



ENVIRONMENT PROTECTION REGULATION

Project Name: HENGYI (BRUNEI) PMB PETROCHEMICAL PROJECT
Project Owner: HENGYI INDUSTRIES SDN BHD
Project Package: PACKAGE 0: GENERAL
Document Type: REGULATION
Document Name: ENVIRONMENT PROTECTION REGULATION
Document Number: HYBN-T3-08-0003-2018-1
Revision Number: 1
Total Page Number: 56

Rev	Status	Date	Issued By	Checked By	Approved By
					
1	IFI	31/05/2018	Li Chun Lin (Assistant Manager)	Xiao Chun Bao (Manager)	Chen Lian Cai (Chief Executive Officer)

Revision History

Rev #	Date	Description
1	31/05/2018	This is the First Edition



Hengyi Industries Sdn Bhd
恒逸实业（文莱）有限公司

HYBN-T3-08-0003-2018-1

Environment Protection Regulation

环境保护管理制度

Issued Date : May 2018

颁布日期：2018 年 5 月

Prepared by: Li Chunlin

Sun Peng

编 写：李春林、孙鹏

Reviewed by: Xiao Chunbao

审 核：肖春宝

Approved by: Chen Liancai

批 准：陈连财

 HENGYI	Hengyi Industries Sdn Bhd 恒逸实业（文莱）有限公司				
	Environment Protection Regulation 环保管理制度				
	Doc. No.	HYBN-T3-08-0003-2018-1	Ver. No.	1	Page 1 of 52

1 Purpose 目的

The purpose of this Regulation is to implement the principle of “One in charge shall assume the responsibilities, and one in charge of production must also be responsible for environmental protection” and “all staff, the whole process, all-round and all-weather”, to ensure the effective implementation of environmental protection responsibilities of each department of the Company, and to minimize the impact of production on the environment.

本制度旨在落实“谁主管，谁负责，管业务必须管环保”及“全员，全过程，全方位，全天候”的原则，保证公司各部门环保责任的有效实施，最大限度降低生产对环境造成的影响。

2 Scope of Application 适用范围

This Regulation is applicable to all departments of the Company.

本制度适用于公司各部门。

3 Terms and Definitions 术语和定义

3.1 Environment: external existence of operation activities of the Organization, including air, water, land, natural resources, plants, animals, human and the correlations among them.

环境：组织运行活动的外部存在，包括空气、水、土地、自然资源、植物、动物、人，以及它们之间的相互关系。

3.2 “Three wastes”: waste gas, waste water and waste residue (waste liquid) produced in production.

“三废”：指生产中产生的废气、废水、废渣（液）。

3.3 Risk assessment: the process of assessing the risk caused by hazards, considering the adequacy of existing control measures and determining whether the risk is acceptable.

风险评价：评估由危险源导致的风险、考虑现有控制措施的充分性并确定风险是否可接受的过程。

3.4 Waste water: genetic name of water and runoff rainwater discharged in the course of production activities. It includes the industrial waste water, domestic sewage, initial rainwater and other useless water flowing into drainage pipe/channel.

废水：是指生产活动过程中排出的水及径流雨水的总称。它包括工业废水、生活污水和初雨径流入排水管渠等其它无用水。

3.5 Diverting wastewater from clean water: the measure of separating the highly contaminated water from the uncontaminated or low-contaminated water for processing by quality, to reduce the amount of contaminants discharged and lower the cost of water treatment. 清污分流：是将高污染水和未污染或低污染水分开，分质处理，减少外排污染物量，降低水处理成本的措施。

3.6 Initial rainwater: generally refers to the rainwater collected in the unit area and storage and transportation tank farm within the plant 30min before light rain and 15min before heavy rain.

初期雨水：一般指小雨前 30min，大雨前 15min 在厂内装置区和储运罐区收集的雨水。

3.7 Oily sewage: the sewage containing oil component directly and indirectly produced in the production process of the production unit.

含油污水：指生产单位生产过程中直接与间接产生的含有石油组分的污水。

3.8 Sulfur-containing (acidic) sewage: high-concentration sulfide sewage produced in the production process of oil refining and chemical plants.

含硫（酸性）污水：指炼油化工装置生产过程中产生的高浓度硫化物污水。

3.9 Clean effluent: mainly refers to acid-base neutralization sewage, drained water of circulating cooling water, regularly drained water of boiler, etc.

清净下水：主要指酸碱中和污水、循环冷却水排水、锅炉定排水等。

3.10 Fugitive emission: the irregular emission of atmospheric pollutants through the ways like dissipation from leakage equipment and facilities of dynamic and static sealing points.

无组织排放：是指大气污染物通过动静密封点泄漏设备设施逸散等的无规则排放。

3.11 Organized emission: the emission of atmospheric pollutants through the exhaust funnel.

有组织排放：是指大气污染物经过排气筒排放。

3.12 Sour gas: gases with higher content of H₂S. 酸性气：是指 H₂S 含量较高的气体。

3.13 Atmospheric pollution source: refers to the source of atmospheric pollutants, and here refers in particular to the organized waste gas emission sources like flue gas of industrial boilers and furnace kilns and technology waste gas, as well as fugitive waste gas emission sources like breather valves in tank farm and sewage treatment facilities.

大气污染源：是指大气污染物的来源，本处特指工业锅炉和炉窑烟气、工艺废气等有组织废气排放源，以及罐区呼吸阀、污水处理设施等无组织废气排放源。

3.14 Solid waste: the solid or semi-solid articles or substances produced in production, life and other activities that have lost their original value in use or have been abandoned or discarded without losing their value in use, as well as articles or substances that are incorporated into solid waste management as required by laws and administrative regulations. 固体废弃物：是指在生产、生活和其他活动中产生的丧失原有利用价值或者虽未丧失利用价值但被抛弃或者放弃的固态、半固态物品、物质以及法律、行政法规规定纳入固体废物管理的物品、物质。

3.15 General industrial solid wastes: the non-hazardous solid waste produced from industrial production and life.

一般工业固体废物：是指从工业生产生活中产生的没有危险性的固体废物。

3.16 Hazardous wastes: wastes with hazardous characteristics that are included in Brunei's Guidelines on Control of Pollutants (also refer to China's Directory of National Hazardous Wastes (2016 Revision)) or that are determined according to identification standards and identification methods for hazardous wastes, i.e. toxic, flammable, corrosive, reactive and radioactive wastes generated in the production and operation process.

危险废弃物：指列入文莱污染物控制指南（同时参考中国 2016 版危废名录）或者根据危险废弃物鉴别标准和鉴别方法判定的具有危险特性的废物。即生产经营过程中产生的具有毒性、易燃性、腐蚀性、反应性、放射性的废物。

3.17 Solid waste disposal: the method of changing the physical, chemical and biological properties of solid wastes by a specific processing mode; the activities to reduce the amount of solid wastes that have been produced, to reduce the volume of solid wastes and to reduce or eliminate their hazardous components; or the activities of finally placing the solid wastes in landfills

that meet the requirements of environmental protection regulations.

固废处置：是指用特定的处理方式，改变固体废物的物理、化学、生物特性的方法，达到减少已产生的固体废物数量、缩小固体废物体积、减少或者消除其危险成份的活动，或者将固体废物最终置于符合环境保护规定要求的填埋场的活动。

3.18 Harmlessness: the certain treatment and disposal to solid wastes that cannot be reused or cannot be reused at current technological level, so as to prevent them from causing any harm to the environment, human body and social development;

无害化：是指对于那些不能被再利用或依靠当前的技术水平无法对其再利用的固体废物进行一定的处理和处置，使其不能对环境、人体和社会发展构成任何危害；

3.19 Reduction: maximum use of resources and energy in the course of production and life to reduce the amount of solid wastes generated, and treatment and disposal to solid wastes generated to compress their volume and mass and minimize the amount of solid wastes discharged;

减量化：是指在生产生活过程中最大限度地利用资源和能源，以减少固体废物的产生量，对产生的固体废物进行处理处置，压缩其体积和质量，尽量减少固体废物的排放量；

3.20 Recycling: recovery of the solid wastes that have been produced, supplemented with corresponding technologies for treatment and disposal, and production into secondary raw materials or energy reuse.

资源化：是指对已产生的固体废物进行回收，并辅以相应的技术进行处理处置，将其生产成二次原料或能源再利用。

3.21 Radioactive source: a product made from natural or artificial radionuclides that is characterized by the emission of certain radiation.

放射源：指用天然或人工放射性核素制成的、以发射某种辐射为特征的制品。

3.22 Radioactive isotope: radioactive materials excluding those used as nuclear fuels, nuclear raw materials and nuclear materials.

放射性同位素：是指不包括作为核燃料、核原料、核材料的其它放射性物质。

3.23 Radiation device: X-ray machines, accelerators, neutron generators and devices that use radioactive level gauges.

射线装置：是指 X 线机、加速器、中子发生器以及使用放射性料位计的装置等。

3.24 Environmental monitoring: the determination on the representative values of factors affecting environmental quality to determine the state and changing trend of environmental quality (or pollution level). 环境监测：指通过对影响环境质量因素的代表值的测定，从而确定环境质量(或污染程度)的状况及其变化趋势。

3.25 Three-level verification: the process verification conducted by monitoring analysts, quality control personnel, and leaders in charge as required for ensuring the accuracy of analysis results.

三级审核：是指为保证分析结果准确而规定的由监测分析人员、质控人员及主管领导进行的过程审核。

3.26 Environmental protection facilities: the various treatment (disposal), purification, emergency and comprehensive utilization facilities built for the prevention and control of pollution and destruction to the environment caused by substances discharged in the production and operation process, including waste water, waste gas and solid waste, and the facilities and equipment installed as supporting with these facilities, such as the sewage lifting pump station,

sewage pipe network, deodorization device, sewage draining exit, exhaust funnel, emergency lagoon and automatic monitoring system.

环境保护设施：是指为防治生产经营过程排放的废水、废气、固体废物等物质对环境的污染和破坏而建造的各种处理（处置）、净化、应急、综合利用设施，以及与这些设施配套安装的污水提升泵站、污水管网、除臭装置、排污口、排气筒、应急池、自动监控系统等设施设备。

3.27 Automatic monitoring facility for pollution source: facilities installed on the site of pollution source for supervising and monitoring pollutant discharge, including the on line automatic monitor, flow rate (velocity) meter, operation recorder of pollution treatment facility, and data acquisition and transmission instruments, meters, sensors, etc., which is an integral part of pollution prevention and control facilities.

污染源自动监控设施：是指在污染源现场安装的用于监控、监测污染物排放的在线自动监测仪、流量（速）计、污染治理设施运行记录仪和数据采集传输仪器、仪表、传感器等设施，是污染防治设施的组成部分。

3.28 Comparison monitoring: the behavior of monitoring by the use of reference (standard) method and self-monitoring method to implement synchronous sampling analysis under the normal production of the enterprise to verify the accuracy of monitoring results of automatic monitoring equipment for water pollution sources and flue gas from stationary pollution sources. 比对监测：是指采用参比（标准）方法，与自行监测法在企业正常生产下实施同步采样分析，验证水污染源和固定污染源烟气自动监测设备监测结果准确性的监测行为。

3.29 Leakage detection and repair (LDAR): leakage detection and repair (LDAR) mainly detects the parts prone to leakage such as the raw material delivery pipes, pumps, valves and flanges of chemical enterprise, and remedies the leakage parts of more than a certain concentration, so as to control the pollution to the environment caused by raw material leakage. Therefore, it is also an effective control measure to reduce the emission of volatile organic compounds.

泄漏监测与修复（LDAR）：泄漏监测与修复（LDAR）主要通过检测化工企业原料输送管道、泵、阀门、法兰等易产生泄漏的部位，并对超过一定浓度的泄漏部位进行修复，从而达到控制原料泄漏对环境造成污染，因此，它也是减少挥发性有机物排放的有效治理措施。

4 Management Responsibilities 管理职责

4.1 Specified administrative authority 归口管理部门

4.1.1 The environmental protection management of the Company is under the jurisdiction of HSE Dept.;

HSE 管理部是公司环保管理的归口部门；

4.1.2 Be responsible for the formulation of the Company's environmental protection system, preparation of environmental monitoring analysis plans and environmental assessment programs;

负责制定公司环保制度、编制环保监测分析计划和环保考核方案；

4.1.3 Be responsible for the identification of environmental protection laws and regulations and the supervision and administration of environmental governance and environmental protection;

负责环境保护法律法规的识别及环境治理、环境保护的监督管理工作；

4.1.4 Be responsible for the communication and coordination with relevant local authorities in charge of environmental protection and the handling of related environmental protection procedures;

负责与当地环保相关主管部门的沟通协调及相关环保手续的办理；

4.1.5 Be responsible for organizing and carrying out the identification, evaluation, control and supervision and governance of environmental risks; 负责组织开展环境风险识别、评价、控制与监督治理；

4.1.6 Supervise the running conditions of the Company's production equipment and environmental protection facilities, and assess the emission compliance with the standards of the "three wastes".

对公司生产装置和环保设施的运行情况进行监督，对“三废”排放达标情况进行考核。

4.1.7 Be responsible for the management of radioactive source pollution; and be responsible for the compliance disposal of hazardous wastes;

负责放射源污染管理；负责危险废物的合规性处置；

4.1.8 Be responsible for organizing the new construction, reconstruction, expansion, technical transformation and measures and the environmental impact assessment, environmental protection design review, environmental protection supervision in construction of the pollution control project and the tracking and implementation of "Three Simultaneities" of environmental protection;

负责组织新建、改建、扩建、技改技措和污染治理项目的环境影响评价、设计环保审查、施工环保监督及环保“三同时”的跟踪落实；

4.1.9 Be responsible for the supervision and administration of environmental protection technologies and facilities; be responsible for supervising and urging the management of the potential environmental protection hazards; take the lead to organize the review of various environmental protection schemes;

负责环保技术、设施的监督管理；负责督促环保隐患的治理；牵头组织各类环保方案的审核；

4.1.13 Be responsible for organizing the preparation and drills of the environmental emergency plan, and daily management of environmental emergency response, and participating in the emergency work of environment emergency incidents (accidents);

负责组织环境应急预案的编制、演练、环境应急日常管理及参与环境突发事件(故)的应急工作；

4.1.14 Organize the environmental protection training at the company level;

组织公司级的环保培训；

4.1.15 Organize or participate in the investigation and treatment of environmental pollution accidents within the extent of competence;

组织或参与权限范围内环境污染事故的调查处理；

4.1.16 Be responsible for the release of environmental information and data collection, collation, statistics and reporting.

负责环保信息的发布及数据的收集、整理、统计及上报。

4.2 Collaborative management departments 协同管理部门

4.2.1 The CEO's Office is responsible for incorporating the Company's environmental protection management into the Company's performance appraisal; it is responsible for the external

propaganda of the Company's environmental protection image and the release of related information; and it is also responsible for participating in the emergency processing of the Company's environmental accidents.

总经理办公室负责将公司环保管理纳入公司绩效考核；负责公司对外环保形象宣传与相关信息发布等；参与公司环境事故应急处理。

4.2.2 The HR Dept. is responsible for incorporating the environmental protection training into the Company's training plan and organizing the implementation; it is responsible for the allocation of managerial, technical and operational personnel that meet the needs of environmental protection management and environmental monitoring.

人力资源部负责将环保培训纳入公司培训计划中，并组织实施；负责配置满足环保管理和环境监测工作需要的管理、技术和操作人员等。

4.2.3 The Finance Dept. is responsible for the implementation of environmental protection funds and the proposal for insurance and claim settlement of environmental protection insurance.

财务管理部负责环保资金的落实、负责环境保护险的投保与理赔工作等。

4.2.4 The Commercial Dept. is responsible for the selection of raw (auxiliary) materials for environmental protection, the sale of environment-friendly products, and the environmental management of suppliers and customers of the raw (auxiliary) materials and at the link of products sale.

商务部负责环保原（辅）材料的选择，销售环保的产品；负责原（辅）材料及产品销售环节的供应商及客户环保管理等。

4.2.5 The Materials & Supplies Dept. is responsible for the environmental compliance of the purchased equipment, raw and auxiliary materials, chemicals, etc.; it is responsible for the procurement, storage and distribution of environmental emergency supplies; and it is also responsible for the disposal of valuable, recyclable and useable wastes.

物资装备部负责所采购设备、原辅材料、化学品等符合环保要求；负责环境应急物资采购、保管和配送；负责有价、可回收、可利用废弃物的处置等。

4.2.6 The Scheduling & Dispatch Dept. is responsible for incorporating the environmental indicators into the management of process indicators and operation specifications to ensure the up-to-standard discharge; it is responsible for solving the problems of environmental protection devices and facilities in the production and operation processes and process technologies; it is responsible for arranging the production plans according to the capabilities of environmental protection facilities; it is responsible for the implementation of "Three Simultaneities" of environmental protection in the technological transformation project; it participates in the investigation and treatment of pollution accidents; and it is also responsible for incorporating the environmental protection management into the device startup/shutdown program, so that the environmental protection device and facilities can start up first and shut down later, to ensure that the whole process meets the environmental protection standards and does not pollute the environment.

