Training Package
TP 39/25

Driver Engagement

No 2 Venture Drive, #22-28 Vision Exchange, Singapore 608526
Tel: +65 67055642 Fax: +65 68633307
Internet: http://www.asiaiga.org

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Introduction

For industrial and medical gases companies, the road transport of gases to the customers is a major mode of supply, covering driving the product vehicle, loading, unloading products, and manual handling the cylinders. The truck drivers have worked with certain transport equipment such as tractor, truck, semi-trailer, tube trailer, chassis for swap bodies / containers, lifting equipment and driver's equipment. Thus, the drivers are directly responsible for transport safety and his/her personal safety. They also act as representatives of the gas companies towards the customers. For these reasons, it is critical that gas companies and transport contractors shall engage the truck driver into safe operations, monitor their individual performance closely and take appropriate action(s) when they perform unsafe.

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Purpose

To provide a guidance with practical examples of the driver engagement programs in order to motivate the drivers and encourage safe behavior in the product transportation related activities for the industry.

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Toolbox Talk / Small Group Meeting

Purpose	Information Communication
Frequency	The toolbox talk or small group meeting can be organized either at the early of the day or after drivers finished their trip. The duration should be managed about 15 to 30 min.
Topics covered	1. General road safety, human safety and process safety awareness 2. Promote the safety campaign that just been launched 3. Refresh knowledge about safe practices and hazard of products that drivers are going to deliver 4. Safety and quality reports, root cause analysis and actions 5. Update vehicle condition, preventive maintenance program and schedule 6. Communicate the new or revised operations and safety procedure 7. PPE and gas detector checking 8. Fit for work evaluation such as an alcohol breath testing, blood pressure test 9. Driving behavior analysis and discussions (Video-based) 10. Trip briefing

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Toolbox Talk / Small Group Meeting

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Vehicle Inspection (Pre, Post and Between Trips)

Purpose	Ensure safe condition of the product vehicle
Frequency	Minimum: BEFORE the first use of the vehicle in the TRIP/SHIFT or whenever there is a change of driver Optimal: Pre, post and between trips by the driver
Items to be inspected	1. Tires' condition 2. Brake examination 3. Engine inspection 4. Level of fluids; fuel, lube oil, brake and clutch fluids, power steering fluid, coolant, and windshield washer fluid inspection 5. Mirror and swivel mounts 6. Windshield wipers condition 7. Automotive lamps, and Light signals 8. Coupling inspection 9. Trailer examination 10. Pressure vessel; valves, gauges, no increasing of pressure

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Vehicle Inspection (Pre, Post and Between Trips)

Recommendations on good practice for doing the trip checks effectively

- The trip checks sheets should be convenient to record. A digital form can be used for trip checks also. It can provide a real time tracking system with records.
- Implement of between the trip check especially on tire, wheel and engine visual inspection what can avoid major incident according to tire flat or explosion, wheel loose, hot wheel, and engine overheat.
- Using of wheel nut indicator is a simple and visible equipment that can help driver to observe an abnormality on the wheel easily. Moving of the indicator means the nut has loosened. Melting of the indicator is a warning sign of hot wheel.
- Supervisors and driver trainers shall randomly recheck or join the vehicle inspection to observe understanding of driver when doing trip checks, which can help improve the quality of this program
- Quickly response and fix the issues raised by drivers to encourage the driver doing vehicle inspection well.

Wheel nut indicator

A random recheck by supervisor

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Vehicle housekeeping program

Purpose	Clean, hygienic and safe working environment (truck cabin)
Frequency	Minimum: BEFORE the first use of the vehicle in the TRIP/SHIFT or when there is a change of driver Optimal: Pre and post trips by driver
Items to be inspected	1. Dashboard 2. Driver footwell 3. Passenger footwell 4. Overall cabin (behind the seats) 5. In the side pockets of the cabin doors
Notes:	Loose items should be secured to prevent unintentional movement/fall

