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OIL DEPOT AND GAS STATION

# 石油库与加油站

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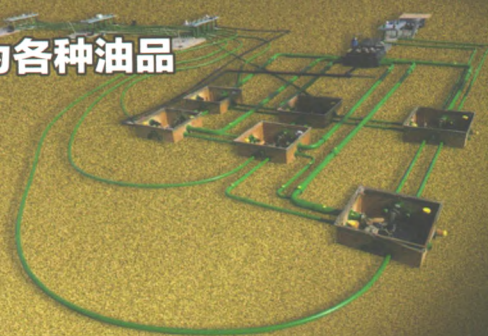
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**Key words:** inner floating roof oil tank, inner floating disc, seal, reason analysis.

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Li Chengyun, Liang Yongshen, Li Guokun, Yu Ying.

**Abstract:** Based on the field investigation of the gas stations in which the oil vapor recovery system was transformed, the problems that the oil in the recovery system could not be discharged or discharged slowly after the oil vapor recovery system was transformed in some gas stations were found. In view of the problem, the recovery system was detected and analyzed, the reasons causing slow oil discharge were found out, and the corresponding improvement measures and suggestions were presented.

**Key words:** gas station, oil vapor recovery, oil discharge, failure, measures.

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6 Discussion on Lightning Protection and Grounding Design for Vertical Steel Oil Tank. Li Xiaoyue, Ding Dunzhou, Ma Wenhai, Tang Tao, Qin Jiangbin.

**Abstract:** The lightning protection of oil tank plays a vital role in oil depot safety. Therefore, based on the practice experience, the advantage of ring closing multipole lightning protection and grounding device and the problems in the design and construction are discussed, with a view to the future of providing reference for construction of oil tank lightning protection grounding system.

**Keywords:** steel oil tank, lightning protection and grounding, design.

8 Simulation and Evaluation on Consequence of Tank Fire Accident in Oil Depot. Sun Xianzhang, Li Xujin.

**Abstract:** Using the pool fire model and jet fire model, based on the calculation and simulation evaluation result of oil tank area fire accidents, the casualties and property losses range caused possibly by fire accidents are analyzed. The evaluation results can provide a reliable basis for tank area safety and emergency management.

**Keywords:** tank area, pool fire, jet fire, accident, evaluation.

### OIL AND GAS PIPELINE

11 Analysis on Difference Between China and US on the Standards for New Pipeline Quality Inspection. Yao Sen, Ma Chengfu, Zhang Haining, Wang Xiaodan, Ma Weiping.

**Abstract:** The idea of using the United States pipeline supervisor standard as reference to improve the domestic supervision is put forward. Taking the standard API RP1169 "Recommended Practice for Basic Inspection Requirements—New Pipeline Construction" as an example, the difference between China and US on the standards for new pipeline quality inspection was studied deeply. The advanced features of the above-mentioned standard are embodied in the following aspects: the inspector's responsibility is very detailed; on behalf of operator benefit, inspector has the highest decision-making authority; the safety monitoring measures of pipeline construction site are strict and meticulous; the requirements of pipeline construction quality inspection are complete, and so on. Finally, based on the status of domestic pipeline construction and supervision, the advice to adopt API RP1169 is proposed.

**Keywords:** pipeline construction, standard, supervision, inspection.

15 The Mixed Oil Quantity Calculation and Intelligent Tracking of Oil Head in Jiujiang—Nanchang—Zhangshu Oil Pipeline in Central China. Xie Shiwei, Zhang He, Qiu Dong.

**Abstract:** Basing on the sequential transport theory of oil product pipeline, the operation data of Jiujiang—Nanchang—Zhangshu oil pipeline, such as the critical Reynolds number, the critical flow rate, and the mixed oil length and volume of each station were calculated and analyzed, providing the theoretical basis for optimizing oil product pipeline operation, and by writing VBA program code, combining with its own database in the SCADA system, the intelligent track-

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**Keywords:** oil product pipeline, critical flow rate, mixed oil length, intelligent tracking.

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19 Application and Optimization of Oil Vapor Recovery Unit with Condensation and Adsorption Combination Process. Liu Jianhua

**Abstract:** The practical application of oil vapor recovery unit with condensation and adsorption combination process in an oil depot in Hebei Province is introduced, and the problems and improving suggestions on the oil vapor recovery unit operated by condensation method are put forward from the view of engineering design. For the oil vapor recovery unit with condensation and adsorption combination process, the temperature of condensed oil discharged from the unit should be controlled at the range of 5—20 °C. For the oil vapor recovery unit with multistage condensation, two oil-water separators should be installed, with the first stage condensate injected into the "rich water separator", and the second stage condensate injected into "rich oil separator". At the same time, the "rich water separator" could be equipped with automatic water removal device, and the "rich oil separator" could be equipped with manual water-cut device to reduce the risk of oil leakage in the fault. When the oil vapor recovery unit of condensation adopts the positive pressure explosion-proof ventilation, the location of positive pressure ventilation outlet should be paid great attention to, and in accordance with the requirements of the national standard GB 50160-2008. The function of manual starting and timing is appropriate for the oil vapor recovery unit, so as to meet the requirements of the standards for oil and gas discharge at the beginning of the oil depot.

