THE MEGHALAYA BOILER RULES,1986

CHAPTER I

NO:LABOUR-93/83/103
DATED: 20.09.1986 etc.

PRELIMINARY

1. Short title and commencement: (1)These rules may be called **The Meghalaya Boiler Rules,1986.**

(2) They shall extend to the whole of Meghalaya.

(3) They shall come into force immediately.

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

(a) "The Act"means the Indian Boilers Act,1923(v of 1923).

(b) "Boiler" means any closed vessel exceeding 22.75 litres in capacity which is used expressly for generating steam under pressure and inludes any mounting or any other fitting attached to such vessel which is wholly or partly under prussure when steam is shut off.

(c) "Competent Authority" means an authority competent to issue certificates to welders for the purpose of Chapter XIII of the Indian Boiler Regulations,1950.

(d) "Economiser" means any part of a feed pipe that is wholly or partially exposed to the action of flue gases for the purpose of recovery of waste heat.

(e) "Feedpipe means any pipe or connected fitting wholly or partly under pressure through which feedwater passes directly to a boiler and which does not form an integral part thereof.

(f) "Form" means a form appended to these rules.

(g) "Inspecting Authority" means an authority to grant a certificate in Form II or II-A and to countersign a certificates in FormIII,III-A,III-B,III-C, appended to the Indian Boiler Regulations,1950.

(h) "Inspecting Officer"means an officer competent to examine materials manufactured for boilers constructed in Meghalaya.

(i) "Owner"includes any person using a boiler as agent of the owner thereof and any person using a boiler which he has hired or obtained on loan from the owner thereof

(j) "Regulation means the Indian Boiler Regulations,1950.

(k) "Section" means section of the said Act.

(l) "Steam-pipe" means any pipe through which steam passes from a boiler to a prime mover or other user or both if:

(i) the pressure at which steam passes through such pipe exceeds 3.5 kilogrames per square centimetre above atmospheric pressure; or

(ii) such pipe exceeds 254 millimetres in internal diameter and includes in either case any connected fitting of steam-pipe.

CHAPTER II

QUALIFICATIONS OF CHIEF INSPECTOR, DEPUTY CHIEF INSPECTOR, SENIOR INSPECTOR AND INSPECTOR OF BOILERS

3.(a) Qualification of Chief Inspector Of Boilers: No person shall be appointed to the post of Chief Inspector of Boilers unless he has obtained a Degree in Mechanical Enginering or any qualification declared by the Union or State public Service Commission as equivalent thereof and has served for not less than 7(seven) years as Deputy Chief Inspector Of Boilers under the Indian Boilers Act.

(b) Qualification of Deputy Chief Inspector Of Boilers: No person shall be appointed to the post of Deputy Chief Inspector Of Boilers unless he has the requisite qualifications of an Inspector and has worked as Senior Inspector Of Boilers for not less than 5 (Five) years.

(c) Qualification of Senior Inspector Of Boilers: No person shall be appointed to the post of Senior Inspector Of Boilers unless he has the requisite qualifications of an Inspector and has worked as an Inspector for not less than 5(Five) years.

(d) Qualification of an Inspector Of Boilers: No person shall be appointed to the post of an Inspector Of Boilers unless he has obtained a Degree in Mechanical Engineering of a recognised University or any qualification declared by the Union or State Public Service Commission as equivalent thereof.

CHAPTER III

REGISTRATION

4. Procedure for getting a boiler registered:

(a) Application for the registration of a boiler,accompamied by the prescribed fee,shall be submitted in Form B No:1 addressded to the Chief Inspector Of Boilers,Meghalaya.

(b) The application for registration of a boiler shall be furnished to the Chief Inspector Of Boilers, Meghalaya with the Certificates and Drawings as prescribed in regulations 4(c), 4(e), 4(f) , 4(g) etc. Of the Indian Boiler Regulations,1950.

5. Inspection of Boilers for Registration: On receipt of the application for registration, an Inspector shall inspect the boiler and the following tests shall be carried out:

(i) Thorough Inspection.

(ii) Hydraulic Test. [Preparation -as per Regulation 376; Procedure-as per Regulation 377]

(iii) Steam Test. [Procedure-as per Regulation 380]

6. Registration:Where the boiler has been registered by the Chief Inspector Of Boilers, Meghalaya,the owner shall,within the prescribed period,cause the registered number to be permanently marked thereon in the prescribed manner.

CHAPTER IV

ADMINISTRATIVE INSTRUCTIONS FOR REGISTRATION

7. Importance of registration: Inspectors shall carry out the technical instructions for registrations of boilers as laid down in the relevant Regulations with great care and precision;as the detailsof measurement recordedat the time of registration constitute a permanent record for the boiler and determine the original pressure at which the boiler is allowed to work.

