



Special Emergency Response Plan for HSE Fire and Explosion Accidents

I. Basic Information of the Plan

Management Identification	Document No.: CLADDING-HSE-PD-44 Effective Date: January 1, 2026 Filing Entities: HSE Department of COMPANY, Local Fire and Rescue Detachment
Compilation Basis	"Fire Protection Law of the People's Republic of China", "Regulations on Emergency Response to Work Safety Accidents", "Provisions on Fire Safety Management of Hazardous Chemicals", "Company HSE Overall Emergency Response Plan for Emergencies (V3.0)"
Scope of Application	1. Fires in material storage areas (hydraulic oil, welding gas, packaging materials); 2. Fires during hot work (combustibles ignited by welding/cutting); 3. Fires during loading, unloading and transportation (electrical fires in forklifts/cranes, combustion caused by leakage of dangerous goods); 4. Fires in electrical equipment (short circuits in distribution boxes, motors); 5. Fires in office areas (electrical aging, flammable documents)

II. General Provisions

Article 1 Purpose of Compilation

To standardize the emergency disposal process for fire and explosion accidents of the company, clarify the responsibilities of various levels and positions, quickly control the spread of fire, reduce casualties, property losses and environmental impacts, ensure the safe recovery of core businesses such as material storage, loading-unloading-transportation

and equipment maintenance, and prevent secondary/derivative accidents (such as explosions, toxic gas diffusion, electric shock).

Article 2 Work Principles and Disposal Requirements

(I) Core Principles

- 1. Life First, Priority to Rescuing People:** Prioritize organizing the evacuation of personnel, and prohibit blind and risky rescue operations;
- 2. Control First, Extinguish Later, Priority to Prevent Expansion:** First cut off the fire source/hazard source (power cut-off, gas cut-off), then carry out fire extinguishing to prevent the spread of fire;
- 3. Unified Command, Division of Responsibilities:** Conduct hierarchical response according to the scale of the fire, with the command center coordinating overall and each team performing its own duties;
- 4. Scientific Disposal, Professional Matching:** Select corresponding fire-fighting equipment according to the type of fire (oil, electrical, gas), and prohibit illegal operations (such as using water to extinguish oil fires);
- 5. Internal and External Linkage, Efficient Collaboration:** Internal emergency teams undertake initial disposal, and link with local fire and rescue detachments when necessary;
- 6. Post-Incident Review, Continuous Improvement:** Evaluate the disposal effect after the accident, optimize the plan and prevention and control measures, and avoid the recurrence of similar accidents.

(II) Disposal Requirements

- 1. Rapid Response:** The first discoverer shall alarm within 1 minute, and the emergency team shall arrive at the scene within 5 minutes;
- 2. Standardized Operation:** Correctly use fire-fighting equipment, and emergency personnel must wear protective equipment (such as gas masks, fire-proof clothing);
- 3. Safety Priority:** Ensure the safety of rescuers themselves and avoid secondary injuries (such as structural collapse, electric shock);
- 4. Whole-Process Recording:** The communication team shall record the disposal time nodes, instructions and progress in real time for future reference.

III. Accident Types, Hazard Levels and Risk Identification

Article 3 Analysis of Accident Types and Hazard Levels

(I) Main Accident Types

Accident Category	Common Trigger Scenarios	Typical Cases
Electrical Equipment Fires	Short circuits due to water ingress/dust accumulation in distribution boxes, burnout of motor insulation layers due to overload, aging and damage of cables	Cartons around the distribution box in the storage area ignited by short circuits, electric leakage fire of forklift batteries
Fire and Explosion of Hazardous Chemicals	Leakage of hydraulic oil encountering fire sources, leakage of mixed stored oxygen/acetylene encountering open flames, spontaneous combustion of chemicals (such as oil-paper packaging)	Combustion of damaged oil drums in the dangerous goods warehouse, leakage and explosion of acetylene cylinders
Fires of Stored Materials	Ignition caused by collapse of over-high stacks, flammable packaging (plastics, cartons) encountering sparks, spontaneous combustion of materials due to excessive temperature and humidity	Carton fire on multi-layer shelves, spontaneous combustion of oil-paper for steel packaging
Transportation Vehicle Fires	Electrical short circuits of transportation vehicles, ignition of flammable accessories (rubber, paint) on board due to collision, ignition of hydraulic oil by high temperature of brake pads	Tire fire of material transport trucks, combustion caused by leakage of crane hydraulic oil

Office Area Fires	Aging and short circuits of computers/printers, illegal use of high-power electrical appliances, ignition of accumulated flammable documents by open flames	Fire caused by overload of office socket strips, combustion of documents in the archives room
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(II) Detailed Hazard Levels

