



FATIGUE CALCULATOR

adds up to safety

1 FATIGUE: EVERYONES BUSINESS

2002 – 2006: 29% of all fatal crashes within Bowen Basin were a result of fatigue, 14.5% of fatal crashes in QLD were fatigue related

2000-2003: 80% of fatigued car drivers in serious crashes were within 100km of the start of their trip

2002 – 2006: 60 road fatalities in Bowen Basin were a result of fatigue

2 FATIGUE: EVERYONE'S BUSINESS



MANAGEMENT RESPONSIBILITIES

The operator is responsible for providing staff with a work schedule that does not require excessive wakefulness and provides the opportunity to obtain sufficient sleep.

In determining this, the employer shall take into account normal *non-work activities* and *responsibilities* of the employee.

3 FATIGUE: EVERYONE'S BUSINESS



EMPLOYEE RESPONSIBILITIES

The employee is responsible for using their allocated time away from work to obtain sufficient sleep in order to work safely.

If this has not been possible, the employee must notify their employer that they may have had insufficient sleep.

4 FATIGUE: EVERYONE'S BUSINESS




COST TO THE COMMUNITY

Depending on the task measured, 20 to 25 hours of wakefulness produces performance decrements equivalent to a BAC of 0.05 - 0.10%

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FATIGUE : PRESCRIPTIVE SELF ASSESSMENT



Assigns no responsibility to an employee

Does not address risk

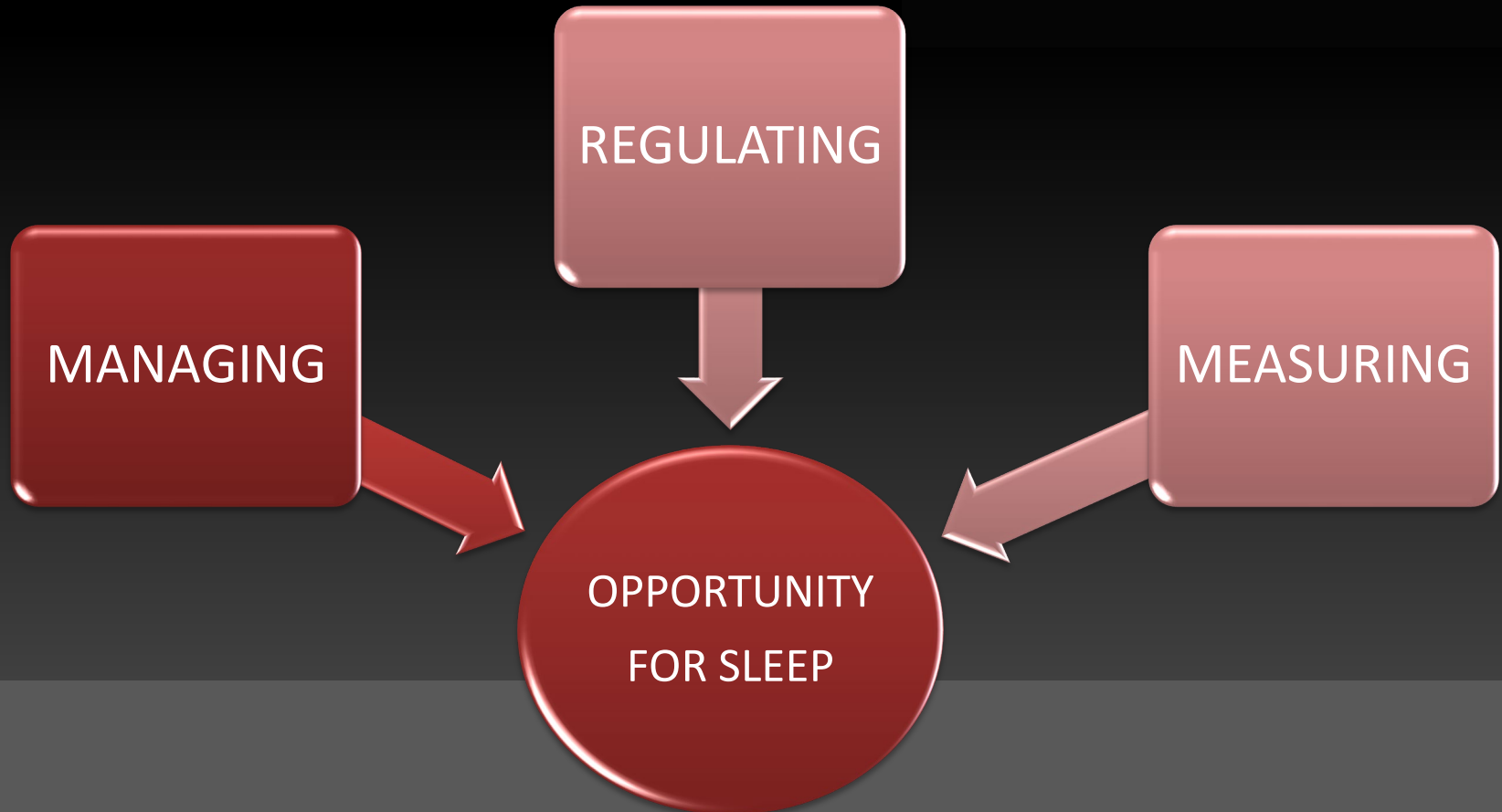
Does not provide risk mitigation when a compliant individual is fatigued