8. Register of registered boilrs: The Chief Inspector shall maintain a Register of registered boilers in serial order in Form A in two parts; in part I (For 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 numbers due to boilers being broken up or transferred to another State shall not be filled up in this part. In part II (For boilers originally registered in other States) ,entries shall be made on receipt of the Registration Number and the Memorundum of Inspection Books of the transferred boiler under its original Number.

9.Procedure on transfer of a boiler: Whenever a boiler is transferred from one State to another,the owner shall under Section 6(d) of the Act apply to the Chief Inspector of the State to which the boiler is transferred,for the registration of the transfer. The boiler cannot be used until the registration has been effected. The Chief Inspector shall then obtain from the other State the Registration Book and the Memorandum of Inspection Book of the boiler.No fee shall be charged for recording the transfer.

10. Notice of transferred or dismantled boiler: Whenever a boiler has been transferred to another State or broken up, the fact shall immediately be intimated to the Chief Inspector of Boilers who shall,in turn,note it in the register.

CHAPTER V

ADMINISTRATIVE INSTRUCTIONS FOR INSPECTION

11. Reference to previous inspection: Inspectors shall cary out the inspection of boilers in accordance with the detailed instructions contained in relevant Regulations. The Inspectors shall,before inspection,scrutinize the Memorandum of Inspection Book and shall note any entries that may have been made at the last inspection.

12. Pressure Gauge etc.: Inspectors when inspecting one boiler of a battery,shall also examine the other boilers under the steam,with special reference to the water gauges,pressure gauges and safety valves.

13. Certificates: All certificates shall be issued from the Head Office after being countersigned by the Chief Inspector.

14. Provisional Orders: The Inspector,if satisfied after the hydraulic test,may issue a provisional order in each case of registration.The steam test may be taken at any convenient time within the validity period of the provisional order after which,if the test is satisfactory,the certificate under section 7 of the Act shall be issued

Provided that ,a provisional order may also be issued after each completed inspection for renewal of the certificate so as to give authority for the use of the boiler pending the issue of the certificate.

15. Use of Form V and Form VI: Provisional Orders and certificates shall be issued in Forms V and VI,as prescribed under the Regulations 381 and 389 respectively.

16. Time for inspection: The time for the inspection of a boiler shall be between sunrise and sunset.

CHAPTER VI

FEES

17. Payment of fees: All sums realised as fees,cost and penalties under the Act shall be credited to the local Government. All fees payable under the Act shall be deposited by the payer in a Government of Meghalaya treasury. Applications under Sections 7 and 8 of the Act to which the treasury receipt is affixed,shall be deemed to be accompanied by the prescribed fees.

18. Calculation of fees: (1) Fees required to accompany applications under Sub-section (1) of Section 7 and sub-section (4) of Section 8 of the Act shall be calculated on the basis of the Boiler Rating.

(2) The formula for calculating the Boiler Rating shall be as prescribed in Regulation 383.

19. (1) Registration Fees: Fees for registration and first inspection of boiler shall be as provided in Regulation 385.

(2) Fees for renewal of certificates: Fees required to accompany applications for the issue of renewal of certificates under sub-section (4) of Section 8 of the Act shall be on the following scale:-

						Rs.
	For boiler rating *not* *exceeding*		**10 square metres**		**-**	**650**
For boiler rating *exceeding*	**10 square metres but *not exceeding***		**30 square metres**		**-**	**700**
Do	**30**	**Do**	**50**	**Do**	**-**	**800**
Do	**50**	**Do**	**70**	**Do**	**-**	**1000**
Do	**70**	**Do**	**90**	**Do**	**-**	**1150**
Do	**90**	**Do**	**110**	**Do**	**-**	**1300**
Do	**110**	**Do**	**200**	**Do**	**-**	**1500**
Do	**200**	**Do**	**400**	**Do**	**-**	**1700**
Do	**400**	**Do**	**600**	**Do**	**-**	**2000**
Do	**600**	**Do**	**800**	**Do**	**-**	**2150**
Do	**800**	**Do**	**1000**	**Do**	**-**	**2400**
Do	**1000**	**Do**	**1200**	**Do**	**-**	**2900**
Do	**1200**	**Do**	**1400**	**Do**	**-**	**3250**
Do	**1400**	**Do**	**1600**	**Do**	**-**	**3600**
Do	**1600**	**Do**	**1800**	**Do**	**-**	**400**
Do	**1800**	**Do**	**2000**	**Do**	**-**	**4500**
Do	**2000**	**Do**	**2200**	**Do**	**-**	**4900**
Do	**2200**	**Do**	**2400**	**Do**	**-**	**5400**
Do	**2400**	**Do**	**2600**	**Do**	**-**	**5700**
Do	**2600**	**Do**	**2800**	**Do**	**-**	**6000**
Do	**2800**	**Do**	**3000**	**Do**	**-**	**6500**

Above 3000 square metres,for every 200 square metres or part thereof an additional fee of Rs.180shall be charged.

