



# Lusail Real Estate Development Company

## Health, Safety, Security, Environment, Logistics & Quality Department

### Lusail Safety Management Guidelines – Patrol Driving Fatigue Guidelines

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This document is reviewed to ensure its continuing relevance to the systems and process that it describes. A record of contextual additions or omissions is given below:

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## CONTENTS

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1.0	INTRODUCTION.....	4
2.0	SCOPE.....	4
3.0	ABBREVIATIONS & DEFINITIONS.....	4
4.0	WHAT IS FATIGUE.....	5
4.1	DEFINING FATIGUE.....	5
4.2	FACTORS CONTRIBUTING TO FATIGUE.....	5
5.0	FATIGUE CONTROL.....	6
5.1	ENGINEERING CONTROLS.....	6
5.1.1	HOW THE BODY CLOCK WORKS.....	6
5.2	ADMINISTRATIVE CONTROLS & WORK PRACTICES.....	7
5.2.1	IMPACT OF WORKING HOURS IN FATIGUE.....	7
5.2.2	WORK TIME.....	7
5.2.3	WORK SCHEDULING.....	7
5.2.4	WORK REST INTERVAL.....	7
5.2.5	SELF EVALUATION.....	8
5.2.6	EMPLOYEE ROTATION.....	8
5.3	PERSONAL PROTECTIVE EQUIPMENT.....	8
6.0	TRAINING.....	8
7.0	ROLES & RESPONSIBILITIES.....	8
7.1	END USERS & CONTRACTORS/DEVELOPERS MANAGEMENT.....	8
7.2	ALL PATROL ASSETS.....	9
7.3	SENIOR SUPERVISORS/PROJECT MANAGERS.....	9
8.0	IMPLEMENTATION AND AUDITING.....	9
9.0	REFERENCES.....	9
10.0	APPENDICES.....	9
	➤ APPENDIX 1 – VEHICLE (ALL TYPES) PATROL DRIVING GUIDELINES.....	10
	➤ APPENDIX 2 – OPERATING STANDARD FOR SOLO/PAIRED PATROL DRIVING.....	11
	➤ APPENDIX 3 – FATIGUE QUESTIONNAIRE.....	12

## 1. Introduction

The purpose of this code of practice is to provide practical guidance to Security Managers (ALL Levels) on requirements in occupational safety and health regulations for driving Patrol Vehicles (ALL types to include Patrol Vehicles, Boats, Segways and Club Carts). The guidelines establish an operating standard for hours of work and rest and other requirements for the management of fatigue for Patrol Vehicle operators.

The guidelines emphasise the importance of sleep and the timing of work and rest. The operating standard is designed to promote a systematic and considered approach to organising patrol schedules and patrol rosters to minimise the hazard of fatigue. The standard offers flexibility in hours of work to reflect the geography and climate of Lusail City and the distances driven.

This is based on the normal risk based approach.

- The hazard must be identified (Recognition).
- It must be measured (Evaluation).
- The hazard must be reduced or mitigated (Control)

The Senior Supervisor or Operations Manager is critical in controlling driver fatigue among the Security Patrollers who are potentially exposed to conditions that can promote fatigue leading to vehicle accidents. The supervisor can implement controls when driver fatigue conditions are identified which will protect the Security Patrollers, if properly assigned and carried out.

All Patrol Supervisors and Assistant Patrol Supervisors must be trained to recognize the signs of driver fatigue and environmental conditions to be ready to protect themselves and those around them. These guidelines identify fundamental practices and methods of identification of factors that could lead to driver fatigue and provides work practices and other controls that can mitigate or reduce the hazards.

## 2. Scope

This driver fatigue Prevention guideline addresses driver fatigue identification, evaluation and controls to be implemented to reduce effects of driver fatigue to prevent accidents occurring among the Security Patrollers throughout Lusail.

This guideline is applicable to all Security Patrollers within the Lusail Real Estate Development Company (LREDC) footprint including and not limited to QD/LREDC HQ Site Office Complex and Legtaifiya Lagoon Residence Compound.

