AIGA 2008 MEETING

Product Vehicle Safety & Accident Prevention





Asia Industrial Gases Association



FMM MIGMA

Co-organiser:

FMM Malaysian Industrial Gases Manufacturers Group

Good Practices in Product Vehicle Safety Management - The Japanese Experience

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Good practices in transportation

- Kids mobile phone system
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Summary





Introduction

Traffic in Japan

76 million cars (2006)

1.6 million (2.1 %) ofSpecial - PurposeVehicles like road tanker

Vehicle with W<2.5 m L<12 m Wt< 25 ton can drive anywhere.





Introduction (cont.)





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Kids Mobile Phone System

Purpose

Main purpose is prevention of vehicle driving under the influence of alcohol in order to reduce transportation incident risk.

Functions

- Following functions are possible with the use of kids mobile phone system (TV phone system).
 - Vehicle drivers' alcohol check at plant as well as remote location with immediate availability of alcohol level data





Kids Mobile Phone System (cont.)

- Roll calls of vehicle drivers with possible check of their health conditions while watching their faces
- Emergency calls
- Availability of constant vehicle locating by GPS

Effectiveness

Good system for safe driving management as well as for change of vehicle driver's driving behaviour.

Implementation program

> Has recently been introduced.



Kids Mobile Phone System (cont.)

On-site alcohol and health check by mobile phone The Gas Professionals **Kids mobile phone Alcohol checker** 0.00 ----**Dispatcher**



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Digital Tachograph

For eco-safety driving, digital tachograph systems are introduced for road tankers.

Record system of driving data

Data analysis and evaluation including drivers' guidance







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Evaluation factors

• Safe driving

- Max. speed
- Average speed
- Rotational speed (starting, accelerating, breaking, etc.)
- > Economical driving
- Idling hours
- Rotational speed





Safe driving data analysis





- Installation program
 - Installation : Started from 2002
 - DT installed tankers :100% in 2005 (domestic)

(Other major domestic players are in their similar situations.)





Outcome

- DT has become a good tool for the <u>safe driving management</u> especially on improvement of drivers' driving behavior.
 - Decrease in reckless driving
 - Decrease in over speed driving
 - Securing the distance between the cars
- > Traffic accident risks have been reduced.
- > In addition, gas consumption has been reduced $(1 \sim 5\%)$.





Yellow Card System

Purpose

Having better emergency response by vehicle driver on emergency measure, first response for Fire Department, etc. to be taken at the time of transportation related incident.

Matters to be written in Yellow Card

- Gas name
- Gas properties
- Matters to be attended to
- Emergency call number and address





Yellow Card System (cont.)

Application

Vehicle driver must carry Yellow Card during product transportation and observe matters written in it for oxygen, flammable and toxic gases.

Implementation

- ➢ 9 years since1999.
- Having been well used by industrial gases industry in Japan.

Effectiveness

> Having been helpful to transport emergency response.





Yellow Card System (cont.)







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Mutual Aid Program

Program

> Not industry oriented, but local government initiated program.

Mutual aid concept

- The government evaluates and designates mutual aid locations (factories). Those locations are provided with ER experts and equipment.
- When an incident takes place and ER request comes, a designated location is dispatched to the incident site for ER support work and works with Fire Department and the police under Fire Department's control.





Mutual Aid Program (cont.)

Necessary ER advice is given by industrial gases experts.

Those industrial gases experts are involved with incident investigation work when requested.

Designated location

 Currently 2,000 locations in Japan archipelago. (industrial gases sites)

Advantage

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> Quick ER is possible.



Mutual Aid Program (cont.)

Activity

- > Fairly active.
- Industrial gases experts are providing ER training with Fire Departments as well.





Mutual Aid Program (cont.)

Member certificate

		aff	会	員	証	明	書
No. 51			有効期	限	平成21年3月31日		
事業所名		大陽日酸株式会社川崎水江事業所					
所在地 川崎市川崎区水江町3-3							
社団法人神奈川県高圧ガス防災協議会の会員であることを証明する。 平成 19 年 4 月 1 日 19 - 35 関東高圧ガス保安団体連合会 禁風神奈川県高圧ガス防災協議会 ににしていた。 とのににしていた。 第二、 「にしていた」 にしていた。 「にしていた」 にしていた。 「にしていた」 にしていた。 「にしていた」 「」 「していた」 「していた」 「していた」 「していた」 「していた」 「していた」 「していた」 「していた」 「」 「していた」 「」 「していた」 「していた」 「していた」 「していた」 「」 「していた」 「」 「していた」 「」 「していた」 「」 「していた」 「」 「していた」 「」 「」 「していた」 「」 「していた」 「」 「」 「」 「」 「」 「」 「」 「」 「」 「							



ESG Cylinder vehicle

For the mass transportation of electronic specialty gases, specially designed ESG cylinder vehicle is driven with two drivers.



The vehicle is particularly equipped with

- Toxic gas detector
- Flammable gas detector
- Gas monitors
- Abatement system
- Fire extinguisher





Cylinder Vehicle

Safe transportation practices in Japan on cylinder vehicle are similar to the ones which are being conducted in the other part of the world.

Some good practices are:

Cylinder valve protection caps



Tightening the rope at two places



Driver with Transportation supervisor certificate



Hooking the rope tightly





Vehicle Driving Safety

Hardware

Noteworthy practices are:

- > Vehicles are kept clean and well maintained all the time.
- Compulsory vehicle inspection is carried out every year. (Law)
- Earlier replacement of consumables such as tires, break pads, engine oil.
- > Provision of PPE, emergency tool box, emergency kit, etc.





Vehicle Driving Safety (cont.)

Software

Noteworthy practices are:

- Driving hours management
- > Rather strict driver qualification program for gas transportation
- Intensive safety training
- Driver's yearly check and evaluation on safety by administrator while getting on (safety patrol)
- > Uninterrupted two-way communication on handling bad weather





Summary

- Some good practices in Japan have been introduced here on safe transportation of industrial gases.
- Availability of good safety rules and programs is important, but more important are their observance and execution by workers under good safety management capability.





Summary (cont.)

- Safety education and training are basic, but very important for incident prevention, emergency response, etc. Japan is spending a substantial amount of time for these.
- Regulations in Japan are in good order and being well observed. This is a good stopper against possible transportation incidents taking place.





Thank You for your attention !