Provided that ,when any owner is willing to accept a renewed certificate for less than twelve months in order to approximate the date of annual inspection to the date on which other boilers in the locality are inspected, a certificate for such period, less than twelve months may be granted at a reduced fee to be calculated at one-twelfth of the ordinary fee for each fullmonth, a portion of a month not being reckoned.

Provide further 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.

(3) The fees mentioned inclause (1) and (2) shall cover **Thorough Inspection, Hydraulic Test** and **St eam Test** where such are neessary, subject to the provisions of Section 14(2) of the Act.

(4) A second fee shall be leviable for a re-inspection of a defective boiler and also 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.

(5) A duplicate of any certificate granted under Section 7 or Section 8 of the Act which is at the time in force, shall be granted by the chief Inspector on an application of the owner of the boiler if the Chief Inspector is satisied that the duplicate is required for a *bonafied* purpose, and a fee of Rs. 35/- per copy is paid.

(6) Fee for each copy of Registration Book shall be Rs.70/-.

(7) Fees for callibration of pressure gauges shall be at the rate of Rs 35/- per pressure gauge.

(8) Not withstanding the provision of clause (3), an additional fee of Rs. 210 shall be charged for the inspection of a boiler on a Sunday, or any other State holiday, provided that such inspection is made at the request of the owner of the boiler,half of the additional fee so charged shall be paid to the Inspector the other half being credited to the local Government.

(9) (a) In addition to the above fees, an Inspector's travelling expenses shall be realised from the owners whose boilers are not ready for inspection on the first visit made on their application ,for every additional visit paid by the Inspector for the completion of the inspection.

(b) If the owner of a boiler requires an inspection at the time which would necesiate a special journey by an Inspector, a fee equal to the travelling allowance of the Inspector and his staff,if any, as determined by the Fundamental and Subsidiary Rules shall be paid by the owner, in addition to the fee ordinarily payable for the inspection of the boiler.

(10) The Inspector's Hydraulic Test Pump, if available, may be had on loan, when a hydraulic test of a boiler has been ordered by the Inspector ,on payment of a fee of Rs. 70/- *plus* all transit charges. The Hydraulic Test
Pump must be returned in good order, immediately after the test is over.

(11) Fees paid in excess and fees paid for inspection which for any reason, not due to any fault or ommissions of the owners or person-in-charge of the boilers have not been made,shall be refunded if the refunds are applied for within one year from the date of payment, or may be set off against the fees for inspections of any other boiler/s of the same owner or set off against the fees for inspection of the same boiler in future.

(12) (i) The fees for the examination of plans and particulars of materials ,design and construction of steampipes before the commencement of manufacture shall be as prescribed in Regulation 395(b)(i) and the fees for examination of layout plans of steampipes shall be as prescribed in Regulation 395(b)(ii) of the Indian Boiler Regulations,1950.

(ii) The fees for scrutiny of plans and particulars of material design and consruction of feed pipes before commencement of their manufacture shall be as prescribed in Regulation 534B(i) and the fees for scrutiny of layout plans of feed pipes shall be as pescribed in Regulation 534B(ii) of the Indian Boiler Regulations,1950.

(iii) Fees for inspection, examination, testing and certification of boilers and scantlings under construction shall be as prescribed in Regulation 395A of the Indian Boiler Regulations,1950.

(iv) The fees for examination of plans of steampipes, required under Sub-regulation(a) of regulation 395 shall be as prescribed in regulation385 of the Indian Boiler Regulations,1950.

CHAPTER VII

DUTIES OF THE CHIEF INSPECTOR

20. General control: The Chief Inspector shall be vested with all the powers of an Inspector under the Act, but his main duty shall be the supervision and control of the Inspectors. He shall normally inspect or examine boilers only in exceptional cases, or in such cases as he considers that the work of an Inspector or an Inspecting Officer requires a personal check.

