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石油库与加油站

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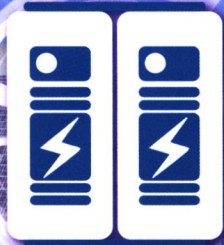
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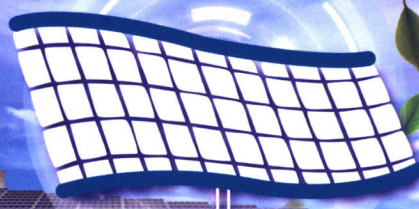
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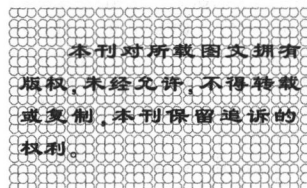
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1 Discussion and Suggestions on the Definition of "Minimum Daily Average Temperature" in Relevant Specifications. Cao Chen, Zhao Kunfang, Zhao Miao.

Abstract: The definitions of "minimum daily average temperature" and "annual minimum daily average temperature" involved in relevant specifications such as "Code for design of oil depot (GB 50074 - 2014)", "Code for design of vertical cylindrical welded steel oil tanks (GB 50341 - 2014)", "Petrochemical design specification for vertical cylindrical steel welded storage tanks (SH/T 3046)", and "Code for thermal design of civil building (GB/T 50176 - 2016)" are analyzed, compared and discussed. The consistency of the two definitions is put forward, and it is suggested that the two concepts should be unified in the revision of relevant specifications in the future.

Key words: oil depot, specification, minimum daily average temperature, definition, discussion, suggestion.

3 Cause Analysis of Landslide on High and Steep Slope of a Gas Station Site and Countermeasures. Tian Tongxin

Abstract: Taking the geological disaster landslide during the support construction of high and steep slope of a new gas station as an example, combined with the site geological conditions, original design scheme, construction conditions and slope monitoring results, it is analyzed that the main causes of landslide geological disasters are that the survey results fail to fully reflect the real slope geological conditions, the design anchoring force is insufficient and the construction procedures is disordered. The measures of reinvestigation, design and construction are put forward, which can provide a reference for the design, construction and related theoretical research of high and steep slope support engineering under similar complex geological conditions.

Key words: gas station, construction, site, high and steep slope, landslide, response, measures.

OIL AND GAS PIPELINE

7 Application Progress of Cladding Technology in Oil and Gas Pipeline Coating Protection. Li Xinqiang.

Abstract: It is pointed out that the main factors of oil and gas pipeline corrosion are chemical corrosion, microbial corrosion and electrochemical corrosion. The main anti-corrosion methods of oil and gas pipeline, such as cathodic protection, use of corrosion inhibitor, shrink sleeve, winding tape anti-corrosion, electrochemical technology and coating protection, are briefly introduced. The application progress of laser and plasma cladding technology in oil and gas pipeline anti-corrosion is summarized respectively, which can provide a reference for the anti-corrosion of oil and gas pipelines.

Key words: laser, plasma, cladding technology, petroleum, pipeline, application, review.

SAFETY TECHNOLOGY

11 Measures to Strengthen the Utilization and Management of Fire Extinguishers in Oil Depots and Gas Stations. Li Chunfeng, Chen Wanxiang, Ren Zhou.

Abstract: In view of the problems existing in the utilization and management of fire extinguishers in oil depots and gas stations, the corresponding measures are put forward: The first is to strengthen the acceptance of newly configured fire extinguishers, purchase qualified fire extinguishers, complete relevant quality information, and pay attention to the appearance of fire extinguishers. The second is to be proficient in relevant standards and specifications, effectively configure fire extinguishers, ensure that the configuration quantity meets the standard, the setting position is reasonable, and the configuration type is applicable. The third is to implement relevant regulations, repair or discard fire extinguishers according to standards, carry out institutionalized inspection and maintenance of fire extinguishers, and give full play to the important role of fire extinguishers in extinguishing initial fires.

Key words: oil depot, gas station, fire extinguisher, use, management, measures.

13 Application of Artificial Intelligence Video Monitoring Technology in Safety Management of Gas Station. Tan Fei, Jiang Tao, Fu Zhipeng.