计划调度部负责将环保指标纳入工艺指标和操作规程管理，确保达标排放；负责解决环保装置和设施在生产运行过程和工艺技术方面存在的问题；负责根据环保设施能力安排生产计划；负责技术改造项目中环保“三同时”的落实；参与污染事故的调查处理；负责将环保管理纳入装置开停工方案中，做到环保装置设施先开后停，确保整个过程环保达标不污染环境。

4.2.7 The Equipment Management Dept. is responsible for ensuring that the environmental protection facilities and equipment can operate in good and stable condition; it is responsible for incorporating the environmental protection management into the maintenance and repair schemes and supervising the implementation; it is responsible for the leakage monitoring and remedy of dynamic and static sealing points; and it also participates in the environmental emergency rescue work.

机械动力部负责保证环保设施、设备完好与稳定运行；负责将环保管理纳入检维修方案中并监督执行；负责动静密封点泄漏监测与修复；参与环保应急救援工作。

4.2.8 The Information Management Dept. is responsible for the establishment and maintenance of environmental information management systems.

信息管理部负责环保信息管理系统的建立和维护。

4.3 Executive departments 执行部门

4.3.1 Be responsible for implementing various environmental protection rules and regulations, carrying out control and prevention of pollutant discharge in the production process and executing the environmental protection grading control indicators;

负责落实各项环境保护规章制度，开展生产过程中污染物排放控制与防治，执行环保分级控制指标；

4.3.2 Be responsible for formulating the regulations and operation specifications for the pollutants treatment and control management of the department and carrying out the environmental protection training for posts;

负责制定本部门的污染物治理与控制管理规定与操作规程，开展岗位环保培训；

4.3.3 Be responsible for achieving the sound and stable operation of the pollutants treatment and monitoring facilities of the department, optimizing operations, and ensuring that the pollutant discharge in the production process meets standards;

负责本部门污染物治理及监测设施的完好与稳定运行，优化操作，确保生产过程中污染物排放达标；

4.3.4 Be responsible for the environmental protection management of the contractor's operation, the formulation and implementation of environmental protection measures for the operation scheme, and the supervision of the operation and the site-clearing and restoration after completion;

负责承包商作业环保管理、作业方案环保措施制定和落实，监督作业及结束后的清场恢复；

4.3.5 Be responsible for the department's management and control of diverting wastewater from clean water and diverting wastewater and the standardized management of solid waste;负责本部门清污分流、污污分流管控和固废规范化管理；

4.3.6 Be responsible for the identification, evaluation and management and control of the risk of environment impact factors in the department, and the identification and control of potential environmental protection hazards;

负责本部门环境影响因素风险的辨识、评价与管控、环保隐患的辨识与治理；

4.3.7 Be responsible for the management and control of environment emergency, the preparation of site disposal scheme and regular drill for that in the department.

负责本部门环境应急管控，编制现场处置方案并定期演练。

4.3.8 The Quality Analysis Dept. is responsible for implementing the environmental protection monitoring plan and environmental monitoring program, carrying out monitoring of the discharge of pollutants in the production process; completing the temporary monitoring tasks and reporting in time; and filling in the environmental monitoring data and reporting abnormal data in a timely manner.

质量检验部负责执行环保监测计划及环境监测方案，开展生产过程污染物排放的监测；完成临时监测任务并及时报告；负责环境监测数据的填报，及时报告异常数据等。

4.3.9 The Instrument Control Dept. is responsible for the comparison, maintenance and overhaul of on-line environmental protection monitoring instruments and radioactive instruments.

仪表控制部负责环保在线监测仪表、放射性仪表的比对、维护及检修。

5 Management Content 管理内容

5.1 Identification and compliance evaluation of environmental protection laws and regulations
环保法律法规识别与合规性评价

Refer to Section 5.5 of HSE Comprehensive Management System for HSE laws and regulations and other related regulations requiring identification and compliance evaluation.

参照《HSE 综合管理制度》中第 5.5 部分 HSE 法律法规及其他有关要求识别与符合性评价的规定。

5.2 Identification and evaluation of environmental factors 环境因素识别与评价

5.2.1 Opportunities for identification and evaluation of environmental factors 环境因素的识别与评价的时机

5.2.1.1 When conducting an initial environmental review, the Company must perform the identification and evaluation of environmental factors.

公司进行初始环境评审时，要做好环境因素的识别与评价。

5.2.1.2 With all departments as the target, the identification and evaluation of environmental factors should be carried out before setting the goals and indicators for the next year after the annual management review.

以全体部门为对象，每年管理评审后在设定第二年的目标和指标前应进行环境因素的识别与评价。

5.2.2 Identification of environmental factors 环境因素的识别

5.2.2.1 HSE Dept. issues the Form for Identification and Evaluation of Environmental Factors to relevant departments. HSE 管理部将《环境因素识别和评价表》发放到相关部门。

5.2.2.2 All relevant departments shall organize the personnel to identify the environmental factors that can be controlled or are expected to be exerted influence on from their activities, products and services, and to fill out the Form for Identification and Evaluation of Environmental Factors and feed it back to the HSE Dept.

各相关部门组织人员从其活动、产品、服务中识别出能够控制或可望施加影响的环境因素，填写《环境因素识别和评价表》并反馈到 HSE 管理部。

5.2.2.3 All departments shall collect relevant information before identifying environmental factors: 各部门在识别环境因素之前, 应收集有关的信息:

(1) The condition of use and abandonment of raw materials and components;

原材料、零部件的使用和废弃情况;

(2) The condition of use and abandonment of auxiliary materials like chemicals and oil products; 化学品、油品等辅助材料的使用和废弃情况;

(3) The discharge amount, frequency, etc. of wastes and emissions in the production process; 生产过程中的废弃物、排放物的排放量以及频率等;

(4) The use condition of energy and resources; 能源、资源的使用情况;

(5) The environmental impacts of equipment during operation, such as whether it produces noise, energy consumption, etc.;

设备运转时的环境影响, 如是否产生噪声、产生能源消耗等;

(6) Employee opinions and so forth. 员工的意见等。

5.2.2.4 In the process of identifying environmental factors, each independent activity unit shall be identified as possible, and the input-output method shall be adopted to comprehensively identify its environmental factors.

在识别环境因素的过程中, 应尽可能确定出每一个独立的单元, 采用投入产出法, 全面地识别其环境因素。

5.2.2.5 In identification of environmental factors, three tenses, three states and eight types (patterns of manifestation) of the environmental factors shall be considered.

在识别环境因素时, 应考虑环境因素的三种时态、环境因素的三种状态、环境因素的 8 种类型 (表现形式)。

(1) Three states of environmental factors 环境因素的三种状态

1) Normal: environmental problems that may arise under daily production conditions.

正常状态: 在日常生产条件下, 可能产生的环境问题。

2) Abnormal: environmental problems arising under the foreseeable circumstances like powering on/off, shutdown for overhaul, etc. that are quite different from those in normal state. 异常状态: 在开/关机、停机检修等可以预见的情况下产生的与正常状态有较大不同的环境问题。

3) Emergency: environmental factors brought about by emergencies such as fire, flood, explosion, facility and equipment failure, massive leakage, typhoon, earthquake, etc.

紧急状态: 如火灾、洪水、爆炸、设施设备故障、大规模泄露、台风、地震等突发情况带来的环境因素。

(2) Three tenses of environmental factors 环境因素的三种时态

1) Past: environmental problems left over before or environmental events having ever happened in the past, etc.;

过去: 以往遗留的环境问题或过去曾发生的环境事件等;

2) Present: organize the existing and subsistent environmental problems;

现在: 组织现有的、现存的环境问题;

3) Future: organize the environmental problems that may arise in the future, such as environmental problems that may arise after the product leaves the factory; environmental problems that may arise from activities of disposal at the time of product obsolescence, laws, regulations and other requirements in the future, and updates and plans for the product; and environmental problems that may arise from new project introductions, new products and process transfor-

mation.

将来：组织将来产生的环境问题。如产品出厂后可能带来的环境问题；产品报废时的处置、将来的法律、法规和其他要求及其更新、计划中的活动可能带来的环境问题；新项目引入、新产品、工艺改造可能带来的环境问题。

(3) Eight types of environmental factors 环境因素的 8 种类型

- 1) Emissions to the atmosphere; 向大气的排放；
- 2) Emissions to the water body; 向水体的排放；
- 3) Emissions to the land; 向土地的排放；
- 4) The use of raw materials and natural resources; 原材料与自然资源的使用；
- 5) Energy use; 能源使用；
- 6) Energy release (such as heat, radiation, vibration, etc.); 能量释放（如热、辐射、振动等）；
- 7) Waste and by-product; 废物和副产品；
- 8) Physical property: size, shape, color, appearance, etc.

物理属性，如大小、形状、颜色、外观等。

5.2.2.6 In identification of environmental factors, the environmental factors arising from the activities of the interested parties including the suppliers of raw materials and outsourced parts required for the Company, the engineering contract party, the waste handlers and the product transporters shall be considered.

在识别环境因素时，应考虑公司所需的原材料、外协件的供应商、工程合同方、废弃物处理者以及产品运输者等相关方的活动所产生的环境因素。

5.2.2.7 The HSE Dept. shall carry out statistics and analysis on the back-collected Form for Identification and Evaluation of Environmental Factors and sort out the Company-wide environmental factors.

HSE 管理部对收集回来的《环境因素识别和评价表》进行统计和分析，整理出全公司的环境因素。

5.2.2.8 The guideline for identification of environmental factors is shown in Figure 1.

环境因素识别指南见图 1

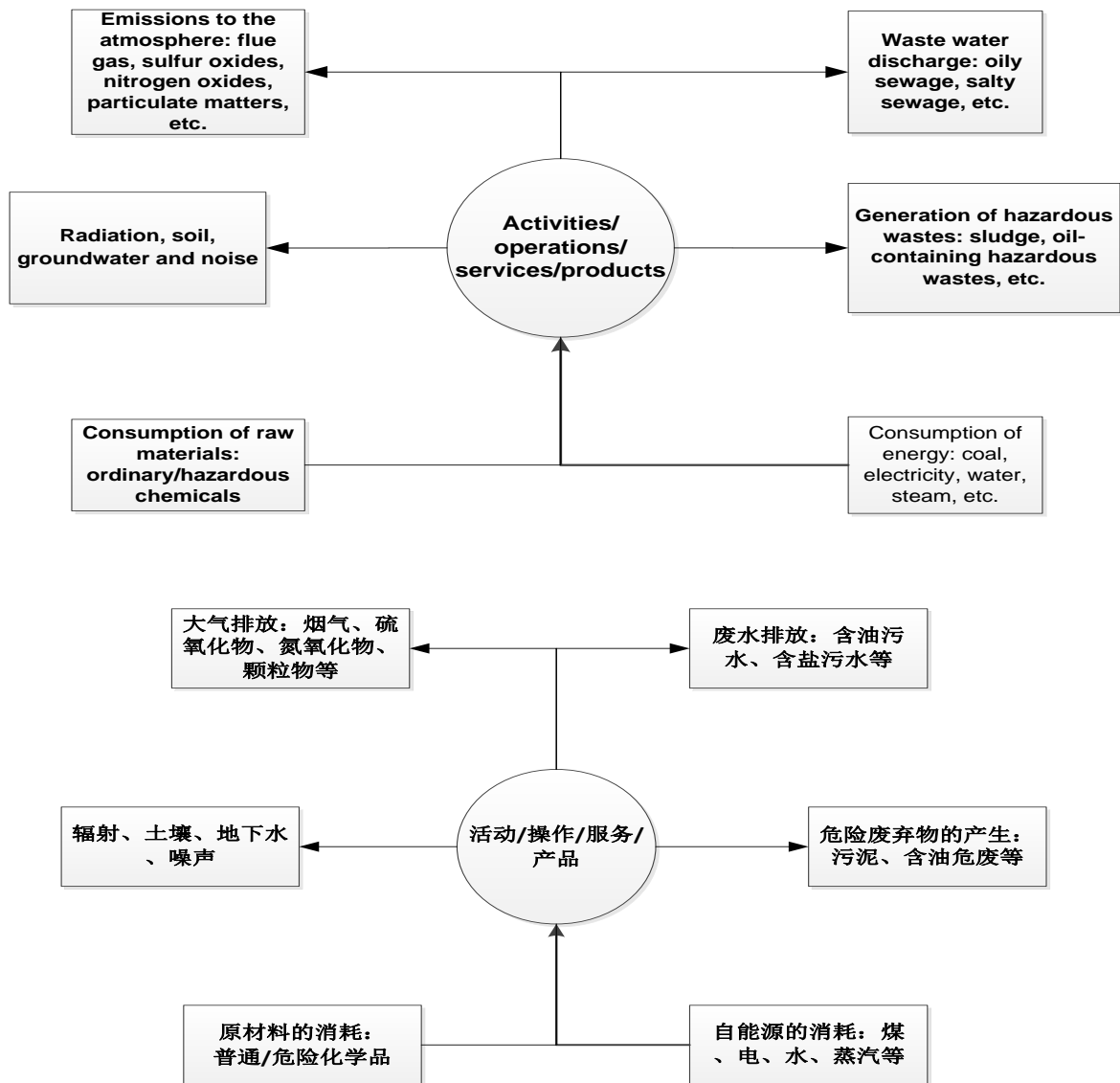


Figure 1 Guideline for identification of environmental factors
环境因素识别指南

- (1) Normal: normal operation (specified operation);
正常: 正常操作 (指定操作);
- (2) Abnormal: non-routine operation, such as startup, shutdown or switchover (not the specified operation);
异常: 非常规操作例如开车、停机或转变 (不是指定的操作);
- (3) Emergency: emergency situations, if not controlled promptly, may result in fire, explosion, injury or property damage or cause significant environmental problems.
紧急: 紧急情形如果不迅速地加以控制可以产生火灾、爆炸、伤害或财产损害或引起重要的环境问题。

5.2.3 Evaluation of environmental factors 环境因素评价

5.2.3.1 The HSE Dept. shall organize relevant departments and personnel to conduct the evaluation of environmental factors based on the investigation of environmental factors by all departments, to determine which environmental factors have significant impact on the environment or the major environmental factors that may have significant impact.

HSE 管理部依据各部门调查环境因素组织相关部门和人员进行环境因素评价，从中判定哪些对环境具有重大影响，或可能具有重大影响的重要环境因素。

5.2.3.2 See Table 1 for guidance on likelihood of occurrence 发生的可能性指导见表 1

5.2.3.3 See Table 2 for discrimination criteria on severity of event consequences

事件后果严重性判别准则见表 2

5.2.3.4 See Table 3 for guidance on risk level 风险水平的指导见表 3

Table 1 Guidance on likelihood of occurrence

表 1 发生的可能性指导

Level 等级	Criterion 标 准
5	No prevention, monitoring, protection or control measures are taken on the site, and the occurrence of hazards cannot be detected (without monitoring system). Or it occurs more than once a week. 在现场没有采取防范、监测、保护、控制措施危害的发生不能被发现（没有监测系统）。或一周发生一次以上。
4	The occurrence of hazards is not easy to be detected, with no detection system on the site or monitoring conducted, or control measures have been taken on the site, but they have not been effectively implemented or the control measures are improper. Or it occurs less than three times a month. 危害的发生不容易被发现，现场没有检测系统，也未作过任何监测，或在现场有控制措施，但未有效执行或控制措施不当。或一月发生三次以内。
3	No protective measures (such as protective devices, personal protective equipment, etc.) are taken, or they are not implemented in strict accordance with the operation procedure, or the occurrence of hazards is easy to be detected (with monitoring system on the site), or monitoring has ever been conducted. Or it occurs once half a year. 没有保护措施（如没有保护防装置、没有个人防护用品等），或未严格按操作程序执行，或危害的发生容易被发现（现场有监测系统）或曾经作过监测。或半年发生一次。
2	Once the hazard occurs, it can be detected in time and monitored regularly, or prevention and control measures are taken on the site and can be effectively implemented. Or it occurs once a year. 危害一旦发生能及时发现，并定期进行监测，或现场有防范控制措施，并能有效执行。或者一年发生一次。
1	The sufficient and effective prevention, control, monitoring and protection measures are taken, or the employees have a very high awareness of safety and health and can strictly implement the operation specifications. Accidents or incidents could occur at an extremely low likelihood. 有充分、有效的防范、控制、监测、保护措施，或员工安全卫生意识相当高，严格执行操作规程。极不可能发生事故或事件。

Table 2 Discrimination criteria on severity of event consequences
表 2 事件后果严重性判别准则

