

◎ 中国石油文献数据库收录期刊
◎ 中国期刊全文数据库收录期刊
◎ 中国科技论文统计源期刊

◎ 美国《化学文摘》(CA)收录期刊
◎ 俄罗斯《文摘杂志》(AJ) 收录期刊

ISSN 1000-8241
CN 13-1093/TE
CODEN YOCHEP

2015.01
第34卷
01

油气储运



Oil & Gas Storage and Transportation



ISSN 1000-8241



0.1>



9 771000 824156

中国石油学会石油储运专业委员会会刊
主办：中国石油天然气股份有限公司管道分公司



油气储运

YOUQI CHUYUN

2015 年 1 月 第 34 卷第 1 期
(月刊·1977 年创刊 总第 313 期)

主编: 艾慕阳 副主编: 关中原

主管单位 中国石油天然气集团公司
主办单位 中国石油天然气股份有限公司
管道分公司
编辑出版 《油气储运》杂志社
通信地址 (065000)河北省廊坊市金光道 51 号
编辑部 0316-2177193 2177197
2176753
广告部 0316-2177392
出版部 0316-2177392
发行部 0316-2177392
传真 0316-2177392
网址 yqcy.paperopen.com
发行范围 公开发行
国内发行 河北省廊坊市邮政局
国外发行 中国出版对外贸易总公司
(100011)北京 782 信箱
印刷 廊坊市恒泰印务有限公司
出版日期 2015 年 1 月 25 日

中国标准连续出版物号 ISSN 1000-8241
CN 13-1093/TE
国际期刊 CODEN 码 YOCHPE
邮发代号 18-89
广告经营许可证号 1310004000002
国内定价 25.00 元/册
国外定价 25.00 美元/册

责任编辑 杜娟
装帧设计 曹立立
封面题字 启功
封面摄影 荣波

目次

前瞻与综述

- 0001 欧盟天然气产业链结构改革后管输管理新模式 刘毅军,李艳丽
0008 国内海洋储罐风险现状及开展 RBI 的必要性 王力,汪震宇
0015 全球油气管道建设概况 王红菊,祝志智,张延萍
0019 中国石油海外管道完整性管理的必要性和挑战 李大全,黄文,汪是洋,等

完整性与可靠性

- 0024 X100 钢管落锤撕裂试验的断口表征与分析 杨忠文,张骁勇,毕宗岳,等
0033 机械喷丸对 X80 管线钢疲劳性能的影响 李岩芳
0037 油气管道体积型腐蚀缺陷有限元分析 杨辉,汤怡,陈健,等

输送与储存

- 0042 山东 LNG 接收站再冷凝器工艺及控制系统 姜国良,侯志强,刘骁,等

投产与运行

- 0046 一体式焊接截止阀的带压堵漏 解应涛,陈利琼,李云云
0050 溢油扩散分析技术及其应用 李保吉,冯庆善,张沛,等
0053 储油罐收油作业危险区域数值模拟 马健
0057 成品油二次配送环节损耗治理方案 杨雅光
0062 油气管道 SCADA 系统调控业务应用的 GIS 扩展 黄河,黄平,闫峰,等
0067 输油管道泄漏河流污染影响评价模型及应用 刘冰,孙宝龙,刁宇,等

Oil & Gas Storage and Transportation

0072 油气管道中控调度岗位危害因素辨识与风险控制 丁俊刚

设计与施工

- 0077 纳米气凝胶与常用管道保温材料的性能对比 张鑫,王毓薇,白志鸿,等
- 0081 油气管道隧道喷锚衬砌支护技术的应用 何树生,史航,杨建,等
- 0086 多年冻土区埋地管道保温方案的设计与有限元分析 赵树炳,赵振兴,张志强,等
- 0090 大直径立式锥底罐变壁厚锥底结构设计 李玉坤,孙文红,陈晓红

一线报道

- 0096 国家石油天然气大流量计量站检定工艺的优化 史昊,王敦智
- 0100 共用调压系统对特殊用户计量的影响 吴华,肖博文,彭宇,等
- 0104 炼厂内高温管道保温层的优化设计 施雯,童汉清,梁飞华,等
- 0107 天然气管道燃驱压缩机组防冰系统的改进 张衍岗,李刚,姬忠礼,等
- 0111 日东管道杂散电流干扰检测与防护 任增珺

简讯 行业动态(0061、0089) 下期要目(0099)

《油气储运》杂志 第九届编委会

主任:姚伟

副主任:李伟林 赵丑民 艾慕阳

顾问(以汉语拼音为序):
李鹤林 罗平亚 严大凡 杨祖佩

委员(以汉语拼音为序):
陈健峰 陈开彬 陈世一 陈向新
崔涛 樊栓狮 冯耀荣 高发连
高庭禹 宫敬 郭揆常 韩忠晨
何利民 敬加强 李长俊 李利民
梁成浩 刘扬 路民旭 孟繁春
闵希华 钱建华 沈本贤 石永春
孙春良 谭羽非 仝兴华 王力戎
王寿喜 王树立 王卫国 王小平
吴长春 吴明 徐昌学 贡军贤
张成伟 张劲军 张来斌 张伟
张伟明 张文伟 张秀杰 章泽华
赵堂玉 赵宗昌 钟太贤 朱天升

秘书长:姜宝良

副秘书长:关中原(兼)