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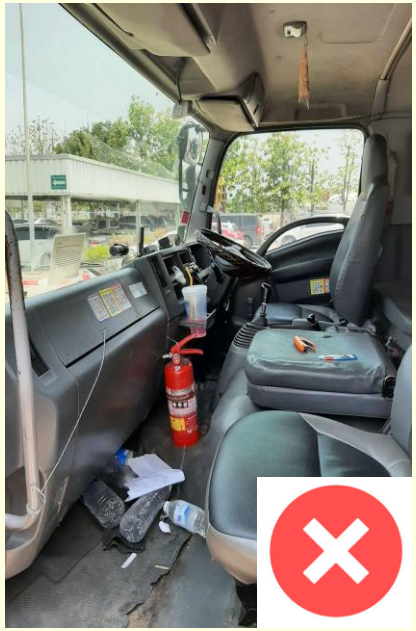
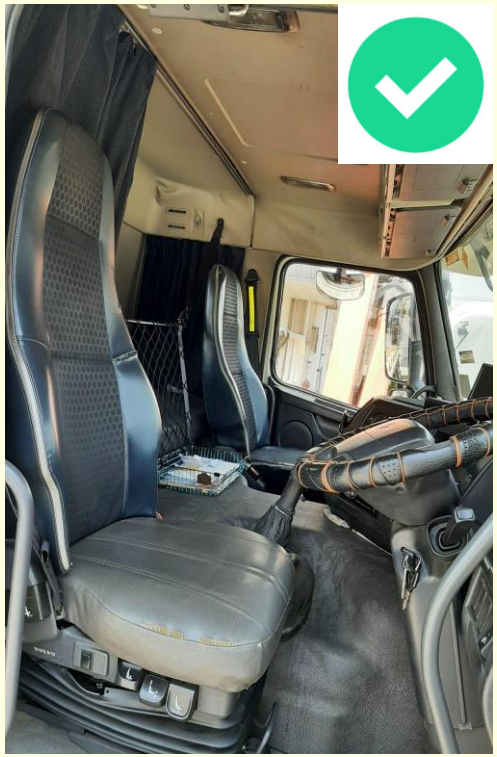
Vehicle Housekeeping program





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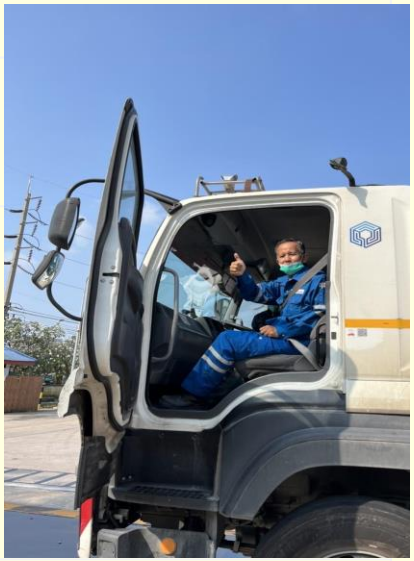
Driver Behavioural Safety Visit(BSV)

Purpose	Organised and scheduled safety audit of driver when driving, loading/unloading of product and/or product handling
Frequency	Minimum: Once a year per driver Optimal: Twice per year
Items to be observed	1. Driving habit 2. SOP compliance 3. PPE compliance 4. Both safe and at risk behaviours of the driver 5. Workplace safety
Notes	➢ The observer should be trained and fully understand the methodology and objective of doing BSV. They shall understand well the work procedure and requirements of work that they are observing the driver. ➢ The BSV should be with prior announcement and organized, It is NOT a surprise check or audit ➢ BSV is not equivalent to an anomaly hunting program, both safe and unsafe practices of driver should be recorded during a visit ➢ Senior management are encouraged join the trip with drivers



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Driver Behavioural Safety Visit(BSV)

Notes

- During observation, the observer should not distract the driver from driving or working; for example they should not always keep asking questions which can lead the driver from focusing on what they are doing and cause mistake or even an accident.
- The observer should note all the observations to discuss with driver after the work finish.
- When the work finish, the observer can start to share what has been observed in the trip and discuss with the driver to understand why the driver practiced or did not practice or follow the standard procedures or guidelines provided.
- Encourage to have a dialogue between observer and driver
- Encourage the driver to commit on working on the improvement actions
- A smart helmet with online camera on it can be considered to be implemented for doing a remote BSV with prior consent and approval from customer to allow camera recording in the delivery area

Note: *The risk assessment and the legal compliance assessment for example, the compliance to the local PDPA(Personal Data Protection Act) law should be implemented prior to using a smart helmet*

A smart helmet

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Driver Reward Program

Purpose	To motivate product vehicle drivers to drive and work safely, also to maintain a high quality of service and delivery to customers
Frequency	Monthly review of driver performance based on established criteria and provide the rewards
Items to be monitored and recorded	1. Compliance to road safety, process safety and personnel safety requirements and procedures 2. No accident and no serious safety event 3. No fatigue and distraction event, no cell phone use 4. Near miss and unsafe act/condition reports 5. No unsafe driving event（Overspeed, harsh braking, harsh turning） 6. No customer complain
Notes	• Recommend to communicate clearly about the performance tracking criteria and rewards to the drivers before launching the program and regularly communicate the status of program during the driver meeting • Recommend to encourage the third party or contractor companies to have a driver rewards program by specify in the Terms of Reference before the logistic contract is signed

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Driver Risk Profiling Program