Score 分数	Waste water 废水	Waste gas 废气	Chemicals leakage 化学品 泄漏	Hazardous wastes 危 废	Environmental de- struction 环境破坏	Enterprise image 企业形象	Energy con- sumption 能源消耗
5	Greater than or equal to 10 tons 大于等于10吨的	The emissions to the atmosphere have caused damages to surrounding buildings for personnel evacuation, offsite equipment, etc. or offsite personnel injuries. 大气排放造成了周边人员疏散、厂外设备建筑等损坏、或厂外人员伤害的	The leakage has caused damages to surrounding buildings for personnel evacuation, offsite equipment, etc. or offsite personnel injuries. 泄漏造成了周边人员疏散、厂外设备建筑等损坏、或厂外人员伤害的	The hazardous waste generated is greater than or equal to 5 tons. 产生的危废大于等于5吨	The surrounding environment is destroyed. 造成周边环境破坏	Significant international and domestic impact 重大国际国内影响	More than 20% of the maximum electricity consumption of the Company 占公司内最大用电量 20%以上的
4	The quantity generated is greater than or equal to 5 tons and less than 10 tons.	It may cause air pollution accidents / cause waste gas to discharge continuously beyond the standard / sour gas to discharge into the flare for more than 3 hours.	Leakage accidents of greater than or equal to 1 ton 大于等于1吨的泄漏事故	The hazardous waste generated is greater than or equal to 1 ton and less than 5 tons. 产生的危废大于等于1吨小于5吨	The environment within zone of action is destroyed. 造成作用区域内环境破坏	Intra-industry and domestic impact 行业内、国内影响	15%-20% of the maximum electricity consumption of the Company 占公司内最大用电量 15%-20%的

Score 分数	Waste water 废水	Waste gas 废气	Chemicals leakage 化学品 泄漏	Hazardous wastes 危 废	Environmental de- struction 环境破坏	Enterprise image 企业形象	Energy con- sumption 能源消耗
	产生量大于等于5吨小于10吨的	可能造成空气污染事故/可能造成废气连续超标排放/酸性气放火炬持续3小时以上					
3	Greater than or equal to 2 tons and less than 5 tons 大于等于2吨小于5吨	It may cause waste gas to discharge occasionally beyond the standard / sour gas to discharge into the flare for more than 2 hours. 可能造成废气偶尔超标排放/酸性气放火炬2小时以上	Leakage accidents of greater than or equal to 0.5 ton and less than 1 ton 大于等于500千克小于1吨的泄漏事故	The hazardous waste generated is less than 1 ton. 产生的危废小于1吨的	The environment within the range of operation point is affected. 作业点范围内受影响	Regional impact 地区影响	10%-15% of the total energy consumption of the Company 占公司总能耗 10%至15%的
2	Greater than or equal to 1 ton and less than 2 tons 大于等于1吨小于2吨	The amount of waste gas is normal and the peculiar smell is lighter. 废气量正常且异味较轻	Leakage accidents of greater than or equal to 0.1 ton and less than 0.5 ton 大于等于100千克小于500千克的泄漏事故	The hazardous waste generated is greater than or equal to 0.5 ton and less than 1 ton. 产生的危废大于等于500公斤小于1吨	The environment surrounding the equipment and facilities is affected. 设备、设施周围受影响	Company and surrounding area 公司及周边范围	Less than 10% of the total energy consumption of the Company (consumption of fire pump and steam) 占公司总能耗 10%

Score 分数	Waste water 废水	Waste gas 废气	Chemicals leakage 化学品 泄漏	Hazardous wastes 危 废	Environmental de- struction 环境破坏	Enterprise image 企业形象	Energy con- sumption 能源消耗
							以 内 的 (消 防 泵、蒸 汽 的 消 耗)。
1	Less than 1 ton 1 吨 以 下	The waste gas discharges up to standard. 废气 达 标 排 放	Negligible leakage 可 忽 略 的 泄 漏	The quantity generated is less than 0.5 ton. 产 生 量 小 于 500 公 斤	No effect 无 影 响	No damage to the image 形 象 没 有 受 损	Less than 5% of the total energy consumption of the Company (electricity for lighting and office work) 占 公 司 内 总 能 耗 5% 以 内 的 (照 明、办 公 用 电)。

Table 3 Guidance on risk level

表 3 风险水平的指导

Likelihood L 可能性 L Severity S 严重性 S	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Slight or negligible value-at-risk ($L \times S=1-3$); 轻微或可忽略风险值 ($L \times S=1-3$);

Acceptable value-at-risk ($L \times S=4-8$); 可接受风险值 ($L \times S=4-8$);

Moderate value-at-risk ($L \times S=9-12$); 中等风险值 ($L \times S=9-12$);

Higher value-at-risk ($L \times S=15-16$) 较大风险值 ($L \times S=15-16$)

Significant value-at-risk ($L \times S=20-25$ or L and S are both 5 individually) 重大风险值 ($L \times S=20-25$ 或 L 、 S 单项为 5)

5.2.4 Evaluation method of major environmental factors 重要环境因素的评价方法

5.2.4.1 The method of risk degree shall be used to evaluate the major environmental factors, and any one of the following situations can be directly identified as the major environmental factor:

采用风险度方法评价重要环境因素，凡下述情况可直接确定为重要环境因素：

(1) Violation of the local laws, regulations and standards.

违反当地法律、法规和标准的。

(2) Where the interested parties pose reasonable complaints or requirements.

相关方有合理抱怨或要求的。

(3) There have ever been environmental pollution events and no prevention or control measures have been taken so far. 曾经发生过环境污染事件，至今未采取防范、控制措施的。

(4) Direct observation of the accident with potential environmental pollution which is not provided with appropriate control measures. 直接观察到可能导致环境污染，且无适当控制措施的。

(5) The onsite emissions of waste water, waste gas and noise that may cause the emissions at the boundary to exceed the standards are identified as major environmental factors;

废水、废气、噪声厂内排放，但可能导致厂界排放超标的为重要环境因素；

(6) The generation of hazardous wastes in Brunei's and China's Directory of National Hazardous Wastes is identified as major environmental factors;

文莱和中国国家危险废弃物名录中危险废物的产生为重要环境因素。

5.2.5 Registration of major environmental factors 重大环境因素的登记

The HSE Dept. shall register the identified major environmental factors to the List of Major Environmental Factors.

HSE 管理部将确定的重要环境因素登记到《重要环境因素清单》。

5.2.6 Management of major environmental factors 重要环境因素的管理

5.2.6.1 The major environmental factors shall be managed in the following three ways:
重要环境因素按下面的三种方式进行管理：

(1) To control with the environmental goals, indicators and the environmental management scheme. The environmental goals, indicators and the environmental management scheme must be developed for the major environmental factors requiring cost input for improvement. 用环境

目标、指标和环境管理方案进行控制，对需投入资金加以改进重要环境因素，一定要制定环境目标、指标和环境管理方案。

(2) Operation control. The operation control program shall be developed for all major environmental factors to conduct management as per the program.

运行控制，对所有重要环境因素，均要制定运行控制程序，按程序进行管理。

(3) Emergency control. The emergency preparedness and response control program shall be developed for potential emergency circumstances (such as fire, explosion, massive leakage of chemicals, etc.) to conduct management as per the program.

应急控制，对于潜在的紧急情况（如火灾、爆炸、化学品大量泄露等），应制定应急准备和响应控制程序，按程序进行管理。

5.2.6.2 See Table 4 for control measures of environmental factors 环境因素控制措施见表 4

Table 4 Control measures of environmental factors

表 4 环境因素控制措施

Level 等级	Action/control measures to be taken 应采取的行动/控制措施	Implementation period 实施期限
Significant risk 重大风险	Halt operation before hazards have been weakened by measures. Evaluate the improvement measures. 采取措施降低危害前,不能继续作业,对改进措施进行评估	Immediate rectification 立刻整改
Greater risk 较大大风险	Take emergency measures to lower the risks. Set up operation control programs. Examine, measure and evaluate the risk regularly. 采 取紧急措施降低风险，建立运行控制程序，定期检查、测量及评估	Immediate or recent rectification 立即或近期整改
Moderate risk 中等风险	It is suggested to establish goals and operation specifications and strengthen training and communication. 可考虑建立目标、建立操作规程，加强培训及沟通	Governance within 1-2 years 1-2 年内治理
Acceptable risk 可接受风险	It is suggested to establish the operation specifications and the operation instruction. Check implementation condition on a regular basis. 可考虑建立操作规程、作业指导书但需定期检查	Governance at the time of both conditions and funds ready 有条件、有经费时治理
Slight or negligible risk 轻微或可忽略的风险	No control measures are required, but the records need to be kept. 无需采用控制措施，但需保存记录	—

5.2.7 Update of environmental factors 环境因素的更新

In case of any major change on the Company's activities, products and services or any update of

regulations and other requirements, all departments shall timely supplement and identify environmental factors and report to the HSE Dept. for evaluation of environmental factors to re-define the major environmental factors and conduct management on them.

当公司的活动、产品、服务发生较大变化或法规及其他要求更新时，各部门应及时对环境因素进行补充识别，并报 HSE 管理部进行环境因素评价，以重新确定重要环境因素并对其进行管理。

5.3 Management on water body pollution 水体污染管理

5.3.1 Management requirements 管理要求

5.3.1.1 The relevant operation specifications, monitoring schemes and control indicators for control of water body pollution shall be formulated. All kinds of waste water must be tested to reach the grading control indicators formulated by the Company before discharge.

制定控制水体污染相关操作规程、监测方案与控制指标，各类废水须经检测达到公司制定的分级控制指标后方可排放。

5.3.1.2 All kinds of waste water shall be controlled and disposed in accordance with the principles of diverting wastewater from clean water, diverting wastewater and controlling the wastewater on a dividing basis.

各类废水应按照清污分流、污污分流、污污分治的原则进行控制与处置。

5.3.1.3 The water pollutants discharge shall be controlled on concentration and total quantity. 水污染物排放实施浓度与总量控制。

5.3.1.4 The abnormal pollutants discharge shall be declared and approved by relevant departments before implementation. Implement the Management Procedures for Sewage Grading Control.

异常排污应进行申报、相关部门审批后方可进行，执行《污水分级控制管理程序》。

5.3.1.5 It is strictly prohibited to discharge all kinds of waste water by dilution.

严禁采用稀释的方法排放各类废水。

5.3.1.6 Water Body Pollution Emergency Plan and Oil Spill Response Plan shall be prepared. 应当编制水体污染与溢油应急预案。

5.3.2 Process control 过程控制

5.3.2.1 Management on water body pollution during operation period 运行期水体污染管理

(1) The HSE Dept. and each operation department shall prepare the following technical data: HSE 管理部与各运行部应准备以下技术资料：

1) HSE Dept.: the diagram of drainage pipe network of the whole plant; the waste water management ledger of the Company; relevant systems of waste water management, etc. HSE 管理部：全厂排水管网图；公司废水管理台账；废水管理相关制度等。

2) The operation department.: the drainage management system of the unit; the operation specifications and internal control process indicators; the diagram of drainage pipe network of the department (including: the layout of discharge point, discharge direction, the identification of sampling port, the pipe network for diverting wastewater from clean water, etc.) ; establish the waste water management ledger, etc.

运行部：本单位排水管理制度；操作规程、内控工艺指标；本部门排水管网图（应包括：排放点布置、排放去向、采样口标识、清污分流管网等）建立废水管理台帐等。

(2) All types of sewage shall be controlled at the source and grading level, and they can be discharged only after reaching the acceptance criteria of sewage treatment plants or the outward discharge standards. 各类污水应进行源头与分级控制，达到污水处理场接收标准或外排标准后方可排放。

(3) Sewage treatment plants, sour water stripping units, etc. shall be in strict compliance with the operation specifications to ensure the up-to-standard discharge.

污水处理场、酸性水汽提等装置应严格遵守操作规程，确保达标排放。

(4) All departments shall ensure that the sewage facilities can operate stably for a long period, which are not allowed to be dismantled or shut down without authorization.

各部门确保污水设施长周期稳定运行，不得擅自拆除或停运。

(5) All departments shall ensure that the drainage process is complete and in compliance with the requirements. It is forbidden to change the direction of pollution discharge without permission, and the drainage process may not be altered at will without approval.

各部门应确保排水工艺完整与符合要求，杜绝私自改变排污去向，未经批准不得随意变更排水工艺。

(6) All departments shall strengthen management to completely eradicate the occurrences of running, emitting, dripping and leaking. 各部门应加强管理，杜绝跑、冒、滴、漏现象发生。

(7) The underground drainage systems shall be regularly inspected to prevent leakage and any water body pollution. 经常进行地下排水系统的检查，防止渗漏，造成水体的污染。

(8) The affiliated unit shall arrange the specially-assigned person or post to be responsible for the switching and collection of initial rainwater and clean rainwater.

所属单位应安排专人或专岗负责初期雨水与清洁雨水的切换与收集工作。

(9) In case of any spillage of oils or other chemicals on the ground, it shall be disposed in a timely manner, which are strictly prohibited to be flushed into the sewage or rainwater system by the use of water.

油品或其它化学品洒落地面，应及时处理干净，严禁将用水冲入污水或雨水系统。

(10) The affiliated unit shall strengthen the management on the sampling barrels and oil drip pans, inside which the waste oil shall be washed and dumped in time. The sampling barrels shall be covered to prevent the pollution of rainwater.

所属单位应加强现场取样桶、接油盘的管理，其内的废油要及时清倒，取样桶应加盖，以防污染雨水。

(11) The affiliated unit shall strengthen the management on hazardous wastes and additives sheds to prevent them from polluting the rainwater system.

所属单位应加强危险废物与助剂棚的管理工作，防止其污染雨水系统。

(12) It is forbidden to pour various pollutants into a clean rainwater system; it is forbidden to transport or store waste water containing toxic pollutant by means of oily rainwater or clean rainwater ditches.

禁止将各类污染物倒入清洁雨水系统；禁止利用含油雨水、清静雨水沟渠输送或者存贮含有毒污染物的废水。

(13) It is forbidden to discharge oils, acid liquor, alkali liquor or toxic waste liquid in high concentration to the drainage pipe network. 禁止向排水管网排放油类、酸液、碱液或者高浓度

有毒废液。

(14) It is forbidden to wash the equipment including vehicles, containers and heat exchangers that have contained and stored oils or toxic pollutants in the installation area.

禁止在装置区清洗装贮过油类或者有毒污染物的车辆、容器、换热器等设备。

(15) The clean effluent that fails to reach the control index of discharged clean rainwater is strictly prohibited to be discharged into the rainwater system.

清净下水达不到外排清洁雨水控制指标，严禁排入雨水系统。

(16) It is strictly prohibited to discharge the fresh water, steam condensate, boiler blow-down water, etc. into the production sewage system.

严禁将新鲜水、蒸汽凝结水、锅炉排污水等排入生产污水系统。

(17) The affiliated unit shall regularly conduct a complete cleaning-up and desilting to the sewage wells, drainage channels and ditches, etc., to ensure that the drainage system is unblocked to prevent the overflow of sewage or the cross-flow of rainwater.

所属单位应定期对其污水井、排水沟渠等进行全部清理与清淤，保证排水系统畅通防止污水外溢或雨污水互串。

(18) In case of any failure of the sewage treatment and transportation facilities, etc., the unit in charge of which shall timely repair them and put into use as soon as possible according to the procedures and report to the HSE Dept. If it cannot be repaired in a short time and causes the environmental control index of the pollutants discharged outwards exceeding the standard, it shall be disposed according to the relevant procedures of the emergency plan and even shut down in serious cases.

污水处理及输送设施等出现故障，所在单位应按程序尽快及时修复投用，并报告 HSE 管理部。短期不能修复，造成外排污染物环保控制指标超标的，按应急预案相关程序执行，情况严重进行停车处理。

(19) The Quality Analysis Dept. shall collect the toxic and harmful waste water for analysis, which shall not be discharged into domestic sewage or waste water for laboratory test.

质量检验部应做好有毒有害分析废水的收集工作，不得将有毒有害分析废水排入生活污水或化验废水中。

(20) Any hidden danger of drainage and environmental protection accidents shall be eliminated immediately once found to ensure that the pollutants discharge reaches the standard.

发现排水环保事故隐患应立即进行消除，确保污染物排放达标。

(21) Where the high-concentration waste water (such as the highly sulfur-containing, ammonia-containing, phenol-containing, acid-base sewage, etc.) needs to be discharged, the water volume and water quality shall be reported to the Scheduling & Dispatch Dept. and HSE Dept. and the downstream processing plant shall be contacted and given explanation about the situation at the same time to avoid impact on the sewage treatment plant.

