Cladding Technology Shanxi Co., Ltd

HSE Logistics and Transportation HSE Management Procedure

Document No.: CLADDING-HSE-OC-14

1 Purpose

To standardize the Health, Safety and Environment (HSE) management throughout the entire logistics and transportation process of the Company, effectively control safety risks (e.g., vehicle accidents, hazardous chemical leakage, overturning of oversized equipment), health hazards (e.g., driver fatigue, chemical exposure) and environmental impacts (e.g., oil leakage, excessive exhaust emissions) during transportation; ensure logistics and transportation activities comply with laws and regulations such as the *Regulations of the People's Republic of China on Road Transportation* and *Regulations on the Safety Management of Hazardous Chemicals*, as well as the control requirements of Cladding Technology Shanxi Co., Ltd; safeguard the life and health of employees, the integrity of transported materials and ecological environment safety; and establish a closed-loop mechanism of "pre-assessment, in-process control, and post-improvement". This procedure is hereby formulated.

2 Scope of Application

This procedure applies to all logistics and transportation-related departments of the Company (Logistics and Transportation Department, HSE Management Department/Quality, Safety and Environmental Protection Department, Procurement Department, all business departments) and transportation personnel (drivers, escorts, loaders/unloaders), covering the following logistics and transportation activities:

2.1 Transportation Entities

• Management of self-owned vehicle transportation;

• Management of outsourced carrier transportation (including road, railway, and waterway carriers);

• Cross-border transportation management (e.g., international pipeline equipment transportation, including customs compliance and cross-border route compliance).

2.2 Transportation Types

• General Material Transportation: Pipeline accessories, hardware tools, personal protective equipment, etc.;

• Hazardous Chemical Transportation: Rust inhibitors (flammable liquids), cleaning agents (corrosive liquids), acetylene cylinders (compressed gases), etc.;

• Oversized/Overweight Equipment Transportation: Large pipelines (single length ≥ 12m or diameter ≥ 1.5m), complete sets of equipment (heat exchangers, pump units), etc.;

• Warehousing and Distribution Transportation: Short-distance distribution from warehouses to operation sites/customers.

2.3 Full-Process Links

Including transportation task assessment, transportation plan formulation, vehicle/carrier selection, loading/unloading operations, in-transit monitoring, intermediate stops, delivery and acceptance, post-transportation summary, carrier performance monitoring, emergency response, and environmental management.

3 Terms and Definitions

3.1 Outsourced Carrier

An external professional transportation unit entrusted by the Company to undertake logistics and transportation tasks, which must possess corresponding transportation qualifications (e.g., road hazardous goods transportation qualification, oversized cargo transportation qualification).

3.2 Cross-Border Transportation

Logistics and transportation activities across national borders, which must comply with the customs, transportation, environmental protection and other laws and regulations of the importing and exporting countries, and complete cross-border transportation permits and customs clearance procedures.

3.3 Carrier HSE Performance

The HSE management level of outsourced carriers in transportation activities, including indicators such as accident rate, hidden hazard rectification rate, compliance rate, and training coverage rate.

3.4 Transportation HSE Task Assessment

A comprehensive assessment of the HSE characteristics of materials (flammable, corrosive, oversized), transportation route risks (road conditions, sensitive areas), and

personnel/equipment matching degree before the start of transportation tasks, providing a basis for formulating transportation plans.

3.5 Green Logistics

A logistics model that reduces the environmental impact of the transportation process and achieves energy conservation and emission reduction by selecting environmentally friendly vehicles, optimizing transportation routes, improving loading efficiency, and reducing empty load.

4 Responsibility Assignment

4.1 Company Top Management / Management Representative

• Approve major HSE decisions for logistics and transportation (e.g., cross-border transportation plans, carrier access standards);

• Ensure the input of resources (personnel, equipment, funds) required for HSE management of logistics and transportation;

• Approve special emergency plans for logistics and transportation and rectification plans for major hidden hazards.

