having otherwise satisfied the Board of Examiners constituted under the rule 8 of the Sindh Boiler Attendant and Boiler Engineers Rules,-1989 of his competency to have charge of a boiler or boilers with steam pipes, the aggregate rated capacity of which does not exceed 2,500 Square feet, is hereby granted this certificate of competency as Boiler Engineer second class.

Dated Karachi the _____ 19____
Particulars of the boiler of Certificate

_____ Chairman.

_____ Members.

PHOTO

Dated of Birth _____

Place of Birth _____

Address. _____

Seal of Board

Personal description as below :-

Hight Without shoes _____

Marks of peculiarities _____

Left thumb impression _____

Signature. _____

FORM 'E'
(See rule 17)
GOVERNMENT OF SINDH
EMBLEM
CERTIFICATE OF COMPETENCY
FOR
FIRST CLASS BOILER ATTENDANT

No. _____ of 19____

Mr. _____ S/o _____

having produced testimonials of good character, sobriety and experience and having satisfactorily passed the examination or having otherwise satisfied the Board of Examiners constituted under the rule 8 of the Sindh Boiler Attendant and Boiler Engineers Rules,-1989 of his competency to have charge of any boiler or boilers with steam pipes to the extent specified in sub-rule (2) of rule 7 of rule of the said rules is granted this certificate of competency as Boiler Engineer, First Class.

Dated Karachi the _____ 19____
Particulars of the boiler of Certificate

_____ Chairman.

_____ Members.

PHOTO

Dated of Birth _____
Place of Birth _____
Address. _____
Personal description as below :-
Hight Without shoes _____
Marks of peculiarities _____
Left thumb impression _____
Signature. _____

Seal of Board

NUR AHMED SHAH
Secretary to Government of Sindh
Industries and Mineral
Development Department