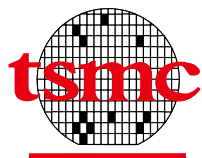


Supplier Transportation Management White Paper

Version 2.0
March 4th, 2025



**Taiwan Semiconductor
Manufacturing Company., Ltd.**

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Preface

To ensure a high-quality safety culture in supply chain transportation, TSMC has established the “Supplier Transportation Management White Paper” (hereafter referred to as the “White Paper”). Suppliers are required to construct a transportation safety management system in compliance with the laws and regulations of the countries and regions where they operate. Furthermore, suppliers are encouraged to promote the White Paper in collaboration with their employees, suppliers, contractors, and service providers.

As TSMC gradually globalizes, the provisions of this white paper are based on the transportation-related regulations of the regions where operations are conducted (including Taiwan, Mainland China, Japan, the United States, and Europe). They refer to international regulations for the transport management of dangerous goods, including the “United Nations Recommendations on the Transport of Dangerous Goods,” the “European Agreement concerning the International Carriage of Dangerous Goods by Road,” and the Globally Harmonized System (GHS) labels formulated by the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals. These were established after discussions with transport operators on relevant management indicators. In addition to incorporating relevant prevention and improvement measures, the applicable vehicle types and implementation areas have been expanded. Suppliers’ compliance with this white paper will be a significant consideration for TSMC in making procurement decisions.

TSMC aims to work closely with suppliers to continuously enhance various transportation vehicles, professional drivers, and transportation safety management systems, effectively reduce transportation risks, ensure stable supply of materials and services, minimize road and environmental impact, establish safe workplaces, protect personnel health, and jointly fulfill corporate social responsibility.

The White Paper is composed of seven sections, including: **A. Basic Company Requirements, B. Basic Vehicle Requirements, C. Professional Drivers, D. Pre-Transportation Operations, E. During Transportation Operations, F. Post-Transportation Operations, and G. General Operational Management.**

- * TSMC: Including TSMC’s subsidiaries and its affiliated entities in Taiwan, Mainland China, Japan, the United States, European Union.
- * The scope of this White Paper covers land transportation entering and exiting TSMC’s facilities worldwide.
- * Target Audience for the White Paper: The regulations apply to supplier vehicles (including subcontractors) and are divided into general vehicle management and special vehicle management.
- * General Vehicle Management: This includes the management of all supplier vehicles entering and exiting TSMC facilities, including those transporting TSMC employees, raw materials, waste, equipment, and related products and service.
- * Special Vehicle Management: In addition to meeting general management requirements, transportation vehicles carrying hazardous materials, hazardous waste, or those with special requirements from TSMC (such as tank trucks) must also meet the following criteria.
- * Definition of hazardous materials: Materials defined as hazardous by local regulations or the Recommendations on the Transport of Dangerous Goods of United Nations
- * Definition of hazardous waste: Waste that possesses toxicity or danger, with concentrations or quantities sufficient to affect human health or pollute the environment.
- * Definition of transporter: Suppliers and contractors that provide transportation services.
- * The requirements of this White Paper are based on the principle of not conflicting with local laws and regulations. Regulations in various regions include, but are not limited to labor laws, privacy rights, and other regulations.
- * Due to the nature of transported goods, this White Paper specifies TSMC’s specific requirements and regulations for transportation safety management. Suppliers must still comply with all applicable local laws and regulations, including but not limited to relative road traffic safety rules
- * All records required by this White Paper must be retained for at least three years. In case specific retention laws or regulations apply (e.g. data protection laws), then retention periods under these shall supersede.
- * The vendor is an independent contractor and does not have authority to bind TSMC by contract or otherwise. Neither vendor nor its employees, agents, or subcontractors are agents or employees of TSMC, and therefore are not entitled to any employee benefits of TSMC, including any insurance. This White Paper does not create an agency, partnership, or joint venture. The vendor shall be responsible for their transportation actions.