21. Specific duties: The Chief Inspector shall:

(a) personally check the Registration Books of all newly registered boilers for the initial working pressure and have entered under his own signature all orders required by Section 7 of the Act,

(b) have entered under his own signature any subsequent entries required in the Registration Book,

(c) obtain the Memorandum of Inspection and RegistrationBooks of a boiler, which has been registered in another State and the subsequent transfer of which to this State is reported under clause (b) of Section 6 of the Act,

(d) fix the area under the control of each Inspector,

(e) approve the programmes of inspections of all the Inspectors subordinate to him with due regard to the convenience of the owners generally,

(f) examine and countersign the Inspector's Memoradum of Inspection Book of each boiler after each inspection,

(g) examine and pass orders on the diaries and returns of the Inspectors,

(h) Pass orders in all cases in which an Inspector proposes to increase or reduce the pressure allowed for any boiler under provision (a)(ii) of Section 8(5) of the Act or to revoke, cancel or refuse to renew the certificate of a boiler under Section 11 of the Act or to order important repairs,structural alterations,or renewals in a boiler under Section 8 of the Act,

(i) pass orders in all cases in which it is reported that after due notice the boiler has not been properly prepared for inspections,

(j) decide all appeals against the order of an Inspector under Section 19 of the Act,

(k) sanction prosecution under the Act,

(l) enquire into serious accident to a boiler,

(m) prepare and submit the Annual Report of the working of the Indian Boiler Act,1923; and

(n) prepare ad submit the budget estimate for carrying out the purposes of the Act.

22. Registers to be kept: The Chief Inspector shall keep in his office:

(a) a Register in FormA attached to these rules of all the boilers registered in the State or the registry of which has been transferred from another State,

(b) the Registration Books of all the boilers borne on his register,
(c) a Register of 'appeals',
(d) a Register of 'accidents'; and
(e) a Register of 'registration' and 'inspection fees' received.

23. Control of bills by the Chief Inspector: 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.

24. Application for certificate: When a certificate is required for a boiler, an application accompanied by the necessary fees,shall be made to the Chief Inspector of Boilers by the Owner or Agent thereof giving at least fourteen days notice of the date on which the boiler shall be ready for inspection. The Chief Inspector, on receipt of such application will fix the inspection programme for the date notified if possible, but should that date not prove suitable, he shall fix another date giving the Owner or the Agent not less than ten day's notice of the date so fixed.

25. Establishment under the control of the Chief Inspector: The Chief Inspector shall from time to time prepare and submit to the Government a schedule of the establishment and salaries which he considers necessary for carrying out the purposes of the Act.

26. Advice to Owners: The Chief Inspector may advice the Owners regarding the maintenance, safe working,feed water-treatment and cleaning of boilers. Such instructions, as he may issue for this purpose, shall be hung up in each Boiler House.

CHAPTER VIII

DUTIES OF DEPUTY CHIEF INSPECTOR

27. Relationship with the Chief Inspector: Deputy Chief Inspectors Of Boilers shall be directly subordinate to and under the control of the Chief Inspector. They shall be vested with all the powers of Inspectors under the Act or Inspecting Officers under the Regulations. Their main duties shall be to scrutinize the work of Inspectors and other Inspecting Officers in the matter of inspection, examination and certification of boilers, steampipes, scantlings and economisers and to make the observations available to the Chief Inspector, where necessary. They shall also carry out normal inspection work to such extent as may be considered necessary by the Chief Inspector Of Boilers.

28. General duties: The Deputy Chief Inspector shall:-

(a) obtain the Memorandum and Registration Book of a boiler which has ben registered in another State and the subsequent transfer of which to this State is reported under Section 6(b) when so directed by the Chief Inspector (see Regulation 388);

(b)pass orders in all cases for which it is reported that after due notice the boiler has not been properly prepared for inspection;

(c) examine and countersign the Inspector's Memorandum of Inspection Book of each boiler after each inspection;

(d) prepare the Annual Report on the working of the Indian Boilers Act,1923;

(e) prepare the Budget Estimates for carrying out the purposes of the Act;

(f) dispose off all leave applications of the non-gazetted staff;

(g) when authorised by the Chief Inspector,check the registration, measurements and calculations of all newly registered boilers for the initial working pressure;

(h) when authorised by the Chief Inspector, enquire into serious accidents to boilers and report in writing to the Chief Inspector the result of the enquiry;

(i) when authorised by the Chief Inspector, check all plans and drawings for boilers, steampipes and economisers;

(j) check and examine certificates in Forms III-A, III-B, III-C and extracts of Form IV etc.as required under the regulations and submit these documents to the Chief Inspector of Boilers within a fortnight of their receipt from the makers.;

(k) generally assist the Chief Inspector in the administration of the Act.

CHAPTER IX

DUTIES OF INSPECTORS

29. Inspectors: Inspectors shall be directly subordinate to and under the control of the Chief Inspector; they shall ordinarily be appointed to take charge of specific areas.

30. General duties: The main duties of Inspectors as laid down in the Act shall be the inspection of boilers and steampipes.

31. Search for unregistered boilers: In addition to the inspection of boilers, it shall be 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 certificate and with any regulation or rule under the Act for safe working.

32. Advice to Owners: At the time of inspections, the Inspectors may advice the Owners and the persons-in-charge of boilers on the management and upkeep of boilers with special reference to the amount of cleaning required in view of the quantity of water used.

