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Contents and Abstracts

Abstract: Aiming at the equipment usage problems in the operation of gas stations, the concept of process management in gas stations is put forward, the significance of process management in gas stations is pointed out, and some measures for process management in gas stations are proposed from the aspects of process design and project construction, selection and maintenance of process equipment, specification and optimization of operation, etc., which can provide assurance for the normal operation of gas stations.

Key words: gas station, equipment, problem, process, management, measure.

Abstract: Aiming at the transient water hammer phenomenon existing in the process of oil product transportation through long distance pipeline, the pressure and flow fluctuation in long distance pipeline system under different transient hydraulic conditions was simulated dynamically by establishing mathematical model and using SPS numerical simulation software. The results show that the maximum water hammer pressure of the first station is about 12. 2 MPa after 30 minutes of failure of single pump station, and 17. 2 MPa after 30 minutes of failure of two pumping stations, which is far beyond the design pressure, will cause damage to the pipeline. The corresponding protective and preventive measures were put forward to provide reference for preventing water hammer in oil pipelines.

Key words: oil product, transportation pipeline, water hammer phenomenon, research, prevention, measures.

Abstract: The formation routes of mixed oil in long-distance oil product pipeline are pointed out, including initial mixed oil, mixed oil formed due to the change of flowrate and pressure, mixed oil formed due to different viscosity of oil, mixed oil produced during shutdown. The main measures to control the amount of mixed oil are put forward, such as arranging the order of oil transportation, cutting the mixed oil reasonably, optimizing the transportation process, optimizing the technological process of oil stations, improving the skills of pipeline operators. At the same time, the calculating method of the amount of mixed oil is introduced with an example, which can be used as a reference for the control of mixed oil in pipeline transportation.
Key words: oil product, pipeline, transportation, mixed oil, control, measures.

ENVIRONMENTAL PROTECTION

Abstract: In LCNG refueling station, the LNG is pressurized to 25 MPa by cryogenic pump to from LCNG and then enters the air-temperature vaporizer to vaporize and heat up to become compressed natural gas (CNG), and in the process, the cold energy released by the low-temperature LCNG is dissipated into the atmosphere, resulting in energy waste. In order to solve the problem, a cold energy recovery system suitable for LCNG refueling station is designed. The system adopts two-stage heat transfer mode, by which the cold energy of LCNG vaporization is transferred to the primary refrigerant through heat transfer, and the secondary refrigerant absorbs the cold energy through heat transfer with the primary refrigerant. The cold energy carried by the secondary refrigerant is provided for the business room of the gas refueling station through two-stage circulating loop. Based on the analysis and selection of the key parameters in the process, using ASPEN software simulation, according to the simulation and market research data, the economic analysis of the whole system is carried out, which further proves the feasibility of the system.
Key words: gas refueling station, LCNG, cold energy, recovery, system, design, economy, analysis

Abstract: On the basis of introducing the basic status and environmental protection situation of oil products sales enterprises along the Yangtze River Economic Belt and the importance of environmental protection, some suggestions on environmental protection are put forward: the first is to fully implement the requirements of regional industrial development planning of the Yangtze River Economic Belt; the second is to fully grasp the standardized management of solid waste and hazardous waste; the third is to promote the prevention and control of water pollution; the forth is to promote continuously the prevention and control of air pollution; the fifth is to promote the prevention and control of soil pollution in an orderly manner; the sixth is to strengthen the legal and regulatory construction of oil depots and gas stations.
Key words: Yangtze River Economic Belt, oil sales enterprise, environmental protection, pollution, prevention and control, suggestion.

QUANTITY AND QUALITY MANAGEMENT

Abstract: In order to prevent and control air pollution, the development of low sulfur marine fuel oil has become an inevitable trend. On the basis of brief introduction of the definition and production technology of low sulfur fuel oil, the problems of wax precipitation, low lubricity, low flash point, mismatch with some ship equipment, easy occurrence of oil mixing and fire explosion in the oil circuit switching of high sulfur fuel oil to low sulfur fuel oil are pointed out, and the corresponding countermeasures are put forward: the first is to identify and assess the risk of low sulfur fuel oil; the second is to strengthen the research on wax precipitation of fuel oil, pay close attention to temperature changes, and remove wax deposits on filter surface in time; the third is to add oil pump or add additives into fuel oil to increase lubricity of low sulfur fuel oil; the fourth is to suggest shipbuilding enterprises to improve relevant facilities; the fifth is to standardize the operation of oil circuit switching.
Key words: low sulfur marine fuel oil, definition, characteristics, application, matters needing attention.

Abstract: It is pointed out that evaporation, oxidation, water impurity, contamination of containers or mixed oil are the main factors causing quality changes of oil products in the process of purchasing, selling, storing and transporting. The measures for guaranteeing oil quality are proposed, such as low temperature storage, reducing gas space, sealing storage as far as possible, reducing the contact of oil with copper and other metals, periodical inspection of tank bottom and cleaning tank, regular sampling inspection of oil quality, special tank and pumps for different kinds of oil products, inspection and optimization of oil

transportation technology, avoiding oil leakage, etc. Some suggestions are also presented, viz. refining the relevant systems and procedures to ensure the quality of oil products, emphasizing the control of oil quality inspection process, strengthening the management of back tail treatment of mixed oil, strengthening the sampling inspection of oil quality, carrying out the oil quality risk investigation, and strengthening the construction of quality inspection teams for oil products, which can provide reference for strengthening the process management and control of oil quality.

Key words: oil product, quality, process, management, control.

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Key words: gas station, environment, combustible dust, hydrogen, oxygen, biogas, precautions, measures.

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Key words: oil sales enterprise, contractor, HSE, safety, management, countermeasures.

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Key words: petrochemical sales enterprise, tourism business, development, strategy, mode, exploration.

38 The Development and Prospect of Distance Education in Petrochemical Enterprises. Bu Duo.

Abstract: The basic concepts of distance education and the brief development process of distance education at home and abroad as well as in the SINOPEC Corporation are introduced, the present situation of distance education in the SINOPEC Corporation is analyzed, and some suggestions for developing distance education in the SINOPEC Corporation are put forward: the first is to accurately grasp the training needs; the second to draw up the training plan in advance; the third is to carry out training evaluation reasonably; the forth is to improve employees' recognition of distance education; the fifth is to establish a linkage between human resource planning and distance education training.

Key words: distance education, concept, development, course, SINOPEC, staff, training.

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