4.2 HSE Management Department / Quality, Safety and Environmental Protection Department (Centralized Supervision Department)

• Take the lead in formulating and revising this procedure and HSE management systems for logistics and transportation (e.g., carrier HSE assessment standards);

• Supervise the implementation of this procedure and organize special HSE inspections for logistics and transportation (including on-site inspections of carriers);

• Conduct transportation risk assessments (e.g., route risks, hazardous chemical leakage risks) and provide HSE technical support;

• Guide emergency preparation and response for logistics and transportation, and participate in the investigation and analysis of transportation accidents;

• Monitor transportation environmental indicators (exhaust gas, noise, waste disposal) and promote the implementation of green logistics.

4.3 Logistics and Transportation Department (Lead Department)

• Implement daily HSE management for logistics and transportation, and organize HSE training for transportation personnel (including self-owned and carrier personnel);

• Conduct HSE assessment of transportation tasks and formulate transportation plans (including cross-border transportation customs clearance, and handling of oversized cargo transportation permits);

• Be responsible for carrier HSE management: including carrier selection (qualification review, performance evaluation), contract signing (clarifying HSE responsibilities), and performance monitoring (regular assessment, continuous improvement);

• Manage self-owned transportation vehicles/equipment: implement maintenance, safety inspections, and emergency equipment configuration;

• Implement in-transit monitoring (GPS/Beidou positioning, abnormal early warning) and organize post-transportation summaries (performance analysis, lessons learned);

• Take the lead in emergency drills for logistics and transportation and handle HSE issues during transportation.

4.4 Procurement Department

• Procure transportation equipment (e.g., explosion-proof vehicles, environmentally friendly tires) and emergency materials that meet HSE requirements;

• Participate in HSE acceptance of self-owned transportation equipment to ensure that the safety performance of equipment meets standards;

• Cooperate with the Logistics and Transportation Department in carrier procurement-related work (e.g., HSE qualification review during the bidding phase).

4.5 All Business Departments (Demand / User Departments)

• When submitting transportation requirements, clarify the HSE characteristics of materials (e.g., MSDS for hazardous chemicals, dimensions and weight of oversized equipment);

• Cooperate with the Logistics and Transportation Department in transportation acceptance and verify the HSE status of materials after transportation (packaging integrity, damage status);

• Report HSE issues found during transportation (e.g., material leakage, driver violations) and cooperate with hidden hazard rectification.

5 Management Procedures

5.1 Pre-Transportation HSE Management (Integrating Original 5.1 and New 4.1)

5.1.1 Transportation Task HSE Assessment

1. HSE Characteristic Assessment of Materials:

◦ General Materials: Confirm weight, dimensions, and packaging strength, and assess collision and moisture risks;

◦ Hazardous Chemicals: Collect MSDS, clarify hazards (flammable/corrosive/toxic), leakage disposal measures, and protection requirements;

◦ Oversized/Overweight Equipment: Calculate external dimensions and weight, and assess risks of hoisting, fixing, and transportation route passability;

◦ Cross-Border Transportation Materials: Confirm HSE laws and regulations of importing and exporting countries (e.g., hazardous chemical import permits, packaging standards).

2. HSE Risk Assessment of Transportation Routes:

◦ Domestic Routes: Avoid sharp bends, steep slopes, and road sections with insufficient bridge load capacity; keep away from residential areas and water sources (for hazardous chemical transportation);

◦ Cross-Border Routes: Verify HSE supervision requirements of customs clearance ports, and assess road conditions, public security, and emergency resources of international sections;

◦ Mark risk points (e.g., tunnels, school areas) and formulate detour or control measures (e.g., time-limited passage).

3. Application of Assessment Results:

◦ General Materials: Determine routine transportation plans;

◦ Hazardous Chemicals/Oversized Equipment/Cross-Border Transportation: Conduct special assessments, form the *Transportation Task HSE Assessment Report*, and submit it to the head of the Logistics and Transportation Department for approval.

5.1.2 Transportation Plan Formulation

1. Plan Content:

◦ Basic Information: Transported materials, start and end points, time, personnel (drivers/escorts), vehicles/carriers;

◦ HSE Control Measures:

▪ Material Fixing: Use explosion-proof containers for hazardous chemicals, and special brackets for oversized equipment (tensile strength ≥ 1.5 times the weight of materials);

▪ Route Planning: Clarify main routes and alternative routes, and mark inspection points (every 200km/cross-border ports);

▪ Personnel Arrangement: Drivers shall not drive continuously for more than 4 hours; escorts shall monitor the entire process (mandatory for hazardous chemical/oversized transportation);

◦ Emergency Plan: Formulate disposal procedures for traffic accidents, hazardous chemical leakage, and vehicle failures, and clarify external rescue contact information (e.g., local fire department, customs);

◦ Cross-Border Transportation Supplements: Customs clearance procedures, foreign language HSE labels, and cross-border emergency cooperation mechanisms.

