

The Rajasthan Boilers Rules, 1954

*Published vide Notification No. 15 (12) Lab./52, dated 15.1.1954-Rajasthan
Gazette, Part 4-C, Ordinary, dated 1.5.1954*

In exercise of the powers conferred by Section 29 of the Indian Boilers Act, 1923 (Act No. V of 1923) the Government of Rajasthan is pleased to make the following rules, the same having been previously published as required by Section 31 of the said Act.

I. Preliminary

1. Short title. - These rules may be called the Rajasthan Boilers Rules, 1954. These shall come into force with immediate effect.

@**1A. Extension to Abu, Ajmer and Sunel area.** - These rules shall also extend to Abu, Ajmer and Sunel area on and from the 1-3-1960 and as from that date, the corresponding rule in force in such area shall be repealed.]

2. Definitions. - In these rules, unless there is anything repugnant in the subject or context-

- (a) "*The Act*" means the Indian Boilers Act, 1923,
- (b) "*Section*" means a section of the said Act,
- (c) "*Regulation*" means a regulation framed by the Board under Section 28 of the said Act,
- (d) "*Rule*" means a rule framed by the Government of Rajasthan under Section 29 of the said Act.
- #[(e) "*Secretary*" means the secretary to the Government of Rajasthan, Labour and Employment Department]

3. Payment of fees. - All fees, payable under the Act or any regulation or rule framed thereunder, shall be deposited by the payer in a Government treasury under the head *[0230-Labour & Employment, 103-Fees for Inspection of Steam Boilers.]

An application under Section 7 or Section 8 to which the treasury receipt obtained on payment of the prescribed fee is attached shall be deemed to be accompanied by the prescribed fee.

II. Duties of the Chief Inspector

4. Administrative control. - The Chief Inspector shall work under the administrative control of the #[Secretary] and shall submit to him-

- (a) an annual report on the administration of the Act;
- (b) such other report and returns as may be called for.

@. Added vide Notification No. D. 5899/F 3 (22) Lab. 159, dated 1.7.1960

#. Substituted vide G.S.R. 23Notification No. F. 1(38) L & E/76, dated 25.4.1977- published in Rajasthan Gazette, Part IV-C(I), dated 28.4.1977, page 88, vide

*. Substituted vide Notification No. F. 3(2) legal/F&B/2002/6985, dated 22.10.2002, published in Rajasthan GazetteE.O, Part IV-(ga)(i), dated 25.10.2002

5. Duty of general control. - The Chief Inspector is vested with all the powers of an inspector under the Act. His duty, consist in supervising and controlling the work of the inspectors and he should actually inspect or examine in exceptional cases, or where he considers that the work of an inspector requires a personal check.

6. Specific duties. - Chief Inspector shall-

- (a) personally check the registration particulars and calculations submitted by inspectors for all boilers inspected for registration as prescribed in the regulations and enter under his own signature the approved working pressure and all orders required by section;
- (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) fix the area under the control of each inspector;
- (e) approve the programmes of all inspectors subordinate to him with due regard to the convenience of owners generally;
- (f) examine and countersign the inspector's memorandum of Inspection Book of each boiler after each inspection;
- (g) examine and pass orders on the diaries and returns of inspectors;
- (h) 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 a boiler under Section 11, or to order important repairs, structural alterations, or renewals in a boiler under Section 8;
- (i) pass orders in all cases in which it is reported that after due notice the boiler has not been properly prepared for inspection;
- (j) decide all appeals against the order of an inspector Section 19;
- (k) sanction prosecutions under the Act;
- (l) inquiry into serious accidents to boilers.

7. Instructions to owners. - It shall be the duty of the Chief Inspector to advise owners as regards the maintenance, working and cleaning of boilers, he should issue a set of instructions on the lines indicated in Form C of the Appendix. These instructions should be hung up in each boiler house.

8. Registers to be kept. - The Chief Inspector shall keep in his office-

- (a) a Register in Form A of all boilers registered in the State, or the registry of which has been transferred from another State;
- (b) the Registration Book and Memorandum of Inspection Book of all boilers on his register;
- (c) a Register of appeals;
- (d) a Register of accidents;
- (e) a Register of registration and inspection fees received.

9. Control of bills. - The Chief Inspector shall be the controlling or countersigning authority in respect of all contingent bills and of travelling allowance bills of officers subordinate to him.

