# P 72 P 72 PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

## 中华人民共和国石油化工行业标准

SH/T 3905-2007

## Management guideline for underground pipe works of petrochemical factory 石油化工企业地下管网管理工作导则

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#### Foreword

According to "Notice on Issuing 2004 Industrial Standard Project Plan" of general office of the National Development and Reform Commission (FGBGY [2004] No.872), this guideline is mainly compiled by Luoyang Petrochemical Engineering Corporation, SINOPEC.

This guideline is divided into 12 chapters and 7 annexes, where annex B, C, D, E are normative annexes, and annex A, F, G are informative annexes. This guideline mainly includes management for underground pipeline network of petrochemical enterprises, measurement of pipeline pay-off, pipeline completion survey, and detection of pipeline status quo, map construction, methods and technical requirements for establishing underground pipeline information management system.

This guideline is managed by general drawing design technology center of Luoyang Petrochemical Engineering Corporation, SINOPEC.

During the implementation process of this guideline, if any modifications and replenishments are found, please provide comments and relevant information to the administrative unit and chief editorial unit to refer for future revisions.

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### Management guideline for underground pipeline works of petrochemical factory

#### 1 Scope

This guideline stipulates management for underground pipeline network of petrochemical enterprises, measurement of pipeline pay-off, pipeline completion survey, and detection of pipeline status quo, map construction, methods and technical requirements for establishing underground pipeline information management system.

This guideline is applicable to the design, construction, detection, map construction, and collection, sorting, using of basic data as well as other management work of various underground utility systems pipeline in each stage of new construction, expansion and rebuilding as well as production management process of petrochemical enterprise, and the establishment, update, maintenance, standardization and data sharing of underground pipeline information management system. The management of the underground pipeline network in the process unit and facilities can be referred for the implementation.

#### 2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard. GB 50160 Fire prevention code of petro chemical enterprise design CJJ 73 Technical Specification for Urban Surveying Global Positioning System

SH 3100 Specification for the engineering survey in petrochemical industry SH/T 3133 Specification for cartographic symbols of present maps in petrochemical engineering

#### 3 Terms and definitions

The following terms and definitions are applicable to this guideline.

3.1

#### General survey of underground pipeline

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According to the requirements of company's planning design, construction and development as well as production management, ascertain underground pipeline status quo in built-up areas and planning areas of the enterprise with economical, reasonable, secure and efficient technology and methods; determine attribute data and spatial data of underground pipeline; acquire accurate information related to underground pipeline status quo; compile pipeline drawing and relevant outcome table; establish, update and improve database and information management system of underground pipeline; implement the whole process of computer dynamic management for underground pipeline information.

#### 3.2

#### Underground pipeline detecting and surveying

Utilize techniques and methods such as physical detection and measurement to determine the attribute and spatial position of underground pipeline, and to obtain the whole process of accurate information for the underground pipeline status quo.

#### 3.3

#### Information of pipeline

Data of describing the pipeline feature, nature and taking the spatial position as parameters.

#### 3.4

#### **Property data**

It's the data of describing the feature and nature of the pipeline.

Notes: The pipeline attribute data include the names and specifications of pipeline (including pipe diameter, pipe ditch and pipe block section size, etc.), materials, medium characteristics (including pressure, voltage, flow rate, flow, etc.), laying methods (including the direct burial, pipe ditch, pipe block, pavage, pipe pier, pipe racks, etc.), the width of the pipe pier or pipe rack pillar and the beam, pipe block holes, number of cables, laying years, ownership units and the buildings (structures) and appurtenances configured on the pipelines.

#### 3.5

#### Spatial data

It's the data of taking the spatial position as parameters.

Notes: The spatial data of the pipeline includes the plane position, burial depth (or

elevation), overhead height (or elevation) and trend, etc., and the plane position of buildings (structures) configured on pipelines and the coordinate and elevation of central point of appurtenances.