Purpose	To identify, profile and manage drivers effectively to ensure high standard of road safety in the company
Frequency	Monthly review of risk profile based on established criteria
Items to be profiled	1. Non-compliance to Process and Personnel safety 2. Mobile phone use 3. Driver fatigue and distraction event 4. Unsafe events (eg. Overspeeding, harsh braking, harsh turning) 5. Non-compliance to company's and Local Govt. road safety practices
Notes	• Always engage your company's Human Resource Department as well as their company's drivers' union for alignment and agreement. • Conduct proper and documented program communications to all involved drivers. i.e. one to one coaching • Can be a challenging task if drivers are from third party or contractor companies • The factor of driven kilometers should be brought into consideration due to the higher driven kilometers is related to the higher risk and exposure to unsafe events for the driver.

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Driver Risk Profiling Program

Fleet A	Points Deduction / driver / event
Life Saving Rule Violation	-30
Mobile Phone use	-30
Fatigue Detection Event	-30
Overspeed driving	-10
No pre/post trip check	-10

(An example of a driver scoring criteria)

- Summary a final point of each driver by monthly
- Identify the point level for example < 70 = High Risk Driver , 70-89 = Medium risk driver, and >= 90 is low risk driver
- Identify a specific actions for high risk drivers and medium risk drivers such as a temporary stop from working for refresh training and re-qualification
- Consider to implement an In-control incident program for at risk drivers to supervise and monitor their work closely until their individual safe performance has clearly improved.
- Identify a number of maximum high risk frequency that the fleet can accept. For example, a driver who is identified as high risk driver for 3 times within 12 months can be considered for suspension from driving and initiate further administrative action for improvement or termination depending on the company policy.

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Driver Training Program

Purpose	Adequate training is provided to drivers to meet the need to acquire sufficient knowledge in driving and dangerous goods handling and to be able to handle them safely and reliably.
Frequency	Monthly training, annual or several-year refresher training
Notes	• Training materials can be varied, such as PPT, video, etc. • Training can be delivered in a variety of ways, such as classroom training, online training, thematic events, etc. • Training must be interactive and never indoctrinate. • An assessment is required after the training to test the driver's mastery of the course, which can be an oral test, a written test, and/or a practical exercise. • The effectiveness of the training can also be tested in conjunction with daily observations. • Experienced drivers can be developed to become a qualified trainer

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Road Safety Technology

Purpose	To leverage appropriate road safety technologies to aid both drivers and driver management to effectively monitor and manage road safety in transportation activity
Frequency	Weekly to Monthly, dependent on the event detected. Driver Fatigue recommended to be as soon as practicable.
Items to be monitored	1. Driver Fatigue detection and alert 2. Driver distraction detection and alert 3. Overspeeding 4. Harsh acceleration 5. Harsh braking 6. Harsh turning
Notes	The use of road safety technology is not a direct replacement for human based driver management. Road safety technology is an enabler for drivers' supervisor or manager to make the transportation activity monitoring more effectively. It also serves as the first line of direct intervention to alert the affected drivers of immediate dangers and for the drivers to take defensive driving actions.

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Road Safety Technology

Recent Advanced Driver Assistance Systems (ADAS) stand for a combination of various technologies that help to prevent a human error, a major cause behind road accidents. Listed below are few examples of present technologies that can help to improve driving safety.

- Intelligent speed assistance which preventing driver from driving at high speed.
- Autonomous emergency braking system which can detect obstacles on the road and slow down the vehicle automatically.
- Collision avoidance system which help alert the driver before front collision and lane departure.
- Rollover stability system
- Electronic brake system
- Park assist camera which help drivers to see the view at rear side and the rear collision warning system that can alert the driver before rear collision
- Blind spot warning system
- Tire pressure monitoring system; an electronic system that monitor the tires pressure and display on the monitor or gauge inside the vehicle cabin

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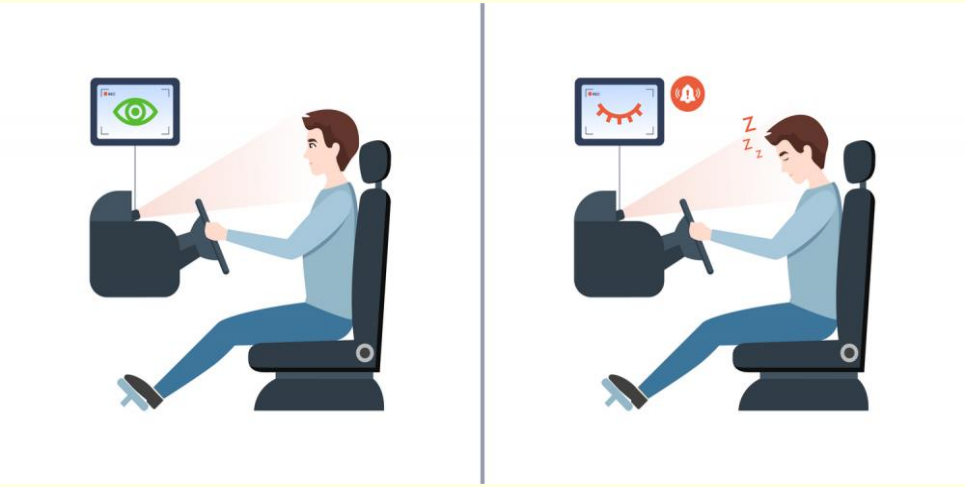
Road Safety Technology