III. Duties of Inspectors

10. Subordinate to Chief Inspector. - Inspectors shall be directly subordinate to and under the control of the Chief Inspector, they should ordinarily be appointed to take charge of specific areas.

11. General duties of inspectors. - The main duties of the inspector, as laid down in the Act, are the inspection and examination of boilers and steam pipes. Inspection shall be carried out in strict accordance with the regulations and Chapters IV and V of these rules.

12. Inspectors to see that boilers are worked according to law. - In addition to the inspection and examination of boilers, it is the duty of inspectors to search for unregistered or uncertificated boilers within their areas, and to see that certificated boilers are worked in accordance with the terms of these certificates and with any regulation or rule under the Act for their safe working.

13. Inspectors to advise owners. - At the time of inspection, inspector should advise the owner and the person in charge of the boiler on 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.

14. Specific duties. - Inspectors shall-

- (a) prepare a programme of inspections with regard to conveniences of owner generally in the most suitable order of places to save time and expenditure in cross journeys and submit it at such periods as may be prescribed at least 14 days before the first date fixed in the programme to the Chief Inspector for approval to enable the 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 under their charge and submit it to the Chief Inspector for examination and counter-signature after each inspection;
- (c) keep a diary for weekly submission to the Chief Inspector, showing places visited, boilers registered or inspected with fees paid thereon, variations from the programme and any other important particulars;
- (d) receive application for registration or inspection under Section 7 or 8 proposals for repairs, alterations, or renewals under Sections 12 and 13, and reports of accidents under Section 18;
- (e) inquire into accidents to boilers and steam pipes and report to the Chief Inspector;
- (f) report to the Chief Inspector cases of unreported accidents discovered at the time of inspection;
- (g) submit for the orders of the Chief Inspector-
 - (1) the memorandum of Inspection Books of all boilers proposed for registration under Section 7;

- (2) proposals for increasing or decreasing the pressure of a boiler after inspection under Section 8;
- (3) proposals for necessary repairs, structural alterations or renewals to a boiler under Section 8 or 12;
- (4) proposals for revoking, cancelling or refusing to renew a certificate under Section 11 or 8;
- (5) report when boilers have not been properly prepared for inspection under Section 14;
- (6) proposals for prosecutions under the Act.

15. Inspections at special times. - No examination of a boiler shall be made by an inspector for the purpose of registering or issuing a certificate for a boiler on a Sunday or gazetted public holiday or between the hours of sunset and sunrise without the specific orders of the Chief Inspector in each case. In such cases an extra fee equal to the usual registration or inspection fee for the boiler may be charged and half of the extra fee may be paid to the Inspector.

16. Attendance during hearing of appeals. - Under orders of the Chief Inspector, inspectors shall attend during the hearing of appellate with regard to boilers under their charge before the Chief Inspector, or the appellate authority.

17. Registers to be kept. - Every Inspector-in-charge of an office shall keep-

- (a) a register in Form A of all registered boilers situated within his jurisdiction;
- (b) a register of accidents;
- (c) a register of registration and inspection fees received.

IV. Administrative Instructions for Registration

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

19. Receipt of applications. - Applications for registration shall be made under Section 7 (1) to the Chief Inspector, and shall be accompanied under Rule 3 by a receipt for the prescribed fee. No application shall be accepted without the receipt. No boiler shall be registered if on measurement the fee is found to be deficient, until the deficient has been paid. Any excess payment will be refunded at the time of registration.

#[20. Necessity of avoiding delay.- (1) Any application submitted for approval of drawing shall be disposed off within fifteen days from the date of receipt of application.

(2) It is essential that no delay should occur in registration of boiler. The inspection under sub-section (3) of section 7 shall be completed and the report thereof shall be submitted to the Chief Inspector within seven days. The Chief Inspector shall issue his orders under sub-section (4) of section 7 without delay and shall issue the certificate within thirty days from the date of the completion of the inspection.]

21. Register of registered boilers. - The Chief Inspector shall maintain a register of registered boilers in serial order in Form A in two parts; in Part I (boilers originally registered in the State) the registered number of a boiler shall be the 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 23. Inspectors in-charge of an office shall keep a similar register for all boilers within their jurisdiction.