A. Basic Company Requirements

General Vehicle Management

- A1) Transportation vehicles and employee must be insured with adequate liability insurance or other insurance as required by law.
- A2) Employers should provide rest areas for professional drivers to ensure they get sufficient rest and avoid fatigue driving.
- A3) There must be a mechanism in place to manage the working hours of professional drivers, including cumulative within 24 hours and continuous driving time. Drivers should be given at least 30 minutes rest time after driving continuously for 4 hours, or for the maximum continuous driving time permitted by local regulations.
- A4) Establish a mechanism for professional drivers to proactively report if they are sick, feeling unwell, or fatigued.
- A5) Establish mechanisms for addressing abnormalities during transit and road rescue to ensure driver safety.

Special Vehicle Management

- A6) Transporters engaged in transportation operations with potential risks and employing more than 30 people must obtain ISO 45001 certification or an equivalent third-party occupational health and safety management standard certification. Transporters must obtain this certification by the end of 2027 at the latest and maintain its validity.

* Definition of Potential Risks: Activities and behaviors that may lead to fire, explosion, or leakage during the transportation of hazardous substances, potentially resulting in casualties, environmental pollution, and property damage.

* Definition of hazardous substances: Chemicals that meet the health hazard classification of the Globally Harmonized System (GHS).

Basic Vehicle Requirements

General Vehicle Management

B1) General Vehicle Specifications

- B1.1 Establish a vehicle tire replacement record form. The form must indicate the tire position and tire serial number for replacements.
- B1.2 Vehicle accessories (e.g., mechanisms to prevent the opening of doors without the handbrake being engaged, gull-wing doors, or waste vehicle grapples) should have an active alert mechanism (e.g., buzzer alarms, warning lights, automatic power cut-off) to prevent injuries, building damage, or hazardous material spills due to improperly secured vehicle accessories.
- B1.3 Maintain a record of regular vehicle maintenance, with at least one service every 12 months. Inspection items should include the vehicle body, tank, battery, connectors, and other equipment parts to ensure they are functioning properly, with no defects, deformations, corrosion, cracks, leaks, dirt, or looseness. Instrument gauges should be accurate, and safety and emergency response equipment should operate correctly.

Special Vehicle Management

- B1.4 The tread depth of transportation vehicles must be greater than 2 millimeters.
- B1.5 The use of retreaded tires is prohibited for the following transportation vehicles:
 - B1.5.1 Trucks or tankers carrying hazardous materials.
 - B1.5.2 Trucks or tankers carrying non-hazardous materials that use routes including highways or expressways.
- B1.6 Transportation vehicles governed by this white paper must be equipped with the following compliant functions unless prohibited by government regulations:
 - B1.6.1 Collision Warning System: Alerts when the vehicle's safety distance is too close.
 - B1.6.2 Lane Departure Warning System: Alerts when the vehicle drifts out of its lane.
 - B1.6.3 Tire Temperature and Pressure Monitoring System: All tires must have temperature and pressure detectors installed.
 - B1.6.4 Installation of GPS (Global Positioning System) driving records respecting local data privacy laws and driving visibility assistance systems; the visibility assistance system should display panoramic images around the vehicle. In Taiwan, installation should cover the interior of the vehicle, front, left rear, right rear, and rear of the vehicle.
- B1.7 Transporters should consider the risk of center of gravity shift when transporting vehicles with partially filled liquid tanks and should either appropriately reduce speed limits or mitigate overturning, leakage, or vehicle damage risk through compliant hardware design changes.
- B1.8 Vehicles must have a non-adjustable speed limiting function, except where exempted by government regulations.
- B1.9 Vehicles must be equipped with an emergency braking assistance system, except where exempted by government regulations.
- B1.10 Maintain a record of regular vehicle maintenance, ensuring at least one service every 12 months.
 - B1.10.1 For oil tankers, inspections should include regular checks and periodic cleaning of the oil tank, oil delivery system, safety valves, and filter screens; frequent lubrication of the inner and outer joints at both ends of oil delivery hoses; regular maintenance of the oil pump; and regular checks to ensure all connections in the pipeline system are secure and reliably sealed.
 - B1.10.2 For tankers, inspections should include: checking for significant damage, deformation, corrosion, or cracks; ensuring insulation materials are intact; checking for paint peeling and rust on the surface; inspecting for cracks and leaks at pipeline connections; ensuring grounding clips or wires are intact and free of damage or corrosion; checking for loose bolts and nuts; regular checks and periodic cleaning of the liquid tank, liquid delivery system, safety valves, and filter screens; frequent lubrication of the inner and outer joints at both ends of liquid delivery hoses; regular maintenance of the pump; and regular checks to ensure all connections in the pipeline system are secure and reliably sealed.

