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Technical standard for waste-to-energy plant unit simulator

垃圾发电机组仿真机技术标准

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 "Guidelines for Standardization Work Part 1: Standard Structure and Compilation".

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

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1 Scope

This standard specifies the simulation scope, basic requirements, basic functions, performance indicators, acceptance tests and technical resources of the garbage generator set simulator.

etc.

This standard is applicable to simulations that take garbage generator sets as the

simulation object and train operators in the main control room of garbage generator sets as the main purpose.

Real machine.

2 Terms and definitions

The following terms and definitions apply to this standard.

Waste-to-energy incineration power plant unit A unit that generates heat from garbage incineration to generate electricity.

Model

The idealized approximate expression of real-world processes, concepts or system structure, behavior and other characteristics.

Physical model

A model built with a physically similar method.

Mathematical model

A model expressed in mathematical symbols and relational expressions.

Simulation

Establish physical and mathematical models to make their characteristics similar to real-world processes, concepts, or systems under the same controlled input.

Simulation object

The real-world process, concept, or system being simulated.

Environmental simulation Simulation of natural and man-made environments.

Fidelity

The degree of similarity between the physical model and the mathematical model and the simulation object in terms of features and characteristics.

Real-time simulation in the simulation process, the characteristics of the simulation object in the same time period are expressed in any actual time period.

2.10

Simulation system

A system that uses simulation technology to approximate the idealized and approximate expression of the characteristics and characteristics of the simulated object.

2.11

Simulator

A simulation system device that uses simulation technology to approximate the characteristics and characteristics of the reference unit for the purpose of operating skills training.

2.12

Reference power plant unit the specific garbage generator set targeted by the simulation.

2.13

Simulation computer

Digital computer that implements simulation.

2.14

Training environment the environment in which the trainee received the training.

2.15

Panel and desk instrumentation Simulator or refer to the panel and panel-mounted instruments and meters in the control room of the unit.

2.16

External parameter

Refer to the parameters associated with the internal system and the external system in the simulation range of the unit.

3.1.1 Training environment

The training environment should include simulation control room panel equipment, computer control system operator station and screen display device, etc.

3.1.2 Main computer

The main computer should have the function of completing the real-time calculation and simulation system of the reference unit simulation model.

3.1.3 Coach station

The trainer station is used to control the operation of the simulator, realize the training function, and monitor and evaluate the trainees. The coach station should include display and for equipment.

3.1.4 Local operation station

The local operation station shall realize the outdoor operation simulation of the reference unit control. The local operating station should include display and operating equipment, and analog control Disc-making form.

3.1.5 Simulation operator station

The simulation operator station shall have the function of the operator station of the simulation reference unit computer control system. The simulation operator station shall include display and Operating equipment.

3.1.6 Network equipment

The network equipment should adopt the computer communication network equipment to realize the data communication and exchange between the computers of the simulation system.

3.1.7 Input and output interface

The input/output interface should be composed of analog/digital and digital/analog conversion circuits, which are used to realize the simulation computer and the simulation platform equipment system.

Data conversion and communication between systems.

3.2.1 Process model software

The process model software responds to the dynamic and static characteristics of equipment and systems under normal, abnormal, and accident conditions during the startup and shutdown of the reference unit.

Real-time continuous simulation.

3.2.2 Control system simulation software

The control system simulation software should include the mathematical model software for reference unit loop control and logic control.

3.2.3 Operator station simulation software

The simulation software of the operator station shall include display and operation functions. It is a software that simulates the display and operation functions of the operator station of the reference unit.

Pieces.