

★中国核心期刊(遴选)数据库收录期刊
★中国学术期刊综合评价数据库(CAJCED)统计源期刊



ISSN 1008-2263
CN 11-3945/TE

OIL DEPOT AND GAS STATION

石油库与加油站

SHIYOUKU YU JIAYOUZHAN



DEFINING | WHAT'S NEXT

·广告·

油站环境 监测系统

在线
监测

渗漏
监测

一套系统 多项功能



微信公众号: opwchina

优必得石油设备(苏州)有限公司
www.opwglobal.com.cn

中国工厂
电话: 0512-62745328

上海分公司
电话: 021-24112600

北京分公司
电话: 010-80699019

广州分公司
电话: 020-28865785

ISSN 1008-2263



中国石化集团销售实业有限公司主办

2019 第5期

第28卷 总第165期

Vol.28 Total No.165



石油库与加油站

SHI YOU KU YU JIA YOU ZHAN

1992 年创刊(双月刊)

第 28 卷 第 5 期

总第 165 期

2019 年 10 月 20 日出版

编委会名誉主任:赵日峰 夏世祥
编委会主任:张毅
副主任:佟德健 王靓 王维民
特邀顾问:许卫东 叶慧青 邸春宇
王顺江

委员:

李玉杏 许渝峰 洪威 徐福斌
赵顺本 秦茂伟 聂时榜 朱建德
王志坤 王琴 邹恩庭 郭自强
曹小攀 李一庆 卢品宝 黄流雄
石锦献 伏韬 黄炳利 赵大毅
徐海林 李清杰 刘华斌 谭毅
仲伟 田树源 杨震 冯培育
冯宇飞 王飞 钱建华 沈李沪
徐永生 刘胜 付毅波 江宁
卜文平 高劲松 谢云 杜道林
沈青祁 周家祥 韩钧 金万刚

