

Karnataka Boiler Rules, 1982

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Karnataka Boiler Rules, 1982

[As amended by GSR 235 dt. 13.09.1985; GSR 213 dt. 09.09.1987 and GSR 197 dt. 10.09.1987]

NOTIFICATION

No. SWL 58 LFB 78

Bangalore, dated 11th may, 1982

GSR 80,- The draft of the rules further to amend the Karnataka Boilers Rules, 1969 was published as required by Section 29 of the Indian Boilers Act, 1923 (Central Act 5 of 1923) in Notification No. SWL 58 LFB 78, dated. 16th November 1981, in Part IV-2-C(i) of the Karnataka Gazette Extraordinary, Dated. 25th November, 1981 Calling for objections and Suggestions From the Persons likely to be affected thereby on or before the 1st January, 1982.

And the Said gazette was made available to the public on 25th November 1981;

And whereas the objections and suggestions received on the Said draft have been duly considered by the State Government;

Now, therefore, in exercise of the power Conferred by Section 29 of the Indian Boilers Act, 1923 (Central Act 5 of 1923), the Government of Karnataka hereby makes the Following rules, namely;

CHAPTER – I

1. Short title and commencement-

- (1) These rules may be called “The Karnataka Boiler Rules 1982”.
- (2) They shall come into force on the date of their publication in the official gazette.

2. Definition – in these rules, unless the context requires otherwise

- (a) “ACT means the “Indian Boilers Act 1923 “
- (b) Appellate authority means an appellate authority constituted under the act by the state Government;
- (c) Inspecting authority , Inspecting Officer, owner , competent authority , prescribed, Chief Inspector, Deputy chief Inspector and Inspector shall have the respective meanings as assigned in the Act and in the Indian Boilers regulations, 1950;
- (d) “Government “means the Government of Karnataka;
- (e) Form means form appended to these rules;
- (f) Regulations means a regulation framed by the Central Boilers Board under sec 28 of the ACT;
- (g) Rule means a rule framed by the Government of Karnataka under section 29 of
- (h) Section means a section of the Act;

3. Mode of payment of fee and costs –

- (a) All fees payable under the Act shall be deposited by the payer in a Government treasury or Reserve Bank of India in the State of Karnataka under the prescribed head of account.
- (b) Application under section 7 and 8 to which the treasury or Bank receipt is affixed shall be deemed to be accompanied by the prescribed fee.
- (c) All fees, costs and penalty levied under the act shall be disposed of in such a manner as the State Government may from time to time direct.
- (d) All fees payable under the act, the regulations, the rules framed under the Act shall be paid to the following head of account;
“0230 Labour and Employment
103 fee for inspection of steam Boilers”

4. Prohibition of undertaking work outside the scope of the act – The Chief Inspector, The Deputy Chief Inspector, the Senior Inspector or the Inspector shall not undertake any professional work unconcerned with his or their duties under the act except with the prior approval of the Government.

5. Qualification of Chief Inspector, The Deputy Chief Inspector, the Senior Inspector and Inspector of Boilers- No person shall be appointed to the post of Chief Inspector, The Deputy Chief Inspector, the Senior Inspector or the Inspector unless he possess the qualification and condition prescribed for the post in the cadre and recruitment rules of factories and Boilers branch of the Karnataka Labour service (recruitment) rules , 1966.

Chapter II

Duties of the Chief Inspector

6. Administrative Control – The Chief Inspector shall submit (a) an annual report on the administration of the Act, (b) such other reports and returns as may be called for by the Government.

7. Duty of General Control – The Chief Inspector is vested with all the powers of an Inspector under the Act. His main duties, however, consist in supervising and controlling the work of the Inspectors and he should inspect or examine boilers in exceptional cases or where he considers that the work of an Inspector requires a personal check.

8. Specific Duties of Chief Inspector –

(1) As an Inspecting Authority, the Chief Inspector shall-

- (a) Approve all the drawings and plans for construction of Boilers, parts thereof, steam receivers, separators and other light equipments
- (b) Supervise and control the work of all Inspecting Officers in the construction of Boilers, parts thereof, steam receivers, separators and other light equipments.
- (c) Issue certificate in Forms II, III-A, III-B, III-C and countersign certificates in Form III of the Regulations for Boilers, parts thereof, steam pipes, steam receivers, separators and other light Equipments;
- (d) Advise the makers of Boilers or of parts thereof or of, steam receivers, separators and other light equipments with regard to the provision of the regulations so far as they relate to their design and construction features;
- (e) Supervise and control the working of any testing laboratory setup for the testing and examination of Boilers or parts thereof under construction ;
- (f) Examine and approve all reports regarding examination of Boilers, parts thereof under construction in stages as enumerated in Appendix-J of the regulations;

(2) The chief Inspector shall –

- (a) personally check the registration particulars and calculations submitted by Inspectors for registration as prescribed in chapter IX of the regulations and enter under his own signature the approved pressure and all other orders required under section 7;
- (b) Enter under his own signature any subsequent entries required in the registration book
- (c) Obtain from the state of registry, the registration book of any boiler, the transfer of which is reported under section 6(b);
- (d) Approve the programme of Deputy Chief Inspector and Inspectors subordinate to him with due regard to the convenience of owners generally;
- (e) Examine and countersign the Inspector's Memorandum of Inspection Book of each Boiler after each inspection;
- (f) Examine and pass orders on the diaries and returns of the Deputy Chief Inspector
- (g) Pass orders in all cases in which an Inspector proposes to increase or reduce the pressure allowed for any boiler under section 8 or to revoke , cancel or refuse to renew the certificate of the boiler under section 11 or to order important repairs, structural alterations, renewals in a boiler under section 8;
- (h) Pass orders in all cases in which it is reported that after due notice the boiler has not been properly prepared for inspection under section 14;
- (i) Decide all appeals against the order of the Deputy Chief Inspector or Senior Inspector or an Inspector under section 19;
- (j) Sanction prosecutions under the act;
- (k) Enquire into serious accidents of Boilers;

9. Instructions to Owners- It shall be the duty of the Chief Inspector to advise the owners as regards the maintenance, working and cleaning of Boilers. He shall issue a set of instruction on the lines indicated in Form-A. These instructions shall be hung up in each boiler house.

10. Registers to be kept – As an Inspecting Authority the Chief Inspector shall keep in his office –

- (a) A register of boilers and scantlings manufactured in the state in Form-B
- (b) The registration book and memorandum of Inspection book of all boilers borne in his register in Form –I of Indian Boiler Regulations, 1950
- (c) A register of appeals in Form-C
- (d) A register of Accidents in Form-D
- (e) A register of registration and inspection fees received in Form-E

11. Control of Bills – The Chief Inspector or the officer authorised by him in his behalf shall be the controlling or countersigning authority in respect of all contingent bills and of travelling allowance bills of officers subordinate to him.

CHAPTER III

Duties of Deputy Chief Inspector and Inspectors

12. Subordinate to Chief Inspector: - Deputy Chief Inspector shall be directly subordinate to and under the control of the Chief Inspector. He should ordinarily be appointed to take charge of specific areas.

13. General Duties of Deputy Chief Inspector and Inspectors:- The Deputy Chief Inspector shall exercise the powers and perform the duties conferred and imposed on Inspectors by or under the Act and perform such duties conferred or imposed on the Chief Inspector by or under the Act as are assigned to him. The main duties of the Inspectors are as laid down in the Act, i.e., the Inspection and Examination of Boilers and Steam Pipes. Inspections shall be carried out in strict accordance with Chapters IX of Regulations and Chapter IV and V of these Rules.

14. Inspectors to see that the Boilers are worked according to Law: - In addition to the Inspection and Examination of Boilers, it is the duty of the Inspectors to search for unregistered or uncertified boilers within their areas, and to see that certified boilers are worked in accordance with the terms of their certificates and with any Regulation or Rule made under the Act for their safe working.

15. Inspectors to advise owners: - At the time of Inspection, Inspector should advise the owner and the person in charge of the Boiler of the Management and up-keep of the Boiler with special reference to the amount of cleaning required in view of the quality of water used.

