**Cladding Technology Shanxi Co., Ltd**

# HSE Environmental Aspect Identification, Evaluation and Control Management Procedure

# Document No.: CLADDING-HSE-RM-07

## 1 General Provisions

### 1.1 Purpose

To establish a scientific and systematic mechanism for the identification, evaluation and control of Health, Safety and Environment (HSE) environmental aspects; fully identify environmental aspects in the Company's material procurement, equipment supply, warehouse management, transportation logistics, equipment maintenance, office operations and related management activities; scientifically assess the degree of impact on the atmosphere, water bodies, soil, ecology, etc.; formulate targeted control measures; prevent environmental pollution incidents; fulfill compliance obligations; meet national environmental protection laws and regulations, and HSE management requirements of PIPING SYSTEM PTE LTD and COMPANY; ensure the effective operation of the HSE management system; and promote the Company's green and low-carbon development. This procedure is hereby formulated.

### 1.2 Scope of Application

This procedure applies to all activities of environmental aspect identification, evaluation and control of Pipeline Materials and Equipment Co., Ltd. and its subordinate departments, branches and project departments (hereinafter collectively referred to as "all units"), covering:

1. Business Links: Procurement (selection of environmentally friendly materials, verification of suppliers' environmental qualifications), warehousing (material storage leakage, wastewater/waste discharge), transportation (vehicle exhaust, noise), equipment maintenance (waste oil/waste liquid disposal, scrapping of spare parts), office operations (water and electricity consumption, office waste), equipment supply (equipment packaging, installation and commissioning);
2. Environmental Media: Atmosphere (exhaust gas discharge), water bodies (wastewater discharge), soil (pollutant infiltration), noise (operation noise), solid waste (hazardous

waste/general waste), energy and resources (energy consumption/water consumption), raw material consumption;

3. Activity Types: Routine activities (daily procurement, warehouse patrol), non-routine activities (equipment overhaul, emergency drills), potential emergency situations (hazardous material leakage, fire-fighting wastewater);
4. Relevant Parties: Suppliers (supply of environmentally friendly materials), contractors (warehouse loading/unloading, vehicle maintenance, equipment installation), government environmental supervision authorities, surrounding communities, customers (equipment recipients).

## 1.3 Referenced Documents

1. *Environmental Protection Law of the People's Republic of China*
2. *Water Pollution Prevention and Control Law of the People's Republic of China*
3. *Air Pollution Prevention and Control Law of the People's Republic of China*
4. *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes*
5. *Law of the People's Republic of China on the Prevention and Control of Noise Pollution*
6. *Standards for Pollution Control on the Storage of Hazardous Wastes* (GB 18597)
7. *Integrated Emission Standard of Air Pollutants* (GB 16297)
8. *HSE Management System Requirements* (Q/SY1002.1)
9. *Technical Specifications for Environmental Aspect Identification and Evaluation*
10. COMPANY *HSE Environmental Management Measures*
11. Company *HSE Risk Management Procedure*
12. Company *HSE Organization Setup and Responsibility Management Procedure*
13. Company *HSE Emergency Plan System*
14. Company *Management Procedure for Identification of HSE Laws, Regulations and Other Requirements*
15. Company *HSE Objectives, Targets and Management Plan Control Procedure*
16. Company *HSE Operational Control Procedure*

## 1.4 Terms and Definitions

1. Environmental Aspect: An element of an organization's activities, products or services that interacts with the environment, including aspects that may cause adverse environmental impacts (e.g., pollution) and beneficial environmental impacts (e.g., energy conservation). This procedure focuses on the control of adverse environmental aspects.
2. Environmental Impact: Changes to the environment caused by environmental aspects (e.g., water pollution from wastewater discharge, air pollution from exhaust emissions).

3. Significant Environmental Aspect: An environmental aspect determined through multi-factor evaluation to have poor regulatory compliance (exceeding standards/violations) or high comprehensive impact (∑M ≥ 15), which requires key control through objectives, targets and management plans.
4. Environmental Aspect Evaluation: The process of determining the importance level of an environmental aspect by assessing its regulatory compliance, occurrence frequency, impact scope, etc., using the multi-factor evaluation method (M1-M6).
5. Environmental Control Measures: Engineering, management, emergency and other measures taken to eliminate or reduce the adverse impacts of environmental aspects (e.g., installation of wastewater treatment equipment, formulation of hazardous waste management systems).

# 2 Responsibility Assignment

## 2.1 Company Top Management

1. Approve the Company's *List of Significant Environmental Aspects* and major environmental control plans (e.g., warehouse wastewater treatment system renovation, new energy vehicle promotion plan);
2. Ensure the input of resources (human resources, funds, environmental protection equipment) required for environmental aspect identification, evaluation and control;
3. Approve the Company's annual environmental management objectives (e.g., 5% reduction in energy consumption, 100% compliant disposal rate of hazardous waste) and management plans.

## 2.2 Company Management Representative (HSE-in-Charge Leader)

1. Review the Company's environmental aspect identification plan, evaluation report, *List of Significant Environmental Aspects* and control plans;
2. Coordinate cross-departmental environmental management disputes (e.g., division of environmental responsibilities between procurement and warehousing, handling of noise complaints between transportation and communities);
3. Listen to work reports on environmental aspect control quarterly, and organize systematic review of environmental aspects during annual management review.