Hazard Category	Specific Manifestations	Scope of Impact
Personnel Hazards	1. Direct injuries: burns, scalds, scratches by explosion fragments; 2. Indirect injuries: suffocation by thick smoke (CO poisoning), stampedes, falls; 3. Long-term impacts: respiratory system damage caused by inhalation of toxic gases	Fire site and downwind area, thick smoke can spread to a range of 500m
Property Losses	1. Equipment damage: burnout of forklifts, cranes, distribution boxes, etc.; 2. Material losses: burnout of stored materials and materials in transit; 3. Building damage: collapse of warehouse roofs, smoke damage to walls; 4. Production suspension losses: order delays caused by production interruption after the accident	Small-scale local equipment/material losses (< 1 million yuan), large-scale damage to the entire workshop/warehouse (≥ 10 million yuan)
Environmental Impacts	1. Air pollution: CO, SO ₂ and toxic smoke	Fire site and surrounding area of 50-200m, fire-fighting wastewater

	generated by combustion; 2. Water pollution: fire-fighting wastewater carrying oil stains, fire-extinguishing agents seeping into groundwater; 3. Soil pollution: leaked oil products and chemicals seeping into the soil	can pollute rainwater pipes if not collected
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(III) Accident-Prone Areas

1. High-risk areas: hazardous chemicals warehouses, electrical distribution rooms, material storage areas (multi-layer shelves), equipment maintenance workshops;
2. Medium-risk areas: loading and unloading operation areas, transportation vehicle parking areas, office archives rooms;
3. Key prevention and control points: fire-fighting access, emergency exits and fire-fighting equipment storage points in various areas.

Article 4 Risk Identification and Prevention Measures for Key Scenarios

Risk Scenario	Trigger Factors	Potential Consequences	Risk Level	Daily Prevention and Control Measures
Fires in Dangerous Goods Storage	1. Leakage of damaged hydraulic oil drums, encountering sparks/static electricity from distribution boxes; 2. Mixed storage of oxygen/acetylene (distance < 10m), valve leakage; 3. Excessive temperature and	1. Oil fires spreading to the entire warehouse; 2. Cylinder explosion and fragment splashing; 3. Diffusion of toxic flue gas to the surrounding area	Extremely High Risk	1. Store dangerous goods in separate areas (distance between oxygen and acetylene \geq 10m), and install static grounding devices; 2. Use explosion-proof lamps in the warehouse, and check the sealing status

	humidity (> 30°C/ > 65%)			daily; 3. Real-time monitoring of temperature and humidity, automatic alarm when exceeding limits
Fires during Hot Work	1. Failure to clean combustibles (cotton yarn, cartons) within 10m of the hot work point; 2. Inadequate detection of combustible gases ($\geq 10\%$ LEL); 3. Guardian leaving the post, sparks igniting cables	1. Local fires spreading to equipment/pipelines; 2. Combustion of pipeline insulation layers, releasing toxic gases; 3. Ignition of upper cable trays	High Risk	1. Strictly implement the "three no-hot-work" principle (no hot work without certificate, no supervision, and unclean site); 2. Equip the hot work point with 2 pieces of 4kg dry powder fire extinguishers + fire blankets; 3. Recheck for no residual fire 1 hour after the operation
Fires in Electrical Equipment	1. Water ingress/dust accumulation in distribution boxes, short-circuit and sparking; 2. Motor overload without protective devices; 3. Cables not 穿管 (worn by crushing)	1. Burnout of distribution boxes, spreading to surrounding equipment; 2. Electrical fires causing oil combustion; 3. Power failure leading to shutdown of the entire area	High Risk	1. Clean the distribution boxes monthly, and install rain shields/dust covers; 2. Install overload protectors for motors, and protect cables with pipes; 3. Test the insulation resistance of electrical circuits quarterly

Fires in Transportation Vehicles	1. Aging of truck tires, ignition due to friction and high temperature; 2. Unsecured hazardous goods on board, leakage due to collision; 3. Aging and short circuits of forklift electrical circuits	1. Vehicle burnout, igniting surrounding loading and unloading materials; 2. Leakage and diffusion of hazardous goods; 3. Blocking of transportation channels	Medium Risk	1. Check the tires/electrical circuits of transportation vehicles daily; 2. Fix hazardous goods on board with special fixing devices, and equip with fire blankets; 3. Inspect the batteries/braking systems of forklifts monthly
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IV. Emergency Organization and Responsibilities

Article 5 Special Emergency Organization Structure

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 A[Fire and Explosion Emergency Command] --> A1[Commander-in-Chief: General Manager (Wang Gang)]
 A --> A2[Deputy Commander-in-Chief: Deputy General Manager in Charge of Safety]
 A --> B[On-site Disposal System]
 B --> B1[On-site Disposal Team (Team Leader: Head of the Unit Where the Incident Occurs; Members: 20 Full-time Firefighters + 10 Maintenance Personnel)]
 B --> B2[Medical Rescue Team (Team Leader: Director of the Office; Members: 8 Certified Medical Staff)]
 B --> B3[Alert and Evacuation Team (Team Leader: Head of the Safety Department; Members: 10 Security Guards + 20 Volunteers)]
 A --> C[Rear Support System]
 C --> C1[Logistics Support Team (Team Leader: Head of the Logistics Department; Members: 5 Logistics Personnel)]
 C --> C2[Communication and Liaison Team (Team Leader: Supervisor of the Administration Department; Members: 3 Administration Personnel)]
 C --> C3[Environmental Monitoring Team (Team Leader: Supervisor of the Quality and Safety Department; Members: 2 Testing Personnel)]
 C --> C4[Technical Support Team (Team Leader: Manager of the Equipment Department; Members: 3 Technical Personnel)]

