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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/T869-2012

Replace DL/T869-2004

**The Code of Welding for Power Plant
火力发电厂焊接技术规程**

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Foreword

Compared with DL/T 869-2004, this standard has the following main differences in technical content:

- Connect with relevant content of DL/T 5210.7 and properly adjust the scope;
- Incorporate into other relevant welding standards in 3.1 "General";
- Add the requirements for welding engineering supervisor;
- Adjust the technical requirements for the applicability of welding methods for relevant parts;
- Perfect weld preheating temperature and interlayer temperature of various steels;
- Cancel the requirements for intermediate inspection for the pipe with wall thickness not less than 70mm during the welding;
- Adjust the item scope and quantity of classification inspection for welded joints in Table 6;
- Adjust the hardness qualified indexes of welds of various steels;
- Add special provisions for welding procedure of austenitic stainless steel and nickel-based alloy;
- Add special provisions for welding procedure of relevant ASME-SA335P91/P911/P92/P122 steels.

This standard is proposed by the China Electricity Council.

This standard is under the jurisdiction of the Technical Committee on Power Station Welding of Standardization Administration of China.

Drafting organization of this standard: China Electric Power Research Institute.

Participating drafting organizations of this standard: Henan No. 1 Thermal Power Construction Company, The First Electric Power Construction Company of Jiangsu Province, Anhwei Electric Power Construction No. 1 Company, Tianjin Electric Power Construction Company, Shandong Electric Power Research Institute and Beijing Electric Power Construction Company.

Chief drafting staff of this standard: Yang Jianping, Guo Jun, Qiao Yaxia, Zhang Xuecheng, Chang Jianwei, Qiu Minglin, Zhao Jun, Yan Zheng, Zhang Zhongwen, Ren Yongning, Wu Yingli.

This standard was issued on April 10, 1982 for the first time and this is the third revision.

This standard shall replace DL/T 869-2004 from the implementation date hereof.

During the process of implementing this standard, the relevant opinions and advice, whenever necessary, can be fed back to the China Electricity Council Standardization Center (No. 1, 2nd lane, Baiguang Road, Beijing, 100761, China)

Introduction

This standard is revised from DL/T 869-2004 "The Code of Welding for Power Plant" according to the requirements of the National Energy Administration-"Notice on Issuing Development and Revision Plan of the First Batch of Professional Standards in Energy Sectors in 2009" (GNKJ [2009] No. 163).

This standard and DL/T 678 constitute the main standards for welding work of power sector.

During the revision process of this standard, the achievements of power station welding technique development in recent years are absorbed, and the relevant international standards, national standards and domestic relevant standards as well as provisions are referred to.

This standard may be used as welding technical requirements approved by the Owner, the supervisor, the construction organization and other parties in thermal power plant work.

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

DL/T869-2012

The Code of Welding for Power Plant
火力发电厂焊接技术规程

1 Scope

This standard specifies the technical requirements for the welding work of boilers, pressure vessels, pressure pipelines, steel structures and non-pressure parts welding on pressure parts and for the welding repair work of main and auxiliary parts for design, installation, maintenance, reconstruction project and auxiliary processing and manufacturing of thermal power plant.

This standard is applicable to shielded metal arc welding (SMAW), tungsten inert gas welding (TIG), consumable electrode (solid-core and flux-cored wire) gas metal arc welding (GMAW, FCAW), oxyfuel gas welding (OFW), submerged-arc welding (SAW), etc.

This standard is also applicable to the welding of non-pressure structures, leakproof and general support structures.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated normative references, only the dated editions are applicable to this document. For undated references, the latest edition (including any amendments) applies.

GB 713 "Steel Plates for Boiler and Pressure Vessels"

GB/T 985.1 "Recommended Joint Preparation for Gas Welding, Manual Metal Arc Welding, Gas-shield Arc Welding and Beam Welding"

GB/T 985.2 "Recommended Joint Preparation for Submerged Arc Welding"

GB/T 3323 "Radiographic Examination of Fusion Welded Joints in Metallic Materials"

GB/T 4842 "Argon"

GB/T 5293 "Carbon Steel Electrodes and Fluxes for Submerged Arc Welding"

GB 5310 "Seamless Steel Tubes and Pipes for High Pressure Boiler"

GB 6819 "Dissolved Acetylene"

GB/T 11345 "Method for Manual Ultrasonic Testing and Classification of Testing Results for Ferritic Steel Welds" GB/T 12470 "Low-alloy Steel Electrodes and Fluxes for Submerged Arc Welding"

GB/T 17394 "Metallic Materials-Leeb Hardness Test"
DL/T 438 "Technical Supervision Codes for Metal in Thermal Power Plants"
DL/T 675 "Examination Code for Qualification of Non-destructive Testing Personnel of Electric Power Industry"
DL/T 678 "General Welding Procedure Specification for Structural Steel of Power Station"
DL/T 679 "Code for Welder Technical Qualification"
DL/T 734 "Technical Guide of Welding Repair for Boiler Drum in Fossil-Fired Power Plants"
DL/T 752 "The Code of the Welding on Dissimilar Steel for Power Plant"
DL/T 753 "Technical Guide for Repair Welding of Cast Steel Parts in Steam Turbine"
DL/T 754 "Code of the Welding Technique for Aluminium Bus for Power Plant"
DL/T 819 "The Code for the Welding Heat Treatment for Power Plant"
DL/T 820 "The Code of Ultrasonic Inspection Section for Butt Welds of Pipes"
DL/T 821 "The Code of Radiographic Examination of Butt Welded-Joints of Pressure Steels Pipes and Tubes"
DL/T 868 "The Code of Welding Procedure Qualification"
DL/T 884 "Power Plant Metallography Inspection and Assessment Guideline"
DL/T 905 "Technical Guide for Repair Welding of Turbine Blades"
DL/T 931 "The Rule of Physico-chemical Personnel Qualification in Electric Power Industry"
DL/T 991 "Spectral Analysis Guideline of Metal for Electrical Power Equipment"
DL/T 1097 "The Code of Welding for Tube-plate of Condenser of Power Plant"
DL/T 5210.7 "Code for Construction Quality Acceptance and Evaluation of Electric Power Construct-Part 7: Welding"
HG/T 2537 "Carbon Dioxide for Welding Use"
HG/T 3728 "Mixed Gas for Welding Argon-Carbon Dioxide"
JB/T 3223 "Rules of Quality Management of Welding Materials"
JB/T 4730.1~JB/T 4730.6 "Nondestructive Testing of Pressure Equipments"
SJ/T 10743 "Ceriated Tungsten Electrodes for Inert Gas Arc Welding and Plasma Welding and Cutting"

3 General Requirements

3.1 General

3.1.1 The welding work for steel structure, aluminium bus and condenser tube plate for power station shall comply with the requirements of DL/T 678, DL/T 754 and DL/T 1097 respectively.

3.1.2 The welding engineering shall be subjected to welding procedure qualification and welding procedure (operation) instruction preparation according to DL/T 868, and to welding construction measures document preparation if necessary.

3.1.3 The quality inspection for welded joints shall be carried out according to the operating

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