2. Plan Approval:

◦ Transportation Plans for General Materials: Approved by the head of the Logistics and Transportation Department;

◦ Transportation Plans for Hazardous Chemicals/Oversized Cargo/Cross-Border Transportation: The Logistics and Transportation Department organizes reviews by the HSE Management Department and business departments, and approved by the logistics-in-charge leader.

5.1.3 Vehicle / Equipment HSE Inspection

1. Inspection of Self-Owned Vehicles:

◦ Drivers use the *Transportation Vehicle HSE Checklist* (Appendix A) for pre-shift inspection:

▪ Safety Performance: Braking (sensitive without drag), steering (no deviation), tires (no bulges/cracks, tire pressure meets standards);

▪ Documents and Procedures: Vehicle registration certificate, insurance certificate, operation certificate (hazardous chemical transportation requires *Road Hazardous Goods Transportation Permit*);

▪ Safety Facilities: Hazardous chemical vehicles shall be inspected for explosion-proof devices, anti-static grounding (resistance ≤ 10Ω), and leakage collection tanks;

▪ Emergency Equipment: Fire extinguishers (normal pressure), warning triangles, first-aid kits, and hazardous chemical emergency kits (absorbent cotton, neutralizers).

2. Inspection of Carrier Vehicles:

◦ The Logistics and Transportation Department verifies vehicle qualifications (consistent with the carrier contract) and randomly inspects vehicle safety conditions; unqualified vehicles are prohibited from undertaking transportation tasks.

3. Supplementary Inspection of Cross-Border Transportation Equipment:

◦ Inspect cross-border transportation documents of vehicles (e.g., ATA Carnet) and foreign language safety labels (complying with the standards of the destination country).

5.1.4 Personnel HSE Preparation

1. Qualification Confirmation:

◦ Drivers: Hold driving licenses corresponding to the approved vehicle type (Class A2 or above for oversized transportation); hazardous chemical transportation requires an additional *Road Hazardous Goods Transportation Driver Certificate*;

◦ Escorts: Hold *Road Hazardous Goods Transportation Escort Certificate* and be familiar with the characteristics of hazardous chemicals and emergency disposal;

◦ Cross-Border Transportation Personnel: Possess foreign language communication skills and be familiar with traffic rules and HSE requirements of the destination country.

2. Training and Health Management:

◦ Newly Employed/Transferred Personnel: Complete ≥ 24 hours of HSE training (traffic laws, material characteristics, emergency skills) and pass assessments;

◦ Regular Training: Conduct training once a quarter (hazards of fatigue driving, response to severe weather, interpretation of new regulations);

◦ Health Checkups: Drivers undergo regular health checkups (once a year) to confirm no diseases that affect safe driving (e.g., hypertension, epilepsy).

5.2 Carrier HSE Management (Newly Added, Integrating New 4.4)

5.2.1 Carrier Selection

1. Qualification Review:

◦ Basic Qualifications: Business license, road transportation operation permit (special qualification for hazardous chemical transportation), oversized cargo transportation permit (if required);

◦ HSE System: Whether an HSE management system (e.g., ISO 45001) is established and whether relevant certifications are held;

◦ Performance Records: No major transportation accidents or environmental violations in the past 3 years, and hidden hazard rectification rate ≥ 95%;

◦ Personnel and Equipment: Complete qualifications of drivers/escorts, and vehicles/equipment meet HSE requirements (e.g., special vehicles for hazardous chemicals).

2. On-Site Investigation:

◦ For carriers undertaking hazardous chemical/oversized/cross-border transportation, the Logistics and Transportation Department, together with the HSE Management Department, conducts on-site investigations:

▪ Review vehicle maintenance records, emergency drill records, and personnel training files;

▪ Evaluate HSE management processes (e.g., hidden hazard inspection, accident reporting).

3. Access Approval:

◦ Carriers that meet the requirements are included in the *Qualified Carrier List* and re-audited every 2 years;

◦ Newly cooperating carriers shall conduct 1-3 trial shipments, and can only cooperate long-term after passing HSE performance assessment.

