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**Aboveground petroleum storage depot integrity management
specification**

地上石油储（备）库完整性管理规范

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Foreword

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1 Scope

China's national specification for integrity management at aboveground petroleum storage depots. Integrity management is the discipline of keeping a facility fit for service through its life by knowing its condition rather than by reacting to failures, and a tank farm is a good candidate for it: the assets are numerous, similar, long-lived and degrade in ways that are predictable and inspectable. The failures that matter are the tank floor, which corrodes from underneath where nobody can see it and whose leak reaches groundwater before anyone notices; the shell, which corrodes at the liquid surface and at the water bottom; the roof

seals of floating roof tanks, which control both emissions and fire risk; and the bunds and the pipework. Integrity management assigns an inspection interval to each based on its assessed risk, which is what allows a depot to concentrate its effort where the consequence and the likelihood are highest.

This document specifies the content, methods and requirements for the integrity management of the above-ground oil storage (reserve), including the integrity management during the construction period, data collection Integration and integration, risk assessment, integrity detection, integrity assessment, risk reduction, performance assessment, emergency support, integrated risk management and control platform, etc. This document is applicable to the completion of above-ground oil storage (standby) storage tanks, process pipelines, control systems, auxiliary facilities, fire embankments, emergency pools and other assets. Integrity management, and emergency management of above-ground oil storage (reserve) depots, and other storage media shall be used by reference.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 1452 Test method for flat tensile strength of sandwich structures

GB/T 12777 General Specifications for Metal Bellows Expansion Joints

GB/T 19624 Safety assessment of pressure vessels with defects in use

GB/T 25921 Inspection specification for electrical and instrumentation circuits

GB/T 26644 General rules for nondestructive testing acoustic emission testing

GB/T 29639 Guidelines for the preparation of emergency plans for production safety accidents in production and business units

GB 30077 Requirements for emergency rescue materials for hazardous chemical units

GB/T 30578 Risk-based inspection and evaluation of atmospheric storage tanks

GB 50074 Code for Design of Petroleum Storage

GB 50128 Specification for construction of vertical cylindrical steel welded storage tanks

GB 50737 Code for Design of Petroleum Reserves

GB 50974 Technical specifications for fire water supply and fire hydrant systems
DL/T 596 Preventive Test Regulations for Electric Equipment
DL/T 1195 Operation and Maintenance Specifications for High Voltage Frequency Converters in Thermal Power Plants