## 2.3 Quality, Safety and Environmental Protection Department (HSE Centralized Management Department)

1. Act as the centralized management department for this procedure, responsible for the formulation, revision, interpretation and supervision of the implementation of the procedure;

2. Formulate the Company's annual environmental aspect identification plan, clarifying the identification scope, methods, frequency and submission deadlines for each department;
3. Provide unified training on environmental aspect identification methods (process analysis/mass balance) and multi-factor evaluation method (M1-M6), and guide all departments in their work;
4. Consolidate the results of environmental aspect identification from all departments, organize company-level environmental aspect evaluation, and establish and maintain the *List of Environmental Aspects* and *List of Significant Environmental Aspects*;
5. Organize the formulation of control plans (objectives, targets and management plans) for significant environmental aspects, supervise the implementation of control measures by all departments, and conduct special environmental protection inspections quarterly;
6. Liaise with government environmental supervision authorities (application for pollutant discharge permits, cooperation in environmental inspections, submission of monitoring data), and organize a company-level review and update of environmental aspects annually;
7. Guide, supervise and assess all units in environmental aspect identification and evaluation work, and incorporate the results into HSE performance appraisal.

## 2.4 All Business and Functional Departments

### 2.4.1 Procurement Department

1. Be responsible for identifying environmental aspects in the procurement link: procurement of non-environmentally friendly materials (toxic/heavy metal-containing equipment spare parts), insufficient environmental qualifications of suppliers (lack of pollutant discharge permits), hazardous material packaging waste (non-recyclable wooden boxes), exhaust/noise from procurement transportation, pollution from equipment installation and commissioning (e.g., lubricating oil leakage);
2. Identify risks using the "process analysis method + supplier audit" (e.g., verification of suppliers' environmental certifications, pollution control measures in production links);
3. Conduct multi-factor evaluation of procurement-related environmental aspects (e.g., assessment of M1-M6 scores for "random disposal of hazardous material packaging waste");
4. Formulate control measures: prioritize procurement of environmentally certified materials (energy-saving equipment, recyclable packaging), incorporate environmental clauses into procurement contracts, and review suppliers' environmental performance reports;
5. Update the procurement link *List of Environmental Aspects* semi-annually, and cooperate with the Quality, Safety and Environmental Protection Department in special environmental protection inspections.

### 2.4.2 Logistics and Transportation Department

1. Be responsible for identifying environmental aspects in the transportation link: excessive exhaust emissions from transportation vehicles (NOx emissions from diesel vehicles), leakage of waste oil/waste liquid from vehicle maintenance, noise from oversized equipment transportation (≥85dB), leakage of hazardous materials during transportation (chemical pollution to soil), fuel consumption of vehicles (energy waste);
2. Identify risks using the "on-site observation method + mass balance method" (statistics of vehicle exhaust emissions, waste oil generation, fuel consumption);
3. Conduct multi-factor evaluation of transportation-related environmental aspects (e.g., assessment of M1=3, M2=4, M3=5 for "excessive exhaust emissions from diesel vehicles" and calculation of comprehensive scores);
4. Formulate control measures: promote new energy vehicles (electric/LNG trucks), conduct monthly environmental testing (exhaust/noise) for vehicles, sign disposal agreements with compliant units for waste oil, and route transportation away from residential areas (no travel from 22:00 to 6:00);
5. Conduct monthly transportation environmental risk patrols, and update the transportation link *List of Environmental Aspects* quarterly.

### 2.4.3 Warehousing Center (Including Equipment Department Functions)

1. Be responsible for identifying environmental aspects in warehousing and equipment operation links: leakage of hazardous materials (chemical corrosion to soil), wastewater discharge from warehousing (floor washing/fire-fighting wastewater), rust from equipment storage (volatilization of anti-rust oil), exhaust/noise from forklift operation, warehousing waste (packaging materials/expired materials), collision during equipment loading/unloading (oil leakage);
2. Identify risks using the "safety checklist method + accident case analysis method" (reference to industry cases of warehouse chemical leakage and equipment rust pollution);
3. Conduct multi-factor evaluation of warehousing-related environmental aspects (e.g., assessment of M1=5, M2=2, M3=5 for "hazardous material leakage", directly determining it as a significant environmental aspect);
4. Formulate control measures: isolated storage of hazardous materials (leak-proof pallets + anti-seepage floors), installation of warehouse wastewater pretreatment equipment (chemical dosing and sedimentation), forklift exhaust purification devices, selection of environmentally friendly anti-rust oil for equipment;
5. Conduct daily environmental protection patrols in the warehouse (inspection of wastewater discharge outlets/waste classification), and update the warehousing link *List of Environmental Aspects* monthly.

### 2.4.4 Engineering Technology Department

1. Be responsible for identifying environmental aspects in equipment maintenance and technical transformation links: waste oil/waste liquid from maintenance (gear oil/coolant), scrapped spare parts (heavy metal-containing bearings), maintenance grinding noise (≥90dB), volatilization of cleaning agents (VOCs emissions), construction waste from technical transformation (concrete/steel);
2. Identify risks using the "operation process analysis method + mass balance method" (decomposition of maintenance processes: disassembly → cleaning → inspection → assembly, calculation of waste oil volume per equipment unit);
3. Conduct multi-factor evaluation of maintenance-related environmental aspects (e.g., assessment of M1=5, M4=5 for "random discharge of waste oil", directly determining it as a significant environmental aspect);
4. Formulate control measures: special waste oil recycling barrels (leak-proof + labeling), classified storage of scrapped spare parts (metal/non-metal separation), installation of sound insulation cotton + VOCs adsorption devices in maintenance workshops, signing of transportation agreements with compliant units for construction waste;
5. Conduct quarterly environmental protection inspections for equipment maintenance, and update the maintenance link *List of Environmental Aspects* annually.