5.2.2 Carrier Contract Management

1. Contract Clauses:

◦ Clarify HSE Responsibilities: Carriers shall bear the main responsibility for HSE during transportation, including personnel safety, material protection, and environmental compliance;

◦ Stipulate HSE Assessment Standards: Accident rate (≤ 0.1 times/10,000 km), hidden hazard rectification rate (100%), training coverage rate (100%);

◦ Liability for Breach of Contract: Carriers that fail to meet HSE assessment standards shall bear rectification costs; those who cause major accidents shall compensate for losses and terminate cooperation.

2. Contract Disclosure:

◦ The Logistics and Transportation Department discloses the HSE requirements of the contract to carriers to ensure that carriers understand and implement them;

◦ Cross-border transportation contracts shall clarify the division of HSE responsibilities for cross-border sections (e.g., sections from ports to the destination country shall be borne by local subcontractors).

5.2.3 Carrier Performance Monitoring

1. Daily Monitoring:

◦ The Logistics and Transportation Department tracks the carrier's transportation process: use GPS to monitor speeding and route deviation, and randomly inspect vehicle inspection records;

◦ Statistically analyze HSE performance monthly: number of accidents, number of hidden hazards, rectification timeliness, and customer complaints (material damage).

2. Regular Assessment:

◦ Conduct carrier HSE performance assessment quarterly, using a scoring system (full score 100 points, 80 points or above is qualified);

◦ Application of Assessment Results: Qualified carriers continue to cooperate; unqualified carriers shall formulate rectification plans; carriers that are unqualified for two consecutive times are removed from the qualified list.

3. Continuous Improvement:

◦ Organize an annual carrier HSE symposium to share excellent cases (e.g., energy-saving driving, emergency disposal) and put forward improvement suggestions;

◦ Promote carriers to upgrade HSE management (e.g., install intelligent monitoring, use new energy vehicles).

5.3 HSE Control of Loading and Unloading Operations (Original 5.2, Supplementing Details of New 4.2.1)

5.3.1 Pre-Operation Preparation (Same as Original 5.2.1, Supplementing Night Operation Requirements)

1. Plan Formulation:

◦ General Materials: Clarify the positioning of forklift forks to avoid packaging damage;

◦ Hazardous Chemicals: Formulate anti-leakage plans, prepare absorbent cotton and neutralizers; operators wear chemical protective clothing and gas masks;

◦ Oversized Equipment: The Equipment Management Department formulates a special plan, uses cranes (rated load ≥ 1.2 times the equipment weight), and sets up a warning area (radius ≥ slewing radius);

◦ Night Operations: Add explosion-proof lighting (for hazardous chemical operations); operators wear reflective vests; the HSE Management Department conducts on-site supervision.

2. Operation Permit:

◦ Loading and unloading of hazardous chemicals/oversized equipment requires the *Transportation Loading and Unloading Operation HSE Permit* (Appendix B), which can only be carried out after approval.

5.3.2 Operation Process Control (Same as Original 5.2.2)

• Additional Requirements for Hazardous Chemical Loading and Unloading: Connect grounding clamps between vehicles and platforms (to eliminate static electricity); loading and unloading speed ≤ 1m/s; prohibit operations under strong sunlight (≥ 35℃);

• Loading and Unloading of Oversized Equipment: Use special lifting points; ensure uniform tension of binding straps; the Equipment Management Department confirms on-site that fixing is qualified.

5.3.3 Post-Operation Cleaning (Same as Original 5.2.3)

• Hazardous chemical packaging (empty barrels) shall be stored separately and disposed of by qualified units;

• Fill out the *Transportation Loading and Unloading Operation HSE Record* (Appendix C), and confirm with signatures from both parties.

5.4 In-Transit HSE Management (Original 5.3, Integrating New 4.2.2-4.2.3)

5.4.1 Driving Safety Control (Same as Original 5.3.1, Supplementing Night Transportation Requirements)

1. Route and Speed:

◦ Drive according to the approved route; use GPS to monitor deviations; the speed of general vehicles shall be ≤ 80km/h on highways and ≤ 60km/h in urban areas; the speed of hazardous chemical/oversized vehicles shall be ≤ 60km/h, and ≤ 50km/h at night;

◦ Night Transportation: Inspect lights (low/high beams, turn signals, taillights); maintain a following distance ≥ twice the normal distance; rest for 1 hour every 2 hours (to avoid fatigue).

