

TPTI APPROVED STANDARDS

Defensive Driving

REV.	0	DATE	16/02/11
------	---	------	----------

AMENDMENTS				
AMENDMENT	PAGES	CHANGES MADE BY:	CHECKED BY:	APPROVED BY:

Any amendments made to this standard by TPTI will be recorded above.

REV.	0	DATE	16/02/11
------	---	------	----------

CONTENTS

GLOSSARY		4
INTRODUCTION		5
DEFENSIVE DRIVING		
A.1	Target Group	6
A.2	Delegate Prior Achievement	6
A.3	Learning Outcomes	7
A.4	Training Program	10
A.5	Duration of Training	19
A.6	Assessment	20
A.7	Further Training/Assessment	21
RESOURCES		
B.1	Staff	22
B.2	Trainer/Delegate Ratio	23
B.3	Facilities	23
B.4	Equipment	24
B.5	Certification and Recording	25
B.6	Medical and Health Requirements	26

REV.	0	DATE	16/02/11
------	---	------	----------

GLOSSARY

CR	Central Register
DMF	Department of Minerals Fuels
HASAWA	Health & Safety at Work Act
HS&E	Health, Safety and Environment
MHSWR	Management of Health & Safety at Work Regulations
OPITO	Offshore Petroleum Industry Training Organization
PFEER	Prevention of Fire, Explosion and Emergency Response Regulations
SMS	Safety Management System
TPTI	Technical Petroleum Training Institute

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

INTRODUCTION

This standard was developed by TPTI in conjunction with a workgroup representing the interests of the offshore oil & gas industry in Thailand.

This document introduces and describes the competence statements and safety training by TPTI for personnel who are required to drive both light and heavy vehicles in the performance of their duties. It explains how competence shall be assessed and certified.

The industry recognises that a major objective is to prevent incidents occurring, and if they do occur to control them and minimise their effect. It is important therefore to set common standards and to ensure that they are maintained.

The attainment of competency will require personnel to demonstrate both theoretical knowledge and practical skills. Dependent upon the experience of personnel, the following steps in training and assessment must be undertaken:

1. Basic training and knowledge assessment carried out at a **TPTI** approved training establishment.
2. Ongoing development and skills enhancement.

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.1 Target Group

This program is designed to meet the initial offsite training and assessment requirements for personnel who are required to drive both light and heavy vehicles in the performance of their duties in Exploration and Production operations in Thailand.

This Defensive Driving Standard contains:

- Learning Outcomes
- Training Program Content
- Statements on:
 - Assessment
 - Further Training / Assessment

This Standard consists of the following modules:

- Rules of the Road
- The Vehicle and its Components
- Vehicle Handling
- Driver Behavior
- Respect and Responsibility
- Sharing the Road
- Driver Attention
- Perception and Risk Management
- Safely handle a vehicle in emergency
- Road Emergency Management

A.2 Delegate Prior Achievement

There are no delegate pre-requisites for attendance on this course however the delegate must hold driver's license upon the appropriate category that is valid in the location.

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

The responsibility for delivering this program rests with TPTI Approved Training Providers.

A.3 Learning Outcomes

Following a series of explanations, demonstrations and opportunities to practice, delegates will be assessed as a candidate against the following learning outcomes.

1. Rules of the Road

**Delegates will explain/identify:
(testing knowledge)**

- a) Compliance with local traffic laws and regulations as a foundation for safe and responsible driving
- b) Compliance with traffic control devices as a foundation for safe and responsible driving

2. The Vehicle and its Components

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- a) Safe and proper use of basic vehicle components
- b) Safe and proper pre-trip checks

3. Vehicle Handling

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- a) Safe and responsible vehicle control
- b) Safe and responsible handling of the vehicle under various conditions
- c) Safe and responsible driving to avoid collisions

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.3 Learning Outcomes (continued)

4. Driver Behaviour

**Delegates will explain/identify:
(testing knowledge)**

- a) Accurate assessment of driving environments and road conditions and appropriate adjustment of driving behaviour
- b) Controlled emotional reactions related to driving
- c) Positive driving attitudes and behaviour
- d) Responsible and informed decision making

5. Respect and Responsibility

**Delegates will explain/identify:
(testing knowledge)**

- a) Leadership in promoting safe driving
- b) Respect for the environment as it relates to operating a vehicle

6. Sharing the Road

**Delegates will explain/identify:
(testing knowledge)**

- a) Cooperative driving
- b) Appropriate communication with other road-users

7. Driver Attention

**Delegates will explain/identify:
(testing knowledge)**

- a) Safe and responsible actions related to impaired driving
- b) Manage driver distractions