B2) Tanker Specifications

Tankers should be equipped with anti-static straps to prevent the risk of explosion caused by static electricity igniting residual flammable gases inside the tank.

C. Basic Requirements for Professional Drivers

C1) No Major Traffic Accident Record

C1.1 Professional drivers have no record of major traffic liability accidents or criminal liability for causing death or injury within the last three years.

C2) Valid Professional Driver's License

C2.1 Drivers must have a valid professional driver's license as well as pertinent dangerous goods certificates prescribed by local law.

D. Pre-Transportation Operations

General Vehicle Management

D1) Pre-Departure Vehicle Safety Inspection Checklist:

Conduct a walk-around inspection of the vehicle before departure. The checklist should include the following items:

- D1.1 Five Oils and Three Waters: Check fuel (gasoline, diesel, or electricity), transmission oil, engine oil, brake fluid, power steering fluid, radiator water (coolant), windshield washer fluid, and battery water.
- D1.2 Inspect tire pressure, tire tread, battery, brakes, lights, fan belts, wipers, windshield, and the interlock system (such as buzzers).
- D1.3 Record tire pressure and tread measurements before departure.
- D1.4 Ensure that all vehicle accessories and attachments are properly positioned and secured, such as gull-wing doors, cargo compartments, locking devices, or waste vehicle grapples.
- D1.5 Ensure that driver and each passenger is equipped with emergency response equipment for various hazardous materials as required by local laws.

D2) Health Status of Professional Drivers on the Day of Operation

- D2.1 Before departure, confirm that the driver's working hours on the previous day comply with laws and regulations.
- D2.2 Transport company should establish management mechanisms to ensure that professional drivers are in a suitable physical state to perform transport operations on the day. This includes ensuring, in accordance with applicable local laws, a zero blood alcohol concentration, no discomfort caused by blood pressure issues, no sleepiness, no impairment of driving ability due to medication, no dizziness or numbness in the extremities, or any other conditions that may compromise the safety of transportation operations.
- D2.3 If a driver's average systolic blood pressure is classified as abnormal according to local government or World Health Organization standards, the transport company should assign personnel to provide care and follow up with the driver.

Special Vehicle Management

D3) Validity for Temporary Permits Approved by Competent Authorities

- D3.1 Before transportation of hazardous materials operations, ensure that the temporary permit is within its valid period. Additionally, confirm that the professional driver is familiar with the day's delivery route, designated rest areas, and no-parking zones.

E. During Transportation Operations

General Vehicle Management

E1) Delay Notification

- E1.1 If a transport vehicle encounters an accident or an event that may lead to a delivery delay, it must immediately notify relevant TSMC procurement personnel.

E2) Loading and Unloading Regulations

- E2.1 When entering the TSMC dock area, all relevant regulations must be followed. For complete details, please refer to the "Contractor Environmental, Safety, and Health Blue Book - Dock Area Safety Regulations" or the specific regulations of each Fab.

Special Vehicle Management

E3) Driving Management System

After obtaining the consent of professional drivers, the transporter implements the following driving management measures

