



DCN Drilling

Drilling and Geotechnical Drilling Specialist



Health, Safety and Environment Management Systems





INTRODUCTION DCN DRILLING AND ENGINEERING SPECIALISTS	4
.....	5
MISSION STATEMENT	5
OUR VALUES.....	5
OUR CLIENT COMMITMENT	5
ALIGNMENT TO LEGISLATION AND STANDARDS	6
INTRODUCTION AND OVERVIEW HSE MANAGEMENT SYSTEMS	8
.....	11
SCHEDULE 1	11
HEALTH, SAFETY AND ENVIRONMENT STANDARDS.....	11
STANDARD 1 – LEADERSHIP AND RESPONSIBILITY	12
STANDARD 2 - RISK IDENTIFICATION AND MANAGEMENT	14
STANDARD 3 - LEGAL AND OTHER REQUIREMENTS.....	17
STANDARD 4 – PLANNING AND OBJECTIVES.....	19
STANDARD 5 – TRAINING AWARENESS AND COMPETENCE.....	22
STANDARD 6 - COMMUNICATION AND CONSULTATION	25
STANDARD 7 - DOCUMENT CONTROL AND RECORDS.....	29
STANDARD 8 - OPERATIONAL CONTROL	31
STANDARD 9 - EMERGENCY PREPAREDNESS AND RESPONSE.....	37
STANDARD 10 - ACCIDENTS INCIDENTS AND NON-CONFORMANCE	39
STANDARD 11 – INSPECTION, MONITORING AND AUDIT	42
STANDARD 12 – MANAGEMENT REVIEW	45
SCHEDULE 2	46
PROJECT MOBILISATION AND OPERATIONS.....	46
PROJECT MOBILISATION	47
PROJECT MOBILISATION MEETING.....	51
SITE ACCESS	51
SITE INDUCTIONS.....	51
PERSONAL PROTECTIVE EQUIPMENT	51
FITNESS FOR WORK.....	52
ATMOSPHERIC MONITORING	52
ABBREVIATIONS.....	53
DEFINITIONS.....	53
REFERENCES AND ASSOCIATED DOCUMENTS	54
DOCUMENT CONTROL	54



ATTACHMENT ONE – NOTIFICATION OF PARTICULAR HAZARDOUS WORK 55
ATTACHMENT TWO – NOTIFICATION OF WORKPLACE ACCIDENT, UNSAFE SITUATION OR SERIOUS HARM . 56
ATTACHMENT THREE – LISTING OF STANDARD OPERATING PROCEDURES AND FORMS 57
TO BE COMPLETED IN DRAFT TWO 57
ATTACHMENT FOUR - ALIGNMENT OF ISO14001/AS/NZ 4801/ISO19001 AND DCN DRILLING STANDARDS 57



INTRODUCTION DCN DRILLING AND ENGINEERING SPECIALISTS

Dave Penney is the owner operator of this New Zealand based company and leads a team of experienced technical and operational drilling personnel providing a wide range of expertise, innovation, equipment and solution based services.

With over 20 years drilling experience, Dave and his team are well recognised in the New Zealand drilling industry for their professionalism, expertise and efficient approach.

With a wide scope of work which has seen Dave involved in projects spread across New Zealand (including Earthquake work in Christchurch), the Pacific Rim and North America, Dave and his team have the expertise to deal with a large range of drilling services.

DCN Drilling are members of:

- New Zealand Drillers Federation Inc.
- Australian Drilling Industry Association.

National and International experience include:

- Various projects across the Fiji Islands—Suva, Baa Sigatoka, Lautoka, Bua Bay
- Ge-technical, bridge Crossing and micro piling—Kwajalein Atol, Marshal Islands
- Geo-technical bridge crossings, wharves and barge drilling—Majuro Atoll, Marshal Islands
- Geotechnical Drilling—US Air Force Base
- Borehole Drilling Services (combination vibratory sonic & top drive rotary) - Christchurch

DCN Drilling has experience with specialised knowledge in:

- Geo-technical Drilling
- Soakage Drilling
- Wire Line Drilling
- Environmental Drilling
- Soil Nailing
- Diamond Coring
- Helicopter/Flyer Rigs
- Geo-thermal Drilling
- Auger Drilling
- Down Hole Hammers
- Piezometer Installations
- Anchor Drilling
- Barge Drilling

We pride ourselves in the quality of services we offer including:

- Innovative geotechnical drilling solutions
- Wide scope of engineering capability
- A full range of modern machinery
- Engineering research and development
- Experienced motivated employees



MISSION STATEMENT

To be recognised as the most efficient and capable provider of quality drilling services and geotechnical drilling solutions delivering projects safely, efficiently, on time and within cost constraints

OUR VALUES

To treat each other, our clients and stakeholders with respect, adopt efficient work methodology and technical solutions and create a culture of continuous improvement

OUR CLIENT COMMITMENT

Our DCN Drilling Team are committed to:

- *Leading in health, safety, environment management systems and compliance*
- *Delivering on time, on budget*
- *Exemplary customer service*
- *Professional and experienced drillers and support staff*
- *Efficient identification and management of risks*
- *Maintaining a modern, efficient fleet*
- *Adopting innovative technical solutions*
- *Maintaining the highest ethical standards*



ALIGNMENT TO LEGISLATION AND STANDARDS

This DCN Drilling Health Safety and Environment Management Systems in conjunction with the overarching DCN Drilling Business Management System is designed to meet the intent of the following legislation, standards and associated codes of practice:

- Health and Safety in Employment Act (HSE Act 1992)
- Health and Safety in Employment Regulations (HSE Regs 1995)
- Hazardous Substance and New Organisms (HSNO Act 1996).

This manual is scheduled for review when impending Health and Safety Reform Bill is passed in Parliament and the new Health and Safety at Work Act comes into force in 2015.

In addition the following National and International Standards:

- ISO: 14001 - Environmental Management Systems
- AS/NZ: 4801 - Occupational Health and Safety Management

Relevant Standards and Codes of Practice that may be required dependent on each Project scope of work and risk profile shall be scheduled within the DCN Drilling Legal Compliance Register.



Health, Safety and Environment Policy

DCN Drilling is committed to ensuring the health, safety and welfare of all employees and contractors and to minimise environmental impacts to the communities in which it operates. DCN Drilling acknowledges that Health, Safety and Environment (HSE) is a critical component of business and recognises its responsibilities under the legislation, regulations and codes of practice.

Through the Health Safety and Environment Management System, DCN Drilling will formalise systems of work, define responsibilities and adopt a high standard of care for the natural environment.

The HSE Management System ensures the health, safety and welfare of all workers and recognises the diversity and unique environmental values of the region, it ensures:

- ✓ All Projects operate to the highest standards to protect workers, the public and the environment
- ✓ Implementation of an effective HSE systems that identifies, assesses and controls risk
- ✓ Effective, safe systems of work developed in consultation with employees
- ✓ Impacts are minimised by pollution prevention, clean production technologies and waste minimisation programs
- ✓ Appropriate information, instruction, training and supervision of all employees
- ✓ Enhanced programs and procedures designed to continuously improve HSE outcomes
- ✓ HSE performance objectives and targets are set and delivered as part of annual planning
- ✓ Evaluation of HSE performance by regular monitoring and audit

Authorised by:

Dave Penney
Company Director



INTRODUCTION AND OVERVIEW HSE MANAGEMENT SYSTEMS

Purpose

DCN Drilling Health, Safety and Environment (HSE) Management System ensures consistent and effective implementation of quality systems across each project, site and drilling operation.

This HSE Management System is designed to meet client expectations, align with Company values and standards whilst maintaining compliance with relevant legislation.

This approach ensures DCN Drilling management and supervisors have appropriate direction, systems, processes, toolkits and training to enable effective implementation of HSE systems and standards.

Effective implementation of HSE Management Systems drives continuous improvement in performance and ensures the system remains effective, widely used and communicated throughout the business.

The effective implementation, monitoring and review of the 12 HSE Management System elements ensures:

- The safety of employees, customers and surrounding environments
- Risk identification and control reducing both business and HSE risk
- Effective business planning and delivery of objectives and targets
- Demonstration of legal and regulatory compliance
- Reduction of incidents and illness, therefore reducing downtime
- Engagement and motivated staff with better, safer working conditions
- Adoption of innovative and forward thinking approach
- Increased efficiencies
- Robust maintenance management systems
- Quality competency based training programs
- Efficient management of environmental footprint
- Effective performance monitoring and audit
- Improved stakeholder satisfaction, greater credibility with legislators and industry peers

