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

DL/T 819-2019

Replacing DL/T 819-2010

The code for the welding heat treatment for power plant

火力发电厂焊接热处理技术规程 清晰版

(English Translation)

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Foreword

This standard is compiled in accordance with the rules given in GB/T 1.1-2009.

This standard is a revision of DL/T 819-2010 "Technical Regulations for Welding Heat Treatment of Thermal Power Plants", and is in line with DL/T 819-2010 in comparison, with the exception of editorial changes, the main technical changes are as follows.

- Added automatic recording of heat treatment equipment and measurement inspection and accuracy requirements of thermocouples;
- Supplement the test requirements of thermocouples and the technical requirements of thermocouple wires;
- Completed the first confirmation requirements of welding heat treatment work instruction or process card;
- Refined the related process of induction heating;
- Adjusted the heating width of flexible ceramic resistance and far-infrared radiation heating large diameter thin-walled tube;
- Added the process requirements for post-heating and post-welding heat treatment of small diameter thin-walled martensitic heat-resistant steel;
- Adjust the post-weld heat treatment constant temperature of some martensitic heat-resistant steel to (740~760)°C;
- Adjusted the zone temperature control requirements of high alloy steel post-weld heat treatment;
- Adjusted the standard chapter structure.

This standard was proposed by the China Electricity Council.

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

Drafting organizations of this standard. China Electric Power Research Institute Co., Ltd., State Grid Beijing Fidelity Technology Development Co., Ltd., Suzhou Thermal Engineering Research Institute Co., Ltd., China Energy Construction Group Tianjin Electric Power Construction Co., Ltd., China Energy Construction Group Shanxi Electric Power

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1 Scope

This standard specifies the requirements for welding heat treatment of steel weldments during installation, maintenance and factory preparation of thermal power generation equipment.

This standard applies to preheating, post-heating and post-weld heat treatment of weldments.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1234 High resistance electric heating alloy GB/T 2614 Ni-Cr-Ni-Si thermocouple wire GB/T 3375 welding terminology GB/T 4654 General technical conditions for infrared radiant heaters with non-metallic substrates GB/T 4989 Compensation wire for thermocouple GB/T 9452 Method for measuring effective heating zone of heat treatment furnace GB/T 16839.1 Thermocouple Part 1: Index Table GB/T 16839.2 Thermocouple Part 2: Tolerance GB/T 18404 Armored Thermocouple Cable and Armored Thermocouple GB/T 34035 Field Test Method for Thermocouple DL/T 752 Technical specification for welding dissimilar steel in thermal power plant DL/T 868 welding procedure qualification specification DL/T 869 Welding technical specification for thermal power plant DL/T 1719 Technical Guidelines for Testing Metal Parts with Portable Brinell Hardness Tester

3 Term

GB/T 3375 and the following terms apply to this document.

Welding heat treatment Before welding, during or after welding, all or part of the weldment is heated, kept warm, and cooled to improve the weldability of the workpiece.

Process performance, metallographic structure, mechanical properties and stress state of welded joints. Welding heat treatment includes preheating, post-heating and post-welding heat deal with.

Range of soak band

During the heating and constant temperature process, the temperature difference in the full

thickness direction of the welded joint is less than or equal to the specified range of the heated metal.

Width of heating

During the heating process, in order to obtain the required uniform temperature range, the minimum width of the heating source applied. Such as the width of the heating device during electric heating Degree, the flame heating range during flame heating, etc.

4.1 Personnel

4.1.1

Welding heat treatment personnel include heat treatment technicians and heat treatment operators. Welding heat treatment personnel should be specially trained, obtain a certificate. Those who have not obtained the certificate can only perform auxiliary work of welding heat treatment.

4.1.2

The responsibilities of heat treatment technicians are as follows.

- a) a) Responsible for preparing or reviewing technical documents such as welding heat treatment construction plan, work instructions, process cards, and performing technical Surgery clarification.
- b) b) Instruct and supervise the work of heat treatment operators, and evaluate the post-weld heat treatment process and results.
- c) c) Collect, summarize and organize welding heat treatment data.

4.1.3

The responsibilities of heat treatment operators are as follows.

- a) Carry out construction according to the welding heat treatment construction plan, work instruction and process card.
- b) Record the welding heat treatment process.
- c) Self-check for post-weld heat treatment.

4.2 Equipment

4.2.1

Welding heat treatment equipment should meet process requirements, be safe and reliable.

4.2.2

The temperature measurement and control instruments, thermocouples, thermocouple wires and other instruments that need to be measured used in the welding heat treatment