

**HEAVY VEHICLE DRIVER FATIGUE
ADVANCED FATIGUE
MANAGEMENT OPTION POLICY
PROPOSAL**

March 2006



**Prepared by
National Transport Commission**

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Heavy Vehicle Driver Fatigue Advanced Fatigue Management Option Policy Proposal

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Objectives:	The heavy vehicle driver fatigue review is a key component of the third heavy vehicle reform package. The aim of the review is to improve road safety through the implementation of policies and practices addressing the management of fatigue in the road transport supply chain.
NTC Programs:	Fitness For Duty.
Key Milestones:	This policy document is being released at this date for public information only. Public consultation on both the draft legislation and revised policies developed for the heavy vehicle driver fatigue reform will take place later in 2006 upon receipt of the draft legislation.
Abstract:	This report outlines the advanced fatigue management option policy proposal to assist stakeholders in understanding the current policy proposal. The report discusses the issues which have been further developed since the release of the draft policy proposal in March 2004.
Purpose:	Proposed policy for information purposes only.
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Comment by:	Not applicable.

FOREWORD

The National Transport Commission (NTC) is a body established under an inter-governmental agreement with a charter to develop, monitor, and maintain uniform or nationally consistent regulatory and operational reforms relating to road transport, rail transport, and inter-modal transport. The NTC is funded jointly by the Australian Government, States and Territories.

Fatigue is one of the main causes of crashes involving heavy vehicle drivers. The Heavy Vehicle Driver Fatigue Review is a key component of the Third Heavy Vehicle Reform Package. The aim of this review is to improve road safety through the implementation of policies and practices addressing the management of fatigue in the road transport supply chain.

This policy paper articulates the NTC's view on the advanced fatigue management option issues which were unresolved at the time of the Australian Transport Council endorsement of the Heavy Vehicle Driver Fatigue policy proposal in 2004.

Release of this paper for information is intended to assist stakeholders in understanding the current policy proposal. Stakeholders should note that the views expressed are those of the NTC which have been informed by discussions with industry, regulators and relevant experts. These views have not been endorsed by any other organisations including the Transport Agencies Chief Executives or industry peak bodies.

The policy position put forward in this paper is subject to change. The NTC will be undertaking further consideration of these issues over the coming months and will advance a final draft Heavy Vehicle Driver Fatigue advanced fatigue management policy proposal in mid 2006, after consultation with transport agencies and industry.

While NTC is not formally seeking comment on this paper, the project manager is happy to consider any written or verbal responses and may be able to attend meetings or seminars to discuss the policy issues. Contact details are below. NTC plans to release the package of revised policy papers, regulatory impact statement and draft legislation in August 2006 for a six week period. Formal comment will be sought at that stage. Comments will then be analysed and a final package will be sent to the Australian Transport Council for endorsement in December 2006.

Enquires can be addressed to Dr Neil Wong, ph 03 9236 5000, email nwong@ntc.gov.au

Michael Deegan
Acting Chairman

SUMMARY

The advanced fatigue management (AFM) option is the third tier of the multi option approach to heavy vehicle driver fatigue. The multi option approach recognises the diversity of the road transport industry and the need for flexibility. The AFM option is based on risk management, accreditation and quality assurance approaches. This report outlines the AFM option policy proposal to assist stakeholders in understanding the current policy proposal.

The report includes information about becoming accredited under AFM, the national approval system, the ten AFM standards participants need to demonstrate their fatigue management system takes into account, performance monitoring, sanctions for non-compliance and record keeping.

The report also discusses the issues raised by jurisdictions from the draft policy proposal in March 2004. These issues include detail about the national approval system and criteria to assess accreditation proposals. Further information about these issues and the resolution to date are presented in the report.

It is proposed to review the safety outcomes from the AFM option after it has been implemented by jurisdictions.

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1. INTRODUCTION

In 2004, the Australian Transport Council endorsed the Heavy Vehicle Driver Fatigue Policy Proposal. The aim of the policy is to achieve improvements in road safety and transport productivity through the development and implementation of policies and practices to assist in the management of fatigue in drivers of heavy vehicles. The policy proposal put forward a multi-option approach for fatigue management. This links increased flexibility with increased responsibility by operators to manage fatigue.

The multi option approach recognises the diversity of the road transport industry and the need for flexibility. The staged approach of the three options has been designed to enable operators to progress to more flexible options, commensurate with their operational requirements, by ensuring that the costs are minimised. At the same time operators who run operations suitable for a base option, and have little or no fatigue risk, will not be subjected to unnecessary costs.

The policy approved by the ATC in 2004 proposes three fatigue management options providing alternative drive, work and rest hour requirements with variable levels of flexibility in return for increased fatigue management and compliance responsibilities on operators and drivers. The options all place a greater emphasis on opportunities for sleep and rest, the 'body clock' influences, and the cumulative nature of fatigue, and comprise:

- a Standard Hours option — a default option prescribing minimum rest and maximum working hours;
- a Basic Fatigue Management option (BFM) — allowing additional working hours while imposing increased fatigue management and compliance responsibilities on operators; and
- an Advanced Fatigue Management option (AFM) — allowing more flexible working hours based on risk management, accreditation and quality assurance approaches. Operators will need to adhere to agreed standards and operating limits in return for more flexible working arrangements defined by the regulatory agency according to the operator's specific fatigue risks and fatigue management system.