Abstract: Aiming at the problems of high labor cost, low alarm accuracy and post management in the traditional video monitoring system, which can not meet the needs of the safety management in current gas station, the scheme of applying artificial intelligence video monitoring technology in the gas station safety management is put forward. The short board of the application of traditional video monitoring system in gas station safety management and the advantages of artificial intelligence video monitoring technology are pointed out, the safety management requirements of gas station intelligent video monitoring system is analyzed, and the technical scheme of intelligent monitoring system to identify abnormal behavior is put forward. Through the comparative statistics of the alarm situation of a gas station using intelligent video monitoring system and manual identification of abnormal behavior, the advantages of the application of artificial intelligent video monitoring technology in the safety management of gas station are verified.

Key words: gas station, artificial, intelligence, video, monitoring, technology, application.

ENVIRONMENTAL PROTECTION

17 Benefit Analysis of Oil Vapor Discharge Treatment Device in Gas Station. Chen Saisai, Wang Xiaojun, Zhang Zhengjie, Zhang Yun.

Abstract: In order to study the actual benefits of installing oil vapor emission treatment devices in gas stations, the actual emission of oil vapor emission pipelines in gas stations of a company was detected, and the operation data of four gas stations with oil vapor treatment devices were collected. The results show that the actual oil vapor emissions of gas stations are much higher than the theoretical emissions. The average daily oil vapor emissions of gas stations with an average daily sales volume of 47 t can reach 27 m³. The oil vapor emission treatment device has good emission reduction effect and good economic and environmental benefits for gas stations with high gasoline sales,

but its installation and maintenance cost is high. The corresponding oil vapor treatment device should be selected according to the actual situation of the gas station, and the corresponding start/stop pressure should be set according to the process and the actual sales volume of the gas station.

Key words: gas station, oil vapor, emission, treatment, device, benefit, analysis.

QUANTITY AND QUALITY MANAGEMENT

20 Discussion on Direct Determination of Silicon Content in Vehicle Diesel by Inductively Coupled Plasma Optical Emission Spectrometer (ICP - OES). Huang Yunyu, Zeng Yongzhao, Chen Xianyin, Yu Linhua, Wang Weimin.

Abstract: In view of the current situation that China has not issued relevant standards for the detection of silicon in vehicle diesel, the direct determination of silicon content in vehicle diesel by inductively coupled plasma optical emission spectrometer (ICP - OES) was tested and discussed. The results show that after adding blank diesel to the blank solution and standard solution, the silicon content is not detected by instruments from different manufacturers, while the silicon content has a good linear relationship in the range of 0 — 10 ppm, and the recovery is 93.5% — 107.0%. After adding blank diesel, the relevant performance of the sample is close to that of blank diesel, which can not only reduce the influence of silicon content detection caused by the difference of matrix performance, but also eliminate the difference of silicon content results in vehicle diesel detected by instruments from different manufacturers.

Key words: inductively coupled plasma optical emission spectrometer (ICP - OES), determination, vehicle diesel, silicon, content, discussion.

23 Prevention and Control Measures of Oil Quantity and Quality Risk in Gas Stations. Zhang Tingting.

Abstract: In view of the current problems of confusion in the oil product market, mixed good and bad social oil product testing institutions, weak on-site management and control ability of gas stations and insufficient emergency disposal ability, the measures to strengthen the prevention and control of oil quantity and quality risk in gas stations are put forward: the first is to pay close attention to the management and control of oil product sources and build a strong quality defense line; the second is to strengthen process supervision to ensure standardized operation; the third is to strengthen on-site management and improve risk awareness; the fourth is to strengthen training and improve the quality of employees; and the fifth is to improve emergency management and safeguard the legitimate rights and interests of enterprises.

Key words: gas station, oil products, quantity, quality, risk, prevention and control, measures.

26 Study on the Relationship between Conductivity and Temperature of No. 3 Jet Fuel Transported by Field Pipeline. Liu Jie, Yue Bin, Li Hui, Zhao Jun, Wang Rujian, Guo Jiangfei.