22. Procedure on transfer of a boiler. - Whenever a boiler is transferred from another State into the State of Rajasthan 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 then obtain from the State from which the boiler was transferred the Registration Book and Memorandum of Inspection Book of the boiler. No fee shall be charged for recording transfers.

23. 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 inspector of the local area in which the boiler is situated to enter it similarly in his register. The Registration Book and the Memorandum of Inspection Book shall be kept in the Chief Inspector's office.

24. Note of transferred and dismantled boilers. - Wherever a boiler has been transferred at another State or broken up, the fact 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.

V. Administrative Instructions for Inspection

25. Procedure at inspections : Internal inspection. - Detailed instructions for the inspection of boilers are contained in Chapter IX of the regulations. The following general procedure at inspection should be observed.-

At a thorough inspection of a boiler the Inspector should, where the size and construction of the boiler permit, go inside it 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 should decline to proceed with the inspection and should report the facts to the Chief Inspector for order under Section 14 (2) of the Act.

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 it he should report the fact to the Chief Inspector for orders.

26. External inspection. - Boilers must be examined externally as well as internally; particular attention should be paid to the external parts of the boilers where in contact with seating blocks and brick work, especially when the situation is damp. Having regard to many serious defects discovered, inspector should take care, in order to ensure proper inspection, that boilers, of which the whole of the outside cannot be readily examined, are cleared whenever they consider it necessary of any concealing covering, supports or fittings.

Saddle tanks and engine fittings of locomotive type boilers should be removed for inspection of the parts underneath at the first inspection and at any reasonable period afterwards if the inspector cannot satisfy himself. 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 must keep in mind that he is not to certify as efficient any boiler regarding the condition of which he cannot thoroughly satisfy himself.

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

28. 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 should, without delay, report his proposals for reducing the pressure to the Chief Inspector and at the same time submit his calculations 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 unpierced than at the seams and consequently may become reduced in thickness to an appreciable extent in the body of the plate, i.e. elsewhere than at the seams, and still be stronger than the seams.

29. Repairs to boilers. - Under Section 12 of the Act the sanction of the Chief Inspector to all repairs proposed for boilers must be obtained before hand.

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

Generally in repairing boilers the object to be obtained is to make up for damage or wastage by suitable compensation, either by renewal or repair of the part affected. Covering patches applied with the object of hiding defects are a source of danger and must not be passed.

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.

Extensive repairs such as renewal of furnaces, end plates, parts of shell, fire boxes, girder, etc., should be supervised so far as his other duties permit, by the inspector, and at such times when fire boxes and smoke tubes of locomotive type boilers are withdrawn, advantage of the opportunity should be taken to inspect the internal parts otherwise inaccessible to close inspection. Repairs to boilers are prescribed in Chapter IX, Regulation 392 of the Regulations.

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

Inspectors should also note in the Memorandum of Inspection Books all casual visits, inspections of steam pipes, visits for inspection of repair, inquiry into accidents, etc., and so 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 inspector should pay particular attention to entries made in the Memorandum of Inspection Book at previous inspections.

31. Entries in certificates. - In addition to the entries required to be made under the regulations in a certificate for a boiler the inspector should state in the remarks column his requirements, 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 in the same place his requirements regarding the repair or renewal or 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 effected. Only important repairs should be noted.

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

32. Engraving of registry number. - Paper slip of the 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.

33. Arranging for inspections. - In arranging for inspections particular attention should be paid to the provisions of Rule 14(a). The notice required by Sections 7(2) and 8(4) shall be sent in Form "B". If a hydraulic test is necessary in addition to the ordinary inspection ample notice must be given to the owner.

34. Issue of certificates and provisional order. - ##[The certificate shall be issued within the period specified in table given below from the date of completion of the inspection]. Where he proposes to issue an provisional order the inspector must satisfy himself that the boiler is fit to be worked at the maximum pressure and for the period entered in the provisional order. The fact of issue of provisional order must be reported immediately to the Chief Inspector.

#[Table

Sr. No	Category of cases to issue certificate	Time limit from the date of completion of the inspection
1	In cases in which the Competent Person is empowered to issue a certificate under section 8 without further reference.	48 hours
2	In any other case	15 days]

35. Provisional orders to be issued after hydraulic test. - Provisional orders should be issued in 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 was satisfactory, the certificate under Section 7(6) is to be issued.

36. Forms of provisional orders and certificates. - Provisional orders and certificates are prescribed in Form V and VI respectively of the regulations.