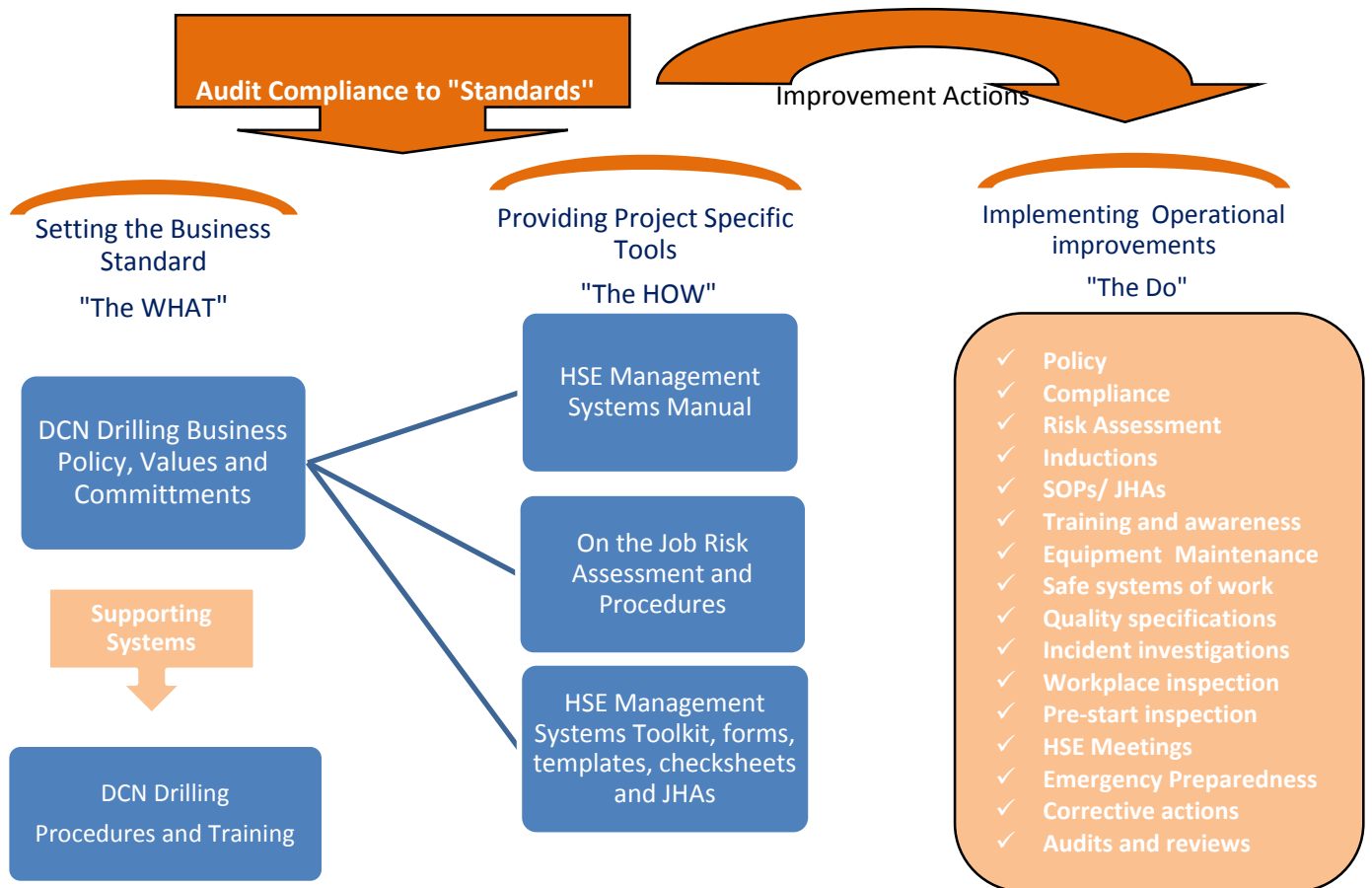




Scope

This HSE Management System applies to all DCN Drilling existing, impending and future Projects, and outlines the specific standards required whilst working on any site in which the Company has control. It is supported by Project and site specific HSE programs required as part of contract agreements, licence conditions and as determined by individual Project risk profiles and business requirements.

Figure One - HSE Management Systems Linkages

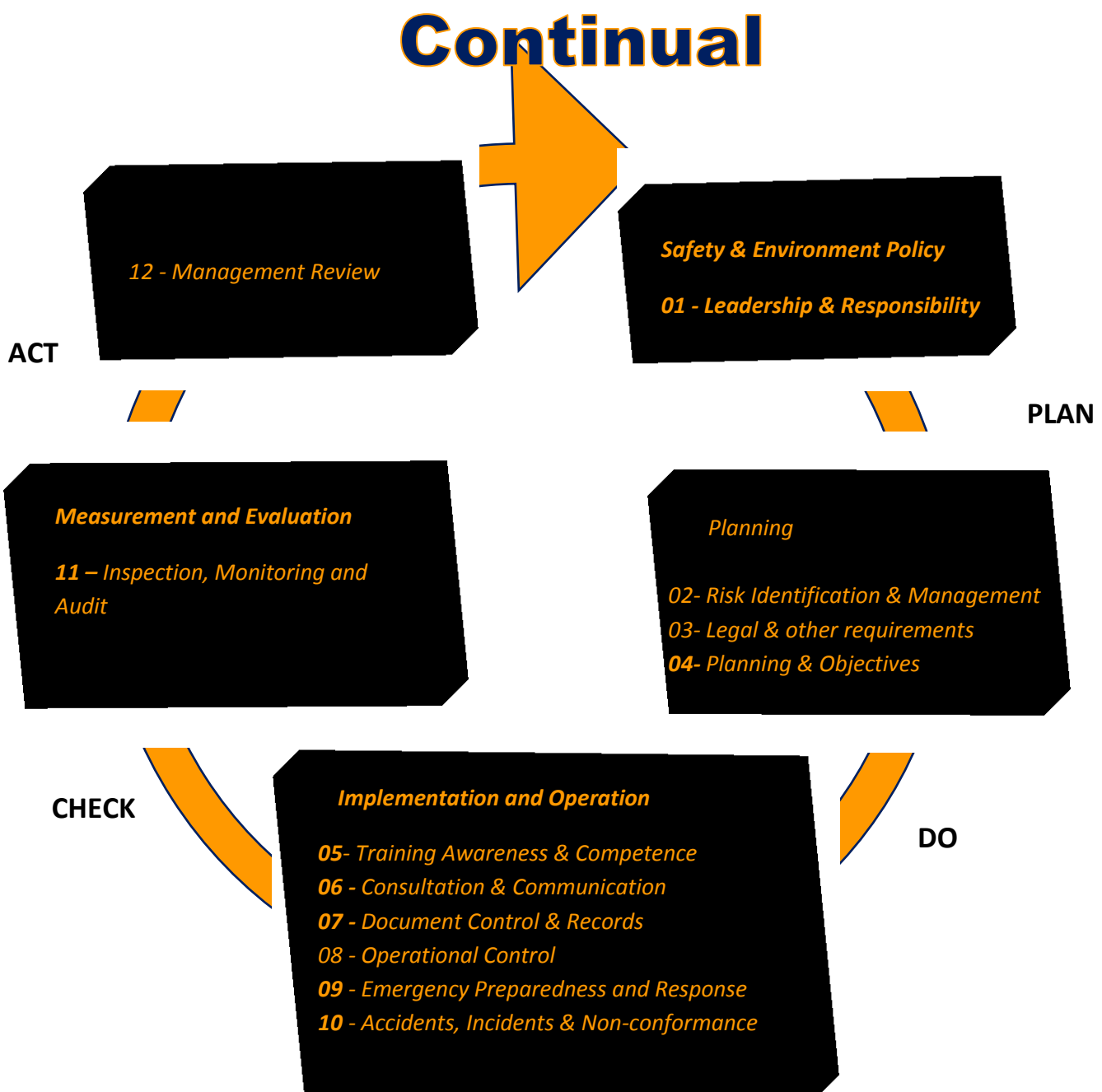




HSE MANAGEMENT SYSTEMS OVERVIEW

DCN Drilling adopts an integrated approach to Health, Safety and Environmental Management Systems that align to AS/NZ 4801 Occupational Health and Safety Management Systems and ISO 14001 Environmental Management Systems. The framework for the HSE Management System is based on a continuous improvement methodology that incorporates the full cycle of setting the standards, planning, implementation followed by audit, review through to performance improvements.

Figure Two - HSE Management System Standards as part of the continuous improvement model.





SCHEDULE 1
HEALTH, SAFETY AND ENVIRONMENT
STANDARDS



STANDARD 1 – LEADERSHIP AND RESPONSIBILITY

Intent

To ensure directors, manager's employees and contractors understand their accountabilities and demonstrate leadership through adhering to company Policies and standards driving improved performance.

PERFORMANCE REQUIREMENTS

Demonstrable Leadership

Managers and supervisors responsible for operational activities shall:

- Participate in risk assessment and risk management programs
- Carry out workplace inspections as per defined inspection schedules
- Promote and communicate HSE initiatives and performance through worker engagement
- Communicate and consult with workforce through formal scheduled meetings
- Participate and contribute to accident/incident investigations
- Monitor HSE performance and implement actions to rectify identified deficiencies

Organisation and Accountabilities

Organisational structures and staffing levels shall be defined and adequate resources allocated to enable compliance with relevant HSE requirements.

HSE responsibilities for all levels of management shall be define, documented and communicated by:

- Referencing responsibilities as part of position descriptions
- Including HSE objectives and targets within manager and supervisor performance plans
- HSE responsibilities forming part of supervisor training programs
- Clear responsibilities being defined within Manager / Supervisor responsibilities matrix

HSE Policies

DCN Drilling Director shall endorse HSE Policies that define required standards, incorporate effective management system, measure and drive continual improvement in performance. These Policies shall be:

- Communicated to employees and external stakeholders
- Form an integral part of setting of objectives, targets and reviewed annually as part of business planning
- Be displayed at visible positions at each prominent work locations



Contractor Management

Contractors and service agents carrying out works for DCN Drilling are required to comply with the HSE Management System. DCN Drilling partner with competent and experienced support services who are selected based on expertise, professionalism and ability to complete required works. The contractor management system shall ensure:

- Contractors complete inductions prior to commencement
- Contractors provide maintenance and inspection forms for the mobile equipment intended for use on site
- Appropriate licence and certification of equipment intended for use
- Appropriate SOPs and JHAs are in place for the works being undertaken
- All appropriate training is in place for contract works
- Appropriate risk management strategies are in place for works undertaken
- Participation in all associated HSE activities such as workplace inspections, accident incident reporting, hazard identification, risk assessments, pre-start and safety meetings.

Contractual agreement are in place for regular contracting works and detail responsibilities for the various aspects of the works.

DCN Drilling Reference: *HSE Policy, Responsibilities Matrix, Contract Template.*

ISO 14001: 4.2 Environment Policy, 4.4.6 Resources, Roles Responsibility and Authority.

AS/NZ 4801: 4.2 OHS Policy, 4.4.1.1 Resources, Responsibility and Accountability



STANDARD 2 - RISK IDENTIFICATION AND MANAGEMENT

Intent

Adopt a common framework to minimise risk to as low as reasonably practical utilising effective hazard identification, formal risk and environmental aspect assessment, management of change and structured implementation of risk controls.

PERFORMANCE REQUIREMENTS

Business Risk Assessment

DCN Drilling shall undertake as part of business planning a formal business risk assessment that addresses potential major impacts to business operations including:

- Business and financial
- Legal and licensing
- Company reputation, community and social
- Health and safety
- Environmental aspects

Outcomes of the risk assessment shall form the basis of improvement programs detailed within annual business plan. Significant risks to health and safety and environmental outcomes shall be taken into account in establishing, implementing and maintaining the HSE Management System.

The business risk assessment shall be reviewed annually by the Senior Drilling Team or as part of new major Project mobilisation, the risk assessment shall include:

- Team based risk assessment
- Development of operational based risk register (WRAC template)
- Identification of any specific major hazards
- Identification and evaluation of environmental aspects and associated impacts
- Identification of risk controls
- Incorporation of any additional risk controls into HSE Management Plan

All significant current and potential hazards (aspects) along with the controls undertaken to manage the associated risks (impacts) with them shall be recorded in the risk register.

