



HSE Pack

March

FATIGUE & TIREDNESS

Fatigue



Fatigue, Human Error Reduction



Why does fatigue matter



1. There are legal and ethical compliance requirements: Employers have a legal duty to manage risks from fatigue
2. Effective management of fatigue is a consideration in any work context, but most important where:

1. There are safety critical tasks with high costs of error - particularly to the health and safety of workers and members of the public

2. There is disruption to standard sleep patterns and/or periods of intense working with prolonged or complex demands

Consequently, fatigue management is a core concern in the energy networks industry. But addressing these risks is far from straightforward...



Why is fatigue so difficult to manage?



Fatigue is a very complex state

Causes are broad and interrelated

Onset of fatigue is difficult to predict

It's difficult to measure

The consequences are not all visible

Our ability to assess our state deteriorates with fatigue



Key Impacts of Fatigue in Process Safety



Reason 1: A lack of sleep reduces the capacity of our brains' neurons to communicate effectively

Reason 2: A lack of quality sleep reduces the effectiveness of the 'process safety part of the brain'

Reason 3: Fatigue and lack of sleep may lead to risk-taking

Reason 4: A lack of sleep decreases motivation and effort

Reason 5: Fatigue increases the tendency to use "rules of thumb" when making risk-based decisions

Reason 6: Fatigue leads to human error: slips, lapses, and mistakes

Reason 7: Fatigue makes it difficult to store new information and consolidate memories, record data accurately etc.



[7 Reasons why fatigue affects process safety and how to deal with it | Wolters Kluwer](#)



Fatigue is Safety Critical

- Fatigue is identified throughout all site ORAFs
- Understand how fatigue affects our performance
- How we can manage fatigue and reduce human error



TotalEnergies E&P UK
COMPANY MANAGEMENT SYSTEM
LEVEL 4
Culzean - H&A

L4-CZN-RAF-001

OCCUPATIONAL HEALTH RISK ASSESSMENT FILE - CULZEAN

PURPOSE

This document details the actions taken to create an Occupational Health Risk Assessment File (OHRAF) for TEPUK in accordance with the principles of the Total Energies Charter.

SCOPE

This document applies to the personnel on the Culzean asset, which is located in the Central North Sea area (CNS) of the North Sea

This revision was prepared by Industrial Hygiene Consultant – Nick Angus, Industrial Hygiene Service Ltd.

Revision History

Rev	Date	Reason for Revision / Summary of Modified Sections
1	12 Nov 2020	First issue of document.
2	1 Aug 2022	Review of document as per periodic review requirements.

Authorisation Record		CN8 Lead Operational Safety Advisor	CN8 HSE Manager
		This document is subject to electronic approval – no signatures are required	
2	Aug 2022	Glenn Brodie	Megan Brown
Rev	Date	Owned by	Approved by

L4-CZN-RAF-001

Rev 2 – 01 Aug 22

TOTAL Classification: Restricted Distribution
TOTAL - All rights reserved

1



Victoria Safety : Fatigue



Click the image to watch the video

Fatigue
in the workplace



https://youtu.be/Tt5_OMy3M6k?si=iU3evuqxc7lFFfP6



Fatigue Risk Assessment - FRA



An FRA is Required when:

- Overtime exceeds 2 hours
- Shift length exceeds 14 hours
- Extended deployments occur
- Swing or split shifts are planned
- Fatigue is suspected or reported

Purpose: identify controls such as extra rest, task changes or supervision.

See *L2-HSE-07-024*



TotalEnergies E&P UK

COMPANY MANAGEMENT SYSTEM
LEVEL 2
HSE

SHIFT PATTERN, OVERTIME AND ALERTNESS MANAGEMENT PROCEDURE

L2-HSE-07-024

PURPOSE

This document sets out how Total E&P UK manages shift patterns, overtime and alertness of personnel.

SCOPE

All personnel working on TEPUK-operated sites offshore and onshore.

ROLES

☒ RSES	☒ Medic
☒ Line Supervisor	☒ HSE Adviser

REVISION HISTORY

Revision	Date	Details
3	2 May 22	Update to authorisation process – Low, Medium or No FRA will be approved by line managers. OIMs approve only Red FRA.

ESSENTIAL REFERENCES

Authorisation Record		Senior HSE Advisor & Analyst	HSE Director
		This document is subject to electronic approval. No signatures required.	
3	2 May 22	Andy Campbell	Steve Rose
Rev	Date	Owned by	Approved by

SHIFT PATTERN, OVERTIME AND ALERTNESS MANAGEMENT
PROCEDURE

TotalEnergies E&P UK

APPENDIX 1 FATIGUE RISK ASSESSMENT TOOL

The Fatigue Risk Assessment Tool forms an integral part of the online Overtime and Fatigue Risk Assessment Tool. It is replicated here to demonstrate how the Fatigue Risk Assessment should be carried out and for use when access to the online tool is restricted.