33. Specific duties of Inspectors: Inspectors shall:-

(a) prepare a programme of inspections with regard to the convenience of the owner generally and submit it to the Chief Inspector for approval at such period as he may fix, at least fourteen days before the first date fixed in the programme;

N.B: inspection ofboilers in seasonal factories should ordinarily be fixed immediately after the date when work in the factory ceases and in all cases during the off season.

(b) maintain and keep in their offices a Memorandum of Inspection Book for each boiler in their charge, in which shall be entered in ink,their notes on each inspection and any other particulars affecting the history of the boiler. A copy of these notes shall be submitted to the

Chief Inspector on the Inspector's return from tour to his head quarter or weekly in cases where the Inspector returns to his head quarter each day;

(c) receive applications for registration or renewals under section 7 or 8, proposals for repairs, alterations or renewals under Section 12 and 13, reports of accidents under Sections 12 and 13,reports of accidents under Section18 of the Act;

(d)enquire into accidents to boilers or steampipes and report to the Chief Inspector;

(e) report to the Chiefr Inspector cases of unreported accidents discovered at the time of inspection;and

(f) Submit for orders of the Chief Inspector:

(i) the Memorandum of Inspection Books of all the boilers and proposal for registration under Section 7 of the Act;

(ii) proposals for increasing or decreasing the pressure of a boiler after inspection under provision (a)(ii) of Section 8(5) of the Act;

(iii) proposals for necessary repairs, sructural alterations or renewal to a boiler after inspections under Section 8 or 12 of the Act;

(iv) proposals for revoking, cancelling or refusing to renew a certificate under Section 8 or 11 of the Act;

(v) report when a boiler has not been properly prepared for inspection under Section 14 of the Act; and

(vi) proposals for prosecution under the Act.

34. Form B2: When an inspection under the Act is completed, the Inspector making it shall prepare a declaration in Form B2, appended to these rules in which the limit of the working pressure in kilogrammes per square centimetre and the period for which the certificate is to be granted, shall be clearly noted.

35. Form VI: Upon receipt of the declaration of the Inspector as per Rule 34 in the office, a certificate authorising the use of the boiler shall be prepared in Form VI prescribed under Regulation 389. Such certificate shall be signed by the Inspector and the Chief Inspector and shall be delivered to the owner,manager or agent of the steam boiler inspected.

CHAPTER X
ACCIDENTS

36. Investigation; On receipt of the report of an accident to a boiler or steam pipe under Section 18 of the Act,an 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 to the Inspector within whose jurisdiction the accident has occurred, for necessary action.

37. Procedure during enquiry: The Inspector shall, during the enquiry , make a careful examination of the damaged parts and take such measurements and make such sketches for the purpose of his reports, as he may deem necessary. He shall enquire 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.

38. Enquiry in writing: Inspector shall take the written statements of witness and all persons immediately concerned with the accident. In order to comply with the provisions of Section 18(2) of the Act the 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 enquiry. The report should be drawn up in the proper manner giving full details of the observations and his opinion on the cause and prevention of such accidents.

39. Use of boiler after accidents: The Inspector shall decide whether the use of the boiler can be permitted at the same or at a lower pressure without repairs or alterations that he may order. In no case shall he issue a provisional order or renewal certificate, until the orders have been carried out.

40. Serious accidents: The report of the Inspector shall be sent without delay to the Chief Inspector who, if he considers that the investigation has ben sufficient, shall record the facts in his register of accidents and shall enter a brief account of the accident in the Registration and 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 shall proceed to investigate the accident personally.

41. Annual Reports: A brief account of all accidents and their causes shall be included in the annual report on the working of the Act.

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

CHAPTER XI
APPEALS

43. Appellate Authority: In this paart "Appellate Authority" means the appellate authority as constituted under Section 20 of the Act.

44. Constitution of Appellate Authority: The local Government shall appoint an officer to be the President of the Appellate Authority for such a period as it thinks fit. The President shall be an officer with judicial or magesterial experience.

45. Constitution of Panel of Assessors: The local Government shall constitute a Panel of Assessors for the purpose of assisting in the hearing of appeals under Section 20 of the Act. The Assessors must be fully qualified Mechanical Engineers;

Provided that no person shall sit as a member of the Appellate Authority, who is directly interested in the boiler concerned in the appeal.

46. Preparation of appeal: Every petition ofappeal shall be made in English or in the Vernacular.

47. Presentation of appeal: A petition of appeal may be presented either personally or by registered post to the Chief Inspector.

48. Form of appeal: The petition of appeal shall be accompanied by 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 relevant Section of the Act.

49. Fixing date for hearing: Onreceipt 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 hearing from the President of that Authority and under the instructions of the president, arrange for the attandance of the members of the Panel constituted under Rule 45 to act as Assessors. No delay shall be made in deciding appeals. The decision shall ordinarily be given within tendays from the date of receipt of the appeal.