### 2.4.5 Office (General Management Department)

1. Be responsible for identifying environmental aspects in office operation links: office water and electricity consumption (air conditioners/printers/lighting), office waste (waste paper/waste batteries/waste ink cartridges), exhaust emissions from official vehicles/fuel consumption, disposable items for meetings (cups/document bags), noise from air conditioning outdoor units;
2. Identify risks using the "statistical method + questionnaire survey method" (statistics of monthly office electricity/water consumption, survey of employees' environmental behaviors);
3. Conduct multi-factor evaluation of office-related environmental aspects (e.g., assessment of M6=5, M2=4 for "waste of office waste paper" and calculation of comprehensive scores);
4. Formulate control measures: promote paperless office (OA system replacing paper documents), set up classified waste bins (recyclable/hazardous/other), prioritize new energy models for official vehicles, set air conditioning temperatures (≥26℃ in summer/≤20℃ in winter);
5. Statistic office environmental protection data (energy consumption/waste volume) monthly, and update the office link *List of Environmental Aspects* semi-annually.

## 2.5 All Units (Branches, Project Departments)

1. Identify local environmental aspects based on local business characteristics (regional environmental protection requirements, temporary warehousing/transportation) (e.g.,

exhaust emissions from transportation in plateau areas, warehouse wastewater overflow during rainy seasons, temporary office waste at project departments);

2. Conduct on-site environmental aspect multi-factor evaluation and formulate differentiated control measures (e.g., setting up rain shelters/wastewater collection tanks for temporary warehouses, using biodegradable office supplies at project departments);
3. Submit local *List of Environmental Aspects* to the Quality, Safety and Environmental Protection Department monthly, and accept environmental protection inspections quarterly;
4. Re-identify relevant environmental aspects and update measures within 48 hours after a local environmental incident (e.g., small-scale waste oil leakage, noise complaints) occurs.

## 2.6 All Employees

1. Participate in the identification of environmental aspects in their own posts (e.g., warehouse staff identify packaging waste on shelves, maintenance staff identify waste oil leakage risks, clerks identify waste of office paper);
2. Learn post environmental protection operating procedures (hazardous waste classification methods, prohibition of dumping debris at wastewater discharge outlets, energy-saving operation skills);
3. Immediately report new environmental aspects (e.g., unknown chemical leakage, excessive noise from new equipment) to the department's HSE administrator;
4. Participate in environmental protection publicity activities (Energy Conservation Week, Environmental Protection Day), and implement post environmental protection measures (turning off lights when leaving, sorting waste, reducing printing).

# 3 Work Procedures

## 3.1 Environmental Aspect Identification

### 3.1.1 Scope and Content of Identification

1. Full Business Coverage:

| Business Link | Examples of Environmental Aspects |
| --- | --- |
| Procurement | Procurement of non-environmentally friendly materials, suppliers without environmental qualifications, hazardous material packaging waste, exhaust/noise from procurement transportation, pollution from equipment installation |

| | |
|---|---|
| Warehousing/Equipment Operation | Chemical leakage, warehouse wastewater, volatilization of equipment anti-rust oil, forklift exhaust/noise, warehouse waste |
| Transportation | Excessive vehicle exhaust emissions, waste oil leakage from maintenance, transportation noise, hazardous material leakage, fuel consumption |
| Equipment Maintenance | Waste oil/waste liquid, scrapped spare parts (heavy metals), maintenance noise, cleaning agent VOCs, construction waste |
| Office Operations | Water and electricity consumption, office waste (waste batteries/waste paper), official vehicle exhaust, waste of disposable items, air conditioning noise |
| Common Aspects | Electricity consumption, water resource consumption, domestic waste, domestic wastewater, solid waste disposal |

1. Full-Dimension Consideration:
    - Three Time Frames: Past (historical pollution, e.g., soil exceeding standards in old warehouse areas), present (current emissions, e.g., vehicle exhaust), future (potential impacts, e.g., increased waste oil from new equipment maintenance);
    - Three States: Normal (daily operation emissions), abnormal (leakage caused by equipment failure), emergency (fire, large-scale chemical leakage);
    - Eight Aspects:

ⅰ. Emissions to air (vehicle exhaust, cleaning agent VOCs, welding fumes);

ⅱ. Emissions to water (warehouse wastewater, domestic wastewater, fire-fighting wastewater);

ⅲ. Emissions to land (chemical leakage, waste oil infiltration, solid waste landfilling);

ⅳ. Use of raw materials and natural resources (equipment raw materials, packaging materials);

ⅴ. Energy use (electricity, water resources, fuel, natural gas);

ⅵ. Energy release (equipment heat dissipation, vibration, noise);

ⅶ. Waste and by-products (hazardous waste, general solid waste, construction waste);

ⅷ. Physical properties (transportation risks due to equipment size/weight, recyclability of packaging materials).