Abstract: The relationship between conductivity and temperature of No. 3 jet fuel transported by field pipeline was studied. The experimental results are obtained: (1) There is a linear relationship for the same No. 3 jet fuel between the test temperature and the natural logarithm of conductivity. (2) The slope (b) and intercept (a) in the linear relationship between natural logarithm and temperature are different with different No. 3 jet fuels, and the intercept

changes slightly. This relationship reflects that when the temperature is relatively low, the change of temperature has little effect on the conductivity, and vice versa. (3) The measured conductivity of No. 3 jet fuel with antistatic additive at different temperatures conforms to the typical range of jet fuel conductivity and temperature change in literature, and the slope and intercept can be calculated as long as the conductivity at two temperature points are measured randomly, so as to establish a linear relationship. Based on the conductivity measured at any temperature in the field, the conductivity value at temperature of 20 °C can be deduced. (4) Understanding the relationship between conductivity and temperature of No. 3 jet fuel can immediately convert the measured conductivity of jet fuel transported by field pipeline into the conductivity value at standard temperature (20 °C), which can be used to judge whether the conductivity of the fuel is qualified in time. (5) According to the relationship between conductivity and temperature, an on-line conductivity detection instrument can be developed to quickly determine the conductivity of jet fuel.

Key words: field, pipeline, No. 3 jet fuel, conductivity, temperature, relationship, research.

SAFETY MANAGEMENT

29 On-Site Anti-Violation Operation of Refueling Station Basing on "Supervisory Game" Model. Gao Qi, Wang Mingqiang.

Abstract: Taking the safety management of refueling station of a company as an example, based on the "game theory" compiled by Drew Fudenberg et al., by establishing a "supervisory game" model, the anti-violation operation of the refueling station is analyzed from the perspective of operators and supervisors, and on-site anti-violation measures are put forward, such as, guiding demonstration by leaders, strict understanding the bottom line of work according to the system and criterion, improving education and training, strict assessment and discipline, and implementation of video monitoring of all staff and all departments to ensure the safe operation of refueling stations.

Key words: refueling station, game theory, safety, supervision, anti-violation, measures.

31 Application of Dual Prevention Mechanism in Waterfront Gas Station. Li Yanqing.

Abstract: Taking a waterfront gas station as an example, the application practice of the dual prevention mechanism of safety risk hierarchical control and hidden danger investigation and treatment written in the new version of "work safety law" is described in detail, and the construction of dual prevention mechanism is introduced from the aspects of establishing system norms, determining post responsibilities, clarifying work procedures, establishing organizations, carrying out special training, and perfecting assessment mechanism. The application practice of the dual prevention mechanism in waterfront gas stations is introduced from the aspects of risk identification, risk evaluation, risk control, risk monitoring, hidden danger investigation and hidden danger treatment. The problems of integration with the original system and lack of unified standards in the application of dual prevention mechanism in waterfront gas stations are pointed out, and the corresponding countermeasures are put forward, which can provide a reference for the application of dual prevention mechanism in waterfront gas stations.

Key words: safety risk hierarchical control, hidden danger

investigation and treatment, dual prevention mechanism, waterfront gas station, application.

OPERATION MANAGEMENT

34 Strengthen Multi-Dimensional Market Analysis and Grasp the General Trend of Oil Product Operation in Advance. Miao Yanhui.

Abstract: It is pointed out that the construction of multi-dimensional market analysis system of oil product market should be strengthened from the aspects of international crude oil market change, macroeconomic trend and oil product market situation, and the business strategy of optimizing oil product in advance by using the results of multi-dimensional market analysis is put forward; the first is to pay attention to the international oil price and judge the trend of oil product market in advance; the second is to pay attention to the changes in the external procurement market and adjust the strategy of oil product procurement in advance; the third is to pay attention to the benefit calculation of raw material product structure of oil refining enterprises and study and judge the resource supply trend in advance; the fourth is to pay attention to the information of emerging and tendentious demand changes, and adjust the business strategy in advance.

Key words: oil product, market, analysis, advance, formulation, operation, strategy.

37 Design of New Image of SINOPEC Comprehensive Refueling Station. Zhou Kai.

Abstract: In view of the fact that the image standard of SINOPEC gas station, which has been implemented for more than ten years, is no longer suitable for the development situation of enterprises trying to build comprehensive refueling station covering "oil, gas, hydrogen, electricity and service", the image standard of SINOPEC comprehensive refueling station is designed. The concept, design principles and design objectives of the image design of SINOPEC comprehensive refueling station is introduced. The main contents of the image design of the comprehensive refueling station are described in detail from the aspects of cornice logo, brand column, fuel island modeling, auxiliary facilities in the station and internal and external design of the convenience store, which lays a foundation for SINOPEC to build a new "oil, gas, hydrogen, electricity and service" comprehensive refueling station.