The period specified in any provisional order or certificate shall begin on the day following that 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 the certificate shall be retrospective and shall begin from the same time as that of the provisional order.

37. Duplicate Certificates. - A duplicate of any certificate granted under Section 7 or Section 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 *bonafide* purpose and the fee prescribed under Rule 44 is paid.

##. Substituted vide notification No. F-3(2)legal/F&B/2016/13 dated 8.1.2016

#. Inserted vide notification No. F-3(2)legal/F&B/2016/13 dated 8.1.2016

#[38. Fees for Registration and Inspection of Boilers. – The required fee to accompany an application under sub-section (1) of section 7 of the Act shall be as follows:-

TABLE

Sl. No.	Boiler Ratings	Fee in rupees
1	For Small Industrial Boiler as per Chapter XIV	1200
2	For Boiler Rating not exceeding 10 sq. meters	1800
3	For Boiler Rating exceeding 10 sq. meters but not exceeding 30 sq. meters	2400
4	For Boiler Rating exceeding 30 sq. meters but not exceeding 50 sq. meters	2700
5	For Boiler Rating exceeding 50 sq. meters but not exceeding 70 sq. meters	3300
6	For Boiler Rating exceeding 70 sq. meters but not exceeding 90 sq. meters	3900
7	For Boiler Rating exceeding 90 sq. meters but not exceeding 110 sq. meters	4500
8	For Boiler Rating exceeding 110 sq. meters but not exceeding 200 sq. meters	5100
9	For Boiler Rating exceeding 200 sq. meters but not exceeding 400 sq. meters	5700
10	For Boiler Rating exceeding 400 sq. meters but not exceeding 600 sq. meters	6600
11	For Boiler Rating exceeding 600 sq. meters but not exceeding 800 sq. meters	7200
12	For Boiler Rating exceeding 800 sq. meters but not exceeding 1000 sq. meters	8100
13	For Boiler Rating exceeding 1000 sq. meters but not exceeding 1200 sq. meters	9600
14	For Boiler Rating exceeding 1200 sq. meters but not exceeding 1400 sq. meters	10800
15	For Boiler Rating exceeding 1400 sq. meters but not exceeding 1600 sq. meters	12600
16	For Boiler Rating exceeding 1600 sq. meters but not exceeding 1800 sq. meters	13500
17	For Boiler Rating exceeding 1800 sq. meters but not exceeding 2000 sq. meters	15000
18	For Boiler Rating exceeding 2000 sq. meters but not exceeding 2200 sq. meters	16200
19	For Boiler Rating exceeding 2200 sq. meters but not exceeding 2400 sq. meters	18000
20	For Boiler Rating exceeding 2400 sq. meters but not exceeding 2600 sq. meters	18900
21	For Boiler Rating exceeding 2600 sq. meters but not exceeding 2800 sq. meters	20400
22	For Boiler Rating exceeding 2800 sq. meters but not exceeding 3000 sq. meters	21600

Above 3000 sq. meters, for every 200 sq. meters or part thereof, an additional fee of Rs. 600 shall be charged:

Provided that the Chief Inspector may direct that no fee shall be payable in respect of a fresh application made in pursuance of sub-section (2) of section 14 of the Act.

Inspection fee for separately fired Super-heater, Re-heater and Economiser shall be charged at the same rate as the registration fee.

For Heat Recovery Steam Generators with finned tubes, the fee shall be calculated on heating surface area of bare tubes and on one fourth of heating surface area of fins.]

39. Fee to cover inspection and tests. - A fee paid for the inspection of a boiler shall cover thorough inspection, hydraulic test and steam test where such are necessary, subject to the provisions of Section 14 (2).

40. Second fee in default. - A second fee will be leviable 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.

41. #[Sanction] of Chief Inspector to second fee. - No extra fee shall be levied except with the sanction of the Chief Inspector.

42. Special fee for inspection out of season. - For inspections carried out on applications before the date of expiry of a certificate no travelling expenses of the inspector and staff shall be leviable. In cases where the owner requires the inspections at any date prior to the expiry of a certificate, the Chief Inspector may, in addition to the inspection fees, charge the travelling expenses from the owner of the boiler if the owner applies for inspection, after the expiry of the certificate, he shall be liable to pay the travelling expenses of the inspector and his staff at the discretion of the Chief Inspector.