## 3. Abbreviations & Definitions

Term	Description
HSE Dept.	Health Safety & Environment Department
PPE	Personal Protective Equipment
LCCC	Lusail Command and Control Center
QD	Qatari Diar
LREDC	Lusail Real Estate Development Company
PS	Patrol Supervisors
APS	Assistant Patrol Supervisors
PV	Patrol Vehicle
TL	Team Leader

## 4. What is Fatigue?

Fatigue is a general term used to describe the feeling of being tired, drained or exhausted. Fatigue is accompanied by poor judgment, slower reactions to events, and decreased skills, such as in vehicle control.

Where fatigue may affect a person's ability to work safely it must be identified, assessed and controlled like other hazards in the workplace.

Importantly, fatigue impairs a driver's judgment of his or her own state of fatigue. This means the effective management of fatigue should not be the responsibility of the driver alone. Both employers and employees have a role to play in making sure any risks associated with fatigue are minimised.

### 4.1 Defining Fatigue

Fatigue can result from long or arduous work, little or poor sleep and the time of day when the work is performed. It can be influenced by health and emotional issues, or by several of these factors in combination. Fatigue can accumulate over a period of time.

The body's natural rhythms, or "body clock", also have an impact, particularly for those who work at night or who work for extended periods.

### 4.2 Factors contributing to fatigue

#### The Need for Sleep

All people have an irresistible need to sleep, with the urge to sleep greatest during the night and early morning when most people would normally be sleeping. Six hours sleep a night is the usual minimum. However, people differ in the amount of sleep they need and their tolerance levels may also vary if they don't get enough sleep.

Poor sleep, such as sleeping in a moving vehicle or having a small amount of sleep over several days, leads to severe sleep debt and the irresistible urge to sleep. This increases the risk of falling asleep while driving.

There are early warning signs when a person is sleepy and these warning signs should not be ignored when driving. Drivers have a limited ability to predict when they will fall asleep and by continuing to drive when sleepy, they place themselves and others at great risk of a serious crash.

#### Sleep indicators include:

- a drowsy feeling;
- blurred vision;
- difficulty keeping eyes open;
- head nodding;
- excessive yawning; and
- repeatedly drifting out of lane.

#### Fatigue indicators include:

- not feeling refreshed after sleep;
- a greater tendency to fall asleep while at work;
- more frequent naps during leisure hours;
- feelings of sleepiness;
- extended sleep during days off; and
- increased errors and loss of concentration at work.

Using the radio or air-conditioning to stimulate alertness has limited effect and will not overcome tiredness. Substances such as stimulant drugs will provide a boost but do not reduce the need for sleep. Sleep that is delayed will need to be made up later.

The risk of fatigue is reduced when work schedules provide for sufficient good quality sleep. The most beneficial sleep is a good night's sleep of **at least six hours**, taken in a single continuous period. The restorative effects are less if the sleep is split between day and night time. Some people experience excessive sleepiness during the day, despite an apparently adequate length of sleep. This suggests the presence of a sleep-related disorder that may require medical attention.

### **Working at Night**

Many PS work at night and, in particular, during the hours between midnight and 6 am. They are either doing shifts or have schedules that require travel at night. Working at night elevates the risk of fatigue because it combines the daily low point of alertness with the increased likelihood of reduced amounts of sleep.

Night workers are six times more likely to have a crash than day workers. The risk of an accident increases with the number of nights worked, with a 45% increase by the fourth night and 90% by the seventh night.

People who work at night have trouble adjusting their body clocks. No matter how much sleep a person has beforehand, he or she will feel sleepy between 1:00am and 6:00am.

Regular night workers can make some adjustment to their body clock that enables them to sleep during the day. This is rarely a complete readjustment however and on average night workers get around 2 hours less daily sleep than day workers. Apart from the effect of the body clock, their sleep is also more prone to disturbance. When they go back to being "day" people on their days off, they also find that their body clock resets itself to the normal day-night schedule. With both the quality and duration of sleep being affected, sleep deficit and fatigue can accumulate.