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- c) Managed division of attention

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.3 Learning Outcomes (continued)

8. Perception and Risk Management

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- a) Safe and proper observation skills
- b) Accurate perception of personal limits, abilities, and risk tolerance
- c) Accurate risk-perception
- d) Recognition and avoidance of collision situations
- e) Identification of potential hazards and effective response to hazards
- f) Effective decision-making to ensure safe driving
- g) Minimize risk through appropriate driving actions

9. Safely handle a vehicle in emergency

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- a) Safely handle a vehicle in various potentially dangerous situations

10. Road Emergency Management

**Delegates will demonstrate practically:
(testing skills and knowledge)**

- a) Safe and responsible response to emergency situations.

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program

The training program outlined below will assist delegates to meet the stated training outcomes.

In order to make efficient use of time and ensure effective learning, the three phases of explanation, demonstration and practice should be integrated wherever practicable. To facilitate the most effective learning, the practical part will always succeed the theoretical part of the training.

Full use should be made of visual/audio-visual aids and course handout materials.

Practical exercises should be designed and delivered solely to meet these standards, and must not place on delegates any physical or mental demands other than those required to meet the standard.

1. Rules of the Road

Give an overview of:

- a) Traffic laws and regulations
 - reasons for traffic laws and regulations
 - current road safety issues
 - speed
 - impaired driving
 - distracted driving
 - emergency vehicles
 - licensing requirements
 - vehicle insurance
- b) Awareness that traffic laws and regulations may differ in other jurisdictions and for other vehicles
- c) Traffic control devices
 - signs
 - signals
 - markings

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

2. The Vehicle and its Components

Give an overview of:

- a) Basic vehicle components
 - control devices
 - instruments and warning indicator
 - devices that aid visibility
 - safety devices
 - comfort devices
 - anti-theft devices
 - communication devices

Give an explanation and demonstration of:

- a) Pre-trip checks
 - External checks
 - Internal checks

Delegates to practice and demonstrate a) above

3. Vehicle Handling

Give an overview of:

- a) Controlling the vehicle safely and responsibly
 - visual tracking
 - steering control
 - seating position
 - starting and accelerating
 - speed control
 - deceleration and breaking
 - parking break
 - parking
 - changing direction
 - right-of-way manoeuvres
 - turns
 - highway driving
 - urban and rural driving

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

3. Vehicle Handling (continued)
--

b) Traction

- time management
- space management
- stopping distances
- braking distances, smooth braking
- appropriate following distances

c) Friction

- speed for conditions
- effects of road surfaces on stopping
- seasonal changes and road surfaces
- tire types and conditions

a) Benefits of proper tire inflation

e) Collisions avoidance and basic evasive manoeuvres

f) Principles of skid control and slide control

Delegates to practice and demonstrate:

a) Controlling the vehicle safely and responsibly

- visual tracking
- steering control
- seating position
- starting and accelerating
- speed control
- deceleration and breaking
- parking break
- parking
- changing direction
- right-of-way manoeuvres
- turns
- urban and/or rural driving

b) Traction

- space management
- stopping distances
- appropriate braking distances, smooth braking
- appropriate following distances

c) Friction

- speed for conditions
- stopping on different road surfaces
- driving on wet and slippery road surfaces

d) Collisions avoidance and basic evasive manoeuvres

e) Skid control and slide control

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

4. Driver Behaviour

Give an overview of:

- a) Adjusting driving behaviour for different driving conditions
- b) Control over emotions
 - potential effects on driver decision-making
 - recognising internal cues and control response
- c) Personal factors and influence
 - personal driving values and beliefs
 - motives that influence driving
 - how motives change under different circumstance
 - how values, beliefs, and motives influence attitude toward driving
- d) Social factors and influence
 - influence or advertising societal attitudes towards cars and driving
 - influence of other people's driving habits
 - peer pressure and driving
- e) Resisting negative pressure
 - personal value of resisting negative pressures
 - resist negative informal pressures
 - Resist negative media and commercial pressures
 - entertainment media use of driving imagery
- f) Positive driving attitudes
 - driving is a privilege not a right
 - overcoming negative motives
 - driving courteously
 - cooperative driving
- g) Impact of driver behaviour on other road-users
- h) Decision-making
 - how formal rules of the road, common safe practices of road-users, and informed decision-making contribute to safe and responsible driving
 - approaches to decision making
 - importance of good decision-making
 - consequences of poor decision-making

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

5. Respect and Responsibility

Give an overview of:

- a) Responding to emergency situations
 - minor or major motor vehicle collision
 - arriving at the scene of a collision
 - being stopped by a police officer
 - passing an emergency vehicle
 - being passed by an emergency vehicle
 - vehicle malfunctions
- b) Being a safe, respectful and responsible driver
 - being a leader in safety restraint use and promote it in others
 - being fit to drive and promote it in others
 - being caring and empathetic towards other road-users
- c) Conflict avoidance regardless of fault
 - respecting other road-users' safety margins
 - avoiding road rage in yourself and others
- d) Environmentally conscious and efficient driving behaviour
 - fuel efficiency
 - mandatory emissions testing
 - proper disposal of cars fluids, batteries, and tires
 - littering
 - planning safer and more efficient activities and routes
 - economic benefits of driving efficiently

6. Sharing the Road

Give an overview of:

- a) Cooperative driving
 - sharing the road in a safe and considerate manner
 - respecting other road-users needs
 - passing safely
 - understanding other road-users
 - space management
 - benefits of cooperative and courteous driving
- b) Communicating effectively with other road-users
- c) Habits and attitudes related to effective communication
 - consistently communicate driving intentions
 - adjusting communication based on observation of the driving environment and other road-users

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

7. Driver Attention

Give an overview of:

- a) Types of impairment
 - drug
 - alcohol
 - fatigue
 - drowsy driving
 - illness
 - medication
 - mental stress
 - combination of multiple impairments
- b) Effects of impairment
 - impaired judgment
 - lack of attention/alertness
- c) Myths and facts related to impairment
- d) Consequences of impaired driving
 - personal and social consequences
 - legal and economic consequences
- e) Distracted driving
 - distractions inside the vehicle
 - distractions outside the vehicle

Give an overview and demonstration of:

- f) Managing attention
 - switching attention
 - divided attention
 - focused attention
 - sustained attention

Delegates to practice f) above

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

8. Perception and Risk Management

Give an overview of:

- a) What and where to observe and when
 - 360 degree vision
 - distance scanning
 - peripheral vision
 - blind spots
 - visual obstructions
 - limits of observation
- b) Different types of drivers
- c) Dangerous driving
 - aggressive driving
 - street racing
 - personal and social consequences
 - legal and economic consequences
- f) Personal risk-tolerance
 - caution versus risk
 - judging risk in various situations
 - role of overconfidence and under-confidence in inaccurate risk-perception
 - risk-aversion in personal value system
 - develop rational personal risk preferences
- g) Accurate risk-perception
 - quick and effective reaction times
 - proactive versus reactive driving action
 - expectations of other road-users
 - consequences of not doing what other road-users expect
 - safe time margins
- h) Factors that affect driver-risk perception
 - driver age
 - driver experience
 - driving environment
 - mental factors
 - physical factors
 - role of self-control
 - need for peer approval
 - perception of other drivers
 - impairment

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

8. Perception and Risk Management (continued)

- i) Common collision factors for professional driver
 - inappropriate speed
 - risk tolerance
 - risk perception
 - inappropriate risk-taking
 - driver skill
 - driver experiences
 - peer pressure
 - overconfidence
 - hazardous driving conditions
 - poor attention management
 - not looking for hazards
 - inability to recognize hazard
 - distracted driving
 - dangerous driving
 - impaired driving
- j) Common collision situations
- k) Potential hazards of driving and effective responses
 - vehicle malfunctions
 - weather/environmental conditions
 - road conditions
 - vehicle conditions
 - distractions inside the vehicle
 - distractions outside the vehicle
 - other road-users
 - unpredictable driving behaviour
 - driving error resulting in danger to self and to other road-users

Give an overview and demonstrate of:

- a) How to observe
 - active attention
 - shoulder check
 - peripheral vision
 - mirrors
- b) Visual search and scanning to detect potential hazards
 - distinguish hazards from typical occurrences
 - scanning patterns under all conditions
 - detecting potential path deviations
- c) Hazard perception, decision-making, and judgment

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.4 Training Program (continued)

8. Perception and Risk Management (continued)

- d) Using decision-making skills to drive safely
- evaluate whether or not to drive
 - anticipate what might happen
 - predict possible solutions
 - prioritize situations and solutions
 - make appropriate choices under pressure
 - identify consequences
 - make multiple decisions quickly
 - develop a hierarchy of responses to various situations and alternative responses

Delegates to practice a) to d) above

9. Safely handle a vehicle in emergency

Give an overview and demonstration of:

- a) Slalom forward in 2nd gear
- b) Winding line slalom in 2nd gear
- c) Stop at a target
- d) Emergency braking on concrete road.
- e) Emergency braking and evasive action
- f) Recovery from skidding and sliding

Delegates to practice a) to f) above

10. Road Emergency Management

Give an overview of:

- a) Safe and responsible response to emergency situations while driving:
 - Car malfunction
 - Flat tyre, tyre explosion
 - Other cars' accidents
 - Driver's or passengers' illness
 - Severe weather conditions
 - Obstruction on the road
 - Road closed
 - Detour

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.5 Duration of Training

The optimum 'contact time' for this training and assessment is seen as 24 hours.

- Classroom Driving Instruction – 6 hours
 - In-Vehicle Instruction – 17 hours
 - Other Instructional Hours – 1 hours
- The total contact time per day shall not exceed 8 hours.
- The total training day shall not exceed 10 hours

The total training day includes

- contact time
- coffee and meal breaks
- travel time between training sites where applicable

Assessments, both written and practical, will be conducted after the training program has been completed.

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.6 Assessment

Assessments will be conducted by TPTI approved training providers.

Assessment of the candidate's performance will be against the stated learning outcomes and will involve both written and practical assessments.

Delegates attending this training and assessment program (referred to as candidates during assessment) will be given a series of explanations and demonstrations which will identify what they are expected to know and do. This will be followed by practical exercises which will allow delegates to demonstrate their skills, knowledge and understanding of defensive driving.

Assessment of the candidate's performance will be against the stated learning outcomes and will involve both written and practical assessments. Candidates who achieve a score of 80% or higher on both the written and practical assessment, will be issued a TPTI renewal certificate.

If the candidates fail to achieve a written score of 80%, further time and opportunity for coaching will be given to candidates to enable them to reach the standard leading to the award of a certificate. However, the time available for this during a program is limited and it should be recognised there may be occasions where other arrangements need to be made.

If the candidates fail to achieve a score of 80% on any element of the practical assessment, the candidate will be allowed three attempts at the retest.

If all attempts described above fail, then the candidate must re-take and re-test the failed element within three months, otherwise the candidate must re-take the defensive driving course.

REV.	0	DATE	16/02/11
------	---	------	----------

Defensive Driving

A.7 Further Training / Assessment

It is recommended that the theoretical and practical elements of this training for those whose driving is critical to the safety of life and properties (high exposure) should be assessed at two-year intervals. For those whose driving has low exposure, the assessment can be done at three-year intervals. The responsibility to classify drivers is left to the employers.

An Assessment, both written and practical, will be conducted at the TPTI Assessment Center.

If a candidate achieves a score of 80% or higher, they will be issued a renewal certificate.

If the candidates fail to achieve a written score of 80%, further time and opportunity for coaching will be given to candidates to enable them to reach the standard leading to the award of a certificate. However, the time available for this during a program is limited and it should be recognised there may be occasions where other arrangements need to be made.

If the candidates fail to achieve a score of 80% on any element of the practical assessment, the candidate will be allowed three attempts at the retest.

If all attempts described above fail, then the candidate must re-take and re-test the failed element within three months, otherwise the candidate must re-take the defensive driving course.

The recommended duration of this training and assessment session should be not less than 7 hours contact time with a ratio of 5%:95% theory and practical.

REV.	0	DATE	16/02/11
------	---	------	----------

RESOURCES

In order that a competence program may be delivered successfully it is essential that the correct people are present to support the program and that the appropriate facilities and equipment are in place.

B.1 Staff

Instructional staff will be required to carry out training and assessors will be required to judge candidate's competence. It is important that the staff involved have the appropriate qualifications and experience.

a) Trainers will:

- Hold a valid driver's license for more than 15 years
- Have Instructors license for Defensive Driving from recognized training providers.
- Be trained and qualified in instructional/lecture techniques and/or have proven instructing/teaching experience..
- Be included in an ongoing staff training program which enables them to maintain and update skills and knowledge.
- Be able to clearly communicate in the English language
- Have knowledge of applicable Thai and International Standards and Regulations applicable to Defensive Driving

b) All Assessors must be:

- TPTI qualified assessors
- Discipline experts trained and qualified in assessment techniques
- Knowledgeable of the areas being assessed

c) All staff must have the appropriate competences to conduct/assist the element of training being conducted.

d) All Training staff will be trained in the causes and consequences stress/anxiety, coping skills and how to manage delegates who are suffering from anxiety.

REV.	0	DATE	16/02/11
------	---	------	----------

RESOURCES

B.2 Trainer/Delegate Ratio

- a) It is recommended that the maximum number of delegates attending this program is 16.
- b) The following ratios indicate the maximum number of delegates to be supervised by one Instructor at any one time during each activity.

Theory	1:16
Practical	1:3

B.3 Facilities

The Training Facilities must be approved by TPTI.

It is important to make sure that facilities as listed below are available.

Administration arrangements appropriate for enrolment and certification of delegates and all aspects of the delivery of training in accordance with this standard.

Theory training area(s) so designed to enable each delegate view, to hear and participate fully in the subject matter being taught.

Practical the training ground for practical driving must be safe and extensive enough so that the delegates can walk around the vehicle, check the engine and sit in the vehicle to become familiar with the instruments and controls and prepare for the assessments. The practice tracks should include at least the following:

- Slalom track of 80 meters long and 10 meters wide
- Evasive brake track of 150 meters long

The training provider must map out several routes suitable for the practical exercises and which allow the delegate to demonstrate his/her competence in driving the vehicle on roads which are typical of the conditions likely to be encountered in the company's line of work. Training provider must conduct a risk assessment of the roads to be used during the assessment process.

All facilities must be maintained and where appropriate, inspected and tested in accordance with current standards/legislation and manufacturers recommendations.

REV.	0	DATE	16/02/11
------	---	------	----------

RESOURCES

B.4 Equipment

The following equipment must be available for use and maintained to ensure effective operation/use during training sessions:

- (a) Company vehicle
- (b) Accompanying papers
- (c) Steering wheel panel simulator
- (d) Mock-up traffic cones/marks
- (e) Mock-up traffic lights

All equipment must be maintained, and where appropriate, inspected and tested in accordance with current standards/legislation, guidance and manufacturers recommendations.

REV.	0	DATE	16/02/11
------	---	------	----------

GENERAL GUIDANCE & REQUIREMENTS

B.5 Certification & Recording

A **TPTI** Certificate will be issued to all candidates assessed as meeting the stated outcomes, detailing that they are competent to proceed to the workplace for company specific training where applicable. Delegates' details will also be registered in the **TPTI Central Register**. The issue of a certificate indicates that the delegate has achieved a level of competence to enable him/her to proceed to the workplace for further training and development. Following satisfactory assessment the training provider delivering the training will issue every candidate a certificate.

Each individual attending any TPTI approved program must be registered with the Central Register (CR) operated by TPTI.

Training Establishments are responsible for the following:

- a) The issuing of certificates direct to the delegate completing the program and to the sponsoring company (when required). Each certificate must indicate that the delegate has been assessed against the agreed training outcomes and must contain the following:

Establishment name

Full TPTI course title stating that it is TPTI approved

TPTI course identification code

Delegate's name

Course dates

Expiry date (will be the day before the course completion date)

Unique Certificate Number

Establishment Signatory

- b) Each individual attending any TPTI approved program must be registered with the Central Register (CR) operated by TPTI. Registration must be made by training establishments to TPTI on a daily basis.
- c) Prior to each course commencing, delegates must sign a declaration indicating they have read and understood a written statement regarding the physical nature of the program and the need for delegates to be in good health. Instructional staff should also read out a statement indicating this at the time.

REV.	0	DATE	16/02/11
------	---	------	----------

GENERAL GUIDANCE & REQUIREMENTS

B.5 Certification & Recording (Cont'd)

- d) Where doubt exists regarding the medical fitness of any delegate, the training establishment should ask the delegate or their employer to seek the advice of a medical examiner.
- e) A Medical officer, familiar with the nature and extent of the training is "on call".
- f) Risk assessment of all training areas and provision of all appropriate safety equipment.
- g) Written statements of organisation for all sessions, which clearly define responsibilities and relationships for all staff either directly or indirectly involved.
- h) All training and supporting activities are carried out in accordance with current legislation and safe working practices.

B.6 Medical and Health Requirements

Emergency response training contains physically demanding and stressful elements. All personnel who participate in such training should be medically fit and capable of participating fully.

Training Establishments are required to ensure that prior to participating in practical exercises the delegate either;

- a) Possess a valid, current medical certificate from the hospitals, clinics, or clinical agents registered under Thai government, and:
- b) Undergoes an appropriate screening by the trainer or medical officer inside the training establishment area.

It is recommended that this information is given to delegates along with pre-course joining instructions

REV.	0	DATE	16/02/11
------	---	------	----------

Guidance and advice on this standard is available by contacting:

Technical Petroleum Training Institute (TPTI)
Energy Complex Building B
555/2, 11th Floor, Vibhavadi-Rangisit,
Chatuchak, Bangkok 10900 Thailand

Tel: 66 29365184
Fax: 66 29365187
E-mail: admin@tpti.org