- Driver detection system, a combination of a smart camera with a function of image processing technology which can detect and record behaviors of a driver includes fatigue drowsiness, mobile phone use, and various of distractions together with sound and vibration warning system inside the vehicle cabin.



Ref. www.thewindscreenco.co.uk/adas-guide/drowsiness-detection/

- Be remembered that using any of these ADAS technologies still need a resource and effort to manage and maintain them. An effective of events classification, data management, statistical analysis and individual coaching are the keys to improve driver safety behaviors.

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Driver Safety Day and Driver's Family Engagement Activity

Purpose	To stimulate the safety awareness to a product vehicle drivers and all relevant fleet staffs, also an opportunity to recognize good profiling drivers and celebrate the success of zero accident record. To engage drivers into the safety activities to achieve the safety objectives.
Frequency	Driver Safety Day: Once per year Driver's Family Engagement Activity: Once per year
Items to be shared	1. Safety performance 2. Safety focus 3. Safety commitment 4. Sharing good and bad practices of drivers 5. Family influence on safety commitment and support
Notes	NA

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Driver Safety Day

Driver Safety Day is a special event organized for product vehicle drivers periodically (as minimum once a year). The objectives and benefit of driver safety day activity are as below:

- To stimulate a safety awareness especially on specific subject relevant to the driver groups such as road safety, safe product loading-unloading, and safe product handling.
- To launch a specific campaign regarding to the key safety topic under focusing such as fatigue management, defensive driving, fit for drive and etc.
- To celebrate a safety statistics either country level or a dedicated fleet level
- To applaud the good safety performance drivers as a role model for others

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Driver Safety Day

Examples of activities those can be organized on the driver safety day:

- Safety awareness talks
- Refresh defensive driving training
- Job Safety Analysis workshop
- Fit for work exercises class
- Safety games and quiz sessions
- Recognize and celebrate good safety performance of drivers

Driver safety day should be organized in two way communication as basis, encourage driver participation actively via workshop and presentation to help driver to learn and remember the contexts more than a ‘class room’ type program for them to listen only.

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Driver's Family Engagement Activity

Drivers' safe driving habit is a common purpose that any logistics fleet would like to develop and maintain. It is challenged due to the change in habit. Thus there is a need for alignment on safety attitude between drivers and their supervisor. It also requires high level of collaboration between various stake holders. Driver's family engagement can be an important program to help convince the drivers changing their safety attitude, mindset and collaboration. It has been that the family has the same wishes and priorities as the drivers' supervisor and they are willing to support the member company safety program for the drivers because:

- want the driver to come back safely from the delivery trip
- want the driver to focus on driving safely; no overspeeding, no fatigue fighting, no distraction while driving
- want the driver to manage their rest hours properly
- want the driver to follow traffic regulations and any other safety compliances

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Drivers' Family Engagement Activity

Below are few examples of drivers' family engagement program

- Safety postcard; with a commitment from drivers to their beloved
- Family's voice, an interview video sharing the messages and wishes from driver's family member to the driver
- Family safety day, an event that drivers and their family members can participate together to emphasize why the safety is always a top priority




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Words of Wisdom

"Tell me and I forget. Teach me and I remember. Involve me and I learn"

~Benjamin Franklin

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Useful References

- AIGA TP 34/23 Contract Carrier Management
- AIGA SB 08/17, In Cab Camera Installation and How It Improves Driver Safety
- AIGA SB 11/18, Human Behavior in Transport Safety Organization
- AIGA SB 19/19, Guideline on Monitoring and Managing High RiSk Drivers
- AIGA SB 27/21 Vehicle Specification and Maintenance
- AIGA SB 28/21 Vehicle Data Management
- AIGA SB 37/23, Human Factor in Individual Training and Competence
- AIGA SB 29/21 Training: Induction and Refresher Training of Drivers, Management and Other Transport Function Personnel
- EIGA Info TS 05/20 Driver Recruitment Process for Bulk and Cylinder Vehicles

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