社长:张毅

副社长:佟德健

主编:王靓

副主编:金万刚

责任编辑:齐凤云

主管:中国石油化工集团有限公司

主办:中国石化集团销售实业有限公司

编辑出版:《石油库与加油站》杂志社

国内发行:《石油库与加油站》杂志社

地址:北京市东城区广渠家园 6 号楼
303 室

邮编:100022

电话:(010)67006041;67006042

传真:(010)67006043

E-mail:sykjyz@vip.sina.com

国外发行:中国图书进出口总公司

国外发行代号:2263BM

印刷:廊坊市佳艺印务有限公司

厂址:廊坊市安次区仇庄乡南辛庄村

邮编:065000

标准连续出版物号:ISSN 1008-2263
CN 11-3945/TE

广告许可:京东工商广登字 20170081 号

国内定价:每册 15 元,全年 90 元

本刊对所载图文拥有
版权,未经允许,不得转载
或复制,本刊保留追诉的
权利。

目次

储运技术

1 加油站地下油罐防渗改造方法的优选 赵东旭

油气管道

5 成品油首站给油泵运行振动高的分析及处理
..... 陈相 彭正菟 王文君

信息技术

9 加油站网上巡检信息系统的构建与应用 赵英明

环境保护

13 做好加油站环保管理工作的思考与对策 姜国良

16 加油站油气回收在线监测系统应用现状的探讨 郭燕丽

20 加油站油气回收系统运行中的常见问题及对策 王德阳

绿色能源

24 燃料电池汽车用氢的制取和储存技术的现状与发展趋势
..... 刘海利

数质量管理

28 柴油中总污染物含量测定的不确定度评定 徐旭东

安全管理

31 建设安全仿真实操培训基地的探索与实践 王栋

34 油品检测实验室 HSSE 管理的困难与对策 郑春玲

经营管理

38 中国石化易捷便利店业务发展策略探索 叶慧青

41 乙醇汽油推广政策对我国汽油市场的影响与对策建议 王超

报道及其他

12 《中国天然气发展报告(2019)》在京发布

27 2019 年第 5 期广告目次

33 2020 年《石油库与加油站》杂志征订启事

40 中国石化集团公司印发两文件强化安全管理

43 应急管理部发布导则,要求加强危化品企业安全风险隐患排查治理

44 《石油库与加油站》杂志投稿须知



Honorary Chairman of Editorial Committee: Zhao Rifeng, Xia Shixiang

Chairman of Editorial Committee: Zhang Yi

Vice Chairman of Editorial Committee: Tong Dejiang, Wang Liang, Wang Weimin

Special Consultants: Xu Weidong, Ye Huiqing, Di Chunyu, Wang Shunjiang

Members: Li Yuxing, Xu Yufeng, Hong Wei, Xu Fubin, Zhao Xunben, Qin Maowei, Nie Shibang, Zhu Jiande, Wang Zhikun, Wang Qin, Zou Enting, Guo Ziqiang, Cao Xiaopan, Li Yiqing, Lu Pinbao, Huang Liuxiong, Shi Jinxian, Fu Tao, Huang Bingli, Zhao Dayi, Xu Hailin, Li Qingjie, Liu Huabin, Tan Yi, Zhong Wei, Tian Shuyuan, Yang Zhen, Feng Peiyu, Feng Yufei, Wang Fei, Qian Jianhua, Shen Lihu, Xu Yongsheng, Liu Sheng, Fu Yibo, Jiang Ning, Bu Wenping, Gao Jinsong, Xie Yun, Du Daolin, Shen Qingqi, Zhou Jiaxiang, Han Jun, Jin Wangang

Director: Zhang Yi

Vice Director: Tong Dejian

Editor-in-Chief: Wang Liang

Vice Editor-in-Chief: Jin Wangang

Editor-in-Charge: Qi Fengyun

Responsible Department: China Petrochemical Corporation (SINOPEC)

Sponsor: SINOPEC Sales Company

Publisher: Editorial Office of Oil Depots and Oil Stations

Distributor (Domestic): Editorial Office of Oil Depots and Oil Stations

Address: Building No. 6, Guangqujiayuan, Dongcheng District, Beijing

Postcode: 100022

Tel: (010) 67006041; 67006042

Fax: (010) 67006043

E-mail: sykjyz@vip.sina.com

Distributor (Abroad): China National Publication Import & Export Corporation

Printer: Jia Yi Printing Co. Ltd of Langfang

Address: Nan xin zhuang village, qiu zhuang township, Langfang

Postcode: 065000

ISSN 1008—2263; CN11—3945/TE

No. of Ad. License: 20170081, Dongcheng District, Beijing

Domestic Price: RMB90 per year

Copyright for all originally published reports.

Contents and Abstracts

STORAGE TECHNOLOGY

1 Selection of Anti - Seepage Modification Method for Underground Oil Tank in Gas Station. Zhao Dongxu.

Abstract: At present, the anti - seepage modification project on underground oil tank of gas station is characteristic of scattering points, wide scope, high danger, long turnaround period and great difficulty in construction. Aiming at the problems, combined with the present situation of anti - seepage modification for underground oil tank in a petroleum company, three technologies commonly used are briefly introduced, namely, replacing double - layer tank, building anti - seepage tank and adding lining to single - layer tank. And the three technologies are compared in terms of operation procedure, construction period, project cost, government approval and quality assurance life. Through analyzing the risk degree and priority of environmental protection of gas stations, the methods and construction sequence for anti - seepage modification of underground oil tanks in different gas stations are determined. Meanwhile, the suggestions for modifying the double - layer pipeline in gas station during the anti - seepage modification of underground oil tanks is put forward.

Key words: gas station, anti - seepage, modification, method, selection.

OIL AND GAS PIPELINE

5 Analysis and Treatment of Large Vibration of Feeding Pump in First Station of Oil Product Pipeline. Chen Xiang, Peng Zhengwei, Wang Wenjun.

Abstract: In view of the problems of large vibration, interlocking failure, oil leakage of bearing box and false alarm of leakage detection during the operation of feed pump in the first station of an oil product pipeline, according to the spectrum analysis results, through improving the support of the inlet pipeline, adding bearing isolator, and strengthening the leakage detection and maintenance of equipment and facilities, the problem is effectively solved with good results achieved.

Key words: oil product, first station, feeding pump, vibration, problem, analysis, treatment.

INFORMATION TECHNOLOGY

9 Construction and Application of Online Inspection Information System for Gas Stations. Zhao Yingming.

Abstract: In view of the problems existing in inspection of gas stations, such as insufficient inspection times, incomplete inspection items, incomplete inspection contents, inadequate rectification of problems, complicated inspection contents, irregular inspection, forged inspection records, difficult collation and check of handwritten inspection records, and lack of effective supervision, using information technology, on the basis of sorting out the relevant duty norms and inspection process of gas station management, the online inspection information system of gas station is constructed. The system can establish basic database tables according to inspection process and rules, and design the program interface, function and work flow according to inspection process. Relying on the wide area network, Hainan Petroleum Products Company achieves wide area connection of the whole company's gas station systems by leasing the 10M MPLS - VPN optical fiber link of China Telecom, which can transmit data, images and multimedia information in real time, and the inspection system software based on station level is developed. The system is developed based on B/S mode, adopting Tomcat architecture in server side, using SQL SERVER in database, and using JAVA language in software development. Application server and database server are set up in company data center to ensure the authenticity and accuracy of data. By binding the fixed IP address of gas stations, the system automatically extracts the name of the inspected gas station, uses linkage mode of the front - end login and camera to capture the user, which ensures the authenticity of inspection. The application of the system promotes the effective operation of the company system, improves the quality of gas station supervision, and improves the level of on - site management of gas station.