16. Specific Duties: -

1. The Deputy Chief Inspector shall also carry out the following additional duties namely:-
 - (a) to examine the programme of the Inspection work of all Inspectors;
 - (b) to examine and countersign the Inspectors Memorandum of Inspection Book of each Inspection;
 - (c) to review the diaries and returns of the Inspectors;
 - (d) to carry out such other duties as may be entrusted to him by the Chief Inspector
2. The Inspector shall also carry out the following additional duties, namely:-
 - (a) The Inspectors shall prepare a programme of inspections with regard to the convenience of owners generally in the most suitable order of places to save time and expenditure in cross journeys and submit the tour programme a month in advance before the 1st day fixed in the programme to the Chief Inspector for approval to enable 10 days notice required under Sections 7 and 8 to be given to the owner;
 - (b) Maintain a Memorandum of inspection book for each boiler and steam line under their charge and submit it to the Chief Inspector for examination and countersignature after each inspection;
 - (c) Submit the monthly diary to the Chief Inspector before the 5th day of the subsequent month showing places visited, boilers or steam lines registered or inspected, boiler attendants certificates verified the Statement of fees received in his Office under the Rules and Regulations;
 - (d) Variations from the approved programme shall also be mentioned in the diary and also any other important particulars;
 - (e) Receive applications for Registration or Inspection under Section 7 or 8;
 - (f) Enquire into accidents to boilers and steam pipes and report to the Chief Inspector;
 - (g) Report to the Chief Inspector cases of unreported accidents discovered at the time of Inspection;
 - (h) Submit for the orders of the Chief Inspector:
 - (i) The Memorandum of Inspection books of all boilers and steam lines proposed for Registration under Section 7;
 - (ii) Pressure of a boiler after inspection under Section 8;

- (iii) Proposals for necessary repairs, structural alterations or renewals to a Boiler or Steam line under Section 8 or 12;
- (iv) Proposals for revoking, cancelling or refusing to renew a certificate under Section 11 or 8;
- (v) Report when boilers have not been properly prepared for inspection under Section 14;
- (vi) Proposal for prosecution under the Act;
- (vii) Report of accident under Section 18;

3. As an Inspecting Officer, the inspector shall:-

- (a) Prepare a programme of examination with regard to the convenience of the makers generally, and submit it to the Inspecting Authority for approval;
- (b) Maintain a schedule of such examination of boilers or parts thereof;
- (c) Maintain a diary of examinations carried out for monthly submission to the Inspecting Authority showing places visited, boilers or parts thereof examined;
- (d) Submit to the Inspecting Authority, reports on the result of the examinations carried out on boilers or parts thereof in accordance with the standards laid down in the Regulations and with particular reference to variations, there from:
- (e) Report the result of tests carried out on materials or scantlings in his presence, in Form 'M' for acceptance otherwise if the inspecting authorities,
- (f) Maintain a record of all tests-both destructive and non-destructive carried out by him or under his supervision,
- (g) When radiographic examinations are carried out on boilers or parts thereof, give his opinion in writing to the Inspecting Authority with regard to accept the ability or otherwise of the parts examined.

17. Registers to be kept:

- 1. The Deputy Chief Inspector or Inspector in-charge of an Office shall keep;
 - (a) A register in Form-F-Part I of all registered boilers situated within his jurisdiction;
 - (b) A register of accidents, in Form 'D'
 - (c) A register of registrations and inspection fees received in Form 'E',
 - (d) A register of steam pipe lines, in Form 'G'

CHAPTER III-A

Boiler Repairers and Welders

18. Appointment of Boiler Repairers: -

- (1) There shall be two categories of boiler repairers:-
 - (i) Major boiler repairer and
 - (ii) Minor boiler repairer
- (2) An approved major boiler repairer can handle the repair work of any type of boiler, installation or repairs to steam pipe line inclusive of fittings, erection of any type of boiler, etc., after getting the written approval of the Chief Inspector of Boilers;
- (3) A minor boiler repairer can take up the work of repairing small boilers like vertical cross Tube, Cochran, Loco, Package type or Boilers not involving cutting and patching of plates on the pressure parts of the Boilers or otherwise classified as Minor repair work by the Chief Inspector, inclusive of the types of boilers that are to be erected and the nature of fabrication of steam pipe lines;
- (4) Every application for appointment or annual revalidation as an approved major boiler repairer shall be accompanied by a Treasury Receipt for having credited the fee of [Rs. 3000] only;
- (5) Every application for appointment or annual revalidation as an approved minor boiler repairer shall be accompanied by a treasury receipt for having credited the fee of [1500] only;

(6) Every application for a certificate in Form No. XIII of regulations as a qualified boiler welder and for requalification shall be accompanied by a treasury receipt for having credited a fee of [Rs.1000 and Rs 750 respectively] provided that the applicant shall bear separately the actual cost of the material, hire for equipments, tools, workshop facilities and laboratory facilities charged by a recognized organization assigned by the competent authority for the purpose of producing test samples, Radiographic examination Macro and Macro Examination Reports.

(7) Maintenance of Records:- Every manufacturer or repairer of boilers and steam pipes shall maintain a record in Form 'H' of all welding personnel engaged to welding and repairing of boilers and steam pipes, particulars of each welder and the work handled by him. Such record shall be produced to the Inspecting Authority, Inspecting Officer or an Inspector on demand.

In the case of welders who undertake welding under their own responsibility, the record as aforesaid shall be maintained by themselves.

Rule 18(8)(i):-

Every application for recognition or annual revalidation as an approved water tube boiler manufacturer shall be accompanied by a treasury receipt for having credited the fee of Rs 5000 only.

Rule 18(8)(ii):-

Every application for recognition or annual revalidation as an approved package boiler manufacturer shall be accompanied by a treasury receipt for having credited the fee of Rs 3000 only.

Rule 18(8)(iii):-

Every application for recognition or annual revalidation as an approved boiler mounting and fitting manufacturer shall be accompanied by a treasury receipt for having credited the fee of Rs 2000 only.

CHAPTER – IV

Administrative Instructions for Regulation

19. Importance of Registration:- technical Regulations for the registration of boilers and the scale of fees for registrations are prescribed in Chapter IX of the regulations. The details of measurement recorded at the time of registration constitute a permanent record for the boiler and determine the original pressure at which the boiler is allowed to work. It is accordingly essential that the work should be done with the greatest care and precision.

20. Receipt of Application:- Application for registration shall be made under Section 7(1) either to the Chief Inspector, the Deputy Chief Inspector or the Inspector of the local area in which the boiler is situated and shall be accompanied by a receipt for the prescribed fee. No application shall be accepted without the receipt of the fee. No boiler shall be registered if on measurement the fee is found to be deficient, until the deficit has been paid. Any excess payment shall be refunded at the time of Registration.

21. Necessity of Avoiding delay:- It is essential that no delay should occur in registration, in large towns, the measurements under Section 7(3) should ordinarily be completed and the report submitted to the Chief Inspector within 20 days of the receipt of the application, in no case should the interval exceed 30 days unless otherwise there is delay from the applicants side. The Chief Inspector shall issue his order section 7(4) without delay.

22. Register of Registered boilers:- The Chief Inspector shall maintain a register of registered boilers in serial order in Form – F in two parts, in Part I, (Boilers originally registered in the State), the registered number of a boiler shall be one immediately following the last serial number in the register. Gap number due to boilers being broken up or transferred to another state shall not be filled up. In Part II, (Boilers originally registered in other states) entries shall be made as prescribed in Rule 24. The Deputy Chief Inspector or Inspector in-charge of an office shall keep a similar register for all boilers within his jurisdiction.

23. Procedure on transfer of a boiler: - Whenever a boiler is transferred from another state into the state of Karnataka, the owner shall, under Section 6(b) apply to the Chief Inspector for the registration of the transfer. The boiler cannot be used until registration has been effected. The Chief Inspector shall obtain from the state from which the boiler was transferred, the registration book and Memorandum of Inspection book of the boiler. A fee of Rs.2000/- shall be charged for recording transfers.