Role of person being assessed:	Role of Assessor:	Date:
Name of person being assessed:	Name of Assessor:	Site:
Reason for Fatigue Risk Assessment	e.g., Swing Shift / Split Shift / Overtime etc. due to	

1. How alert are you? (rate just before starting shift)	Ranking
1 Fully alert, wide awake	Low Risk
2 Very lively, responsive, but not quite at peak	
3 Ok, somewhat lively	
4 A little tired, less than fresh	Medium Risk
5 Moderately tired	
6 Very tired, finding it difficult to concentrate	High Risk
7 Completely exhausted, unable to function effectively	
Enter Alertness Rating (L / M / H) If 'high risk' is indicated, put in place risk controls such as napping or task rotation, if this is not possible advise the person that they are not alert enough to start work.	Result #1

2. Have you had adequate sleep?	Hours	Points
2.1. At the start of shift / extra hours how much sleep will you have had in the last 24 hours? X = _____ hours X: < or = 3h 4h 5h 6+h Points: 12 8 4 0		
2.2. At the start of shift / extra hours how much sleep will you have had in the last 48 hours? Y = _____ hours Y: < or = 8h 9h 10h 11h 12h 13+h Points: 10 8 6 4 2 0		
2.3. At the end of this next shift how many hours will you have been awake for? Z = _____ hours		
2.4. If Y is less than Z, subtract hours of sleep obtained in last 48 hours (Y) from hours awake (Z) Points = Z-Y (1 hour = 1 point)		
Sleep Adequacy Score		
	Score	Ranking
	0 – 4	Low
	5 – 8	Medium
	9+	High
Sleep Adequacy Rating (L / M / H) If 'high risk' is indicated, put in place risk controls such as napping or task rotation, if this is not possible advise the person that they are not alert enough to start work.	Result #2	



Fatigue vs Tiredness



People commonly mix up tiredness and fatigue, but there is an important difference between them.

Tiredness can be experienced by us all at times and generally resolved by sleep and rest

Fatigue is when the tiredness is overwhelming and not relieved by sleep and rest.

- Fatigue is mental or physical exhaustion that prevents you functioning properly
- A person can be fatigued even if they get enough sleep
- Lack of time asleep or not enough quality sleep are two most common causes
- Fatigue develops over time. It is a message to rest



Signs of Fatigue



People who are fatigued may experience:

- An overwhelming feeling of tiredness
- Reduced energy or an increased need to rest, even after an only small amount of activity
- Reduced ability to concentrate at work, home or during leisure activities
- Sleep which is not refreshing
- A general feeling of weakness
- Reduced motivation or interest engaging with your usual activities and routines.



Common Symptoms of Fatigue



Physical Symptoms

- Persistent tiredness or sleepiness
- Sleep that does not feel refreshing
- Low energy or reduced stamina
- Headaches
- Red or sore eyes
- Feeling unwell more often
- Poor coordination or slowed reactions
- Changes in appetite

Mental & Emotional Symptoms

- Irritability or short temper
- Difficulty concentrating or staying focused
- Feeling less alert or mentally “foggy”
- Reduced motivation or interest
- Trouble making decisions
- Difficulty cooperating or communicating
- Emotional ups and downs



Acute or Chronic Fatigue

Fatigue can be classified as either acute or chronic



Acute Fatigue

- Happens after lack of sleep or short-term overwork
- Develops quickly
- Improves with rest



Chronic Fatigue

- Long-lasting, persistent tiredness
- Builds up over time
- Does not improve with rest

GLP 1 Medications



Those using GLP1 medications – Ozempic, Mounjaro etc. can lose significant amounts of weight, but research suggests that 30% - 40% of that weight can be lean mass (muscle and bone).

This muscle loss can lead to a higher risk of fatigue and consequentially human error when carrying out previously normal duties.

How to minimise muscle / bone loss:

Strength Training: Incorporating resistance exercise is critical to maintain muscle mass while on these medications

High Protein Intake: Increasing consumption of protein helps maintain muscle tissue during calorie deficits.

High Protein Intake: Increasing consumption of protein helps maintain muscle tissue during calorie deficits

Gradual Weight Loss: Losing weight more slowly may help protect against rapid muscle atrophy



[Liverpool University -
Weight Loss Drugs](#)

[Ozempic May Make Your
Muscles and Bones Weaker](#)



Fatigue and workplace danger



Accident risks are higher when people work longer shifts, become tired and the risk of human error increases

After a night of too little sleep, people often:

- Feel low in energy
- Cannot pay attention as well
- Make poor decisions
- Forget things
- Cannot learn as well
- Are clumsier and have more physical accidents

Fatigue is recognised as a performance shaping factor and is contributory in many accidents



Fatigue and driving

According to ROSPA: Fatigue is a contributory factor to 20% of road collisions and up to ¼ of fatal and serious collisions.

These type of collisions are 50% more likely to result in death or serious injury.

Crashes caused by tired drivers are most likely to happen:

- On long journeys on monotonous roads, such as motorways
- Between midnight and 6am between 2pm and 4pm (especially after eating, or having even one alcoholic drink)
- After having less sleep than normal after drinking alcohol
- If taking medication that cause drowsiness
- After long working hours or on journeys home after long shifts, especially night shifts.



DRIVING

Follow safe driving rules

- I always wear a seatbelt
- I do not exceed the speed limit, and reduce my speed for road conditions
- I do not use phones or operate devices while driving
- I am fit, rested and fully alert while driving
- I follow journey management requirements
- I ensure awareness of pedestrian walkways and pedestrian segregation



[ROSPA Driver Fatigue Factsheet 0220](#)

Further information



More help & info:

- [Home - The Sleep Charity](#)
- [How to sleep better | Mental Health Foundation](#)
- [Sleep and tiredness – NHS](#)
- [Tiredness and fatigue - NHS](#)
- [Fatigue – HSE](#)
- [Sleep problems | Types of mental health problems | Mind](#)
- [Sleeping well](#)
- [Tiredness/fatigue in adults | Health topics A to Z | CKS | NICE](#)
- [Fatigue | MS Trust](#)
- [Coping with Fatigue \(tiredness\)](#)