If the inspection is carried out at the request of the owner at a time other than the specified one, to suit the convenience of the owner, the travelling expenses of the inspector and the staff shall be realised from the owner.]

43. Fee for copy of registration book

For each copy	Rs. 10/-
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#[While issuing copies of registration books, copies of official inspection note shall not be furnished.]

44. Duplicate certificate fees. - Fees for duplicate certificates under Rule 37

For each	Rs. 5/-
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45. Refund of fees. - Fees paid in excess and fees paid for an inspection which for any reason not due to any fault or omission of the owner or person incharge of the boiler has not made, shall be refunded if a refund is applied for within one year from the date of payment.

#. Substituted vide Notification No. D. 5899/F 3 (22) Lab. 159 dated 1.7.1960

\$. Added vide Notification No. F 3 (33) Lab./62 dated 25.3.1963, published in Rajasthan gazette part IV-C, Ordinary dated 10.10.1963

VI. Accidents

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

47. Procedure during inquiry. - The inspector at his inquiry shall make a careful examination of the damaged parts, and shall take such measurements 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 its occurrence, its nature and extent, the injury caused to persons and the damage done to property. The report should be in the style of the report of preliminary inquiries under the British Boiler Explosion Act, 1882 and 1890.

48. Power to hold inquiry in writing. - Inspectors are authorised to take the written statement of witnesses and all persons immediately concerned with the accident, in order to comply with the provisions of Section 18 (2), the inspector should present to the owner or person in charge of the boiler a series of written questions on all points that are material to the enquiry.

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

50. Procedure in case of serious accidents. - The report should be sent without delay to the Chief Inspector, if he considers that the investigation has been sufficient, he will record the facts in his Register of accidents and enter a brief account of the accident in the Registration Book, a copy being made in the Memorandum of Inspection Book. If, however, the accident is of a serious nature and in all cases in which an explosion has occurred, the Chief Inspector should, after receipt of the inspector's report, proceed to investigate the accident personally either alone or with the assistance of a member of the panel of assessors appointed under Rule 63 who may be appointed for this purpose by the Commissioner. Reports of such inquiries should be recorded as indicated above.

51. Remuneration of assessor. - The assessor shall be remunerated at such rate as may be prescribed by the State Government and be allowed the travelling expenses incurred by him in attending the inquiry.

52. Reference in annual report. - A brief account of all accidents and their causes should be included in the Chief Inspector's annual report.

53. Unreported accidents. - If in the course of an inspection or at any other time, the inspector recovers damage which comes within the definition of an accident, but which have not been reported he should report the facts at once to the Chief Inspector for action under Section 24(d).

VII. Appeals

54. Filing of appeals. - Every petition of appeal shall be made in writing either in English or in Hindi.

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

56. Forms of appeal. - The petition of appeal shall be accompanied by the original order, notice @ [or] report appealed against, or by a certified copy thereof, or 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.

57. 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 constituted by the State Government under Section 20, obtain a date for the hearing of the appeal from that 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 should ordinarily be given within 10 days from the receipt of the petition of appeal.

58. Procedure before hearing. - When the date for hearing has been fixed, Chief Inspector shall at once issue a notice to the appellant stating the date for hearing and informing him that if he wishes to be heard in support of the appeal or to produce evidence he must be present either in person or by authorised agent with his evidence on the date fixed. The notice shall be sent by registered post to such address as shall be entered in the petition of appeal.

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

@ [Under orders of the Chief Inspector, an inspector shall attend before the Chief Inspector or the appellate authority, during the hearing of an appeal with regard to a boiler under his charge.]

60. Attendance of witnesses. - The appellate court shall have power to secure the attendance of witnesses and to make local inquiries under the provisions of the Code of Civil Procedure.

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

@. Substituted and added vide Notification No. D. 5899/F 3 (22) Lab. 159, dated 1.7.1960 published in Rajasthan gazette part III-B supplement No. 19 dated 11.8.1960

@**62. Constitution of appellate authority.** - (1) The appellate authority shall consist of a Chairman and three assessors selected in each case, from among the panel specified in Rule 63.

(2) The Chairman shall be a person, who is or has exercised powers of a District Magistrate or a District Judge.

(3) The Chairman shall hold office for such period as the State Government may specify in this behalf.]