2. Vehicle / Material Monitoring:

◦ Drivers stop and inspect every 2 hours: tire pressure, brake temperature, and material fixing (tension of binding straps for oversized equipment);

◦ Escorts record the *In-Transit Transportation HSE Monitoring Record* (Appendix D); hazardous chemical transportation requires leakage detection every hour.

5.4.2 Intermediate Stop Control (Same as Original 5.3.2)

• Hazardous chemical vehicles shall stop at designated parking lots and are prohibited from stopping within 500 meters of residential areas; oversized vehicles shall stop in spacious areas and arrange personnel on duty.

5.4.3 Special Situation Disposal (Integrating Original 5.3.3 and New 4.2.3)

1. Severe Weather:

◦ Heavy Rain/Heavy Snow/Strong Wind (≥ Level 8): Suspend transportation of hazardous chemicals/oversized cargo; vehicles already in transit shall stop nearby;

◦ Foggy Weather: Turn on fog lights and outline lights; stop and wait when visibility < 50 meters.

2. Vehicle Failures:

◦ Immediately stop in the emergency lane, set up warning triangles (turn on hazard warning lights at night), contact for rescue, and prohibit unauthorized maintenance;

◦ Hazardous Chemical Vehicle Failures: Set up an additional warning area to prevent unrelated vehicles from approaching; activate emergency disposal in case of leakage.

5.5 Post-Transportation HSE Management (Integrating Original 5.4 and New 4.3)

5.5.1 Delivery and Acceptance (Same as Original 5.4.1-5.4.2)

• The demand department verifies the material status: no leakage of hazardous chemicals, no damage to oversized equipment, and checks HSE documents (hazardous chemical transportation permit, MSDS);

• Fill out the *Transportation Delivery HSE Acceptance Record* (Appendix E), and confirm with signatures from both parties.

5.5.2 Vehicle / Equipment Cleaning and Maintenance (Same as Original 5.4.3)

• Clean the storage tanks and pipelines of hazardous chemical vehicles and test for no residues; update the *Transportation Vehicle HSE Ledger* after self-owned vehicles return.

5.5.3 Transportation Summary (Newly Added, Integrating New 4.3.3)

1. Performance Analysis:

◦ The Logistics and Transportation Department analyzes transportation HSE performance monthly: accident rate, number of speeding incidents, number of hidden hazards, and fuel consumption (energy-saving indicators);

◦ Cross-Border Transportation Additional Analysis: Customs clearance efficiency, compliance with the destination country, and subcontractor cooperation.

2. Lessons Learned:

◦ Formulate improvement measures for transportation problems (e.g., material damage, route congestion) (e.g., optimize packaging, adjust routes);

◦ Hold a transportation summary meeting quarterly to share cases (e.g., successful disposal of hazardous chemical leakage) for all employees to learn.

5.6 HSE Management for Transportation Equipment Maintenance (Original 5.5)

5.6.1 Maintenance Plan (Same as Original 5.5.1)

• General vehicles shall be maintained every 5,000km; hazardous chemical vehicles shall be maintained every 3,000km; ships shall inspect cargo hold anti-leakage every voyage.

5.6.2 Maintenance Process Control (Same as Original 5.5.2)

• Before maintaining hazardous chemical vehicles, empty the storage tanks and clean and disinfect them; apply for the *Hot Work Permit* for hot work.

5.6.3 Post-Maintenance Acceptance (Same as Original 5.5.3)

• Put into use only after passing acceptance; re-maintain if unqualified.

5.7 Special Management for Hazardous Chemical Transportation (Integrating Original Hazardous Chemical-Related Content and New 4.5)

5.7.1 Qualification Management

• Vehicles: Hold the *Road Hazardous Goods Transportation Permit*; storage tanks pass inspection;

• Personnel: Drivers/escorts hold hazardous chemical transportation qualification certificates, which are re-audited annually;

• Routes: Cross-provincial transportation requires the *Toxic and Hazardous Chemical Road Transportation Permit* (if required), and routes shall be filed.