Oil & Gas Storage and Transportation

Monthly, Started in 1977

Editor-in-chief: AI Muyang

General Director: GUAN Zhongyuan

Oil & Gas Storage and Transportation

Journal Agency

No.51, Jinguang Rd., Langfang City, Hebei

Province, 065000, PRC

Tel: +86(316)2176173

Fax: +86(316)2177392

CODEN: YOCHEP

ISSN 1000-8241

CN 13-1093/TE

yqcy.paperopen.com

Managing Editor: DU Juan

English Editor: LIU Chunyang

LIU Bo

Technical Editor: CAO Lili

Cover Inscription: QI Gong

Cover Photographer: RONG Bo

Publishing Date: January 25, 2015

Annual Subscription Rates:

China RMB ¥300

Overseas US \$ 300

Overseas Distributor:

China Publisher External Trading

Corporation

PC Box 782, Beijing, 100011, PRC

CONTENTS

FORWARD-LOOKING & OVERVIEW

0001 A new mode of pipeline transportation management after structural reform of EU natural gas industrial chains

LIU Yijun, LI Yanli

0008 Risk status and necessity of RBI for offshore ASTs in China

WANG Li, WANG Zhenyu

0015 Overview of oil and gas pipelines in the world

WANG Hongju, ZHU Quezhi, ZHANG Yanping

0019 Necessity and challenges of CNPC overseas pipeline integrity management

LI Daquan, HUANG Wen, WANG Shiyang, et al

INTEGRITY & RELIABILITY

0024 DWTT notch characterization and analysis of X100 steel pipes

YANG Zhongwen, ZHANG Xiaoyong, BI Zongyue, et al

0033 Effect of mechanical shot peening on fatigue property of X80 pipe steel

LI Yanfang

0037 Finite element analysis of volumetric corrosion defects of oil/gas pipeline

YANG Hui, TANG Yi, CHEN Jian, et al

TRANSPORTATION & STORAGE

0042 Recondenser process and control system of Shandong LNG Terminal

JIANG Guoliang, HOU Zhiqiang, LIU Xiao, et al

COMMISSIONING & OPERATION

0046 Leakage stoppage of integrated welding globe valve under pressure

XIE Yingtao, CHEN Liqiong, LI Yunyun

0050 Research and application of spilled oil diffusion analysis technique

LI Baoji, FENG Qingshan, ZHANG Pei, et al

0053 Numerical simulation of hazardous areas at loading of oil tank

MA Jian

0057 Prevention of loss in the secondary distribution of products oil

YANG Yaguang

0062 GIS extension in regulation application of oil and gas pipeline SCADA system

HUANG He, HUANG Ping, YAN Feng, et al

0067 Evaluation model for potential river pollution of oil pipeline leakage and its application

LIU Bing, SUN Baolong, DIAO Yu, et al

Oil & Gas Storage and Transportation

0072 Hazard identification and risk control of the central control post for oil and gas pipeline
DING Jungang

DESIGN & CONSTRUCTION

- 0077 Comparison of properties between nano-aerogel and common pipeline insulating materials
ZHANG Xin, WANG Yuwei, BAI Zhihong, et al
- 0081 Application of shotcrete rockbolt and lining support technology in oil and gas pipeline tunnel
HE Shusheng, SHI Hang, YANG Jian, et al
- 0086 Design and finite element analysis of insulation of pipeline buried in permafrost area
ZHAO Shubing, ZHAO Zhenxing, ZHANG Zhiqiang, et al
- 0090 Design of wall thickness-variable bottom of large diameter vertical conical-bottom tank
LI Yukun, SUN Wenhong, CHEN Xiaohong

APPLICATION REPORT

- 0096 Optimization of verification process in national large oil/gas flowrate metering stations
SHI Hao, WANG Fuzhi
- 0100 Effect of common pressure regulating system on metering for special users
WU Hua, XIAO Bowen, PENG Yu, et al
- 0104 Optimum design of insulating layer of high-temperature pipes in refineries
SHI Wen, TONG Hanqing, LIANG Feihua, et al
- 0107 Improvement of anti-icing system of GT-driven compressor set for gas pipeline
ZHANG Yangang, LI Gang, JI Zhongli, et al
- 0111 Detection and protection of stray current interference of Rizhao-Dongming Oil Pipeline
REN Zengjun

INTRODUCTION

Since its commencement in 1977, the exclusive Oil & Gas Storage and Transportation (OGST) Journal is dedicated to disseminating the latest scientific and technological accomplishments and advancements in oil and gas storage and transportation field. OGST is sponsored by PetroChina Pipeline Company. The main columns include forward-looking & overview, observation & focus, integrity & reliability, transportation & storage, commissioning & operation, design & construction, subsea pipeline & shipping, application report, etc.

In recent years, OGST has achieved many significant milestones, which include expanding its contents and improving its format, establishing a world-class domain website (<http://yqcy.paperopen.com>), realizing automatic treatment processes of contributions, accelerating the processing of contributions and shortening the publication time. It has been indexed by Scopus of Holand, CA and Ulrich PD of the USA, and AJ of Russia. In a joint effort with Chinese National Knowledge Infrastructure (CNKI), OGST has also implemented digital publication to expand the dissemination of excellent papers to a wider readership.

Maintaining a high standard of scientific journal publication has always been the unswerving goal of OGST. OGST will continue to strive towards excellence in reporting and transmission of scientific accomplishments and information, promoting the innovation in theory and practice, and contribute to the transfer of scientific accomplishments to productivity and development of oil and gas pipeline industry in its unique way.

精控阀门

— 您在石油天然气项目上的可靠伙伴



KCON

专注于管线阀门的研发和制造

四川精控阀门制造有限公司

ISO9001, API6D, CE/PED, API607, ATEX, TS 认证企业

www.kconvalve.com

sales@kconvalve.com