## 3.1.2 Identification Methods and Tools

Select one or a combination of the following methods based on business characteristics:

| Identification Method | Applicable Scenarios | Operation Tools/Outputs |
|---|---|---|
| Process Analysis Method | Continuous operation processes (procurement → warehousing → transportation → maintenance) | Operation flowcharts + environmental aspect node labeling |
| Mass Balance Method | Links with clear material consumption (equipment maintenance waste oil, warehouse chemicals) | Mass balance sheets (input volume - output volume = emission volume) |
| On-Site Observation Method | Dynamic operations (transportation loading/unloading, warehouse patrol, maintenance operations) | On-site photos, observation records (marking emission sources/risk points) |
| Questionnaire Survey Method | Office operations, cross-departmental collaboration links | Employee environmental protection questionnaires, statistical analysis reports (ranking of high-frequency environmental aspects) |
| Expert Consultation Method | Complex technical links (equipment testing, hazardous material storage) | Expert opinion forms, risk assessment reports |
| Document Review Method | Historical data tracing (past environmental testing reports, complaint records) | Document review records, historical environmental aspect lists |
| Similar Project Analogy Method | New projects/new equipment (new LNG equipment procurement, automated warehousing) | Industry case comparison tables, analogy environmental aspect lists |
| Safety Checklist Method | Fixed facilities/locations (warehouses, | *Environmental Aspect Identification Checklist* (including |

| | | |
|---|---|---|
| | maintenance workshops, office buildings) | inspection items, standards, results) |

### 3.1.3 Timing and Frequency of Identification

1. Three-Level Identification Timing:
    - Initial Identification: Conduct comprehensive company-wide identification when the HSE management system is established/revised (once per system update);
    - Regular Identification: Conduct systematic company-wide identification once a year (usually in Q4, completed in January of the following year), and partial identification by each department once a quarter (focusing on high-risk links);
    - Dynamic Identification: Initiate special identification within 48 hours when the following situations occur:
        - Before, during and after the construction of new/renovated/expanded projects (e.g., new warehouse construction);
        - Introduction of new equipment (automated warehouse systems), new materials (new types of chemicals), new processes (equipment testing technologies);
        - Updates to laws, regulations/standards (e.g., tightening of noise emission standards, adjustment of hazardous waste classification);
        - Occurrence of environmental incidents (waste oil leakage, wastewater exceeding standards, noise complaints) or identification of major non-conformities in audits;
        - Organizational structure adjustments (department mergers/splits), business scope expansion (addition of overseas procurement, off-site warehousing);
        - Reasonable requirements from relevant parties (rectification requirements from government environmental inspections, handling of community noise complaints).
1. Identification Requirements:
    - Full Participation: Each post shall participate in at least one identification activity (team environmental protection meetings, on-site observation, questionnaire filling);
    - Complete Records: Fill in the *Environmental Aspect Identification Form*, indicating the identification time, personnel, activity/link, environmental aspect description, environmental media potentially affected, and existing control measures;
    - Cross-Verification: Conduct cross-departmental review of identification results (e.g., mutual review of environmental aspects in the material handover link between the Procurement Department and Warehousing Center, coordination between the Transportation Department and communities on noise impact identification).

## 3.2 Environmental Aspect Evaluation

### 3.2.1 Evaluation Method: Multi-Factor Evaluation Method (M1-M6)

Unified comprehensive evaluation using 6 factors, with the principle of "regulatory priority, quantitative scoring" to determine the importance level:

1. Evaluation Factors and Classification Standards:

| Evaluation Factor | Code | Classification Standards | Score |
|---|---|---|---|
| Regulatory Compliance | M1 | Emissions exceeding standards or violation of regulatory requirements (e.g., illegal disposal of hazardous waste) | 5 |
| | | Close to standard limits (e.g., exhaust emissions close to GB 16297 limits) | 3 |
| | | Compliance with regulatory requirements (e.g., up-to-standard wastewater discharge) | 1 |
| Occurrence Frequency | M2 | Continuous occurrence or once per day (e.g., office electricity consumption) | 5 |
| | | Once per day or once per week (e.g., forklift operation exhaust) | 4 |
| | | Once per week or once per month (e.g., waste oil generation from vehicle maintenance) | 3 |
| | | Once per month or once per year (e.g., waste liquid generation from equipment overhaul) | 2 |

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|---|---|---|---|
| | | Once every 3 years or less (e.g., fire-fighting wastewater) | 1 |
| Impact Scope | M3 | Impact beyond the Company's scope (e.g., chemical leakage polluting surrounding soil) | 5 |
| | | Impact within the Company's scope (e.g., warehouse wastewater polluting factory soil) | 3 |
| | | Impact within the workshop/department scope (e.g., maintenance workshop noise) | 1 |
| Impact Degree | M4 | Severe impact (carcinogenic/mutagenic, ecological damage, major property loss) | 5 |
| | | Moderate impact (mild poisoning, water eutrophication, significant property loss) | 3 |
| | | Minor impact (temporary discomfort, local pollution, minor property loss) | 1 |
| Community Attention | M5 | Extreme attention (≥3 complaints, media coverage) | 5 |
| | | General attention (1-2 complaints, community inquiries) | 3 |

| | | | |
|---|---|---|---|
| | | Minimal attention (no complaints, no inquiries) | 1 |
| Energy Saving Potential | M6 | Significant potential (e.g., office waste paper recycling rate only 30%, large room for improvement) | 5 |
| | | Moderate potential (e.g., fuel consumption 10% higher than industry advanced level) | 3 |
| | | Minimal potential (e.g., necessary waste oil generation from equipment maintenance) | 1 |

1. Determination of Importance Level:
    - Regulatory Priority: If M1=5 (exceeding standards/violations), directly determine as a significant environmental aspect without calculating the total score;
    - Total Score Calculation: In other cases, calculate ∑M = M2 + M3 + M4 + M5 + M6;
    - Level Classification:
        - Significant Environmental Aspect: ∑M ≥ 15 or M1=5;
        - General Environmental Aspect: 10 ≤ ∑M < 15;
        - Minor Environmental Aspect: ∑M < 10.

