

石油库的加油站

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SHI YOU KU YU JIA YOU ZHAN

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1 Discussion on Transforming Decommissioned Mine Roadway into Large Underground Oil Depot. Yang Zhiquan, Zhang Zhen, Yin Hualei

Abstract: On the premise of briefly describing the importance of establishing petroleum resource reserve, the main ways of petroleum reserve and the advantages of underground reserve, the idea and preliminary transforming decommissioned solution of mine roadways into large underground oil depots are put forward. It is pointed out that this solution is of the advantages of strong concealment, high security, large reserves, no occupation of land, low construction cost, short construction period, low investment in equipment, and low operating and management costs. It is suggested that the relevant departments of the state should intensify the research and implementation of the solution.

Key words: idle, mine, roadway, transformation, underground, reserve, oil depot, discussion.

5 Study on Corrosion Resistance of Resin and Composite Materials for Double – Layered Oil Tanks in Gas Stations. Liu Hua, Chen Jianhui, Huang Rui , Lü Xiaoping, Qian Jianhua.

Abstract: On the basis of the brief description of the types and characteristics of the buried oil tank in gas station, and the advantages and the molding methods of the double - layered oil tank, the detailed corrosion resistance test methods and parameters were introduced. The oven aging test, corrosion resistance immersion test, light exposure and water exposure test of the resin MERICAN9505 produced by the Huachang Polymer Co., Ltd. for double - layered oil tank were carried out. The test results show that the resin MERICAN9505 can meet the relevant standards with excellent performance, and satisfy the relevant requirements of double - layered oil tanks.

Key words: gas station, double – layered tank, resin, corrosion resistance, performance, test, research.

OIL AND GAS PIPELINE

12 Discussion on the Operation Plan of Oil Product Pipeline with Indefinite Branches. Chen Jingjun, Zhang He, Ni Wenqiang.

Abstract: In view of the problems of various operation modes, frequent adjustment of working conditions and high requirements for the preparation of operation plans for oil product pipelines with indefinite branches. and combining with the experience of the preparation of operation plans for oil product pipelines, the problems needing attention in the preparation of operation plans from two aspects of process and optimization are put forward. From the aspect of process, the restriction conditions of flow rate and pressure should be concerned; from the aspect of optimization, the transmix quantity and flow rate should be controlled, the transportation sequence of oil products should be arranged reasonably, the control of energy consumption and the match of market with oil depot should be improved. The idea of working out the operation plan of oil product pipeline with indefinite branches is put forward, such as alternate operation, adjusting the proportion of distribution in advance, and replacing the bottom oil products.

Key words: oil product, oil pipeline, operation, planning, preparation, method, discussion.

SAFETY TECHNOLOGY

17 Application of Perimeter Security System with Fiber – Optic Vibration Sensors in Oil Depot. Cheng Daohao.

Abstract: The basic principle, main characteristics and the practical application effect, overall design and system composition of the perimeter security system with fiber – optic vibration sensors in an oil depot are introduced in detail. The causes of false alarm of the system are analyzed, and the corresponding solutions are put forward, which can provide guarantee for the safety management of oil depot.

Key words: oil depot, perimeter security system with fiber – optic vibration sensors, principle, design, application, introduction.

INFORMATION TECHNOLOGY

20 Application of Controller Layer Combination of Distributed Control Systems (DCS) for Multiple Tank Farms. Zhang Yifei, Huang Pan.

Abstract: In a large petrochemical enterprise, three tank farms of are located in different regions, which results in data and information isolation and isolated control systems, and the telephone is the only communication way to control transport and transfer operation, which is liable to cause the risk of pipeline explosion and leakage due to high pressure, a scheme of controller layer interconnection of distributed control systems (DCS) for multiple tank farms is designed. The structure composition of DCS control system and the hierarchical system and characteristics of communication network are The structure selection scheme of introduced. interconnection of DCS systems in three tank farms is put forward, and the incorporation structure of the system is described in detail. The system can be used to realize centralized unified control, remote unmanned operation and information sharing. improve the level of information and automation, and information security of enterprises, and reduce labor costs. The system is featured as simple structure, strong real - time operation and high stability, and can be widely used in similar tank farm systems.

