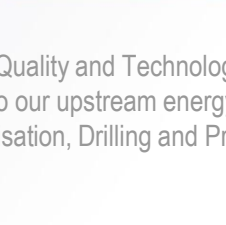
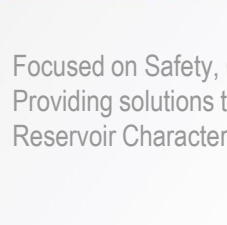




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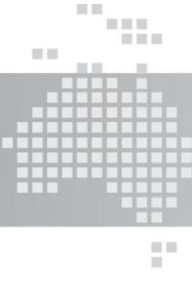
Focused on Safety, Quality and Technology  
Providing solutions to our upstream energy customers to improve  
Reservoir Characterisation, Drilling and Production in Australasia.

# Fatigue Management

Craig Stolz  
Queensland Regional Manager



# Fatigue Management



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# Fatigue Fact...

At Schlumberger, between 2006 & 2008, 45% of driving-related fatalities sustained by our people had fatigue as a contributing factor!

*This is important!*



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# What are the signs of fatigue?



- Negative mood
- Reduced communication
- Slips and lapses
- Poor memory
- Reduced attention
- Impaired problem solving
- Increased risk taking

## Cognitive

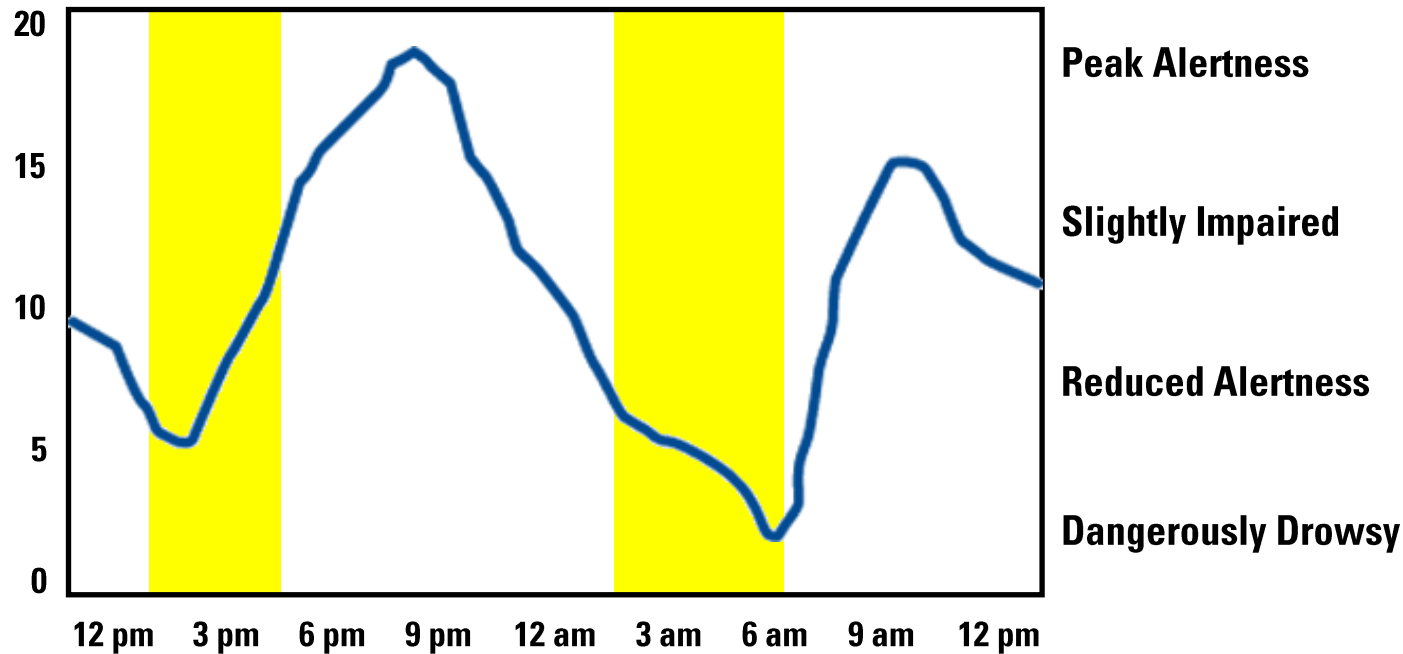


- Physical**
- Fidgeting
- Rubbing eyes
- Repeated yawning
- Staring blankly
- Blinking
- Difficulty keeping eyes open
- Head nodding



# What are the causes of fatigue?

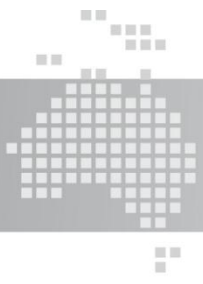
## Circadian rhythms



**Two periods of maximum sleepiness each day:**

■ 02:00 – 06:00

■ 14:00 – 16:00



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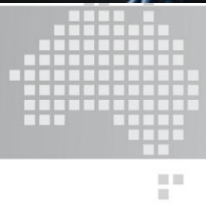