Operational Risk Management

Operational risk management processes in place across DCN Drilling shall address health and safety hazards and environmental aspects and include:

- Job Hazard analysis (JHA)
- Workplace inspections
- Environmental monitoring (where required)



- Internal/external audits
- Pre-start meetings
- HSE communication and consultation meetings
- Incident investigations
- Hazard reports

Job Hazard Analysis

A Job Hazard Analysis (JHA) shall capture all health and safety hazard and environmental outcomes and be used as a consolidated risk and aspect management tool. A JHA shall be completed when a task or activity is to be performed relating to:

- Prior to and during start-up of new plant or pieces of equipment
- Prior to and during any changes or alterations to plant or equipment
- When irregular work tasks are being carried out
- As part of the progressive review of existing jobs
- For tasks that are not covered by existing SOPs
- After a hazardous incident where procedures were a contributing factor
- In the development of new or revision of existing procedures

JHA approach shall be used as a systematic way of formulating Safe Operating Procedures (SOPs).

Change Management

Risk management strategies shall be adopted as part of any change management processes, such as changes to equipment, maintenance methods, traffic flows, environmental controls, rosters or shifts times, significant change to procedures or work processes. Change management systems shall ensure:

- Risks are assessed and controls implemented prior to the execution of planned change
- Changes are communicated to employees and where required training undertaken
- Change management actions are completed, documented and plans/specifications updated
- Compliance with relevant engineering regulations, codes and industry standards
- Appropriate qualified engineering expertise is commissioned where required
- All fixed and mobile plant design is carried out in accordance with OEM Specifications

Risk Controls

The high and extreme risks identified shall have an action plan developed to ensure that the risk is properly mitigated to acceptable levels, the action plan shall:

- Identify critical controls applying hierarchy of controls
- Nominate responsible persons to carry out the action plan
- Verify the effectiveness of critical controls
- Define, document and implement ongoing management plans and risk review as required



The hierarchy of control shall be followed when deciding methods of controlling risk. The ideal method to control risk shall be by eliminating the hazard or source of the risk. If elimination is not possible then a combination of other elements of the hierarchy shall be applied to reduce the risk to an acceptable level.

Risk Training

Risk management training shall form part of the manager and supervisor training program. All employees and contractors complete the basic risk training program as part of their induction and familiarisation prior to commencing works.

RANK	CONTROL	
1	ELIMINATION Can removing the substance, process or activity eliminate the risk? Can you remove sharp/protruding objects or use a lifting device to eliminate a manual handling task? Can we use a non-combustible substance instead of a combustible one to eliminate the risk of a fire?	<p>MOST EFFECTIVE</p> <p>LEAST EFFECTIVE</p>
2	SUBSTITUTION Can substituting the chemical, process or activity reduce the risk? Can you use a less toxic substance and still get the job done? Can we divide a load to make it easier to handle?	
3	ISOLATION Can you isolate the hazard by installing guards/walls? Can we barricade off the area so no personnel can go near the hazard?	
4	ENGINEERING Can you introduce extra lighting into work area (temp. or perm.)? Place guard over a pinch point in some machinery? Can we enclose a noisy process or the operator's work station? Can we redesign a work area layout?	
5	ADMINISTRATION Can you create a Standard Operating Procedure (SOP) to reduce the risk? Can you reschedule a time when there are fewer people around? Can we be sure that everyone who is involved in this job has received the correct training to do it safely?	
6	Personal Protective Equipment (PPE) Is this a normally hazardous operation that requires the added protection of PPE? Does the job involve handling dangerous chemicals, fumes, confined spaces or welding? You will need breathing apparatus, gloves, mask etc.	

Figure Three - Hierarchy of Controls

DCN Drilling Reference: DCN Drilling Risk Register, JHA Forms, Daily Hazard ID Form, Induction Training Presentation.

ISO 14001: 4.3.1 Environmental Aspects

AS/NZ 4801: 4.3.1 Identification of hazard assessment and control of risks, 4.4.6.1 Hazard Identification, risk assessment and risk control

Supervisor tips for effective JHA's

- ✓ Use a selection of workers to carry out the JHA
- ✓ Do not allow a tick and flick, ensure your crew closely examine the hazards
- ✓ Challenge the controls to make sure the identified hazards are reduced
- ✓ Encourage suggestions from workers regarding on the job safety
- ✓ Ensure all workers understand the risks and the associated controls, and formally sign off on the JHA prior to commencing the task



STANDARD 3 - LEGAL AND OTHER REQUIREMENTS

INTENT

To ensure systems are in place to identify relevant legal and other requirements and address all aspects of compliance to regulatory requirements, statutory permits and licence conditions, systems are in place to ensure compliance through periodic evaluations.

PERFORMANCE REQUIREMENTS

Identify and Monitor Legislative Change

Systems shall be in place to identify and enable access to applicable laws, licence conditions, permit obligations, consents, regulations, contracts agreements, environmental commitments required to support DCN Drilling activities.

The Company shall monitor and subscribe to appropriate Work safe and or industry bodies providing legislative updates, pending changes and information.

Formal annual reviews of key legislative requirements and other applicable regulations shall be conducted to identify any revisions or changes that would impact or affect Operations.

Statutory Permits and Licenses

All relevant permits, licences and certification required shall be maintained and where appropriate, displayed within the workplace as required by law.

Permits, licenses and certification renewals shall be included within the legal compliance register and checked regularly for renewal due dates.

Contractors shall provide proof of all required permits, licenses and certificates for work performed.

Legal Requirements Register

A legal requirement register shall be maintained, the register shall include:

- National legislation
- List of expiry and renewal dates for all applicable permits, licenses and certification
- Be updated when relevant changes in statutory, legal and other requirements take effect
- Be reviewed for accuracy and relevancy annually
- Be easily accessible for managers and supervisors
- Include an monitoring or testing programs that are required by law



Primary Duty of Care

The primary duty of care requires all Persons Conducting a Business or Undertaking (PCBUs) to ensure, so far as is reasonably practicable:

- The health and safety of workers employed or engaged or caused to be employed or engaged, by the PCBU or those workers who are influenced or directed by the PCBU (for example workers and contractors)
- That the health and safety of other people is not put at risk from work carried out as part of the conduct of the business or undertaking (for example visitors and customers).

The PCBU's specific obligations, so far as is reasonably practicable:

- Providing and maintaining a work environment, plant and systems of work that are without risks to health and safety
- Ensuring the safe use, handling and storage of plant, structures and substances
- Providing adequate facilities at work for the welfare of workers, including ensuring access to those facilities
- Providing information, training, instruction or supervision necessary to protect workers and others from risks to their health and safety
- Monitoring the health of workers and the conditions at the workplace for the purpose of preventing illness or injury.

DCN Drilling Reference: *Legal Compliance Register*

ISO 14001: *4.3.2 Legal and Other Requirements*

AS/NZ 4801: *4.3.2 Legal and Other Requirements*



STANDARD 4 – PLANNING AND OBJECTIVES

INTENT

Objectives and targets are established as an integral part of annual business planning and are supported by management programs set to drive continual improvement in performance.

PERFORMANCE REQUIREMENTS

Strategic and Annual Business Planning

DCN Drilling shall develop a three year strategic business plan that encompasses business growth and long term expansion requirements. DCN Drilling Management endorses the strategic plan and shall commit to:

- Communicate the strategic plan to internal and external stakeholders
- Compile annual business plans, objectives and targets that delivers the strategic plan
- Monitor performance against the strategic plan
- Review the strategic plan each year in line with annual business planning cycle

HSE improvement projects, objectives and targets forms part of all business planning processes.

The annual business planning process shall include the development of objectives, targets, management programs and planning for continual improvement and shall include:

- Clear direction of business strategy
- Responsibilities and resources
- Measurable lag and lead performance indicators
- Defined improvement projects required to achieve business plan
- Peer review of performance and progress to plans

Business planning shall take into consideration the following:

- HSE policy and standards requirements
- Company expansion and business strategies
- Outcomes of risk assessments and significant risk registers
- Environmental aspects and impacts
- HSE performance issues
- Legislation change and compliance requirements



Figure Four - Inputs considered in setting of Objectives and Targets Program



Key Performance Indicators (KPIs)

DCN Drilling develops the critical few business wide Key Performance Indicators (KPIs) as part of the annual business planning process. KPIs reflect both lag and lead performance indicators required to monitor the effectiveness of the business plan.

KPIs shall be specific, measurable achievable, relevant and time-bound (SMART) and selected from the existing collection of data currently measured.

Table One - Key Performance Indicator selection

Lag Indicators	Lead Indicators
➤ Incident frequency rates	➤ Inspections completed
➤ Injury severity rates	➤ Audits completed and % compliance
➤ Workers compensation claims	➤ Training completed
➤ Equipment damage	➤ HSE meetings held
➤ Maintenance breakdowns	➤ Corrective actions completion
➤ Environmental monitoring exceedance	➤ Maintenance schedules achieved
➤ Fuel/oil spill's or incident (EPA reportable)	



DCN Drilling Reference: *Strategic and Annual Business Plans*

ISO 14001: 4.3.2 Objectives, Targets and Programs

AS/NZ 4801 4.3.3 Objectives and Targets, 4.3.4 OHS Management Plans





STANDARD 5 – TRAINING AWARENESS AND COMPETENCE

INTENT

Quality training provides employees with the requisite skills, knowledge and assessment of competency enabling them to conduct their activities efficiently, delivering quality outcomes.

PERFORMANCE REQUIREMENTS

Training Management System

A training management system shall be developed and implemented and shall address the standardisation and consistent application of:

- Training and assessment methodologies
- Training needs analysis
- Recognition of prior learning
- Annual training plans
- Training packages linked to Drilling Standards
- Refresher training requirements and re-assessment of competency
- Training data and records management
- Training compliance audits

Identification of Training Needs

Training needs analysis shall be carried out to establish specific training requirements, this shall include:

- Development of training matrix defining training modules by position
- Regulatory and operational competency needs
- Hazard specific training such as working at height, isolation
- Training in task based Standard Operating Procedures (SOPs)
- Licenses and industry competency certificates

The training matrix shall be displayed in the workplace to ensure that supervisors and employees have ready access to, and clear understanding of competencies required, competencies completed and training required for each employee.

Induction Training

Induction and orientation training shall be carried out for all new employees, contractors and visitors prior to commencement. DCN Drilling staff attend the Site Safe induction training at commencement, in addition all employees and contractors shall be made aware of the following:

- Company policies and standards



- HSE Management System programs such as accident/incident investigation, communication and consultation, SOP requirements, work permit requirements
- Business plans and operational objectives and targets
- Hazards associated with their work activity
- Risk management programs
- Competency training requirements
- Emergency preparedness and response
- Legislative responsibilities
- Rules and safe working protocols

An induction assessment shall be successfully completed by new employees prior to approval for commencement of work.