Driving at night on the Lusail City Site further increases the risk of a fatigue-related crash. The limited visibility, low levels of lighting, and generally reduced levels of sensory stimulation increase the likelihood of a road crash.

- Where possible patrol schedules should be adjusted to reduce night driving.
- PS Drivers and others in the workplace should be informed of the dangers and the warning signs associated with fatigue at night.
- Information should be provided on how best to cope with night work by changing and improving the environment for work and sleep both on the road and at home.
- PS coming off night shift should also have the opportunity to recover any sleep loss before returning to work. There should be at least 24 hours off between shift changes to prepare for the new day or night shift regime.

## **5. Fatigue Control**

Controls can be applied to the work situation which could be defined as work practices, personal and administrative. Apply them to fit the nature of the task depending on the specific situation.

### **5.1 Engineering Control**

Feasible engineering controls will be sought and implemented, where practicable to do so, to reduce the heat load on an individual. This may include the following:

#### **5.1.1 How the Body Clock Works**

- Most people are day orientated, designed to work in the daytime and sleep at night. The circadian rhythms (the “body clock”) are the body’s natural rhythms that are repeated approximately every 24 hours. These rhythms regulate sleeping patterns, body temperature, hormone levels, digestion and many other functions.
- Work schedules that require people to be awake and active at night or early morning or working for extended periods, cause disruptions to the body clock. This will affect the quality and quantity of sleep and lead to a build up of sleep debt and a drop in alertness and performance.

## 5.2 Administrative Controls & Work Practices

### 5.2.1 Impact of Working Hours on Fatigue

- Common PS work practices include working long hours, prolonged night work, working irregular hours, having little or poor sleep and early starting times. Many PS drivers work more than 12 hours per day (Including Muster and travel to and from site) and a working week of over 70 hours is common practice, which makes them particularly susceptible to fatigue.
- The risk of falling asleep at the wheel increases when drivers are driving at times when they would normally be asleep, particularly in the pre-dawn hours. There is also an increased crash risk during the mid-afternoon “siesta hours”.
- The risk of accidents also increases with the length of shift. The risk of a crash generated by two twelve-hour shifts is equal to the risk of six eight-hour shifts.
- Controlling fatigue requires cooperation between employers and employees. Control strategies need to be implemented to reduce the risk of crashes as a result of fatigue.

### 5.2.2 Work Time

“Work time” in relation to driving a Patrol Vehicle, includes:

- I. time spent doing work incidental to the driving (incident management, traffic control);
- II. time spent operating the PV; and
- III. a break from driving or incidental work lasting less than 30 minutes.

The operating standard relies on three important concepts: work time, non-work time and breaks from driving.

- “Work time” includes driving and all the activities that are associated with driving a patrol vehicle.
- It includes time spent checking the vehicle at the beginning and end of each shift, completing any paperwork related to security; refuelling; maintaining and cleaning the vehicle; and talking to supervisors and other patrol assets about the work arrangements.
- Some of the time spent driving the patrol vehicle may be off-road.
- Work time also includes breaks from driving of less than 30 minutes.
- “breaks from driving” can include toilet stops, rest and meals.
- “non-work time” means more than 30 minutes time off, away from the vehicle. It does not include driving and work incidental to driving

### 5.2.3 Work Scheduling

- Scheduling of Patrols to provide maximum break times for Drivers and Supervisors.
- Where possible, schedule Patrols so equipment can be taken ‘out of service’ and allowed to cool down to prolong the life of the vehicle

### 5.2.4 Work Rest Intervals.

- Frequent breaks should be planned especially during the night shift and the summer months.
- Rest breaks should be taken in a cool location and cool fluids consumed.

#### 5.2.5 Self Evaluation

- Each PS must be aware of the signs and symptoms of fatigue and early warning indications, so they can recognize them in themselves or their colleagues. Typical symptoms include a drowsy feeling, head nodding, blurred vision and difficulty keeping eyes open.
- The supervisor should be notified of any early indications and corrective action taken.