**Key words:** oil vapor recovery, condensation, condensation and adsorption combination process, engineering design.

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22 Measurement of Average Standard Oil Density Using Automatic Sampling Method. Xi Xuxia

**Abstract:** In order to try to solve the difficult problem of accurate measurement of average standard oil density in vertical oil tank, the reliability of a novel method, applying per-meter sampler combined with high precision fixed-point densimeter, for the accurate measurement of average standard oil density in vertical oil tank is investigated. By the field compari-

son, statistics and analysis of related experimental data, the accuracy of the key measuring equipment, i. e. the point densimeter, and the reliability of measuring average standard oil density using per - meter weighted average method is validated. The results show that this method can realize the accurate measurement of the average standard oil density in the tank, and it is an innovative practice for the accurate measurement of the average oil density in a vertical tank.

**Keywords:** fixed point densimeter, per meter sampler, average standard density, measurement.

27 Quality Risk of Mixed Oil Treatment Using Blending Method and Countermeasures. Zhang Peichun, Liang Baohua, Zhang Yanping.

**Abstract:** Analyzing from the mixed oil source, processing method, quality risk and countermeasures, focusing on the four aspects of the sampling limitation, uneven blending, risk of small - scale blending, and unsteady properties of mixed oil, the quality risks of mixed oil treatment using blending method are described, and the corresponding preventive measures are put forward. Practice has proved that if the corresponding measures are taken, the quality risk of mixed oil treatment can be greatly reduced, or even completely avoided, with certain economic benefits.

**Key words:** mixed oil, blending, quality, risk, measures.

## SAFETY MANAGEMENT

30 Methods of Strengthening Safety Education in Primary Level. Liu Hankun.

**Abstract:** This paper introduced the method for strengthening safety education in primary level, and proposed that the modification of safety education in primary level through popular textbook, diverse forms, regular activity, increasing investment, and expanding affection, enabled the staff to enforce rules and regulations consciously, by which the safety production in enterprise could be realized.

**Key words:** oil companies, team, safety, education and training.

## OPERATION MANAGEMENT

33 Creation of Investment Project Management Information System in Oil Sales Enterprises. Shi Wenbo.

**Abstract:** Based on the analysis of the present situation of the investment management in sales enterprise, the existing problems are pointed out, and the new ideas of constructing investment project management information system are put forward. The purpose of constructing the system is to further integrate the

whole resources of sales enterprise, improve investment management mode of sales enterprise, promote the sales enterprises to improve the benefit of investment, carry out the efficiency supervision of sales enterprises, and make the investment of sales enterprises realize comprehensive, overall, systematically closed management oriented to project management.

**Keywords:** oil sales enterprises, investment project, management information system, creation.

36 Discussion on Psychological Contract Management of Outsourcing Laborers. Zhou Jufang.

**Abstract:** Under the circumstance of outsourcing employment, the paper explored the structure, characteristics of psychological contract of outsourcing laborers, the deficiencies and shortcomings in current outsourcing employment management, the requirement and expectations of outsourcing laborers, and their knowledge and perception on organizational responsibility and their own responsibility, presented the management method of psychological contract of outsourcing laborers, in order to improve organization efficiency and competitiveness of enterprises.

**Key words:** outsourcing laborer, psychological contract, management.

40 Study on Employee Satisfaction Measurement of Gas Station. Nan Jianfei.

**Abstract:** Improving employee satisfaction has become the key for oil sales enterprises to win the advantage in the fierce market competition. Based on the theory of customer satisfaction and employee satisfaction theory, the current situation and existing problems of the gas station employee satisfaction are analyzed, the gas station employee satisfaction assessment system is established, and the employee satisfaction index weight is determined. The employee satisfaction of the gas stations of S company was assessed, with the data collected and analyzed, and the individual satisfaction and total satisfaction of the gas station employees were calculated using the weighted average method. The reasons were analyzed, and the detailed scheme of improving the employee satisfaction of the gas station is put forward. The problems needing attention in the assessment were also pointed out, so as to provide important reference for gas stations to reduce the employee turnover rate, improve employee satisfaction, and realize scientific development, harmonious development in China's gas stations.

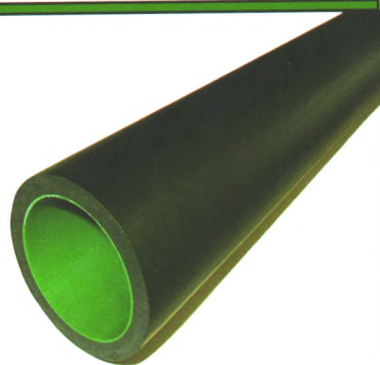
**Key words:** employee satisfaction, measurement and assessment, improvement suggestions, gas stations, enterprise management.



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