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Contents and Abstracts

STORAGE TECHNOLOGY

1 Analysis and Protection of Edge Warping Defect of Oil Tank Bottom Plate in a New Oil Depot. Wang Wenming
Abstract: The causes of the edge warping of the oil tank bottom plate and the hollowing cracking at the waterproof warping of the large internal corner coiled material in a new oil depot is analyzed. The former is due to one or more joint effects of uneven settlement of the foundation, local settlement and wrong welding process of the oil tank bottom plate. The latter is due to poor material selection or improper pasting technology. The basic requirements of the oil tank for the foundation, the structural characteristics and structural requirements of the oil tank bottom plate are briefly described, and the measures of using the top lifting adjustment method to correct the uneven settlement of the foundation around the oil tank wall plate and using elastic sealant to plug and fill the warped edge and mouth are put forward, which have achieved good results.

Key words: oil depot, oil tank, bottom plate, edge warping, defect, solution, measures.

SAFETY TECHNOLOGY

7 Research on Classification Evaluation of Lightning Risk in Gas Station Based on PSO - BPNN. Yin Qiyuan, Liu Yiqian, Wan Jing, Wu Jingtian.

Abstract: Aiming at the evaluation of lightning risk classification of gas stations, combined with the cause theory of lightning accidents and the four - elements - model of "human, material, management and environment", an algorithm combining particle swarm optimization (PSO) and wavelet neural network (BPNN) is proposed. Based on the weight adjustment of traditional BP algorithm, the algorithm introduces the weight correction of particle swarm optimization algorithm, and selects 12 parameter factors to construct the lightning risk classification evaluation model from the lightning protection and production site lightning protection facilities. The neural network model can overcome the main shortcomings of the traditional BP neural network algorithm, such as slow convergence speed and being easy to lead to local minima. The model has high accuracy, good universality and objectivity, can be used to effectively avoid the influence of subjective factors of expert evaluation, and can provide accurate lightning risk classification evaluation results for gas stations.

Key words: gas station, lightning, safety, risk, classification, evaluation, particle swarm optimization (PSO), wavelet neural network (BPNN).

INFORMATION TECHNOLOGY

11 Application of Privileged Account Management Platform in Enterprise Data Security Management. Guo Feng.

Abstract: In the enterprise data information security management, the enterprise privileged account management has the problem that the account password storage method is unsafe and easy to be disclosed; privileged accounts are scattered, and unified management is not realized; the automatic update mechanism of account and password is not realized; the account embedded in the application cannot be managed; the granularity of privilege account authority management is insufficient; the operation of privileged users lacks audit and traceability; multiple people share one account; the privileged account is unable to be grasped in real time and truly; the privileged accounts are lack of monitoring. On the premise of emphasizing that building a privileged account management platform is the requirement of laws and regulations, the objective need of enterprise internal management and an effective means to deal with network attacks, the main contents of the privileged account management platform system is introduced from the aspects of system architecture, main functions and relevant requirements. The platform can provide a set of comprehensive and efficient solutions for the whole life cycle management, password secure storage, security audit and password secure call of privileged accounts, and provide a guarantee for the security of enterprise data and information.

Key words: enterprise, information, data, security, privileged account, management, platform, construction, application.

GREEN ENERGY

15 Energy saving Measures of Hydrogen Refueling Station. Huang Zhenhui, Nie Liansheng, Wang Xiangli, Du Shaofeng.

Abstract: The development status of hydrogen refueling stations in China, the process flow and equipment composition of hydrogen refueling stations are briefly introduced, and the corresponding energy-saving measures are put forward for the most important energy consuming equipment such as compressors, compression chillers and hydrogen refueling chillers. The first, constant power pumps of hydraulic system should be selected for liquid driven piston hydrogen compressors. The second, one high-power compressor should be replaced by several low-power compressors for compressor chillers and hydro-

gen refueling chillers. The third, from the point of view of energy conservation of the process flow of the hydrogenation station, energy conservation measures of multi-stage hydrogen storage vessels should be adopted.

Key words: hydrogen refueling station, energy saving, measures.

19 Problems in Construction and Operation of Photovoltaic Power Station in Gas Station and Countermeasures. Jiang Xueshu, Li Ruolin.