#### 5.2.6 Employee Rotation

- On regular 12hr Patrol shifts PS and APS should allow for frequent rotation of driving the PV. Tasks outside of the vehicle such as traffic control or cordon duty must be rotated frequently.

### 5.3 Personal Protective Equipment

- In certain situations personal protective equipment (eg: safety vest, face mask, hard hat) must be worn which can aggravate fatigue. Special working practices may be adopted so PPE can be removed during break periods.
- Clothes should be regularly washed to remove the sweat and salt which can irritate the skin and lead to infection. Long sleeved shirts and trousers should be worn at all times.

## 6. Training

- Supervisors, Team Leaders and Guards must be trained to recognize symptoms of fatigue prior to performing work especially when in charge of a PV (4x4, Boat, Segway, Club Cart)
- Training must include recognition of signs and symptoms of fatigue in themselves and co-workers and the work rest schedule.
- Training should be conducted closer to the summer months to ensure awareness among workers. This can take place at “toolbox” talks and or TL discussion session at the beginning of each shift.

## 7. Roles & Responsibilities

### 7.1 End Users & Contractors Management

Each element of Lusail Security assets to include Management, QPM, PMCM and Private Security Company to include visitors is required to ensure that these guidelines are taken up on their respective Fatigue Management System and that it is followed without exception.

All Fatigue related incidents must be reported to LREDC immediately.

- Review Fatigue Management precautions in respect of work to be performed in any PV type.
- Consider scheduling Patrols so equipment can be taken ‘out of service’ and allowed to cool down to prolong the life of the vehicle or the use of other methods to reduce fatigue.
- Scheduling, plan for additional breaks, as needed, during busy periods or adverse (Hot) conditions.
- Evaluate non-routine patrols where there may be a fatigue concern especially at night.
- Stop work as and when required if symptoms of fatigue are detected.



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- Adjust work practices as necessary when workers complain of fatigue.
  - Make controlling exposures through engineering controls the primary means of control wherever possible.
  - Oversee fatigue training and acclimatization for new workers, workers who have been off the job for a length of time and workers with medical condition.
  - Provide all security education and training, including periodic safety talks on fatigue especially during the summer months.
  - Monitor the workplace for fatigue in PS/APS especially during the night shift.
  - Determine a proper work/rest regime for all patrol assets.
  - Arrange first-aid training for workers.

### 7.2 All Patrol Assets

- Be familiar with the early warning signs of fatigue in themselves and co-workers and take immediate action when they are noted.
- Utilize personal protective equipment as needed.
- Take regular rest breaks.
- Inform the supervisor of any fatigue concerns relating to the work place.
- Follow instructions and training for controlling fatigue.
- Be alert to symptoms in yourself and others
- Avoid consumption of alcohol, illegal drugs, and excessive caffeine.
- Find out whether any prescription medications you're required to take can increase fatigue.
- Get adequate rest and sleep.

### 7.3 Senior Supervisors/Project Managers

- Implement fatigue controls in accordance with these guidelines.
- Monitor subordinates exposure to fatigue and modify work schedules accordingly.
- Apply effective controls to control fatigue at work.
- Employ the buddy system which encourages fellow employees to look out for each other.
- Ensure employees are aware of the symptoms of fatigue. Employee training should also be focused on protective measures for working in high heat and humidity in work place areas.

## 8. Implementation and Auditing

- Implementation and auditing of this guideline must be done by the respective HSE Department.
- Any fatigue related incidents are to be reported with questionnaire to the Lusail Occupational Department and HSE Department.

## 9. References

- Code of Practice for Professional Drivers (Aus)
- LUS-HSE-WG3.446-036.01 Heat Stress Management
- LUS-HSE-WG3-446-056.05 Workers Accommodation Requirements Section 17.0 CONSTRUCTION SITE STANDARDS
- LUS-HSE-WG3-432-001 HSE GENERAL REQUIREMENTS

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## 10. Appendices

- Appendix 1 – Vehicle (All Types) Patrol Driving Guidelines
- Appendix 2 - Operating Standard for Solo/Paired Patrol Driving
- Appendix 3 - Fatigue Questionnaire