24. Entry of Transferred boiler in register:- On receipt of the registration and Memorandum of Inspection books, the Chief Inspector shall enter the Boiler under its original number in part II of his register and shall instruct the Deputy Chief Inspector or Inspector of the local area, in which the boiler is situated to enter it similarly in his register. The registration books and the Memorandum of Inspection books shall be kept in the office of the Chief Inspector.

25. Note of transferred and dismantled boilers: - Whenever a boiler has been transferred to another State, or broken up, the facts shall be noted in the register. In the case of a boiler that has been permanently dismantled, the registration book and the Memorandum of inspection book shall be destroyed.

CHAPTER – V

Administrative Instructions for Inspections

26. Procedure at Inspections: - The details of internal inspection of boilers are contained in Chapter – IX of the Regulations. The following general procedure at Inspections shall be observed and the application for inspector of boilers in Form 'J' shall be made under Section 8 of the Act.

During thorough inspection of a boiler, the inspection shall, wherever the size and construction of the boiler permit, go inside and make a thorough inspection of all its internal parts. But, before doing so, he should satisfy himself that proper provision has been made for disconnection from any other boiler under steam.

Should he find that proper provision for disconnection has not been made or that the boiler has not been properly cleaned or that it is unreasonably hot, he shall decline to proceed with the inspection and report the facts to the Chief Inspector for orders under Section 14(2).

When a boiler is of such a size or its construction is such that the inspector cannot go inside it, there must be sufficient sight holes or hand holes provided to enable him to see the principal internal parts, if any important part of a boiler is so constructed that the inspector cannot examine, he shall report the facts to the Chief Inspector for orders.

27. External Inspection:- Boiler must be examined externally well as internally, particular attention should be paid to the external parts of the boiler wherein contact with seating blocks and brick work, especially when the situation is damp Having regard to any serious defects discovered, inspectors should take care, in order to ensure proper inspection, that boiler of which the whole of the outside cannot be readily examined, or cleared wherever they consider it necessary of any concealing covering, supports or fittings.

Saddle tanks and engine fittings of locomotive type boilers shall be removed for inspection of the parts underneath at the first inspection and at any reasonable period afterwards as the inspector so desires if the owners in any special case have any good reasons for not wishing to clear covered parts, the case should be submitted to the Chief Inspector for orders. The Inspector shall not certify any boiler unless he is satisfied with the condition of the boiler for safe working. After inspection he shall make a report in Form J-1 to the Chief Inspector.

28. Casual working inspection: - At the Inspection of one of a battery of boilers, the inspector shall take the opportunity of examining the other boilers under steam with special reference to the water gauges, pressure gauges and safety valves.

29. Proposals for reduction of pressure: - When the inspector decides that a boiler in one or more of its parts is no longer fit for the pressure approved for it, he shall, without delay report his proposals for reducing the pressure to the Chief inspector and at the same time submit his calculation for the wasted parts for check and approval of pressure. With regard to pitting and wasting of shell plates, the inspector must bear in mind that shell plates ordinarily are considerably stronger in the body of the plate, owing to being unpaired than at the seams and consequently may become reduced in thickness to an appreciable extent in the body of plate i.e. elsewhere than at the seams and still be stronger than the seams.

30. Repair to boilers: - Under section 12 of the Act, the sanction of the Chief inspector all repairs proposed for boilers shall be obtained beforehand.

A few water tubes or smoke tubes, however, may in an emergency be renewed through an authorized boiler repairer pending the sanction of the Chief Inspector. But all such cases must be reported immediately to the Chief Inspector in who may if he deems fit notify his sanction to the owner without verification of the remarks by an inspector.

Generally in repairing boilers, the purpose should be to make up for damage wastage compensation, either by renewal or repair of the parts affected covering patches applied with the objects of hiding defects are a source shall be discouraged.

Welding by electric and oxy-acetylene processes may be employed in the repair of boilers but as the efficiency of the welding depends largely on the skill and care of the operator each case will have to be decided on its merits.

Proper attention must be paid to the annealing of welded parts. The inspector shall wherever possible be present during some part at least, of the welding operations.

Extensive repairs such as renewal of furnaces, plates, parts of shell, fire boxes, girders etc., shall be supervised, so far as his other duties permit, by the inspector and at such time when fire boxes and smoke tubes of locomotive type boilers are withdrawn, advantage of the opportunity may be taken to inspect the internal parts otherwise inaccessible to close inspection. Repairs to boilers are detailed in chapter IX of the Regulations.

31. Entries in Memorandum of Inspection Books:- An inspection shall, after an inspection, make the necessary entries in the Memorandum of Inspection Book of the boiler and submit the book to the Chief Inspector. Care should be taken to preserve the books and to keep them clean. Inspection notes should briefly state to what extent boilers were cleared to brick work, lagging or concealing parts, the general condition of the boiler, parts requiring attention of repairs and if special preparation is required at the next inspection.

Inspector should also note, in the Memorandum of Inspection books all casual visits, inspections of steam pipes, visits for inspection of repairs, enquiry into accidents, etc., and to provide a useful record of the history of the boiler for the information and guidance of inspectors at subsequent inspections.

In making inspections, it is important that the Inspectors should pay particular attention to entries made in the Memorandum of Inspection Book at previous inspections.

32. Entries in Certificates:- In addition to the entries required to be made under Regulation 389 in a certificate for a boiler the inspector should state in the remarks column, his requirement, if any, with regard to hydraulic test, removal of lagging, brick-work or other concealing part for the next inspection to enable the owner to have the same properly prepared at that time. He should also state his requirements regarding the repair or renewal of any part that may be considered fit only for the period of the certificate.

In the repairs column should be entered the year of repair and description of repairs affected. Only important repairs should be noted.

His remarks shall be brief. In the absence of remarks on the condition of boiler, the boiler shall be considered to be in good condition

33. Engraving of Registry Number:- Paper slips of proper size bearing the registry number allotted for a boiler will be supplied by the Chief Inspector. The slip should be pasted on the part of the boiler pointed out by the inspector and the device traced through with a cutting tool. The engraving should then be completed by the removal to the prescribed depth of the metal between the traced lines.

34. Arranging for Inspections:- In arranging for inspection particular attention should be paid to the provisions of Rule 16(2) (a). the notice required by Sections 7 (2) and 8 (4) shall be sent in Form J-2. If hydraulic test is necessary in addition to the ordinary inspection ample notice must be given to the owner.

35. Issue of certificates and Provisional orders:- On cases in which the inspector is empowered to issue a certificate under section 8 without further reference, the certificate should ordinarily be issued within 48 hours of the completion of the inspection. Where he propose to issue a provisional order, the inspector must satisfy himself that the boiler is fit to be worked at the maximum pressure & for the period entered in the provisional order. The fact of issue of a provisional order must be reported immediately to the Chief Inspector.

36. Provisional orders to be issued after hydraulic tests:- Provisional orders shall be issued un every case of registration after hydraulic test of boiler if the inspector is satisfied.

The steam test may be witnessed at any convenient time within the period of the provisional order, after which, if test is satisfactory the certificate under section 7(6) is to be issued.

37. Forms of provisional orders and certificates:- Provisional orders and certificates at prescribed in Forms V and VI, respectively of the regulations.

The period specified in any provisional order or certificate shall begin on the day on which the enabling through inspection or hydraulic test is made. Where a certificate supersedes a provisional order during the period of its currency, the period of a certificate shall be retrospective and shall begin from the same time as that of the provisional order.

38. Duplicate certificates:- A duplicate of any, certificates granted under section 7 or 8 which is at the time in force shall be granted by the Chief Inspector on the application of the owner of the boiler if the Chief Inspector is satisfied that the duplicate is required for a bona-fide purpose and the fee prescribed under Rule 44 is paid.

39. Fees for Registration:-

(1) Fees for registration and first inspection of boilers and miniature boilers shall be levied as prescribed in Regulations 385 and respectively of the Regulations.

(2) Fees for inspection:- Every application for inspection for renewal of certificate of boilers under sub-section (4) of section 8 of the act shall be accompanied by a fee calculated on the basis of rating of the boiler based on the following scales.