Management and Supervisor Training

All managers and supervisors shall undertake the DCN Leadership Training program to ensure they are provided with the knowledge and skills to effectively perform their responsibilities and deliver strong leadership impacts. The Leadership Program shall include:

- Legal compliance and licence conditions
- HSE Management Systems
- Risk management
- Accident/incident investigation
- Demonstrable leadership
 - Workplace inspections
 - Effective communication and consultation

Managers and supervisor training shall be completed within six months of appointment to a supervisory role.

Trainers and Assessors

Competency based training shall only be conducted by trainers and assessors with relevant vocational experience and/or accredited training qualifications or experience.

DCN Drilling Reference: *Manager and Supervisor Leadership Program; DCN Induction Training; Skills and Training Matrix; Annual Training Calendar, Drilling Competencies Modules*

ISO 14001: 4.4.2 Competence, Training and Awareness, 4.4.6 Operational Control
AS/NZ 4801: 4.4.2 Training and Competency



Supervisor tips training, skills and competence:

- ✓ *Have readily available a training matrices that details all your crews required competencies*
- ✓ *Reinforce with employees the need to only carry out tasks they have been trained in and signed off*
- ✓ *Ensure any buddy systems, training logs and pre-training theory is formalised and signed off before employee is approved to carry out tasks*
- ✓ *Make sure all employees have been inducted and that site specific induction and orientations are thorough and provide the employee with all required information*
- ✓ *Ensure competencies for all positions are identified, recorded, and reviewed*
- ✓ *Check required licences and legislated competencies are in place such as High Risk Work Licences, Electrical Licences, and HSNO Licences etc*
- ✓ *Ensure regular HSE training sessions are available for isolations, working at heights, chemical and hydrocarbon management, hazard identification, accident/incident reporting, JHA and risk assessment.*



STANDARD 6 - COMMUNICATION AND CONSULTATION

INTENT

Effective systems for the transparent and open communication and consultation is maintained with employees, contractors and other stakeholders promoting positive reporting, issues resolution, encouragement for participation and monitoring of improvement initiatives.

PERFORMANCE REQUIREMENTS

Communication and Consultation

DCN Drilling is committed to communicate openly with employees, contractors and stakeholders, personnel are encouraged to participate, provide feedback and have input into relevant business issues. Opportunity for effective communication and consultation with employees and stakeholders shall be provided by:

- Pre-shift meetings
- Monthly safety/toolbox meetings
- HSE inductions and site orientations
- Competency based training programs
- Risk management tools and systems
- Incident reporting and investigation
- Hazard identification and rectification
- SOP development
- Job Hazard Analysis
- Emergency planning and testing
- Company Newsletter

Pre Shift and Monthly Tool Box Meetings

The pre-shift and monthly tool box meetings shall be in place to provide the opportunity for input from employees on new, changing or existing hazards that require additional controls.

Pre-shift meeting duplicate booklets shall be used to record outcomes, detail accident/incidents and hazards raised and also to enable review of the previous shifts activities.

Monthly Toolbox meetings shall be attended by employees and provide an opportunity to work through risk assessment, present awareness campaigns and enable a broader forum for discussion between all levels of the Business.

HSE topic presentations shall be developed and provide update to date information and ongoing awareness of relevant hazards, business risks and appropriate controls.



Safety Representatives and Committees

On request from an employee, the Company is obliged to facilitate the election of health and safety representatives to represent them.

The option of requesting a safety representative to be appointed shall be communicated to employees during the site induction and orientation process, if no such request has been made from employees then there is no mandatory requirement to appoint such a position.

Similarly on request from a health and safety representative or by 5 or more workers a health and safety committee shall be established within two months after being requested to do so.

Notice Boards

Notice boards that communicate HSE information to employees shall be displayed in prevalent work locations. This information shall be updated monthly or as the information becomes available. Standard notice board formats shall be in place and include provision for:

- Safety alerts
- Industry accident/incident alerts
- Legislation information
- Electrical tagging updates
- HSE meeting minutes
- HSE awareness information
- Statistical analysis & performance reports
- Emergency procedures and contacts
- Industrial hygiene or environmental monitoring results

Client communications and consultation

The Client contract and Project mobilisation process shall define required client communication and consultation requirements for each Project.

Managers and supervisors shall ensure effective consultation and communication programs are established to meet business needs, these shall include:

- Early intervention with any issue resolution
- Positive open communications in relation to contractual issues
- Aligned risk programs and strategies
- Communications and alignment between client and DCN Drilling HSE Management
- Shared learning of site accident/incident events
- Collective and/or aligned emergency preparedness plans and systems



Internal Reporting

Quarterly Reports shall be produced detailing key performance outcomes of the previous month against planned targets including:

- Accident/incident statistics and reports
- Any non-compliance with or exceedance of licence conditions and internal emission targets
- Production performance
- Progress to targets
- Priority issues and risks

External Reporting

The HSE Coordinator shall maintain documented reporting schedules to ensure that reports required by national legislation and other obligations are completed and provided to relevant stakeholders within the required time-frame.

DCN Drilling Reference: *Quarterly Report, External Reporting schedule.*

ISO 14001: 4.4.3 Communication

AS/NZ 4801: 4.4.3.1 Consultation, Communication, Reporting.

Supervisor tips for effective consultation and meetings:

- ✓ *Make your pre-start count, discuss hazards, review outcomes of previous incidents, talk about the previous day performance, and ask for input on previous day's performance or scheduled works*
- ✓ *Do not underestimate your crew's knowledge and value their opinions*
- ✓ *Use your meetings as an opportunity to be positive about safe behaviour, a pat on the back goes a long way and we all like to do a good job*
- ✓ *Keep employees aware of and encourage their involvement in new initiatives and programs*
- ✓ *Employees who have been involved or injured in incidents can send a poignant message when they share their experience with the crew*
- ✓ *Present quality information during monthly Tool Box Meetings and invite other staff or HSE personnel to present information during these sessions*
- ✓ *Disseminate information by way of notice boards in prominent employee areas*
- ✓ *Ensure there is a follow through process to deal with complaints and concerns*
- ✓ *Information is knowledge, share the company's production, safety and business information during monthly meetings as everyone in the business contributes to the company's success*
- ✓ *Highlight any regulatory changes or information during these sessions.*



Supervisors tips for effective client relationships

- ✓ *Formal documented weekly or monthly progress meetings between client where appropriate*
- ✓ *Early intervention with any issue resolution required*
- ✓ *Positive open communications in relation to contractual issues*
- ✓ *Aligned risk programs and strategies*
- ✓ *Communications and alignment between client and DCN Drilling HSE personnel*
- ✓ *Shared learning of site accident/incident events*
- ✓ *Collective emergency preparedness plans and systems*



STANDARD 7 - DOCUMENT CONTROL AND RECORDS

INTENT

All levels of documentation are standardised, controlled, identifiable and maintained as current. Effective systems are in place to for the collection, control, distribution and storage of data and records.

PERFORMANCE REQUIREMENTS

Document Control

Document control management systems shall be implemented that include:

- Document identification, page numbers, issue dates, version and approval signatures
- Maintenance of document control registers
- Register that identifies location and distribution of hard copy documents
- Removal of obsolete documents from all points of issue
- Current versions of documents available electronically or in hard copy to operation areas as required
- Records of previous reviews and evidence of authorisation
- Revision of document based on risk of activity described or required by legislation

Standards templates for various levels of documentation shall be developed and implemented across the business, in compliance with the HSE Document Hierarchy.

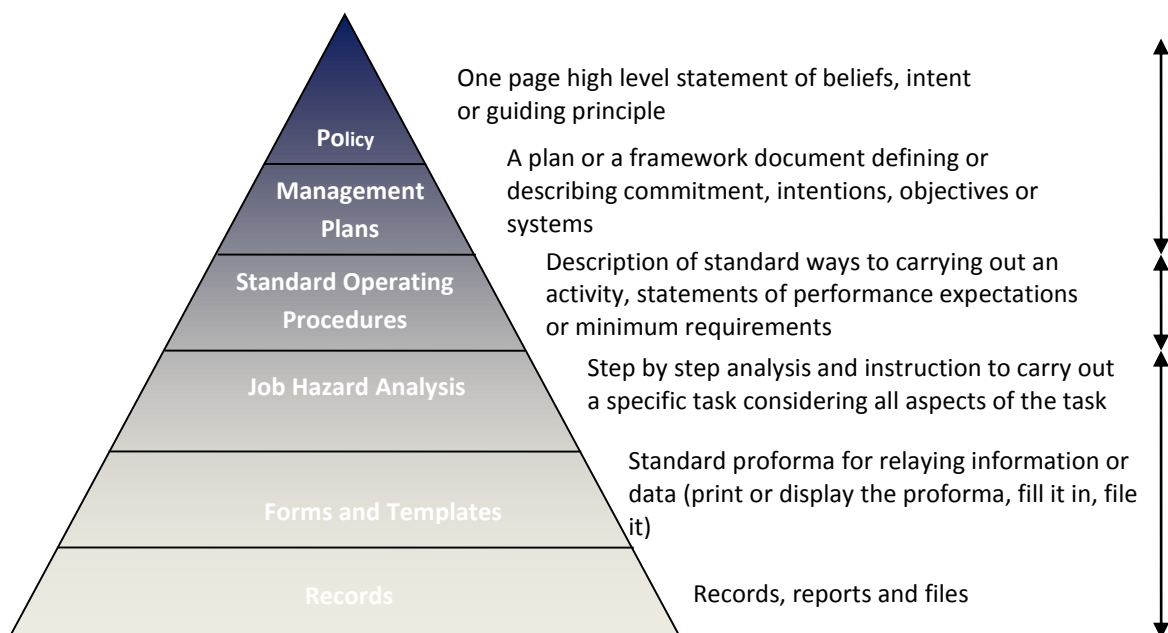


Figure Five - HSE Document Hierarchy



Records Management

Records shall be maintained and stored under a central registry framework that includes:

- Readily identifiable, retrievable and protected format
- Defined retention times in line with legal and operational standards

Records that shall be registered and stored as a minimum include:

- Engineering and design records for fixed and mobile plant
- External and internal risk assessments, technical reports and certification of plant
- Records of critical operational meetings
- Contractual documents and communications
- Compliance records for legislation changes
- Workers compensation and injury management records
- Training records
- Environmental monitoring results
- Quality assessment and monitoring results
- Audit results
- Medical records (with secured access)

DCN Drilling Reference: *DCN Drilling Document Register, Electronic Records Filing System.*

ISO 14001: *4.4.4 Documentation, 4.4.5 Control of Documents, 4.5.4 Control of Records*
AS/NZ 4801: *4.4.5 Document and Data Control, 4.5.3 Records and Record Management*



STANDARD 8 - OPERATIONAL CONTROL

INTENT

All projects are planned, assessed and controls put in place to ensure the management of identified hazards, environmental impacts and to ensure plant and equipment is operated, maintained, inspected and tested using systems and procedures.

