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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 31827-2015

**Norm of energy consumption per unit throughout of bulk
terminal**

干散货码头单位产品能源消耗限额

(English Translation)

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Foreword

4.2 and 4.3 of this standard is mandatory, the rest are recommended.

This standard was drafted in accordance with rules GB/T 1.1-2009 given.

This standard Conservation and Environmental Protection, the Ministry of Transport Science and Technology Department put forward by the National Development and Reform Commission resources.

This standard by the National Energy Foundation and Management Standardization Technical Committee (SAC/TC20) Standardization Technical Committee and the National Port (SAC/TC530) centralized.

Drafted by. Institute of Water Transport Ministry of Transport, Lianyungang Port Group Co., Ltd., Qinhuangdao Port Co., Ltd., Tianjin Port (Group) Co., Ltd.

1 Scope

This standard specifies the technical requirements dry bulk (coal, ore) Terminal energy consumption per unit product, the calculation method and calculation range, Energy management and technical measures.

This standard applies to domestic dry bulk cargo (coal, ore) Terminal Production energy consumption calculation, assessment, as well as for new construction and renovation, expansion of dry bulk Energy consumption goods dock control.

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated paper Pieces. For undated references, the latest edition (including any amendments) applies to this document.

GB 2589 comprehensive energy consumption computing General GB/T 8487 port handling term GB/T 12723 energy consumption per unit product preparation General GB 17167 energy use per unit of energy measurement apparatus equipped and General Management GB 50189 public building energy efficiency design standards JTS150 water transport engineering design of energy

3 Terms and Definitions

GB 2589, GB/T 8487 and GB/T 12723 defines the following terms and definitions apply to this document.

Dry bulk terminal unit of product than the comprehensive energy consumption comparable comprehensive energy consumption for per unit throughout of bulk terminal Factors considered comparable dry bulk terminal throughput production units completed comprehensive energy consumption.

4.1 Dry bulk terminal energy consumption per unit product index

Dry bulk terminal energy consumption per unit product index should be used to dry bulk terminal unit of product than the comprehensive energy consumption.

4.2 Dry bulk terminal unit product energy consumption limits

Conventional dry bulk terminal integrated energy consumption per unit of product than the limit value should be less than 2.7tce/104t.

4.3 Dry bulk terminal access unit product energy consumption value

New and expansion of dry bulk terminal unit product energy consumption comparable access to comprehensive value should be less than 2.0tce/104t.

4.4 Dry bulk terminal unit product energy consumption advanced value

Dry bulk terminal energy consumption per unit of product than the advanced integrated value of not more than 1.8tce/104t.

And calculation methods calculate the range 5

5.1 Calculation range

5.1.1

the total energy consumption dry bulk terminal port production operations, including loading and unloading production energy consumption, the energy consumption of two auxiliary production section.

5.1.2

Handling production energy consumption including dry bulk terminal handling, yard work, horizontal transport, loading (unloading) operations and the vehicle lighting scene for all Industry sectors, as part of the work undertaken by outsourcing part of the unit, which is part of the energy consumption should be included in statistics on actual energy consumption, if not the system Equipment unit energy consumption indicators meter, press and JTS150 the operation amount of the recommended value accounting (refer accounting inland ports).

5.1.3

Auxiliary energy consumption refers to energy consumption directly handling production services, including the following.

- a) purchased fresh water, which is converted into coal coefficients refer to Appendix A.
- b) Auxiliary energy consumption. Port sewage treatment, water supply and drainage, environmental protection, dust, waiting floor workers, production offices, machine repair and other auxiliary production Step energy consumed as part of the auxiliary operations undertaken by outsourcing production units, which should be included in part of the energy consumption, the actual energy Source consumption statistics.

Auxiliary energy consumption does not include enterprises engaged in the production and the port has nothing to do business or live in industrial production, catering, tourism, real estate, etc.

Total energy consumption, excluding Hong Kong for travel, field area for railway transportation, freight cars behind, logistics companies, ports and other energy facilities maintenance consumption.

5.1.4

internal power loss in the transportation process, should be included in the production of integrated energy consumption.

5.1.5

various energy converted into heat value measured by the amount of coal (29270MJ calorific value corresponds 1tce), found no conditions attached employed Appendix A

coefficient given amount of coal to be converted.

5.2 Calculation Method

Integrated dry bulk terminal unit product energy consumption according to equation (1) is calculated.

$gksum$

$(E_{zi} \cdot X_i)$ sum

$(E_{fj} \cdot X_j)$

Where.

e_k --- dry bulk terminal unit of product than the comprehensive energy consumption per ten thousand tons of standard coal in tonnes (tce/104t);

G --- unloading amount correction coefficient, using the values in Table 1;

E_{zi} --- some kind of dry bulk cargo terminal handling physical volume of energy production and consumption, tonnes (t) or kilowatt (kW · h) or cubic Meters (m³) amount of other physical units;

E_{fj} --- dry bulk terminal auxiliary production consumes a certain amount of physical energy, tonnes (t) or kilowatt (kW · h) or cubic Meters (m³) amount of other physical units;

X_i, X_j --- some kind of standard coal energy conversion factor, tonnes of standard coal per kilowatt-hour [tce/(kW · h)] or tons of standard coal per ton (Tce/t) per cubic meter or tce (tce/m³) and the like;

m, n --- type the amount of energy;

Dry bulk terminal T --- completed certain units of tons;

K --- job length correction factor, using the values in Table 2, (2) operating line length is calculated according to the formula.

C --- correction coefficient heating, GB 50189 delineated for cold regions and cold regions, 0.95, other areas is 1.0;

$L = (LS + LL)/2$ (2)

Where.

L --- operating line length, in meters (m);

The LS --- yard quay shortest transport distance in meters (m);

LL --- dockside transport yard to the longest distance, in meters (m).

Table 1 unloading amount correction coefficient g