Sl No		Sq Mts.	Rs.
1.	For Boiler rating not exceeding	10	500
2.	For Boiler rating 10 But not exceeding	25	600
3.	-do-	25	750
4.	-do-	50	850
5.	-do-	75	1000
6.	-do-	100	1150
7.	-do-	150	1300
8.	-do-	200	1600
9.	-do-	400	1800
10.	-do-	600	2000
11.	-do-	800	2400
12.	-do-	1000	2500
13.	-do-	1200	2700
14.	-do-	1400	3000
15.	-do-	1600	3200
16.	-do-	1800	3600
17.	-do-	2000	4000
18.	-do-	2200	4800
19.	-do-	2400	5200
20.	-do-	2600	5600
21.	-do-	2800	6000

In respect of boiler, exceeding 3,000 Sq. Mts. of rating an additional fee of [Rs.200] for every 200 Sq. Mts. Or part thereof shall be charged. Fee for ordinarily inspection of miniature boiler shall be [Rs.250].

Provided that, where any owner is willing to accept renewed certificate for less than 12 months is order to approximate the date of annual inspection to the date on which other boiler in the locality are inspected a certificate for such period less than 12 months as may necessary for such approximation of dates may be granted at a reduced fee to be calculated at 1/12th of the ordinary fee for each fail month portion of a month but being reckoned.

(3) Fee for examination of mountings and fittings etc.,

(i) Drawings:- The charges for the scrutiny and approval of drawings only for the mountings and fitting to be manufactured shall be [Rs.300] for each such drawing.

(ii) Fabricated mountings and fittings:- The fee to be charged for examination and certification of mountings and fittings inclusive of cast flanges. Plate flanges, etc., shall regulated in accordance with Regulation 395-C of the Regulations.

(iii) Boilers and parts thereof under construction:-

(a) Approval of plans:- The fee for the scrutiny of plans and approval of boilers under construction shall be in accordance with regulation 393 of the regulations.

- (b) Fee for inspection at the site of manufacture:- The fee for inspection at the site of manufacture of the boilers and scanting shall be in accordance with sub-regulations (1) and (2) of Regulation 395 A of the Regulations.
- (c) Fee for inspection of boiler at the site of construction:- The fees for inspection of boiler at the site of construction where it is to be used shall be charged at the rate of [eight times] the Registration fee.(This applies in case of water tube boilers etc., where site fabrication work is involved).
- (d) The manufacturer shall supply free of charge, the labour and appliances which may be necessary for such mechanical test as are required under the Regulations. Failing to find facilities for the prescribed test, the manufacturer shall bear the cost of carrying out such tests elsewhere.
Provided that, the Chief Inspector may require the manufacturer or the fabricator to pay fresh fee equal to the usual inspection fee in any particular case, where due to his fault or neglect, the visit paid by any, inspector for examination was fruitless.
- (e) A fee of [Rs. 2000] shall be levied for conducting tests and according approval for a type of electrode manufactured.
- (f) Save as otherwise provided under Indian Boiler regulations, 1950; the following fees shall be charged for inspection and Certification of the following items:

- 1 (i) For bends for a batch of 50 or part 400 thereof of nominal bore not exceeding 50 mm.
- (ii) For bends for a batch of 25 or part 400 thereof of nominal bore not exceeding 50 mm, but not exceeding 100mm.
- (iii) For bends for a batch of 25 or part 800 thereof of nominal bore exceeding 100mm.
- 2 (a) Fittings like tees, elbows, reducers, nipples, expansion joints and others where certification under Indian Boiler Regulation is required for a batch of 10 or part thereof].Rs 400.
Rule 39(3)(iii)(f)
- (b) Fasteners like rivets, bolts with nuts studs irrespective of size where certification under Indian Boiler Regulation 1950 is required for a batch of 50 or part thereof , Rs 500.
- (c): For thermowells where certification under Indian Boiler Regulation 1950 is required for a batch of 10 or part thereof Rs 500.
- (d): For pressure gauge siphons where certification under Indian Boiler Regulation 1950 is required for a batch of 10 or part thereof – Rs 500.
- (e) : For bourdon pressure gauge where certification under Indian Boiler Regulation 1950 is required for a batch of 10 or part thereof based on the following scale-
 - (i) 0 to 25.0 Ksc – Rs 500
 - (ii) 0 to 50.0 Ksc – Rs 750
 - (iii) 0 to 75.0 Ksc – Rs 1000
 - (iv) 0 to 100.0 Ksc – Rs 1250.
 - (v) 0 to 150.0 Ksc – Rs 1500.

In respect of pressure gauge exceeding 150.0 Ksc an additional fee of Rs 250 for every 25.0 Ksc or part thereof shall be charged.

(3):- A fee of Rs 500 shall be levied for conducting tests on plate, pipe and tube under the Indian Boiler Regulations, 1950.

40. Fee to cover inspection and test:- A fee paid for the inspection of a boiler shall cover through inspection, hydraulic and steam test where such are necessary, subject to the provisions of section (14) 2.

41. Second fee in default:- A second fee shall be levied for re-inspection in any case where the inspection of a boiler is begun, but, owing to the fault or neglect of the owner or person in-charge, is not completed within a period of six months from the date of commencement of inspection.

Provided that no such fees shall be levied except with the sanction of the Chief Inspector.

42. Special fee for Inspections out of reason:- (1) If the owner of a boiler requires an inspection at a time which would necessitate a special visit by an inspector to a place other than his head quarters, the owner shall in addition to the registration or inspection fee, pay an additional sum as the Chief Inspector may determine to cover the conveyance and travelling allowance charges of the inspector from his head – quarters and back and for any attending staff accompanying him. The payment of such fees shall be made In the manner as prescribed in Rule 3 of these Rules.

Provided that, if two or more owners apply for inspection at a time which would necessitate a special journey by the inspector, then before the inspector undertakes such a journey, the owners or persons in-charge shall, in addition to the usual prescribed fees, pay such proportionate travelling allowance charges as would be determined by the Chief Inspector.

43. Refund of fees:- Fees paid in excess and fees paid for inspections which for any reason, not due to any fault or omission of the owners or persons in – charge of boilers, have not been made, shall be refunded by the Chief Inspector or adjusted against the fees for the inspection of any other boiler or boilers of the same owner is made by the owner or owners within one year of the date on payment.

44. Fee for copy of registration book:

- (a) Fee for the copy of a registration book containing only the particulars and dimensions of the boiler shall be Rs.1000/-. While issuing copies of registration book, details of official inspection notes shall not be furnished.
- (b) Fee for duplicate Certificate. A duplicate certificate (Forms V and VI) of Regulations for bona fide purpose may be issued to a boiler owner under the orders of the Chief Inspector on a payment of a fee of Rs.300/-.

CHAPETR – VI

Accidents

45. Investigation of Accidents:- On the receipt of a report of an accident to a boiler or steam pipe under section 18, the inspector shall, with the least possible delay proceed to the place to investigate the accident, if the report is received by the Chief Inspector, he shall forward it at once to the inspector within whose jurisdiction the accident has occurred for necessary action.

46. Procedure during inquiry:- The inspector at his inquiry shall make a careful examination of the damaged parts and shall take such measurement and make such sketches for the purpose of his report, as he may deem necessary. He shall inquire into the circumstances, attending the accident and note the time of the occurrence, its nature and extent, the injury caused to persons and the damage done to property. The report shall be submitted in Form K appended to these rules.

47. Power to hold inquiry in writing:- The Deputy Chief Inspector or the inspector shall take the written statements of witness and all persons immediately concerned with the accident, in order to comply with the provisions of sub-section (2) of section 18, the Deputy Chief Inspector shall present to the owner or person in-charge of the boiler a series of written questions on all points that are material to the inquiry.

48. Use of boiler after accident:- The inspector shall decide whether the use of the boiler can be permitted at the same or at a lower pressure without repairs or pending the completion of any repairs or alterations that he may order. In no case should he issue a provisional order or renewed certificate, until his orders have been carried out.