50. Procedure before hearing: When the date for hearing has been fixed, the Chief Inspector shall at once issue a notice to the appeallant stating the date for hearing and informing him that if he wishes to be heard insupport 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 the appeal.

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

52. Attandance of witness: The Appeallate Authority shall have power to secure the attandance of witness and make local enquiries and for this purpose shall exercise the powers of a court under the provisions of Civil Procedure,1908.

53. Exparte decion: If the appellant is not present on the date fixed,the appeal may be decided in his absence.

54. Costs: In appeals before the Appellate Authority the President or the Authority shall fix the costs 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 cost of such inspection. A member of the Appellate Authority shall be remunerated at such rate as may be prescribed by the Government and be allowed the travelling expenses incurred by him in attending court.

55. Fees: Any order on an appeal authorising the registration of a boiler or the grant or renewal of a certificate shall be deemed to be subject tothe payment of such fees as are prescribed by rules or regulations framed under the Act.

CHAPTER XII
SUPPLEMENTAL

56. Reapeal and saving:

(a) The Meghalaya Boiler Rules (The Assam Boiler Rules,1935) as adopted by Meghalaya are hereby repealed.

(b) Notwithstanding such repeal any decision given,order issued or action taken and whatsoever done under the Rules repealed shall bevalid and shall be deemed always to have been given,issued,taken or done under the corresponding provisions of these Rules.

FORMS

FORM A

Register Number [1]	Type of Boiler [2]	Boiler Rating [3]	Name of Manufacturer [4]	Year snd place of construction [5]	Date of Registration [6]	Name of Owner [7]	Place where in use [8]	Remarks (Transfers etc.) [9]

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FORM B NO. 1

Registered Number of boiler [1]	Name of Owner or Agent [2]	Where situated [3]	Date of inspection [4]	Description of boiler and age [5]

I have attached hereto Governmenr of Meghalaya Treasury receipt in accordance with Rule 17 covering the amount of fee chargeable, as prescribed under Rule 19 of the Meghalaya Boiler Rules and I hereby apply to the Inspector Of Boilers for an inspection and the grant of a Certificate for the boiler above named.

Date.....
This day of 20.....

Owner or Agent.

FORM B NO.2

DECLARATION OF INSPECTOR *(Vide rule 34 of the Meghalaya Boiler Rules)*

Register no. Of Boiler:

Description:

Boiler rating:

Particulars of Hydraulic Test:

Date of inspection:

Maximum working pressure:

Period of Certificate:

Remarks:

The above noted Boiler was inspected by me on the.....and found to be in accordance with the requirements of the Indian Boilers Act(V of 1923).

The Boiler with attached pipes etc., are not in a dangerous condition.

The Boiler will, in my judgement, be safe for the period and the Working Pressure stated in this Form.

Dated..... Inspector of Boilers, Meghalaya.

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FORM C

INDIAN BOILERS ACT,1923(V OF 1923)

(NOTICE OF EXAMINATION OF BOILERS UNDER SECTIONS 7 AND 8)

To,

.....

.....

In reply to your Application Dated.....you are hereby informed that the Boiler Registry No.....at the above named premises will be thoroughly examined/hydraulically tested by the Government Inspector on the.....

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

(a) to efford to the Inspector all reasonable facilities for the examination and provide all such informations as may reasonably be rwquired of you;

(b) to have the boiler properly prepared and ready for examination in accordance with Regulations 376 and 378.

Inspector Of Boilers.

Note: The last Certificate for the boiler shall be shown to the Inspector.

I. ORDINARY CARE OF BOILERS

1.Boiler feed Water:

(a) WATER SUPPLY FOR BOILERS:

An adequate supply of good feed water is of great importance. Samples of water should be drawn from the different sources

Available and the best selected for use by means of analytical tests.

Even the best convenient supply may contain harmful impurities in which case it should be suitably treated before being pumped into a boiler.

If the water is sedimentary, it should first be pumped into settling tanks and left there until the sediment has settled. The end of the suction pump in the settling tank should be at a sufficient height from the bottom to prevent the settled sediment being drawn into the pipe.

(b) BOILER FEED WATER TREATMENT:

Rain water as it descends to the earth takes up Oxygen(O_2), Nitrogen(N_2) and Carbon dioxide(CO_2) from the atmospheric air.Out of these, O_2 and CO_2 can cause corrosion inside the boiler. Salts of Sodium are harmless unless present in very large quantitiy. Calcium and Magnesium make water hard. Silica may be steam volatile creating problems with turbine bladesattached to the Electricity Generating Section. The bicarbonates ,carbonates and hydroxides of calcium and magnesium give rise to 'alkaline' or 'carbonate' hardness (temporary hardness) and chlorides, sulphates and nitrates to 'non-alkaline' or 'non-carbonate' hardness (parmanent hardness).

