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**Technical requirements for dynamic monitoring and early
warning of new energy vehicle safety operation**

新能源汽车运行安全性能动态监测预警技术要求

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1 Scope

This document specifies the technical requirements for dynamic monitoring and dynamic early warning of new energy vehicle safety operation.

This document is applicable to the dynamic monitoring and early warning of the safety operation of in-use battery electric vehicles and plug-in hybrid electric vehicles (including extended-range electric vehicles) equipped with on-board terminals that comply with the requirements of GB/T 32960.2; other types of in-use new energy vehicles may refer to this document for application.

2 Normative References

GB/T 19596

GB/T 22239

GB/T 32960.1

GB/T 32960.2

GB/T 32960.3

GB 38031

3.1 Terms and Definitions

The terms and definitions defined in GB/T 19596, GB/T 32960.1, GB/T 32960.2, GB/T 32960.3, and GB 38031, as well as the following terms and definitions, are applicable to this document.

3.1.1 Platform data of new energy vehicle safety operation

Data obtained through the on-board terminals of new energy vehicles and stored on the public service and management platform as well as the enterprise service and management platform that reflects the operational safety status of new energy vehicles.

3.1.2 Public service and management platform

A platform established by the national or local governments or their designated agencies for the data acquisition and centralized management of new energy vehicles within their jurisdiction.

[Source. GB/T 32960.1-2016, 3.2, with modifications]

3.1.3 Enterprise service and management platform

A platform built by the vehicle manufacturer itself or commissioned to a third-party technical institution to manage new energy vehicles and users within its service scope, and to provide safe operation services and management.

[Source. GB/T 32960.1-2016, 3.3, with modifications]

3.1.4 Dynamic monitoring

Using platform data of new energy vehicle safety operation or data models to conduct real-time or near-real-time monitoring and analyze operational safety faults or potential hazards.

NOTE 1.Operational safety faults may cause situations where electrical safety components or systems unique to new energy vehicles (such as traction batteries, drive motors, and electronic control systems) fail to meet design operating conditions during operation.

NOTE 2.Operational safety potential hazards may cause damage or threat to the electrical safety components or systems unique to new energy vehicles (such as traction batteries, drive motors, and electronic control systems).

3.1.5 Dynamic early warning

Using the results of dynamic monitoring of new energy vehicle safety operation to issue risk notifications or alerts to new energy vehicles that have operational safety faults or potential hazards.

3.2 Abbreviations

The following abbreviations are applicable to this document. DC/DC. DC/DC Converter
SOC. State-of-Charge

4 General Requirements

4.1 The enterprise service and management platform shall meet the following requirements.

a) It possesses the dynamic monitoring function specified in Clause 5 and the dynamic

early warning function specified in Clause 6;

b) It can receive platform data of new energy vehicle safety operation reported by the on-board terminal in accordance with the requirements of GB/T 32960.3, and the data format and definition comply with the provisions of Table A.1 in Appendix A;

c) It can report platform data of new energy vehicle safety operation, dynamic monitoring results, fault handling information, and potential hazard handling information to the public service and management platform in accordance with the requirements of GB/T 32960.3, and the communication protocol complies with the provisions of Appendix B;

d) It can report accident information of vehicles involved in traffic accidents 30 s before and after the time of the accident, and the information sampling period is no more than 1 s; data before the accident is transmitted in the form of retransmission, and the format and definition of the reported data comply with the requirements of Table B.5;

e) Its safety protection capabilities meet the Level 2 or above safety requirements specified in GB/T 22239.

4.2 The public service and management platform shall meet the following requirements.

a) It can receive platform data of new energy vehicle safety operation, dynamic monitoring results, fault handling information, and potential hazard handling information reported by the enterprise service and management platform in accordance with the requirements of GB/T 32960.3;

b) The communication protocol complies with the provisions of Appendix B;

c) Its safety protection capabilities meet the Level 3 or above safety requirements specified in GB/T 22239;

d) It possesses a public service and management platform with the dynamic monitoring function, capable of feeding dynamic monitoring results back to the corresponding enterprise service and management platforms and providing dynamic monitoring results regarding the inspection of the new energy vehicle safety operation.

NOTE. The new energy vehicle safety operation shall be inspected in accordance with the inspection procedures set forth in GB/T 44500.

5.1.1 Monitoring items

Fault monitoring items shall include the contents listed in Table 1.

Table 1 -- Operational Safety Fault Monitoring for New Energy Vehicles 5.1.2 Monitoring shall be conducted in accordance with the following procedures.

a) Extract the generic alarm flag data from Table A.1 based on the fault monitoring items listed in Table 1;