49. Procedure in case of serious accidents:- (1) The report of the inspector shall be sent without delay to the Deputy Chief Inspector or Chief Inspector, if the latter considered that the investigation has been sufficient, he shall record the facts in his register of accidents and shall enter a brief account of the accidents in the Register and Memorandum of inspection Books. If, however, the accident is of a serious nature and in all cases in which explosion has occurred, the Chief Inspector on receipt of the report shall proceed to investigate the accident personally either alone or with the Deputy Chief Inspector or any other Inspector as considered necessary.

(2) In view of the gravity of the situation arising from a fatal accident, the Chief Inspector shall move the Government immediately, to appoint a commission to enquire in to the accident who shall submit to the Government its findings.

50. Composition of Commission of enquiry:- Rule 49-Shall ordinarily consist of the Chief Inspector, one independent Mechanical Engineer and shall be presided over by a person who is exercising the powers of a District judge or a District Magistrate.

51. Reference in Annual Report:- A brief account of all accidents and their causes shall be included in the Chief Inspectors annual report

52. Unreported accidents:- If in the course of an inspection or at any other time, the Deputy Chief Inspector or inspector discovers damage which comes within the definition of an accident, but which has not been reported, he shall report the facts at once to the Chief Inspector for action under clause (d) of section 24.

CHAPTER – VII **Appeals**

53. Filing of appeal:- Every appeal shall be made in writing either in English or in the official language of the State and shall be presented to the Chief Inspector within thirty days of the communication to him, of the orders against which an appeal is preferred.

54. Presentation of appeal:- An appeal may be presented either personally or by registered post to the Chief Inspector.

55. Form of Appeal:- The appeal shall be accompanied by the original order, notice or report appealed against or by a certified copy thereof of where no such order, notice or report has been made in writing, by a clear statement of the facts appealed against the grounds of appeal and the referring section of the Act.

56. Fixing date for hearing:- On receipt of an appeal, the Chief Inspector shall if the appeal is to be heard by himself, at once fix a date for hearing the appeal and if it is to be heard by the Appellate Authority, obtain a date for the hearing of the appeal from the President of the Appellate Authority. It is important that there should be no delay in the decision of appeals as the stoppage of a boiler is likely to put the owner thereof to great inconvenience. The decision shall ordinarily be given within 10 days from the receipt of the petition of appeal.

57. Procedure before hearing:- When date for hearing has been fixed, the Chief Inspector shall at once issue a notice to the appellant stating the date for to produce evidence he must be present either in person or by an authorized agent with his evidence on the date so fixed. The notice shall be sent by Registered post to such address as shall be entered in the petition.

58. Presence of Inspector:- In all appeals the Chief Inspector shall decide whether the presence of the inspector is necessary, and issue orders accordingly.

59. Attendance during hearing of appeals:- Under orders of the Chief Inspector, Deputy Chief Inspector, Inspectors shall attend during the hearing of appeals with regard to boiler4s under their charge, before the Chief Inspector or the Appellate Authority.

60. Attendance of witness:- The Appellate Authority shall have power to secure the attendance of witnesses and to make local inquiries under the provisions of the code of civil Procedure, 1908.

61. Ex-parte decisions:- If the appellant is not present on the date fixed, the appeal may be decided in his absence.

62. Appellate Authority:- For the purpose of hearing appeals under section 20, there shall be an appellate Authority consisting of the president and six assessors, appointed by the State Government.

63. Qualifications of President and assessors:- (1) A person to be appointed as the president of the Appellate Authority shall be one.

- (i) Who is holding or has hold any judicial office not lower in rank than that of District and Sessions Judge or any office which in the opinion of the state Government is an equivalent office
 - (ii) Who is an advocate enrolled under the Advocates Act, 1961, having put in bar service of not less than 10 years;
 - (iii) an attorney of a High Court.
- (2) A person to be appointed as assessor shall be one who a Mechanical Engineer possesses such qualifications as the State Government may determine
- (3) The assessor shall be paid such remuneration as the State Government may specify from time to time and be allowed the travelling expenses incurred by him in attending the inquiry.

64. Constitution of Appellate Authority:- Whenever the date for an appeal before the appellate authority has been fixed, the Chief Inspector shall, under the address of the President of the Appellate Authority, arrange for the attendance of 3 numbers of the panel constituted under Rule 62 to act as assessors.

65. Cost of Appeals : In appeals before the Appellate authority the President is authorised to fix the cost and recover them from the appellant in any case in which the appeal is dismissed, in all cases of appeal in which a local inspection is required by the appellant, he shall deposit in advance the full costs of such inspection.

66. Fees required for certificate granted on appeal: - Any order on appeal authorizing the registering of a boiler or the grant or renewal of a certificate shall be deemed to be subject to the payment of such fees as are provided by rules or regulations framed under the Act.

67. Boiler not to be used in other places:- Subject to the provisions of the Regulation, the Act or these Rules registered boiler shall not be used in a changed location within the state, requiring reinstallation, without the permission from the Chief Inspector in writing.

Chapter VIII : Steam Lines **Procedure for Registration and Inspection of Steam Lines**

68. Steam pipe to include feed pipe:- Every reference in these Rules to a steam pipe shall be deemed to include also a reference to a feed pipe.

69. Acceptance of materials for steam pipe lines:-

The material specifications for the design and construction of the steam pipe line shall be in accordance with the provision of the Regulations, under Chapter VIII. The destructive and non-destructive tests for the acceptance of the fabricated steam lines shall be carried out in accordance with the provisions under Chapter VIII of the regulations.

70. Registration of Steam pipe lines:-

- (a) After the receipt of the approved drawings from the Chief Inspector, approving the details of the layout plans of the steam pipe lines, the Inspector shall take up the registration work after realizing the fees as required under Regulation 395-B of regulations.
- (b) If the Inspector notices any deviations at the time of Inspection in the fabrication of the pipeline at the site of construction from the details shown on the approved drawings, he shall immediately report the matter to the Chief Inspector.
- (c) The Inspector shall prepare a Memorandum of Inspection Book In respect of steam pipes and fittings in Form No – XIV of the Regulations, in this Book, these Inspector shall enter in ink all particulars and dimensions of the steam pipes and fittings with calculations for the various parts in detail, particulars of hydraulic test and his inspection notes. Each completed pipe and fitting shall be tested by hydraulic pressure as required under Regulation 374-A of the Regulations.

- (d) After completing the Memorandum of Inspection Book in Form XIV of Regulations, the Inspector shall submit the same to the Chief Inspector for his accept and allotting identification number.
- (e) After allotting the identification number, the Chief Inspector shall communicate his orders to the owner of the steam line along with the identification slips with instructions to engrave the allotted identification number in the place indicated. Report the fact to the Inspector who in turn shall verify the same during his next visit to the place and report the fact to the Chief Inspector

71. Procedure for Inspection of steam lines:-

- (1) At the time of scheduling the annual inspection of the boilers, the Inspector shall simultaneously schedule the Inspection of the connected steam lines synchronizing there by the Inspection of the connected steam lines along with the boiler.
- (2) When there are more than one boiler connected in a battery having a common steam line, the Inspection of such a steam line may be done in stages so as to take up for Inspection a certain length of the line at a time and to complete the full Inspection arranged at different times synchronizing with the Inspection of each boiler of the battery.
- (3) When the common steam line cannot be kept out of charge even though a boiler of the battery of boiler having connection to the same steam line is down for annual Inspection, the Inspection of the Steam line shall be scheduled at the time of general shut down of the entire plant.
- (4) The Inspection of the entire steam line in a factory shall be completed once a year either in stages or at a time.
- (5) When Inspecting the steam lines, the Inspector shall examine the condition of the surfaces of the pipes, both inside and outside, the flanges, expansion loops, the supports, traps, mountings and fittings fitted on the pipeline, flexibility, the condition of lagging material etc., and shall record his observations in the Memorandum of Inspection Book and submit the same for the perusal of the Chief Inspector after each Inspection.
- (6) On Inspection of the steam line, if the Inspector proposes any alterations, additions, or renewals to the steam line, he can make suggestions to the owner with a copy the suggestions submitted to the Chief Inspector for orders under section 13 of the Act.
- (7) For inspecting the steam line, the Inspector can get a section of the line un lagged and get the concealed portions removed.
- (8) After the Completion of every Inspection of the steam line, the Inspector shall communicate the results of his Inspection to the owner with a report to the Chief Inspector of Boilers in Form L.