高浓度废水（如高含硫、含氨、含酚、酸碱等污水）需排放时，应向计划调度部、HSE 管理部报告水量、水质情况，同时与下游处理装置联系、说明情况，避免冲击污水处理场。

(22) All water discharged to the external environment must be analyzed to prove qualified before being discharged outwards. 所有排往外环境的水须经分析合格后方可外排。

(23) It is forbidden for ships to discharge any sewage to the sea;

禁止船舶向海洋排放任何污水；

(24) Establish a regular routing inspection system for wharves and subsea pipelines to prevent

pollution to the sea;

建立码头及海管定期巡检制度，防止污染海洋；

(25) Oil containment booms shall be arranged before the loading and unloading of ships.
船舶装卸前应布设围油栏。

(26) All kinds of water body pollution emergency supplies shall be equipped, and the relevant plans shall be started in case of the occurrence of marine oil spill or other events (accidents) of water body pollution. 配备各类水体污染应急物资，发生海上溢油或其它污染水体事件（故）应启动相关预案。

5.3.2.2 Management on startup and shutdown 开停工管理

(1) The scheme for startup and shutdown shall be prepared for the startup and shutdown, which must be reviewed and approved by the relevant departments and leaders.

开停工应编制开停工方案，开、停工方案须经相关部门与领导审批。

(2) The environmental protection requirements related to startup and shutdown in this Regulation shall be strictly implemented for the startup and shutdown to avoid impact on the sewage treatment plant.

开停工应严格执行本制度开停工相关环保要求，避免冲击污水处理场。

5.3.3 Water quality monitoring 水质监测

5.3.3.1 The Quality Analysis Dept. is responsible for water quality monitoring according to the environmental monitoring plan. 质量检验部负责按环境监测计划进行水质监测工作。

5.3.3.2 In the case of startup and shutdown or abnormalities, the Quality Analysis Dept. shall increase the number of analysis items or the frequency according to the instructions of the Scheduling & Dispatch Dept. or the HSE Dept.

开停工或异常情况下，质量检验部应按计划调度部或HSE管理部指令增加分析项目或频次。

5.3.3.3 The monitoring project requiring entrustment to external organizations shall be issued by the HSE Dept. or applied by the affiliated unit. After approval by the Company, the entrustment to external organizations shall be implemented by the Quality Analysis Dept.

需要外委的监测项目，由HSE管理部下达或所属单位提出申请，经公司批准后由质量检验部实施外委。

5.3.3.4 The Quality Analysis Dept. shall timely upload the sewage and drainage water quality analysis data to the HSE Dept. or the relevant operation department.

质量检验部应及时将污水及排水水质分析数据上传至HSE管理部或相关运行部。

5.3.3.5 In case of any disqualification in water quality monitoring analysis, the Quality Analysis Dept. shall provide timely feedback information to the department concerned and the Company's HSE management personnel.

水质监测分析出现不合格时，质量检验部应及时反馈信息给所在部门及公司HSE管理人员。

5.3.3.6 The comparison between online monitoring data and manual monitoring data shall be conducted no less than once every quarter for the water quality online monitoring system. No unit or individual may dismantle, idle or alter the automatic monitoring equipment for pollution source.

水质在线监控系统每个季度应开展不少于1次的在线监测数据与人工监测数据的比对。任何单位和个人不得擅自拆除、闲置、改动污染源自动监测设备。

5.4 Management on atmospheric pollution 大气污染管理

5.4.1 Management requirements 管理要求

5.4.1.1 Adopt advanced waste gas treatment and governance process to reduce the organized and fugitive emissions of waste gas pollutants.

采用先进的废气处理与治理工艺，减少有组织与无组织废气污染物排放。

5.4.1.2 Optimize the structure of energy production, make full use of high-temperature flue gas and material heat energy produced in the production process, recover energy and reduce the thermal pollution.

优化生产能源结构，充分利用生产过程中生产的高温烟气、物料热能，回收能量，减少热污染。

5.4.1.3 All types of waste gas must be discharged as per standard. 各类废气须达标排放。

5.4.1.4 Waste gas treatment facilities, monitoring facilities and VOCs control facilities shall be well protected. No department or individual may shut down, idle or dismantle them without authorization.

废气处理设施、监测设施、VOCs 控制设施应保护完好，任何部门和个人不得擅自停运、闲置、拆除。

5.4.1.5 Effective disposal measures must be taken to the malodorous gas which can be emitted only when reaching the emission standard for malodorous pollutants.

恶臭气体必须采取有效的处置措施，达到恶臭污染物排放标准方可排放。

5.4.1.6 In special circumstances where the flare system must be arranged, it must be reported to the Scheduling & Dispatch Dept. and the HSE Dept. Under the accident state, effective measures must be taken at the same time to completely burn the toxic and harmful gases to ensure that no environmental pollution accidents will occur. Meanwhile, the level of the sour gas flare liquid separating tank shall be strictly controlled to prevent the sour gas with liquid caused by too high level.

特殊情况一定要排火炬系统的，必须报告计划调度部、HSE 管理部。事故状态下，须同时采取有效措施使有毒有害气体完全燃烧，确保不发生环境污染事故，同时严格控制酸性气火炬分液罐液位，防止液位过高导致的酸性气带液。

5.4.1.7 The HSE Dept. shall be responsible for promptly informing the relevant local competent authorities of any abnormality or startup and shutdown and make relevant explanations.

异常情况或开停工，HSE 部负责及时告知当地相关主管部门并做好相关解释工作。

5.4.2 Process control 过程控制

5.4.2.1 Atmospheric pollution control during operation period 运行期大气污染控制

(1) Develop waste gas control and emission indicators and relevant operation specifications. 制定废气控制排放指标与相关操作规程。

(2) Optimize the production process and operation management to ensure the up-to-standard discharge of all types of waste gas.

优化生产工艺与操作管理，确保各类废气达标排放标准。

(3) LDAR technology should be adopted during operation to reduce the emission of VOCs.

运营期间宜采用 LDAR 技术，减少 VOCs 排放。

(4) For light oil products and various volatile materials, measures such as closed loading and oil and gas recovery shall be taken to reduce the emission of VOCs.

轻质油品及各种易挥发物料应采用密闭装车与油气回收等措施以减少 VOCs 的排放。

(5) Advanced tank types (such as inner floating tanks and external floating roofs), high-efficiency seals, nitrogen seals or other VOCs treatment facilities shall be adopted for oil tanks or chemical tanks containing volatile components and they should be ensured to be in good condition.

含有易挥发组分的贮油罐或化学品罐应采用先进的贮罐型式（如内浮罐、外浮顶）、高效密封、氮封或其它 VOCs 治理设施并保证其完好。

(6) Where the production, transportation, loading/unloading and storage will emit toxic and harmful gases or dust materials, the sealing, purification or other protection and treatment measure must be taken.

生产、运输、装卸、贮存能够散发有毒有害气体或者粉尘物质的，必须采取密闭、净化或其他防护与治理措施。

(7) The fuel gas generated by the device shall be recycled. Where the recycling device is not normal and the inflammable gas does really need to be discharged, the technological operation shall be adjusted to fully burn the discharged fuel gas vented to flare or other measures to reduce the atmospheric pollution shall be taken.

装置产生的燃料气应当回收利用，在回收利用装置不正常，确需排放可燃性气体的，应当调整工艺操作将排放的燃料气放火炬充分燃烧或者采取其它减轻大气污染的措施。

(8) In case of any failure of the waste gas treatment facilities and monitoring facilities, the department in charge of which shall timely repair them and put into use according to the procedures and report to the HSE Dept.

废气处理设施、监测设施出现故障，所在部门应按程序及时修复投用，并报告 HSE 管理部。

(9) Where a sudden accident (event) causes or may cause an atmospheric pollution accident, the corresponding emergency plan shall be started immediately.

发生突发性事故（件）造成或者可能造成大气污染事故的，应立即启动相应的应急预案。

5.4.2.2 Management on startup and shutdown 开停工管理

(1) Environmental protection plans shall be formulated for startup and shutdown. Predictions on atmospheric pollutants that may be emitted shall be carried out. Scheme measures to control and reduce atmospheric pollutants shall be taken. And the scheme for startup and shutdown must be reviewed and approved by the relevant departments and leaders.

开停工应制定环保方案，对可能排放的大气污染物进行预测，应有控制与减少大气污染物的方案措施，开、停工方案须经相关部门与领导审批。

(2) Sulfur, desulfurization and sour water stripping unit shall be provided with sour gas balance first before they are shut down for purging. It is strictly prohibited to directly discharge the sour gas into the flare system.

硫磺、脱硫、酸性水汽提装置停工吹扫时应先做好酸性气平衡，严禁将酸性气直排火炬系统。

(3) The purging of the device during startup and shutdown shall be airtight purging, and the waste gas from the purging shall be discharged into the flare system and recovered by the gas cabinet as possible.

装置开工、停工中吹扫采用密闭吹扫，吹扫废气应排往火炬系统，尽量由气柜回收。

(4) The monitoring on waste gas emissions and surrounding atmosphere shall be increased under startup and shutdown and abnormal conditions.

开停工及非正常状态下应加大对废气排放情况及周边大气的监测。

5.4.3 Monitoring on waste gas and atmosphere 废气与大气监测

5.4.3.1 The Quality Analysis Dept. shall be responsible for monitoring on waste gas and atmosphere as per the Company's environmental monitoring plan.

质量检验部负责按公司环境监测计划进行废气与大气监测工作。

5.4.3.2 In the case of startup and shutdown or abnormalities, the Quality Analysis Dept. shall increase the number of analysis items or the frequency according to the instructions of the Scheduling & Dispatch Dept. or the HSE Dept.

开停工或异常情况下，质量检验部应按计划调度部或HSE管理部指令增加分析项目或频次。

5.4.3.3 The monitoring project requiring entrustment to external organizations shall be issued by the HSE Dept. or applied by the affiliated unit. After approval by the Company, the entrustment to external organizations shall be implemented by the Quality Analysis Dept.

需要外委的监测项目，由HSE管理部下达或所属单位提出申请，经公司批准后由质量检验部实施外委。

5.4.3.4 In case of any abnormal monitoring result, the Quality Analysis Dept. shall provide timely feedback information to the unit concerned and the Company's HSE management personnel.

监测结果异常，质量检验部应及时反馈信息给所在单位及公司HSE管理人员。

5.4.3.5 The comparison between online monitoring data and manual monitoring data shall be conducted no less than once every month for the atmosphere online monitoring system.

大气在线监控系统每个月应开展不少于1次的在线监测数据与人工监测数据的比对。

5.5 Waste management 废弃物管理

5.5.1 Management requirements 管理要求

5.5.1.1 The classification of solid wastes shall be based on the types of wastes, their components and the relevant requirements for treatment and disposal methods for collection, which shall be as beneficial as possible for the subsequent processing of solid wastes. Following principles shall be observed:

固体废物分类应根据废物的种类、组分以及处理处置方法的相关要求进行收集的方式，应尽量有利于固体废物的后续处理。应遵循如下原则：

(1) The hazardous wastes and the general wastes shall be collected separately;

危险废物和一般废物分开收集；

(2) The recyclable materials and the non-recyclable materials shall be collected separately; 回收利用物质与不可回收利用物质分开收集；

回收利用物质与不可回收利用物质分开收集；

(3) The liquid wastes and the solid wastes shall be collected separately, and so forth;

液态废物和固态废物分开收集等；

(4) The hazardous wastes shall be collected by classification according to their characteristics,

and so forth.

危险废物应根据危险废物特性分类收集等。

5.5.1.2 The management on hazardous wastes shall be in accordance with the principles of harmlessness, reduction and recycling.

危废管理按照无害化、减量化、资源化原则。

5.5.2 Process management 过程管理

5.5.3.1 The relevant management personnel and personnel engaged in waste collection, transportation, temporary storage, utilization, disposal, etc. shall have knowledge of the local laws and regulations, rules and provisions of relevant normative documents of Brunei.

相关管理人员和从事废物收集、运输、暂存、利用和处置等工作人员应掌握文莱当地法律法规、规章和有关规范性文件的规定。

5.5.3.2 The hazardous waste generated that cannot be used or temporarily cannot be used shall be disposed by constructing a waste residue treatment facility that meets the environmental protection standards or entrusted to a unit that is eligible in lawful operation for proper disposal.

对产生的不能利用或者暂时不能利用的危险废物，要建设符合环境保护标准的废渣处理设施或者委托给具有合法经营资格的单位进行妥善处理。

5.5.3.3 The whole process of solid waste transfer shall be followed to prevent the waste residue (liquid) from being dumped or transferred at will.

实行固体废弃物转移全程跟踪，防止废渣（液）随意倾倒或转移。

5.5.3.4 The waste management ledger shall be established.

建立废弃物管理台账。

5.5.3.5 It is forbidden to provide or entrust the wastes to units that are not qualified for treatment or disposal.

禁止将废弃物提供或委托给无处理资质的单位处理、处置。

5.5.3.6 See Table 5 for classification of solid wastes. 固体废弃物分类见表 5。

Table 5 Classification of solid wastes

表 5 固体废弃物分类

Classification of solid wastes 固体废弃物分类		Descriptions of solid wastes (examples) 固体废弃物名称（举例）
Industrial solid waste 工 业 固体废弃物	Hazardous wastes 危险废物	Waste catalysts, waste clay, waste adsorbents, waste oil, explosive barrels, used batteries, oil stained rags, refined (steamed) oil residues, organic resin waste, industrial waste acid and waste alkali, waste water treatment sludge and residues, waste chemical reagents, waste solvents, etc. 废触媒、废白土、废吸附剂、废机油、药桶、废旧蓄电池、油抹布、精（蒸）油残渣、有机树脂类废物、工业废酸废碱、废水处理污泥和残渣、废弃化学试剂、废弃溶剂等

Classification of solid wastes 固体废弃物分类		Descriptions of solid wastes (examples) 固体废弃物名称（举例）
	Non-hazardous wastes 非危险废物	Waste refractories, waste porcelain balls, scrap metal, packaging materials, fillers, coal ash, coal slag, construction waste, etc. 废耐火材料、废瓷球、废金属、包装材料、填料、煤灰、煤渣、建筑垃圾等
Solid wastes from living and office work 生活办公固体废弃物	Hazardous wastes 危险废物	Waste dry batteries, waste fluorescent tubes, waste cartridges of printers, waste toner cartridges of copiers, etc. 废干电池、废日光灯管、打印机废墨盒、复印机的废硒鼓等
	Non-hazardous wastes 非危险废物	Waste paper, electric bulbs, rags, mineral water bottles, glass, waste plastic products, small waste electrical appliances, used living goods, household and office wastes like leftovers, etc. 废旧纸张、电灯泡、抹布、矿泉水瓶、玻璃、废塑料制品、小型废电器、废旧生活用品、剩饭剩菜等生活垃圾和办公垃圾等

5.5.3.7 Solid waste collection, storage and transfer facilities 固废收集、贮存及转运设施

(1) Facilities for solid waste collection, storage, etc. shall conform to relevant specifications. 固废收集、贮存等设施应符合相关规范。

(2) The ground surface of storage sites for hazardous wastes shall be hardened and provided with anti-seepage treatment. The sites shall be equipped with canopies, cofferdams or fences; waste water discharge guiding pipelines or channels shall be provided, and the waste water shall be disposed in the Company's waste water treatment facilities.

危险废物的贮存场所地面应作硬化及防渗处理。场所应有雨棚、围堰或围墙；应设置废水导排管道或渠道，废水应进入公司废水处理设施处理。

(3) The leakage liquid collection facilities shall be provided for storage of liquid or semi-solid waste. 贮存液态或半固态废物的，需设置泄漏液体收集设施。

(4) Containers carrying hazardous waste shall be in perfect condition. Containers and packages of hazardous waste must be provided with hazardous waste identification marks.

装载危险废物的容器应完好无损。危险废物的容器和包装物必须设置危险废物识别标志。

(5) The facilities and sites for collection, storage, transportation, utilization and disposal of solid waste must be provided with identification marks.

收集、贮存、运输、利用、处置固废的设施、场所，必须设置识别标志。

5.5.3.8 Declaration of solid waste 固体废弃物申报

(1) Management on general industrial solid wastes: the department that temporarily generates a large amount of general wastes shall apply to the HSE Dept. which will entrust the disposal unit for collection and transportation.

一般工业固体废弃物管理：临时产生大量一般废物的部门向 HSE 管理部提出申请，HSE 管理部委托处置单位进行收运处理。

(2) Management on hazardous wastes: as for those hazardous wastes with no recovery value,

it is the generating unit that shall fill out the contents including the waste name, the production unit, the property, the needs for package and the opinions of the production and operation department on the Waste Transfer Application Form in advance, which shall be reported to the HSE Dept. and related functional departments for review and approval. After the approval is completed, the HSE Dept. shall propose a disposal plan to the hazardous waste disposal company.

危险废弃物管理：对于无回收价值的危险废弃物，由产生装置提前填写《废物转移申请单》，填写内容包括废弃物名称、产生单元、性质、包装物需求及生产运行部意见等内容，报 HSE 管理部和相关职能部门审批，审批完成后，HSE 管理部向危险废弃物处置公司提出处置计划。

(3) Prior to the cross-border transfer of hazardous wastes, the hazardous waste transfer plan shall be submitted to local competent authorities for approval and shall be approved.

