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PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA 中华人民共和国电力行业标准

DL/T 5095-2013 Replace DL/T 5095-2007

Technical code for design load of main building in fossil-fired power plant and the conventional island of nuclear power plant 火电厂和核电厂常规岛主厂房荷载设计技术规程

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Electric Power Industry Standard of the People's Republic of China

Technical code for design load of main building in fossil-fired power plant and the conventional island of nuclear power

plant

DL/T 5095—2013 Replaces DL/T 5095—2007

Chief Editorial Department: Electric Power Planning and Design Institute Approved by: National Energy Administration Implemented on: April 1, 2014

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Notice

In 2013 No. 6

In accordance with the provisions of Notice of the National Energy Administration on Issuing the Measures for the Standardization Administration of the Energy Field Industry (for Trial Implementation) and Implementing Regulations (GNJKJ [2009] No.52) and upon verification, National Energy Administration approves 334 items of industrial standards, such as the Examination Standards for License of Operators for Nuclear Power Plant and other standards (see Annex), including 62 items of energy standards (NB), 144 items of electric power standards (DL) and 128 items of oil and gas standards (SY), and hereby releases.

Annex: Catalogue of industry standard

National Energy Administration

November 28, 2013

Annex:	
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No.	Standard No.	Standard name	Alternative standard	Number adopted from the standard	Approval date	Implementation date
158	DL/T5095—2013	Technical Code for Design Load of Main Building in Fossil-fired Power Plant and the Conventional Island of Nuclear Power Plant	DL/T 5095—2007		November 28, 2013	April 1, 2014

Catalogue of industry standard

Foreword

In accordance with the requirements of *Notice on Formulation (Revision) Plan of Nuclear Power Standards* (GNKJ [2011] No.48) of National Energy Administration, drafting group of standard, after an extensive investigation and study, seriously summarizes the design experience of main building of fossil-fired fuel power plant and the conventional island of nuclear power plant, and revises the previous *Technical Code for Designing Load of Main Building in Fossil-fired Fuel Power Plant* DL/T5095-2007 by reference to the provisions of the current national standard *Unified Standard for Reliability Design of Building Structure* GB50068, *Load Code for the Design of Building Structure* GB50009, *Technical Code for the Design of Civil Structure of Fossil-fired Power Plant* DL5022 as well as others and on the basis of extensive public consultation.

The Code is divided into 8 chapters and 4 appendixes; the main technical contents are: General provisions, terms, basic requirements, load of equipment and piping, live loads on roof, floor and ground, crane load, wind load, snow load, etc.

The main amendments hereof are as follows:

1. Add live load for ground, building (house) roof of main building of 1000MW of unit in thermal power plant;

2. Add live load and shape factor of wind load for ground, building (house) roof of main building in the conventional island of nuclear power plant;

3. Add calculation provisions of tornado load;

4. Add calculation provisions of the load resulting from the fracture of high-energy piping system imaginary pipe;

5. Add calculation provisions of double-layer crane load;

6. Add Appendix B.

Since the date of implementing this Code, *Technical Code for Designing Load of Main Building in Fossil-fired Fuel Power Plant* DL/T 5095—2007 has been abolished at the same time

This Code is administrated by National Energy Administration and put forward by Electric Power Planning & Design Institute, Power Generation Design Committee of energy industry is responsible for its daily management, and Southwest Electric Power Design

1

Institute of China Power Engineering Consulting Group is responsible for the interpretation of its specific technical contents. In case of any comments or suggestions during the process of execution, please send to Electricity Power Planning and Design Institute (Address: No. 65 Ande Road, Xicheng District, Beijing City; Postal code: 100120). Chief editorial units, participated editorial units, main drafters and main examiners of the Code:

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Contents

1	General provisions					
2	Terms					
3	equirement	6				
	3.1	Classification and representative value of a load	6			
	3.2	Combination of load effect	7			
4	Load c	f equipment and piping	10			
	4.1	General requirement	10			
	4.2	Load of main equipment	13			
	4.3	Piping load	16			
	4.4	Dynamic load of equipment	18			
	4.5	Combination value, frequent value and quasi-permanent value of equipment (piping)	19			
5	Live lo	ads on roof, floor and ground	21			
6	Crane	load	30			
7	Wind load					
	7.1	Nominal value of wind load and reference wind pressure	32			
	7.2	Height variation coefficient of wind pressure	32			
	7.3	Shape coefficient of wind load	32			
	7.4	Tornado load	42			
8	Snow I	oad	44			
Арр	endix A	The typical format of task statement of support and loads of deaerated water tank	45			
Арр	endix B	Typical load sheet for support of moisture separator reheater	48			
Арр	endix C	Calculation stipulation of support load of fineiy- pulverized coal separator	51			
Арр	endix D	Typical load sheet for piping load and code name of piping	55			
Exp	lanation	of Wording in This Code	62			
List	of quote	d standards	63			

1 General provisions

1.0.1 In order to implement the national basic construction principles in the structure design of main building in fossil-fired power plant and the conventional island of nuclear power plant and obtain a safe, reliable, economic structure design, this Code hereby is stipulated.

1.0.2 This Code is applicable to determination of the load value of various technology professionals and civil engineering professions from ± 0.00 m ground or basement to roof of main building in new or reconstructed, extended fossil-fired power plant with unit capacity of 125MW-1000MW.

This Code is applicable to determination of the load value of various technology professionals and civil engineering professions from ± 0.00 m ground or basement to roof of main building in new or reconstructed, extended fossil-fired power plant with unit capacity of 1000MW.

1.0.3 The effects involved in civil engineering structural design shall include the direct effect (load) and indirect effect. This code only makes provision for load and temperature effects; the provisions related to variable load also are applicable to temperature effect.

1.0.4 The design reference period used in this code is 50 years.

1.0.5 In addition to complying with the requirements hereof, the load involved in the civil engineering structural design shall be in line with the relevant existing national standards.

1.0.6 When technology professional provides loads information and civil engineering structural design, the proposal and use of load nominal value shall be in compliance with this code. Construction, installation, operation and maintenance shall be in compliance with the relevant provisions hereof.

1

2 Terms

2.0.1 Load

This term generally refers to the concentrated force or distributed force imposed on structures (also called direct effect).

2.0.2 Permanent load

During the service period of structures, a permanent load does not vary with the time, or varies in a magnitude that can be neglected as compared with the mean value, or varies monotonically and tends to reach a limit value.

2.0.3 Variable load

During the service period of structures, a variable load varies with the time, or varies in a magnitude that cannot be neglected as compared with the mean value.

2.0.4 Accidental load

During the service period of structures, an accidental load will not definitely occur but once occur, will be characterized by a great magnitude and very short time duration.

2.0.5 Representative value of a load

The representative value of a load is a load value used for checking the limit conditions during design, such as the nominal value, combination value, frequent value and quasi-permanent value.

2.0.6 Design reference period

The design reference period is a time parameter used for determining the representative value of a variable load.

2.0.7 Design working life

The structure or structural component specified by the design can be used with the year limit based on the predetermined purposes without major overhaul.

2.0.8 Characteristic value/nominal value

Basic representative values of various loads used for the design of structure or component. Its value is generally determined depending on a certain tantile in maximum load probability distribution during the design reference period, such as average value, mode value, mid value or some tantile.

2.0.9 Combination value

2



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