72. Fees for examination of pipes and plans:- (a) The fee for examination of plans of steam, feed and blow off pipes shall be regulated as prescribed under Regulation 395 (b) of the said Regulations. The fee for examination of plans of any fittings like de-super heaters, steam receivers, feed heaters, separately fired super heater headers and distribution headers shall be 1[Rs.150].

(b) The fee for examination of steam, feed and blow off pipes under fabrication shall be at the rate as prescribed under Regulation 395 B of the Regulations.

73. The fees for annual Inspection of steam lines shall be charged as under:-

- (a) For pipes of nominal bore not exceeding 100 mm. inclusive of all fittings [Rs.150], for thirty meters of piping or part thereof.
- (b) For pipes of nominal bore exceeding 100 mm. inclusive of all fittings [Rs.300] for 30 meters of piping or part thereof.

74. Repeal and Savings:- (1) The Karnataka Boilers Rules, 1982 are hereby repealed:

Provided that such repeal shall not effect.

- (a) The previous operation of the rules so repealed or anything duly done or suffered there under, or
- (b)** Any right, privilege, application or liability acquired or incurred under any rules so repeal
- (c) Any penalty, forfeiture or punishment incurred in respect of any offence committed against any rule so repealed
- (d) Any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation liability or penalty forfeiture or punishment as aforesaid; any such investigation, legal proceeding or remedy may be instituted, continued or endorsed and any such penalty forfeiture or punishment may be imposed as if such rules had not been repealed.

FORMS
FORM A
General Working of Boilers
(See Rule 9 of Karnataka Boilers Rules, 1982)

Instruction to Boiler Attendants:

These instructions should be frequently and carefully studied with a view to keep in mind the precautions to be observed and the ordinary procedure to be followed in the safe working of boilers.

Precautions before starting the Fires:

Before starting the fires in a boiler, the attendant should-

- (1) See that there is sufficient water in the boiler, and that the gauge cocks are working freely;
- (2) Ease safety valves, or open cock on top of boiler to allow air to escape;
- (3) See that the blow – off cock is fully closed and tight;
- (4) See that the safety valves and feed check valve are free and workable;
- (5) Note if the pressure gauge pointer is at zero.
- (6) See that the feed pump is in working order.

He must not rely on the supposition that the water he has previously put in it is still in the boiler, as it may have run out without the knowledge through a leak or open cock, nor can he be sure that the gauge glass shows the true water level until he has tested it. This is done in the following manner: shut-off the lower gauge cock and empty the glass by the drain cock, then shut the drain cock and open the gauge cock, if everything is in order, the water will then rise in the glass to the same height as before.

Raising Steam:- In getting up steam in all types of boilers, not operation should be as gradual as circumstances will allow. Nothing turns a new boiler into an old one sooner than getting up steam too quickly. Forcing the fires when starting work is liable to cause straining of the seam and tubes of the boiler. In the case of large boilers generally steam should not be got up in less than six hours. Before getting up steam, the water level should be observed, to ensure that water is at the proper heights in the glass, the pressure gauge noted and the safety valves tried to see they are free. The blow-off cock should be examined to see that it is completely shut and tight.

Pressure gauge:- The pressure or steam gauge should be kept in order and be in such a position to be easily seen by the boiler attendant. There should be a plain mark on it showing the highest pressure allowed for the boiler, and the dial should be kept clean so that the figures may easily be read.

Steam pressure:- Ordinarily, the safety valve will prevent the steam from rising much above the working pressure, but if the steam gauge shows rapid increase of pressure as to indicate danger of exceeding the highest limit water should be immediately fed into the boiler and the dampers partially closed in order to diminish the effect of the fire. If, however, the water has fallen so low that there is danger of an accident from this cause the fires should be withdrawn before feeding in water, the safety valves eased, and if the steam receiver is at rest it should be started so as to reduce the pressure.

The safety valves are provided to guard against over pressure.

They should be moved by hand every day so as to prevent them sticking if moved only occasionally, they are liable to leak.

The valve can be tested by slowly raising it a little, and when let down, it should close perfectly right. It should never be opened by a sudden knock or pull. If it does not close tight, turn it on its seat until it fits, or when its construction does not permit this, rise it slowly a few times and let it down again. But on no account must the valve allowed by the Inspector.

Safety valves must never be over-loaded, and spring valves should have ferrules or the provisions against the valves being screwed down too far. In case of an accident resulting from willful overloading, the culprit might be held criminally responsible at the official inquiry or inquest.

Low water safety valves:- If there is low water safety valve, test it occasionally by lowering the water level to see that valve begins to blow at the right point. It should give warning before the water level has sunk too low and before damage can be done when the boiler is open, examine the floats and lever and see that they are free and that they give the valve the full rise. With the ordinary type of high steam and low water safety valve the float should be down at its lowest position and the valve full open when the boiler is empty.

The water gauge:- These will be kept in best order by frequently blowing through. The cocks are thus kept in good working condition without leaking. Blow through the drain cock at the bottom of the gauge, and shut and open the steam and water cocks every few hours. These cocks should be blown through more frequently when the water is dirty. Should either of the passage become choked, or whenever the water in the gauge glass moves sluggishly the passage must be cleaned. This is best done with a wire. The gauge glass is so arranged that its top cock connects with the steam space and its bottom cock is below the water line. The water line will ordinarily be near the middle of the glass tube. Always test the glass water gauges thoroughly the first thing in the morning and at the commencement of every shift. This is done by first opening drain cock and then shutting the upper cock which should give water: the upper cock should then be opened and the bottom cock closed which should give steam; during this test the drain cock should be kept open.

If water and steam do not appear in proper order the cocks are choked and the passage should be cleaned. To lessen the risk of breaking the gauge glass the water cock should always be reopened after the steam cock.

Gauge glasses with a narrow white strip running the whole length of the glass on the side next to the boiler are recommended as they show the water line more clearly specially when the water is dirty.

The boiler Regulations framed by the Board require every water gauge glass to be fitted with a guard to prevent injury to the attendants. See that it is always in place and clean when there is steam in the boiler.

Special note:- It does not follow that there is plenty of water in the boiler because there is plenty of water in the gauge glass. The passages may be choked and empty glasses are Gauge glasses are some times mistaken for full once and explosions have resulted there from. Hence the importance of keeping the gauge shall be observed.

A large number of accidents have occurred due to inoperative water gauges and negligence of the attendant in not carefully reading the water level.

The blow-off cock:- The blow off should be used daily if the water is dirty or sedimentary, especially with Locomotive types and vertical Boilers, as their narrow water spaces are liable to be choked with mud, which soon hardens into a solid mass. The amount of water to be blown out depends on the size

of the boiler and can be determined only from experience. When blowing out the best result is obtained if the water has been at rest for some time thus giving the sediment time to settle, if the water is clean, merely turn the cock round.

1[The blow-off cocks or blow off valves of boilers shall be operated once in eight hours when the boiler is generating steam. A record of opening of blow-down valves shall be maintained showing the particulars of the time of blow-off and the boiler pressure and the same shall be produced when called for, to the Inspector of Boilers, Senior Inspector of Boiler, Deputy Inspector of Boilers or Chief Inspector of Boilers as the case may be. When the boiler Attendant suspects that the quality of water being fed to the boiler is of scale forming nature, he shall bring the facts to the notice of authorities under whom he is working so as to intimate action to improve the quality of water.

The Boiler Attendant shall not attempt to remove the flange joint to which the blow-down valve is fastened keeping the blow-down valve open when the boiler is under the steam pressure.]