PERFORMANCE REQUIREMENTS

Project Mobilisation

Systems shall be in place to manage mobilisation of new projects and ensure effective implementation of formal HSE Management Systems at the commencement of Operations. The Project mobilisation shall address:

- Client contractual arrangements and requirements
- Project specific risk assessment and controls
- Control of environmental aspects and impacts
- Environmental licence conditions
- Legislation requirements
- Equipment and services requirements
- Mobilisation and implementation plan (where required)
- Safe systems of work - JHAs and SOPs
- Training and competency requirements
- Emergency response

Standard Operating Procedures

Formal processes shall be in place to identify and evaluate critical process or activities that based on risk are required to be controlled and conducted in the same manner and using the same process each time they are carried out. These tasks require the development of Standard Operating Procedures (SOPs) that define critical information such as legal requirements, operating criteria, hazards and controls.

SOPs shall be developed in collaboration with the personnel required to implement and use them. The JHA worksheet shall be used to identify hazards, assess risk, and identify and record control measures that are required to be included within the SOP. SOPs shall be communicated to employees and contractors by:

- Inductions and orientations
- Training programs
- HSE Meetings
- During specific tasks as they are being performed
- Inclusion within training modules and competency assessments
- Inclusion on SOP training matrix for specific positions or work groups



SOPs shall be periodically reviewed for compliance to ensure they remain current, relevant and effective. The frequency of SOP review shall be based on the risk of the activity governed by the SOP.

SOPs shall be reviewed in the event of changes in processes at the operation, following accidents, or modified as outcomes of management system audits or operational recommendations.

Mobile Equipment

Mobile equipment shall be fit for purpose, maintained in safe operating condition, have been issued with required license and certification, have the required safety features and be operated by competent operators.

All mobile equipment shall be checked and inspected prior to being approved for use on a DCN Drilling Project. Mobile equipment inspections shall include requirements for the provision of maintenance history, service records, licences and appropriate safe operating features including:

- Licence and certification requirements
- Fire protection, detection and suppression systems
- Access / egress operator protection
- Personnel restraining devices (lap or body seat belts)
- Secondary braking systems, fail safe emergency stops and shut downs
- Remote control systems if required
- Fluid systems level indicators
- Tire management (unplanned release of pressure, ejection of tyre components, tyre fires)
- Operator exposures vibration, noise, dust, heat, cold
- Warning devices pre-start, reverse, lights, beacons, reflector strips
- Power steering manual devices in the event of engine/power failure
- Guards and shields
- Electrical component protection

General tools and equipment access

All tools and equipment planned for use shall be maintained in safe working condition and meet and inspection, certification or licensing conditions including:

- Electrical equipment tagged with current inspection tags
- Hand tools in safe working order
- Guards and safety devices fitted to tools and equipment
- Lifting equipment, hooks and lanyards have current inspection tags

Tools and equipment shall only be used by trained and competent operators.

Chemical approvals

All chemicals and hazardous substances planned for use shall be registered within the Chemical Register and be supported by a Safety Data Sheet (SDS). A product evaluation and approval process shall be completed for each product or product group intended for use. Chemical awareness and, when required, safe handling shall form part of the competency training program.

Storage, handling and transport of hazardous substances shall be in compliance Hazardous Substance and New Organisms (HSNO) Act and include:



- Approved storage facilities for hazardous substances
- Up to date copies of Safety Data Sheets (SDS) registered
- Register of all hazardous substances and approximate quantities held
- Process for sub-contractors compliance with hazardous substance management
- Hazardous substance transportation records system to comply with Hazardous Substance (Tracking) Regulations 2001
- Where required, the use of HSNO “Approved Handlers”
- Where required, HSNO Stationary Contain System test certificates issued and maintained

Maintenance Systems

Plant and equipment (plant) shall be maintained in a serviceable and safe condition. All DCN Drilling plant shall be logged and registered within the maintenance system. The maintenance system shall include details of any required schedules required preventative, certification, breakdown and regulatory inspections and maintenance.

Contractor owned plant shall be inspected and approved prior to being used on site and is subject to compliance against DCN Drilling and client requirements.

The maintenance management system shall be based on quality maintenance program in accordance with Original Equipment Manufacturer (OEMs) and include:

- Preventative maintenance
- Planned replacements
- Exploratory and diagnostic measures

Registered Plant

Certain items of plant and types of plant designs shall be registered in accordance with legislation which requires plant to be:

- Design registered before it is supplied
- Item registered before it is used

Statutory Inspections

Registers of all equipment requiring certification and/or statutory inspection shall be maintained these include:

- Item registered plant
- Pressure vessels and associated equipment
- Cranes and lifting equipment
- Forklifts and ancillary equipment
- Man lifts and ancillary equipment
- Electrical equipment
- Emergency medical equipment

Records shall be maintained of certification, registration and statutory inspections, original certificates shall be retained.



Routine checks shall be carried out following maintenance of certified plant to ensure the following are in place:

- Certification plates displayed on the equipment
- Safe working limits and lifting limitations displayed in a visible position for the operator
- Only employees holding the relevant certificate operate certified plant
- Only approved attachments are used on certified plant
- Certified plant operated in a manner that conforms with OEM requirements
- Equipment to undergo a daily pre-start check
- All modifications to any certified plant in accordance with OEM's and records maintained.

Records detailing the maintenance and repair of equipment shall be retained for the life of that plant. Certified plant records are transferred and remain with the equipment when being sold.

Traffic and Mobile Plant Management

Traffic and mobile plant management hazards shall be considered at each site including:

Mobile Plant Considerations:

- Planning and design
- Mobile equipment specifications
- New and existing equipment acquisition and assessment
- Safe systems of work
- Operator training and competency
- Operation and maintenance practices
- Roadway design, construction, and maintenance
- Traffic patterns and pedestrian controls

Traffic Management Plans:

- General road safety and rules
- Speed limits in prescribed areas
- Rights of way on roads, intersection and roundabouts
- Procedures for breakdown and recovery
- Loading areas
- Procedures for loads and escorts
- Parking that includes minimising the risk of runaways on grades
- Separation of drilling operations and light vehicle parking areas
- Restricted access
- Overhead power lines
- Windrows and road markers
- Lighting and lighting plants



DCN Drilling Reference: *Hazardous Substance Register, SDS Folder, Mobile Equipment Inspection Form, Maintenance Schedule, SOP Register and Folder*

ISO 14001: 4.4.6 Operational Control

AS/NZ 4801: 4.4.6.1 Hazard Identification, Risk Assessment, Control of Risks, Evaluation

Supervisor Tips checks for mobile equipment entering site include:

- ✓ *Equipment has been approved for use on site*
- ✓ *Appropriate licences and certification plates*
- ✓ *Suitability for its intended tasks*
- ✓ *Pre-start inspection books available*
- ✓ *It is maintained in a safe operational condition*
- ✓ *It is included within preventative maintenance schedules*
- ✓ *Employees are trained and competent to operate*
- ✓ *Equipment meets OEM specifications*

Supervisor tips checks to be undertaken for a new hazardous chemical intended for use:

- ✓ *An up to date SDS is available*
- ✓ *Product has been evaluated and approved for use*
- ✓ *Product included within the Chemical register*
- ✓ *Suitable packaging, storage and containment systems*
- ✓ *Employees are trained in its use and handling*
- ✓ *SOPs are developed for handling where required*
- ✓ *Appropriate Personal Protective Equipment (PPE), spillage and emergency equipment is available*

Supervisors tips for effective Standard Operating Procedures

- ✓ *SOPs detail required controls to minimise risk associated with the task*
- ✓ *SOPs are developed in a process consistent with work operations*
- ✓ *SOPs are developed for all tasks that, based on risk, are required to be completed in a consistent way*
- ✓ *SOPs are included within the competency based training system*
- ✓ *SOPs are readily available for employees to reference in the work area*
- ✓ *Contractors are aware of and comply with relevant SOPs*
- ✓ *SOPs are regularly reviewed and updated*
- ✓ *Employees take part in the development and review of SOPs in their work area*
- ✓ *SOPs are tabled at Tool Box and Safety meetings as required*
- ✓ *Compliance with requirements of SOPs is enforced*



Supervisor tips for road design and construction:

- ✓ *Observe road conditions and coordinate maintenance where required*
- ✓ *Inspect all road ways intended for operation during a shift*
- ✓ *Maintain working floors and other operational areas*
- ✓ *Consider weather conditions and effects on operational road safety*
- ✓ *Ensure adequate availability of graders, dozers as required to maintain safe road conditions*

Supervisor tips for the maintenance and inspection program:

- ✓ *Preventative maintenance systems meet OEM and legislative requirements*
- ✓ *Registers of all plant and equipment are maintained and include details of relevant certification, licences, and inspection and maintenance programs*
- ✓ *Mobile plant is in a safe operating condition, has undergone appropriate maintenance inspection and meets access inspection requirements*
- ✓ *Defects reporting program is in place including shut down of equipment where critical safety systems are affected*
- ✓ *Design data and operating limits are documented, understood, and available for use on plant and equipment*
- ✓ *Classified plant is registered, certified and maintained in safe working condition*
- ✓ *Pre-start equipment inspections on all mobile plant including defects reporting and rectification*
- ✓ *Out of service tags and systems in place for defective equipment.*



STANDARD 9 - EMERGENCY PREPAREDNESS AND RESPONSE

Intent

To identify, prepare for and be able to respond to emergency situations that have potential adverse effects to personnel, operations, the environment and reputation.

PERFORMANCE REQUIREMENTS

Emergency Preparedness and Response

DCN Drilling shall develop an Emergency Response Plan that addresses operational specific emergency risks, meets client expectation and are aligned to local emergency services. These systems shall:

- Identify and evaluate potential emergency situations
- Develop an emergency plan to manage potential emergency situations
- Ensure employees, contractors, and visitors are trained in and understand the Emergency Response Plan
- Hold copies of up to date emergency contact listings prominent easily accessible locations
- Detail available resources and instructions for activation of emergency medical care and external emergency services
- Detail evacuation and muster points
- Detail emergency response equipment locations and maintenance program
- Detail clean up and remediation procedures for materials that pose significant risk
- Detail required emergency response drills and exercise
- Nominate process for dealing with media and government inquiries and the release of public statements.