Article 6 Core Responsibility Division

Organization/Position	Core Responsibilities (Exclusive to Fire and Explosion Scenarios)
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<p>Commander-in-Chief (General Manager)</p>	<p>1. Approve the activation/termination of Level I/II emergency responses, and issue the instruction of "requesting external fire rescue support"; 2. Coordinate and allocate the company's emergency resources (personnel, materials, vehicles, funds); 3. Make major decisions such as "production suspension and evacuation", "area blockade" and "information release"; 4. Report major accidents to higher-level units (HSE Department of COMPANY) and local government departments</p>
<p>Deputy Commander-in-Chief</p>	<p>1. Assist the Commander-in-Chief in his work and perform his duties when the Commander-in-Chief is absent; 2. Activate Level III/IV emergency responses and command fire-fighting operations on site; 3. Review the emergency disposal plan and coordinate to solve on-site problems; 4. Organize the revision, training and drills of the plan</p>
<p>On-site Disposal Team</p>	<p>1. Initial fire extinguishing: Use fire extinguishers, fire-fighting sand and fire hoses to put out fires, and cut off the fire source (power cut-off, gas cut-off, valve closure); 2. Cooperate with the fire detachment: Guide the fire point, provide internal pipeline diagrams/dangerous goods lists, and carry fire-fighting materials; 3. Post-disaster cleaning: Check for residual fire (temperature $\leq 40^{\circ}\text{C}$) and remove dangerous items (such as unexposed cylinders)</p>
<p>Medical Rescue Team</p>	<p>1. On-site first aid: Burn treatment (normal saline flushing + burn ointment), suffocation resuscitation (cardiopulmonary resuscitation), hemostasis and bandaging; 2. Personnel transfer: Contact 120, escort seriously injured personnel to the hospital, and record the information of the injured; 3. Material preparation: Set up a temporary rescue point at the assembly point, equipped with oxygen cylinders and first-aid kits</p>
<p>Alert and Evacuation Team</p>	<p>1. Alert and control: Set up an alert area (10-50m around the fire point, adjusted according to the fire situation) and prohibit irrelevant personnel/vehicles from entering; 2. Personnel evacuation: Guide personnel to the upwind assembly point according to the evacuation route map, giving priority to evacuating the elderly, pregnant women and the injured; 3. Access guarantee: Divert traffic to ensure the smooth flow of fire trucks/ambulances (width $\geq 4\text{m}$)</p>
<p>Logistics Support Team</p>	<p>1. Material supply: Urgently allocate fire-fighting materials (fire extinguishers, fire blankets, air respirators) and protective</p>

	equipment to the site; 2. Transportation guarantee: Dispatch emergency vehicles (1 command vehicle, 2 material transport vehicles, 2 ambulances); 3. Logistics support: Provide food and warmth materials for emergency personnel, and ensure emergency lighting/power supply
Communication and Liaison Team	1. Internal communication: Maintain linkage between teams with explosion-proof walkie-talkies (channel CH08) and report the fire situation every 5 minutes; 2. External communication: Dial 119 (specify "fire type/scale in XX area of Pipeline Materials Company"), 120, and record the contact records; 3. Information recording: Record the disposal time, instructions and progress in real time to form the "Emergency Disposal Account"
Environmental Monitoring Team	1. Pollution detection: Detect the air quality (CO, SO ₂ , toxic gas concentration) in the fire area and the pollution of fire-fighting wastewater/soil; 2. Prevention and control measures: Set up anti-seepage ditches to collect fire-fighting wastewater and prevent seepage into groundwater; 3. Assessment report: Issue an environmental impact assessment report and guide later restoration
Technical Support Team	1. Technical guarantee: Provide equipment drawings (electrical pipelines, storage locations of dangerous goods) in the fire area and technical suggestions for fire extinguishing; 2. Hazard source cut-off: Guide the closure of the main valves of gas/hydraulic oil and isolate damaged cables to prevent secondary leakage caused by fire; 3. Equipment assessment: Assess the damage degree of equipment after the disaster and put forward suggestions for maintenance/replacement

V. Prevention and Early Warning

Article 7 Prevention Measures

(I) Technical Prevention Measures

1. Fire-fighting system configuration:

- Install automatic fire alarm systems (smoke detectors + heat detectors) and automatic fire-extinguishing systems (dry powder/foam) in high-risk areas (dangerous goods warehouses, distribution rooms);
- Set up outdoor fire hydrants (spacing ≤ 120m, pressure ≥ 0.3MPa) and emergency lighting (automatically turned on after power failure) in the whole plant area;

- Install explosion-proof electrical equipment and static grounding devices in hazardous chemicals warehouses and hot work areas.

