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OIL DEPOT AND GAS STATION

# 石油库与加油站

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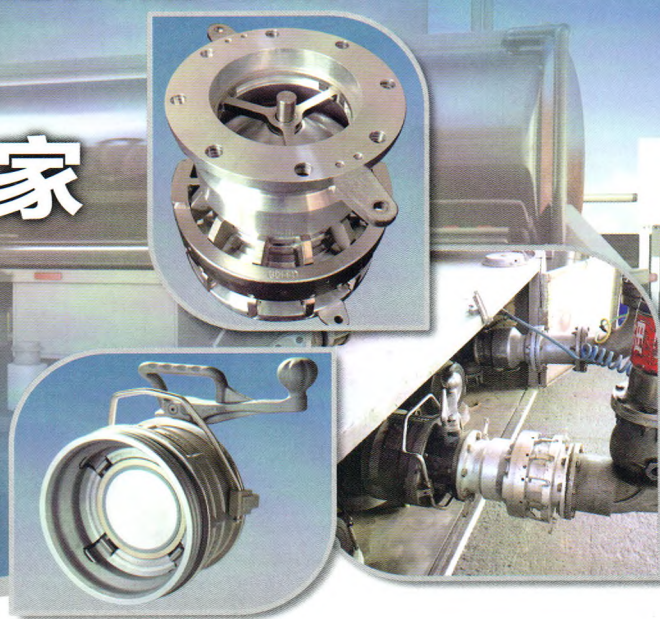


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## Contents and Abstracts

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1 Discussion on Some Problems of Fire Dike Design in Oil Storage Tank Farm. Ren Yali, Hong Guigen.

**Abstract:** The fire dike is an important safety facility in oil depot. When the oil tank leakage occurs, the qualified and effective fire dike can prevent the oil outflow and control the expansion of the tank fire. Through the actual investigation of some oil depots, combining with the national standard " Code for design of oil depot ( GB 50074 - 2014 )", the effective capacity, height, material of the fire dike and protection design of the operating valve are analyzed respectively, and the corresponding suggestions are put forward to provide a reference for the construction and maintenance of oil depot fire dike.

**Key words:** oil depot, oil storage tank farm, fire dike, design, problem, discussion.

4 Problems in the Installation of Gas Station Equipments and Countermeasures. Guo Shouxiang.

**Abstract:** Combining with practical experience, the problems existing in the installation of gas station equipments are pointed out, such as installation of explosion - proof electric, oil tank breathing tube, flame arrester, valves, emergency shut - off valve, electrostatic grounding, dispenser, and setting of anti - collision column for dispenser are pointed out, the reasons causing the problems are analyzed, and the corresponding solving measures are put forward, providing a reference for the equipment installation and construction of gas station.

**Key words:** gas station, equipment, installation, problems, solving, measure.

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9 Analysis on Application of Magnetic Flux Leakage Testing Data on Oil Product Pipeline. Wei Qingming.

**Abstract:** The concept, principle, and brief development history of magnetic flux leakage testing technology, and the basic situation of the oil product pipeline to be detected are introduced. The data obtained

through magnetic flux leakage testing technology is statistically analyzed, and the repairing measures of pipeline corrosion are put forward to provide full guarantee for operation safety of oil product pipeline.

**Key words:** oil product, oil pipeline, magnetic flux leakage test, data, analysis, application.

13 Application of 720° Panoramic Images on Petroleum Pipelines. Chen Jingjun, Xu Congqi.

**Abstract:** Basing on the analysis of safety risk of petroleum pipeline, the 720° panoramic image technology is proposed to be used on petroleum pipeline to truly present the pipeline construction, geological disasters, and surrounding occupies and densely populated areas, which provides technical support for prevention and control of safety risk of petroleum pipeline. The key technology of 720° panoramic image, capturing method, image composing and editing method, and image production standards are introduced, by which the panoramic visualization of base station and valve chamber of petroleum pipeline, and geological disasters is realized, enhancing the safety management level of petroleum pipeline.

**Key words:** panoramic images, production methods, petroleum pipelines, application.

#### SAFETY TECHNOLOGY

16 Influence of Obstacles on Diffusion of Leaked Heavy Oil Vapor in Petrochemical Tank Farm. Shi Xianzhao, Huang Weijin, Wu Dongwei, Teng Xin, Zhou Ning.

**Abstract:** Experiments were carried out on the simulation platform of tank farm to investigate the influence of obstacles on diffusion of leaked heavy oil vapor. By changing the shape and size of the obstacles, the diffusion process of leaked heavy oil vapor under different working conditions were studied. The results showed that when the leaked heavy oil vapor diffused in the presence of obstacles, gas accumulation and settlement could occur, resulting in a high concentration in front of the barrier; with the same obstacle geometry, the longer the section length is, the more easily the high concentration vapor region could form; the influence of obstacle geometry on the diffusion of leaked heavy oil vapor was smaller than that of the size difference.