- E3.1 If compliant with local law, the system should have a cloud-based image center where all compliant driving view assist images can be viewed in real-time over the internet. In Taiwan, these images should cover the front, left rear, right rear, rear, and interior of the vehicle.
- E3.2 If compliant with local law, GPS real-time data must be synchronized and uploaded in a format compatible with TSMC's system to the corresponding cloud database system provider.
- E3.3 Transporters should evaluate and plan driving routes, prioritizing routes with fewer turns. During transportation, vehicles should slow down and adhere to speed limits, especially when navigating turns.
- E3.4 If compliant with local law, the system should be equipped with the following abnormal condition detection functions to ensure that any anomalies trigger immediate notifications via SMS or other messaging systems to relevant personnel (e.g., sales). Notifications should be sent every 30 minutes to the supplier, and if there is no response after three notifications, the system provider must alert TSMC:
 - E3.4.1 Detect if the vehicle disappears from the GPS tracking system for more than 15 minutes before reaching the designated location.
 - E3.4.2 Detect if the vehicle idles or shuts off for more than 1 hour in a non-designated rest area (abnormal stop).
 - E3.4.3 Detect if the vehicle has overturned, such as when a level gauge tilts more than 90 degrees, or real-time monitoring by the control center.
 - E3.4.4 Have mechanisms to alert professional driver about fatigue driving.
 - E3.4.5 Have mechanisms to alert professional driver about distraction behaviors (e.g., using a mobile phone).

F. Post-Transportation Operations

F1) Health Status of Professional Drivers on the Day of Operation

- F1.1 Transporter shall establish a mechanism to ensure that the professional drivers maintain a zero alcohol concentration during working hours, including the transportation process when leaving TSMC premises.

G. General Operational Management

General Vehicle Management

G1) Education and Training

- G1.1 Training for new professional drivers must be completed before they begin operations. The training program should cover the following content:
 - G1.1.1 Transportation-related regulations.
 - G1.1.2 Safety in loading and unloading operations, including operational procedures, safety precautions for handling different types of containers, hazard identification, emergency response equipment, and personal protective equipment.
 - G1.1.3 Case studies of past transportation incidents, analysis of causes, and preventive measures.
 - G1.1.4 Relevant provisions of the Labor Standards Act and health management regulations.
 - G1.1.5 Basic knowledge of occupational disease prevention (including overwork, chemical exposure, ergonomic occupational diseases, etc.).
 - G1.1.6 Standard operating procedures for loading and unloading materials.
 - G1.1.7 Basic vehicle maintenance methods.
 - G1.1.8 Defensive driving training.
 - G1.1.9 TSMC Fab entry regulations.
 - G1.1.10 Training plans for new driver observation and ride-along experiences.
- G1.2 Annual training for professional drivers should be conducted regularly, and the training program should cover the following topics:
 - G1.2.1 Transportation-related regulations, including the classification of goods and major product names.
 - G1.2.2 General physical and chemical properties.
 - G1.2.3 Packaging marks and vehicle signs.
 - G1.2.4 Basic safety inspection methods for transport vehicles, equipment, and their accessories.
 - G1.2.5 Issues and solutions encountered in the daily transportation process.
 - G1.2.6 Case studies of transportation incidents from the past year, analysis of causes, and preventive measures.
 - G1.2.7 Emergency response plan.
 - G1.2.8 Defensive driving training.
 - G1.2.9 Active driving safety regulations (such as slowing down on curves, highway restrictions, etc.).

G2) Conduct scheduled and unscheduled audits and analyses of transportation operations, and evaluate the driving behavior of professional drivers. The audit items are as follows:

- G2.1 Alcohol Testing Audit: Establish a mechanism to ensure that drivers have a zero alcohol concentration by methods enforceable under local laws before during, and leaving TSMC premises transportation operations during their working hours.
- G2.2 Driving Audit: Conduct random audits, generally performed by dispatchers, department supervisors, or safety personnel, to check the driving conditions of professional drivers during transportation.
- G2.3 Speed Audit: Check whether the driving speed of professional drivers during transportation complies with regulations.
- G2.4 Rest Audit: Verify whether professional drivers take rest breaks as required during transportation.
- G2.5 Behavior Audit: Assess whether the behavior of professional drivers during transportation is appropriate (e.g., not wearing a seatbelt, using a mobile phone, smoking, etc.).
- G2.6 Road Audit: Ensure compliance with road regulations during transportation, such as not running red lights, overtaking across lines, or turning without signaling.
- G2.7 Loading and Unloading Audit: Conduct on-site audits to ensure that loading and unloading operations comply with TSMC "Contractor Environmental, Safety, and Health Blue Book - Dock Area Safety Regulations" or the specific regulations of each Fab .
- G2.8 Form Audit: Compile all audit records into reports monthly, perform anomaly analysis, and implement corrective actions as needed.
- G2.9 Reporting Audit: Establish an effectiveness audit mechanism for reporting when professional drivers experience discomfort, fatigue, or are unfit to perform transportation operations on a given day.