## 3.2.2 Evaluation Implementation Process

1. Departmental Preliminary Evaluation (completed within 10 working days):
    - Establish an evaluation team: The department head serves as the team leader, with members including technical, operational and HSE personnel (at least 3 people; experts invited for complex links);
    - Collect identification results: Consolidate the *Environmental Aspect Identification Form*, and supplement descriptions of the effectiveness of existing control measures (e.g., "forklifts have been equipped with exhaust purifiers, and emissions meet standards");
    - Score and evaluate: Score one by one according to the M1-M6 standards, and fill in the *Environmental Aspect Evaluation Form* (including activity/link, environmental aspect, M1-M6 scores, ∑M, level);

- Departmental Public Notice: Publicize the preliminary evaluation results within the department for 3 working days, collect employee feedback (e.g., objections to "transportation noise impact scope") and revise accordingly.

1. Company-Level Review (completed within 7 working days):
   - The Quality, Safety and Environmental Protection Department collects preliminary evaluation results from all departments, and screens significant environmental aspects (M1=5 or ∑M ≥ 15) and controversial items (e.g., score differences in "warehouse wastewater impact degree");
   - Organize cross-departmental review meetings (inviting representatives from the Procurement, Logistics, Warehousing and Engineering Technology Departments and external environmental protection experts), and conduct on-site verification of high-risk links (e.g., warehouse wastewater discharge outlets, hazardous waste storage areas, communities around transportation routes);
   - Adjust scores: Re-verify controversial environmental aspects (e.g., testing COD values of warehouse wastewater, measuring transportation noise decibels) to confirm the final scores and levels.
1. Validation of Significant Environmental Aspects (completed within 5 working days):
   - The Quality, Safety and Environmental Protection Department compiles the *List of Environmental Aspects* (including all levels of environmental aspects) and *List of Significant Environmental Aspects* (M1=5 or ∑M ≥ 15), with attached evaluation reports (score basis, regulatory basis, on-site verification records);
   - Submit to the Management Representative for review and the Top Management for approval, and release the company-level *List of Significant Environmental Aspects* and control requirements.

## 3.3 Environmental Aspect Control Planning

### 3.3.1 Control Principles and Priority

Strictly follow the priority of "Source Control → Process Management → End-of-Pipe Treatment → Emergency Support" to eliminate or reduce environmental impacts:

1. Risk Elimination: Discontinue high-risk activities (e.g., stop procurement of equipment spare parts without environmental certification, phase out diesel vehicles exceeding standards);
2. Risk Substitution: Replace with low-risk alternatives (e.g., replace solvent-based cleaning agents with environmentally friendly ones, electric forklifts with diesel forklifts, recyclable packaging with disposable packaging);
3. Engineering Control: Technical measures to isolate/reduce risks (e.g., install wastewater pretreatment equipment in warehouses, sound insulation cotton + VOCs adsorption devices in maintenance workshops, exhaust purifiers on transportation vehicles);

4. Management Control: Systems/training/supervision (e.g., hazardous waste classification and storage systems, employee environmental protection training, daily environmental patrols, monthly environmental testing);
5. Personal Protection: Last line of defense (e.g., maintenance staff wear noise-canceling earplugs, warehouse staff wear chemical-resistant gloves);
6. Emergency Support: Formulate emergency plans (e.g., emergency disposal for hazardous chemical leakage, fire-fighting wastewater collection plans) and conduct regular drills.

### 3.3.2 Formulation of Hierarchical Control Measures

Formulate differentiated measures based on the importance level of environmental aspects, clarifying responsibilities, time limits and verification methods, and form the *Environmental Aspect Control Measures Form*:

1. Control of Significant Environmental Aspects (M1=5 or ∑M ≥ 15):
    - Responsible Departments: Leading department (e.g., Warehousing Center) + supporting departments (Quality, Safety and Environmental Protection Department, Engineering Technology Department, Finance Department);
    - Measure Requirements: Formulate an *Environmental Management Plan*, clarifying objectives (e.g., "100% compliance rate of warehouse wastewater by the end of 2026"), indicators ("COD ≤ 50mg/L"), technical plans (installation of integrated wastewater treatment equipment), implementation schedules (phased progress), and resource requirements (funds, personnel);
    - Approval Process: Compiled by the department head → reviewed by the Quality, Safety and Environmental Protection Department → reviewed by the Management Representative → approved by the Top Management;
    - Implementation Time Limit: Initiated within 2 months after approval, completed within 4 months (maximum 6 months for special projects);
    - Effectiveness Verification: Entrust a third party to conduct testing (e.g., wastewater/exhaust/noise testing) after completion, and conduct quarterly reviews to ensure continuous compliance; incorporate into the Company's annual environmental performance monitoring.
1. Control of General Environmental Aspects (10 ≤ ∑M < 15):
    - Responsible Department: Business supervision department (e.g., Office/Engineering Technology Department);
    - Measure Requirements: Incorporate into the *HSE Operational Control Procedure*, and formulate specific control requirements (e.g., "office waste paper recycling rate ≥ 80%", "equipment maintenance waste oil recycling rate ≥ 95%", "monthly environmental testing for transportation vehicles");
    - Approval Process: Approved by the department head → filed with the Quality, Safety and Environmental Protection Department;