**Key words:** petrochemical, tank farm, heavy oil vapor, leakage, diffusion, obstacle, influence.

20 Risks Analysis on Underground Oil Storage in Rock Cavern and Countermeasures. Zhang Ruhong, Feng Hongmin.

**Abstract:** Based on brief introduction of the charac-

teristics of underground oil storage in rock cavern, combining with the actual situation of underground oil storage in rock cavern and the monitoring data of water level, through the analysis on the main risks of underground oil storage in rock under different conditions, the corresponding countermeasures to prevent media leaks were put forward, to provide a reference for the relevant units to prevent leakage from underground oil storage in rock cavern.

**Key words:** underground oil storage in rock cavern, leakage, risk, analysis, countermeasures.

#### QUANTITY AND QUALITY MANAGEMENT

22 Discussion on Iso - Octane Detection in Low - Olefin Gasoline by GC - PONA Method. Ma Zhiyu, Xu Chengzheng, Chen Xianyin.

**Abstract:** Using gas chromatography (GC), combined with PONA method, the iso - octane content in the low - olefin gasoline samples from oil products market was determined and compared with the low - olefin gasoline samples from the major refineries, which indicated that alkylate was used as blending components of low - olefin gasoline, providing a reference for the oil sales enterprises receiving low - olefin gasoline.

**Key words:** oil sales enterprise, vehicle gasoline, olefin, isooctane, GC - PONA method, analysis.

26 Study on the Influencing Factors in Distillation Test of Vehicle Gasoline. Wei Gongyou.

**Abstract:** The influencing factors in distillation test of vehicle gasoline were analyzed from the aspects of instrument preparation, control of test process, rounding numbers, and results reporting in oil depot quality inspection room. And the significance of distillation test of vehicle gasoline and the necessity to analyze influencing factors were pointed out. The corresponding solutions were presented to reduce the test error, and improve the accuracy of detection results, the detection level and work efficiency, providing guarantee to ensure the oil products quality of oil depot.

**Key words:** oil depot, quality inspection room, vehicle gasoline, distillation, test, influencing factors, analysis.

31 Application of Platinum Resistance Thermometer in Highway Oil Products Delivery System. Xu Weijiang, Liu Yongcun, Liu Hui.

**Abstract:** According to the problem existing in the highway oil products delivery process that the accuracy of the actual oil delivery could be affected by the volume changes, due to the oil temperature vari-

ation in the process of oil delivery, the installation of high precision platinum resistance thermometer in oil pipeline was proposed by which the real - time temperature of oil product could be collected. Through the logical analysis judgment, citing the expansion coefficient of vehicle gasoline and diesel or the embedded " Petroleum Measurement Tables (GB1885)", the oil delivery amount could be corrected immediately in the automatic oil delivery process, so as to improve the oil delivery accuracy.

**Key words:** oil product, oil depot, oil delivery system, platinum resistance thermometer, oil delivery accuracy.

### SAFETY MANAGEMENT

34 Measures for Safety Education of External Construction Personnel in Oil Depot. Ma Lin, Luo Yongqiang.

**Abstract:** According to the actual situation of the safety education for external construction personnel in oil depot, the problems existing in safety education of external construction personnel were pointed out, such as the lax attitude of contractor to safety education assessment, the excessive pursuit of interest of contractor, weakened safety education, low cultural level of the construction personnel, irrelevant content of safety education with construction, and gradually faded safety education due to the long construction period. The countermeasures, such as improving the safety education and training system, increasing safety education facilities and teachers input, enriching the training form, preparing targeted textbooks, realizing safety education in the whole construction process, and paying attention to the

mental health of construction personnel, were presented as well as the new ideas of setting up fingerprint identification system and optimizing current security management system.

**Key words:** oil depot, construction personnel, safety, education, measures.

37 The Types of Traffic Accident Injury in Gas Stations and Prevention Measures. Wang Xinchun.

**Abstract:** Four types of traffic accidents in gas stations, including lower limb crushing, towing and scraping, impacted clipping, and falling and strike, were analyzed briefly. The corresponding preventive measures were put forward, such as perfecting the hardware facilities in gas station, strengthening the construction of safety management system, enhancing the safety training for the gas station staff, and improving publicity on the traffic safety in gas station.

**Key words:** gas station, traffic accident, personal injury, type, prevention.

### OPERATION MANAGEMENT

40 Construction of New Retail Mode of O2O " Double Lines and One Platform" in EasyJoy Convenience Stores. Dong Ye.

**Abstract:** The current situation and existing problems of non - oil business in SINOPEC EasyJoy convenience stores are analyzed, and the scheme, countermeasures and suggestions on the construction of EasyJoy O2O " double lines and one platform" retail system platform are put forward, providing a reference for the rapid development of non - oil business of SINOPEC EasyJoy convenience stores.

**Key words:** SINOPEC, non - oil business, O2O, construction, measures.

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