DATASHEET Fatigue Risk Management Solutions

Fatigue Hazard Analysis Risk Assessment Workshops

About InterDynamics

InterDynamics is a leading provider of decision support and risk management methodologies and software. Servicing an international market, our extensive client base spans the spectrum of shiftwork and safety-critical industries, including transportation, mining, logistics, healthcare and manufacturing.

Fatigue Risk Management Solutions: Helping businesses identify, assess and manage the risks associated with work-related fatigue at both operational and management levels.

Decision Support Solutions: Helping organisations plan and schedule their business operations more effectively.

Our collaborative approach to customer service also helps us stand out from the crowd. Our experienced team can call on a wealth of problem-solving expertise to offer advice that is both practical and implementable.

Please contact us to find out more on this or other FRMS support offerings

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An InterDynamics Fatigue Hazard Analysis (FHA) Risk Assessment establishes a bridge between an organisational Fatigue Risk Management Policy and the operational procedures, activities and risk treatments required to effectively manage fatigue. This interactive process supports the development of appropriate treatments/controls and protection for tasks exposed to, or vulnerable to fatigue.

An approved methodology

Fatigue Hazard Analysis (FHA) Risk Assessments can play a significant role in an organisation's journey towards a comprehensive Fatigue Risk Management System. It is at the heart of our Risk-Based Approach to fatigue management. Fatigue Hazard Analysis risk assessments are designed to establish a bridge between Fatigue Risk Management at an organisational level, and the procedures, activities and treatments required at an operational level.

- Draws on the knowledge of experienced staff to capture fatigue related incidents that could or have occurred during the performance of daily duties, their possible triggers and solutions.
- Identifies and plots the Likelihood and Consequence of fatigue related incidents whilst performing the tasks of a particular role.
- Determines a Task Risk Tolerance for comparison with other workgroups or to be set as the organisational risk tolerance level.
- Assists in the capture and analysis of data required to set meaningful FAID Quantum Fatigue Tolerance Levels for selected jobs or tasks.
- Enables prioritisation of treatments by identifying most at risk tasks and individuals.
- Records agreed treatments and procedures for implementation.

The strength of this process is its proven effectiveness, being grounded in the hazard analysis and risk assessment methodology developed and practiced by one of the world's leading insurers. Zurich's Hazard Analysis (**ZHA**) methodology (upon which InterDynamics' Fatigue Hazard Analysis is based) has been successfully applied across various industry sectors for over 20 years.

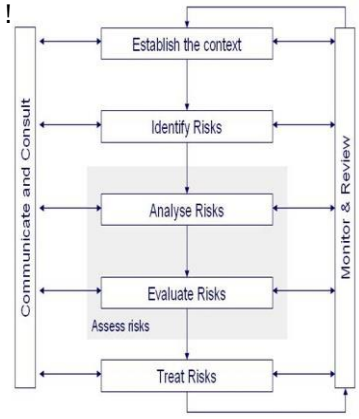
InterDynamics' Fatigue Hazard Analysis methodology has been successfully practiced across numerous industry types including road transport, rail, marine, aviation, health, and emergency services.

"The Fatigue Hazard Analysis was an invaluable process which brought together the experience of our experts from the field to learn about the causation and effects of fatigue, determine the triggers and consequences within our operating environment, and workshop the priority 'fixes' for some of these issues."

Fiona Love - Director, Training and Development Sydney Ferries

At the core of InterDynamics' Fatigue Hazard Analysis (FHA) is the Zurich Risk Engineering methodology of Zurich Hazard Analysis (ZHA) similar to frameworks such as:

- **AS/NZS ISO 31000:2009**
  (formerly AS/NZS 4360)
- **CAN/CSA-Q850-1997**
- **BS 6079-3:2000**