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# Recognise & Respond



- Build awareness to empower every employee & contractor to protect themselves:
  - Recognise the potential risks of fatigue
  - Respond to them successfully



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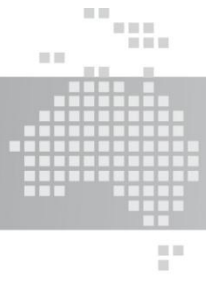
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# *Alertness Switches*

## **Alertness Switches**



- Internal circadian rhythms are subject to input from external alertness switches
- Important to know what these are and how they affect us



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# Alertness Switches



- **Light**



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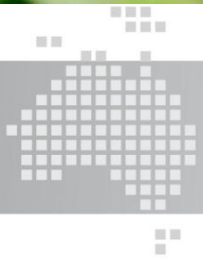
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# Alertness Switches



- **Light**
- **Food**



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# Alertness Switches



- **Light**
- **Food**
- **Stimulants**



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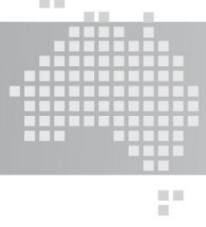


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# *Alertness Switches*



- **Light**
- **Food**
- **Stimulants**
- **Activity**



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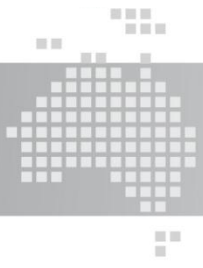


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# Alertness Switches



- **Light**
- **Food**
- **Stimulants**
- **Activity**
- **Time of Day**



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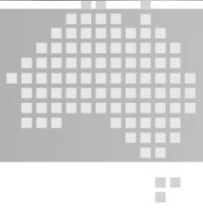


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# Alertness Switches



- **Light**
- **Food**
- **Stimulants**
- **Activity**
- **Time of Day**
- **Danger**



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# *Alertness Switches*



- **Light**
- **Food**
- **Stimulants**
- **Activity**
- **Time of Day**
- **Danger**
- **Aroma**



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# Alertness Switches



- **Light**
- **Food**
- **Stimulants**
- **Activity**
- **Time of Day**
- **Danger**
- **Aroma**
- **Sound**



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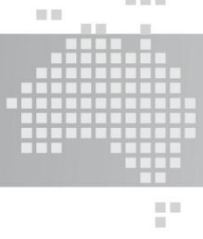


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# Alertness Switches



- **Light**
- **Food**
- **Stimulants**
- **Activity**
- **Time of Day**
- **Danger**
- **Aroma**
- **Sound**
- **Temperature**



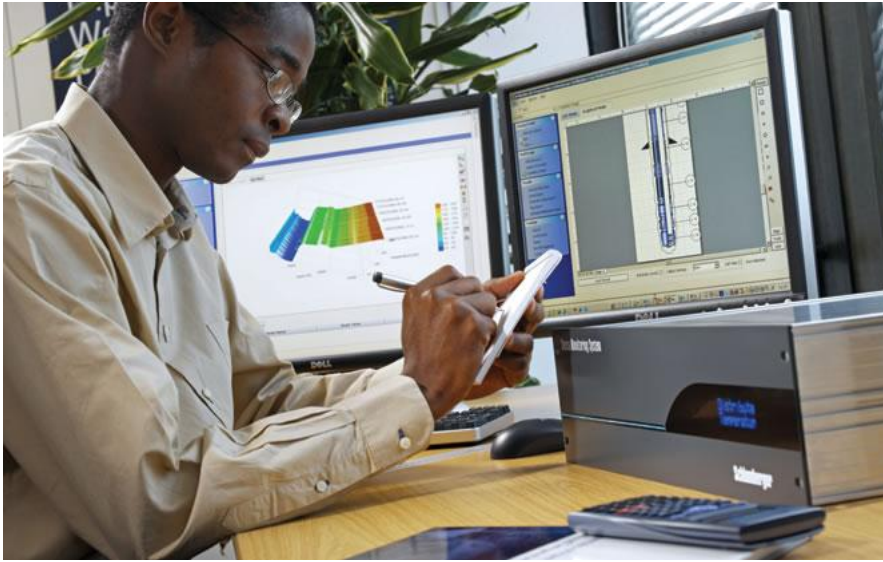
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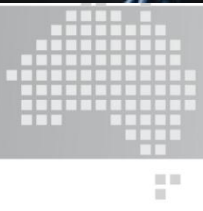
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# Process Approach



- Using a Certification approach
  - If you are not “certified” you cannot work
  - Levels of training a function of job type
- Build fatigue management into training for all Vigilance Tasks
  - eg., DriveSMARRT requires details of what rest the driver has had in the previous 24hrs



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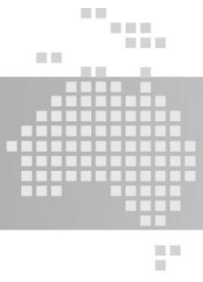
# Summary



## Integration of Fatigue Management into our HSE Management System

- Recognise & Respond
- Know your Alertness Switches
- Process Approach

*Ensure you remain safe,  
rested, productive and  
**ALERT!***



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