- Implementation Time Limit: Implemented within 1 month, with monthly self-inspection of effectiveness (statistics of recycling rates, verification of test reports);
- Effectiveness Verification: The Quality, Safety and Environmental Protection Department conducts quarterly spot checks (on-site inspections, data verification) to ensure effective implementation of measures.

1. Control of Minor Environmental Aspects ($\sum M < 10$):
   - Responsible Department: Post/team;
   - Measure Requirements: Maintain existing control measures through daily management (e.g., turning off lights when leaving the office, classified disposal of warehouse waste, proper storage of tools after maintenance);
   - Implementation Method: Executed by post employees, with daily supervision by team leaders;
   - Effectiveness Verification: The department conducts monthly verification (e.g., statistics of office energy consumption, compliance rate of waste classification); continue control if there is no escalation risk.

### 3.3.3 Examples of Control Measures for Key Links

Formulate special control measures for significant environmental aspects in the Company's core business links:

1. Hazardous Waste Control (maintenance waste oil, warehouse chemical packaging, office waste batteries):
   - Storage: Set up dedicated storage areas (anti-seepage floors, rain shelters), store separately (waste oil barrels/waste packaging/waste batteries), and post hazardous waste labels and MSDS;
   - Disposal: Sign disposal agreements with third-party companies holding *Hazardous Waste Business Licenses*, establish *Hazardous Waste Transfer Manifest* (1 manifest per transfer), and achieve a 100% compliance rate;
   - Records: Establish hazardous waste ledgers (generation volume, storage volume, transfer volume, disposal volume), verify monthly, and submit to the Quality, Safety and Environmental Protection Department for filing quarterly.

1. Wastewater Control (warehouse washing wastewater, maintenance workshop wastewater, domestic wastewater):
   - Collection: Install wastewater collection pipelines and sedimentation tanks in warehouse areas/maintenance workshops to avoid direct discharge;
   - Treatment: Warehouse wastewater undergoes chemical dosing and sedimentation (removal of SS/COD), maintenance wastewater undergoes oil-water separation (separation of waste oil), and domestic wastewater is connected to the municipal pipeline network;

- Discharge: Meet the *Integrated Wastewater Discharge Standard* (GB 8978) after treatment, entrust a third party to conduct testing quarterly, and store test reports for 10 years.

1. Exhaust Control (transportation vehicles, forklifts, official vehicles):
   - Equipment Selection: Prioritize new energy vehicles (electric/LNG) for new vehicles, and phase out all National IV and below diesel vehicles by the end of 2025;
   - Testing: Conduct annual environmental testing (exhaust emissions) for diesel vehicles, and semi-annual exhaust testing for forklifts; prohibit the use of unqualified vehicles;
   - Optimization: Route transportation away from urban areas and residential areas (no travel during peak hours), turn off idling when forklifts are in operation (reduce emissions), and implement a "carpooling system" for official vehicles (reduce travel frequency).

### 3.3.4 Emergency Control Measures

Formulate special emergency measures for significant environmental aspects that may trigger sudden environmental incidents (e.g., hazardous material leakage, fire), and incorporate them into the *HSE Emergency Plan System*:

1. Formulate Plans: Develop *Environmental Emergency Disposal Plan for Hazardous Chemical Leakage* and *Fire-Fighting Wastewater Prevention and Control Plan*, clarifying the emergency organization structure (commander-in-chief, emergency rescue team, monitoring team, evacuation team);
2. Clarify Emergency Elements: Emergency materials (chemical protective clothing, oil absorbent pads, oil booms for oil leakage, wastewater collection barrels, neutralizers for acid-base leakage, portable testing instruments (COD/PH detectors));
3. Regular Drills: Conduct emergency drills for significant environmental aspects twice a year (e.g., simulate ethanol leakage in warehouses, drill containment, collection, neutralization, testing), summarize and improve after drills (optimize evacuation routes, supplement emergency materials);
4. Post-Incident Disposal: Conduct environmental impact assessment (test soil/water pollution degree) within 48 hours after the incident, formulate remediation plans (e.g., soil leaching, water purification), entrust a third party to verify after remediation, and form a disposal report.

## 3.4 Environmental Aspect Update and Review

### 3.4.1 Regular Review (Annual Management Review)

1. The Quality, Safety and Environmental Protection Department takes the lead in collecting environmental aspect control data from all departments (environmental testing reports, complaint records, energy consumption statistics, waste disposal volume) in December each year;

2. Organize cross-departmental review meetings and conduct systematic reviews based on the following inputs:
    - Quarterly/annual environmental testing data (whether wastewater/exhaust/noise continues to meet standards);
    - Environmental incident handling results (whether leakage/complaints are rectified in place, whether new risks are generated);
    - Updates to laws and regulations (whether new environmental protection standards affect existing evaluation results);
    - Business changes (whether new/eliminated businesses lead to increases/decreases in environmental aspects);
    - Feedback from relevant parties (new requirements from government/communities/customers);
1. Review Outputs: Updated *List of Environmental Aspects* and *List of Significant Environmental Aspects*, revise inappropriate control measures (e.g., upgrade environmental protection equipment, adjust management plans), and submit to the Management Representative for review and the Top Management for approval.

### 3.4.2 Dynamic Update (Trigger-Based)

When the following situations occur, the responsible department shall initiate environmental aspect update within 48 hours and submit it to the Quality, Safety and Environmental Protection Department for filing:

1. Business Trigger: New projects/equipment (e.g., LNG equipment procurement), elimination of outdated processes (e.g., discontinuation of solvent-based cleaning agents), adjustment of business scope (addition of off-site warehousing);
2. Regulatory Trigger: Updates to environmental protection laws/standards (e.g., noise limits reduced from 60dB to 55dB), adjustments to local environmental protection policies (e.g., expansion of restricted travel areas);
3. Incident Trigger: Occurrence of environmental incidents (waste oil leakage, wastewater exceeding standards), identification of major non-conformities in external audits (e.g., non-compliant storage of hazardous waste);
4. External Trigger: Rectification requirements from government environmental inspections, escalation of community complaints (e.g., ≥3 noise complaints), invalidation of suppliers' environmental qualifications;
5. Update Content: Supplement/delete environmental aspects, re-evaluate levels, adjust control measures, and ensure the *List of Environmental Aspects* is accurate in real time.

### 3.4.3 Verification and Assessment of Control Effectiveness

1. Verification Methods:

- Testing Verification: Entrust a third-party institution to test wastewater (COD/SS), exhaust (NOx/PM2.5), noise (factory boundary/workshop) quarterly, and test soil (key areas such as hazardous material storage areas) annually;
- Ledger Verification: The Quality, Safety and Environmental Protection Department verifies hazardous waste ledgers, energy consumption statistics, and waste disposal records monthly to ensure true and complete data;
- On-Site Inspection: Conduct quarterly special environmental protection inspections (hazardous waste storage, environmental protection equipment operation, employee operation compliance), and take on-site photos for record;
- Performance Monitoring: Statistic environmental performance indicators (energy consumption reduction rate, waste recycling rate, compliance discharge rate) monthly, and compare with annual objectives.

1. Assessment Mechanism:
   - Incorporate into HSE Performance Appraisal: The effect of environmental aspect control accounts for ≥10% of the department/individual HSE performance weight; deduct 10-20 points for failure to meet standards for significant environmental aspects, and 5-10 points for general aspects;
   - Environmental Protection Rewards: Award 2,000-5,000 RMB to departments with outstanding environmental protection improvements (e.g., energy consumption reduction exceeding the target by 10%, 100% compliant disposal rate of hazardous waste), and 500-1,000 RMB to individuals who propose effective energy-saving suggestions;
   - Violation Accountability: Hold accountable those who fail to control environmental aspects and cause violations (e.g., illegal disposal of hazardous waste, wastewater exceeding standards) in accordance with the *HSE Rewards and Punishments Regulations*; refer serious cases to environmental protection departments for legal liability.

## 3.5 Records and Archiving

1. Process Records: All departments collect the *Environmental Aspect Identification Form*, *Environmental Aspect Evaluation Form*, *Environmental Aspect Control Measures Form*, and *Emergency Drill Record*, and organize and compile them monthly;
2. Ledger Updates: The Quality, Safety and Environmental Protection Department updates the *List of Environmental Aspects* quarterly, and updates the *List of Significant Environmental Aspects* and *Environmental Management Plan* annually;
3. Archiving Requirements:
   - Paper Records: Stored in the Archives Management Department, retention period: 3 years for general records, 10 years for important records (test reports, hazardous waste transfer manifests, evaluation reports);
   - Electronic Records: Uploaded to the HSE management system, permanently backed up, with access permissions set (only authorized personnel can view/modify);

1. Access Permissions:
    - Internal Employees: Access departmental records with employee IDs; cross-departmental access requires approval from the record-keeping department head;
    - External Units: Government supervision agencies/audit institutions require approval from the Management Representative, and only non-confidential copies (marked "For Review Only") are provided;
    - Record access shall be registered in the *Environmental Aspect Record Access Ledger*; copying/dissemination of confidential information (e.g., supplier environmental qualifications, test data) is prohibited.

# 4 Relevant Documents and Records

## 4.1 Relevant Documents

1. National Laws and Regulations such as *Environmental Protection Law of the People's Republic of China* and *Water Pollution Prevention and Control Law of the People's Republic of China*
2. *Standards for Pollution Control on the Storage of Hazardous Wastes* (GB 18597), *Integrated Emission Standard of Air Pollutants* (GB 16297)
3. *HSE Management System Requirements* (Q/SY1002.1), *Technical Specifications for Environmental Aspect Identification and Evaluation*
4. Company *HSE Risk Management Procedure*
5. Company *HSE Objectives, Targets and Management Plan Control Procedure*
6. Company *HSE Operational Control Procedure*
7. Company *HSE Emergency Plan System*
8. Company *Management Procedure for Identification of HSE Laws, Regulations and Other Requirements*
9. Company *Hazardous Waste Management Measures*
10. Company *Environmental Protection Equipment Operation and Maintenance Regulations*

