Fatigue Management Accommodation Strategy

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Abstract – Fatigue Management Accommodation Strategy

Fatigue management has been getting more traction in the water industry of late. With the threat and impacts of severe weather events comes increasing challenges facing operational staff to supply safe drinking water to the communities they serve.

To ensure operational staff have the right resources available is critical to continuity of supply. This includes ensuring the safety of workers and making sure there are alternate arrangements are in place to manage fatigue.

After recent significant weather events across South East Queensland such as cyclone Alfred, and the floods of 2022. SEQWATER has developed a number of fatigue management strategies including an accommodation guideline for operational sites. This assists with operator fatigue by giving them an option to comfortably sleep onsite after call outs or long shifts.

Many operational sites are in areas where they are at risk of being cut off and isolated by significant weather events. This has occurred in the past and personnel have stayed onsite in unfavourable conditions. By ensuring operator fatigue is managed during times of floods, and severe weather and providing alternate accommodation strategies operators are better equipped and well rested when managing a treatment facility under stress.

Introduction

Effective management of worker fatigue is a critical component of safe and reliable operational performance, particularly in environments that rely on onsite accommodation and shift-based work. Fatigue impairs cognitive function, slows reaction time, and increases the likelihood of error, making it a significant organisational risk factor. In high-demand operational settings, the combined influence of work schedules, task intensity, and accommodation conditions can elevate fatigue levels beyond what individuals can self-manage.

This paper presents a structured Fatigue Management Plan designed to identify, control, and reduce fatigue-related risks across the workforce. The framework applies to all personnel living and working onsite and establishes clear expectations for maintaining fitness for work. It recognises that fatigue arises from the interaction of organisational systems, environmental conditions, and individual behaviours, and therefore requires a coordinated, multi-layered approach.

The plan integrates controlled rostering practices, accommodation standards that support restorative sleep, systematic fatigue monitoring, and targeted education to improve awareness and self-management. It also defines the responsibilities of supervisors, workers, and management in preventing, detecting, and responding to fatigue-related hazards. By embedding continuous improvement mechanisms—such as audits, performance indicators, and worker feedback—the plan provides a practical and proactive framework for sustaining safe, efficient operations.

The Role of Onsite Accommodation in Fatigue Risk Management

The provision of onsite accommodation represents a foundational control within contemporary fatigue risk management systems, particularly in industries characterised by extended shifts, remote operations, and continuous-process work. Its importance extends beyond convenience or logistical efficiency; onsite accommodation directly influences the physiological capacity of workers to obtain restorative sleep, maintain circadian stability, and sustain safe levels of alertness across demanding operational cycles.

From a human-factors perspective, fatigue is strongly shaped by the interaction between work demands and the quality of recovery opportunities. In remote or isolated locations, commuting itself can impose a significant cognitive and physical load, reducing the time available for sleep and increasing the likelihood of cumulative fatigue. By eliminating or substantially reducing commute times, onsite accommodation increases the proportion of non-work hours that can be dedicated to rest, thereby supporting adequate sleep opportunity a critical determinant of fitness for duty.

Onsite accommodation also enables organisations to exert greater control over environmental conditions that influence sleep quality. Noise, temperature, lighting, and bedding standards are well-established determinants of sleep efficiency. In many industries, offsite accommodation options are inconsistent or inadequate, creating variability in workers' ability to recover between shifts. Purpose-designed onsite facilities allow organisations to standardise these conditions, ensuring that all personnel have access to a sleep environment conducive to restorative rest. This standardisation reduces the risk of performance variability driven by external living conditions and strengthens the reliability of fatigue-related controls.

Furthermore, onsite accommodation supports more predictable and scientifically informed rostering practices. When workers reside onsite, scheduling can be aligned more closely with circadian principles, such as limiting consecutive night shifts, managing shift transitions, and ensuring minimum rest periods. The proximity of

accommodation to the worksite also facilitates rapid access to rest in the event that fatigue is identified during a shift, enabling immediate intervention such as task reassignment or short-duration recovery breaks. This capability is particularly important in high-risk environments where delayed response to fatigue indicators can have severe safety consequences.

The presence of onsite accommodation also enhances organisational oversight and monitoring. Supervisors and managers are better positioned to observe behavioural indicators of fatigue, engage in proactive conversations with workers, and implement early interventions. Additionally, onsite living arrangements can support structured educational programs, peer-to-peer reinforcement of fatigue-aware behaviours, and consistent messaging around sleep hygiene and recovery practices. These elements contribute to a more mature safety culture in which fatigue is recognised, discussed, and managed as a shared responsibility.

Finally, onsite accommodation contributes to system-level resilience by reducing exposure to external disruptions—such as transport delays, extreme weather, or community-based disturbances—that can erode sleep opportunity or compromise punctuality. In remote operations, these disruptions can be frequent and unpredictable. By centralising both work and rest environments, organisations create a more stable operational ecosystem in which fatigue-related risks can be anticipated, measured, and controlled with greater precision.

In sum, onsite accommodation is not merely a logistical arrangement but a strategic control that underpins the effectiveness of fatigue management systems. It enhances sleep opportunity, improves environmental consistency, supports evidence-based rostering, strengthens supervisory oversight, and reduces exposure to external fatigue-inducing factors. When integrated with broader organisational controls, onsite accommodation becomes a critical enabler of safe, reliable, and sustainable operations.

Executive Summary

This plan sets out a structured approach to identifying and controlling fatigue risks for personnel working in operations with onsite accommodation. Fatigue is a significant safety hazard that affects judgement, reaction time, and overall performance, especially in shift-based work.

Key fatigue drivers include long work hours, night-shift rotations, physically demanding tasks, and environmental issues in accommodation such as noise, temperature, and sleep disruption. Managing these risks requires proactive planning, effective supervision, and individual responsibility.

To mitigate fatigue risks, the organisation will implement:

- **Controlled rostering practices**, including limits on shift length, minimum rest breaks, and capped consecutive working days
- **Appropriate accommodation standards**, ensuring optimal sleep environments through noise control, climate management, and quality bedding
- **Fatigue monitoring and fit-for-work practices**, supported by supervisor observations and worker self-assessments
- **Education and training programs**, to improve awareness of fatigue risks and promote effective sleep hygiene

Supervisors are responsible for recognising early fatigue indicators and taking action. Workers must use accommodation appropriately and report fatigue concerns. Management must ensure rosters, systems, and facilities support adequate rest.

The plan includes a clear response process requiring immediate action when fatigue is identified, such as task reassignment, rest breaks, and review of contributing factors.

Continuous improvement is supported through audits, performance metrics (e.g., fatigue-related incidents, roster compliance), and worker feedback on accommodation and sleep quality.

Overall, this plan provides a practical framework to reduce fatigue risk, support wellbeing, and maintain safe, efficient operations in onsite-accommodation

environments. This Fatigue Management Plan outlines a structured approach to identifying, managing, and reducing fatigue-related risks for personnel working in operations supported by onsite accommodation. Fatigue is a critical safety risk that can significantly impact decision-making, reaction time, and overall performance, particularly in demanding, shift-based environments.

Conclusion

Onsite accommodation is a critical enabler of effective fatigue risk management. It enhances sleep opportunity, improves environmental consistency, supports evidence-based rostering, strengthens supervisory oversight, and reduces exposure to external disruptions. When integrated with organisational systems, training, and culture, onsite accommodation becomes a powerful control that underpins safe, reliable, and sustainable operations.