The scum cock:- When scum cocks are fitted, if the feed water is dirty, a little should be blow off daily, if the water is clean, merely turn the round. Before opening the scum cock, see that the water is at the height indicated by the water level pointer; otherwise the scumming will be ineffective. Water should be blown from the surface through the scum cock when steam is being drawn off, i.e, when the engine or other machinery is working.

Man-hole and other door Joints:- When making such joints the jointing materials should never be of round sectioned packing care must be taken that the spigot of the door is centrally placed in the hole, as many accidents have resulted from packing being blown out between the spigot and side of hole, even when the clearance was only 3 mm. the nuts must be carefully and evenly tightened. Further tightening should be made during the process of heating up the boiler, when raising steam.

Steam pipes:- When properly arranged should give no trouble. Frequently however, they are so designed as to contain pockets, in which, while out of use, condensed steam accumulates. Such water is exceedingly dangerous and great care should be taken to see that pipes are drained before the stop valve is opened otherwise "water hammer" will take place even with the best designed steam pipe, and disastrous explosions, causing loss of life and property may occur.

Scale and grease... roughly speaking, scale offers a hundred times as much resistance to the passage of heat as does a similar thickness of the steel or iron. A 12.7 mm. furnace plate covered with 2.5 mm scale is as efficient a heat retarder as steel furnace 254 mm. thick. Grease is about ten times worse than scale. In a boiler at work the temperature of a clean furnace plate is only slightly in excess of that of the water in the boiler, but if scale or grease is interposed between the water and the plate, the latter acquires a temperature more nearly approximately that of the flame with which it is in contact. If the fire is fierce (artificial draught) the furnace tube may grow so hot that it elongates considerably. If in addition cold air is admitted during each firing, a constricting action of the furnace takes place, which is one of the worst causes of boiler wear and tear.

Wear and Tear can be reduced and the life of a boiler prolonged if scale and grease are prevented from accumulating in a boiler. The combined effects of scale or grease and artificial draught are disastrous. Scale or grease also causes waste of fuel.

Grease:- A mixture of sedimentary water, soda and grease produces an adhesive scum. Where this is suspected, the water level should never be lowered below the furnace top unless the boiler is afterwards entered and this scum cleaned off the furnace plate before the firing again.

Scale removal:- The customary method is not a satisfactory one. If the boiler is emptied and the cooled down by opening all the man-holes, the results is that the scale which would otherwise be soft, hardens through contact with the air and requires labourious chipping off.

A very effective, but slower method is to retain the water in the boiler until cool, and not to run it out until the men are ready to enter the boiler with water hose brushes and scrapers. The scale will then be soft and easily removable.

If time is a consideration, the cooling can be accelerated by adding cold feed to the hot water in the boiler and slowly running off the cold water. Another method is to blow off the boiler with the lowest possible pressure (not more than 1.4 kilogram per sq.cm.) and to keep it closed until cold. The scale will then be easily removed.

Treatment of feed water:- Many feed waters requires soda or other chemicals to arrest corrosion or to change the nature of the scale.

There is no harmless chemical which will remove scale or sediment when it has once got into the boiler and the only effective process is to purify the feed water before it enters the boiler. By this means, the sediment and generally, too, the to the boiler, excepting when the obtainable is very good water purifying apparatus ought to pay any boiler owner, particularly at those works wher4e three or more boilers are in constant work. Boiler owners wishing to have definite advice as to the best treatment of their feed water should have it analysed at some chemical laboratory and ascertain the best treatment in the particular circumstances.

Special attention is drawn to the not infrequent but very bad practice of allowing the waste steam from the Engine Cylinders or pumps to be drained into the boiler feed water Tanks. The waste steam from cylinders is always mixed with certain amount of oily matter which will be deposited in the feed water tanks and ultimately be pumped into the boiler, with possibly disastrous results, as it will be obvious to very careful boiler attendant, that; should the oil be deposited on the furnace crowns, they may become overheated and collapse.

It should be the first care of the boiler – owner, and the boiler attendant to see that the feed water is kept as pure as possible. Impure feed water means additional expense on the upkeep of the boiler.

Predservation of boilers when not in use:- Steam boilers when not in use are liable to deterioration from corrosions and unless well cared for and made rust- proof, they may depreciate more rapidly than when in use. They should be thoroughly drained and thoroughly dried and all valves, cocks, and opening closed so as to exclude moisture. Another plan is to fill the boiler with water to which about 1/100 per cent caustic soda has been added.

Special instructions for boiler No:- This boiler should be opened up and thoroughly cleaned after a period of work which should not exceed..... A record of such cleanings should be maintained and produced, when required by the Inspector.

Big water and other types of special design:- The manufacturer's instructions about the running and maintenance of such units shall be followed.

Inspector of Boilers.

Date:

FORM – B

KARNATAKA BOILER INSPECTION DEPARTMENT
Register of Boilers and Scantlings manufactured in the State of Karnataka
(Rule – 10(a) of the Karnataka Boiler Rules, 1982)

Name of the Item	Identification Number and Brief Description	Heating Surface or Quantum involved	Fee due under the Regulations or Rules for approval of drawings	Fee due for inspection at the time of manufacture	Fee actually paid
1	2	3	4	5	6

Name and Address of the Maker	Date of commencement of Inspection	Date of completion of inspection	Number and Date of report of inspection officer	Number and date of final certificates issued	Remarks
7	8	9	10	11	12

FORM – C

KARNATAKA BOILER INSPECTION DEPARTMENT
Register of Appeals
(Rule – 10(c) of the Karnataka Boiler Rules, 1982)

SI No	Year	Date and No of receipt	Order No and date against which appealed	When taken on file	Date of hearing
1	2	3	4	5	6

Points of Appeal	Name of the Appellate Authority	Respondents	Date of Judgement	Result	Remarks
7	8	9	10	11	12

FORM – D

KARNATAKA BOILER INSPECTION DEPARTMENT

Register of Accidents

(Rule – 10(d) and 17(b) of the Karnataka Boiler Rules, 1982)

Sl No	No and Date of accident report and date of occurrence	Date of receipt and Number	Boiler Number	Name of the Owner	Name of Boiler Attendants
1	2	3	4	5	6

Name of Boiler Operation Engineer	Date of Enquiry	Date of Order	Particulars of the order	Cause of the Accident	How disposed off
7	8	9	10	11	12

FORM – E

KARNATAKA BOILER INSPECTION DEPARTMENT

Register of Revenue Receipts during the month ofof the year

(Rule – 10(e) and 17(c) of the Karnataka Boiler Rules, 1982)

Sl No	Registry number of the Boiler	Boiler Rating	Fee Due	Amount Paid Rs.	Name and Address of the Remitter	Purpose of Payment	Tressury at which paid
1	2	3	4	5	6	7	8

Date of payment into treasury	Date of receipt of the treasury receipt in office	Date of Examination	Whether amount paid is in excess or less than fee due	----	Signature of the officer refunding the amount	Remarks
9	10	11	12	13	14	15

FORM – F – Part-1

KARNATAKA BOILER INSPECTION DEPARTMENT
Register of Boilers Part-1 (Registered within the state)
(Rule – 17(a) and 22 of the Karnataka Boiler Rules, 1982)

Karnataka Boiler Registry Number	Type of Boiler and Rating	Name of Manufacturer	Year and place of construction and maker's works number	Maker's and Inspecting Authorities certificate and drawing numbers	Date of Registration
1	2	3	4	5	6

Name of the Owner	Situation	Maximum working pressure	Reference of orders	Remarks of Chief Inspector	Signature with seal
7	8	9	10	11	12

FORM – F – Part-II

KARNATAKA BOILER INSPECTION DEPARTMENT
Register of Boilers Part-I I (Transferred from other states)
(Rule – 22 and 24 of the Karnataka Boiler Rules, 1982)

Boiler Registry Number and state	Type of Boiler and Rating	Name of Manufacturer	Year and place of construction and maker's works number	Maker's and Inspecting Authorities certificate and drawing numbers	Date of Registration
1	2	3	4	5	6

Name of the Owner	Place where in use	Design and Permissible working pressure	Reference of orders	Remarks of Chief Inspector	Signature with seal
7	8	9	10	11	12