Emergency equipment

Required emergency equipment shall be identified and such equipment provided at key locations where it would most likely be required.

Emergency equipment, alarms, lighting and warning systems shall be regularly inspected and maintained in proper working order.

Inspections and servicing of emergency equipment shall be included in the preventative maintenance system and be carried out by qualified personnel. Formal records of inspection and testing shall be maintained.

DCN Drilling Reference: *Emergency Activation Forms, Emergency Contact Listing*

ISO 14001: 4.4.7 Emergency Preparedness and Response

AS/NZ 4801: 4.4.7 Emergency Preparedness and Response



Supervisor tips for Emergency Preparedness:

- ✓ *Review emergency procedures and participate in their development*
- ✓ *Identify and evaluate potential emergency situations in your work area*
- ✓ *Be familiar with your supervisor role during an emergency event*
- ✓ *Hold copies of up to date emergency contact listings in your glove box or pocket book, ensuring it is readily available no matter where you are located when an emergency is activated*
- ✓ *Be familiar with available resources and how to activate them, such as medical emergency and external emergency services*
- ✓ *Know what emergency response equipment is available and carry out checks to ensure it is maintained during normal operations*
- ✓ *Ensure employees, contractors, and visitors are trained in and understand the Emergency Response Plan*
- ✓ *Participate in emergency response drills and exercise as these help prepare your crew to act appropriately during a real emergency event*





STANDARD 10 - ACCIDENTS INCIDENTS AND NON-CONFORMANCE

Intent

To ensure accident/incidents and non-conformances are reported, investigated and analysed to determine underlying causes in order to eliminate the potential of future failures by apply adequate controls and sharing of learning's across the business.

PERFORMANCE REQUIREMENTS

Reporting and investigating incident events

DCN Drilling shall implement and maintain an accident, incident and non-conformance notification, investigation and reporting process that:

- Is consistent in its approach through use of standard forms and investigation tools
- Is supported by appropriate data management systems
- Meets applicable legislative and licence reporting requirements
- Enables timely reporting, investigation, mitigation and appropriate communication of incident events
- Promotes reporting of all events including accidents, incidents, near misses, hazards and non-conformances
- Ensures adequate controls are applied to prevent re-occurrence
- Defines internal, external and legal reporting requirements

Immediate incident response shall be addressed within the accident incident training program attended by all managers and supervisors including:

- Serious event response, cessation of work and activation of emergency procedures
- Isolation and preservation of the incident scene
- Injury and treatment management
- Recording of witness statements
- Internal and external notifications
- Undertaking drug and/or alcohol testing program for involved employees
- Establishing investigation team and organise for investigation process to be undertaken.

The level of an investigation for an incident shall be dependent on the level of risk associated with the event, the Project Manager or Supervisor shall appoint an appropriate investigation team

Corrective actions resulting from incident investigations shall be recorded and tracked through to completion through regular management reviews of outstanding actions.



External Reporting of Incidents

External reporting of incidents shall comply with legal requirements and include formal notification for incident events that result in serious harm, a serious injury or illness or a dangerous incident.

Notifiable serious harm injury or illness shall include:

- Any of the following conditions that amounts to or results in permanent loss of bodily function, respiratory disease, noise induced hearing loss, dermatological disease, communicable disease, musculoskeletal disease, illness caused by exposure to infected material, decompression sickness, poisoning, vision impairment, chemical or hot metal burn of eye, penetrating wound of eye, bone fracture, laceration, crushing.
- Amputation of body part
- Burns requiring referral to a specialist registered medical practitioner or specialist outpatient clinic
- Loss of consciousness from lack of oxygen
- Loss of consciousness, or acute illness requiring treatment by a registered medical practitioner, from absorption, inhalation, or ingestion, of any substance.
- Any harm that causes that person harmed to be hospitalised for a period of forty- eight hours or more commencing within seven days of the harms occurrence.

All communications with the regulator will be carried out by the most Senior DCN Drilling Manager available at the time of the event. Attachment one details Worksafe contact details.

Corrective Actions

Corrective action processes shall be in place to ensure actions resulting from any incident, monitoring, inspection and audit are formally investigated and closed out. Corrective and preventive actions shall be recorded, monitored and closed out. Corrective actions are raised throughout the HSE Management System including:

- Incident notification and investigation
- Corrective action resulting from internal and external audits
- Work requests
- Minuted action items
- Hazard or defect reporting
- Disciplinary corrective actions
- Hazard or defect reports
- Plant or equipment failures
- Meetings
- Identified opportunities for improvement
- Internal/external safety alerts



Injury and Rehabilitation Management

A rehabilitation program, which is designed to assist in the management of personnel who have had a workplace injury shall be in place. Early intervention for injury management and return to work programs are imperative to successful rehabilitation of injured employees.

DCN Drilling have a range of light duties available for employees requiring a gradual return to work program following an injury.

Longer term rehabilitation programs shall be managed by the HSE Coordinator in consultation with the ACC Case Manager.

DCN Drilling Reference: *Accident Incident Reporting Form*

ISO 14001: 4.5.3 *Nonconformity, Corrective Actions and Preventative Actions*
AS/NZ 4801: 4.5.2 *Incident Investigation, Corrective and Preventative Action*

Supervisor tips In the event of a serious accident and incident:

- ✓ *Cease all works in the immediate area*
- ✓ *Ensure safety of employees*
- ✓ *Don't put rescuers at risk*
- ✓ *Activate emergency procedures*
- ✓ *Ensure immediate medical treatment where safe to do so*
- ✓ *Isolate and secure the incident scene*

Supervisor tips for injury management and rehabilitation:

- ✓ *Ensure immediate treatment by site medical staff following an incident*
- ✓ *Encourage employees to seek first aid treatment for minor injuries such as cuts, early treatment prevents infections*
- ✓ *Ensure employees are aware of the requirement to report all injuries as early intervention with muscle skeletal injuries can prevent exacerbation of the injury*
- ✓ *It is not expected that employees who are injured and not fit for work to attend work, however employees who can continue with alternative duties should be encouraged to do so as early return to work can assist with the rehabilitation process*
- ✓ *Ensure employees have support and are in contact with a company representative while recovering from injury*
- ✓ *Long term return to work programs are documented and completed in consultation with the treating doctor, Rehabilitation Coordinator, Supervisor and employee*



STANDARD 11 – INSPECTION, MONITORING AND AUDIT

Intent

To drive continual improvement in HSE performance by effective monitoring, inspection and audit programs that identify deficiencies and manage impacts through implementation of effective corrective actions and improvement opportunities.

PERFORMANCE REQUIREMENTS

Workplace Inspections

A formal workplace inspection program shall be in place and include:

- Planned area workplace inspections carried out by nominated employees at defined intervals as per the planned area inspection schedule, inspections shall be documented on the standard workplace inspection form
- Mobile equipment pre-use inspection completed before equipment is used each shift and recorded on the appropriate equipment pre-use inspection form
- Daily shift inspection of each work area carried out by the Site Supervisor who shall record inspection outcomes on the daily shift report
- Pre-start work area inspection completed by each employee of the work area at start of shift or when moving into a new job during the shift.

Planned workplace inspection schedules shall be displayed in the relevant work area with progress to the scheduled inspections being updated weekly. Outcomes of the inspections shall be discussed during daily pre-start and monthly toolbox meetings.

Consideration shall be given to the following HSE requirements while carrying out inspections and/or while developing or reviewing area inspection check forms:

- Housekeeping, walkways, ladders, stair condition, lighting and access
- Equipment condition, hand tools, rigging and lifting equipment, scaffold, electrical equipment and installation, compress gassed cylinders
- Availability and condition of personal protective equipment
- Chemical handling and labelling, hydrocarbon storage and spill kits
- Drainage systems, lines and pipe work
- Waste disposal and recycling facilities
- Fire and emergency equipment and emergency procedures
- Availability of procedures and work instructions
- Material storage facilities
- Protected areas, restricted areas and unauthorised access
- Seepage checks, erosion, weeds management



Monitoring and Measurement

HSE monitoring and evaluation programs shall be defined where required for industrial hygiene and environment legal requirements, where such program are required they shall include:

- Monitoring schedules detailing frequency and type of sampling
- Sampling and analysis protocols
- Data analysis, interpretation and recommendations
- Management review of data analysis reports
- Licence and legislative monitoring and reporting requirements
- Calibration of and preventative maintenance of testing and monitoring equipment

Internal and External Audit

The DCN Drilling HSE Management System shall be audited in its entirety for compliance during the first and second year following implementation to establish if management systems are effective, implemented and maintained. Subsequent HSE Systems audits shall be carried out no less than once every three years.

A standard HSE Management Systems Audit Protocols shall be developed based on the requirements detailed within each of the twelve HSE Standards.

Deficiencies and non-conformances identified during audits shall be formally recorded their implications assessed and corrective action prioritised and acted upon.

The Audit Program shall incorporate:

- Comprehensive field checks
- Comprehensive record reviews
- Detailed review of evidence
- Interviews with all levels of the workforce
- Summaries of non-conformance, conformance, observations and improvement opportunities
- Sign off and acceptance of audit results by management.

DCN Drilling Reference: *Workplace Inspection Template, Workplace Inspection Schedule, HSE Audit Template, Industrial Hygiene Monitoring Schedule, Environmental Monitoring Schedule*

ISO 14001: *4.5.1 Monitoring and Measurement 4.5.2 Evaluation of Compliance, 4.5.5 Internal Audit*

AS/NZ 4801: *4.5.1.2 Health Surveillance, 4.5.4 OHSMS Audit*



Supervisor tips for effective workplace inspections:

- ✓ *Daily shift inspection of all areas under your control including contractor works*
- ✓ *Carry out weekly workplace inspections with crew members, using this as a coaching opportunity for hazard identification*
- ✓ *Schedule the HSE Coordinator, Trainer or Client representative to attend a weekly inspection, a fresh pair of eyes may identify hazards you may have missed*
- ✓ *Rectify deficiencies as you identify them where possible and schedule other deficiencies within the maintenance or corrective actions system*
- ✓ *Document and maintain records of the inspection*
- ✓ *Discuss inspection outcomes at the following shift pre-shift meeting creating an awareness of hazards identified*
- ✓ *High risk hazards need to be isolated during the inspection*
- ✓ *Look outside the square and try and see behind the day to day production pressures during your inspection, hazards are present and to walk past them is to condone unsafe operations*





STANDARD 12 – MANAGEMENT REVIEW

Intent

HSE assurance is achieved by reviewing performance and systems to identify trends, measure progress, assess compliance and drive continual improvement.