63. Panel of assessors. - The State Government shall constitute a panel of assessors for the purpose of assisting in the hearing of appeal. Assessors must be fully qualified mechanical engineers.

@**64. Attendance of assessors.** - Where a date for an appeal before the appellate authority has been fixed, the Chief Inspector shall under the order of the appellate authority arrange for the attendance of three members, from the panel of assessors, to act as assessors.]

@**65. Costs in appeal.** - (1) Where an appeal is dismissed, the appellate authority may fix the costs of the appeal.

(2) In any appeal, where a local inspection is required, the applicant shall deposit in advance the full costs of such inspection as determined by the appellate authority.]

66. Fees required for certificates granted on appeal. - Any order on appeal authorising 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 prescribed by rules or regulations framed under the Act.

67. Remuneration of assessor. - The assessor shall be remunerated at such rate, as may be prescribed by the State Government and be allowed the travelling expenses incurred by him in attending the court.

@**68. Penalty.** - A person who does or commits to do any act prohibited or prescribed under the rules shall be punishable with a fine, which may extent to one hundred rupees.]

Appendix To The Rajasthan Boiler Rules, 1954

Form 'A'

Register of Boiler

(Rule 8 the Rajasthan Boiler Rules, 1954)

Registry No.	Date of registration	Boiler rating	Type of boiler	Name and place of manufacture	Year of construction	Maker's number and mark, if any	Name of owner	Place where in use	Remarks (transfer) etc.
1	2	3	4	5	6	7	8	9	10

@. Substituted and added vide Notification No. D. 5899/F 3 (22) Lab. 159, dated 1.7.1960 published in Rajasthan gazette part III-B supplement No. 19 dated 11.8.1960

In Part II of the register, column I should contain the registry number and letters.

Provisions shall be made for the removal of lagging or brick-work or other concealing part and for the drilling of plates, if required by the inspector, and for verifying the pressure gauge and safety valve dimensions and weights. All smoke tubes, smoke-boxes and external flues shall be swept clean.

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

Note. - These provisions as to effective disconnection shall extend to every case wherein a person is sent or with the assent of the owner or person-in-charge goes into a boiler for any purpose.

Form 'B'
Indian Boilers Act, 1923
(V of 1923)

Notice for Examination of Boiler under Sections 7 and 8
(Rule 33)

No..... of 19 .
Chief Boiler Inspector's Office.
Dated the..... 19 .

To
.....
.....
.....

In reply to your application, datedyou are hereby informed that Boiler Registry No..... at the above named premises will be thoroughly examined/hydraulically tested by the Government Inspector on theTo enable the examination to be made, you are required to-

- (a) afford to the inspector all reasonable facilities for the examination and all such information as may be reasonably be required by him;
- (b) have the boiler properly prepared and ready for examination in the prescribed manner; (See instruction on reverse)
- (c) provide in the case of a boiler about to be registered such drawings, specification and certificates and other particulars as may be prescribed;
- (d) produce to the inspector the last certificate of the boiler at the time of inspection.

Inspector of Boilers

(Reverse of Form B)
(See reverse for preparation required)

Preparation For Examination

(a) Preparation for inspection

At every inspection 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, hand holes and sight holes and cleaning plugs and all caps in the headers and mud drums of water tube boiler, 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 mountings shall be opened up and taken apart and the valves or cocks ground, when necessary, before the inspector's visit.

(b) Preparation for Hydraulic Test

The chests of all mountings subject to steam pressure shall be in place and shut tight or blank flanged. The safety valves shall either be jammed down or removed, and the chest-openings blank flanged. The attachment for the inspectors pressure gauge and the nipple for connecting the inspector's test pump hose shall be in order. All doors shall be properly joined and tightened up. The boiler shall be completely filled with water, care being taken to allow all air to escape and, if possible, a preliminary test not exceeding the working pressure of the boiler shall be taken before the inspector's visit to test the tightness of the joints.

Preparation now required
(A), (B),

Form 'C'

General working of Boilers-Instructions for boiler attendants

(Rule 7)

General working of boilers-Instructions to boiler attendants. - These instructions should be frequently and carefully studied, with a view to keeping 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 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) see that water is not leaking from any part of the boiler,
- (6) note if the pressure gauge pointer is at zero,
- (7) see that the feed pump is in working order.