FORM – G

KARNATAKA BOILER INSPECTION DEPARTMENT

Register of Steam Lines

(Rule – 17(d) of the Karnataka Boiler Rules, 1982)

Identification number of steam line	No and date of the approved drawings	Total length of steam pipes (each size and length to be specified separately)	Registration numbers of the connected boilers	Name and Address of the owner	Working pressure and temperature allowed
1	2	3	4	5	6

Reference of orders	Remarks of Chief Inspector	Signature of Chief Inspector with seal
7	8	9

FORM – H

KARNATAKA BOILER INSPECTION DEPARTMENT

Register of Boiler Repairers

(Rule – 18(7) of the Karnataka Boiler Rules, 1982)

Sl No	Date and Number of acceptance as authorized repairer	Name of owner	Organisation	Names of welders with certificate numbers and period of validity	Type of welding for which certificate is issued
1	2	3	4	5	6

Equipment	Remarks
7	8

FORM – J

KARNATAKA BOILER INSPECTION DEPARTMENT

Application for Inspection of Boilers and Steam Pipes under the Boilers Act, 1923 (Act V of 1923)
(Rule – 26 of the Karnataka Boiler Rules, 1982)

Registry Number of Boiler and Steam Pipe	Name of Owner or Agent	Where Situated	Date of Inspection Desirable	Description of the Boiler and Age
1	2	3	4	5

I hereby submit application to the Inspector of Boilers,Division for inspection and the grant of certificate for the boiler above named, together with the treasury receipt in original obtained on payment of the prescribed fee specified below.

Fee paid RsChallan No.....and Date.....

ThisDay of

.....

(Owner or Agent)

FORM J-1
No. BLR/CFN/..../81
Boiler Inspection Department Karnataka Declaration of Inspector
(Vide Rule 27 of Karnataka Boilers Rules, 1982)

Date..... Registration No

Type of Boiler.....

Owner and location.....

Purpose for which used.....

Rating..... Fees paid and date of payment

.....

1. Repairs carried out since last inspection
Last Hydraulic Pressure applied.....
Kg. per square cm. on
Last Maximum working pressure allowed
Kg. per square cm. up to
On inspection of the boiler in presence of
Being I make following detailed observation.

- 2. Shell or drums :
- 3. The plates, wrapper, fire door :
- 4. Fire tubes or water tubes :
- 5. Heaters :
- 6. Super Heaters :
- 7. Flue and Furnace :
- 8. Masonry, Lagging etc. :
- 9. Mountings :
- 10. Safety valve :
- 11. Pressure gauge :
- 12. Quality of feed water :
- 13. Hydraulic pressure applied :
- 14. Result of Hydraulic test :
- 15. Repairs found necessary :
- 16. Remarks :

Encls:

Inspector of Boiler

Dated

FORM J-2
Indian Boilers Act, 1923 (Act V of 1923)
Notice for examination of boiler under Section 7 or 8
(Rule 34 of Karnataka Boilers Rules, 1982)

No.....

Office of the Inspector of Boilers

Date

To

.....

.....

Gentleman / Sir,

In reply to your application, dated You are here by informed that Boiler Registry No at the above named premises will be thoroughly examined by the Government Inspector on the hydraulically tested

To enable the examination to be made, you are bound:-

- (a) To afford to the Inspector all reasonable facilities for the examination and all such information as may reasonable be required of you:
- (b) To have the boiler properly prepared and ready for examination in the prescribed, and
- (c) In the case of an application for the registration of a boiler, to provide such drawings, specifications, certificates and other particulars as may be prescribed.

Voucher No in acknowledgement of Treasury Bank

Receipt No

For Rs Accompanies.

Boilers,

(See reverse for preparation required)

Inspector of

(REVERSE OF FORM J-2)
PREPARATION FOR EXAMINATION
See Chapter IX of the Regulations
(Regulation 376)

(A) Preparation for Inspection

At every examination of a boiler for the grant or renewal of a certificate, the boiler shall be empty and thoroughly clean in all its parts. All doors of manholes, handholds and sight holes and cleaning plugs and all caps in the headers and mud-drums of water tube boilers, all fire bars, bearers, front plates, bridge plates, fire bridges, brick arches, oil fuel burners and mechanical stoker fittings shall be removed. All valves and cocks comprising the boiler mounting shall be opened up and taken apart and the valves or cocks ground, when necessary, before the Inspectors visit.

Provision shall, if required by the Inspector, be made for the removal of lagging or brick work or other concealing part and for the drilling of plates and for verifying the pressure gauge and safety valves, dimensions and weight. All smoke tubes, exterior of water tubes, smoke boxes, and external flues, shall be swept clean.

Provisions shall be made for the effective disconnection of all steam and hot water communication with any other boiler under steam, as prescribed in Chapter X of the Regulations. This shall be effected either by the removal of a length of pipe from the steam and feed piping or by the insertion of substantial blank flanges. Where blank flanges are employed, they shall be inserted between the flange of the chest and the pipe attached to it. No blank flange shall be inserted between a safety valve chest and the boiler.

In the case of forced flow and forced circulation types of boilers, provision shall be made for checking that proper circulation is maintained through all sections of the circuit by the flow of water.

Note:- These provisions to effective disconnection shall extend to every case wherein a person is sent or with the absent of the owner or person in-charge goes into boiler for any purpose (See Regulation 396 of the Regulations).

(B) Preparation for hydraulic Test

The chest of all mountings subject to steam pressure shall be in place and shut or blank-flanged. The safety valves shall either be jammed down or removed the chest opening blank – flanged. The attachment for the Inspector's ensure gauge and nipple. For connecting the Inspector's test pump hose shall be order. All doors shall be properly jointed and tightened up. The boiler shall be completely filled with water, care being taken to allowed air to escape and, if possible, a preliminary test not exceeding the working pressure of the boiler be before the Inspector's visit to test the rightness of the joints. When a boiler hydraulically tested for the first time, is shall be entirely cleared of lagging or at subsequent tests the lagging or brick work or portions thereof, shall removed it required by the Inspector.

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- Tapped 19 mm. whitworth bolt and nut thread.
 - Tapped 22 mm. Whitworth bolt and nut thread.

FORM K
BOILER INSPECTION DEPARTMENT, KARNATAKA]
(Vide Rule 46 of the Karnataka Boilers Rules, 1982)
Report into the investigation of Accident to Boiler No

The Chief Inspector Of Boiler

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In accordance with the inspections, I have held a preliminary enquiry into the and the circumstances attending it to boiler No and now make the following report.

1. Date and place of Accident :
2. Date of investigation :
3. Name and address of owner :
4. Person, killed or injured :
5. Name of maker :

6. Short description of the boilers general Conditions, its location with respect to Other boilers, the purpose for which it was Used and the age of the boiler :
7. Particulars of previous repairs with dates :
8. The boilers was last inspected
On by :
9. Nature of Accident
10. Cause of Accident
11. General Remarks

Inspector of Boilers
Remarks of the Chief Inspector Of Boilers.
Chief Inspector of Boilers.

FORM L
BOILER INSPECTION DEPARTMENT KARNATAKA
Steam line inspection, declaration of Inspector
(Rule 71 (viii) of Karnataka Boilers Rules, 1982)

Identification number of steam line
Registration Number of connected boilers
Maximum pressure and temperature allowed
Sizes of pipes and lengths involved
Amount of fees paid and date
Date of inspection in presence of

1. Any additions or alterations effected
Since last inspection
2. Last Hydraulic pressure applied
3. Condition of the lines
4. Condition of fittings
5. Condition of Lagging
6. Flexibility and supports
7. Repairs found necessary
8. Remarks

Place:

Inspector of Boilers

Date:

FORM M
BOILER INSPECTION DEPARTMENT
(Rule 16 (3) of Karnataka Boilers Rules, 1982)
Examination report on materials, Boilers and Scantiling, under Constructions.

Description of boiler / Scantilings or materials
Report Number
Maker's name
Maker's Number
Drawing Number
Date of Examination

(Description of examination and / or test)

Remarks

Inspecting Officer

Inspecting Authority.