As outlined in the policy proposal, there were several implementation issues that needed to be addressed before the package was taken back to Ministers. The AFM option was identified as an area that needed further development. These implementation issues for AFM included developing criteria for the assessment of accreditation proposals submitted by operators and finalisation of the accreditation proposal approval system to be used by jurisdictions. This document provides further detail about these two items.

2. ADVANCED FATIGUE MANAGEMENT – AN APPROACH BASED ON RISK MANAGEMENT AND QUALITY SYSTEMS

Prescribed hours, the basis for the Standard Hours and Basic Fatigue Management options, are invariably only a proxy for managing fatigue even though, as in the case of both proposed options, criteria can be targeted to create the opportunity for rest and thus minimise the potential risk of fatigue. The AFM option requires participants to develop and implement a fatigue management system. A fatigue management system, however, not only focuses on fatigue itself, and its precursors, but also puts in place systems, controls and responsibilities on operators and provides a driver with the flexibility and

responsibility to manage his or her fatigue while on the road. Importantly, a fatigue management scheme can be instrumental in achieving a cultural change in the approach to managing fatigue. It changes the approach to starting from a position of planning operations to address the fatigue risk and thus reduce the road safety risk.

The AFM option is based on risk management and quality assurance approaches that require operators and drivers to meet standards to ensure they effectively manage driver fatigue in their fatigue management system. The AFM standards are designed around best practice and cover readiness for duty, scheduling, rostering, management practices, training, record keeping, health, and workplace conditions issues. It is a risk management system akin to the safety systems approach utilised in the rail industry and other areas.

The experience gained in the Queensland Fatigue Management Program (FMP) pilot has been used to develop the AFM option. Evaluations on the FMP pilot have demonstrated that providing flexibility in scheduling coupled with appropriate counter measures can significantly improve fatigue management practices and provides a way to help achieve a cultural change in the approach to managing fatigue. Operators who wish to operate under AFM must develop policies and procedures to meet these standards and be accredited by the responsible jurisdiction.

In developing this final AFM policy proposal, further information was sought from fatigue practitioners and the current industry management practices in Australia. This information was used in the development of this final proposal and further detail about this process is described in Attachment A.

In return for developing a fatigue management system and better management of driver fatigue under the AFM option, operators may gain greater flexibility for their driving requirements. This entails operators developing a series of operating limits. Operating limits are tools that allow operators and drivers to plan, monitor and manage work and rest times to minimise the impact of fatigue. The AFM option uses a system of operating limits and outer limits. The operating limits and the fatigue counter measures are approved by the accrediting jurisdiction during the accreditation process.

Operating limits are the limits used to guide the scheduling and rostering of drivers, and are the limits required to do the job in most foreseeable circumstances. Operators are required to develop sets of operating limits within the outer limits that are individually tailored to meet the needs of the drivers and the operator. Operating limits balance the risks with appropriate counter measures and must take into account:

- the time required to perform the task safely under all reasonably foreseeable contingencies;
- adequate rest periods to recover from the effects of fatigue;
- the cumulative effects of fatigue over time; and
- effect of time of day on fatigue and quality of sleep.

A driver may work beyond the operating limits if a circumstance arises that requires this, providing some flexibility for operators. Work beyond operating limits indicates the point at which the fatigue risk increases and risk management strategies need to be employed. Before the driver can work beyond the operating limits, they must first contact the operator who will be required to assess the risks associated with the flexibility to be obtained by exceeding the operating limit. The operator must assess the risks and can approve the

driver exceeding the operating limit and must impose any necessary counter measures to balance the fatigue effects. The operator cannot approve drivers to exceed the outer limits. Exceeding the operating limits more frequently than agreed (10 percent of the time) will result in a non-conformance report being raised during internal and external audits. Records must be kept of all instances where an operating limit has been exceeded.

Outer limits are not to be exceeded under any circumstances. Outer limits represent the point past which further driving or work would pose an unacceptable fatigue risk. The outer limits and the frequency with which drivers are allowed to operate beyond the operating limits are based on research on the ability of people to tolerate lack of sleep and evidence of operations that can be conducted with an acceptable degree of road safety risk.

This final AFM model improves on the model put forward in the policy proposal that was approved by the Australian Transport Council in 2004. The final AFM model incorporates a range of additional requirements to ensure fatigue is well managed while ensuring a simpler model that can be more easily understood. These additional requirements include:

1. a focus on the two key short term (24 hour) fatigue factors to ensure that rest and work are not traded off; and
2. incorporating mandatory fatigue counter measures to aid fatigue recovery which is in addition to other fatigue counter measures the operator may propose.

The Advanced Fatigue Management options will have the key parameters prescribed in legislation. These are discussed further in Attachment B.

The NTC believes that the AFM accreditation would meet the requirements introduced under NSW occupational health and safety legislation for fatigue management. If the Heavy Vehicle Driver Fatigue proposal and particularly AFM is approved by ATC, NSW Workcover will be asked to confirm NTC's assumption.

It is proposed to review the safety outcomes from the AFM option after it has been implemented by jurisdictions.

