**Technical specification for treatment and reuse of circulating cooling water in thermal power plants**

# Scope

This This standard specifies the general requirements, technical and management requirements for water conservation of circulating cooling water in thermal power plants.

This document contains typical control parameters of mature process of circulating cooling water treatment in thermal power plants, It does not include the process with few application cases in circulating water treatment at present, or the circulating water treatment processes that needs to be matured.

This document provides standardized technical guidance for the target population of circulating cooling water treatment project of thermal power plant. (planners, managers, technical consultants, designers, operators of processing systems).

This document is applicable to the optimization technology and process reference before the implementation of water-saving upgrading and transformation of circulating water system in thermal power plant; Technical control of circulating water operation after water-saving transformation; Guide the upgrading of the implemented circulating water system.

This document is applicable to circulating cooling thermal power plants fueled by coal, oil, natural gas and biomass.

# Draft Outline

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 General principles

5 Quality requirements and treatment evaluation of circulating water

5.1 Quality requirements of make-up water for circulating cooling water

5.2 Water quality requirements of circulating cooling water system

5.3. Evaluation for circulating cooling water treatment

6 Basic requirements for water conservation

7 Technical requirements for water conservation

7.1 General requirements

7.2 Treatment of circulating cooling with water quality stabilizer

7.3 Lime treatment

7.4 Weakly acid cation resin treatment

7.5 Membrane treatment

8 Management requirements for water conservation

8.1 Requirements for instrumentation

8.2 Measuring instrument management

8.3 Water management

8.4 Technical account

9 Indirect measures to save water — reduce water vapor loss

Annex A (informative) Calculation of concentration factor

Annex B (informative) Calculation of scaling judgment of circulating cooling water

Annex C (informative) Calculation of water quantity of by-flow filtration and softening and desalting treatment

Annex D (informative) Calculation of drug concentration change with time during intermittent dosing

Annex E (informative) Performance evaluation of bactericide for circulating cooling water

Annex F (informative) Determination of corrosion inhibition performance of water treatment agents- Calcium carbonate precipitation method

Annex G (informative) Determination of corrosion inhibition performance of water treatment agents- Rotary hanging piece method