1. Monitoring and alarm:

- Install high-definition monitoring (with AI behavior recognition, such as illegal hot work, smoking) in key areas, and transmit data to the command center in real time;
- Equip dangerous goods warehouses with temperature and humidity sensors and combustible gas detectors, which will automatically alarm (acousto-optic + SMS) when exceeding the limit.

(II) Management Prevention Measures

1. Operation control:

- Hot work: Strictly implement the "hot work permit" system and implement the principles of "three no-hot-work" and "one clear, two checks and three operations";
- Hazardous chemicals management: Implement "double-person double-lock" and "classified storage", check the sealing status daily, and establish the "Hazardous Chemicals In-out Warehouse Account";
- Electrical management: Clean the distribution boxes monthly, test the insulation resistance of electrical circuits quarterly, and prohibit random wiring.

1. Inspection and investigation:

- Daily: The team conducts self-inspection on fire-fighting equipment (pressure, location), storage of hazardous chemicals and the status of electrical equipment;
- Weekly: The department checks the compliance of hot work and the smoothness of fire-fighting access;
- Monthly: The company conducts random checks on the fire-fighting system (fire hydrant pressure, alarm devices) and the integrity of emergency materials, and keeps inspection records.

Article 8 Early Warning Classification and Actions

(I) Early Warning Classification (Divided into Four Levels According to the Urgency of Risks)

Early Warning Level	Identification Color	Trigger Conditions	Response Preparation
Level I (Extremely Urgent)	Red	1. Fire spreads to the dangerous goods warehouse/entire	1. The Commander-in-Chief immediately activates the Level I response and requests support from the fire detachment; 2. All

		workshop, accompanied by explosion; 2. 3 or more deaths/10 or more serious injuries have been caused; 3. Fire-affected area $\geq 500 \text{ m}^2$, fire cannot be controlled	personnel evacuate to the assembly point 1km outside the plant, and turn off the main power supply of the plant; 3. The logistics team allocates all emergency materials to the site
Level II (Urgent)	Orange	1. Fire spreads to a single workshop/storage area (fire-affected area $100\text{-}500 \text{ m}^2$); 2. 1-2 deaths/3-9 serious injuries have been caused; 3. Threat to surrounding residential areas/facilities	1. The Deputy Commander-in-Chief activates the Level II response and dispatches all emergency teams; 2. Evacuate personnel in the fire area and surrounding areas, and block the plant roads; 3. The communication team contacts 120 and the fire detachment for standby
Level III (Relatively Urgent)	Yellow	1. Local fire (fire-affected area $10\text{-}100 \text{ m}^2$), no deaths; 2. 1-2 serious injuries/3-9 minor injuries have been caused; 3. Controllable by internal teams	1. The on-site commander activates the Level III response and dispatches the fire-extinguishing/evacuation/medical teams; 2. Evacuate personnel within 50m of the fire point and cut off the regional power supply; 3. The material team supplements fire-extinguishing equipment to the site
Level IV (General)	Blue	1. Initial fire (fire-affected area $< 10 \text{ m}^2$), no casualties; 2. Extinguishable by on-site personnel with fire extinguishers; 3. No spread risk	1. The on-site person in charge activates the Level IV response and organizes initial fire extinguishing; 2. Evacuate the surrounding operating personnel and report to the command center; 3. The alert team sets up a 10m alert area

(II) Early Warning Issuance and Cancellation

1. Issuance process:

- Early warning trigger: On-site personnel/monitoring systems find risks and immediately report to the communication team;
- Level determination: The technical support team arrives at the site for assessment within 5 minutes and reports to the command center to determine the early warning level;
- Information release: Level I/II early warnings are approved by the Commander-in-Chief and released through emergency broadcasts + WeChat groups; Level III/IV early warnings are approved by the on-site commander and released verbally + via walkie-talkies.

1. Early warning cancellation:

- Conditions: Fire is completely extinguished, risks are eliminated, and environmental monitoring meets the standards;
- Process: The on-site disposal team confirms → reports to the command center for approval → the communication team issues a cancellation notice.

VI. Information Reporting Procedures

Article 9 Reporting Process and Time Limits

(I) Internal Reporting Process

1. First discoverer: Immediately alarm to the on-site person in charge/communication team (internal extension: 8888), specifying "fire type, fire-affected area and casualty situation in XX area";
2. On-site person in charge: Report to the Deputy Commander-in-Chief within 5 minutes, and organize initial disposal at the same time;
3. Command center:
 - For Level III/IV accidents: Report to the Commander-in-Chief within 30 minutes;
 - For Level I/II accidents: Report to the Commander-in-Chief within 15 minutes, and the Commander-in-Chief reports to the HSE Department of Pipeline Bureau within 1 hour.