5.7.2 Process Control

• Special Escort: Monitor the material status throughout the process; inspect the tightness of storage tanks every hour;

• Speed Limit: ≤ 60km/h on highways, ≤ 50km/h at night, and avoid rush hours;

• Uninterrupted Communication: Carry emergency contact cards (including phone numbers of manufacturers, fire departments, and environmental protection departments) on board.

5.7.3 Emergency Preparation

• Equip on-board special emergency materials: carbon dioxide fire extinguishers (for flammable hazardous chemicals), neutralizers (for corrosives), and chemical protective clothing;

• Conduct emergency drills for hazardous chemical leakage once a quarter; drivers/escorts master initial plugging, evacuation skills.

5.8 Emergency Management (Original 5.6, Integrating New 4.6)

5.8.1 Emergency Plan Formulation

• Cover scenarios such as traffic accidents, hazardous chemical leakage, oversized equipment overturning, and cross-border transportation detention;

• Clarify the emergency organization structure (command team, rescue team, communication team), response process (report within 15 minutes), and external contacts (fire department: 119, medical service: 120, customs);

• Cross-border transportation emergency plans shall include contact information for emergency resources in the destination country (e.g., local Chinese rescue organizations).

5.8.2 Emergency Preparation and Drills

• Inspect emergency materials regularly (once a month): fire extinguishers, first-aid kits, hazardous chemical emergency kits;

• Conduct emergency drills once a quarter (e.g., hazardous chemical leakage disposal), record the *Emergency Drill HSE Record* (Appendix F), and optimize the plan.

5.8.3 Emergency Disposal (Same as Original 5.6.3)

• Cooperate with investigations after accidents, collect evidence (driving recorder, in-transit records), and formulate corrective measures.

5.9 Environmental Protection and Green Logistics Management (Integrating Original 5.7 and New 4.7)

5.9.1 Classified Disposal of Waste (Same as Original 5.7.1)

• Hazardous Waste (waste oil, empty hazardous chemical barrels) shall be handed over to qualified units and obtain disposal waybills;

• General Waste (packaging materials) shall be recycled to reduce disposable products.

5.9.2 Environmental Indicator Control (Same as Original 5.7.2, Supplementing Green Logistics Measures)

1. Exhaust Gas and Noise:

◦ The HSE Management Department tests vehicle exhaust gas (complying with GB 18352.6) and noise (≤ 80dB during driving) every six months;

◦ Promote new energy vehicles (electric/LNG) for short-distance distribution; the proportion of new energy vehicles shall be ≥ 30% by 2026.

2. Green Logistics Measures:

◦ Optimize Routes: Reduce empty driving mileage; the annual empty driving rate ≤ 15%;

◦ Improve Loading Efficiency: Combine loading of oversized equipment; the full load rate of general materials ≥ 90%;

◦ Energy-Saving Driving: Train drivers on smooth starting and avoid sudden acceleration; inspect tire pressure regularly (to reduce fuel consumption);

◦ Cross-Border Transportation: Prioritize railway/waterway transportation (low emission) and reduce road transportation.

6 Supporting Documents

• *Regulations of the People's Republic of China on Road Transportation*

• *Regulations on the Safety Management of Hazardous Chemicals* (State Council Decree No. 591)

• *Provisions on the Administration of Oversized and Overweight Transportation Vehicles on Highways* (Order No. 22 of the Ministry of Transport, 2021)

• *Provisions on the Administration of International Road Transportation* (Applicable to Cross-Border Transportation)

• *PIPING SYSTEM PTE LTD Logistics and Transportation HSE Management Specifications*

• *COMPANY Material Transportation Safety Control Requirements*

• *Company HSE Emergency Management Procedure*

• *Company Hazardous Waste Management Measures*

• *Company Carrier HSE Management Regulations*

7 Appendices

Appendix A: HSE Checklist for Transportation Vehicles (Integrating Original Appendix C and New Appendix A)

Inspection Date	Year Month Day	Vehicle No.		Driver	
Inspection Category	Inspection Item	Inspection Standard	Result (□Normal □Abnormal)	Abnormal Disposal	
Safety Performance	Braking System	Braking is sensitive without drag; normal pedal stroke			
	Steering System	Steering is light without deviation or jamming			
	Tires	No bulges/cracks; tread depth ≥ 1.6mm; tire pressure meets standards			
	Lighting System	Low/high beams, turn signals, taillights, and emergency lights are in good condition			
Documents and Procedures	Vehicle Registration Certificate / Operation Certificate	Valid and consistent with the vehicle			
	Hazardous Chemical	Complete documents;			

	Transportation Permit (if required)	valid route filing			
Safety Facilities	Fire Extinguisher	4kg dry powder/CO_2; normal pressure (green zone); within validity period			
	Warning Triangles	Intact; quantity ≥ 3			
	Hazardous Chemical Emergency Kit (if required)	Complete with absorbent cotton, neutralizers, and chemical-resistant gloves			
Monitoring Equipment	GPS / Beidou	Normal signal; accurate positioning			
	Communication Equipment	Walkie-talkie/cell phone with sufficient battery; normal communication			
Inspection Conclusion	□Qualified, ready for departure □Unqualified, needs maintenance				
Inspector's Signature		Reviewer's Signature			

Appendix B: Transportation Loading and Unloading Operation HSE Permit (Original Appendix D, Supplementing Night Operation Items)

Permit No.		Operation Type	□General Materials □Hazardous Chemicals □Oversized Equipment □Night Operation
Operation Location		Operation Time	Year Month Day Hour - Year Month Day Hour
Operation Supervisor		Operation Personnel	
Material Information	Name: Specification: Weight: Characteristics:		
Risk Identification	1. ; 2. ; 3. (Identify insufficient lighting risk for night operations)		
Control Measures	1. ; 2. ; 3. (Clarify lighting plan for night operations)		
Protective Equipment	□Safety Helmet □Chemical Protective Clothing □Reflective Vest □Safety Belt □Gas Mask		
Emergency Measures	1. ; 2.	Emergency Contact Person	Tel:
Approval Opinion	Logistics and Transportation Department: Date: HSE Management Department (for Hazardous		

	Chemicals/Oversized/Night Operations): Date:		
Operation Completion Confirmation	Material Status: □Normal □Abnormal Cleaning Status: □Completed Confirmation Person: Date:		

Appendix C: Transportation Loading and Unloading Operation HSE Record (Original Appendix E)

Record No.		Corresponding Permit No.	
Operation Date	Year Month Day	Operation Duration	Hours
Material Loading and Unloading Status	Name	Specification	Quantity
Abnormal Situation	Description: Disposal Result:		
Operation Personnel's Signature		Supervisor's Signature (if required)	
Record Date	Year Month Day		

Appendix D: In-Transit Transportation HSE Monitoring Record (Original Appendix F, Supplementing Night Monitoring Items)

Date	Time	Location	Speed	Vehicle Status	Material Status	Driver Status	Special Situation (Night/S	Disposal	Recorder

			(km/h)	(Braking/Tires)	(Fixing/Leakage)	(Fatigued/Alert)	evere Weather)	Measures	(Escort)
	20:00	G107 K150	50	Normal braking	Pipeline fixing without loosening	Alert	Night; normal lighting	-	
	22:30	Service Area	-	Normal tire pressure	Check binding straps	Alert after rest	Night; no abnormality	-	

Appendix E: Transportation Delivery HSE Acceptance Record (Original Appendix G)

Delivery Date	Year Month Day	Transportation Order No.		Receiving Department	
Carrier		Driver			
Material List	Name	Specification	Quantity	Transportation Status (□Intact □Damaged)	Remarks
HSE Document Handover	1. Hazardous Chemical Transportation Permit □Available □Unavailable	2. Oversized Transportation Permit □Available □Unavailable	3. MSDS □Available □Unavailable	4. Cross-Border Customs Clearance Documents (if required) □Available □Unavailable	

Abnormal Situation	Description: Disposal Measures:				
Acceptance Conclusion	□Qualified, agree to receive □Unqualified, need disposal				
Transporter's Signature		Receiver's Signature			

Appendix F: Emergency Drill HSE Record (Original Appendix K, Supplementing Cross-Border Drill Items)