3. ACCREDITATION TO ADVANCED FATIGUE MANAGEMENT

The National Heavy Vehicle Accreditation Scheme (NHVAS) will provide the framework for the AFM option. Operators wishing to participate in the AFM option will need to seek accreditation under the NHVAS Fatigue Management module. The process for operators seeking accreditation is:

- attend an information session;
- develop operating limits and fatigue management systems;
- submit proposed operating limits to accrediting agency;
- obtain in principle approval of operating limits from accrediting agency;
- undertake an entry audit and be certified as meeting the AFM standards; and
- submit an application form and system accreditation audit report to accrediting agency.

4. NATIONAL APPROVAL SYSTEM

To provide some certainty to the industry about what accreditation proposals will be accepted by accrediting agencies, it is proposed an AFM accreditation proposal that contains the Basic Fatigue Management (BFM) limits as the AFM operating limits would be accepted nationally (mutual recognition) by all jurisdictions.

The national approval system for AFM for an operator seeking accreditation with operating limits beyond the BFM limits needs to be finalised, and discussions with jurisdictions are continuing. This is a critical issue to be resolved as an operator seeking to be accredited under the AFM option in one jurisdiction needs certainty about how the accreditation agreement will be handled in other jurisdictions.

5. ADVANCED FATIGUE MANAGEMENT STANDARD REQUIREMENTS

Operators will need to meet a range of management standards in their fatigue management systems to gain NHVAS AFM accreditation. The proposed standards for the AFM option are set out in Attachment C.

6. PERFORMANCE MONITORING

Performance monitoring to assess an operator's compliance with their AFM agreement is undertaken through an external audit system. This external audit system will operate as part of the National Heavy Vehicle Accreditation Scheme (NHVAS). In addition, AFM includes other compliance mechanisms to measure an operator's performance. These mechanisms include:

- triggered audits by third party independent auditors where there are concerns with an operator's performance;
- annual internal audits conducted by the operator;
- quarterly compliance reports compiled by the operator;
- a requirement for records to be maintained for the approved accreditation period plus one year (e.g. if the accreditation is for three years, records must be maintained for four years) and to be accessible for audit at all times;
- monitoring of driver work and rest times by the operator and at audit;
- on-road interceptions to be reported to the accrediting agency through interception report books, and follow up action taken if required; and
- operators to implement and maintain a system for managing any occurrences of non-compliance with their AFM accreditation to ensure corrective and preventative action is taken.

7. SANCTIONS

A national sanctions model is being developed outlining a range of actions available to accrediting agencies to deal with operators who do not meet their accreditation requirements. These sanctions range from corrective action notices to temporary suspension, variation of accreditation conditions, and finally, cancellation of accreditation. The level of the sanction applied will be determined by the nature of the breach by the operator.

On-road enforcement procedures have been developed for enforcement officers. These procedures will ensure a national approach consistent with other NHVAS modules.

In addition to accreditation sanctions, statutory sanctions will also apply. These sanctions will cover:

- provision of false or misleading information;
- misrepresentation of accreditation status; and
- exceeding outer operating limits.

8. RECORD KEEPING

Advanced Fatigue Management accredited drivers will be required to carry and complete work diaries. Accredited drivers will be required to maintain a continuous record of their driving, work and rest times. Operators will be required to regularly review drivers' work diaries to ensure compliance with their operating limits. This means that work diary records must be kept at all times, including while operating in unregulated zones and local areas.

The issue of what roadside enforcement officers can check when AFM drivers are stopped for inspection will be further developed during the consultation process.

Driver Specific Monitoring Devices will not be a mandatory requirement for accreditation under the AFM option. However, operators may use such technology as a management tool to assist them in monitoring driver activities.

ATTACHMENT A: THE PROCESS AND ISSUES IN DEVELOPING THIS ADVANCED FATIGUE MANAGEMENT PROPOSAL

In developing further information to assist the assessment of the operating limits in accreditation proposals submitted by operators, data was sought about the associated fatigue risk for the operating limits. Ranges of operating limits have been provided from two main sources, advice from fatigue practitioners and information from current transport industry practices in Australia.

The NTC commissioned advice from a group of three fatigue practitioners (Associate Professor Ann Williamson of Injury Risk Management Research Centre University of NSW, Dr Philip Swann of VicRoads, and Dr Narelle Howarth of Monash University Accident Research Centre) about the operating limits under AFM and the associated fatigue risk. This advice was based on available literature and showed that managing the short term parameters (24 or 48 hours) is paramount in managing driver fatigue. It was recognised by the fatigue practitioners that their advice provided cannot cover all scenarios. For situations where an accreditation proposal that is beyond the operating limit advice provided by the fatigue practitioners, they suggested that that the accrediting agency may need to seek more specific advice on the implications of the limits for fatigue management.

Further information about operating limits and the associated fatigue risk was sought from current transport industry practices in Australia. There is evidence from this data that shows that managing fatigue using a systemic approach (like AFM) can provide improved safety outcomes. Companies that use a systemic approach to manage fatigue have demonstrated a significant improvement over the conditions existing before this approach was adopted and also show results that are generally better than the industry group comparison. The industry data also shows that specific schedules that contain operating limits which are beyond the general advice provided by the three fatigue practitioners can be undertaken with risk management providing the necessary counter measures to the increased fatigue risk.

This information from the three fatigue practitioners and the transport industry practices in Australia are documented in a separate report entitled *Heavy Vehicle Driver Fatigue Advanced Fatigue Management – Summary of Fatigue Management Programs and Research Studies Undertaken in Australia*. This report has been released with along with this report and is available from NTC's website (www.ntc.gov.au).