Under boiler conditions, concerned alkalies and nitrates can also attack steel. Wate of high purity may even be more corrosive than raw water in presence of dissolved oxygen.

Hence, water should be first softened before admitting inside the boiler. Softening of water can be achieved by:

(i) Lime-Soda Process associated with hot softening and mixing of Coagulants; or

(ii) Exchange method (Base exchange or ion-exchange)

Lime Soda Treatment reactions:

$Mg\,CO_3 + Ca(OH)_2 \text{---- } Mg(OH) + Ca\,CO_3$;

$Ca(HCO_3)_2 + Ca(OH)_2 \text{----- } 2\,Ca\,CO_3 + 2H_2O$

$Mg(HCO_3)_2 + 2\,Ca(OH)_2 \text{----- } 2\,Ca\,CO_3 + Mg(OH)_2 + 2\,H_2O$

$Mg\,Cl_2 = Ca(OH)_2 \text{----- } Mg(OH)_2 + Ca\,Cl_2$

$Ca\,SO_4 + Na_2\,Co_3 \text{---} Ca\,CO_3 + Na_2\,SO_4$

$Ca\,Cl_2 + Na\,CO_3 \text{----} Ca\,CO_3 + 2\,Na\,Cl$

$Mg\,SO_4 + Na_2\,CO_3 \text{----} Mg\,CO_3 + Na_2\,SO_4$

For large boilers or for batteries of boilers it would be more economical to instal one of the well-known water softening plants in which the chemicals, for water treatment, are mixed automatically. Internal treatment of boiler feed water is usually done by periodic addition of the chemical which is placed in a feeder attached to the drum or shell and so piped that after the feeder is filled and closed, feed-water-pressure can be admitted to force the chemical slowly into the drum or shell.

Note: Ther is no universal composition of treatment-chemicals that will suit all waters. Hence, each case should be treated separately in order of preference. Relevant **Indian standards** should be used for the water-treatment of boilers.

(c) PREVENTION OF CORROSION OF BOILERS

Boiler feed-water should maintain appropriate alkalinity (PH=11) by properly treating the feed-water. If still corrosion persists, the dissolved oxygen should be removed by adding Sodium Sulphite (Na2 SO3) or hydrazene(N2 H4): "N2 H4 + O2---" H2O + N2"

Caution: Hydrazene is **toxic** and hence it should be handled with precautions. Its use is **prohibited** in hospitals, food manufacturing or processing industry, room-heating etc.

(d) PREVENTION OF CAUSTIC EMBRITLEMENT

Caustic embrittlement or intergranular cracking takes place generally in rivetted drums (or welded drums which have not been stress-releived), when the metal is under stress and a high concentration of caustic alkali (Na OH) is present. It can be prevented to a great extent by maintaining sodium sulphate in the boiler water by virtue of injection of Sodium Sulphite(N2 SO3) into the boiler.

In general, Sodium Sulphite and Hydrazene may be used as indicated below:

(i) Sodium Sulphite--- for pressures below 20 Kg/cm2 and (ii) Hydrazene----for pressures above 20Kg/cm2.

(e) REMOVAL OF OIL AND GREASE FROM BOILER WATER

Oil or grease is a stubborn heat-resister. Should it deposit on the water side of any heating surface, that part will become overheated with consequences that may be disastrous.

Also, 'foaming' results from saponification of boiler water through mixing if oil or grease with alkali which may give rise to 'carryover'.

Oil or grease is easily trapped in a precipitate of Aluminium Hydroxide and recovered by sedimentation and filtration.

II. CLEANING AND DE-SCALING OF BOILERS

The adhering of soot or scale to the heating surface retards the flow ofheat and consequently raises the fuel consumption

Scale keeps the water away from the heated plate and as a result the plaates become so overheated as to weaken and collapse.

Boilers must be cleaned and de-scaled periodically and the frequency with which this operation should be done may be determined by careful observation of the amount of scales deposited after a given period of work under known conditions.

The best method for getting a boiler ready for de-scaling is to blow off steam by any suitable means until only a slight pressure remains and then allowing the boiler to cool down by atmospheric influences. Any 'vacuum' that may have been created in the boiler during the process of cooling should be destroyed by opening the test cocks or gauge cocks , before opening any doors. All hot water and steam connections with any other boiler must be disconnected effectively. Then the upper door should be removed and the water lowered by means of Blow Down Cocks and the surface scrapped as they are uncovered. If the water is run out rapidly,the air will cause the scale to harden rendering it more difficult to remove.

