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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Technical specifications for petroleum refining industry
wastewater treatment
(English Translation)**

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Foreword

To implement the "People's Republic of China Environmental Protection Law" and "People's Republic of China Water Pollution Prevention Law" to regulate oil Refining industry wastewater treatment project design, construction and operation management, prevention and control of environmental pollution, protect the environment and human health, system the final version of the standard.

This standard specifies the technical requirements of the oil refining industry wastewater treatment project design, construction, inspection and operation management.

This standard is a guiding standard.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

This standard is mainly drafted by. China National Petroleum Corp. Oil Chemical Research Institute, China Petroleum Engineering construction Set design company Dalian Branch, China Environment Federation Technical Standards Environmental Studies Committee, Yu-Star Technology Development (Shenzhen Shenzhen) Co., Ltd.

The Ministry of Environmental Protection Standards December 19, 2014 for approval.

This standard since March 1, 2015 implementation.

The standard explanation by the Ministry of Environmental Protection.

1 Petroleum refining industry Wastewater Treatment Project Technical Specifications

1 Scope

This standard specifies the petroleum refining industry wastewater treatment project design, construction, inspection and operation management of technical requirements.

This standard applies to petroleum refining enterprise wastewater treatment project, as environmental impact assessment, feasibility studies, design, Construction, installation, commissioning, acceptance, operation and supervision of the technical basis.

2 Normative references

The standard content of the following documents cited in the articles. For undated references, the effective version applies to this standard.

GB 150 Pressure Vessel GB 12348 industrial enterprises of environmental noise emission standard plant boundary GB 14554 standard malodorous emissions GB 18484 Hazardous Waste Incineration Pollution Control Standard GB 18597 Hazardous Waste Storage Pollution Control Standard GB 18598 Hazardous Waste Landfill Pollution Control Standard GB 50003 Code for Design of masonry structures GB 50007 Code for design of building foundation GB 50009 building structural load specifications GB 50010 Design of Concrete Structures GB 50011 Seismic Design of Buildings GB 50014 outdoor drainage design specifications GB 50016 architectural design code for fire protection Design of steel structures GB 50017 GB 50033 architectural lighting design standards GB 50037 Code for design of building ground GB 50046 Code for anticorrosion design of industrial buildings GB 50058 explosion hazardous environment design of electric installations 50068 building structure GB unified standard for reliability design 2GB 50069 Water Supply and Drainage Structural design code GB 50108 Technical code for waterproofing of underground works GB 50141 structures of water supply engineering construction and acceptance GB 50160 fire protection design of petrochemical enterprises GB 50191 Code for seismic design of structures GB 50202 foundation engineering foundation construction quality acceptance Construction Quality Acceptance GB 50203 masonry structure specification GB 50204 Construction Quality Acceptance of Concrete Structure Engineering Steel Engineering Construction Quality Acceptance GB 50205 GB 50206 Construction Quality Acceptance of Timber Structure Engineering GB 50231 mechanical equipment installation construction and acceptance of universal norms GB 50235 industrial metal pipeline construction norms GB 50254 electrical low-voltage electrical equipment installation engineering construction and acceptance GB 50255 electric equipment installation engineering power converter equipment for construction and acceptance GB 50256 electrical equipment installation engineering construction and acceptance of electric device GB 50257 electrical equipment installation engineering explosion and fire hazard electrical equipment installation and

acceptance GB 50268 and drainage in construction and acceptance GB 50275 fans, compressors, pumps, installation engineering construction and acceptance GB 50300 Construction Quality Acceptance of uniform standards GB 50334 municipal sewage treatment plant construction quality acceptance GB 50345 roofing project technical specifications GB/T 50087 Industrial Enterprise Noise Control Design Specification GB/T 50934 Petrochemical engineering seepage technical specifications GB Z 2.1 Workplace Hazardous Occupational Exposure Limits - Part 1. Chemical hazardous agents GB Z 2.2 Workplace Hazardous Occupational Exposure Limits - Part 2. physical factors CECS 117 Water Supply and Drainage Design of concrete structures deformation joint procedures CECS 138 Water Supply and Drainage Design of reinforced concrete structures procedure Pool CJJ 60 urban sewage treatment plant operation, maintenance and safety technical regulations HJ 2010 film biological wastewater treatment engineering technical specifications 3HJ 2025 hazardous waste collection storage and transportation Technical Specifications SH 3017 petrochemical production design SH 3043 petrochemical equipment and piping in surface color and identification requirements SH 3501 Petroleum and Chemical combustible medium steel pipeline construction and acceptance SH/T 3022 petrochemical equipment and pipeline corrosion coating design specifications SH/T 3053 petrochemical enterprises overall layout design specifications JB/T 8471 baghouse technical requirements for installation and acceptance JB/T 8536 ESP technology mechanical installation conditions "Construction project environmental protection facilities in the acceptance monitoring technical requirements" (UNCED [2000] 38) "Acceptance of completed construction projects management approach" (SEPA Order No. 13)

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Petroleum refining industry petroleum refining industry

It refers to the crude oil, heavy oil and other raw materials to produce gasoline fractions, diesel fractions, fuel oil, petroleum wax, petroleum asphalt, lubricating Oil and petrochemical raw materials such as industrial enterprises or production facilities.

3.2 Petroleum refining industry waste petroleum refining industry wastewater

Refers to the petroleum refining industry wastewater generated in the production process, including the production of waste, pollution, rain (mixed with wastewater Processing), sewage, cooling water blowdown, chemical water system of water sewage water, steam generator blowdown water, waste heat boiler Sewage water. Not including refineries owned power plants, boilers and waste water services to its water chemistry of water sewage water.

3.3 Wastewater process wastewater

Refers to the production process in the petroleum refining industry in direct contact with the production of material discharged from the production plant effluents. Production waste Water is wastewater, sulfur-containing waste water, salt water and the like.

3.4-contaminated stormwater polluted rainwater it means that contaminated material does not meet emissions standards rain.

3.5 of FCC regenerator flue gas desulfurization wastewater flue gas desulfurization effluent of FCC regenerator Means of FCC regenerator flue gas desulfurization wastewater emissions.

3.6 Grease oil separation

It refers to the use of the density difference between oil and water separation to remove oil in wastewater suspension process.

4.3.7 Coagulation

It means adding coagulant, done under certain conditions water hydrolysis, condensation reaction, the colloidal dispersion destabilization and cohesion process.

3.8 flocculation Refers to the complete cohesion colloidal under certain water conditions collide with each other, adding a small amount of flocculant aggregation or coagulation to form a more Process large floc particles.

3.9 Flotation air floatation Refers to a large number of micro air bubbles generated by some method, the adhesion of water and destabilization of colloidal particles suspended in the water floating solid-liquid A process in separation.

3.10 Hydrolysis Acidification hydrolytic acidification it means under anaerobic conditions for the complex structure of the insoluble or soluble organic polymer after hydrolysis and acid production, into Simple low-molecular organic material in the process.

3.11 hypoxia anoxic zone Means a non-oxygenated pool (area), dissolved oxygen concentration is generally 0.2 ~ 0.5mg/L, the main function is to carry out denitrification.

3.12 aerobic zone aerobic zone Refers to the oxygenated pool (area), dissolved oxygen concentration is generally not less than 2mg/L, the main function is the degradation of organic matter and ammonia nitrogen nitrification.

3.13 depth treatment advanced treatment it means the further processing of the biological treatment of pollutants in water purification processes.

4 Design of water quality and water

4.1 Wastewater origin and classification Petroleum refining industry has major emitters of