Both the advice from the three fatigue practitioners and industry data demonstrate a range of operating limits are possible within a fatigue management framework. This information will assist both operators that are developing accreditation proposals and accrediting agencies that will assess these accreditation proposals. This information was also used to refine the AFM model proposed in the 2004 policy proposal which is detailed below. Note that the operating limits proposed by the three fatigue practitioners for AFM are in some cases more conservative than the Standard Hours option. In developing the AFM proposal, the NTC has also taken into account current industry practices and available flexibility proposed in Standard Hours and BFM.

Advanced Fatigue Management Model

Some changes have been proposed to the AFM model in the original policy proposal (March 2004) to enhance the AFM system by providing some additional measures to ensure that fatigue is well managed. These changes include:

1. a focus on the two key short term (24 hour) fatigue factors to ensure that rest and work are not traded off;
2. incorporating mandatory fatigue counter measures to aid fatigue recovery which is in addition to other fatigue counter measures the operator may propose; and
3. a slightly simplified model which is consistent with the original design principles for developing the Advanced Fatigue Management option. This will allow the transport industry to easily understand what is required. It will also make auditing the system simpler.

The AFM model now contains mandatory counter measures which are consistent with good fatigue management practices. The previous AFM model with three limits (normal limits, flag points and outer limits) has been replaced with two limits (operating limits and outer limits) with the final AFM proposal. The operating limits for the new AFM model is equivalent to combining the normal limits and flag points under the original AFM model proposed in 2004. The operating limits provide the basis around which the business is planned and organised and must take into account all reasonable foreseeable circumstances.

Maximum work in 24 hours

In feedback on the HVDF policy proposal of March 2004, several jurisdictions sought greater detail around the maximum work in 24 hours parameter. It is now proposed that the outer limit for the maximum work in a 24 hour period is 16 hours. This outer limit is based on research which is presented in the *Heavy Vehicle Driver Fatigue Advanced Fatigue Management – Summary of Fatigue Management Programs and Research Studies Undertaken in Australia* report available on NTC's website (www.ntc.gov.au). A key finding from a study¹ evaluating alternative compliance schemes, similar to AFM, showed that work periods up to 16 hours (equivalent to a 17.25 hours shift) can be undertaken without compromising safe performance provided that the drivers are sufficiently rested before they begin.

An outer limit cannot be scheduled to, and working beyond an operating limit can be undertaken in limited circumstance to provide flexibility for industry to respond to unforeseen circumstances if safe to do so. Accreditation proposals will require the proposed frequency of which operating limits can be exceeded and the fatigue counter measures which to be implemented when these operating limits are exceeded. The introduction of mandatory fatigue counter measures into the revised AFM model ensures that work and rest in the critical 24 hour parameters are not traded off. These two checks will ensure that any longer daily working hours beyond operating limits are balanced with adequate rest and reduced working hours the following day. These checks will also ensure that a driver needs to have adequate rest prior to any work beyond the operating parameter of work in 24 hours to be undertaken. These measures are consistent with the research from the Williamson et al study¹.

Fatigue advice from the three fatigue practitioners put forward an operating limit² for this parameter of 15 hours work (16.5 hours shift) for exceptional circumstances and where certain conditions applied - no work in the 00:00 to 06:00 period and a longer rest break of greater than seven hours prior to and after the shift. The three fatigue practitioners also

¹ Williamson, A., Feyer, A., Finlay-Brown, S. and Friswell, R., (2000). Evaluating a regulated hours regime on-road and an alternative compliance regime under simulated conditions. Road Safety Report CR 190, Australian Transport Safety Bureau, Canberra, ACT.

² This point at where the operator would need to undertake a risk assessment of the driver's fatigue is called a flag point under the previous AFM model in the 2004 policy proposal.

proposed that the frequency for exceeding this operating limit was a maximum of once every three days if required.

Victoria and NSW have proposed an outer limit of 15 hours maximum work in 24 hours for operations within their jurisdictions. It is proposed that the outer limit for maximum work in a 24 hour period parameter be specified in the NHVAS Business Rules. This will allow for this variation for NSW and Victoria to be accommodated within a national system.

The NTC recognises that this national position for AFM means that the attractiveness and uptake for industry for this option seeking flexibility in the maximum work in 24 hours parameter may be slightly reduced.

National Approval Process

To provide some certainty to the industry about what accreditation proposals will be accepted by accrediting agencies, it is proposed an AFM accreditation proposal that contains the Basic Fatigue Management limits as the AFM operating limits would be accepted nationally by all jurisdictions.

ATTACHMENT B: ADVANCED FATIGUE MANAGEMENT OPTION

Prescribed hours, the basis for the Standard Hours and Basic Fatigue Management options, are invariably only a proxy for managing fatigue even though, as in the case of both proposed options, criteria can be targeted to create the opportunity for rest and thus minimise the potential risk of fatigue. A fatigue management scheme, however, not only focuses on fatigue itself, and its precursors, but also puts in place systems, controls and responsibilities on operators and provides a driver with the flexibility and responsibility to manage their fatigue while on the road. Importantly, a fatigue management scheme can be instrumental in achieving a cultural change in the approach to managing fatigue. It changes the approach to starting from a position of planning operations to address the fatigue risk and thus reduce the road safety risk.