Drill Date	Year Month Day	Drill Type	□Traffic Accident □Hazardous Chemical Leakage □Cross-Border Detention
Drill Location		Participants	
Drill Plan Summary			
Drill Process Record	1. ; 2. ; 3.		
Existing Problems	1. ; 2.		
Improvement Measures	1. ; 2.		
Drill Assessment	□Excellent □Qualified □Unqualified	Assessor	
Recorder		Date	Year Month Day

Appendix G: Hazardous Chemical Transportation Inspection Checklist (New Appendix B, Supplementing Cross-Border Items)

Inspection Category	Inspection Item	Inspection Standard	Result (□Compliant □Non-Compliant)	Remarks (Supplements for Cross-Border Transportation)
Vehicle Qualification	Road Hazardous Goods Transportation Permit	Valid; business scope covers the transported type		Cross-border requires qualification recognized by the destination country
	Tank Inspection Report	Annual inspection; valid and qualified		
Safety Equipment	Fire Extinguisher	2 units of 4kg CO_2 fire extinguishers; normal pressure		
	Leakage Emergency Equipment	Absorbent cotton ≥ 5kg, neutralizers ≥ 10kg, plugging tools		
	Personal Protective Equipment	2 sets of chemical protective clothing, 2 gas masks, 2 pairs of goggles		Cross-border requires 1 additional set for backup
Documents and Materials	Transportation Permit	Valid route filing		Cross-border requires customs

				clearance documents
	MSDS	Chinese-English version (for cross-border); complete content		
	Emergency Contact Card	Including phone numbers of manufacturers, fire department, environmental protection department, and customs		Cross-border requires local emergency phone numbers

Appendix H: Transportation HSE Training Requirements (New Appendix C)

Training Object	Training Content	Training Frequency	Assessment Method
Drivers	Traffic laws, safe driving, fatigue prevention, emergency disposal (accidents/leakage)	New employees: ≥24 hours; annual re-training: ≥8 hours	Theory + Practical Operation (fire extinguisher use)
Escorts	Material characteristics (hazardous chemical MSDS), in-transit monitoring, leakage disposal	New employees: ≥16 hours; annual re-training: ≥6 hours	Theory + Simulation Disposal
Loaders/Unloaders	Loading and unloading operating procedures, protective equipment use,	New employees: ≥12 hours; annual re-training: ≥4 hours	Practical Operation Assessment

	oversized equipment fixing		
Dispatchers	Transportation plan formulation, risk assessment, emergency coordination	New employees: ≥8 hours; annual re-training: ≥2 hours	Theory Assessment
Cross-Border Transportation Personnel	Traffic rules of the destination country, HSE laws and regulations, customs clearance procedures	≥4 hours before each cross-border trip	Theory Assessment

Appendix I: Transportation Route Risk Assessment Factors (New Appendix E)

Assessment Category	Assessment Factor	Assessment Standard	Risk Level (□Low □Medium □High)	Control Measures
Road Conditions	Road Grade	Highway/National Road/Country Road; road surface flatness		Avoid high-risk road sections
	Bridges and Tunnels	Load-bearing capacity, height/width limits, ventilation and lighting (tunnels)		Verify load-bearing capacity in advance for oversized transportation
Environmental Factors	Weather Conditions	Frequency of heavy rain/heavy snow/fog		Suspend transportation in severe weather
	Sensitive Areas	Distance from residential areas,		Hazardous chemical transportation

		water sources, schools		avoids sensitive areas
Social Factors	Traffic Flow	Congestion during peak hours		Transport during off-peak hours
	Emergency Resources	Distance from service areas, repair shops, hospitals, fire departments		Mark emergency resource locations on the route
Cross-Border Factors	Customs Clearance Efficiency	Port inspection time, compliance requirements		Prepare customs clearance documents in advance
	Local Public Security	Public security status of the destination country/region		Arrange security escorts for high-risk regions

8 Supplementary Provisions

8.1 This procedure shall be interpreted by the Company's Logistics and Transportation Department.

8.2 This procedure shall come into force on the date of issuance. In case of any inconsistency between the existing logistics and transportation HSE management regulations and this procedure, this procedure shall prevail.

8.3 This procedure shall be revised once a year, or updated in a timely manner according to changes in national laws and regulations, CNPC/COMPANY management requirements, and the expansion of the Company's cross-border transportation business.

8.4 For matters not covered in this procedure, refer to the *Logistics and Transportation HSE Management Specifications* and relevant laws and regulations.