Electrically,hydraulically or pneumatically driven mechanicalSrcapers should be utilised for removing scales from the internal surfaces of water tubes ; scrapers operated manually are suitable for removing soft deposits.

III. PUTTING A BOILER INTO COMMISSION

Boiling out: Before putting a boiler into service, traces of oil and grease from the internal surfaces must be removed and for this purpose it should be filled with clean water somewhat below the working level and Soda Ash (9 Kg/1000 Litresof water) previously dissolved in a tank, run in through the Man Hole as follows:

Warm the boiler by slow fire. Add the chemical(for water treatment); replace manhole-cover;allow the pressure inside the boiler to rise slowly till it gives a strong blow of stea at the air-cocks; allow to cool; blow down for 15 seconds; refill water to about 5 cm. In the gauge-glass.

The above process should be carried out for few days, each day increasing the pressure gradually till it rises to about the working pressure of the boiler and also till the oil and grease are removed completely.

Before putting a boiler into commission, care must be taken to see that the steam and water passage to the glass-water-gauges are quite clear. For this, the clearing plugs of both the water-passage and the steam-passage may be removed and a suitable wire passed through into the boiler.

On lighting fire, the stop valve should be kept open until steam commences to escape; by doing this, all air will be wxpelled from the boiler.

Steam should be raised as gradually as circumstances permits. If it is found that the lower part of the boiler is not warming up as uniformly as desired, some water may be blown out by means of the blow-down-cock and the water level made up again by pumping water in through the feed-check-valve. This procedure must be given personal supervision.

In order to avoid water hammer, when steam is raised to the desired pressure, all drains along the pipe line should be opened and after the pipes have been drained, the Main-SteaS-stop-Valve may be opened very carefully and gradually for the purpose of supplying steam from the boiler.

IV. CARE OF FUSIBLE PLUG

Fusible plugs must be kept clean on both the water side and the fire side. The fusible alloy should have a fusing point that is only a little higher than the temperature of the steam at the working pressure. While ordering fusible plugs, the working pressure of the boiler should be stated. The fusible alloy should be renewed regularly as prescribed.

V. CARE OF BOILER WHILE UNDER STEAM

While a boiler is under steam, the density of the water inside may be reduced if necessary by blowing down and maintaining the correct water level with supplementary feed.

Safety Valves should be checked regularly to check their freeness. If it is not convenient to try the valves by raising the pressure in the boiler to the certified working pressure, then the valves may be raised off their seats by means of easing-gear or any other safe and suitable means.

The Safety Valves must also be checked periodically to ascertain if they arecorrectly set by raising the steam pressure in the boiler. When the steam pressure has been raised to the certified amount, steam should begin to escape; if it does not do so, the valves must be adjusted provided the pressure gauge is known to be correct.

The Wate Gauges should be checked as and when necessary. These gauges become choked frequently, if the water is not good and consequently the amoumt of water in the gauge-glass may not be a true indication of the level of water in the boiler.

If the gauge glasses break frequently, the cause is probably on account of the steam and water packing boxes which could have gone out of alignment.

In the process of cleaning, it is a bad practice to damp the ashes if they arein contact with the boiler; damp ashes corrode the boiler plates rapidly.

VI. CARE OF BOILER WHILE OUT OF USE

When a boiler is not to be used for sometime, it should be thoroughly cleaned and dried and after having placed trays of quick lime or silica gel in suficient quantity inside, all doors must be jointed inplace. When the chemical becomes too saturated to absorb any more moisture, it must be renewed.

The flues should also be dried and swept clear of soot and ashes and then painted with an anticorrosive paint having suitable toughness, elasticity, chemical stability at the actual operating temperature, negligible resistance to heat transfer and semipermanent adherence to the metal surface.

Another method of preserving a boiler, while it is not in use, is to fill it absolutely full with the best water available and after adding a very small quantity of soda ash (Na2 CO3; about 150 grams for every 230 litres) or any other chemical or combination of chemicals prescribed by an approved analytical chemist and then to close the valves and doors carefully. The water must be changed, as frequently as convenient, to prevent impurities from concentrating at any part.

J.M.PHIRA
Special Secretary to the Govt. Of Meghalaya
Labour Department.

THE GAZETTE OF MEGHALAYA, Thursday, December 6, 1990.

NOTIFICATION

The 20th September, 1989.

No: LABOUR-93/83/103— In exercise of the powers conferred by Section 29 of the Indian Boilers Act,1923 (Act No. V of 1923), the Government of Meghalaya hereby makes the MEGHALAYA BOILER RULES, 1986, after previous notice of its intention to do so, was published in the *Gazette of Meghalaya*, (Part VA), dated 6th July,1989 *vide*Notification No: Labour-93/83/50, dated 21st March, 1988.

J.M.Phira,
Special Secretary to the Government of Meghalaya,
Labour Department