The Advanced Fatigue Management (AFM) option is based on risk management and quality assurance approaches that require operators and drivers to meet standards to ensure they effectively manage driver fatigue. The AFM standards are designed around best practice and cover readiness for duty, scheduling, rostering, management practices, training, record keeping, health, and workplace conditions issues. It is a risk management system akin to the safety systems approach utilised in the rail industry and other areas.

Queensland Transport developed the Fatigue Management Program (FMP) pilot in 1994 and agreed to trial it as the fatigue management module of the National Heavy Vehicle Accreditation Scheme (NHVAS). The aim of the pilot was to develop and evaluate a fatigue management program that addressed all of the fatigue risk factors impacting on a driver, not just driving hours.

The experience of the FMP pilot has been used to develop the AFM. This has seen the standards reviewed and improved and the operating limits model refined. The FMP pilot was evaluated and it was found that drivers who are working under FMP conditions are exposed to significantly less fatigue related risk than those drivers surveyed before the commencement of the pilot. FMP drivers reported a decrease in the frequency in fatigue symptoms and a reduction in the use of negative fatigue strategies (eg. caffeine, drugs, smoking, etc.).

The Advanced Fatigue Management Model

Operating limits are tools that allow operators and drivers to plan, monitor and manage work and rest times to minimise the impact of fatigue. Work and rest times are planned around operating limits. Operating limits are the limits used to guide the scheduling and rostering of drivers, and are the limits required to do the job in all reasonably foreseeable circumstances. Working beyond operating limits indicates the point at which the fatigue risk is increased. Operating limits may only be exceeded after a risk assessment is undertaken by the operator in conjunction with the driver and authorisation given by the operator. Fatigue counter measures are required to be implemented when exceeding an operating limit. Records must be kept of all instances where an operating limit has been exceeded. This includes documenting the risk assessment undertaken, the rationale for the operator approving work beyond the operating limit and the fatigue counter measures employed.

Operators are required to develop sets of operating limits within the outer limits that are individually tailored to meet the needs of the drivers and the operator. These proposed operating limits must take into account:

- the time required to perform the task safely and under all reasonably foreseeable circumstances;
- adequate rest periods to recover from the effects of fatigue;
- the cumulative effects of fatigue over time; and
- the effects of time of day on fatigue and quality of sleep.

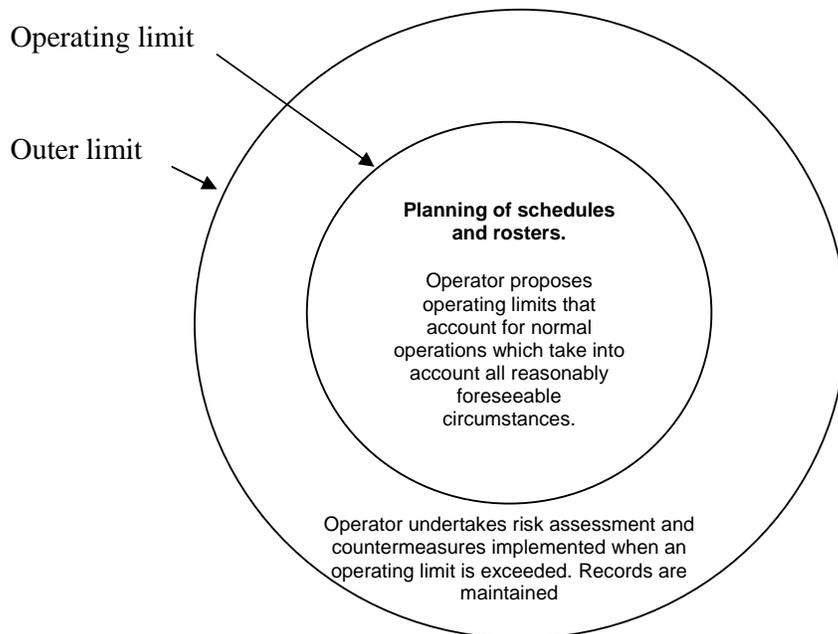


Figure 1. The Advanced Fatigue Management Model

Work beyond the operating limits requires a risk assessment and action by the operator and driver to manage the heightened fatigue risk. The number of times a driver may exceed this limit is prescribed in the frequency rates outlined in their NHVAS AFM agreement.

Outer limits are the point at which further driving or work would pose an unacceptable fatigue risk as evidenced by research on the ability of people to tolerate lack of sleep and evidence of operations that can be conducted with an acceptable road safety risk. Outer limits cannot be exceeded under any circumstances.

Proposals that put forward operating limits that approach the outer limits would not usually be accepted. However, it is recognised that some operators may have operational circumstances that may require work to approach an outer limit. The AFM model has been designed to ensure management of higher risk schedules. As a consequence some lower fatigue risk operations, with the fatigue risk is well managed on a 24 hour basis, that seeks flexibility around a parameter that has a longer term time period can produce unintended results unless operating limits can approach or equal outer limits. An example of this is a driver who drives several hours per day everyday and takes the minimum continuous 24 hour periods free of work of four period in 28 days (which is an outer limit), as four days off in a row would not be likely to constitute a road safety risk as a result of fatigue. These will need to be addressed through the accreditation approval process or alternatively

through exemptions. For accreditation proposals that are of a higher fatigue risk that propose operating limits that approach outer limits, it needs to be recognised that the driver should be subject to a higher safety risk from fatigue and stronger counter measures will be required to combat this. The information operators are required to submit when proposing operating limits that approach outer limits are detailed in the *Heavy Vehicle Driver Fatigue Advanced Fatigue Management Business Rules* report which is available from NTC's website (www.ntc.gov.au).