PERFORMANCE REQUIREMENTS

Management Performance Reviews

Management reviews shall be carried out a minimum of quarterly intervals and shall consider the following:

- Progress of Project HSE implementation and management plans
- Significant business risks
- Accident, incident, environment and quality conformance and non-conformance trends
- Legal compliance and licence issues
- Audit results
- Corrective actions and improvement plans

A formal management review shall be carried out annually as part of annual business planning, this is carried out in consultation with management and senior drilling staff and shall:

- Coincide with the business-planning cycle
- Follow an established agenda
- Review the HSE Management Systems effectiveness
- Review progress to three year strategic plans
- Establish new annual targets based on outcomes of formal review.

DCN Drilling Reference: *Three year; Strategic Business Plan; Management Review Meeting Minutes.*

ISO14001: 4.6 Management Review
AS/NZ 4801: 4.6 Management Review



SCHEDULE 2
PROJECT MOBILISATION AND OPERATIONS



PROJECT MOBILISATION

The Project Manager, Site Supervisor and/or Driller in consultation with the HSE Coordinator review the mobilisation checklist to ensure all the appropriate HSE Systems, training, standards and associated toolkits are prepared and available for implementation prior to job start-up of any new Project. All required systems, documentation, data systems, forms, tools and templates are provided to operational team prior to commencement of works.

Existing projects will undergo a thorough evaluation to ensure all required mobilisation and operational systems are in place.

Table Two - Project Mobilisation Checklist

HSE System or Process	Required Y/N	Supporting Documents and Tools	Responsibility	Status
Copies of client contract agreement				
<i>Explanation: Site Project Supervisors are required to have a clear understanding of the terms of the contract, contractual responsibilities, rates and schedules.</i>				
Completed Project work methodology statement including: <ul style="list-style-type: none"> ➤ Appointment and responsibilities summary ➤ Staffing levels and supervisors ➤ Hours of work and shifts ➤ Equipment and maintenance schedules ➤ SOP registers ➤ Approved Project sub-contractors ➤ Risk assessment and JHAs 				
<i>Explanations: The Project work methodology statement is completed as part of the contract tender and details key agreements and work methods that will be adopted to deliver the contract. The work methodology statement provides Project and Site Supervisors with the overarching project scope, including clear instruction of responsibilities of the contract deliverables.</i>				
HSE Policies approved and framed for display at prominent work location.				
<i>Explanations: Commitment from Company Director to HSE Policies are evidenced with their signing of the Policy documents, these documents are displayed at each notice board and central office location point.</i>				
Copies of relevant legislation and legal compliance register <ul style="list-style-type: none"> ➤ HSE Act ➤ HSE Regulations ➤ HSNO Act ➤ Relevant Codes of Practice ➤ Environmental Licence Conditions 				



HSE System or Process	Required Y/N	Supporting Documents and Tools	Responsibility	Status
<p><i>Explanation: Project Managers and Site Supervisors are required to have clear understanding of the legislative environment of their area of operation. This may vary if works are being completed within the mining sector, forestry sector or marine sector. Reference is to be made to the Legal Compliance Register to check against required legislation.</i></p>				
<p>Completed Project risk assessment and associated risk programs:</p> <ul style="list-style-type: none"> ➤ Risk register ➤ Job Hazard Analysis Forms (JHA's) 				
<p><i>Explanations: A project specific risk assessment is undertaken as part of mobilisation, this may be facilitated by the HSE Coordinator in consultation with the Project Manager/Supervisor for larger projects. The overarching DCN Drilling risk register is modified to accommodate specific risks associated with the Project works and identified site hazards.</i></p>				
<p>Competence and training matrices including:</p> <ul style="list-style-type: none"> ➤ Personal training files and records ➤ Statutory positions ➤ Licences and trades certificates ➤ High risk work licences ➤ SOP training matrices ➤ Induction training program including Project specific orientations, where required 				
<p><i>Explanations: Project specific training and competency requirements are cross referenced against existing training matrices and updated as required. Training and competency matrices are printed and displayed in muster / crib rooms to ensure existing and required competencies are known and understood by employees and Supervisors.</i></p>				
<p>Communication and consultation program including:</p> <ul style="list-style-type: none"> ➤ Duplicate start of shift meeting books ➤ Duplicate monthly HSE toolbox minutes books <p>Standard Notice and Information Boards displaying:</p> <ul style="list-style-type: none"> ➤ Copy of emergency plans ➤ Statutory appointments ➤ Copies of legislation ➤ Incident Summaries ➤ HSE Alerts 				



HSE System or Process	Required Y/N	Supporting Documents and Tools	Responsibility	Status
<ul style="list-style-type: none"> ➤ Audit results ➤ Monitoring results ➤ Hazard report books ➤ Safety Data Sheets (SDS) ➤ Out of Service and Danger Tags, Danger and Caution Tape (if appropriate) <p>Standard DCN Drilling badged signs at site entrance.</p>				
<p><i>Explanations: The installation of professionally presented, standard DCN Drilling boards/signs with key information for clients and employees promotes positive culture and enhances reputation. Effective consultation is discussed further within the Operational section of this management plan, the new legislation has an increased focus on employee consultation in addition to previous required communication forums.</i></p>				
<p>Document control and records management including:</p> <ul style="list-style-type: none"> ➤ Document registers ➤ Records management filing systems 				
<p><i>Explanations: All HSE systems documentation used on site needs to be controlled and registered to ensure the correct standards and processes are adopted by the project. The implementation of a standard register filing system for filing of records will ensure ease of access to records and information for audit, legal requirements and compliance to certification requirements.</i></p>				
<p>Emergency Response Plans including:</p> <ul style="list-style-type: none"> ➤ Up to date contacts listings printed for notice boards ➤ First aid facilities requirements ➤ Provision of emergency response or first aid trained personnel 				
<p><i>Explanations: Standard Emergency Response Plans and contacts listings are reviewed and updated to meet site specific and client requirements, including consultation where required local emergency services.</i></p>				
<p>Health and wellbeing including:</p> <ul style="list-style-type: none"> ➤ Pre-employment medicals ➤ Health promotions training program ➤ Injury management and rehabilitation procedure ➤ Fitness for work training program ➤ Drug and alcohol management program ➤ Health surveillance testing ➤ Atmospheric testing 				



HSE System or Process	Required Y/N	Supporting Documents and Tools	Responsibility	Status
<p><i>Explanations: Coordination of required programs is carried out in consultation with the HSE Coordinator - training, schedules and facilitation of such programs are decided on and prepared prior to start up.</i></p>				
<p>Preparation of equipment registers and maintenance including:</p> <ul style="list-style-type: none"> ➤ Mobil plant equipment inspections ➤ Maintenance registers and schedules ➤ Licensing and certification ➤ Statutory Inspection / testing (if required) 				
<p><i>Explanations: Only approved, tested, inspected, maintained and registered equipment is to be mobilised for use at Site, the Project Manager/Supervisor coordinate all equipment requirements</i></p>				
<p>Review and development of Operational Controls including:</p> <ul style="list-style-type: none"> ➤ Management Plans, Electrical, Traffic Management, Mobile Plant ➤ SOPs, Safe systems of work, work permits ➤ Workplace inspection schedules/forms - pre-start, area inspections 				
<p><i>Explanations: Based on risk assessment each Project may have varying operational control requirements- a series of standard Management Plans, SOPs, work permits, safe systems of work have been developed as per Attachment 3 of this Management Plan, these standard procedures and systems can be tailored and adopted to requirements of each specific Project.</i></p>				
<p>Reporting and Performance Monitoring:</p> <ul style="list-style-type: none"> ➤ Standard reporting templates and data collection 				
<p><i>Explanations: Standard reporting and performance monitoring templates are established across the business, these may be modified to meet client reporting requirements for HSE.</i></p>				



PROJECT MOBILISATION MEETING

A project mobilisation meeting with the Client may be required prior to commencement of works, the key focus of the mobilisation meeting is to:

- Introduce Project Managers and Site Supervisors
- Establish Client contacts and communication forums
- Discuss site layout and work environment
- Finalise HSE requirements, systems and processes
- Review equipment and materials site access requirements
- Formalise communications and radio systems
- Review Environmental requirements
- Align fitness for work programs
- Formalise reporting requirements
- Confirm working hours and rosters agreements

SITE ACCESS

Each Project and Client will have their own specific requirements for site access, inductions, equipment checks and standards for personnel and equipment to enter site. These requirements are discussed and detailed during the Project mobilisation phase, all DCN Drilling personnel are to comply with Client and Company requirements. Site access requirements for DCN Drilling employees and contractors are detailed below.

SITE INDUCTIONS

All personnel entering DCN Drilling Sites shall undertake relevant employee, contractor or visitor inductions as required by DCN Drilling, in addition to any site access inductions required by the Client.

All employees commencing work on site must:

- Successfully complete the Site Safe induction and site specific program
- Complete site orientation and familiarisation
- Complete training needs assessment and undertake relevant competencies

PERSONAL PROTECTIVE EQUIPMENT

DCN Drilling will ensure all new employees are supplied with relevant personal protective equipment (PPE) for the task they are required to perform.

Employees are required to wear basic PPE whilst in operational works areas these include:

- Steel capped safety boots
- Hearing protection
- Protective eyewear
- Overalls
- Hard hats

Other protective equipment required is identified during risk assessments for each Project.



FITNESS FOR WORK

Employees shall complete a medical questionnaire as part of the recruitment process, this includes pre-screening to assess and confirm suitability for the position. Information collected shall remain confidential to Management.

DCN Drilling may require employees to carry out a pre-employment medical if further assessment of suitability for the role is required.

Employees exposed to known health hazards are required to undergo health monitoring to ensure the controls in place to manage the hazards are effective.

It is a condition of employment for all employees to present themselves for work in a fit and healthy manner. Employees presenting for work under the influence of drugs or alcohol will not be tolerated and may result in termination of employment conditions.

DCN Drilling support a proactive Drug and Alcohol policy that provides for:

- Pre-employment testing
- Probable cause testing
- Post Incident testing

ATMOSPHERIC MONITORING

Monitoring shall be established based on outcomes of the Project risk assessment, these may include sampling and testing for air quality, noise, vibration and dust.

