

ASSOCIATION STANDARD

T/CSAE 88-2018

**Fire safety technical requirements for small electrochemical
energy storage power stations
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

Some elements of this standard may involve patents, and the standard issuing authority does not assume responsibility for identifying these patents.

This standard was proposed by the Technical Innovation Alliance of the Electric Vehicle Industry.

This standard was drafted. Shanghai Fire Research Institute of the Ministry of Public Security, Shanghai Automobile City (Group) Co., Ltd., Hangzhou Zhongchuan Fire Equipment Co., Ltd., Wanxiang One Two Three Co., Ltd.

1 Scope

This standard specifies the fire protection design content and requirements for small electrochemical energy storage power stations.

This standard applies to the fire safety design of small electrochemical energy storage power stations.

2 Normative references

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

GB 51048-2014 "Design Specifications for Electrochemical Energy Storage Power Stations"
GB 50140 "Design Specification for Construction Fire Extinguisher" GB 50217-2007 "Power Engineering Cable Design Specification" GB/T 18384.3-2001 "Safety requirements for electric vehicles - Part 3. Protection against electric shocks"

3.1 Electrochemical energy storage power station

An electrochemical cell is used as an energy storage component for power storage, conversion and release.

3.2 Energy storage unit

A minimum energy storage system consisting of a battery pack, a battery management system, and a power conversion system connected thereto.

3.3 Small electrochemical energy storage power station

The capacity of the energy storage unit is above 100kWh, and below 1MWh is a small electrochemical energy storage station.

3.4 Open frame battery rack

The open rack of the battery pack is called an open rack battery rack.

3.5 Closed battery rack

The shelf in which the battery pack is placed is called a closed battery rack.

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3.6 Active lithium battery fire suppression device

It is used for automatic detection of lithium battery fire in lithium battery cabinet. It has automatic fire extinguishing medium to suppress lithium battery explosion and fire spread.

Able device.

4 Small electrochemical energy storage power station site selection requirements

4.1

Site selection should not be close to areas with potential fire or explosion hazards. When adjacent to a building that is at risk of explosion or fire, it complies with the provisions of the current national standard GB 50058 "Design Specification for Explosive Hazardous Environmental Power Equipment".

4.2

It is not advisable to choose at the intersection of urban trunk roads and busy traffic sections.

4.3

Small electrochemical energy storage power stations should be set up independently, not less than 10 meters away from the surrounding buildings, and not far from important public buildings.

Less than 25 meters.

4.4

It should not be located in a place with dusty or corrosive gas. When it cannot be far away, it should not be located on the leeward side where the pollution source prevails in the wind direction.

4.5

It should not be located in a place where water may accumulate.

4.6

The design elevation of the site of a small electrochemical energy storage power station should be higher than the flood level with a frequency of 2% or the highest water level in the history.

When the ground design elevation cannot meet the requirements, a reliable water retaining facility or the main equipment base and the indoor floor elevation of the production building should be set.

Higher than the requirement.

4.7

Small electrochemical energy storage power stations should be installed in the area covered by the municipal fire protection pipe network.

5 Station fire protection requirements

5.1

Station buildings should be made of non-combustible materials.

5.2

The battery storage room and the electrical control room in the station should be set independently. If it cannot be set independently, the fire resistance limit should be less than 2h.

Separation of materials, it is not advisable to open the door or open the window on the partition material.

5.3

The battery storage area of the station should be equipped with an explosion-proof accident emergency natural ventilation device, and the ventilation area should be no less than the construction area.

5%; the natural ventilation device should be linked with the fire protection system, and the action time is less than 30s.

5.4

A video surveillance system should be set up in the station, and the video surveillance system should be able to clearly observe the battery cabinet.

5.5

The station building shall be in accordance with the "Severe Dangerous Level" configuration in accordance with the "Code for Design of Fire Extinguishers for Buildings" GB 50140 for fire extinguishers, clean gas fire extinguishers should be used.

5.6

Independent fire power supply should be provided.

5.7

An obvious power cut-off device should be provided. In case of fire, the power supply should be cut off immediately.

5.8

Cable fire prevention and prevention of flame retardation shall comply with the current national standard "Code for Design of Power Engineering Cables" GB 50217-2007 Chapter 7 Relevant regulations.