(II) External Reporting Process

Accident Level	Reporting Objects	Reporting Time Limit	Reporting Content
Level I	Local Emergency Management Bureau, Fire and	Within 1 hour	Accident type, time/location, casualties/losses,

	Rescue Detachment, Health Commission, Public Security Bureau, Ecological Environment Bureau		measures taken, required support content
Level II	Local Emergency Management Bureau, Fire and Rescue Detachment, relevant competent departments (such as Health Commission)	Within 2 hours	Same as above, supplemented with fire control progress
Level III	Local Fire and Rescue Detachment (if external support is needed)	As needed	Fire type, scale, disposal situation
Level IV	No external reporting required	-	-

(III) Reporting Requirements

1. Information shall be true and accurate, and no delayed reporting, concealment or false reporting shall be allowed;
2. Written reports shall include "accident overview, disposal progress, loss statistics and next-step plans", and shall be submitted after being signed and sealed;
3. For major accidents, special personnel shall be arranged to connect with external departments and update the disposal progress in a timely manner.

VII. Emergency Response and Disposal Measures

Article 10 Response Classification and Activation Conditions

Response Level	Activation Conditions	Command Entity	Core Disposal Forces
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Level I Response (Major)	1. Trigger Level I early warning conditions (3 or more deaths, fire-affected area $\geq 500 \text{ m}^2$); 2. Fire cannot be controlled and external support is needed	Company Command Center + Fire Detachment	Fire Detachment as the main force, internal teams for coordination (guidance, material handling)
Level II Response (Relatively Major)	1. Trigger Level II early warning conditions (1-2 deaths, fire-affected area 100-500 m^2); 2. Fire spreads to key areas (dangerous goods warehouses, distribution rooms)	Company Command Center	Internal emergency teams (on-site disposal team + logistics team) as the main force, fire detachment on standby
Level III Response (General)	1. Trigger Level III early warning conditions (1-2 serious injuries, fire-affected area 10-100 m^2); 2. Fire controllable by internal teams	On-site Command Center	On-site disposal team + medical team + alert team
Level IV Response (Initial)	1. Trigger Level IV early warning conditions (no casualties, fire-affected area $< 10 \text{ m}^2$); 2. Initial fire can be quickly extinguished	On-site Person in Charge	On-site personnel + nearby emergency forces (such as hot work guardians, team members)

Article 11 Hierarchical Disposal Process

(I) Level IV Response (Initial Fire, Such as Electrical Fire in Office Area)

1. 0-5 minutes (initial disposal):

- On-site personnel: Immediately use the nearest dry powder fire extinguisher to put out the fire (aim at the root of the flame) and cut off the electrical power supply;
- On-site person in charge: Report to the communication team and organize the evacuation of surrounding personnel to 5m away;

1. 5-15 minutes (response implementation):

- On-site disposal team: Arrive at the site with mobile fire-fighting carts, supplement fire extinguishing and check for re-ignition points;
- Alert team: Set up a 10m alert area and prohibit irrelevant personnel from approaching;

1. 15-20 minutes (response termination):

- On-site disposal team: Confirm no residual fire (touch the surrounding temperature with hands $\leq 40^{\circ}\text{C}$) and clean the site;
- On-site person in charge: Announce the termination of the response, record the disposal process and investigate similar hidden dangers (such as other aging electrical appliances).

(II) Level III Response (Local Fire in Workshop, Such as Motor Fire)

1. 0-10 minutes (initial disposal):

- On-site commander: Arrive at the site and issue instructions of "cutting off the workshop power supply" and "evacuating personnel";
- On-site disposal team: Operate in 2 teams (1 team uses carbon dioxide fire extinguishers to put out electrical fires, 1 team uses dry powder fire extinguishers to prevent spread to oil materials);
- Evacuation team: Guide workshop personnel to evacuate to the assembly point along the evacuation route, count the number of people and report "whether there are trapped personnel";

1. 10-30 minutes (response implementation):

- Medical team: Provide first aid for slightly scalded personnel (apply scald ointment and bandage) and prepare to receive possible seriously injured personnel;
- Technical team: Check the workshop pipelines/equipment, close the hydraulic oil valves to prevent leakage caused by fire;
- Material team: Supplement fire extinguishers and gas masks to the site to meet the protection needs of the disposal team;

1. 30-60 minutes (response termination):

- On-site disposal team: Conduct a comprehensive inspection of the workshop to ensure no re-ignition points, especially the cable trays and equipment bottoms;
- Environmental team: Detect the workshop air quality and confirm that the concentrations of CO and toxic gases meet the standards;

- Command center: Review the disposal report, approve the termination of the response, and arrange for subsequent maintenance/cleaning.