A range of requirements have been incorporated into the AFM model to ensure the interdependencies between the two important 24 hour operating limit parameters are not traded off to the detriment of fatigue. These two 24 hour based parameters are 'minimum continuous break in a 24 hour period' and 'maximum hours work in 24 hour period'.

Operators should also avoid exceeding the two operating limits for 24 hour parameters with exceeding an operating limit of other parameters. There is an additional requirement that provides guidance on the minimum mandatory counter measures necessary when operating limit parameters are exceeded – that is any deficit in hours/days etc beyond the operating limit must be made up in the next relevant period. The 36 long and night hours in combination rule that is used in BFM will also be used in the AFM model that addresses working long shifts and working through the night.

The parameters and outer limits values, and whether these are to be specified in legislation or a NHVAS AFM accreditation agreement, are:

- minimum continuous break in a 24 hour period: six hours and to be specified in legislation;
- minimum continuous 24 hour periods free of work: four periods in 28 days and to be specified in legislation;
- minimum opportunity for night sleep (between 22:00 and 08:00): two periods in 14 days and to be specified in the NHVAS AFM accreditation agreement;
- maximum hours work in 24 hour period: 16 hours (Note that NSW and Victoria have proposed maximum work in 24 hour period as 15 hours) and to be specified in the NHVAS AFM accreditation agreement;
- maximum work in 14 days: 154 hours, with no more than 84 hours before a continuous period of 24 hours free of work and to be specified in legislation; and
- maximum work in 28 days: 288 hours and to be specified in legislation.

The 36 long and night hours in combination limit and the additional mandatory fatigue counter measures will also be specified in the NHVAS AFM accreditation agreement.

To help with ensuring that an operator is complying with their NHVAS AFM agreement, an operator will need to ensure that the non compliances for operating limit parameters are no more than ten percent over a given time period (which will be specified in the NHVAS AFM agreement). Operators will need to record their performance against this metric and compliance audits will include reviewing the operator's performance with this metric.

Accreditation and Approvals

The following process will apply to operators wishing to become accredited under the AFM:

- attend information session;
- develop operating limits and fatigue management systems;

- submit proposed operating limits to accrediting agency;
- obtain in principle approval of operating limits from accrediting agency;
- undertake an entry audit and be certified as meeting the NHVAS FM standards;
- submit application form and system accreditation audit report to accrediting agency; and
- obtain accreditation.

The operator will submit their AFM accreditation proposal to an accrediting agency that will review the application. The proposal may be approved or be subject to amendments before being approved by the accrediting agency. The AFM system provides full mutual recognition of NHVAS AFM accreditation amongst the participating jurisdictions. Further details about the accreditation process including approvals from accrediting agencies are outlined in the *Heavy Vehicle Driver Fatigue Advanced Fatigue Management Business Rules* report available from NTC's website (www.ntc.gov.au).

To provide some certainty to the industry about what accreditation proposals are likely to be accepted by accrediting agencies, an example of operating limits in an accreditation proposal that would be accepted nationally by all jurisdictions is outlined below:

- minimum continuous break in a 24 hour period: seven hours;
- minimum continuous 24 hour periods free of work: two periods in 14 days;
- minimum opportunity for night sleep (between 22:00 and 08:00): four periods in 14 days including a pair of consecutive nights. The night rest to be taken after no more than six days of work;
- maximum hours work in 24 hour period: 14 hours; and
- maximum work in 14 days: 144 hours, with no more than 84 hours before a continuous period of 24 hours free of work.

This national proposal is based on BFM limits as AFM operating limits.

Performance Monitoring

The NHVAS provides an audit framework through a network of accredited auditors for the mass and maintenance modules. Independent audits will be required at the following intervals:

- on application for accreditation (system accreditation audit);
- within six months of accreditation (compliance audit) to ensure that operator is meeting the standards and following their fatigue management systems; and
- every two years following accreditation.

In addition, the AFM includes rigorous compliance mechanisms that will be used to measure operators' performance in the module. These include:

- triggered audits by third party independent auditors where there are concerns with an operator's performance;
- annual internal audits conducted by the operator;

- quarterly compliance reports compiled by the operator;
- a requirement for records to be maintained for the approved accreditation period plus one year (e.g. if the accreditation is for three years, records must be maintained for four years) and to be accessible for audit at all times;
- monitoring of driver work and rest times by the operator and at audit;
- on-road interceptions are reported to the accrediting agency through interception report books, and follow up action taken if required; and
- operators must implement and maintain a system for managing any occurrences of non-compliance with their AFM accreditation to ensure corrective and preventative action is taken.

There is also a range of accreditation sanctions available to the accrediting agencies for addressing operators who do not meet their accreditation requirements. These range from corrective action notices to temporary suspension, variation of accreditation conditions, and finally, cancellation of accreditation. The level of the sanction to be applied will be determined by the severity of the operator's breach of the accreditation conditions.

In addition to accreditation sanctions, statutory sanctions will also apply. These include:

- provision of false or misleading information;
- misrepresentation of accreditation status; and
- exceeding outer operating limits.

