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

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Oil and gas pipeline integrity management specification

油气输送管道完整性管理规范

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Foreword

4.4,4.5,4.6,8.1.1,8.1.2,

8.1.5 this standard is mandatory, the rest are recommended. This standard was drafted in accordance with rules GB/T 1.1-2009 given. This standard is proposed and managed by the National Petroleum Natural Gas Standardization Technical Committee (SAC/TC355).

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1 Scope

China's national specification for managing the integrity of oil and gas transmission pipelines - the framework document that GB/T 42033-2022 on integrity assessment sits inside, and the one that fixes how often a line has to be re-assessed. It sets the content, the methods and the requirements of pipeline integrity management: data acquisition and integration, high consequence area identification, risk assessment, integrity assessment, risk mitigation with repair and maintenance, performance evaluation, failure management, records and change management, and training and competence. It applies to the onshore steel pipelines carrying oil and gas that were designed to GB 50251 or GB 50253, and it does not apply to station process piping. Clauses 4.4, 4.5 and 4.6 and 8.1.1, 8.1.2 and

8.1.5 are mandatory; the rest is recommended. The document defines the vocabulary the Chinese pipeline industry now works in - pipeline integrity and its management programme, linear referencing and data alignment, baseline inspection and baseline assessment, high consequence areas and the potential impact zone, location class, in-line inspection, direct assessment, specified minimum yield strength, failure, metal loss, manufacturing defect and deformation - and then works through each management activity in turn, from the daily patrol to the control of third-party damage, geological hazard and corrosion, emergency support and pressure-reduced operation. Thirteen annexes carry the working material: the data acquisition list, the structure of the data tables to be submitted, the potential impact zone diagram, the content of the reports, the risk matrix, the leak acceptance criteria, inspection types and typical inspection performance specifications, the fitness-for-service criteria, the repair methods by defect type, the failure event forms and a training programme. Issued on 13 October 2015 under National Standard Announcement 2015 No. 33 and in force since 1 March 2016, it was drafted under SAC/TC 355.

This standard specifies the contents of oil and gas pipeline integrity management, methods and requirements, including the identification data collection and integration, high consequence region, Risk assessment, integrity assessment, risk mitigation and repair and maintenance, performance evaluation and so on. This standard applies to the integrity of the pipe or follow GB 50251 GB 50253 design for steel pipeline onshore hydrocarbon medium Management. This standard does not apply to Integrity Management station process piping.

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated paper Pieces. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 16805 liquid petroleum pipeline pressure test

GB/T 21447 Specification external corrosion control of steel pipe

GB/T 21448 buried steel pipeline cathodic protection Specification

GB/T 23258 specification the corrosion control of steel pipe

GB/T 27512 buried steel pipeline risk assessment method

GB/T 27699 within a steel pipeline detection Specification

GB/T 29639 production safety accident emergency response plan guide the production units

GB 50251 gas pipeline project design specifications

GB 50253 pipeline engineering design specifications Direct evaluation of corrosion outer

SY/T 0087.1 corrosion of steel pipelines and tanks buried steel pipeline evaluation criteria
 Direct evaluation of the corrosion SY/T 0087.2 corrosion of steel pipelines and tanks buried
 steel pipeline evaluation criteria SY/T 6713 Pipeline public warning program Identification
 SY/T 6825 within the pipeline detection system SY/T 6828 oil and gas pipelines Geological
 Disaster Risk Management Technical Specifications SY/T within the detection pipe 6889
 SY/T 6891.1 and gas pipeline risk assessment method - Part 1. Semi-quantitative
 Evaluation Method

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Pipeline Integrity pipelineintegrity Pipeline safe and reliable service in the state,
 including. pipelines is complete in structure and function; pipeline at risk controlled state;
 Security status of the pipeline to meet current operating requirements.

3.2 Pipeline Integrity Management pipelineintegritymanagement; PIM Pipeline risk factors
 faced by the ongoing identification and evaluation, identify the negative factors continued to
 eliminate, take a variety of risk mitigation Measures to control risk in a reasonable,
 acceptable range, and ultimately to achieve safe, reliable, and economical operation of the
 purpose of the pipeline.

3.3 Integrity Management Program integritymanagementprogram File to targeted programs
 for pipeline integrity management activities and arrangements, the system guide data
 collection and integration, high consequence area knowledge Do not, risk assessment,
 integrity assessment, risk mitigation and repair and maintenance, performance evaluation
 of the integrity of management.

3.4 Linear Reference linearreferencing A method for the relative position of the linear
 system along the long-distance pipelines (e.g., mileage) for storing data

3.5 Data alignment dataaligning The multi-source data location or batch duct in a linear
 reference system easily identifiable by the features of the valve, a short section, such as
 weld rings calibration.

3.6 Baseline measurement baselineinspection Pipe integrity test the first embodiment, it
 comprises a center line, and the deformation detecting magnetic flux leakage testing and
 other testing activities.

3.7 Baseline evaluation baselineassessment Evaluation of the integrity of the pipeline
 status for the first time carried out on the basis of the baseline measurement.

3.8 High consequence area highconsequenceareas; HCAs It may result in greater adverse
 impact on the public and the environment after the pipeline spill area.

3.9 Regional level locationclass Press the number of residents along the pipeline and grade