G3) Evaluation of Professional Drivers (Including Subcontracted Professional Drivers)

- G3.1 Summarize audit results monthly, and issue written warnings to professional drivers who exhibit abnormal behavior (such as speeding, excessive idling, route deviation, vehicle device disconnection, etc.) for two consecutive months or more.
- G3.2 Do not impose fines or penalties on professional drivers in any unlawful manner.
- G3.3 Conduct at least one emergency drill annually to ensure that professional drivers have strong emergency response capabilities.

G4) Subcontractor Management

- G4.1 Clearly communicate TSMC-related regulations to subcontractors.
- G4.2 Conduct annual audits of subcontractors and establish reasonable regulations. Those who fail the audit may be reviewed once more, but if they fail again, contracts should be terminated.
- G4.3 If there are subcontractors, they must comply with the aforementioned management regulations and sign a comprehensive subcontracting agreement.

G5) Key Indicators for Safe Driving

- G5.1 Provide monthly statistical data on the number of vehicle trips to and from TSMC sites, related violations, at-fault incidents.
- G5.2 Conduct cause analysis of road traffic violations, at-fault incidents, and implement preventive and corrective measures.

G6) Greenhouse Gas Emissions Management

- G6.1 Transporters should estimate and record the greenhouse gas emissions resulting from their annual transportation activities. For estimation methods, please refer to the GLEC Framework published by the Global Logistics Emissions Council (GLEC).
- G6.2 Transporters should propose short, medium, and long-term goals and strategies to reduce greenhouse gas emissions related to transportation, while maintaining the same quality of transportation services. These strategies may include, but are not limited to, the use of sustainable fuels, replacing vehicles with low-carbon alternatives, optimizing transportation routes and schedules, and improving cargo packaging.

Special Vehicle Management

G7) Conduct scheduled and unscheduled audits and analyses of transportation operations, and evaluate the driving behavior of professional drivers. The audit items are as follows:

- G7.1 Camera Audit: Check for abnormalities in monitoring cameras during transportation (e.g., displacement, black screens, blue screens, etc.). If abnormalities are detected, notify the maintenance service provider immediately.
- G7.2 Daily checks of the monitoring center to ensure the alarm system reports no anomalies (e.g., lane departure, close following distance, forward collision, fatigue driving, distraction, etc.).

TSMC Supplier Transportation Standards Checklist

To achieve the goal of a transportation safety culture, certain indicators in this white paper are stricter than current regulations. In response to differences in regulations among countries, if any individual indicators conflict with a country's regulations, alternative measures that comply with local regulations will be adopted.

Category	Item	Standard	Checkpoint
A. Basic Company Requirements	1	Basic Company Requirements	Transportation vehicles and employee must be insured with adequate liability insurance or other insurance as required by law.
	2		Employers should provide rest areas for professional drivers to ensure they get sufficient rest and avoid fatigue driving.
	3		There must be a mechanism in place to manage the working hours of professional drivers, including cumulative within 24 hours and continuous driving time. Drivers should be given at least 30 minutes rest time after driving continuously for 4 hours to prevent fatigue driving.
	4		Establish a mechanism for professional drivers to proactively report if they are sick, feeling unwell, or fatigued.
	5		Establish mechanisms for addressing abnormalities during transit and road rescue to ensure driver safety.
	6		Transporters engaged in transportation operations with potential risks and employing more than 30 people must obtain ISO 45001 certification or an equivalent third-party occupational health and safety management standard certification. Overseas subsidiaries must obtain this certification by the end of 2027 at the latest and maintain its validity. (Special Vehicle Management)

Category	Item	Standard	Checkpoint
B. Basic Vehicle Requirements	7	General Vehicle Specifications	Establish a vehicle tire replacement record form. The form must indicate the tire position and tire serial number for replacements.
	8		Vehicle accessories (e.g., mechanisms to prevent the opening of doors without the handbrake being engaged, gull-wing doors, or waste vehicle grapples) should have an active alert mechanism (e.g., buzzer alarms, warning lights, automatic power cut-off) to prevent injuries, building damage, or hazardous material spills due to improperly secured vehicle accessories.
	9		The tread depth of transportation vehicles must be greater than 2 millimeters. (Special Vehicle Management)
	10		The use of retreaded tires is prohibited for the following transportation vehicles:(Special Vehicle Management): a. Trucks or tankers carrying hazardous materials. b. Trucks or tankers carrying non-hazardous materials that use routes including highways or expressways.
	11		Transportation vehicles governed by this white paper must be equipped with the following compliant functions unless prohibited by government regulations. (Special Vehicle Management): a. Collision Warning System: Alerts when the vehicle's safety distance is too close b. Lane Departure Warning System: Alerts when the vehicle drifts out of its lane. c. Tire Temperature and Pressure Monitoring System: All tires must have temperature and pressure detectors installed. d. Installation of GPS driving records and driving visibility assistance systems; the visibility assistance system should display panoramic images around the vehicle. In Taiwan, installation should cover the interior of the vehicle, front, left rear, right rear, and rear of the vehicle.
	12		Transporters should consider the risk of center of gravity shift when transporting vehicles with partially filled liquid tanks, and should either appropriately reduce speed limits or mitigate effects through compliant hardware design changes. (Special Vehicle Management)
	13		Vehicles must have a non-adjustable speed limiting function, except where exempted by government regulations. (Special Vehicle Management)
	14		Vehicles must be equipped with an emergency braking assistance system, except where exempted by government regulations. (Special Vehicle Management)
	15		Maintain a record of regular vehicle maintenance, with at least one service every 12 months: a. General Inspection items: Vehicle body, tank, battery, connectors, and other equipment parts to ensure they are functioning properly, with no defects, deformations, corrosion, cracks, leaks, dirt, or looseness. Instrument gauges should be accurate, and safety and emergency response equipment should operate correctly. b. For oil tankers, inspections should include regular checks and periodic cleaning of the oil tank, oil delivery system, safety valves, and filter screens; frequent lubrication of the inner and outer joints at both ends of oil delivery hoses; regular maintenance of the oil pump; and regular checks to ensure all connections in the pipeline system are secure and reliably sealed. (Special Vehicle Management) c. For tankers, inspections should include checking for significant damage, deformation, corrosion, or cracks; ensuring insulation materials are intact; checking for paint peeling and rust on the surface; inspecting for cracks and leaks at pipeline connections; ensuring grounding clips or wires are intact and free of damage or corrosion; checking for loose bolts and nuts; regular checks and periodic cleaning of the liquid tank, liquid delivery system, safety valves, and filter screens; frequent lubrication of the inner and outer joints at both ends of liquid delivery hoses; regular maintenance of the pump; and regular checks to ensure all connections in the pipeline system are secure and reliably sealed. (Special Vehicle Management)
	16		Tanker Specifications

Category	Item	Standard	Checkpoint
C. Basic Requirements for Professional Drivers	17	No Major Traffic Accident Record	Professional drivers have no record of major traffic liability accidents or criminal liability for causing death or injury within the last three years.
	18	Professional Driver's License	Drivers must have a valid professional driver's license as well as pertinent dangerous goods certificates prescribed by local law.
D. Pre-Transportation Operations	19	Pre-Departure Vehicle Safety Inspection Checklist	<p>Conduct a walk-around inspection of the vehicle before departure. The checklist should include the following items:</p> <ul style="list-style-type: none"> a. Five Oils and Three Waters: Check fuel (gasoline, diesel, or electricity), transmission oil, engine oil, brake fluid, power steering fluid, radiator water (coolant), windshield washer fluid, and battery water. b. Inspect tire pressure, tire tread, battery, brakes, lights, fan belts, wipers, windshield, and the interlock system (such as buzzers). c. Record tire pressure and tread measurements before departure. d. Ensure that all vehicle accessories and attachments are properly positioned and secured, such as gull-wing doors, cargo compartments, locking devices, or waste vehicle grapples. e. Ensure that driver and each passenger is equipped with emergency response equipment for various hazardous materials as required by local laws.
	20	Health Status of Professional Drivers on the Day of Operation	Before departure, confirm that the driver's working hours on the previous day comply with regulations and laws.
	21		Transport company should establish management mechanisms to ensure that professional drivers are in a suitable physical state to perform transport operations on the day. This includes ensuring, in accordance with applicable local laws, a zero blood alcohol concentration, no discomfort caused by blood pressure issues, no sleepiness, no impairment of driving ability due to medication, no dizziness or numbness in the extremities, or any other conditions that may compromise the safety of transportation operations.
	22		If a driver's average systolic blood pressure is classified as abnormal according to local government or World Health Organization standards, the transport company should assign personnel to monitor and follow up with the driver.
23	Confirmation of Validity for Temporary Permits	Before transportation operations, ensure that the temporary permit for transporting hazardous materials is within its valid period. Additionally, confirm that the professional driver is familiar with the day's delivery route, designated rest areas along the route, and no-parking zones.	