Record Keeping

Under AFM, accredited drivers will be required to carry and complete work diaries, specifying driving, work and rest times. Operators will be required to regularly review driver's work diaries to ensure compliance with their operating limits. AFM accredited drivers will be required to maintain a continuous record of driving, work and rest. This means that work diary records must be kept at all times, including while operating in unregulated zones and local areas.

ATTACHMENT C: ADVANCE FATIGUE MANAGEMENT STANDARDS

1. Scheduling and Rostering

Standard

Scheduling of individual trips and rostering of drivers must incorporate fatigue management measures.

Description

Scheduling and rostering practices must ensure all trip schedules and driver rosters are planned and assigned in accordance with the operator's approved operating limits. Scheduling and rostering practices must include an assessment of the driver's recent work history, ability, welfare and preference (where appropriate). Time must be allowed for the transport task to be completed safely.

Criteria

To satisfy this standard an operator must demonstrate the following:

- no schedules and rosters are planned to extend outside operating limits;
- in general, schedules and rosters are planned to be achievable within the operating limits for all reasonably foreseen circumstances;
- where there are regular schedules and rosters, these are documented;
- schedules and rosters are monitored and regularly reviewed;
- action is taken to minimise fatigue risks when altering schedules and rosters;
- drivers are provided with regular holidays and breaks throughout the year (including at least one period of five consecutive days);
- the increased fatigue risk for a driver returning from leave is considered in scheduling and rostering of the driver;
- guidelines are in place for the use of relief/casual drivers; and
- records detailing the actual schedules and rosters worked by drivers (eg, driver's work diary, pay records, operations manager's diary) are maintained and are available for audit.

2. Operating Limits

Standard

Operating limits must provide drivers and operators with the flexibility to effectively manage fatigue.

Operating limits must take into account and provide for:

- the time required to perform the transport task safely under all reasonably foreseen circumstances;

- the rest periods required to recover from the fatigue effects of work;
- the cumulative effects of fatigue over several days of work; and
- the effects of time of day on fatigue risks and quality of sleep.

Description

Operating limits are tools that allow operators and drivers to plan, monitor and manage work and rest times to minimise the impact of fatigue. Work and rest times are planned around operating limits. Operating limits may be exceeded up to the outer limits after a risk assessment is undertaken by the operator in conjunction with the driver and fatigue counter measures are implemented.

Criteria

To satisfy this standard an operator must demonstrate the following:

- the approved operating limits are monitored and reviewed at least every 12 months to ensure they are still effective;
- drivers are provided with flexibility to alter trip schedules within operating limits to maximise rest opportunities and minimise fatigue risk;
- the occasions when a driver is permitted to exceed the operating limits are managed to ensure appropriate counter measures are implemented and limitations are placed on the number of occurrences to ensure that they do not exceed the approved frequency per driver;
- instances where operating limits have been exceeded are recorded, including details of the risk assessment conducted and the fatigue management counter measures, corrective action and preventative action taken;
- drivers do not exceed outer limits; and
- records of drivers' work and rest times are regularly reviewed to ensure compliance with the approved operating limits for a minimum sample of two continuous weeks per driver per quarter.

3. Readiness for Duty

Standard

Drivers must be in a fit state to safely perform required duties.

Description

Operators must ensure that time off is provided for drivers to recover from or to prepare for the fatigue effects of work. Drivers must ensure that they consider the impact of activities such as recreational activities and personal life on their well-being and capacity to work safely, and use time off responsibly to prepare for, or to recover from, the fatigue effects of work.

Criteria

To satisfy this standard an operator must demonstrate the following:

- the operator has systems for driver readiness for duty, which address issues of driver health, use of drugs/alcohol, medical condition, well-being and state of fatigue;
- the driver's ability to perform the task safely is assessed prior to the driver commencing work where practicable;
- drivers assess their own fitness to complete a task prior to and during work; and
- drivers advise the operator if they are unfit for duty due to any lifestyle, health or medical issue both before and during work.

4. Health

Standard

Drivers must participate in a health management system to identify and manage fatigue risks.

Description

Operators must implement a health management system that addresses, as a minimum, sleep disorders, medical history, substance abuse and diet, and provides preventative and remedial measures to assist drivers in the management of their health.

Criteria

To satisfy this standard an operator must demonstrate the following:

- drivers are certified as being fit to drive a heavy vehicle by a medical practitioner according to the *Assessing Fitness to Drive* by Austroads (or equivalent document approved by the Australian Transport Council). The examination must include an assessment to detect drivers in the high risk group for sleep disorders. Examinations are to be conducted, as a minimum, once every three years for drivers aged 49 or under, and yearly for drivers aged 50 or over;
- drivers are employed on duties they are capable of performing in accordance with the medical fitness assessment;
- drivers found unfit or placed on restricted duties are provided with appropriate assistance and counselling to aid recovery and improve the management of their health; and
- drivers are provided information to promote and encourage better management of their health.

5. Management Practices

Standard

Management practices must control the risks relating to driver fatigue.

Description

Management practices must ensure all drivers are suited to the freight task and support effective communication between management and drivers on matters that affect the safe operation of the business.

Criteria

To satisfy this standard an operator must demonstrate the following:

- driver recruitment, selection and induction practices include fatigue management requirements;
- personnel performance management practices, including counselling and disciplinary action, are in place to deter non-compliance and implement corrective actions; and
- an effective communication process (including in-trip communication with drivers, meetings, notices, newsletters) is in place to facilitate the exchange of information between drivers and management.