(III) Level I/II Response (Fire in Dangerous Goods Warehouse, Accompanied by Leakage and Explosion)

1. 0-10 minutes (emergency evacuation):

- Evacuation team: Issue the "full evacuation" instruction through the emergency broadcast, guide personnel to the 1km upwind assembly point, and give priority to evacuating the elderly, pregnant women and the injured;
- Alert team: Block all entrances and exits of the plant, clear the fire-fighting access, and guide fire trucks to enter from the main gate;
- Communication team: Dial 119 (specify "hydraulic oil + acetylene fire in the dangerous goods warehouse with explosion risk"), 120, and report to the Commander-in-Chief;

1. 10-60 minutes (professional disposal):

- External cooperation: Cooperate with the fire detachment (provide warehouse drawings, dangerous goods lists and fire water source locations), assist in laying water hoses and transporting alcohol-resistant foam;
- On-site disposal team: Under the guidance of the fire department, cool the unexposed cylinders (spray with water guns) and block the oil leakage points (with absorbent cotton);
- Medical team: Set up a temporary rescue point at the assembly point to receive burned/suffocated personnel and cooperate with 120 to transfer them to the hospital;
- Technical team: Close the main valves (gas, hydraulic oil) around the warehouse, cut off the main power supply of the plant to prevent secondary accidents;

1. 60-180 minutes (later control):

- On-site disposal team: After the fire is extinguished, assist the fire personnel to move the unexposed cylinders to the safe area and clean the burned materials;
 - Environmental team: Set up anti-seepage ditches to collect fire-fighting wastewater, detect soil/water pollution, and entrust a third party for treatment;
 - Command center: Report the progress to the higher-level unit every 30 minutes and coordinate the support of funds and materials;
- 1. Response termination:** The fire is completely extinguished, there is no risk of re-ignition/explosion, and personnel are properly placed. The Commander-in-Chief announces the termination of the response.

Article 12 Key Disposal Points for Special Scenarios

(I) Electrical Fires (Distribution Boxes, Motors, Cables)

- 1. Core taboos:** Prohibit using water for fire extinguishing! Power must be cut off first;

2. Disposal steps: Cut off the power supply by switching off the switch → extinguish the fire with carbon dioxide/dry powder fire extinguishers → check the damage of electrical circuits → cover the residual embers with fire blankets;
3. Precautions: Fire-fighting personnel must wear insulating shoes to prevent electric shock; the insulation resistance of the circuit must be tested ($\geq 0.5M\Omega$) before repair.

(II) Hazardous Chemical Fires (Hydraulic Oil, Acetylene)

1. Oil fires:

- Disposal steps: Block the leakage point (with absorbent cotton, explosion-proof tools) → cover the oil surface with fire-fighting sand → extinguish the fire with dry powder/alcohol-resistant foam;

- Taboos: Prohibit directly spraying water on the oil surface (which will cause the oil fire to spread).

1. Gas fires:

- Non-explosion: Close the valve to cut off the gas source (wear heat-resistant gloves) → extinguish the fire with dry powder fire extinguishers;

- Leakage and combustion: Prohibit blindly closing the valve (to prevent backfire and explosion) → cool the gas cylinder (spray with water guns) → handle after the gas is burned out;

- Precautions: Set up a 50m alert area to prevent injury from cylinder explosion fragments.

(III) Storage Stereo Fires (Multi-layer Shelves)

1. Disposal strategy: Give priority to extinguishing the fire on the lower layer to prevent the shelf from collapsing;
2. Operation method: Extinguish the fire on the lower layer with fire hoses + foam, and cover the upper layer with fire extinguishers + fire blankets;
3. Precautions: Avoid working alone under the shelf to prevent injury from falling goods.

VIII. Emergency Support

Article 13 Team Support

1. Emergency team configuration:

Team Type	Number of Personnel	Composition	Core Equipment	Scope of Responsibilities
Full-time Fire	20 people	Backbone of the Business	Fire-proof clothing,	Professional fire extinguishing,

Brigade		Department/Equipment Department, with fire certification	positive pressure air respirators, breaking tools, mobile fire-fighting carts	disposal of complex scenarios (such as fires with explosion risks)
Volunteer Fire Brigade	50 people	Personnel transferred from various departments	Dry powder fire extinguishers, fire-fighting sand, fire blankets, first-aid kits	Initial fire extinguishing, personnel evacuation, material handling
Medical Rescue Team	8 people	Certified medical staff of the Administration Department	First-aid kits, stretchers, oxygen cylinders, burn ointment	On-site first aid, personnel transfer, medical coordination
Technical Support Team	6 people	Technical personnel of the Equipment Department/Quality and Safety Department	Electrical testing tools, equipment drawings, gas detectors	Hazard source cut-off, technical guidance, post-disaster assessment

1. Team management:

- Training: The full-time team conducts professional training once a month (such as explosion-proof fire extinguishing, first aid for the injured), and the volunteer team conducts basic training once a quarter;
- Standby: The full-time team is on standby 24 hours a day, and the volunteer team keeps communication smooth and assembles within 30 minutes after receiving the instruction;
- Assessment: Conduct an emergency skills competition once a year, and those who fail the assessment need to retake the exam until they pass.

Article 14 Material and Equipment Support

1. Core material configuration (classified by area):

Storage Area	Material Name and Specification	Quantity	Maintenance Requirements
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Hazardous Chemicals Storage Area	4kg dry powder fire extinguishers, fire-fighting sand (2m ³), fire blankets (1.5m×1.5m)	20 pieces / 3 piles / 10 pieces	Check the pressure of fire extinguishers (green zone) monthly, replenish fire-fighting sand in time, and check fire blankets for damage quarterly
Each Workshop/Office Area	2kg dry powder fire extinguishers, carbon dioxide fire extinguishers	1 piece per 50 m ²	Check monthly, send for inspection once every 2 years
Emergency Warehouse	Positive pressure air respirators (pressure ≥ 25MPa), breaking tools, emergency lighting	20 sets / 5 sets / 20 sets	Check the pressure of respirators monthly, maintain breaking tools quarterly, and charge emergency lighting monthly
Whole Plant Area	Outdoor fire hydrants, fire hoses (20m / piece), fire-fighting suits	30 pieces / 100 pieces / 30 sets	Check the pressure of fire hydrants (≥ 0.3MPa) quarterly, test the tightness of fire hoses every six months, and clean and disinfect fire-fighting suits quarterly
Medical Rescue Point	First-aid kits, stretchers, oxygen cylinders, burn ointment	10 pieces / 10 pieces / 10 bottles / 50 tubes	Check the validity period of medicines monthly, maintain stretchers quarterly, and replace oxygen cylinders when the pressure is insufficient

1. Material management:

◦ Account: The Quality and Safety Department establishes the "Emergency Material Account", records the name, quantity, location and validity period, and updates it monthly;

- Receipt: In case of emergency, materials can be "received first and formalities completed later", and reported within 24 hours after use;
- Replenishment: Consumed materials shall be replenished within 48 hours, and expired/damaged materials shall be replaced immediately to ensure 100% integrity.

Article 15 Communication and Transportation Support

1. Communication support:

- Internal: Equip the emergency team with explosion-proof walkie-talkies (15 units, channel CH08), and check the battery power daily; post emergency phones (internal extension 8888, fire 119, first aid 120) in various areas;
- External: Keep the phone numbers of the local Emergency Management Bureau, Fire Detachment, hospital and HSE Department of Pipeline Bureau, and ensure 24-hour communication;
- Backup: Equip 2 satellite phones (to cope with signal interruption caused by extreme weather) and store them in the emergency warehouse.

1. Transportation support:

- Emergency vehicles: Reserve 1 command vehicle, 2 material transport vehicles and 2 ambulances, which are on standby 24 hours a day, and check the vehicle condition daily;
- Access guarantee: Ensure the width of the main roads in the plant is $\geq 4\text{m}$, and the fire-fighting access is free of obstacles with clear signs (yellow solid lines + "Fire-fighting Access No Occupancy");
- External coordination: Agree on emergency routes with nearby hospitals and fire detachments to ensure the rapid arrival of rescue vehicles.

IX. Post-Disposal

Article 16 On-Site Cleaning and Recovery

1. On-site cleaning:

- Within 24 hours after the fire is extinguished, the on-site disposal team and the technical team shall jointly clean up and dispose of the waste in categories:
 - Burned dangerous goods (such as waste oil drums): Disposed of by qualified units, and random discarding is prohibited;
 - Fire-fighting wastewater: Collected in anti-seepage pools and discharged after reaching the standard through treatment by a third party;
 - Damaged equipment: Marked as "to be repaired", evaluate the maintenance value, and scrap according to regulations if it cannot be repaired;
- During the cleaning process, continuous monitoring of air quality and soil pollution shall be conducted to ensure no secondary hazards.

1. Production recovery:

- The technical team shall repair the damaged equipment/facilities, which can be used only after passing the acceptance;
- The Quality and Safety Department shall conduct a safety assessment of the fire area, and production can be resumed only after confirming no risks;
- The logistics team shall supplement the consumed emergency materials and restore the emergency support capability.

Article 17 Accident Investigation and Evaluation

1. Investigation organization:

- Level I/II accidents: Led by government departments (Emergency Management Bureau, Fire Detachment), and the company cooperates to establish an investigation team;
- Level III/IV accidents: The company establishes an investigation team (headed by the Commander-in-Chief, with members including the Quality and Safety Department, Business Department and Human Resources Department);

1. Investigation content:

- Direct causes: Such as electrical short circuits, illegal hot work, mixed storage of dangerous goods;
- Indirect causes: Such as inadequate inspection, insufficient training, aging facilities;
- Disposal evaluation: Timeliness of response, effectiveness of measures, adequacy of resources;
- Responsibility determination: Division of responsibilities for personnel who violated operations or failed in management.

1. Evaluation report: Within 15 days after the end of the investigation, form the "Fire and Explosion Accident Investigation Report", put forward rectification measures (such as improving the system, supplementing materials, strengthening training), and file it with the higher-level unit.

Article 18 Aftermath Handling

1. Personnel placement:

- Injured personnel: The Human Resources Department tracks medical treatment, coordinates work-related injury identification and compensation, and provides psychological counseling;
- Families of the deceased: The aftermath team pays home visits and expresses condolences, negotiates funeral expenses and pension, and assists in handling relevant procedures;
- Evacuated personnel: The Administration Department arranges temporary accommodation and meals, and organizes their return after the site is safe.

1. Insurance claims:

- The Finance Department notifies the insurance company to report the claim within 24 hours after the accident, and collects claim materials (accident report, loss list, medical bills);
- Cooperate with the insurance company's investigation, track the claim progress, and ensure the timely arrival of compensation funds to reduce the company's losses.

X. Training and Drills

Article 19 Training Requirements and Plans

1. Training objects and content:

Training Object	Training Content	Training Frequency
New Employees	Fire extinguisher operation, evacuation routes, alarm procedures, basic protection knowledge	Within 1 week after entry, no less than 4 class hours, and on-the-job only after passing the practical assessment
In-service Employees	Fire type identification, disposal of special scenarios, emergency communication, first aid for the injured	Once a quarter, no less than 2 class hours, combining theory and practice
Key Positions (Hot Work Guardians, Dangerous Goods Administrators)	Professional fire-extinguishing skills, hazard source control, details of the emergency plan, external cooperation procedures	Once a month, no less than 4 class hours, and passing the special assessment
Emergency Teams	Disposal of complex fires, use of breaking tools, personnel transfer, team collaboration	Once a month for full-time teams, once a quarter for volunteer teams, simulated actual combat training

1. Training management:

- Establish the "Training Account", recording the trainees, content, time and assessment results;

- Those who fail the assessment need to retake the exam until they pass; personnel who have not received training are not allowed to participate in high-risk operations.

Article 20 Drill Plans and Evaluation

1. Drill types and frequency:

Drill Type	Drill Content	Frequency	Participants
Company-level Comprehensive Drills	Major fires (such as explosion in dangerous goods warehouse), linking with external fire/medical services	Twice a year, no less than 2 hours each time	All emergency teams + some employees, simulating full evacuation
Department-level Special Drills	Targeted scenarios (such as electrical fires, oil fires)	Once a quarter, no less than 1 hour each time	Department employees + nearby emergency teams
On-site Disposal Drills	Initial fire extinguishing, alarm, evacuation	Once a month, no less than 30 minutes each time	Team employees, random trigger scenarios
Table-top Drills	Analyze typical accident cases, discuss disposal processes and resource allocation	Four times a year, no less than 1 hour each time	Command center members + team leaders

1. Drill evaluation and improvement:

- Within 5 days after each drill, form the "Drill Evaluation Report", summarizing the advantages and shortcomings (such as response speed, material adequacy, collaboration efficiency);
- Formulate a rectification plan for the problems, clarify the responsible persons and time limits, verify the effect after rectification, and continuously optimize the plan and disposal capabilities.

XI. Supplementary Provisions

Article 21 Plan Connection and Revision

1. Plan connection: This plan is a special supplement to the "Company HSE Overall Emergency Response Plan for Emergencies (V3.0)". In case of conflict with the overall plan, this plan shall prevail; for content not covered, the overall plan shall be implemented.
2. Revision conditions: Revise within 30 days when the following circumstances occur:
 - Changes in national laws and regulations and industry standards;
 - Adjustment of the company's organizational structure, change of business scope, change of emergency resources;
 - Occurrence of Level I/II accidents or discovery of major defects in drills;
 - Revision requirements put forward by higher-level units or local governments.
1. Revision process: The Quality and Safety Department collects opinions → organizes expert review → submits to the Commander-in-Chief for approval → issues and implements → files with the HSE Department of Pipeline Bureau and local fire departments.

Article 22 Plan Interpretation and Implementation

1. This plan is formulated, interpreted and maintained by the company's Quality, Safety and Environmental Protection Department;
2. This plan shall be implemented as of January 1, 2024, and the original "HSE Fire Accident Emergency Disposal Plan (V2.0)" shall be abolished at the same time;
3. All employees must study and strictly implement this plan. Those who violate the provisions of this plan and cause the expansion of the accident shall be held accountable in accordance with the regulations.

Article 23 Appendices

1. Appendix A: Flow Chart of Emergency Disposal for Fire and Explosion Accidents;
2. Appendix B: Emergency Organization and Contact List (including internal and external phone numbers);
3. Appendix C: Layout Plan of Company Fire-Fighting Equipment (locations of fire extinguishers, fire hydrants, evacuation routes);
4. Appendix D: Emergency Evacuation Route Map for Each Area;
5. Appendix E: Emergency Disposal Card for Hazardous Chemical Fires;
6. Appendix F: Template of Emergency Material Account;
7. Appendix G: Template of Emergency Disposal Evaluation Report.