Category	Item	Standard	Checkpoint
E. During Transportation Operations	24	Delay Notification	If a transport vehicle encounters an accident or an event that may lead to a delivery delay, it must immediately notify relevant TSMC personnel.
	25	Material Loading and Unloading Regulations	When entering the TSMC dock area, all relevant regulations must be followed. For complete details, please refer to the "Contractor Environmental, Safety, and Health Blue Book - Dock Area Safety Regulations" or the specific regulations of each Fab.
	26	Driving Management System	If compliant with local laws and with the consent of the driver, the system should have a cloud-based image center where all compliant driving view assist images can be viewed in real-time over the internet. In Taiwan, these images should cover the front, left rear, right rear, rear, and interior of the vehicle. (Special Vehicle Management)
	27		If compliant with local law, GPS real-time data must be synchronized and uploaded in a format compatible with TSMC's system to the corresponding cloud database system provider. (Special Vehicle Management)
	28		Transporters should evaluate and plan driving routes, prioritizing routes with fewer turns. During transportation, vehicles should slow down and adhere to speed limits, especially when navigating turns. (Special Vehicle Management)
	29		If compliant with local laws and with the consent of the driver, the system should be equipped with the following abnormal condition detection functions to ensure that any anomalies trigger immediate notifications via SMS or other messaging systems to relevant personnel (e.g., sales). Notifications should be sent every 30 minutes to the supplier, and if there is no response after three notifications, the system provider must alert TSMC(Special Vehicle Management): <ul style="list-style-type: none"> a. Detect if the vehicle disappears from the GPS tracking system for more than 15 minutes before reaching the designated location. b. Detect if the vehicle idles or shuts off for more than 1 hour in a non-designated rest area (abnormal stop). c. Detect if the vehicle has overturned, such as when a level gauge tilts more than 90 degrees, or real-time monitoring by the control center. d. Have mechanisms to alarm driver fatigue. e. Have mechanisms to alarm driver distraction behaviors (e.g., using a mobile phone).
F. Post-Transportation Operations	30	Health Status of Professional Drivers on the Day of Operation	Transporter shall establish a mechanism to ensure that the professional drivers maintain a zero alcohol concentration during working hours, including the transportation process when leaving TSMC premises.

Category	Item	Standard	Checkpoint
G. General Operational Management	31	Education and Training	<p>Training for new professional drivers must be completed before they begin operations. The training program should cover the following content:</p> <ol style="list-style-type: none"> Transportation-related regulations. Safety in loading and unloading operations, including operational procedures, safety precautions for handling different types of containers, hazard identification, emergency response equipment, and personal protective equipment. Case studies of past transportation incidents, analysis of causes, and preventive measures. Relevant provisions of the Labor Standards Act and health management regulations. Basic knowledge of occupational disease prevention (including overwork, chemical exposure, ergonomic occupational diseases, etc.). Standard operating procedures for loading and unloading materials. Basic vehicle maintenance methods. Defensive driving training. TSMC Fab entry regulations. Training plans for new driver observation and ride-along experiences.
	32		<p>Annual training for professional drivers should be conducted regularly, and the training program should cover the following topics:</p> <ol style="list-style-type: none"> Transportation-related regulations, including the classification of goods and major product names. General physical and chemical properties. Packaging marks and vehicle signs. Basic safety inspection methods for transport vehicles, equipment, and their accessories. Issues and solutions encountered in the daily transportation process. Case studies of transportation incidents from the past year, analysis of causes, and preventive measures. Emergency response plan. Defensive driving training. Active driving safety regulations (such as slowing down on curves, highway restrictions, etc.).
	33	Conduct scheduled and unscheduled audits and analyses of transportation operations	<p>and evaluate the driving behavior of professional drivers. The audit items are as follows:</p> <ol style="list-style-type: none"> Alcohol Testing Audit: Establish a mechanism to ensure that drivers have a zero alcohol concentration by methods enforceable under local laws before during, and leaving TSMC premises transportation operations during their working hours. Driving Audit: Conduct random audits, generally performed by dispatchers, department supervisors, or safety personnel, to check the driving conditions of professional drivers during transportation. Speed Audit: Check whether the driving speed of professional drivers during transportation complies with regulations. Rest Audit: Verify whether professional drivers take rest breaks as required during transportation. Behavior Audit: Assess whether the behavior of professional drivers during transportation is appropriate (e.g., not wearing a seatbelt, using a mobile phone, smoking, etc.). Road Audit: Ensure compliance with road regulations during transportation, such as not running red lights, overtaking across lines, or turning without signaling. Loading and Unloading Audit: Conduct on-site audits to ensure that loading and unloading operations comply with TSMC "Contractor Environmental, Safety, and Health Blue Book - Dock Area Safety Regulations" or the specific regulations of each Fab . Form Audit: Compile all audit records into reports monthly, perform anomaly analysis, and implement corrective actions as needed. Reporting Audit: Establish an effectiveness audit mechanism for reporting when professional drivers experience discomfort, fatigue, or are unfit to perform transportation operations on a given day. Camera Audit: Check for abnormalities in monitoring cameras during transportation (e.g., displacement, black screens, blue screens, etc.). If abnormalities are detected, notify the maintenance service provider immediately. (Special Vehicle Management) Daily checks of the monitoring center to ensure the alarm system reports no anomalies (e.g., lane departure, close following distance, forward collision, fatigue driving, distraction, etc.). (Special Vehicle Management)

Category	Item	Standard	Checkpoint
G. General Operational Management	34	Evaluation of Professional Drivers (Including Subcontracted Professional Drivers)	Summarize audit results monthly, and issue written warnings to professional drivers who exhibit abnormal behavior (such as speeding, excessive idling, route deviation, vehicle device disconnection, etc.) for two consecutive months or more.
	35		Do not impose fines or penalties on professional drivers in any unlawful manner.
	36		Conduct at least one emergency drill annually to ensure that professional drivers have strong emergency response capabilities.
	37	Subcontractor Management	Clearly communicate TSMC-related regulations to subcontractors.
	38		Conduct annual audits of subcontractors and establish reasonable regulations. Those who fail the audit may be reviewed once more, but if they fail again, contracts should be terminated.
	39		If there are subcontractors, they must comply with the aforementioned management regulations and sign a comprehensive subcontracting agreement.
	40	Key Indicators for Safe Driving	Provide monthly statistical data on the number of vehicle trips to and from TSMC sites, related violations, at-fault incidents, and instances of speeding and violations detected by internal systems.
	41		Conduct cause analysis of road traffic violations, at-fault incidents, and internal speeding events, and implement preventive and corrective measures.
	42	Greenhouse Gas Emissions Management	Transporters should estimate and record the greenhouse gas emissions resulting from their annual transportation activities. For estimation methods, please refer to the GLEC Framework published by the Global Logistics Emissions Council (GLEC).
	43		Transporters should propose short, medium, and long-term goals and strategies to reduce greenhouse gas emissions related to transportation, while maintaining the same quality of transportation services. These strategies may include, but are not limited to, the use of sustainable fuels, replacing vehicles with low-carbon alternatives, optimizing transportation routes and schedules, improving cargo packaging.