Assumes that compliance assures safety

Relies on subjective assessment of an internal psychological risk

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EFFECTIVE FATIGUE RISK MANAGEMENT SYSTEM



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EFFECTIVE FATIGUE RISK MANAGEMENT SYSTEM

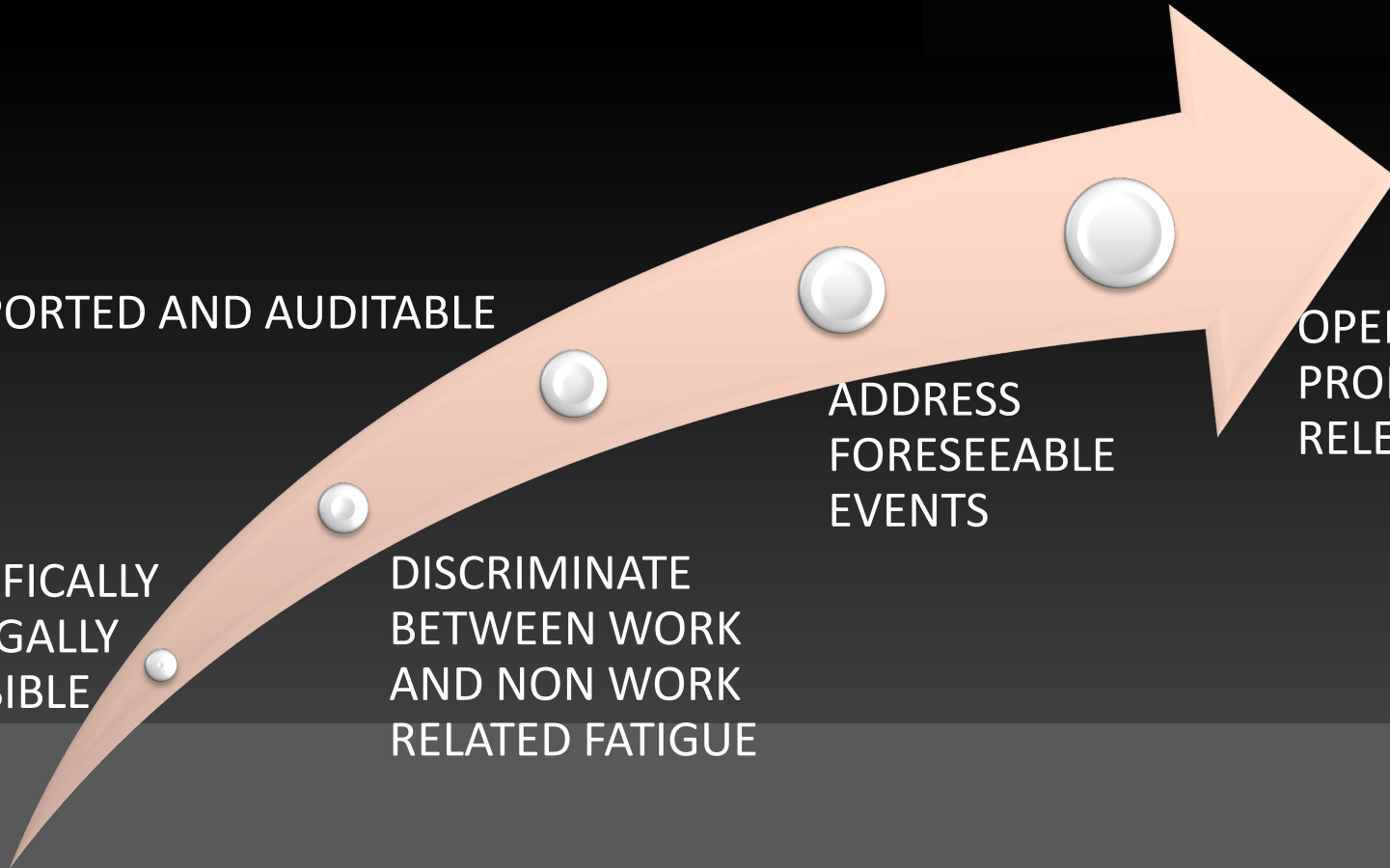
BE REPORTED AND AUDITABLE

SCIENTIFICALLY
AND LEGALLY
DEFENSIBLE

DISCRIMINATE
BETWEEN WORK
AND NON WORK
RELATED FATIGUE

ADDRESS
FORESEEABLE
EVENTS

OPERATOR RISK
PROFILE
RELEVANT



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PRIOR SLEEP /WAKE METHOD

**Prior
SLEEP –
WAKE
Method**

REDUCE FATIGUE RELATED ACCIDENTS

DEALS WITH SPECIFIC INDIVIDUAL ON
SPECIFIC OCCASION

INTEGRATED SMS APPROACH

PROVIDES A RISK BASED FRAME WORK

SCIENTIFIC AND LEGALLY DEFENSIBLE

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HAZARD ASSESSMENT

CONTROL MECHANISM

LEVEL ONE

ADEQUATE SLEEP OPPORTUNITY

PRESCRIPTIVE RULES
FATIGUE MODELLING

LEVEL TWO

ADEQUATE SLEEP OBTAINED

PERSONAL PSWM
FATIGUE CALCULATOR

LEVEL THREE

FATIGUE RELATED BEHAVIOURS

BEHAVIOURAL AUDIT
CHECKLIST

LEVEL FOUR

FATIGUE RELATED ERRORS

ERROR ANALYSIS

LEVEL FIVE

FATIGUE RELATED INCIDENTS

ACTUAL INCIDENT

INCIDENT ANALYSIS

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LEVEL TWO CONTROL MECHANISM – PRIOR SLEEP WAKE METHOD



PRIOR SLEEP WAKE RULES

[sufficient sleep]

[excessive wake]

[hazard control]

11 THE FATIGUE CALCULATOR REAL WORLD EXAMPLES