The results of monitoring activities are analysed and used to monitor compliance to relevant exposure levels and to identify activities requiring corrective action and improvement.

Monitoring results of all testing are displayed on notice boards, with personal testing result provided to employees participating in the sampling.

Testing, sampling and monitoring equipment is maintained and calibrated as per manufacturer recommendation. Analysis is carried out by approved and licence laboratories. Testing and monitoring is completed by trained HSE staff or suitable qualified external provider as appropriate for testing being undertaken.

Supervisor tips for fitness for work:

- ✓ *Know your crew, be aware of any unusual behaviour such as signs of impairment, alcohol abuse or drug use*
- ✓ *Be aware if an employee appears unwell or ill, upset, distracted, agitated or seems to not be coping with the work in hand*
- ✓ *Support the random drug and alcohol testing program*
- ✓ *Ensure fatigue training is undertaken*
- ✓ *Encourage the use of self-test before work during tool box talks and pre-starts*
- ✓ *Establish and promote a fatigue management system which enables employees to have an extra break when they are tired and it is no longer safe for them to continue working*

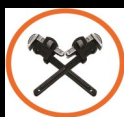


ABBREVIATIONS

HSE	Health, Safety and Environment
KPI	Key Performance Indicator
MHS	Major Hazard Standard
SDS	Safety Data Sheet
SOP	Standard Operating Procedure

DEFINITIONS

Reference	Description
Audit	A systematic and independent examination to determine whether activities and systems are effectively in place.
Change Management	Means the management of risk for any change in the process or equipment that could result in a hazard not identified in the risk register or a change to an existing hazard
Competent Person	Means any person adequately trained and qualified to carry out the proposed activity
Contractor	Means a company or organisation engaged to perform work or supply goods or services in connection with the DCN Drilling
Environmental Aspect	Element of an organisations activities or products or services that can interact with the environment
Environmental Impact	Any change to the environment whether adverse or beneficial, wholly or partially resulting from an organisations environmental aspects.
Hazard	Means a situation capable of causing injury to a person and/or damage to plant and/or equipment
Incident	Means an event that results in an accident or had the potential to cause an accident including a near miss
Inspection	An activity undertaken by competent personnel that is designed to measure, check or gauge the physical aspects of a work place against established technical standards, codes and specifications
Job Hazard Analysis	Processes where hazards associated with each step of a job are identified and control measures are put in place to minimise the risk to personnel, environment, quality and property. The JHA terminology incorporates all




	hazards and supersedes both Job Hazard Analysis (JSA) and Job Safety Environment Analysis (JSEA) terminology to be more inclusive.
Policy	Means a high level standard and commitment to a specific discipline or system such as HSE and Quality, generally presented as a one page document approved by the most senior executive of the Company.
Project	A DCN Drilling individual Project Contract in its entirety as opposed to the "Site" which is the Project physical location.
Risk	Means the chance of something happening that will have an impact upon the business. It is measured in terms of consequences and likelihood
Risk Assessment	Means the process used to determine risk management priorities by evaluating and comparing the level against predetermined standards, target risk level or other criteria
Risk Register	Means a register showing all potential risks, a risk rating of each potential risk, control measures for each potential risk, and documented references for control measures
Standard Operating Procedure (SOP)	Means a standard document showing each step of a job, a task or a management system, the hazards identified with each step and procedures to be adhered to in order to manage and control each hazard
Site	Means those areas where DCN Drilling personnel or contractors carry out work
Standards	Means specifications for that has been defined as leading practice against a practice that it can be measured against

REFERENCES AND ASSOCIATED DOCUMENTS

References to associated documents and supporting management plans, forms and templates can be found within the DCN Drilling Document Register.

DOCUMENT CONTROL

Version	Date	Description	Author	Approved
Version 1 Draft 1	Dec 2014	DCN Drilling HSE Management Systems Manual	HSE Team	
Version 1 Draft 2	March 2015	DCN Drilling HSE Management System Manual	HSE Team	
Version 1	May 2015	DCN Drilling HSE Management System Manual	HSE Team	 Dave Penney



ATTACHMENT ONE – NOTIFICATION OF PARTICULAR HAZARDOUS WORK

The Health and Safety in Employment Regulations 1995 require an employer as well as the person who controls a place of work to notify Worksafe NZ of certain work that is more than usually dangerous before it is started.

Notifiable work as defined by the Regulations

- Any restricted work, as that term is defined in regulation 2(1) of the Health and Safety in Employment (Asbestos) Regulations 1998:
- Any logging operation or tree-felling operation, being an operation that is undertaken for commercial purposes:
- Any construction work of one or more of the following kinds:
 - Work where workers could fall five metres or more, excluding work on a two-storey house, or work on a power or telephone line, or work carried out from a ladder only, or maintenance or repair work of a minor or routine nature.
 - The erection or dismantling of scaffolds from which a person could fall five metres or more.
 - Every excavation more than 1.5 m deep in which people are required to work and which is deeper than it is wide at the top.
 - Any form of tunnel or drive where workers work underground, irrespective of timbering or support.
 - Those excavations where the excavated face is steeper than one horizontal to two vertical.
 - Any construction work where explosives are used or stored.
 - Work such as diving, where construction workers breathe air or any other gas that has been compressed or is under pressure.
 - Lifts of half a tonne (500 kg) or more a vertical distance of 5 m or more carried out by use of a lifting appliance other than by a mobile crane, excavator or forklift.

Online notification forms found at <http://www.dol.govt.nz/tools/hazardouswork>



ATTACHMENT TWO – NOTIFICATION OF WORKPLACE ACCIDENT, UNSAFE SITUATION OR SERIOUS HARM

Employers, principals and self-employed persons must notify Worksafe NZ as soon as possible of workplace accidents and occurrences of serious harm.

- Any of the following conditions that amounts to or results in permanent loss of bodily function, or temporary severe loss of bodily function: respiratory disease, noise-induced hearing loss, neurological disease, cancer, dermatological disease, communicable disease, musculoskeletal disease, illness caused by exposure to infected material, decompression sickness, poisoning, vision impairment, chemical or hot-metal burn of eye, penetrating wound of eye, bone fracture, laceration, crushing.
- Amputation of body part.
- Burns requiring referral to a specialist registered medical practitioner or specialist outpatient clinic.
- Loss of consciousness from lack of oxygen.
- Loss of consciousness, or acute illness requiring treatment by a registered medical practitioner, from absorption, inhalation or ingestion of any substance.
- Any harm that causes the person harmed to be hospitalised for a period of 48 hours or more commencing within seven days of the harm's occurrence.

The definition of serious harm is relevant to employers' duties to manage hazards, notification requirements, employees' rights to refuse to do dangerous work, and inspectors' powers to issue prohibition notices.

In case of emergency

Call Worksafe on free phone 0800 030 040 (24 hours) and choose option 1.

If necessary, contact emergency services by phoning 111.

If you are reporting a hazardous substances emergency, please call the New Zealand Fire Service on 111 and then our Response Team directly on 0800 030 040.

It is a legal requirement not to disturb an accident scene until clearance is authorised by a health and safety inspector except in certain situations, including when persons or property are at risk, as provided for by section 26 of the Health and Safety in Employment Act 1992. If you require scene clearance or other immediate assistance from a health and safety inspector, please call 0800 030 040.

If you are calling from overseas, our telephone number is +64 9 969 2950.

Provide written notice within seven days

You must provide Worksafe NZ with written notice of the circumstances of the accident or serious harm within seven days by using one of the notification forms below (or by providing the same details).

Online Accident or serious harm forms found at <http://www.business.govt.nz/worksafe/notifications-forms/accident-serious-harm>



ATTACHMENT THREE – LISTING OF STANDARD OPERATING PROCEDURES AND FORMS

Refer to DCN Drilling Document Register

ATTACHMENT FOUR - ALIGNMENT OF ISO14001/AS/NZ 4801/ISO19001 AND DCN DRILLING STANDARDS

ISO 14001	AS/NZ 4801	DCN Drilling
4.1 General Requirements (title only)	4.1 General Requirements (title only)	Safety, environment and quality policy
4.2 Environmental Policy	4.2 OHS Policy	01- Leadership and accountability
4.3 Planning (title only)	4.3 Planning (title only)	Planning
4.3.1 Environmental Aspects	4.3.1 Identification of hazards, assessment and control of risk 4.4.6.1 Hazard identification, risk assessment and control of risk	02-Risk identification and Management
4.3.2 Legal and Other Requirements	4.3.2 Legal and other Requirements	03-Legal and other requirements
4.3.3 Objectives, Targets and Programs	4.3.3 Objectives and targets 4.3.4 OHS Management Plans	04- Planning objectives and targets
4.4 Implementation and Operation (title only)	4.4 Implementation and Operation (title only)	Implementation and Operation
4.4.1 Resources, Roles, Responsibility and Authority	4.4.1.1 Resource, responsibility and Accountability	01-Leadership and accountability
4.4.2 Competence, Training and Awareness	4.4.2 Training and Competence	05-Training awareness and competence
4.4.3 Communication	4.4.3.1 Consultation, communication and reporting	06 Communication and consultation
4.4.4 Documentation	4.4.4 Documentation	07 Document control and records
4.4.5 Control of Documents	4.4.5 Document and data control	07-Document control and records
4.4.6 Operational Control	4.4.6.1 Hazard Identification, risk assessment, control of risks, evaluation	08-Operational Control
4.4.7 Emergency Preparedness and Response	4.4.7 Emergency Preparedness and Response	09- Emergency preparedness and response
4.5 Checking and Corrective Action (title only)	4.5 Checking and Corrective Action (title only)	Measurement and Evaluation
4.5.1 Monitoring and Measurement	4.5 Measurement and Evaluation	11-Inspection, monitoring and audit
4.5.2 Evaluation of Compliance	4.5.1.2 Health Surveillance 4.5.4 OHSMS Audit	11 Inspection, monitoring and audit
4.5.3 Nonconformity, Corrective Action and Preventive Action	4.5.2 Incident investigation, corrective and preventive action	10-Accidents, incidents and non-conformance 11- Inspection, monitoring and audit
4.5.4 Control of Records	4.5.3 Records and Record Management	07 Document control and records
4.5.5 Internal Audit	4.5.4 Audit	
4.6 Management Review	4.6 Management Review	12 Management Review



**DCN DRILLING
DRILLING AND GEOTECHNICAL DRILLING SPECIALISTS**

2148 State Highway 2,

Maramarua

Waikato Region 2471

New Zealand

M - 027 473-5011

Email - Dave@dcndrilling.co.nz

Joyce@dcndrilling.co.nz