[Published in Part II, Section 3, Sub-section (i) of the Gazette of India dated 29th November, 2003]

Government of India
Ministry of Commerce and Industry
Department of Industrial Policy and Promotion
(Central Boilers Board)

New Delhi, the 17th November, 2003

Notification

G.S.R. ..... Whereas certain draft regulations further to amend the Indian Boiler Regulations, 1950 were published, as required by sub-section (1) of section 31 of the Indian Boilers Act, 1923 (5 of 1923), vide notification of the Government of India in the Ministry of Commerce and Industry (Department of Industrial Policy and Promotion) (Central Boilers Board) number G.S.R. 299, dated the 18th August, 2003, in Part II, Section 3, Sub-section (i) of the Gazette of India, dated the 23rd August, 2003, for inviting objections and suggestions from all persons likely to be affected thereby till the expiry of forty-five days from the date on which copies of the Gazette containing the said notification were made available to the public;

And whereas the copies of the said Gazette containing the notification were made available to the public on the 2nd September, 2003;

And whereas no objections or suggestions have been received within the specified period in respect of the amendments contained in this notification;

Now, therefore, in exercise of the powers conferred by section 28 of the Indian Boilers Act, 1923, the Central Boilers Board hereby makes the following regulations further to amend the Indian Boiler Regulations, 1950, namely:-

1. (1) These regulations may be called the Indian Boiler (Amendment) Regulations, 2003.
(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Indian Boiler Regulations, 1950, for regulation 271, the following regulation shall be substituted, namely:-

"271. **Permissible working stresses for shells of Boiler and Integral Super-heater Drums and Headers.-** The maximum permissible stress for drum shells and headers shall be taken as available in governing Boiler codes of the country of the material to which it belongs. In case of non-availability of the value, the following procedure for evaluating shall be adopted.

(i) For temperatures at or below 454° C, the smaller of the two values:-

$$f = \frac{Et}{1.5} \text{ or } \frac{R}{2.7}$$

(ii) For temperatures above 454° C, the least of the following three values:-

(a) $\frac{Et}{1.5}$ (b) $\frac{SR}{1.5}$ and (c) Sc

where,

t = Working metal temperature,
R = Minimum specified tensile strength of the steel at room temperature
E = Minimum specified Yield point at room temperature
Et = Yield Point (0.2% proof stress) at the temperature 't'.
Sc = The average stress to produce an elongation of 1% (creep) in 100,000 hours at temperature 't'.
SR = The average stress to produce rupture in 100,000 hours at the temperature 't' and in no case more than 1.33 times the lowest stress to produce rupture at the temperature.

Note: In case Sc values are not available in Material Standard and such materials are known to have been used in boilers in India or abroad, then for such materials the allowable stress may be taken as the lower of

$$\frac{Et}{1.5} \quad \text{or} \quad \frac{Sr}{1.5}$$

For fusion welded drums, when the wall thickness exceed 60mm (2-3/8"), a deduction of 1 per cent in the value of "f" so determined shall be made for each increase of 5mm (3/16") in the thickness. Such deduction need not be made provided the minimum specified values of R and E at any part of the section of the steel plate used in the manufacture of the Boiler drum are guaranteed by a "Well known Steel Maker" or certified by an Inspecting Authority.

The working metal temperature shall be taken as:-

(a) For saturated steam, water and mud drums, the saturation temperature corresponding to the pressure WP plus 50°F.

(b) For superheated steam the designed maximum steam temperature for that drum plus 50°F.

Where the drums are adequately protected from the gases of combustion or swept by such gasses in the third or subsequent pass of a boiler, the working metal temperature shall be taken as the saturation or designed maximum steam temperature as defined above, whichever applies. A covering of refractory or insulating material which may be liable to become dislodged shall not be deemed adequate protection.

NOTE.- Where steels are for service at temperatures in excess of 370°C (700° F) it shall be so stated as the silicon content shall be 0.10 per cent minimum or alternatively the material must pass the "Proof Test for Creep Quality of Carbon Steel Plate of Boiler Plate Quality" as in the Appendix D".

[File No. 6(8)/2000-Boilers]

Sd/-
(V. K. GOEL)
Secretary, Central Boilers Board

Note:- The principal regulations were published in the Gazette of India vide S.O. 600, dated the 15th September, 1950 and subsequently amended vide notifications –

(i) G.S.R. 178, dated the 24th March, 1990;
(ii) G.S.R. 179, dated the 24th March, 1990;
(iii) G.S.R. 488, dated the 9th October, 1993;
(iv) G.S.R. 516 dated the 23rd October, 1993;
(v) G.S.R. 634 dated the 25th December, 1993;
(vi) G.S.R. 107 dated the 26th February, 1994;
Errata G.S.R. 223 dated the 14th May, 1994;
(vii) G.S.R. 250 dated the 4th June, 1994;
(viii) G.S.R. 402 dated the13th August, 1994;
(ix) G.S.R. 427 dated the 20th August, 1994;
(x) G.S.R. 562 dated the12th November, 1994;
(xi) G.S.R. 607 dated the10th December, 1994;
(xii) G.S.R. 83 dated the 25th February, 1995;
(xiii) G.S.R. 93 dated the 4th March, 1995;
(xiv) G.S.R. 488 dated the 9th November, 1996;
(xv) G.S.R. 582 dated the 28th December, 1996;
(xvi) G.S.R. 59 dated the 25th January, 1997;
(xvii) G.S.R. 117 dated the 1st March, 1997;
(xviii) G.S.R. 172 dated the 29th March, 1997.
(xix) G.S.R. 221 dated the 21st November, 1998.
(xx) G.S.R. 131 dated 1st May, 1999.
(xxi) G.S.R. 139 dated 8th May, 1999.
Errata G.S.R. 201 dated 7th April, 2001.
(xxii) G.S.R. 237 dated 31st July, 1999.
(xxiii) G.S.R. 345 dated 23rd October, 1999.
(xxiv) G.S.R. 397 dated 14th October, 2000
(xxv) G.S.R. 219 dated 14th April, 2001.
(xxvi) G.S.R. 496 dated 8th September, 2001
(xxvii) G.S.R. 672 dated 15th December, 2001.
(xxviii)G.S.R. 127 dated 13th April, 2002.

To

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