Key words: gas station, management, online inspection, information system, construction, application.

ENVIRONMENTAL PROTECTION

13 Consideration on Environmental Protection Management of Gas Stations and Countermeasures. Jiang Guoliang.

Abstract: Aiming at the status and problems in environmental impact assessment and environmental protection management of atmosphere, wastewater, solid waste, soil pollution prevention and control in gas stations, the corresponding countermeasures and suggestions are put forward, such as improving the basic management level of environmental protection of gas stations, participating in environmental impact assessment of projects in depth, meeting the requirements on the installation and maintenance of

oil and vapor recovery equipment and facilities, implementing systematic sorting and classification of wastewater discharge, implementing standardized solid waste management, and preventing seriously soil and groundwater pollution.

Key words: gas station, environmental protection, status quo, problems, countermeasure, suggestion.

16 Common Problems in Operation of Oil Vapor Recovery System in Gas Stations and 2 Discussion on the Application Status of On - Line Monitoring System for Oil Vapor Recovery in Gas Station. Guo Yanli.

Abstract: The application status of oil vapor recovery system and its on - line monitoring system in domestic gas stations and the related standards of the on - line monitoring system in gas stations are briefly introduced. Based on the feedback data from the application of oil vapor recovery on - line monitoring system, the existing problems of the on - line monitoring system in gas stations are pointed out, such as some errors compared with manual testing, different working conditions with manual testing, and the difficulty to realize sealing and liquid resistance testing. Relevant suggestions are put forward: firstly, the difference between on - line monitoring and manual testing should be defined, i. e. on - line monitoring is taken as a daily judging standards with the manual testing as an annual inspection project; secondly, more efficient oil vapor recovery equipment should be selected; thirdly, a comprehensive environmental protection monitoring platform for gas stations should be built.

Key words: gas station, oil vapor recovery, on - line monitoring, application, discussion.

20 Common Problems in Operation of Oil Vapor Recovery System in Gas Stations and Countermeasures. Wang Deyang.

Abstract: Combining with the operation status of oil vapor recovery system in a company's gas station, based on the brief introduction of the principle of oil vapor recovery system and the detection standard of oil vapor recovery, the problems of unqualified sealing, gas - liquid ratio and liquid resistance of oil vapor recovery system are analyzed, and the corresponding countermeasures are put forward: strengthening the management and control of the construction process, improving the supervision of refueling and unloading operations, and perfecting the maintenance of oil vapor recovery equipment and facilities to ensure the normal operation.

Key words: gas station, oil vapor recovery, system, operation, problem, countermeasure.

GREEN ENERGY

24 Current Status and Development Trend of Hydrogen Production and Storage Technology for Fuel Cell Vehicle. Liu Haili

Abstract: The present technologies of hydrogen production from natural gas, coal, industrial by-product, refinery, water electrolysis and new energy in China and on-board hydrogen storage technologies such as high-pressure gas state, low-temperature liquid state, high-pressure liquid state, metal hydride and organic liquid are briefly introduced, and their advantages and disadvantages are compared respectively. The future quantity of fuel cell vehicles and hydrogen consumption in China and the main ways of hydrogen storage in vehicles are predicted, which provides a reference for the development of fuel cell vehicles in China.

Key words: fuel cell, vehicle, hydrogen production, hydrogen storage, method, introduction.

QUANTITY AND QUALITY MANAGEMENT

28 Evaluation of Uncertainty in Determination of Total Contamination in Diesel Fuel. Xu Xudong.

Abstract: According to "Determination of Total Contamination in Middle Distillates, Diesel Fuel and Fatty Acid Methyl Ester (GB/T 33400-2016)", "Evaluation and Expression of Uncertainty in Measurement (JJF1059-2012)", and "Guidance and Illustration on Uncertainty Estimation in Physical and Chemical Testing in the Field of Petroleum and Petrochemicals", the uncertainty of total contamination in vehicle diesel fuel is evaluated using the "Guide to the Expression of Uncertainty in Measurement (GUM)". The results show that the uncertainty comes mainly from the repeatability of the measurement method, and then from the numerical modification. The uncertainty caused by filter membranes and samples weighing can be neglected.

Key words: diesel fuel, total contamination, content, determination, uncertainty, evaluation.