He must not rely on the supposition that the water he has previously put in is still in the boiler, as it may have run out without his 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 every thing 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, the 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 of the steams striving 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 the water is at the proper height 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 as 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 so rapid an 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 engine 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 from 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 tight. 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, raise it slowly a few times and let it down again, but on no account must the valve be screwed down further or loaded more than what has been allowed by the inspector.

Safety valves must be over loaded, and spring valves should have ferrules and other provisions against their being screwed down too far. In case of an accident resulting from wilful over loading the culprit might be held criminally responsible at the official enquiry or in quest

Low Water Safety Valves. - If there is a low water safety valves test it occasionally the lowering the water level to see that the valve begins to blow 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 opened examined the floats and lower and see that they are free and that 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 are valve full open when the boiler is empty.

The Water Gauges. - These will be kept best in 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 Passages 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 centre 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 the drain cock, 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 passages should be cleaned. To lessen the risk of breaking to 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 the boiler are recommended, as they show the water line more clearly especially when the water is dirty.

The Indian Boiler Regulations 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 passage may be choked and empty gauge glasses are sometimes mistake for full ones, and explosions have resulted therefrom. Hence the importance of keeping the gauge cocks perfectly tight and clean and of blowing through the test cocks frequently.

A large number of accidents have been due to inoperative water gauge, and to 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 at all dirty or sedimentary, especially with Locomotive type and Vertical Boilers' as their narrow water spaces are liable to get choked with mud, which so on hardens into a solid mass. The amount of water to be blown out depends 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 sometime to (say before the engine is started) thus giving the sediment time to settle if the feed water is clean, merely turn the cock on round.

The scum cock. - When scum cocks are fitted, if the feed water is dirty a little should be blown-off daily if the water is clean, merely turn the cock round. Before opening the scum cock see that the water is at the height indicated by the water level pointer, otherwise the scuming 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.

Manhole and other door joints. - When making such joints, the joining 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 $\frac{1}{8}$ inch. 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 packets in which, while out of use, condensed steam accumulates. Such water is exceedingly dangerous and great care should be taken to see that the pipes are properly drained before the stop valves opened otherwise 'water hammer' will take place even with the best designed steam pipes, and disastrous explosion 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 steel or iron. A half inch furnace plate covered with $\frac{1}{10}$ ' scale is as efficient a heat retarder as a steel furnace 10 inches 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 approximating that of the flame with which it is in contact. If the fire is fierce (artificial drought) the furnace tube may grow so hot that it elongates considerably. If, in addition, cold air is admitted during each firing a concertina action of the furnace tubes 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 effect of scale or grease and artificial drought are disastrous, scale 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 in this scum cleaned off the furnace plate before firing again.

Scale removal. - The customary method is not a satisfactory one. The boiler is emptied and then cooled down by opening all the manholes and the result is that the scale, which would otherwise be soft, hardens through contact with the air, and requires laborious 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 be accelerated by adding cold feed to the hot water in, the boiler and slowly running off the cooled water. Another method is to blow-off the boiler with the lowest possible pressure (not more than 20 lb.) and to keep it closed until cold. The scale will then be easily removed.

Treatment of feed water. - Many feed water require soda or other chemical 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 added chemicals, can be deposited in tanks or in filters, and therefore, never goes into the boiler, Excepting when the water obtainable is very good, water purifying apparatus ought to pay any boiler owner, particularly at those works where 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 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 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 run with a certain amount of oil matter which will be deposited in the feed water tanks and ultimately be pumped into the boiler with possible disastrous results as it will be obvious to every 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 up keep of the boiler.

Preservation of boilers when not in use. - Steam boilers when not in use are liable to deterioration from corrosion 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, cock and openings closed so as to exclude moisture. Another plan is to fill the boiler with water to which about 1/10 per cent caustic soda has been added.

Special instruction for Boiler No.....

The 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.

Dated.....

Inspector of Boilers

Form 'D'

Accident Report under Section 18(1) of the Indian Boilers Act, 1923

To

The Chief Inspector of Boilers,
Rajasthan, Jaipur

The undersigned begs to report that an accident occurred in
the..... Factory at on dated
hour..... causing slight/serious injury as detailed below:-

1. Nature of accident.....
2. Cause of accident.....
3. Full details of damage to Boiler No.....
4. Full details of damage to steam pipe.....
5. Full details of injury caused to any person.....

Date.....

Signature of the owner or agent of the boiler