Key words: SINOPEC, comprehensive, refueling station, image, design.

40 Practice and Effect of Marketing Promotion of X Power 98 Brand Gasoline. Xie Guangfeng.

Abstract: Based on the brief introduction of the meaning and characteristics of X Power 98 brand gasoline and the significance of promoting X Power 98 brand gasoline, the marketing experience of SINOPEC Beijing Oil Product Company in promoting X Power 98 brand gasoline is introduced in detail; the first is to actively plan the overall situation and optimize the network layout; the second is to carry out a series of theme marketing; the third is to strengthen publicity through multiple channels to improve the reach rate of activities; the fourth is to strengthen target management, stimulate internal promotion power, and achieve remarkable results in marketing activities. At the same time, the further promotion and marketing of X Power 98 brand gasoline in the future is prospected.

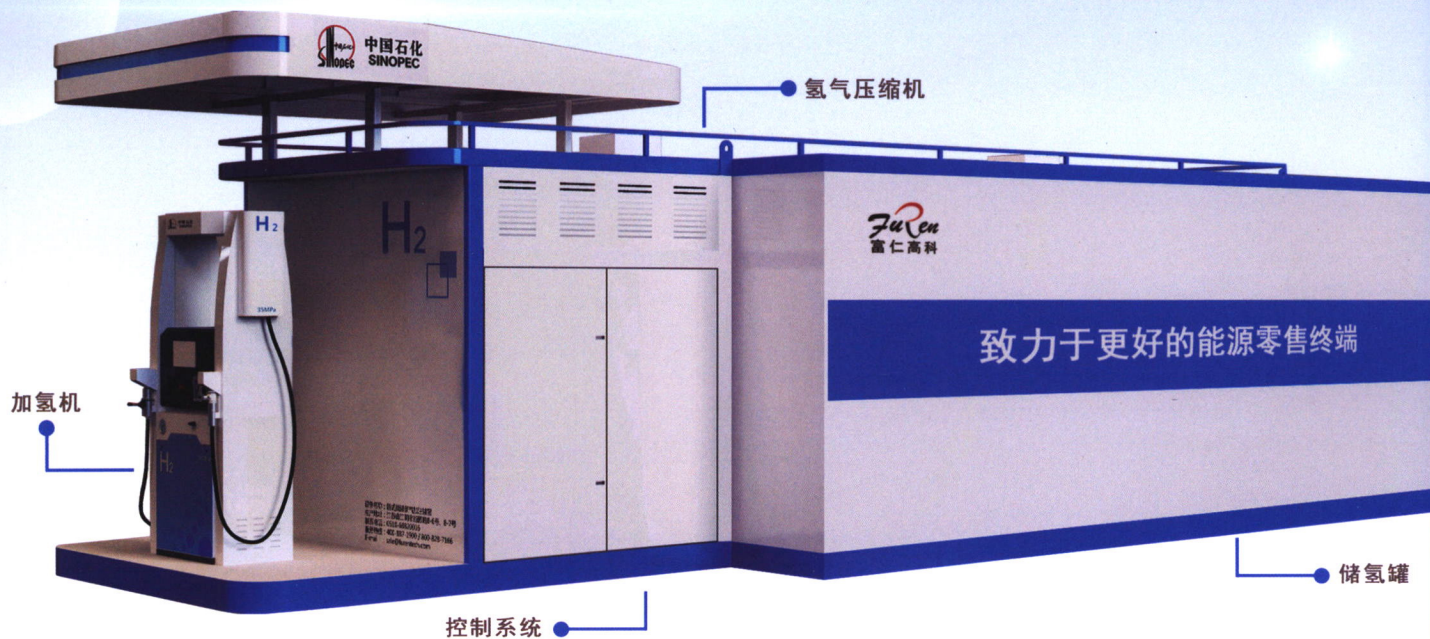
Key words: X Power 98, brand, gasoline, promotion, marketing, practice, effectiveness.

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