6. Workplace Conditions

Standard

Workplace environments and conditions must assist in the prevention of fatigue.

Description

Operators must ensure that depot facilities, vehicles and sleep accommodation are suitable for the management and prevention of fatigue.

Criteria

To satisfy this standard an operator must demonstrate the following:

- vehicles used for sleep during rest periods must be fitted with, as a minimum standard, a sleeper berth that meets Australian Design Rule (ADR) 42;
- the vehicle cabin is safe and suitable for the freight task and includes, as a minimum, ventilation in accordance with ADR 42 and seating suspension that is adjustable to the driver's weight and height;
- vehicles are maintained to ensure that drivers are subject to a minimum of breakdowns during trips; and
- operators provide access to safe and suitable fatigue management facilities (e.g. lunch rooms, sleep accommodation) that are appropriate to the operator's freight task and in accordance with Workplace/Occupational Health and Safety requirements.

7. Training and Education

Standard

All personnel involved in the management, operation, administration, participation and verification of the Advanced Fatigue Management option are provided with relevant

training on the causes, effects and management of fatigue; and the operator's fatigue management program.

Description

Training and education is essential to ensure all employees, including managers, understand fatigue management issues and have the knowledge and skills to practice effective fatigue management and comply with the Advanced Fatigue Management option requirements. Training must include an assessment process to ensure learning objectives are met. Customer understanding and support for the Advanced Fatigue Management option is also important for successful fatigue management.

Criteria

To satisfy this standard an operator must demonstrate the following:

- persons who hold a position of responsibility under the Advanced Fatigue Management option are trained in and are familiar with the specific policy procedures and instructions they are to carry out;
- all managers, supervisors and drivers participating in the Advanced Fatigue Management option are trained in managing driver fatigue, including the causes and effects of fatigue, recognising the symptoms of fatigue, strategies to better manage fatigue and make lifestyle changes, and methods of conducting fatigue risk assessments and applying counter measures;
- advanced fatigue management option operation, administration, verification and participation training needs are identified and appropriate training is given;
- the knowledge of managers, supervisors and drivers participating in the Advanced Fatigue Management option is regularly assessed to identify training needs and required training is conducted; and
- customers are educated in the operator's participation in the Advanced Fatigue Management option and any obligations/responsibilities this places on the customer.

8. Responsibilities

Standard

All personnel involved in the management, operation, administration, participation and verification of the Advanced Fatigue Management option are aware of their authorities, responsibilities and duties and carry these out accordingly.

Description

The successful operation of the Advanced Fatigue Management option is dependent on all personnel knowing and fulfilling their responsibilities to ensure that the Advanced Fatigue Management option standards are met.

Criteria

To satisfy this standard an operator must demonstrate the following:

- authorities, responsibilities and duties relating to the Advanced Fatigue Management option are current, clearly defined (e.g. organisational chart, position descriptions, etc.), regularly reviewed and communicated to all appropriate personnel; and
- all personnel are carrying out their Advanced Fatigue Management option duties and responsibilities as required.

9. Records and Documentation

Standard

The operator must implement, authorise, maintain and review documented policies and procedures that ensure the effective management, performance and verification of the Advanced Fatigue Management option in accordance with the standards.

Records that demonstrate the effective operation of the Advanced Fatigue Management option and compliance with each standard must be identified, collected, stored and maintained.

Description

Policies, procedures and instructions must be authorised, current and clearly identify and describe all Advanced Fatigue Management option management, operation, administration, participation and verification activities.

Criteria

To satisfy this standard an operator must demonstrate the following:

- policies, procedures and instructions covering all activities required to meet the Advanced Fatigue Management option standards are authorised, current, clearly defined and available to all relevant personnel;
- all Advanced Fatigue Management option records are legible, stored, maintained and available for management and audit purposes for at least three years;
- all work diaries, driver identification cards and vehicle identification labels are accounted for at all times;
- records of participating drivers and vehicles are kept current; and
- documents are approved, issued, reviewed, modified and accounted for in accordance with the operator's prescribed control procedures.

10. Internal Review

Standard

An internal review system is implemented to identify all non-compliances and verify that all activities comply with the Advanced Fatigue Management option standards, policies, procedures and instructions.

Description

The internal audit process is an essential management tool that checks that procedures are being followed and indicates how the Advanced Fatigue Management option is working. Fundamental to the effective management of the fatigue risk is the capacity of the Advanced Fatigue Management option system to identify, report and investigate incidents of non-compliance with the standards and take the necessary corrective action.

Criteria

To satisfy this standard an operator must demonstrate the following:

- procedures are in place to define how an internal review program of all the Advanced Fatigue Management option standards is produced, conducted, reported and recorded at least every 12 months and corrective action taken where required;
- internal reviews are undertaken by competent persons not responsible for the activity being reviewed, where practical;
- procedures are in place to monitor, identify, report, investigate and record non-compliances and take the necessary corrective action to prevent further occurrences;
- procedures are in place to investigate incidents to determine whether fatigue was a contributing factor and to report findings to the accrediting authority; and
- a quarterly compliance statement is produced containing advice of compliance with the advanced fatigue management option standards, including a summary of:
 - instances where schedules or rosters have been planned to exceed operating limits;
 - instances where drivers have been permitted to work beyond operating limits; and
 - non-compliances detected.