

PETRONAS TECHNICAL STANDARDS

HEALTH, SAFETY AND ENVIRONMENT

GUIDELINE

MANAGEMENT OF FATIGUE IN THE WORKPLACE

PTS 60.1510

JANUARY 2011



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This new PTS 60.1510 GUIDELINE FOR MANAGEMENT OF FATIGUE IN THE WORKPLACE JANUARY 2011 Revision 0 has been developed to provide understanding on issues related to fatigue and guidelines on prevention, management and mitigation of fatigue in the workplace.

The custodian of this PTS is: Principal, Occupational Health/Health Adviser, Group HSE Division, PETRONAS

Please direct any questions regarding this PTS to the above-mentioned.

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PREFACE

PETRONAS Technical Standards (PTS) publications reflect the views, at the time of publication, of PETRONAS OPU/Divisions.

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FOREWORD

Excessive fatigue can have significant adverse outcomes for performance, health and well-being. Fatigue impairs our performance and, particularly in safety critical industries, like the Oil and Gas Industry, can contribute to serious accidents. Excessive fatigue affects millions of people around the world, and costs billions of dollars per year in medical expenses, accidents, injuries and lost productivity.

This guideline outlines the signs of fatigue and the management of fatigue in the work place. Sleep and the body clock are discussed and the health and safety consequences of shift work and the best practices in designing shift work are explained. The different shift schedules and work sets in PETRONAS are examined and hours of service limit outlined. Fatigue mitigation is addressed in detail through the Fatigue Management Plan.

This guideline on **Management of Fatigue in the Workplace** ("Guideline") serves as guidance to understand, recognize and manage fatigue in the work place.

Group HSE Division
PETRONAS

1.0 INTRODUCTION

1.1 OBJECTIVE

This Guideline is intended to provide understanding on issues related to fatigue and guidelines on prevention, management and mitigation of fatigue in the workplace.

1.2 SCOPE

This Guideline outlines:

- The health and safety risks posed by fatigue
- Background information on sleep and the body clock
- The main causes of fatigue and provides strategies for managing the causes
- Hours of service limit for work groups in petronas
- Fatigue mitigation addressed through the fatigue management plan

1.3 APPLICABILITY

All requirements established in this Guideline shall be applicable to all employees of PETRONAS in Domestic and International Operations.

In locations where local statutory requirements are more stringent, the more stringent requirements shall take precedence.

In locations where the local law prohibits any of the requirements stated in this Guideline, the local law shall take precedence.

1.4 RESPONSIBILITY

Principal Occupational Health/Health Adviser, GHSED shall be the custodian of this Guideline. He shall be responsible for periodically reviewing and revising/updating its contents and distributing the revised/updated documents to relevant end users.

Operating Unit HSE Managers/HSE Focal points shall be responsible for communicating the requirements set forth in this Guideline and its revisions to the relevant personnel in their respective Operating Units.

They shall also be responsible, where applicable, for modifying the requirements of this Guideline in consultation with Principal Occupational Health/ Health Adviser, Group HSE Division, PETRONAS to suit local statutory requirements and Operational Unit needs.

All employees shall adhere to the requirements of the Guideline.

1.5 REVIEW OF DOCUMENT

This Guideline shall be reviewed every 5 years or as and when deemed necessary. All queries, interpretations, clarifications and proposed amendments shall be addressed in the first instance to the custodian of this Guideline

1.6 LANGUAGE

In this Guideline, the acronym PETRONAS and the term Company are used interchangeably and refer to PETRONAS Group of Companies. Additionally, the use of the following terms shall carry the following meaning:

SHALL - Mandatory action required. Deviation requires PETRONAS Management's approval

SHOULD - Preferred action. Deviation requires Operating Unit Management's approval

MAY - Recommended action

1.7 DEFINITIONS AND ABBREVIATIONS

Cognitive

Pertaining to mental process of perception, memory, judgment, and reasoning.

Work Sets

Consecutive shifts with a minimum of 36 hours off before starting another work set.

Holdovers

A periodic, occasional extended shift, where employees are at work beyond their regular shift to participate in training, safety meetings and the like. This does not include time needed for normal shift handover

Sleep debt

Cumulative sleep loss or lost sleep over repeated days accumulates a sleep debt

Shift work

An organization of work where workers succeed each other at the same workplace while performing similar operations at different times of the day thus allowing longer hours of operation than feasible for a single worker.

Extended shift

Time an employee is assigned to work that extends outside the regularly scheduled shift hours and into other shifts

1.8 REFERENCES

- 1) Fatigue Risk management Systems for Personnel in the Refining and Petrochemical Industries – ANSI/API Recommended Practice 755; First Edition, April 2010
- 2) OGP-IPIECA Managing Fatigue In the Workplace – A Guide for Oil and Gas Industry Supervisors and Occupational Health Practitioners – OGP Report 392
- 3) HSE UK Information Sheet: Guidance for Managing Shift Work and Fatigue Offshore 7/2008
- 4) International Convention on Standards of Training, Certification and Watch Keeping for Seafarers 1978
- 5) Merchant Shipping Ordinance 1952 - The Merchant Shipping (Manning, Hours of Work and Watch keeping) Rules 1999
- 6) Road Transport Operations Guideline – PDB
- 7) Laws of Malaysia Act 265; Employment Act 1955 (incorporating all amendments up to 1 January 2006)
- 8) Laws of Malaysia: Police Act 1967 (Act 344) and Rules and Regulations – as at 15th March 2004
- 9) Laws of Malaysia: Police (Auxiliary Police) regulation, 1970
- 10) Laws of Malaysia Act 298 Protected Areas and Protected Places, Act 1957

1.9 ACKNOWLEDGEMENT

Parts of this Guideline have been reproduced from material published in OGP-IPIECA Managing Fatigue In the Workplace – A Guide for Oil and Gas Industry Supervisors and Occupational Health Practitioners – OGP Report 392. Prior consent was obtained from the OGP-IPIECA Health Committee to reproduce the material from the document.