Abstract: In view of the problems existing in the design stage, the selection of equipment components, the construction and operation management of the photovoltaic power station, the corresponding solutions are proposed, viz., strengthening the plan and site selection of the photovoltaic power station, the design management of photovoltaic power stations, the procurement management of photovoltaic modules, the supervision of photovoltaic power station construction, and the operation management of photovoltaic power stations.

Key words: gas station, photovoltaic, power generation, construction, operation, problems, countermeasures.

22 Key points of Distributed Photovoltaic Modular Installation in Gas Station. Wang Fei, Dou Xiaodong, Ma Jing, Siqin Gaowa, Wu Gaojie, Zhang Xuliang.

Abstract: The installation of distributed photovoltaic (PV) power generation facilities in gas stations has problems such as different sizes of photovoltaic products, complex installation methods, and impact on the appearance and image. Moreover, PV equipment manufacturers lack design for gas stations and professional understanding of the safety of gas stations, and only supply complete sets of equipment, increasing installation and construction costs. The construction scheme of photovoltaic modular installation in gas stations is put forward, the selection and installation points of photovoltaic facilities installed in four different areas of gas stations, namely, flat roofs, color steel sloping roofs, awnings and open spaces, are explained in detail, and the economic benefits of PV modular installation in gas stations are briefly analyzed, which can provide a reference for photovoltaic modular installation in gas stations.

Key words: gas station, photovoltaic power generation, modularization, installation, construction, key points.

QUANTITY AND QUALITY MANAGEMENT

25 Analysis of Main Determination Methods and In-

fluencing Factors of Silicon in Gasoline. Liu Haili.

Abstract: Based on the brief introduction of the damage caused by silicon in gasoline to automobiles, the main methods for the determination of silicon in gasoline, such as inductively coupled plasma optical emission spectrometer (ICP - OES), X - ray fluorescence spectrometry (XRF) and atomic absorption spectrometry (AAS), are introduced in detail from the aspects of standard methods, determination process and influencing factors, which can provide a reference for the accurate determination of silicon in gasoline.

Key words: automotive gasoline, silicon, element, content, determination, method, comparison, analysis.

30 Analysis of Influencing Factors of M100 Methanol Gasoline Lubricity Test. Lan Zhanwei.

Abstract: In view of the fact that China has not yet issued the national standard for the lubricity test of M100 methanol fuel, according to the "M100 methanol fuel for vehicles (Trial) (TB52/GZHX001 - 2016)" of Guizhou Province and referring to the diesel lubricity test standard, the influencing factors of the lubricity test results of M100 methanol fuel are tested by using a high - frequency reciprocating testing machine under the conditions of different storage time and humidity. The results show that the storage time and the ambient relative humidity during the test will have a great influence on the measurement results of the lubricity of M100 methanol fuel. Therefore, it is recommended, when testing the lubricity of M100 methanol fuel, to standardize the operation, fully consider the impact of storage time and test environmental humidity on the accuracy of test data, and reduce the error in judging the lubricity test results of M100 methanol fuel.

Key words: M100 methanol, lubricity, detection, influence, factors, analysis.

SAFETY MANAGEMENT

33 Safety Risk Analysis and Preventive Measures for the Load - Bearing Tank Farm in Gas Station. Duan Jing.

Abstract: On the premise of briefly introducing the advantages of building a load - bearing tank farm under the carriageway in urban gas stations, such as improving the land utilization rate of gas station, facilitating inspection and supervision, and improving the efficiency of refueling, it is pointed out that there are safety risks in the load - bearing tank farm in gas stations, such as oil vapor accumulation and deposition, fire and explosion, entering the operation well

for manual operation, exceeding the load - bearing pressure of the load - bearing tank, and ingress of water into the operation well, and the corresponding preventive measures are put forward, which can provide a reference for the safe operation of loading tank farm gas stations.

Key words: gas station, load bearing, tank farm, safety, risk, analysis, prevention, measures.

36 Analysis on Relationship Between Workers' Safety Psychological Characteristics and Safety Production Management. Zheng Yonggui.