## 4.2 Record List

| Record No. | Record Name | Filling Department | Storage Department | Retention Period |
|---|---|---|---|---|
| HSE-JL-001 | *Environmental Aspect* | All departments/units | Quality, Safety and Environmental | 3 years |

| | | | | |
|---|---|---|---|---|
| | *Identification Form* | | Protection Department | |
| HSE-JL-002 | *Environmental Aspect Evaluation Form* | All departments/units | Quality, Safety and Environmental Protection Department | 3 years |
| HSE-JL-003 | *List of Environmental Aspects* | Quality, Safety and Environmental Protection Department | Quality, Safety and Environmental Protection Department | Long-term |
| HSE-JL-004 | *List of Significant Environmental Aspects* | Quality, Safety and Environmental Protection Department | Quality, Safety and Environmental Protection Department | Long-term |
| HSE-JL-005 | *Environmental Aspect Control Measures Form* | All departments/units | Quality, Safety and Environmental Protection Department | 3 years |
| HSE-JL-006 | *Environmental Management Plan* | Leading departments | Quality, Safety and Environmental Protection Department | 5 years |
| HSE-JL-007 | *Environmental Testing Report* | Quality, Safety and Environmental Protection Department | Quality, Safety and Environmental Protection Department | 10 years |
| HSE-JL-008 | *Hazardous Waste Transfer Manifest* | Generating Departments | Quality, Safety and Environmental Protection Department | 10 years |

| | | | | |
|---|---|---|---|---|
| HSE-JL-009 | *Environmental Emergency Drill Record* | All departments/units | Quality, Safety and Environmental Protection Department | 3 years |
| HSE-JL-010 | *Environmental Aspect Review Record* | Quality, Safety and Environmental Protection Department | Quality, Safety and Environmental Protection Department | 5 years |
| HSE-JL-011 | *Environmental Aspect Record Access Ledger* | Archives Management Department | Archives Management Department | 3 years |

# 5 Appendix

## Appendix A Reference List of Environmental Aspect Identification

### A1 Common Environmental Aspects

- Electricity consumption (office lighting, air conditioners, equipment operation)
- Water resource consumption (office water use, warehouse washing, domestic water use)
- Office waste (waste paper, waste batteries, waste ink cartridges, disposable items)
- Domestic wastewater (discharge from office/residential areas)
- Domestic waste (generated from employees' daily lives)

### A2 Reference Environmental Aspects for Each Business Link

| Business Link | Reference Environmental Aspects |
|---|---|
| Procurement | Non-environmentally friendly materials, suppliers without environmental qualifications, packaging waste, exhaust/noise |

| | |
|---|---|
| | from procurement transportation, pollution from equipment installation |
| Warehousing/Equipment Operation | Chemical leakage, warehouse wastewater, volatilization of anti-rust oil, forklift exhaust/noise, warehouse waste, leakage during equipment loading/unloading |
| Transportation | Excessive vehicle exhaust emissions, waste oil leakage from maintenance, transportation noise, hazardous material leakage, fuel consumption |
| Equipment Maintenance | Waste oil/waste liquid, scrapped spare parts (heavy metals), maintenance noise, cleaning agent VOCs, construction waste |
| Office Operations | Water and electricity consumption, office waste, official vehicle exhaust, waste of disposable items, air conditioning noise |

## Appendix B Example of Environmental Aspect Evaluation Form

| No | Activity/Product/Servic | Environment | Environment | M1 (Reg | M2 (Freq | M3 (Sc | M4 (De | M5 (Atte | M6 (Sa | ∑M | Level |
|---|---|---|---|---|---|---|---|---|---|---|---|

| . | e | al Aspect | al Impact | ulator y) | uenc y) | ope ) | gre e) | ntion ) | vin g) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Hazardous Chemical Warehousing | Ethanol Leakage | Soil/Water Pollution | 5 | 2 | 5 | 5 | 5 | 3 | - | Significant |
| 2 | Transportation Vehicle Operation | Diesel Vehicle Exhaust Emission | Air Pollution | 3 | 4 | 5 | 3 | 3 | 3 | 18 | Significant |
| 3 | Office Paper Use | Waste Paper Waste | Resource Waste | 1 | 4 | 1 | 1 | 1 | 5 | 12 | General |
| 4 | Equipment Maintenance | Waste Gear Oil Generation | Soil Pollution | 3 | 2 | 1 | 3 | 1 | 3 | 10 | General |
| 5 | Office Lighting | Electricity Consumption | Energy Waste | 1 | 5 | 1 | 1 | 1 | 3 | 11 | General |
| 6 | Employee Drinking | Disposable Cup Use | Solid Waste Generation | 1 | 3 | 1 | 1 | 1 | 3 | 9 | Minor |

## Appendix C Templates of *Environmental Aspect Identification Form* and *Environmental Aspect Evaluation Form*

## Appendix D Hazardous Waste Classification and Storage Requirements (Including Label Styles)

## Appendix E Excerpts of Environmental Testing Standards (Wastewater/Exhaust/Noise Limits)

## Appendix F Flowchart of Environmental Emergency Disposal (Hazardous Material Leakage, Fire)

## Appendix G Template for Compiling Environmental Management Plans (Including Objectives, Indicators, Schedule)