AS/NZS 31000:2009
Risk Management Process

Benefits of a Fatigue Hazard Analysis Risk Assessment

- The Fatigue Risk Management component of the Safety Management System is based on data from objective analysis & organisational experience
- Results in Fatigue Risk Management controls that are transparent, agreed and understood at all levels, and sit above regulatory compliance-based systems
- Provides benchmark data for fatigue-related exposures and controls
- Provides specific reports that document acceptable levels of fatigue related risk exposure levels for operating tasks
- Demonstrates ongoing commitment to reducing fatigue-related risk
- A cost-effective way to establish consistent, business-wide, fatigue-related risk assessment & documentation processes
- Prioritises risk reduction investments
- Establishes a proactive process for periodic fatigue risk management reviews
- Security of knowing that treatments are built on real knowledge & experience of fatigue-related exposures of the actual work
- Employee participation in identifying improvement actions that will lead to the reduction of overall fatigue-related risk
- Provides an opportunity to contribute to identifying acceptable fatigue related risk exposure levels for jobs/tasks
- Knowledge and communication is improved through information about fatigue-related risk & scientific facts of sleep deprivation being available to all
- Treatments/controls are transparent, agreed & specific to each team/group/department
- Provides assurance of the organisational commitment to regularly reviewing fatigue-related risk and processes to enable it
- Employees have input as to what is done first
- Acceptable & unacceptable fatigue-related risks are identified and made clear to all

FAID®, GRAID™ & HAZAID™ are proprietary products developed by InterDynamics to aid in the consistent identification, analysis and treatment of fatigue related risk. These tools are emerging as a de facto standard for fatigue management in numerous industries across Asia-Pacific, Europe and the Americas.

InterDynamics' FHA Toolkit

The FHA risk assessment process is based on the Zurich Hazard Analysis (ZHA) methodology and uses:

1. **FAID Quantum** - diagnostic software that analyses hours of work and provides a scientifically based fatigue exposure assessment of work patterns
2. **HAZAID** - an interactive, visual tool that standardises the FHA process. HAZAID prompts participants to catalogue hazards and assess fatigue-risk associated with their roles and working environment
3. **GRAID FRMS** - an interactive fatigue-related risk grading tool that supports results from the hours of work analysis and risk assessment process. GRAID FRMS produces a priority order for implementing the controls designed to manage fatigue-related risk appropriately.

What happens in a Fatigue Hazard Analysis risk assessment workshop?

All participants are encouraged to contribute equally and, in the process, HAZAID and GRAID FRMS software are used to record the information gathered from the group. From these records a report to management is prepared.

It is important that all participants are able to confidently contribute to these sessions and share their practical experience of fatigue-related risks as they relate to the task/job. For these reasons, a workshop usually includes suitable overviews of fatigue and fatigue-related risk. A typical format would include:

- Introduction to fatigue and fatigue-related risk
- Current fatigue and sleep research knowledge
- Discussion of FAID Quantum reports from the Hours of Work Analysis
- The Fatigue Hazard Analysis Process using HAZAID
- Organisational Fatigue-related Risk Grading using GRAID FRMS

What is entailed in running a FHA risk assessment workshop?

Each tailored workshop can take from a day to a day and a half, and is focused on a single functional task/group (i.e. airline pilots, truck drivers, train engineers, marine pilots, nurses, etc.)

For best results, 3-5 consulting days are usually required to complete the process comprising the following elements:

- Completion of a FAID Quantum analysis of planned and actual Hours of Work, ideally covering a 12 month period
- In consultation with staff and management, qualified Fatigue Risk Management consultants can: review company records for possible fatigue-related occurrences, absenteeism and sick leave performance; and/or gather specific information on the safety metrics for the organisation and its industry, e.g. Lost Time Injury Frequency (LTIFR) reports, insurance claims
- Selection, in consultation with management, of a suitable group of people (nominally 8-10) for the workshop(s)
- Delivery of tailored workshop(s) facilitated by the InterDynamics team leader, and collection of information from participants
- Preparation of detailed report of workshop, including FAID Quantum data and participant's responses
- Presentation and discussion of report with selected management and/or staff.

N.B. To avoid operational disruptions it is recommended that workshops be held away from the workplace.

In the interest of good practice, InterDynamics draws attention to these opinions from our scientific and other advisors:

- Fatigue is defined as, a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a person's ability to perform their duties efficiently and safely
- In extended, 24-hour operations a well-designed roster is unlikely to provide adequate protection from fatigue
- Integrated risk-based systems are designed to incorporate the collection of multiple data streams related to: predicted, actual, acute, &/or cumulative fatigue; fatigue surrogate variables, e.g. workload, overtime; and metrics for assessing human capability, e.g. cockpit flight-data monitoring, production
- Information from FAID Quantum can assist in evidencing a Fatigue Tolerance Level for an operation
- Information from FAID Quantum may be used in forming the basis of a continuous monitoring program to support risk detection and evidence-based change

Understanding your Organisation's tolerance to fatigue within a Risk Management context: