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

GB/T 42312-2023

**Guide for production safety emergency response plan of
electrochemical energy storage station**

电化学储能电站生产安全应急预案编制导则

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Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 General requirements	5
5 Working procedures for plan preparation	6
6 Comprehensive emergency plan	10
7 Special emergency plan	12
8 Site disposal plan	13
Appendix A (Normative) On-site disposal measures	15

Foreword

This document was issued on 17 March 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 October 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 42312-2023 covers the production safety emergency plan an electrochemical energy storage station has to have written before the day it is needed. The working procedure comes first: setting up the plan preparation working group under the station's emergency management arrangements, and the steps that follow from it, so that the plan rests on the station's own risk assessment rather than on a borrowed template. Three tiers of plan are then specified. The comprehensive emergency plan states the risk assessment conclusion and the station's overall response. The special emergency plan defines its own field of application and its relationship to the comprehensive plan and to the other special plans, so that responsibilities do not fall into the gaps between them. The site disposal plan starts from the risk of the single event it addresses and comes down to what the person present does. Appendix A supplies on-site disposal measures, beginning with natural disasters. The structure exists because of how these installations fail: a fault inside a battery container can escalate on its own, build up gas in a confined space and defeat the response used for an ordinary electrical fault, and those decisions cannot be made while it is happening. For station owners, operators, designers and the emergency management authorities that

review the plans.

This document establishes the working procedures for the preparation of the production safety emergency plan for electrochemical energy storage power stations, and specifies the main contents of the comprehensive emergency plan, special emergency plan, and site disposal plan.

This document is applicable to the preparation of production safety emergency plans for electrochemical energy storage power stations in which lithium-ion batteries, flow batteries, lead-acid (carbon) batteries, sodium-ion batteries, and water electrolysis-producing hydrogen/fuel cells are used as energy storage carriers.

2 Normative references

The following documents contain the provisions which, through normative reference in this document, constitute the essential provisions of this document. For the dated referenced documents, only the versions with the indicated dates are applicable to this document; for the undated referenced documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 29639 Guidelines for enterprises to develop emergency response plan for work place accidents

GB/T 38315 Guidelines for preparation and implementation of fire fighting and emergency evacuation plans for workplaces

GB/T 42314 Guide for hazard sources identification of electrochemical energy storage station

GB/T 42317 Code for emergency exercises of electrochemical energy storage station

DL/T 2247.5 Electrochemical energy storage station dispatch and operation management - Part 5: Emergency disposal

DL/T 2528 Basic terms of electric energy storage

4.3 The emergency plan of the electrochemical energy storage power station shall be connected with the emergency plan of the local government department and relevant

units of the power station.

4.4 After the preparation of the emergency plan for the electrochemical energy storage power station, the rationality and feasibility of the plan shall be tested through emergency exercises.

4.5 After the actual situation of safety production of the electrochemical energy storage power station changes greatly or problems are found in the emergency exercises, the emergency plan shall be revised in time and reviewed again.

5 Working procedures for plan preparation

5.1 Establishment of the working group for plan preparation

5.1.1 The electrochemical energy storage power station shall establish an emergency plan preparation working group according to the emergency management requirements, and organize relevant production, technology, safety, administrative, financial, and other personnel to participate in the emergency plan preparation work.

5.1.2 The working group shall clarify the job responsibilities and division of tasks, and formulate a work plan.

5.1.3 The working group shall include professional and technical personnel in the fields of electric power, fire protection, medical treatment, and environmental protection.

5.2 Data collection

The following information shall be collected before the preparation of the emergency plan for the electrochemical energy storage power station:

- a) Basic overview of power station installed capacity, battery type, function positioning, etc.;
- b) Geographic location map of the power station, general layout plan, emergency evacuation route map, surrounding terrain, environmental conditions, hydrology, and traffic information;
- c) Relevant national laws and regulations, departmental and local rules and regulations, etc.;
- d) The emergency plan of the local government department of the power station,

the emergency plan of relevant units, and the emergency plan of similar power stations;

e) The emergency management system, accident investigation and handling system, and dispatching procedures of the unit with which the power station is affiliated and the grid to which the power station is connected;

f) Technical standards such as power station operation and maintenance regulations, maintenance regulations, and safety regulations;

g) Technical information on energy storage batteries, battery management systems, energy storage converters, monitoring systems, power transformation and distribution systems, communication systems, fire-fighting facilities, heating and ventilation systems, etc.

5.3 Hazard source identification and risk assessment

5.3.1 Hazard source identification and risk assessment shall be carried out before the emergency plan of the electrochemical energy storage power station is prepared. Hazard source identification shall cover all equipment, work sites, and work activities of the power station, and the content of hazard source identification and risk assessment methods shall comply with the relevant provisions of GB/T 42314.

5.3.2 The electrochemical energy storage power station shall formulate corresponding emergency plans for the risk factors of hazard level I and above as a result of the risk assessment.

5.4 Investigation of emergency resources

5.4.1 The electrochemical energy storage power station shall comprehensively investigate the emergency resource status of the unit, relevant units, and competent government departments, including:

a) Internal emergency teams, emergency equipment, emergency supplies, emergency places, emergency funds, etc.;

b) Monitoring, control, and alarm means such as a power station monitoring system, fire protection system, centralized control center, fire control center,