在跨境转移危险废物前，向当地主管部门报批危险废物转移计划，并得到批准。

5.5.3.9 Disposal of solid waste 固体废弃物的处置

(1) Waste materials with recovery value shall be reported to the related functional management department by the generating department, and the Commercial Dept. shall organize the bidding and sales.

有回收价值的废旧物料由产生部门报相关职能管理部门，商务部组织招标和销售。

(2) Domestic waste 生活垃圾

1) Domestic waste shall be placed in the trash cans set around the unit, and it is forbidden to be mixed with other types of wastes.

生活垃圾应放置在单位周边设置的垃圾桶内，禁止混入其他类废弃物；

2) The domestic waste disposal units shall collect and transport the domestic waste every day; 生活垃圾处置单位每日对生活垃圾进行收运；

3) The CEO's Office shall occasionally inspect the classification of domestic waste and incorporate it into the monthly assessment.

总经理办公室不定期检查生活垃圾的分类情况并将其纳入月度考核。

(3) General industrial non-hazardous solid wastes 一般工业固体非危险废弃物

1) The general industrial solid waste such as cement blocks, waste wood and waste glass generated from on-site operations shall be collected by the operation unit and dumped or reused at the permitted locations;

现场作业产生的水泥块、废木材、废玻璃等一般工业固体废物，由作业单位负责收集，在许可位置倾倒或回用；

2) Coal ash, coal slag, etc. shall be disposed by landfill or export sales.

煤灰、煤渣等去填埋或外销。

3) It is forbidden to mix other wastes into the general industrial solid wastes, and the approval opinions shall be signed by the HSE Dept. before the removal.

一般工业固体废物中禁止混入其他废物，移出前由 HSE 管理部签署审批意见。

(4) Hazardous wastes 危险废弃物

1) After the generation of hazardous wastes, the team or group on duty shall immediately sort and classify the hazardous wastes and store them in separate storage containers, the material texture of which shall meet the requirements for storing hazardous wastes; after the hazardous wastes are stored, the storage containers shall be sealed and marked with hazardous waste labels. The placement of the storage containers shall be ensured to be well ventilated, shaded,

sheltered from rain and away from source of ignition.

在危险废物产生后，当班班组立刻将危险废物拆开、分类，分别存放在单独贮存容器，贮存容器材质符合贮存危险废物要求；危险废物存放后，密封贮存容器并标示危险废物标签。保证贮存容器放置达到通风、遮阳、避雨、远离火源等条件。

2) Hazardous wastes generated continuously: the hazardous wastes generated continuously such as the "three sludge" of sewage farm, waste amine liquid, etc. shall be sent to the coal power station for disposal after generated.

连续产生的危险废物：污水处理场“三泥”、废胺液等连续产生的危险废物，产生后送至煤电站进行处理。

3) Hazardous solid wastes generated intensively: corresponding packaging, transportation, storage and disposal plans shall be formulated for hazardous wastes generated intensively such as waste catalysts, waste porcelain balls, waste clay, waste fillers, waste activated carbon, etc. Hazardous wastes shall be placed in hazardous wastes warehouse for a safe temporary storage before disposal. The HSE Dept. shall be responsible for contacting the hazardous wastes disposal units and going through the related transfer procedures in accordance with the requirements of the Brunei and Basel Conventions.

集中产生的危险固体废物：废催化剂、废瓷球、废白土、废填料、废活性炭等集中产生的危险废物应制定相应的包装、运输、贮存及处置方案。危险废物处置前应放在危废仓库安全暂存，由HSE管理部负责联系危险废弃物处置单位并按照文莱及巴塞尔公约的要求有关转移手续。

4) The collection, transportation and disposal of liquid or semi-oil hazardous wastes, such as waste oil, sludge, oil residues and waste sulfolane shall be provided with special programs to ensure that the liquid waste will not leak or pollute the ground, and the waste oil, sludge, waste solvents, etc. that are sorted out shall be safely sent to the coal power station for incineration disposal.

液态或半油态的危险废弃物，如废油、油泥、油渣以及废环丁砜等的收集、运输及处置应有专项的方案，确保液体废物不泄漏、不污染地面，清理出的废油、油泥、废溶剂等应安全送至煤电站进行焚烧处置。

5) The waste liquid from the laboratory of the Quality Analysis Dept. shall be collected by classification and processed by quality.

质量检验部化验室废液应分类收集，分质处理。

6) Prior to the transfer of hazardous wastes, the transport vehicles and personnel of the cooperation unit shall be checked for their legal certificates of transporting hazardous wastes; during the transfer process, the storage containers shall be avoided from collision and handled stably and gently. The collection and transfer of hazardous wastes shall be monitored throughout the whole process.

转移危险废物前，应检查合作单位的运输车辆和人员具有运输危险废物的合法证件；转移过程中避免贮存容器碰撞，稳起轻放贮存容器。危险废物的收集、转运实行全过程监护。

7) The actual amount of hazardous wastes generated shall be subject to the data on the weight note issued by the weight house on the auto loading platform; the quantity of waste empty barrels shall be subject to the number confirmed in the material exit list by the production and operation department and the security guard; the disposal unit shall submit the hazardous wastes transfer application form by month, and the HSE Dept. shall check the consistency of transfer quantity with the data on the weight note.

危险废弃物的实际产生量以汽车装车台磅房开具的磅单数据为准；废空桶的数量以物资出场单中经生产运行部和保安确认的个数为准；处置单位按月提交危险废弃物转移申请单，HSE 管理部核对转移数量与磅单数据的一致性。

8) The contents in the transfer application form must be consistent with those in the Registration Form for Waste Generation and Storage of the generating unit. 转移申请单中内容必须与产生单位的《废物产生和贮存登记表》内容吻合。

9) Relevant departments such as the HSE Dept. and the Commercial Dept. shall assist to go through related procedures for the waste catalysts that need to leave the country for regeneration.

需出境再生的废催化剂由 HSE 管理部、商务部等相关部门协助办理相关手续。

10) The HSE Dept. shall regularly reach the site of the disposal unit to check and confirm the compliance of the hazardous wastes disposal by means of viewing the storage and disposal records, checking the on-site inventory and the actual disposal procedures, etc.

HSE 管理部定期到达处置单位现场，通过查看入库和处置记录、检查现场库存和实际处置流程等方式，对危险废弃物处置的合规性进行检查确认。

11) Environmental monitoring on pollutants discharge from the utilized facilities shall be conducted on a regular basis and in conformance with relevant standard requirements.

定期对利用设施污染物排放进行环境监测，并符合相关标准要求。

12) The HSE Dept. shall supervise and inspect the generation, flow direction, storage, disposal, etc. of hazardous wastes, follow the whole process and perfect the relevant ledger.

HSE 管理部对危险废物的产生、流向、储存、处置等监督检查，全程跟踪并健全相关台账。

5.5.3.10 Radioactive waste shall be disposed according to the regulations on radioactive source management in this Regulation and the Management Procedures for Radioactive Source.

放射性废弃物按本制度放射源管理规定与《放射源管理程序》进行处置。

5.6 Noise management 噪声管理

5.6.1 The new technique, new technology, new equipment, new materials and mechanized, automated and obturated measures shall be taken, and the equipment and technology with high noise shall be replaced by those with low noise to eradicate the noise from source.

采用新技术、新工艺、新设备、新材料以及机械化、自动化、密闭化措施，用低噪声的设备和工艺代替强声的设备和工艺，从声源上根治噪声。

5.6.2 All equipment shall work without abnormal noise.

所有设备应在无异常噪声的状态下工作。

5.6.3 All operation departments shall conduct production smoothly and reduce the emptying of gas (steam).

各运行部要平稳生产，减少气（汽）体放空。

5.6.4 The amount of steam purging shall be controlled for shutdown purging of the production equipment to reduce the noise of steam emptying to pollute the surrounding environment. 生产装置停工吹扫要控制蒸汽吹扫量，减少蒸汽放空的噪声污染周边环境。

5.6.5 Standard station noise under the noise control: $\leq 85\text{dB (A)}$ noise at boundary: daytime $\leq 65\text{dB (A)}$; nighttime $\leq 55\text{dB (A)}$ 噪声控制标准工位噪声： $\leq 85\text{dB (A)}$ 厂界噪声：白天 $\leq 65\text{dB}$

(A); 夜间 ≤ 55 dB (A)

5.6.6 The environmental monitoring station of the Quality Analysis Dept. shall monitor the noise at boundary in accordance with the analysis plan.

质量检验部环境监测站应对厂界噪声按照分析计划进行监测。

5.6.7 Those exceeding the noise control standards shall be improved. Where the improvement cannot be achieved temporarily, personal protective equipment such as earplugs and earmuffs must be equipped in order to reduce or mitigate the damage to employees' hearing.

对超出噪声控制标准的应进行改善，暂时无法改进的，必须配备个体防护用品，如耳塞、耳罩等，以减少或减轻对员工听力的伤害。

5.7 Radioactive source management 放射源管理

5.7.1 Application and license registration for the use of radiation sources

使用放射线源的申请、许可登记

5.7.1.1 The radiation work registration and licensing system shall be strictly implemented for the use of radioactive sources. The Company's HSE Dept. shall be responsible for applying for registration with the Radiation Safety and Quality Unit (RSQU) of the Brunei Energy Bureau in accordance with relevant regulations. And it can engage in purchase, import, transportation, transfer, use, etc. of radioactive sources only after obtaining the license registration.

使用放射源应严格执行放射工作登记、许可制度，公司 HSE 管理部负责按有关规定向文莱能源局 RSQU (Radiation Safety and Quality Unit) 提出注册申请登记，领得许可登记后，方可从事放射源的购买、进口、运输、转移和使用等。

5.7.1.2 Units that use mobile radioactive sources to enter the Company's operations must apply to the HSE Dept. in advance and provide materials including company qualification, personnel qualification certificates for the post, radioactive source-related materials and proof of filing in RSQU. Strict rules and regulations on safety protection management and emergency plans for radiation accidents shall be provided.

使用移动放射源进入公司作业的单位事先必须向 HSE 管理部申请，必须提供公司资质、人员上岗资格证明、放射源相关资料以及到 RSQU 备案的证明等资料，有严格的安全防护管理规章制度，有辐射事故应急预案。

5.7.2 Radiation protection management 放射防护管理

5.7.2.1 Establish a radioactive source management system and the corresponding management regulation.

建立放射源管理体系与相应的管理制度。

5.7.2.2 Establish management ledgers for radioactive source information, exposure personnel training, personal dose, emergency supplies, etc.

建立放射源信息、接触人员培训、个人剂量、应急物资等管理台帐。

5.7.2.3 Radioactive isotopes shall be stored in the dedicated source storehouses. The design of the radioactive source storehouses shall be submitted to RSQU and pass the review. The radioactive source storehouses shall be provided with proper security measures and pass the ac-

ceptance.

放射性同位素要储存在专用源库。放射源库的设计要上报 RSQU 并经过审核。放射源库要有合适的安保措施并通过验收。

5.7.2.4 The place where the radioactive sources are used must be provided with protective facilities, and radioactive signs and necessary protective interlocks, alarm devices or working signals must be set at the entrance.

放射源的使用场所必须设置防护设施，其入口处必须设置放射性标志和必要的防护联锁、报警装置或工作信号。

5.7.2.5 When the radiation work is conducted outdoors, it is necessary to line out the safety protection areas and set hazard signs and protective facilities, and if necessary, assign special personnel for guardianship.

在室外从事放射工作时，必须划出安全防护区域，并设置危险标志和防护设施，必要时派专人监护。

5.7.2.6 The use of radioactive isotopes must be equipped with necessary protective equipment, and the exposure dose must be strictly controlled to prevent harm to the human body. During the production, in case of any failure of the radiation device, the use unit must timely report to the HSE Dept. and work out measures to prevent the situation from expanding. 使用放射性同位素，必须配备必要的防护用品，严格控制照射剂量，防止对人体造成伤害。生产期间，射线装置出现故障，使用单位要及时报告 HSE 管理部，并制定防止事态扩展的措施。

5.7.2.7 Corresponding multi-layer protection and safety measures shall also be established for the radioactive source according to the magnitude of its potential hazards, and periodic inventory shall be conducted to the movable radioactive source to ensure that it is in a designated location and provided with reliable safety guarantee.

对放射源还应当根据其潜在危害的大小，建立相应的多层防护和安全措施，并对可移动的放射源定期进行盘存，确保其处于指定位置，具有可靠的安全保障。

5.7.2.8 Where the radioactive isotopes and radiation devices are used, multiple measures shall be taken to prevent operation troubles in accordance with the relevant regulations, and effective measures shall be taken to avoid secondary hazards caused by the troubles.

使用放射性同位素与射线装置的场所，应当按照有关规定设置防止运行故障的多重措施，并设置避免故障导致次生危害的有效措施。

5.7.2.9 The transportation, maintenance, dismounting, etc. of radioactive sources can only be carried by the service providers registered in RSQU. 放射源的运输、维护、拆装等只能由在 RSQU 注册的服务商承运。

5.7.2.10 Radioactive isotopes used in the flaw detection operations shall be recovered by the supplier after the operation is completed. The place where temporary storage should be set in special circumstances shall be checked and confirmed by the HSE Dept. and provided with radioactive signs, and designated personnel shall be assigned to take charge of the protection. 探伤作业使用的放射性同位素应在作业完成后由供应商收回。特殊情况应设临时储存的场所，应经 HSE 管理部检查确认，设置放射性标志，指定专人负责保护。

5.7.2.11 Any unit using the radioactive source must establish the radioactive source management ledger, the contents of which shall include the name, quantity, performance, installation position, installation time, application, manufacturer and the person in charge of supervision of the radioactive source, and perfect the radioactive source management regulation, operation

specifications and emergency plans.

凡使用放射源的单位，必须建立放射源管理台帐，内容包括：放射源名称、数量、性能、安装部位、安装时间、用途、生产厂家、监管责任人等，健全放射源管理制度、操作规程、应急预案。

5.7.2.12 Units using radioactive isotopes and radiation devices shall strengthen their daily inspections on the safety and protection status of their radioactive isotopes and ray devices. The radioactive isotopes and radiation devices used shall be rectified immediately in case of any potential safety hazard; where the potential safety hazard may threaten the safety of the staff or may cause environmental pollution, the radiation operation shall be stopped immediately, which shall also be reported to the unit in charge of that. The normal operation cannot be resumed until the rectification is completed and checked and verified.

使用放射性同位素和射线装置的单位，应当加强对本单位放射性同位素、射线装置安全和防护状况的日常检查。发现安全隐患的，应当立即整改；安全隐患有可能威胁到工作人员安全或者有可能造成环境污染的，应当立即停止辐射作业并报告主管单位，待整改完成并经检查核实后，方可恢复正常作业。

5.7.2.13 The purchased radiological protection apparatus, protective equipment and monitoring instrument shall conform to the requirements of relevant standards in terms of the technical performance, and safety inspections and performance detection shall be carried out regularly as required.

购置的放射防护器材及防护用品、监测仪器的技术性能应符合有关标准要求，并按规定定期进行安全检查和性能检测。

5.7.2.14 Obvious warning signs and risk warnings shall be set for places where the stationary source is used.

固定源使用场所应设置明显的警示标识与风险提示；

5.7.2.15 The Company shall formulate emergency plans for radioactive source accidents (events) and regularly carry out the plan drills, and make records and effect evaluations.

公司应制定放射源事故（件）应急预案并定期开展预案演练，并做好记录和效果评价。

5.7.2.16 The radiation workplace shall be detected for the radiation level by an entrusted unit that has the corresponding qualification for radiation detection every six months.

每半年委托具有相应放射检测资质的单位进行放射工作场所辐射水平检测。

5.7.2.17 The Company shall conduct a safety assessment on the radiation and management of radioactive sources and prepare the assessment reports every six months.

公司每半年对放射源辐射及管理进行一次安全评估并编制评估报告。

5.7.3 Personnel safety and protection 人员安全和防护

5.7.3.1 Personnel engaged in radiation work shall receive the knowledge education in radiation protection and hold the Certificate of Conformity in Radiation Safety Training before taking the post. The staff shall undergo pre-employment and periodic physical examinations, to strictly control those suffering from occupational contraindications to undertake the radiation work.

从事放射工作的人员接受放射防护知识教育并持有《辐射安全培训合格证》方可上岗。工作人员应进行就业前和定期体检，严格控制有职业禁忌症从事放射工作。

5.7.3.2 The HSE Dept. and the individual department of the radiation workers shall establish a personal dose file of radiation worker, which shall include materials such as personal basic in-

formation, operating post and dose monitoring results. The personal dose file shall be kept until the radiation worker reaches the age of 75 or stops radiation work for 30 years.