SAFETY MANAGEMENT

31 Exploration and Practice of Building Safety Simulation Practical Operation Training Base. Wang Dong.

Abstract: The background, basis, innovation points, main contents and practices of the simulative safety training base project of Sinopec Guangxi Petroleum Product Company are introduced in detail. According to the current situation of safety management, the company has trained warning education, seven major direct operations, oil depot and gas station operations, emergency response and personal protection by utilizing idle depot sites and equipment, adopting advanced technologies such as virtual reality, simulation, human-computer interaction through the experiential, desktop and immersion methods. After the implementation of the project, the trainees' awareness of HSSE has been significantly improved, the training quality has been improved, and the training cost has been reduced,

which provides a reference for the safety training in petrochemical sales enterprises.

Key words: petrochemical sales enterprise, safety, simulation, practical training, base, project, introduction.

34 Difficulties and Countermeasures of HSE Management in Oil Testing Laboratories. Zheng Chunling.

Abstract: Taking the present situation of an oil product testing laboratory of a petroleum company as an example, some problems are pointed out in the laboratory at present, such as outdated infrastructure, small workplace area, aged power supply lines, lack of fresh air system and independent gas cylinder room, weak awareness of HSE of quality inspectors, improper disposal of solid waste, inadequate allocation of night duty and sampling personnel, and increasing difficulty of reagents management in laboratory. The corresponding countermeasures are put forward as follows: improving the infrastructure allocation, strengthening the education and training of HSE to enhance the awareness and execution of HSE among quality inspectors, setting up HSE daily supervisors, strictly implementing the relevant system of solid waste disposal, and strengthening management of night duty, sampling, and laboratory reagent.

Key words: oil sales enterprises, laboratory, safety, HSE, management, problem, countermeasure.

OPERATION MANAGEMENT

38 Exploration on Business Development Strategy of SINOPEC Easy Joy Convenience Store. Ye Huiqing

Abstract: SINOPEC Easy Joy Convenience Store business has been growing by leaps and bounds since its operation. By reviewing the development process of SINOPEC's non-oil business, the development environment of Easy Joy Convenient Store and its competitors are analyzed, and combining with the development status of Easy Joy Convenient Store, the specific strategies and suggestions are put forward in terms of commodity, marketing and operation.

Key words: SINOPEC, non-oil, business, convenience store, development, exploration.

41 Impacts of Ethanol Gasoline Promotion Policy on China's Gasoline Market and Suggestion Wang Chao

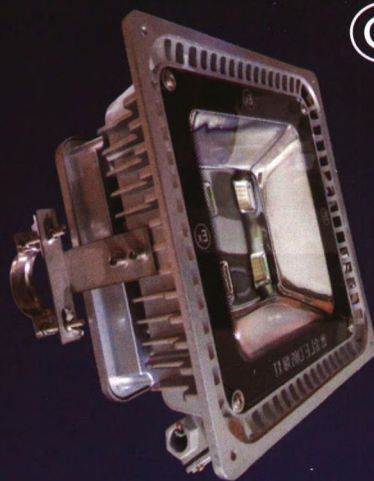
Abstract: The state promulgates the policy of promoting ethanol gasoline and promotes ethanol gasoline on a large scale throughout the country. This paper reviews the popularization of ethanol gasoline at home and abroad, expounds the basic pattern of ethanol gasoline at home and abroad, analyses the problems existing in the popularization of ethanol gasoline, and puts forward some countermeasures and suggestions for the popularization of ethanol gasoline in China.

Key words: ethanol gasoline; promotion policy; impact; countermeasures

LED 油站气站防爆灯

产品特点 / PRODUCT FEATURES

- ▶ 实用新型专利技术产品(专利号: ZL.2014.2.0245850.3, 高达145lm/W, 显著提升照明效果的同时, 大大降低用电。
- ▶ 宽电压设计, 供电110~240V, 不受输出影响。
- ▶ 可带应急功能, 应急电池一次充电可使用120分钟以上。无需单独配备应急光源, 直接使用照明光源, 应急功率可调。



专为加油\气站设计

节能
高效
安全
环保

LED 智能控制标识灯箱



夜间效果实拍




夜间效果实拍

智能控制檐口灯箱, 专利技术(实用新型专利号: 2015.2.0834748.1)日耗电量最低可达5.4度。

智能控制品牌柱灯箱, 专利技术(实用新型专利号: 2015.2.0834743.9)日耗电量最低可达2.2度。

智能控制
超低能耗

 **武汉赵德金科技发展有限公司**
WUHAN ZHAODEJIN TECHNOLOGY CO., LTD

地址: 湖北省武汉市汉阳区汉阳大道彭家岭378号西门

电话: 027-84680292 手机: 13871560105

传真: 027-84461553 邮编: 430050

Email: 84871036@163.com

服务热线: **400-8030-310**