Key words: petrochemical enterprise, tank farm, distributed control system (DCS), controller layer, combination, application.

25 Application of OPC Communication Technology Based on Serial Port in Oil Depot. Wang Guangbin. Abstract: Aiming at the problems of independent operation among subsystems, inconsistent communication interface incompatible and application software of an oil depot automation system, which have troubled the system integration, informatization, intellectualization and realization of equipment linkage mechanism, a option using serial server and OPC communication technology is put forward, by which all kinds of system physics and data of oil depot are integrated, the data of all systems are communicated to the newly installed

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SCADA server in the oil depot, and a management and control platform for picture configuration, data sharing and equipment linkage is built in the central control room.

Key words: oil depot, information technology, serial port, server, OPC, PLC, SCADA, integration.

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29 Application of Data Analysis in Oil Quality Management of Sales Enterprises. Lu Yuanhua.

Abstract: On the basis of introducing the concepts and characteristics of data and big data and the four basic methods of data statistical analysis commonly used in oil quality management of sales enterprises, such as Pareto chart, histogram, statistical investigation and control chart, taking an oil sales enterprise as an example, with the help of LIMS (Laboratory Information Management System) platform of oil quality management laboratory of sales enterprises, the statistical data analysis model was established. With practical cases, three statistical analysis methods, i. e. statistical investigation method, combined application method of distribution chart and control chart, and application method of Pareto chart, are introduced in detail, which can provide reference for early warning, decision making and quality improvement of oil quality management in sales enterprises.

Key words: oil sales enterprises, oil products, quality management, data, analysis, application.

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35 Risk Control of Oil Tank Inspection and Maintenance Project in Oil Depot. Qin Guoming.

Abstract: On the basis of a brief introduction of two typical accidents occurred in the inspection and maintenance of oil tanks, the hazards of high – risk operations, such as work at heights, work in confined spaces and hot work, which may be involved in the inspection and maintenance of oil tanks in oil depots, are analyzed respectively. The corresponding risk control measures are put forward to eliminate the hidden dangers of accidents and ensure construction safety.

Key words: oil depot, oil tank, inspection and ma-

intenance, operation, safety, risk, management and control.

38 Investigation and Analysis of Potential Safety Hazards in a County Gas Stations and Countermeasures for Strengthening Safety Management. Zhang Jiefeng, Wang Boni.

Abstract: Taking the safety investigation of 60 gas stations in a county as an example, the main work content and work flow of the hidden danger investigation of gas stations are briefly described, the hidden dangers of frequent accidents are listed, and the corresponding countermeasures and basis for investigation are put forward. The measures to strengthen the safety management of gas stations cover strengthening the construction of safety equipment and facilities, enhancing the safety awareness of employees, and improving the safety management system.

Key words: gas station, safety management, hidden danger investigation, countermeasures.

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41 Main Practices and Enlightenment of Retail Operation of Oil Products of American Petroleum Corporations. Liu Yifan.

Abstract: On the basis of a brief introduction of the retail markets of oil products in China and the United States, the income composition and category sales proportion of oil products and non - oil business in the two countries are compared. The successful experiences of asset - light strategy mode operation, strengthening brand awareness and emphasizing core competence construction in the United States are summarized. The following enlightenments are obtained: the first is to persist in the reform of business mode, accelerate the development of light assets, perfect the trusteeship management system, and explore the brand distribution mode: the second is to build brand and core competitiveness, add functions to the refueling card, achieve win - win brand and benefit, cultivate core competitiveness, and reverse the price competition pattern.

Key words: the United States, petroleum companies, oil product, retail, operation, enlightenment.