HSE 管理部及放射工作人员所在单部门，应建立辐射工作人员个人剂量档案，个人剂量档案应当包括个人基本信息、工作岗位、剂量监测结果等材料。个人剂量档案应当保存至辐射工作人员年满 75 岁，或者停止辐射工作 30 年。

5.7.3.3 The HSE Dept. shall regularly entrust the qualified dose monitoring agencies to perform dose monitoring on the staff of the radioactive source departments and issues the dose monitoring reports. If the personal dose monitoring results are found to be abnormal, they shall immediately carry out verification and investigation, and promptly report the relevant situations to the relevant competent department of environmental protection and health administrative department.

HSE 管理部定期委托有资质的剂量监测机构对涉源部门员工进行剂量监测，并出具剂量监测报告，发现个人剂量监测结果异常的，应立即核实和调查，并将有关情况及时报告相关环境保护主管部门和卫生行政部门。

5.7.4 Management on radioactive source dismounting 放射源拆装管理

5.7.4.1 During the period of shutdown and maintenance of the device, when needing to dismount the radioactive source from the level gauge, the operation department must apply to the HSE Dept. for dismounting the radioactive source and submit the dismounting operation scheme at the same time. The dismounting operation shall be entrusted to a qualified service unit. The operation unit shall provide materials including qualifications, dismounting operation personnel qualifications and emergency plans for radiation accidents.

装置停工、检修期间，运行部需要拆卸料位计放射源，必须向 HSE 管理部提出放射源拆卸申请，并同时提交拆卸作业方案、拆卸作业应委托有资质的服务单位进行，作业单位应提供资质、拆卸作业人员资质以及辐射事故应急预案等资料。

5.7.4.2 The operation department shall be responsible for the management of the dismounting, transportation and installation processes, as well as the radioactive source files and records. The HSE Dept. shall be responsible for supervising and entrusting a third-party to monitor.

运行部负责拆卸、运输和安装过程的管理工作，并做好放射源档案，做好记录，HSE 管理部负责监督和委托第三方监测。

5.7.5 Management on radioactive wastes and radioactive source storehouses decommissioning 放射废物和放射源库退役管理

5.7.5.1 Any radioactive substance needs to be permitted by RSQU before it is scrapped.

任何放射性物质在报废处置前需要得到 RSQU 的许可。

5.7.5.2 Disposal of radioactive wastes must be conducted in compliance with the regulations under the supervision of RSQU and the Company's HSE Dept.

放射废物处置必须在 RSQU 与公司 HSE 管理部的监督下进行合规处置。

5.7.6 Radiation accident handling 辐射事故处理

5.7.6.1 Units using radioactive isotopes and radiation devices shall formulate emergency plans for their own units according to the risk of possible radiation accidents and make all emergency preparations.

使用放射性同位素和射线装置的单位，应当根据可能发生的辐射事故的风险，制定本单位的应急预案，做好各项应急准备。

5.7.6.2 In case of any radioactive source accidents (events), the Emergency Plan for Radioactive Source Accidents (Events) of the Company shall be timely started.

一旦发生放射源事故(件)应及时启动公司《放射源事故(件)应急预案》。

5.7.6.3 Once a radioactive source is lost, the site must be protected and it shall be immediately reported to the HSE Dept. which shall then report to the RSQU. It is forbidden to postpone to report, conceal to report, misreport or underreport the radiation accidents.

放射源一旦发生丢失，要保护好现场，立即上报 HSE 管理部，并由 HSE 管理部上报 RSQU。禁止缓报、瞒报、谎报或者漏报辐射事故。

5.7.6.4 Any radiation accident shall be notified by fax or email to RSQU within 24 hours after the occurrence, and a complete accident investigation report shall be submitted within 30 days after the accident.

任何辐射事故发生后 24h 内要传真或邮件通知 RSQU，事故发生后的 30 天内上报完整的事故调查报告。

5.7.6.5 Units involved in radiation accidents shall immediately send personnel possibly suffering from radiation damage to hospitals capable of treating patients with radiation injury for inspection and treatment, or request hospitals to rapidly send medical staff to accident scenes and take treatment measures.

发生辐射事故的单位应当立即将可能受到辐射伤害的人员送至有条件救治辐射损伤病人的医院，进行检查和治疗，或者请求医院立即派人赶赴事故现场，采取救治措施。

5.8 Management on environmental protection facilities 环保设施管理

5.8.1 Management requirements 管理要求

5.8.1.1 Environmental protection facilities must be designed, constructed and put into operation synchronously with production equipment.

环境保护设施必须与生产装置同步设计、同步施工、同步投运。

5.8.1.2 Environmental protection facilities must be ensured to operate normally. No one may shut down, idle, or dismantle them without authorization.

环境保护设施必须确保正常运转，任何人员不得擅自停运、闲置、拆除。

5.8.1.3 Environmental protection facilities shall be incorporated into the Company's equipment and facilities management.

环保设施纳入公司设备设施管理。

5.8.2 Process control 过程控制

5.8.2.1 The environmental protection facilities and on-line automatic monitoring instruments shall operate in strict accordance with the operation specifications, and the operating parame-

ters shall meet the design requirements.

环境保护设施、在线自动监控仪表运行严格按照操作规程执行，操作参数符合设计要求。

5.8.2.2 The operators of environmental protection facilities and on-line automatic monitoring instruments must be qualified after the job-specific training and obtain the work license before operating.

环境保护设施、在线自动监控仪表运行的操作人员必须经过岗位培训合格，取得上岗证后方可操作。

5.8.2.3 In case of any abnormal operation of environmental protection facilities and on-line automatic monitoring instruments, the production and operation department must promptly find out the causes of abnormalities and make adjustment to ensure a qualified pollutant discharge, and shall inform the Scheduling & Dispatch Dept. and the HSE Dept. of the causes of abnormalities by mail. See appendix for the abnormalities report form.

环境保护设施、在线自动监控仪表运行异常，生产运行部门要及时查清异常原因并调整，确保污染物排放合格，对异常原因以邮件形式告知计划调度部、HSE 管理部。异常报告表见附件。

5.8.2.4 Where the pollution accident happens to the production and operation department due to the abnormal operation of environmental protection facilities, effective emergency measures must be taken in a timely manner to eliminate environmental pollution and ensure the environmental safety; the accident shall be reported to the Scheduling & Dispatch Dept. and the HSE Dept. by telephone within 1 hour after the occurrence.

生产运行部门因环境保护设施运行不正常发生污染事故时，必须及时采取有效的应急措施消除环境污染，确保环境安全；事故发生应 1h 内电话向计划调度部、HSE 管理部报告。

5.8.2.4 In case of any fault, damage or defect found in the environmental protection facilities and on-line automatic monitoring instruments, the production and operation department shall promptly deal with them. If they cannot be solved, it shall report in time to the HSE Dept. and the Equipment Management Dept. to jointly solve the problem.

生产运行部门发现环境保护设施、在线自动监控仪表存在故障、损坏、缺陷时，及时处理，如无法解决应及时汇报 HSE 管理部和机械动力部共同解决。

5.8.2.5 In the event that the environmental protection facilities and on-line automatic monitoring instruments are scheduled to be shut down for overhaul or comparison monitoring, the shutdown report form shall be submitted to the Scheduling & Dispatch Dept. and the HSE Dept. for review and approval at least 24 hours in advance; unplanned shutdown for overhaul due to sudden events shall be promptly reported to the Scheduling & Dispatch Dept. and the HSE Dept. by telephone. See appendix for the shutdown report form.

环境保护设施、在线自动监测仪表计划停运检修或比对监测，至少提前 24h 将停运报告表报告计划调度部、HSE 管理部审批；因突发性事件停车的非计划停运检修，应及时电话报告计划调度部、HSE 管理部。停运报告表见附件。

5.8.2.6 The production and operation department shall establish and perfect the management ledgers of environmental protection facilities and on-line automatic monitoring instruments, set obvious name and description marks on the site, and shall not practice falsification on the operating conditions and monitoring data. 生产运行部门应当建立健全环境保护设施、在线自动监控仪表的管理台账，现场要有明显的名称、说明标识，不得对运行工况和监测数据弄虚作假。

5.8.2.7 The production and operation department shall set routing inspection sites to regularly conduct routing inspection on environmental protection facilities and on-line automatic moni-

toring instruments, and make routing inspection records.

生产运行部门应当设定巡检站点, 定时巡检环境保护设施、在线自动监控仪表, 并做好巡检记录。

5.8.2.8 The production and operation department shall check the data upload of the on-line automatic monitoring instruments once at least every 2 hours per shift. In case of any abnormal data transmission, the causes shall be found out and reported to the HSE Dept. by the shift on duty by mail. 生产运行部门每班至少 2 小时检查一次在线自动监控仪表数据上传情况, 数据传输异常时, 应查清原因, 当班以邮件形式报告 HSE 管理部。

5.8.2.9 The production and operation department shall organize the self-inspection on environmental protection facilities and on-line automatic monitoring instruments at least once a month, and send the self-inspection report to the HSE Dept., the contents of which shall include the operation status of the facilities, the discharge of pollutants, the sampling and monitoring status and the continuous operation records.

生产运行部门每月至少组织一次对环境保护设施、在线自动监控仪表的自查, 并将自查报告发给 HSE 管理部。内容包括: 设施的运行状况、污染物排放情况、取样和监测情况、连续运行记录等。

5.8.2.10 The Quality Analysis Dept. shall monitor the pollutants discharge of the environmental protection facilities in accordance with the environmental monitoring plan, and carry out comparison monitoring on the on-line automatic monitoring instruments before the 20th day of each month, with the comparison monitoring records made, and the records shall be sent to the HSE Dept.

质量检验部应按环境监测计划对环境保护设施排放污染物进行监测, 每月 20 日前要对在线自动监控仪表进行比对监测, 做好比对监测记录, 并将记录发给 HSE 管理部。

5.8.2.11 Be responsible for the management and operation of on-line automatic monitoring instruments, and submit the self-inspection, checking and mandatory verification reports to the HSE Dept. on time.

负责在线自动监控仪表管理和运行, 应按时向 HSE 管理部提交自查、校核、强检报告。

5.8.2.12 The HSE Dept. and relevant departments have the right to supervise the operation of the environmental protection facilities, and the production and operation department shall faithfully reflect the operation conditions.

HSE 管理部及相关部门有权监督环境保护设施运行情况, 生产运行部门应如实反映运行情况。

5.9 Management on environmental protections in startup and shutdown as well as maintenance and repair 开停工及检维修环保管理

5.9.1 Management requirements 管理要求

5.9.1.1 A comprehensive identification of environmental factors shall be carried out for device startup and shutdown as well as maintenance.

装置开、停工、检修应进行全面的环境因素识别。

5.9.1.2 Detailed environmental protection management measures shall be given in the schemes of device startup and shutdown as well as maintenance and repair. 装置开、停工、检维修方案中应有详细的环保管理措施。

5.9.1.3 The environmental protection devices shall be started up first and shut down later to ensure the effective disposal of pollutants.

环保装置应做到先开后停，确保污染物得到有效地处置。

5.9.1.4 Strengthen the environmental protection management in the whole process of device startup and shutdown as well as maintenance and repair, reduce the amount of pollutants generated, ensure the controlled discharge of pollutants, and completely eradicate the occurrence of environmental pollution events and events involving disturbances to residents. 加强装置开、停工及检维修全过程中的环保管理，减少污染物产生量，确保污染物受控排放，杜绝环境污染事件和扰民事件的发生。

5.9.1.5 During the period of startup and shutdown as well as maintenance and repair, the pollutants of all pollution sources shall be discharged in an orderly manner by applying in accordance with relevant provisions of the unconventional pollution discharge.

在开停工及检维修期间，所有污染源的排污应根据非常规排污的相关规定，进行排污申请，有序排放。

5.9.1.6 The HSE Dept. shall develop an environmental monitoring plan for startup and shutdown and issue it to the Quality Analysis Dept. for implementation.

HSE 管理部制定开停工环保监测计划并下发质量检验部执行。

5.9.1.7 The startup and shutdown shall be informed to the local environmental protection authorities and surrounding households of Brunei in advance, with relevant explanation and information communication provided.

开停工应提前告知文莱当地环保主管部门及周边居户并做好相关解释与信息沟通工作。

5.9.2 Preparation stage before shutdown 停工前准备阶段

5.9.2.1 The identification of environmental factors shall be carried out before device shutdown, and the environmental protection schemes for the period of shutdown and maintenance and repair shall be developed. The schemes shall determine the system purging process, sequences for material recovery and startup and shutdown of environmental protection facilities, the name, source (property and concentration), amount of discharge, discharge time, discharge direction, treatment methods and environmental protection measures of the "three wastes".

在装置停工前应进行环境因素识别，制订停工和检维修期间的环保方案。方案应确定系统吹扫流程、物料回收、环保设施开停工次序、“三废”名称、来源（性质、浓度）、排放量、排放时间、排放去向、处理方式及环保措施。

5.9.2.2 The Company shall organize the review of device shutdown and maintenance and repair schemes, and uniformly adjust the shutdown sequence of each device to determine the shutdown procedures and connection of environmental protection facilities. The environmental protection content of the shutdown and maintenance and repair schemes shall be reviewed by the environmental protection management personnel to ensure the accuracy of the amount of pollutants discharged, the compliance of the discharge direction and the applicability of the environmental protection measures in the environmental protection schemes.

公司应组织审查装置停工及检维修方案，统一调整各装置的停工次序，确定环保设施的停工程序及衔接。停工及检维修方案环保内容应由环保管理人员审查，确保环保方案中污染物排放量的准确性、排放去向的合规性和环保措施的适用性。

5.9.2.3 Before device shutdown, the following points shall be achieved: 在装置停工前，应做到：

(1) Ensure the normal operation of the relevant environmental protection facilities.

确保相关环保设施运行正常。

(2) Reduce the liquid level of the regulating reservoir, accident pool or accident tank, adjust the operation scheme for sewage farm, and be prepared to receive the high-concentration sewage. 降低调节池、事故池或事故罐的液位，调整污水处理场运行方案，做好接收高浓度污水的准备。

(3) Check the flare system to ensure that the flare system is in good condition and unimpeded. 检查火炬系统，确保火炬系统完好、畅通。

5.9.2.4 Equipment that may cause pollution to clean effluent systems shall be provided with a special cleaning field for diverting wastewater from clean water during the maintenance and repair work.

有可能造成清净下水系统污染的设备应设立专门的清洗场，保证检维修期间的清污分流。

5.9.2.5 The stacking sites shall be set up for solid wastes which shall be well-marked by classification to properly keep the solid wastes to prevent pollution. 设立固体废物堆放场所，分类做好标识，妥善保管固体废物，防止发生污染。

5.9.2.6 Before the shutdown of sulfur recovery unit, the sour gas shall be well balanced and discharge of it into flare shall be strictly controlled.

硫磺装置停工前，应先做好酸性气平衡，严格控制酸性气放火炬。

5.9.2.7 All units shall confirm the implementation of environmental protection measures before the shutdown.

各单位应对停工前环保措施的落实情况实施确认。

5.9.3 Shutdown stage 停工阶段

5.9.3.1 Each device shall be arranged with specially-assigned person to be responsible for the environmental protection work, and monitored in 24 hours at critical time. Any environmental problems shall be handled in a timely manner once found and reported to the HSE Dept.

各装置要有专人负责环保工作，关键时刻实行 24 小时监控，发现环保问题及时处理并向 HSE 管理部报告。

5.9.3.2 When the device is shut down and returning materials, materials like towers, containers, heat exchangers, pumps, pipelines, etc. shall all be completely returned and recycled to avoid the waste of materials and the generation of high-concentration sewage.

装置停工退料时，应将塔、容器、换热器、机泵、管线等物料应全部退净、回收，避免物料的浪费和高浓度污水的产生。

5.9.3.3 All of the sulfur-containing sewage must be sent out of the device through the special line for sulfur-containing sewage, which is strictly prohibited to discharge into the sewage system.

含硫污水必须全部经含硫污水专线送出装置，严禁往下水系统排放。

5.9.3.4 It is strictly prohibited to discharge sump oil, various residual liquid, etc. into sewage pipelines, open trenches or rainwater drainage systems.

严禁将油污、各类残液等排入污水管线、明沟或雨排系统。

5.9.3.5 In purging and discharge into flare, the following points shall be achieved:

吹扫、放火炬时应做到：

(1) The desulfurization device and the sulfur-containing sewage system as well as equipment

like the towers and containers that are in contact with the sulfur-containing and ammonia-containing media in the shutdown device shall be deodorized by the use of effective additives before the purging.

对停工装置中的脱硫装置和含硫污水系统及接触含硫、氨介质的塔、容器等设备在吹扫前使用有效助剂进行脱臭处理。

(2) The device shall be purged in an airtight manner. 装置吹扫应采取密闭方式。

(3) Sufficient gas and steam shall be burned to match with sulfur-containing and ammonia-containing gases when they are discharged into flare;

含硫、氨气体放火炬时，配烧足够的瓦斯气和蒸汽。

(4) The flare shall be timely adjusted to eliminate smoke and steam in the shutdown process, so as to ensure safe emission of burnt waste gas to avoid generation of black smoke.

停车过程中，及时调整火炬消烟蒸汽，安全排放燃烧废气，避免冒黑烟。

(5) When the device undergoes purging of the sour gas system, it is first blown to the flare for burning. After the H₂S content of the system is less than 300mg/m³ by sampling analysis, and confirmed on the site by the environmental protection management personnel of the HSE Dept., the device can be emptied on the spot.

装置吹扫酸性气系统时，先吹往火炬燃烧，经采样分析系统 H₂S 含量小于 300mg/m³，并经 HSE 管理部环保管理人员现场确认，装置才可就地放空。

(6) Prior to steam purging of towers, tanks and other containers containing benzenes and hydrocarbons, the system must undergo nitrogen displacement and water flushing. After the total hydrocarbon content of the system is less than 0.5% by sampling analysis, and confirmed on the site by the environmental protection personnel of the HSE Dept., the system can be emptied on the spot.

含有苯类、烃类的塔、罐及其他容器蒸汽吹扫前，系统必须进行氮气置换和水冲洗，并经采样分析，系统总烃<0.5%，经 HSE 管理部环保人员现场确认，方可就地放空。

(7) The time for water washing and boiling of towers and containers containing hydrogen sulfide, malodor and toxic pollutants shall be prolonged (no less than 48 hours). The washed sewage shall be sent to the stripping unit for treatment, and the wash water that cannot be sent to the sewage stripping unit for treatment must be confirmed by the environmental protection personnel of the HSE Dept. before discharge. The sewage in steam purging shall be subject to sampling analysis and confirmed by the environmental protection department before discharge on the spot.

含硫化氢、具有恶臭、有毒污染物的塔、容器进行水洗及蒸煮的时间要延长（不少于 48 小时），冲洗后的污水送汽提装置处理，不能送污水汽提装置处理的冲洗水要经过 HSE 管理部环保人员确认后方可排放。蒸汽吹扫时要采样分析并经环保部门确认后方可就地排放。

(8) When the sulfur recovery unit is shut down for purging, the sour gas shall be well balanced first and discharge of it into flare shall be strictly controlled.

硫磺装置停工吹扫时，应先做好酸性气平衡，严格控制酸性气放火炬。

(9) In the event of special circumstances where the gas with special odor (such as ammonia-containing and sulfur-containing) is discharged into flare, it must be approved by the HSE Dept. The flare must be burnt with sufficient gas and liquefied gas and be effectively monitored.

遇特殊情况有特殊气味（如含氨、含硫）气体放火炬时，需经 HSE 管理部批准，火炬必须配烧足量的瓦斯或液化气，并实行有效监控。

(10) The amount of purge steam shall be strictly controlled for each device to ensure that the malodorous substances such as hydrogen sulfide and mercaptan in the waste gas blown to the flare can be fully burned.

各装置严格控制吹扫蒸汽量，保证吹往火炬的废气中硫化氢、硫醇等恶臭物质充分燃烧。

(11) Equipment and pipelines must be equipped with silencing facilities on the purging vent nozzle to prevent the noise from exceeding standard to cause disturbances to residents.

设备、管线吹扫放空口必须加消音设施，杜绝噪声超标扰民事件发生。

5.9.3.6 In boiling and cleaning, the following points shall be achieved: 蒸煮、清洗时应做到：

(1) Equipment like towers and tanks shall be boiled in an airtight manner or other manners to ensure that the waste gas emissions meet the standards.

塔、罐等设备采取密闭蒸煮等方式，确保废气达标排放。

(2) Equipment that will generate odor pollution during the boiling process, such as towers and tanks, shall have the materials emptied before boiling, and they can be boiled only after being cleaned.

对蒸煮过程会产生恶臭污染的塔、罐等设备，蒸煮前倒空物料，经清洗后，方可蒸煮。

(2) The sulfur-containing equipment shall undergo chemical cleaning and passivation before shutdown for maintenance to ensure no pollution to the environment.

(3) 停工检修前对含硫设备进行化学清洗，钝化处理等，确保不污染环境。

(4) Equipment cleaning water is prohibited from discharging into the rainwater drainage systems. 设备清洗水禁止排入雨排系统。

5.9.3.7 High-concentration solvents or materials (acid sludge, caustic sludge, etc.) and their cleaning water shall be discharged in accordance with the Management Procedures for Sewage Grading Control to prevent impact on the sewage farm.

含高浓度溶剂或物料（酸、碱渣等）及其清洗水应按《污水分级控制管理程序》进行排放，防止冲击污水处理场。

5.9.3.8 Waste generated during the shutdown shall be subject to the provisions of 5.5 in this Regulation. 停工期间产生的废弃物按本制度 5.5 的规定执行。

5.9.3.9 Measures to control the noise shall be taken to prevent it from causing disturbances to residents. 应采取措施控制噪声，避免噪声扰民事件的发生。

5.9.3.10 During the period of shutdown, synchronous monitoring shall be carried out on the sewage outlets, waste gas emissions and the ambient atmosphere.

停工期间应对污水排放口情况、废气排放情况和环境大气进行同步监测。

5.9.4 Maintenance and repair stage 检维修阶段

5.9.4.1 Effective measures shall be taken to prevent the residual materials in the dismantling process of the equipment from falling to the ground.

应采取有效措施，防止设备拆解过程的残余物料落地。

5.9.4.2 The equipment that may cause pollution to the clean effluent system shall be sent to the designated place for cleaning to prevent pollution to the rainwater drainage system.

应将有可能造成清净下水系统污染的设备送到指定地点清洗，防止污染雨排系统。

5.9.4.3 During maintenance and repair of the device, the rainwater drainage system, wastewater pool and sewage discharge pipe network of the device shall be maintained and re-

paired simultaneously.

装置检维修时，应同时对装置的雨排系统、废水池和排污管网进行检维修。

5.9.4.4 The industrial solid wastes (such as polymer, sludge, bottom mud, waste catalysts, etc.) cleaned out of the equipment and pipelines shall be transported to the designated place in time and treated in accordance with the provisions of 5.5 in this Regulation.

设备及管线清理出的工业固体废物（如聚合物、油泥、底泥、废催化剂等）要及时运至指定场所，按本制度 5.5 的规定进行处理。

5.9.4.5 Waste classification management shall be strictly implemented, where hazardous wastes and general wastes shall be collected separately, valuable materials and valueless materials collected separately.

严格执行垃圾分类管理，危险废物与一般废物分开收集，有价物料与无价物料分开收集。

5.9.4.6 The pool cleaning and tanks cleaning shall be carried out under schemes. The environmental protection measures shall have undergone the environmental protection review, and measures of sludge "reduction" shall be taken. The generated sludge with higher oil content shall be sent to the Power Dept. for treatment, and those with lower oil content and with liquidity shall be sent to the sewage farm of Utilities Dept.

清池、清罐有方案，环保措施经过环保审查，采取油泥“减量化”措施。产生的油泥含油率较高的送往热电部处理，含油率较低且有流动性的送往公用工程部污水处理场。

5.9.4.7 During the period of shutdown for maintenance, the vegetation shall not be damaged or polluted, nor the soil or surface water shall be polluted.

停工检修期间不得损坏和污染植被，不污染土壤与地表水。

5.9.4.8 All departments shall be responsible for the environmental protection management of the external construction teams and the maintenance and operation assurance teams within the scope of their own departments.

各部门负责本部门范围内的外来施工队伍、维护保运队伍的环保管理。

5.6.3 Startup stage 开工阶段

5.9.5.1 Before the startup of the device, the startup scheme shall be prepared to optimize the device startup sequence, which can be implemented only after countersigned by the relevant departments and leaders.

装置开工前应编制开工方案，优化装置开工顺序，方案经相关部门及领导会签后方可实施。

5.9.5.2 Check the status of equipment and facilities and the technological process on an item-by-item basis and in an orderly manner according to the requirements of the startup scheme; for example, check the sewage and waste gas discharge pipe lines of each device to ensure the smooth discharge of sewage and waste gas; check the flare discharge system to ensure that the flare system is in good condition and unimpeded. Confirm all the startup conditions to prevent accidents of material spilling.

按照开工方案要求，逐项、有序地检查设备、设施状态与工艺流程；如：检查各装置的污水及废气的排放管线，确保污水及废气的排放畅通；检查火炬排放系统，确保火炬系统完好、畅通。确认各项开工条件，防止发生跑料事故。

5.9.5.3 The Utilities Dept. shall be responsible for checking emergency facilities such as accident emergency pools, sewage stock tanks, accident tanks and drain basins; lowering the liquid

level and completing the acclimation of sludge in advance, and making preparations for acceptance and treatment of high-concentration sewage.

公用工程部负责事故应急池、污水原料罐、事故罐及排放水池等应急设施检查；提前降低液位和驯化好污泥，做好接纳与处理高浓污水的准备。

5.9.5.4 After startup for materials feeding, the displaced waste gas shall be discharged into the flare system for burning, or recycled or disposed by other means, to prevent pollution to the atmosphere.

开工进料后，要将置换出的废气，排入火炬系统烧掉，或用其它办法回收或处理，防止污染大气。

5.9.5.5 Timely put various types of environmental protection facilities into use to reduce the flare gas emissions.

及时投用各类环保设施，减少火炬气排放。

5.9.5.6 Carry out synchronous monitoring on the sewage outlets, waste gas outlets and the surrounding atmosphere.

对污水排放口、废气排放口情况及周边大气开展同步监测。

5.10 Environmental monitoring management 环境监测管理

5.10.1 Management organization and system 管理机构与体系

5.10.1.1 Set up an environmental monitoring organization with appropriate personnel.

设立环境监测机构，配备相应的人员。

5.10.1.2 Establish and implement a quality assurance system for environmental monitoring. 建立和实施环境监测质量保证体系。

5.10.2 Personnel and training 人员与培训

5.10.2.1 Environmental monitoring personnel must have undergone specialized technical training and should have the skills appropriate to their positions;

环境监测人员必须经过专业技术培训，应具备与其从事岗位相适应的技能；

5.10.2.2 The personnel conducting monitoring shall take up posts with certificates. Anyone who has not obtained the certificate of qualification shall not take post alone.

实施监测人员应持证上岗，凡没有取得合格证书的，不得单独上岗。

5.10.3 Setting of monitoring points 监测点的设置

5.10.3.1 The HSE Dept. shall set up corresponding environmental protection monitoring points according to the major environmental factors, environmental monitoring schemes (EMD), pollutant emissions and the needs of supervision and inspection.

HSE 管理部根据重大环境因素、环境监测方案（EMD）、污染物的排放情况及监督检查的需要设置相应的环保监测点。

5.10.3.2 The setting of environmental monitoring points shall meet the requirements of relevant local regulations;

环境监测点的设置应符合当地相关规范的要求；

The Company shall set up routine monitoring points, for which the Quality Analysis Dept. shall organize the monitoring as required. The routine monitoring points include:

公司设常规监测点，质量检验部要按要求组织常规监测点的监测。常规监测点有：

(1) The waste water discharge outlet, waste water lift pump station and rainwater monitoring pool of the device;

装置废水排放口、废水提升泵站、雨水监控池；

(2) Import and export of waste water treatment facilities, and entrances and exits of seaward sewage discharge pump stations;

废水处理设施进出口、污水排海泵站的入口和出口；

(3) Flue gas emission outlet; 烟气排放口；

(4) Noise at boundary and noise in area; 厂界噪声、区域噪声；

(5) Discharge outlets from which relevant departments can discharge waste water into the Company's waste water treatment and discharge system;

相关部门废水排入公司废水处理及排放系统的排放口；

(6) Monitoring points for ambient air quality; 环境空气质量监测点；

(7) Monitoring points for seawater quality, surface water and underground water;

海水水质监测点、地表水监测点、地下水监测点；

(8) Coal ash, coal slag and sump pit in slag yard; 煤灰、煤渣及渣场集水坑；

(9) Discharge outlets of waste gas treatment facilities. 废气处理设施排放口。

5.10.3.3 In the monitoring of pollution source monitoring points of major environmental factors, relevant data of those that cannot be measured shall be obtained from field instruments, process analysis and statistics.

重大环境因素的污染源监测点进行监测，无法测定的要从现场仪表、工艺分析及统计获取有关数据。

5.10.3.4 The monitoring points shall be determined after verification by the HSE Dept. in the event that the Company's relevant departments and interested parties put forward monitoring requirements.

公司有关部门及相关方提出监测要求的由 HSE 管理部核实后确定监测点。

5.10.4 Determination of monitoring items and frequencies 监测项目、频次的确定

5.10.4.1 The HSE Dept. shall determine the monitoring items according to the principal pollutants and pollutants discharge standards of the monitoring points;

HSE 管理部根据监测点的主要污染物及污染物排放标准确定监测项目；

5.10.4.2 The monitoring frequencies shall be determined according to the needs of supervision and management. 根据监督管理需要确定监测频次。

5.10.4.3 The annual monitoring items and frequencies of the HSE Dept. shall be adjusted according to the pollutants emissions of the previous year.

HSE 管理部每年监测项目、频次根据上年的污染物排放情况进行调整。

5.10.4.4 The annual monitoring items and frequencies shall be implemented as per the annual environmental monitoring plan.

每年监测项目、频次按照每年年度环境监测计划执行。

5.10.5 Issuance of monitoring tasks 监测任务下达

5.10.5.1 The HSE Dept. shall formulate the Company's annual and semi-annual environmental monitoring plan according to the Company's production plan, and issue temporary monitoring plan defining the monitoring points, items, frequencies, etc. on the basis of production changes and needs of daily environmental management, which shall be assigned to the Quality Analysis Dept. for monitoring execution.

HSE 管理部根据公司生产计划制定公司年度、半年度环境监测计划，根据生产变化和日常环境管理需要，下达临时监测计划，明确监测点、项目、频次等，下发至质量检验部实施监测。

5.10.5.2 If the operation department needs to add additional monitoring, it may submit a written application to the HSE Dept. for examination and determination before the issuance of a temporary monitoring plan, which shall be implemented by the Quality Analysis Dept.

运行部需另外增加监测的，可提出书面申请报 HSE 管理部审核确定后下达临时监测计划，质量检验部实施。

5.10.5.3 The monitoring items that cannot be completed by the Quality Analysis Dept. shall be entrusted by the HSE Dept. to competent units for monitoring. The Quality Analysis Dept. shall cooperate in the sample collection.

质量检验部无法完成的检测项目由 HSE 管理部负责委托有能力的单位监测。质量检验部配合样品采集。

5.10.6 Monitoring method 监测方法

5.10.6.1 The Quality Analysis Dept. shall adopt EIA (Environmental Impact Assessment), special documents on environmental protection of basic design, environmental monitoring schemes (EMD) or standard monitoring analysis methods in the industry wherever possible.

质量检验部应尽可能采用环评、基础设计环保专篇、环境监测方案（EMD）或行业标准监测分析方法。

5.10.6.2 As for items without national and industrial standard analysis methods, the Quality Analysis Dept. can carry out testing demonstrations, compile the monitoring analysis method standards of the enterprise, and publish and implement the standards after examination and determination by the competent department of the Company.

对于没有国家及行业标准分析方法的项目，质量检验部可进行试验论证，编写企业监测分析方法标准，经公司主管部门审定后发布实施。

5.10.7 Monitoring equipment and instruments 监测设备与仪器

5.10.7.1 The Quality Analysis Dept. shall prepare the operation specifications for the use of analytical instruments and use the monitoring equipment in strict accordance with the specifications. Analytical instruments shall be regularly verified and maintained. Establish and perfect the ledgers of environmental protection monitoring equipment.

质量检验部应编写分析仪器使用操作规程，严格按规程使用监测设备。分析仪器应定期检定和维护保养。建立健全环保监测设备台帐。

5.10.7.2 On-line monitoring instrument operators shall have corresponding operational quali-

fications, and prepare corresponding routing inspection systems, maintenance and repair systems, mandatory inspection procedures and periodic calibration records in accordance with the requirements of the HSE Dept., and shall also have corresponding ledgers.

在线监测仪表运营商应该具相应的运营资质，应按照 HSE 管理部要求编制相应的巡检制度、检维修制度、强制检验规程和定期校验记录，同时具有相应的台账。

5.10.8 Monitoring process 监测过程

5.10.8.1 The Quality Analysis Dept. shall organize and implement monitoring on a case by case basis in accordance with the requirements in the monitoring plan. The monitoring analysis shall be conducted in strict accordance with the requirements of the standard analysis methods, and the monitoring process shall conform to the state-specified quality control requirements.

质量检验部按照监测计划的要求具体组织，实施监测。监测分析严格按标准分析方法的要求进行，监测过程符合国家规定的质量控制要求。

5.10.8.2 The monitoring analysis results shall be subject to a three-level verification system to ensure accurate analysis. 监测分析结果实行三级审核制，确保分析准确。

5.10.8.3 Medicines for monitoring analysis shall be prepared according to standard analysis methods; the analytical reagent bottle shall be marked with the reagent name, concentration, validity period, etc. to prevent misuse and use of the expired ones. The sampling equipment and the analytical instruments shall be kept clean.

监测分析药品的配制要按标准分析方法进行；分析试剂瓶应标明试剂名称、浓度、有效期等，防止误用和过期使用。采样器具、分析器具要保持洁净。

5.10.8.4 In case of any objection to the monitoring results of petroleum, COD, etc. in the outward discharge outlet the Company, the analysis samples shall be retained (24 hours), and abnormal results shall be rechecked in a timely manner.

公司外排口的石油类、COD 等监测结果存在异议时应保留分析样（24 小时），异常结果应及时复查。

5.10.9 Monitoring report 监测报告

5.10.9.1 The Quality Analysis Dept. shall timely input all types of environmental protection monitoring data into the LIMS system, and the temporary monitoring results shall also be input into the LIMS system immediately after they come out and reported as required. The abnormalities shall be immediately reported to the HSE Dept., the Scheduling & Dispatch Dept. and the relevant operation department.

质量检验部将各类环保监测数据及时录入 LIMS 系统，临时监测结果出来后即时录入 LIMS 系统，并按要求报出，不正常情况即时报告 HSE 管理部、计划调度部和相关运行部。

5.10.9.2 The operation department shall record the data of the on-line environmental protection monitoring instrument, timely notify the HSE Dept. of the abnormality once found, and also timely notify the Equipment Management Dept. and the HSE Dept. of the equipment failure.

运行部要将环保在线监测仪表数据记录，发现异常后要及时通知 HSE 管理部，设备故障及时通知机械动力部和 HSE 管理部。

5.10.10 Keeping and custody of monitoring records 监测记录的保存和保管

5.10.10.1 The monitoring records include the original records of monitoring analysis, the ledgers, the statements and so on.

监测记录包括：监测分析原始记录、台账、报表等。

5.10.10.2 The filling and setting of the monitoring records shall comply with the relevant records management regulations of the Company.

监测记录的填写、设置应符合公司有关记录管理规定。

5.10.10.3 All analyses shall be provided with original records with a keeping period of three years.

所有分析均应建立原始记录，保存期为三年。

5.10.11 External monitoring 外部监测

5.10.11.1 When the competent government departments come to the Company for monitoring by law enforcement, the relevant departments shall notify the HSE Dept. and the Quality Analysis Dept., and the monitoring personnel of the Quality Analysis Dept. shall conduct sampling and sample sealing simultaneously with the competent government departments.

政府主管部门来公司进行执法监测，相关部门应通知 HSE 管理部与质量检验部，质量检验部监测人员应与其同时进行采样并封样。

5.10.11.2 The monitoring conducted by the third-party monitoring organization shall be carried out under the supervision and cooperation of the HSE Dept., the operation department and the monitoring personnel of the Quality Analysis Dept.

第三方监测机构从事的监测应在 HSE 管理部、运行部与质量检验部监测人员的监督与配合下进行。

5.11 Management on environmental protection information 环保信息管理

5.11.1 Management requirements 管理要求

5.11.1.1 The environmental protection information of the Company shall be, in principle, reviewed and released by the HSE Dept. Other departments must obtain the approval of the HSE Dept. for releasing or reporting the environmental protection information.

公司环保信息原则上由 HSE 管理部审核对外发布，其他部门对外发布或上报环保资料，必须征得 HSE 管理部的同意。

5.11.1.2 The environmental protection information shall be true, accurate, complete and timely. 环保信息应真实、准确、完整、及时。

5.11.1.3 All departments of the Company shall actively and proactively provide relevant environmental protection information. When the HSE Dept. collects information from all departments, the latter shall cooperate actively.

公司各部门应积极、主动提供相关环保信息。HSE 管理部向各部门收集信息时，各部门应当积极予以配合。

5.11.2 Process control 过程控制

5.11.2.1 Content of environmental protection information 环保信息内容

- (1) Environmental laws, regulations, rules and industry policies;
环境法律、法规、规章、行业政策;
- (2) Environmental protection information in the industry; 行业环保信息;
- (3) Design information of environmental protection facilities; 环保设施设计资料;
- (4) Environmental protection control indicators and operating instructions;
环保控制指标与操作指令;
- (5) Environmental risks and hidden hazards; 环境风险与隐患;
- (6) Operation information of environmental protection facilities; 环保设施运行信息;
- (7) Changes of environmental protection technology and facilities; 环保工艺与设施变更;
- (8) Environmental monitoring plan and data; 环境监测计划与数据;
- (9) Abnormal pollutants discharge or environmental pollution events;
异常排污或环境污染事件;
- (10) Internal environmental protection management data and monthly reports;
环保内部管理资料与月报;
- (11) Minutes of meeting on environmental protection; 有关环保的会议纪要;
- (12) Information on investigation or punishment suffered; 被调查或受到处罚的信息;
- (13) Internal assessment information; 内部考核信息;
- (14) Assessment reports and accident investigation reports on environmental protection;
有关环保的评估报告、事故调查报告;
- (15) Operation specifications, management regulations, various types of plans and management scheme, etc. 操作规程、管理规定、各类预案与管理方案等。

5.11.2.2 Management on environmental protection information 环保信息管理

- (1) Classification of the Company's environmental protection information: 公司环保信息分类:
 - 1) Internal information; 内部信息;
 - 2) Reported information; 上报信息;
 - 3) Public information. 对外公开信息。

(2) Discrimination of environmental protection information 环保信息的判别

Environmental protection information shall be discriminated and classified by the HSE Dept.
环保信息由 HSE 管理部负责判断与分类。

(3) Information delivery and release 信息传递与发布

1) The environmental protection management personnel shall collect and classify all kinds of information related to environmental protection by the use of meetings, telephones, mails, WeChat, SMS and the Internet.

环保管理人员利用会议、电话、邮件、微信、短信、网络等收集各类环保相关信息并分类。

Information related to the Company's pollutants operation control, emergency, environmental monitoring, abnormal pollutants discharge, potential environmental protection hazards, etc. shall be timely delivered to relevant leaders and departments.

对涉及公司污染物操作控制、应急、环境监测、异常排污、环保隐患等信息应及时进行传递至相关领导、部门等。

3) The internal environmental protection management data (environmental laws, regulations, rules, industry policies, environmental protection information in the industry, design information,

assessment reports, etc.) and relevant documents (notifications, announcements, minutes, etc.) of the Company shall be uploaded by the environmental protection management personnel to the Company's information system in a timely manner, which can be browsed by personnel with relevant permissions.

对公司内部的环保管理资料(环保法律、法规、规章、行业政策、行业环保信息、设计资料、评估报告等)、相关文件(通知、公告、纪要等)将由环保管理人员及时上传至公司信息系统,相关权限的人员可浏览。

4) The information requiring to be released outward shall be strictly checked by the HSE Dept. and submitted to the competent leaders of the Company for signature and confirmation before being published to the public.

需要对外发布的信息由 HSE 管理部负责把关并交公司主管领导签字确认后方可对外公布。

5) The information delivery methods of the Company include deliveries by the Internet, telephones, meetings and faxes as well as announcements posting.

公司信息传递方式包括网络传递、电话传递、会议传递、传真传递、通告张贴。

6) The Company shall impose punishment on those failing to timely report the environmental information, intentionally concealing environmental protection information and releasing misleading environmental protection information without the Company's permission according to relevant regulations.

对环境信息报告不及时、故意隐瞒环保信息,没有经公司允许发布误导性环保信息等行为,公司根据相关规定进行处罚。

5.12 Management on environmental protection statistics 环保统计管理

5.12.1 Management requirements 管理要求

5.12.1.1 The environmental protection statistics shall be carried out according to the law, and the statements shall be timely and accurate, truthfully reflecting the environmental protection status.

依法做好环保统计工作,报表及时、准确,如实反映环保状况。

5.12.1.2 The environmental protection statistics shall be subject to the statistical methods prescribed by local competent departments or the industry.

环保统计依照当地主管部门或行业规定的统计方法。

5.12.2 Process control 过程控制

5.12.2.1 The environmental protection statisticians shall have received relevant trainings and have the statistical knowledge and abilities matching with their work.

环保统计人员应经过相关培训并具备与其工作相适应的统计知识与能力;

5.12.2.2 All departments shall undertake the responsibility for the accuracy of the statistical data of their own departments, and report the environmental protection statistics of the preceding month to the HSE Dept. prior to the 2nd day of each month.

各部门对本部门统计数据准确性负责,每月 2 日前上报上月环保统计给 HSE 管理部。

5.12.2.3 The environmental protection statistics shall be based on pollution source files, pro-

duction statements, LIMS, on-line analysis data, on-line instrument and laboratory analysis data, LDAR database and reports, transfer ledgers, calibration reports, accident statistics, etc. 环保统计应基于污染源档案、生产报表、LIMS、在线分析数据、在线仪表、化验分析数据、LDAR 数据库及报告、转移台账、标定报告、事故统计等。

5.12.2.4 The HSE Dept. shall be responsible for the statistics, summary and analysis of environmental protection;

HSE 管理部负责环保的统计、汇总与分析；

5.12.2.5 The environmental protection statistics must be approved by supervisors of the department and the Company before being reported or released to the public.

环保统计须经部门及公司主管审批后方可上报或对外发布。

5.13 Management on environmental protection signs 环保标识管理

Refer to the provisions of HSE Signs in Section 5.10 of the HSE Comprehensive Management System.

参照《HSE 综合管理制度》中第 5.10 部分 HSE 标识的规定。

5.14 Environmental events emergency and response 环境事件应急与响应

5.14.1 The Company and all operation departments shall prepare special emergency plans or emergency plans on a basis of scenes for water body pollution as required and conduct drills on a regular basis.

公司及各运行部应按要求编制水体污染专项或情景应急预案并定期进行演练。

5.14.2 Follow the Company's emergency response procedures and the Company's Emergency Plan for Emergent Environmental Incidents and Oil Spill Response Plan. 遵照公司应急响应程序及公司《突发环境事件应急预案》、《溢油应急预案》。

5.15 Management on potential environmental protection hazards 环保隐患管理

Refer to the provisions of HSE Hidden Danger Identification in Section 5.14 of the HSE Comprehensive Management System.

参照《HSE 综合管理制度》中第 5.14 部分 HSE 隐患排查的规定。

5.16 Management on environmental protection accidents and incidents 环保事故、事件管理

Refer to the provisions of Accident Management in Section 5.17 of the HSE Comprehensive Management System.

参照《HSE 综合管理制度》中第 5.17 部分事故管理的规定。

5.17 Environmental protection training 环保培训

Refer to the provisions of HSE Training in Section 5.9 of the HSE Comprehensive Management System.

参照《HSE 综合管理制度》中第 5.9 部分 HSE 培训的规定。

5.18 Assessment on environmental protection 环保考核

Refer to the provisions of HSE Assessment in Section 5.15 of the HSE Comprehensive Management System.

参照《HSE 综合管理制度》中第 5.15 部分 HSE 考核的规定。

6 Inspection and Supervision 检查与监督

6.1 The CEO's Office shall be responsible for incorporating the environmental protection management into the Company's performance management.

总经理办公室负责将环保管理纳入公司绩效管理。

6.2 The HSE Dept., as the specified administrative authority for inspection and assessment of environmental protection management, shall be responsible for putting forward assessment indicators, assessment methods and assessment results.

HSE 管理部作为环保管理的检查和考核的归口管理部门，负责提出考核指标、考核方法和考核结果。

7 Associated Procedures and Records 关联程序和记录

7.1 Associated procedures 关联程序

7.1.1 Management Procedures for Identification and Compliance Evaluation of Laws and Regulations HYBN-T2-08-0001-2018-1

法律法规识别与合规性评价管理程序 HYBN-T2-08-0001-2018-1

7.1.2 Management Procedures for Identification and Assessment of Environmental Factors HYBN-T2-08-0020-2018-1

环境因素识别与评价管理程序 HYBN-T2-08-0020-2018-1

7.1.3 Management Procedures for Outward Waste Water Discharge HYBN-T2-08-0021-2018-1

废水外排管理程序 HYBN-T2-08-0021-2018-1

7.1.4 Management Procedures for Sewage Grading Control HYBN-T2-08-0022-2018-1

污水分级控制管理程序 HYBN-T2-08-0022-2018-1

7.1.5 Management Procedures for Waste Gas Emission under Abnormal Working Condition HYBN-T2-08-0023-2018-1

异常工况废气排放管理程序 HYBN-T2-08-0023-2018-1

7.1.6 Waste Management Procedures HYBN-T2-08-0024-2018-1

废弃物管理程序 HYBN-T2-08-0024-2018-1

7.1.7 Management Procedures for Radioactive Source HYBN-T2-08-0025-2018-1

放射源管理程序 HYBN-T2-08-0025-2018-1

7.1.8 Management Procedures for Outage of Environmental Protection Facilities HYBN-T2-08-0026-2018-1

环保设施停用管理程序 HYBN-T2-08-0026-2018-1

7.1.9 Management Procedures for Environmental Protection in Startup and Shutdown for Maintenance HYBN-T2-08-0027-2018-1

开停工检修环保管理程序 HYBN-T2-08-0027-2018-1

7.1.10 Management Procedures for Environmental Monitoring HYBN-T2-08-0028-2018-1 环境监测管理程序 HYBN-T2-08-0028-2018-1

7.1.11 Management Procedures for Environmental Protection Information HYBN-T2-08-0029-2018-1

环保信息管理程序 HYBN-T2-08-0029-2018-1

7.1.11 Management Procedures for Environmental Protection Statistics HYBN-T2-08-0030-2018-1 环保统计管理程序 HYBN-T2-08-0030-2018-1

7.1.13 Management Procedures for HSE Signs and Labels HYBN-T2-08-0006-2018-1 HSE 标识标牌管理程序 HYBN-T2-08-0006-2018-1

7.1.14 HSE Hidden Danger Identification & Control Procedure HYBN-T2-08-0004-2018-1 HSE 隐患排查治理程序 HYBN-T2-08-0004-2018-1

7.1.15 Management Procedures for HSE Training HYBN-T2-08-0005-2018-1 HSE 培训管理程序 HYBN-T2-08-0005-2018-1

7.2 Associated records 关联记录

7.2.1 Template for Form for Identification and Evaluation of Environmental Factors HYBN-T7-08-3001-001-2018

环境因素识别和评价表模板 HYBN-T7-08-3001-001-2018

7.2.2 Template for List of Major Environmental Factors HYBN-T7-08-3002-001-2018 重要环境因素清单模板 HYBN-T7-08-3002-001-2018

7.2.3 Template for Ledger of Water Quality Statistics at the General Discharge Outlet HYBN-T7-08-3003-001-2018

总排口水质统计台帐模板 HYBN-T7-08-3003-001-2018

7.2.4 Template for Sewage Management Ledger HYBN-T7-08-3004-001-2018 污水管理台帐模板 HYBN-T7-08-3004-001-2018

7.2.5 Template for Ledger of Water Quality Statistics at the Discharge Outlet under Grading Control HYBN-T7-08-3005-001-2018

分级控制排放口水质统计台帐模板 HYBN-T7-08-3005-001-2018

7.2.6 Template for Ledger of Monitoring Data Statistics to Flue Gas (Dust) HYBN-T7-08-3006-001-2018

烟气（烟尘）监测数据统计台帐模板 HYBN-T7-08-3006-001-2018

7.2.7 Template for Registration Form for Generation and Storage of Hazardous Wastes HYBN-T7-08-3007-001-2018

危废产生和贮存登记表模板 HYBN-T7-08-3007-001-2018

7.2.8 Template for Waste Transfer Application Form HYBN-T7-08-3008-001-2018 废物转移申请单模板 HYBN-T7-08-3008-001-2018

7.2.9 Template for Ledger of Comprehensive Utilization of Hazardous Wastes HYBN-T7-08-3009-001-2018

危废综合利用台帐模板 HYBN-T7-08-3009-001-2018

7.2.10 Template for Application Form for Abnormalities/Shutdown of Environmental Facilities
HYBN-T7-08-3010-001-2018

环保设施异常/停运申请表模板 HYBN-T7-08-3010-001-2018

8 Supplementary Rules 附则

8.1 This Regulation is under the jurisdiction of HSE Dept.

本制度由 HSE 管理部归口管理。

8.2 This Regulation is drafted by HSE Dept.

本制度起草部门：HSE 管理部。

8.3 HSE Dept. is responsible for the interpretation of this Regulation.

本制度解释权归 HSE 管理部拥有。

8.4 Revision, preparation and approval of this Regulation are shown in table 6.

本制度版本编制和审批情况见表 6。

Table 6 Revision, preparation and approval of document

表 6 文件版本编制和审批情况

1	2018-05-30	Li Chunlin 李春林	Xiao Chunbao 肖春宝	Chen Liancai 陈连财
Revision 版本	Issued date 颁布日期	Prepared by 编制人	Reviewed by 审核人	Approved by 批准人