### Appendix 1 – Vehicle (All types) Patrol Driving Guidelines

- A. All Patrol drivers must, so far as practicable, have at least **30 minutes** of breaks from driving for every **5 hours** of work time, including one break of at least **10 minutes** during or at the end of every **5 hours**. These guidelines are written in such a way that a patrol driver cannot drive for more than 5 hours without stopping the vehicle.
- B. These are breaks from **driving**. The breaks may include other activities that are included in “work time” such as toilet stops, rest, and meals. However, it should be remembered that the breaks are designed to minimise the risk of fatigue. Experts in the fatigue area believe that breaks from driving should be of at least ten minutes duration to be effective. It is not intended that breaks be accumulated to shorten the shift or added on to the end of the shift.
- C. So far as practicable, the work time for solo patrol drivers must not be more than **168 hours** in any **14 day period**. The 14 day period must include at least **two** periods of **24** continuous hours of non-work time. This means that the **168 hours** will usually be spread over **12 days**.
- D. It is acceptable to work according to a 28 day schedule instead of the 14 day arrangement described above. However, this is on the condition that the hours of work time do not exceed 144 hours in any 14 day period within the 28 days.
- E. To comply with requirements for 28 day schedules, patrol drivers must have at least four periods of 24 continuous hours of non-work time in any 28 day period. The hours of non-work time may accumulate but they must be taken in **minimum 24 hour** lots. They cannot be split into half days.
- F. The **28 day roster** means that a driver could work for **24** out of any **28** days and there could be up to 24 days of work before a driver has days off. If a driver works every day for 24 days, the driver must stop driving the patrol vehicle or any other incidental security work for **four** continuous days.

***It is preferable that days of work time do not accumulate and the driver has days of non-work time spread throughout each 28 day period.***

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## Appendix 2 – Operating Standard for Solo/Paired Patrol Driving

### OPERATING STANDARD FOR SOLO/PAIRED PATROL DRIVING

- A. At least **30 minutes** of breaks from driving for every **5 hours** of work time including a break of at least **10 consecutive minutes** during or at the end of **5 hours**.
- B. No more than **168 hours** of work time in any **14 day period**.
- C. At least **24 hours** of non-work time in any **72 hour period**, including at least 3 periods of at least 7 continuous hours of non work time.
- D. If there is shift work on **5 or more** consecutive days, at least **24 continuous hours** of non-work time between shifts changes.

**Note: All of the items above and one of the options below must be complied with, as far as is practicable.**

EITHER

At least **2 periods** of **24** continuous hour's non-work time in any **14 day** period.

OR

At least **4 periods** of **24 continuous hours** non-work time in any **28 day** period (provided hours of work do not exceed **144 hours** in any **14 day** period within the **28 days**).

### Appendix 3 - Fatigue Questionnaire

#### FATIGUE QUESTIONNAIRE

Please complete the below questions for all fatigue relevant cases and return completed questionnaire to the Lusail Occupational Health Department and HSE Department. This will be used to gather statistical data for lessons learned and continuous improvement for the prevention of Fatigue related cases.

Name:		Date of Incident:	
Nationality:		Age:	
Job Trade:		Contact Details:	
Company Name:		Location of Incident:	
Project:			
1	How long are you working in Qatar?		
2	How long are you working in a day - shift timings?		
	What are the intervals of your work - Rest Breaks?		
3	Were you given time acclimatizing?	Yes	No
4	Did you have breakfast/lunch?	Yes	No
5	Are you on any medications (e.g. sedatives)?	Yes	No
	<i>*If YES, please provide details -</i>	Yes	No
6	Did you receive any training on Fatigue from your company? (e.g. induction, training, Toolbox Talks, handouts).	Yes	No
7	Do you have a suitable area which to take breaks? (e.g. Fans, A/C)	Yes	No
8	Do you have cool drinking water available to you?	Yes	No
9	Do you have an assistant driver available to you?	Yes	No
10	Do your Senior Supervisor enforce the rest/break?	Yes	No
Interviewed by:			
Name:		Department:	
Company:		Date & Sign:	