Abstract: Based on the brief introduction of the safety related concepts of hazards, hidden dangers, accidents and safety psychology, the relationship between workers' safety psychology and safe production is analyzed from the perspectives of the relations between workers' psychological characteristics and safety, emotional management and labor safety, social events and labor safety. Then from the perspective of safety psychology, the interference or promotion of various behaviors of workers on safe production is analyzed, intending to improve safety behavior, reduce the occurrence of unsafe behavior, and promote the improvement of safety production level of enterprises through safety psychological management.

Key words: safety management, workers, psychology, safety production, relationship, analysis.

OPERATION MANAGEMENT

41 Application of Business - Financial Integration in Image Transformation Project Management of Gas Station. Xie Lingling.

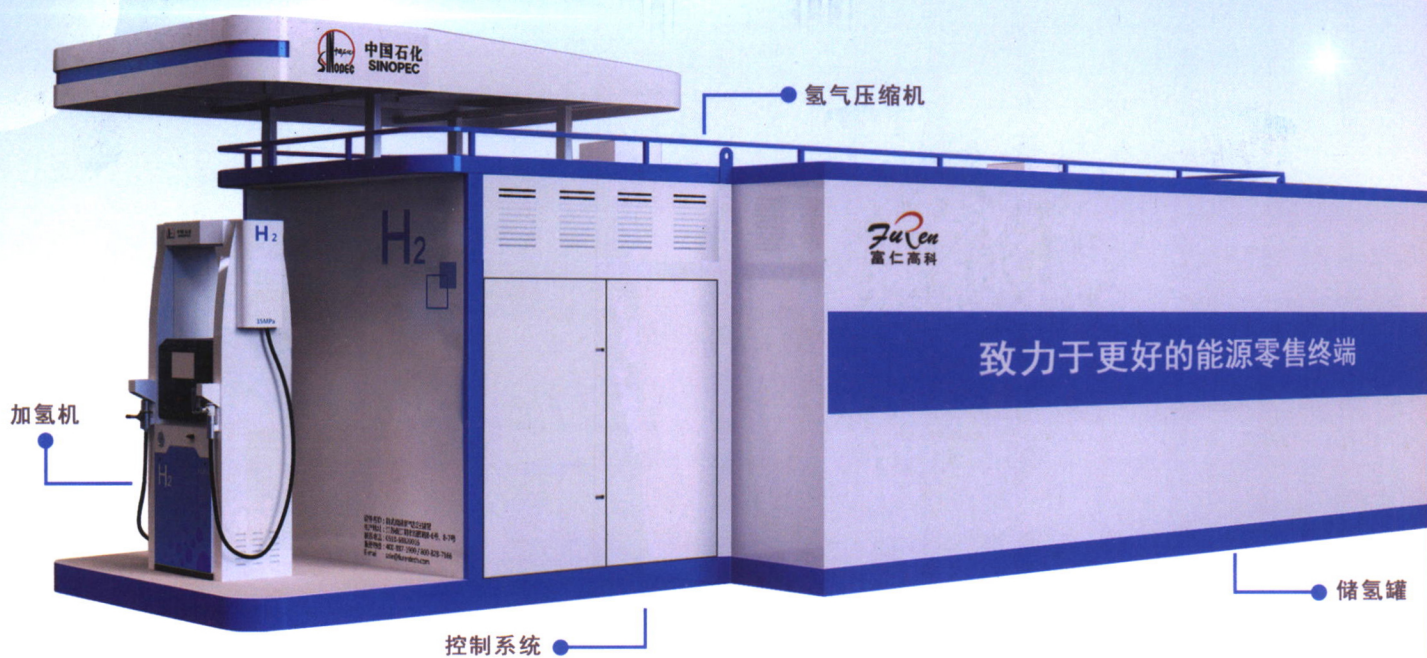
Abstract: The experience and effect of business - financial integration in the image transformation of gas station of SINOPEC Jiangxi Oil Products Company is introduced. Through the implementation of integration with finance at the stages of project startup, project plan, project implementation, project monitoring and project completion acceptance of gas station image transformation, the allocation of funds and budget control in the whole process of project implementation are ensured, various resources are reasonably allocated, the modern enterprise financial system is improved, and the gas station project transformation is completed on schedule and with quality. The business - financial integration can improve the work efficiency, save the transformation cost, and promote the high - quality development of the enterprise.

Key words: oil sales enterprise, gas station, transformation, business - financial integration, experience, introduction.

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