MANAGING COMMUTE

- FLY IN/OUT
BRISBANE ON
NIGHT SHIFT
- EXTENDED
WAKEFULNESS
- EMPLOYEE
MANAGE FATIGUE

12 THE FATIGUE CALCULATOR REAL WORLD EXAMPLES



TRAIN OPERATORS FROM A GOLD MINE IN WESTERN AUSTRALIA
CHANGED SLEEP PATTERNS AFTER USING FATIGUE CALCULATOR

FATIGUE CALCULATOR

adds up to safety

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THE FATIGUE CALCULATOR



BASED ON THE
PRIOR SLEEP
WAKE METHOD

MANAGES BOTH
WORK AND NON
WORK FATIGUE

PORTABLE ,
EASY TO USE,
ACCESSIBLE

EDUCATES
EMPLOYEES AND
FAMILY UNIT ON
SLEEP

FORECAST
WHEN FATIGUE
BECOMES HIGH
LIKELIHOOD

CHANGES
ORGANISATIONAL
CULTURE

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FATIGUE CALCULATOR vs PRESCRIPTIVE SELF ASSESSMENT



Assigns
SHARED
responsibility
to an
employee

Defines risk
as a
likelihood

Scientific and
legal form of
assessment

Goes beyond
compliance to
further ensure
safety

Allows for
implementation of
risk mitigation

FATIGUE CALCULATOR

adds up to safety

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FATIGUE CALCULATOR vs PRESCRIPTIVE SELF ASSESSMENT

THE FATIGUE CALCULATOR

HAND HELD UNIT

iPick Kiosk

Mobile phone

iTunes Application

Web based application



16 THE FATIGUE CALCULATOR REAL WORLD EXAMPLES

THIS PRESENTATION IS AN EXCERPT FROM THE **MANAGERS AND SUPERVISORS FATIGUE TRAINING PROGRAM** OF MB SOLUTIONS (AUST) PTY LTD AND CENTRE FOR SLEEP RESEARCH

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